

SEIZING THE MIDDLE GROUND BETWEEN RULES AND STANDARDS IN DESIGN DEFECT LITIGATION: ADVANCING DIRECTED VERDICT PRACTICE IN THE LAW OF TORTS

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Professor Twerski argues that the decline of single factor no-duty rules in the product liability field has not eliminated lawmaking in directed verdict practice but has only altered its character. After showing how, in principle, courts may base findings of "no duty" on a multiplicity of policy factors, Professor Twerski presents a number of such factors and urges courts to weigh them when entertaining directed verdicts. The Article concludes with a discussion of judicial opinions that illustrate the rudiments of a multifactor approach.

INTRODUCTION

The age of "reasonableness" and risk-utility balancing is upon us.¹ To the delight of some² and the distress of others,³ courts have

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The author gratefully acknowledges the contributions of Professors David Fischer, James Henderson, Jr., David Owen, and Malcolm Wheeler, who read and critiqued the manuscript. This article was written, in part, while the author was a visiting professor at the Boston University School of Law. Many members of the faculty colloquium made excellent suggestions which were incorporated into the text. In addition, the author wishes to thank Michael Hoenig, of Herzfeld & Rubin, for his helpful comments. Finally, Shlomo Twerski, a third-year student at Hofstra Law School, provided not only technical assistance but valuable insights to the author in the preparation of this article.

¹ Most of the recent literature in products liability has focused on the reasonableness test and the appropriateness of risk-utility balancing as a method for establishing defects. See Birnbaum, *Unmasking the Test for Design Defect: From Negligence [to Warranty] to Strict Liability to Negligence*, 33 Vand. L. Rev. 593 (1980) [hereinafter Birnbaum, *Unmasking the Test for Design Defect*]; Epstein, *Products Liability: The Search for the Middle Ground*, 56 N.C.L. Rev. 643 (1978) [hereinafter Epstein, *Middle Ground*]; Henderson, *Renewed Judicial Controversy Over Defective Product Design: Toward the Preservation of an Emerging Consensus*, 63 Minn. L. Rev. 773 (1979) [hereinafter Henderson, *Renewed Judicial Controversy*]; Henderson, *Manufacturers' Liability for Defective Product Design: A Proposed Statutory Reform*, 56 N.C.L. Rev. 625 (1978) [hereinafter Henderson, *Proposed Statutory Reform*]; Henderson, *Expanding the Negligence Concept: Retreat from the Rule of Law*, 51 Ind. L.J. 467 (1976) [hereinafter Henderson, *Expanding the Negligence Concept*]; Henderson, *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication*, 73 Colum. L. Rev. 1531 (1973) [hereinafter Henderson, *Judicial Review of Design Choices*]; Hoenig, *Product Designs and Strict Tort Liability: Is There a Better Approach?* 8 Sw. U.L. Rev. 109 (1976); Keeton, *Products Liability—Design Hazards and the Meaning of Defect*, 10 Cum. L. Rev. 293 (1979) [hereinafter Keeton, *Design Hazards*]; Phillips, *The Standard for Determining Defectiveness in Products Liability*, 46 U. Cin. L. Rev. 101 (1977); Schwartz, *Foreword: Understanding Products*

Liability, 67 Calif. L. Rev. 435 (1979); Twerski, Weinstein, Donaher & Pehler, The Use and Abuse of Warnings in Products Liability—Design Defect Litigation Comes of Age, 61 Cornell L. Rev. 495 (1976) [hereinafter Twerski, Weinstein, Donaher & Pehler, Use and Abuse of Warnings]; Twerski, Weinstein, Donaher & Pehler, Shifting Perspectives in Products Liability: From Quality to Process Standards, 55 N.Y.U. L. Rev. 347 (1980) [hereinafter Twerski, Weinstein, Donaher & Pehler, Shifting Perspectives]; Wade, On Product "Design Defects" and Their Actionability, 33 Vand. L. Rev. 551 (1980) [hereinafter Wade, Design Defects].

Most courts have adopted risk-utility analysis as either an exclusive or an alternative ground of liability. See, e.g., *Dreisonstok v. Volkswagenwerk, A.G.*, 489 F.2d 1066, 1071-73 (4th Cir. 1974) (exclusive ground); *Caterpillar Tractor Co. v. Beck*, 593 P.2d 871, 885 (Alaska 1979) (alternative ground); *Barker v. Lull Eng'g Co.*, 20 Cal. 3d 413, 432, 573 P.2d 443, 455-56, 143 Cal. Rptr. 225, 237-38 (1978) (alternative ground); *Lewis v. Bucyrus-Erie, Inc.*, 622 S.W.2d 920 (Mo. Ct. App. 1981) (exclusive ground); *Suter v. San Angelo Foundry & Mach. Co.*, 81 N.J. 150, 170-71, 406 A.2d 140, 150-51 (1979) (alternative ground); *Micallef v. Miehle Co.*, 39 N.Y.2d 376, 386, 348 N.E.2d 571, 577-78, 384 N.Y.S.2d 115, 121 (1976) (exclusive ground); *Wilson v. Piper Aircraft Corp.*, 282 Or. 61, 67-68, 577 P.2d 1322, 1326 (1978) (exclusive ground); *Turner v. General Motors Corp.*, 584 S.W.2d 844, 850 (Tex. 1979) (exclusive ground); *Morningstar v. Black & Decker Mfg. Co.*, 253 S.E.2d 666, 682-83 (W. Va. 1979) (exclusive ground).

Federal statutes also use the reasonableness concept in setting design standards. See, e.g., National Traffic and Motor Vehicle Safety Act, 15 U.S.C. § 1392(f) (1976); Consumer Product Safety Act, 15 U.S.C. §§ 2056(a), 2058(c) (1976).

This heavy emphasis on risk-utility theory (instrumentalism) has its passionate supporters who believe that liability rules serve the goals of allocative efficiency and wealth maximization. See, e.g., Posner, *Utilitarianism, Economics, and Legal Theory*, 8 J. Legal Stud. 103 (1979); Posner, *A Theory of Negligence*, 1 J. Legal Stud. 29 (1972); Shavell, *Strict Liability Versus Negligence*, 9 J. Legal Stud. 1 (1980). Not so passionately supporting this approach are scholars who believe that tort law is or should be premised on fairness. See, e.g., Epstein, *Defenses and Subsequent Pleas in a System of Strict Liability*, 3 J. Legal Stud. 165 (1974); Epstein, *A Theory of Strict Liability*, 2 J. Legal Stud. 151 (1973); Fletcher, *Fairness and Utility in Tort Theory*, 85 Harv. L. Rev. 537 (1972) [hereinafter Fletcher, *Fairness and Utility*]. A third view would combine both fairness and efficiency to fashion tort doctrine. See G. Calabresi, *The Cost of Accidents* (1970). In a provocative article, Professor Henderson has recently argued that process norms have a significant impact on the substantive content of tort rules. Henderson, *Beyond Fairness and Efficiency: A Process Perspective on Tort Law*, 67 Cornell L. Rev. 901 (1982). This Article borrows liberally from the varying approaches in formulating the multifactor duty analysis.

² Marschall, *An Obvious Wrong Does Not Make a Right: Manufacturers' Liability for Patently Dangerous Products*, 48 N.Y.U. L. Rev. 1065 (1973) (supports standard of strict liability for manufacturers of patently dangerous products) [hereinafter Marschall, *Obvious Wrong*]; Twerski, *Old Wine in a New Flask—Restructuring Assumption of Risk in the Products Liability Era*, 60 Iowa L. Rev. 1 (1974) (supports abolition of patent danger rule and replacing it with a "reasonableness" test) [hereinafter Twerski, *Restructuring Assumption of Risk*]; Ursin, *Strict Liability for Defective Business Premises—One Step Beyond Rowland and Greenman*, 22 U.C.L.A. L. Rev. 820 (1975); Note, *Negligent Infliction of Mental Distress: Reaction to Dillon v. Legg in California and Other States*, 25 Hastings L.J. 1248 (1974) (supports rule permitting recovery for negligent infliction of emotional distress); Comment, *Negligently Inflicted Mental Distress: The Case for an Independent Tort*, 59 Geo. L.J. 1237 (1971) (supports development of cause of action for negligent infliction of mental distress); Comment, *Occupier of Land Held to Owe Duty of Ordinary Care to All Entrants—"Invitee," "Licensee," and "Trespasser" Distinctions Abolished: Rowland v. Christian*, 44 N.Y.U. L. Rev. 426 (1969) (supports abolition of limited duty responsibilities of a landowner depending on the status of entrants as trespassers, licensee, or invitees).

³ Epstein, *Middle Ground*, supra note 1, at 646-58; Henderson, *Expanding the Negligence Concept*, supra note 1; Hoenig & Goetz, *A Rational Approach to "Crashworthy" Automobiles: The Need for Judicial Responsibility*, 6 Sw. U.L. Rev. 1 (1974) [hereinafter Hoenig & Goetz, *Crashworthy Automobiles*].

abolished many of the firm no-duty rules that posed absolute barriers preventing plaintiffs from establishing that a defendant's behavior or product failed to meet the standard of societal acceptability.⁴ In no area of the law is this phenomenon more pronounced than in product liability. Since *Henningson v. Bloomfield Motors Inc.*,⁵ such firmly embedded concepts as privity,⁶ the patent danger doctrine,⁷ shifting duty,⁸ the intended purpose doctrine,⁹ and the bystander rule¹⁰ have

⁴ The risk-utility test sets societal standards for acceptable risk levels. In another forum, the issue was formulated in the following manner:

The issue in every products case is whether the product *qua* product meets society's standards of acceptability. The unreasonable danger question, then, is posed in terms of whether, given the risks and benefits of and possible alternatives to the product, we as a society will live with it in its existing state or will require an altered, less dangerous form. Stated succinctly, the question is whether the product is a reasonable one given the reality of its use in contemporary society.

Donaher, Piehler, Twerski & Weinstein, *The Technological Expert in Products Liability Litigation*, 52 Tex. L. Rev. 1303, 1307 (1974) (footnote omitted); accord Keeton, *Design Hazards*, *supra* note 1, at 313-14.

⁵ 32 N.J. 358, 161 A.2d 69 (1970).

⁶ The tortured history of the privity doctrine is well told in Gillam, *Products Liability in a Nutshell*, 37 Or. L. Rev. 119 (1958) and Jeanblanc, *Manufacturers' Liability to Persons Other than Their Immediate Vendees*, 24 Va. L. Rev. 134 (1937). Two articles by Dean Prosser remain classics in the field, Prosser, *The Fall of the Citadel (Strict Liability to the Consumer)*, 50 Minn. L. Rev. 791 (1966); Prosser, *The Assault Upon the Citadel (Strict Liability to the Consumer)*, 69 Yale L.J. 1099 (1960). *Henningson v. Bloomfield Motors, Inc.*, 32 N.J. 358, 161 A.2d 69 (1970), signaled the demise of the privity doctrine. It was followed by *Greenman v. Yuba Power Prods., Inc.*, 59 Cal. 2d 57, 377 P.2d 897, 27 Cal. Rptr. 697 (1963), in which the court eliminated privity in a strict liability tort action. Relying on these cases, a majority of states have adopted a doctrine of nonprivity strict liability. See, e.g., *Phipps v. General Motors Corp.*, 278 Md. 337, 363 A.2d 955 (1976); *Codling v. Paglia*, 32 N.Y.2d 330, 298 N.E.2d 622, 345 N.Y.S. 2d 461 (1973); *Dippel v. Sciano*, 37 Wis. 2d 443, 155 N.W.2d 55 (1967).

⁷ *Campo v. Scofield*, 301 N.Y. 468, 95 N.E.2d 802, 100 N.Y.S.2d 468 (1950), was the leading case supporting the rule that a manufacturer was "under no duty to render a machine or other article 'more' safe—as long as the danger to be avoided is obvious and patent to all." *Id.* at 472, 95 N.E.2d at 804, 100 N.Y.S.2d at 472. *Campo* became the object of vitriolic academic attack. See, e.g., F. Harper & F. James, *The Law of Torts* § 28.5 (1956); Marschall, *Obvious Wrong*, *supra* note 2, at 1079-83; Twerski, *Restructuring Assumption of Risk*, *supra* note 2, at 13-14. *Campo* was reversed in *Micallef v. Miehle Co.*, 39 N.Y.2d 376, 348 N.E.2d 571, 384 N.Y.S.2d 115 (1976), accord *Pike v. Frank C. Hough Co.*, 2 Cal. 3d 465, 467 P.2d 229, 85 Cal. Rptr. 629 (1970); *Palmer v. Massey-Ferguson*, 3 Wash. App. 508, 476 P.2d 713 (1970). But see *Darling*, *The Patent Danger Rule: An Analysis and A Survey of its Vitality*, 29 Mercer L. Rev. 583, 604-09 (1978). For a discussion of a more recent case that seems to endorse the patent danger rule as a factor in the multifactor duty analysis, see text accompanying notes 192-94, *infra*.

⁸ See, e.g., *Stultz v. Benson Lumber Co.*, 6 Cal. 2d 688, 59 P.2d 100 (1936); *McLaughlin v. Mine Safety Appliances Co.*, 11 N.Y.2d 62, 181 N.E.2d 430, 226 N.Y.S.2d 407 (1962). The more recent cases permit the jury to pass on the foreseeability issue. See, e.g., *Balido v. Improved Mach. Inc.*, 29 Cal. App. 3d 633, 105 Cal. Rptr. 890 (1973); *Comstock v. General Motors Corp.*, 358 Mich. 163, 99 N.W.2d 627 (1959); *Finnegan v. Havir Mfg. Corp.*, 60 N.J. 413, 290 A.2d 286 (1972).

⁹ See, e.g., *Evans v. General Motors Corp.*, 359 F.2d 822 (7th Cir.), cert. denied, 385 U.S. 836 (1966), rev'd., *Huff v. White Motor Corp.*, 565 F.2d 104, 109-10 (7th Cir. 1977). *Liability*

all but vanished as single factor no-duty tests that immunize a defendant from liability. As a result, many commentators understandably have concluded that, with the disappearance of single factor no-duty rules, the law has ordained that all design defect litigation will proceed to trial on the issue of risk-utility balancing to determine whether the product design was reasonable *vel non*.¹¹ Since reasonableness is traditionally an issue for the jury, they have concluded that given prevailing attitudes, there will be minimal judicial intervention in the form of directed verdicts for defendants in design defect cases.¹² Armed with some poorly reasoned, if not outrageous, appellate court decisions that read the role of the jury in design litigation expansively,¹³ the business community has mounted a legislative assault on the common law of product liability.¹⁴ Their efforts have met with considerable success. Many states have been prevailed upon to pass legislation sharply limiting or curtailing the common law product

for foreseeable misuse is now widely accepted. See, e.g., *Findlay v. Copeland Lumber Co.*, 265 Or. 300, 509 P.2d 28 (1973); *Ritter v. Narragansett Elec. Co.*, 109 R.I. 176, 283 A.2d 255 (1971); *General Motors Corp. v. Hopkins*, 548 S.W.2d 344 (Tex. 1977). See generally Noel, *Defective Products: Abnormal Use, Contributory Negligence, and Assumption of Risk*, 25 Vand. L. Rev. 93, 96-100 (1972); Twerski, *The Many Faces of Misuse: An Inquiry Into the Emerging Doctrine of Comparative Causation*, 29 Mercer L. Rev. 403 (1978).

¹⁰ The rule prohibiting recovery to the innocent bystander under strict liability or warranty had yet to be rejected as recently as 1964. Note, *Strict Products Liability to the Bystander: A Study in Common Law Determinism*, 38 U. Chi. L. Rev. 625, 626 n.12 (1971); see, e.g., *Mull v. Ford Motor Co.*, 368 F.2d 713 (2d Cir. 1966); *Kuschy v. Norris*, 25 Conn. Supp. 383, 206 A.2d 275 (1964). The drafters of the Restatement (Second) of Torts § 402A comment c (1965) specifically left open the question whether liability should flow to bystanders. U.C.C. § 2-318 as originally enacted in most jurisdictions extended only to members of the purchaser's family and guests. See, e.g., Mass. Gen. Laws Ann. ch. 106, § 2-318 (West 1958) (amended 1971, 1973, 1974); Mo. Ann. Stat. § 400.2-318 (Vernon 1965). In recent years courts have without exception extended the strict liability tort action to the bystander. See, e.g., *Elmore v. American Motors Corp.*, 70 Cal. 2d 578, 451 P.2d 84, 75 Cal. Rptr. 652 (1969); *Haumersen v. Ford Motor Co.*, 257 N.W.2d 7 (Iowa 1977); *Codling v. Paglia*, 32 N.Y.2d 330, 298 N.E.2d 622, 345 N.Y.S.2d 461 (1973); *Howes v. Hansen*, 56 Wis. 2d 247, 201 N.W.2d 825 (1972).

¹¹ See Model Uniform Product Liability Act, 44 Fed. Reg. 62,714 (1979) [hereinafter MUPLA]; Epstein, *Middle Ground*, supra note 1, at 648-52; Henderson, *Products Liability*, 3 Corp. L. Rev. 78, 81 (1980); Henderson, *Expanding the Negligence Concept*, supra note 1, at 487-89.

¹² Henderson, *Renewed Judicial Controversy*, supra note 1, at 782-804; Hoeng & Goetz, *Crashworthy Automobiles*, supra note 3, at 2.

¹³ See, e.g., *Dawson v. Chrysler Corp.*, 630 F.2d 950 (3d Cir. 1980); *Schuldies v. Service Mach. Co.*, 448 F. Supp. 1196 (E.D. Wis. 1978); *Barker v. Lull Eng'g Co.*, 20 Cal. 3d 413, 573 P.2d 443, 143 Cal. Rptr. 225 (1978); *Azzarello v. Black Bros.*, 480 Pa. 547, 391 A.2d 1020 (1978).

¹⁴ See generally Buchanan, *Product Liability Defenses Under the Model Uniform Product Liability Act and State Legislation*, 15 Forum 813 (1980); Twerski, *Rebuilding the Citadel: The Legislative Assault on the Common Law*, 115 Trial 55 (Nov. 1979); Special Project: *The Model Uniform Product Liability Act*, 46 J. Air L. & Com. 349 (1981).

liability action.¹⁵ Although some of the legislation is sensible, there is good reason to doubt both the efficacy and fairness of many of the enactments.¹⁶

Despite this activity in the legislative arena, little attention has been focused on directed verdict practice in the judicial theatre. There seems to be an assumption that with the single factor no-duty rules gone from the scene, a directed verdict for a defendant in a design defect case signifies nothing more than a finding that under the facts of the particular case "reasonable persons cannot differ." As such,

¹⁵ Many states have passed statutes of limitation for product liability actions. See, e.g., Ariz. Rev. Stat. Ann. § 12-551 (1982); Conn. Gen. Stat. Ann. § 52-577 (West Supp. 1982); Ca. Code Ann. § 105-106(b)(2) (Cum. Supp. 1981); Ill. Ann. Stat. ch. 83, § 22.2(b) (Smith-Hurd Supp. 1986-1979); Ind. Code Ann. § 34-4-20A-3 (Burns Cum. Supp. 1980); Or. Rev. Stat. § 30.905 (1981); R.I. Gen. Laws § 9-1-13 (Cum. Supp. 1981); S.D. Comp. Laws Ann. § 15-2-12.1 (Supp. 1981); Tenn. Code Ann. § 29-28-103 (1980); Utah Code Ann. § 78-15-3 (1953).

Some states recognize a defense or create a rebuttable presumption of no defect if the alleged defect results from a design that conformed to the state of the art at the time the product was first designed or sold. E.g., Colo. Rev. Stat. § 13-21-403(1)(a) (Cum. Supp. 1981) (rebuttable presumption); Ind. Code Ann. § 34-4-20A-4(b)(4) (Burns Cum. Supp. 1980) (defense); Ky. Rev. Stat. § 411.310(2) (Cum. Supp. 1980) (presumption); N.H. Rev. Stat. Ann. § 507-D:4 (Supp. 1979) (defense).

Several states recognize a defense or create a rebuttable presumption of no defect when someone other than the defendant alters or modifies the product in a manner not reasonably foreseeable by the defendant and the alteration or modification is the proximate cause of the claimant's injury. E.g., Ariz. Rev. Stat. Ann. § 12-683(2) (1982); Ind. Code Ann. § 34-4-20A-4(b)(3) (Burns Cum. Supp. 1979) (defense); Ky. Rev. Stat. § 411.320(1), (2) (Cum. Supp. 1980) (defense); N.C. Gen. Stat. § 99B-3 (1979) (defense); N.D. Cent. Code § 28-01.1-04 (Supp. 1981) (defense); Or. Rev. Stat. § 30.915 (1979) (defense); R.I. Gen. Laws § 9-1-32 (Cum. Supp. 1981) (defense); Tenn. Code Ann. § 29-28-108 (1980) (defense); Utah Code Ann. § 78-15-5 (1953) (defense).

Several states recognize a defense or create a rebuttable presumption of no defect when the design of the product or its method of manufacturing conforms to federal or state standards. E.g., Colo. Rev. Stat. § 13-21-403(b) (Cum. Supp. 1981) (rebuttable presumption); N.D. Cent. Code § 28-01.1-05(3) (Supp. 1981) (rebuttable presumption); Tenn. Code Ann. § 29-28-105(a), (b) (1980) (defense); Utah Code Ann. § 78-15-6(3) (1953) (rebuttable presumption).

Finally, several states recognize a defense for unforeseeable misuse of the product. E.g., Ariz. Rev. Stat. Ann. § 12-683(3) (1982); Ind. Code Ann. § 34-4-20A-4(b)(1)-(2) (Burns Cum. Supp. 1979) (defense); N.C. Gen. Stat. § 99B-4 (1979) (defense).

¹⁶ Some of the statutes are particularly onerous. See, e.g., Ariz. Rev. Stat. Ann. § 12-683(1) (1982) (recognizing a defense if defect results from fabrication that conformed to the state of the art at the time the product was first sold by defendant); Ind. Code Ann. § 34-4-20A-4(b)(4) (Burns Cum. Supp. 1980) (recognizing state of the art defense if product was prepared in conformity with the generally recognized state of the art at the time the product was designed); N.H. Rev. Stat. Ann. § 507-D:3 (Supp. 1979) (recognizing defense of product alteration even if product alteration is a concurrent cause). See generally Birnbaum, *Legislative Reform or Retreat? A Response to the Product Liability Crisis*, 14 Forum 251 (1978) [hereinafter, Birnbaum, *Reform or Retreat?*]; Twerski & Weinstein, *A Critique of the Uniform Product Liability Law—A Rush to Judgment*, 28 Drake L. Rev. 221 (1978-1979) [hereinafter Twerski & Weinstein, *A Rush to Judgment*]; Symposium on Products Liability Law: The Need for Statutory Reform, 56 N.C.L. Rev. 625 (1978).

directed verdicts would scarcely be heartening to institutional defendants who want courts to address seriously the policy concerns affecting the defendants' day-to-day decisionmaking.

Directed verdict practice in design litigation, however, is beginning to assume legally significant contours, a process this Article hopes to advance. Courts are directing verdicts for defendants in appropriate cases because they have come to recognize the serious policy implications of unwarranted plaintiffs' verdicts. The law is in a transitional state; the simplistic single factor no-duty rules clearly have been relegated to history. At the same time, the full range of policy considerations bearing on the decision to remove a case from the reasonableness formula and the jury has yet to be clearly articulated. Still, the rulemaking instinct of the American judiciary remains vigorous. Instead of focusing on single factor tests, courts have begun to identify a host of factors with implications for important social policies, each of which individually may not be sufficient to support a directed verdict, but many of which in combination will dictate a directed verdict. Yet many of these decisions, in truth policy-based with potential for valuable lawmaking, have been couched in the language traditionally used by courts when they sit as super juries addressing the reasonableness issue.¹⁷ This has hindered the lawmaking function of the courts. With slight recasting and some interpretive license, it can be demonstrated that the courts in these cases are applying multifactor duty tests. This Article proposes to identify the factors that have weighed heavily in the decisional process, to clarify the policy considerations underlying these factors, and to demonstrate how the courts have combined these factors to reach the directed verdict or no-duty decision. This delineation of the actual behavior of the courts as it is now evolving is intended to encourage the bench and bar to pursue this new form of judicial rulemaking and to quicken the pace of judicial activism in design defect cases.

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The Ten-Factor Duty Test

Although in some instances courts have highlighted one factor or another as the sole criterion for directing a verdict for a defendant, typically it is a combination of considerations that lie behind a court's determination that the defendant owed no duty to plaintiff. The following ten factors lie at the core of such directed verdict decisions in design defect cases.

¹⁷ For discussion of the "super jury" concept, see note 22 and accompanying text *infra*.

(1) Polycentricity: Aspects of the product design may be related in such a way that any design change would substantially affect the cost, utility, safety, or esthetics of the product.

(2) Close Risk-Utility Proof: The task of weighing and balancing the product's potential for harm against its utility may be difficult or impossible.

(3) State of the art: The alternative design may not be practically feasible in light of the state of the art.

(4) Tenuous causation: The case for causation-in-fact may be tenuous.

(5) Shifting duty: Independent and responsible decisionmakers may have played a significant role in assessing and utilizing the allegedly hazardous product.

(6) Consumer choice: Consumers may have the option to purchase a similar product without the alleged safety hazard.

(7) Obviousness of danger: The hazard may be open and obvious to the ordinary consumer.

(8) Cost: An alternative design could substantially raise the cost of the product to the consumer.

(9) Design safety review process: The safety review process that led to the formulation of the product's design may have been extensive.

(10) Legislation: The government may have played a role in regulating the product's design.

Each of the ten factors raises vexing policy questions for a court faced with the question whether to direct a verdict. As the policy considerations accumulate and intensify, the probability that a court will resolve the case for the defendant increases.

I

AN OVERVIEW OF DUTY

An examination of the function of the concept of "duty" in tort law is essential before the new duty analysis being used by courts in product liability litigation can be discussed. In determining the reasonableness of a defendant's conduct, the jury in a tort action first sets a hypothetical standard of care by deciding how a reasonable person would have acted and then decides whether the defendant did in fact breach the hypothetical standard.¹⁰ Analytically antecedent to the

¹⁰ Restatement (Second) of Torts § 323 C (1965); L. Green, Judge and Jury (1930); James, Functions of Judge and Jury in Negligence Cases, 58 Yale L.J. 667, 676, 685-89 (1949) [hereinafter James, Functions of Judge and Jury].

question of standard of care and breach, however, is the question whether the defendant was ever under any legal obligation to act reasonably.¹⁹ This initial "duty" question has traditionally been within the province of the judge, and thus there existed a neat division of labor between court and jury. Dean Prosser, addressing the question when courts will impose a duty of reasonable care stated frankly, "[i]t should be understood at the outset that there is no magic in 'duty.' It is merely a word with which the court states its conclusion that there is no liability; and it means whatever the court wants it to mean in the particular case."²⁰ The creation of a general formula governing the question whether to impose such a duty of care is highly unlikely, according to Dean Prosser, because "considerations of social policy vary depending on the precise issue before the court and social policy questions always underlie the duty issue."²¹

In making a determination of no duty, then, the court performs a distinctive role, grounded in its ability to respond judicially to important social policy considerations by making law accordingly. In contrast, the jury, in making its determination of reasonableness, is exercising its capacity for responding to the particular facts of the case before it.

The dichotomy between policymaking and sensitive factfinding is illustrated by a comparison of two categories of directed verdict decisions. Decisions of the first category, in which courts have directed verdicts on the standard of care using a risk-utility analysis, can be characterized as low-level lawmaking.²² Whenever a court directs a

In most tort cases, the law imposes a duty of reasonable care on the defendant so that a jury is required to undertake the two step process of setting the standard and then determining whether it was breached. James, *Proof of the Breach in Negligence Cases (Including Res Ipsa Loquitur)*, 37 Va. L. Rev. 179, 180 (1951).

¹⁹ Restatement (Second) of Torts § 328B(b) (1965); C. Gregory, H. Kalven & R. Epstein, *Cases and Materials on Torts* 325 (3d ed. 1977); 2 F. Harper & F. James, *The Law of Torts* § 18.8 (1956); W. Prosser, *The Law of Torts* 326 (4th ed. 1971); see James, *Scope of Duty in Negligence Cases*, 47 Nw. L. Rev. 778 (1953). As Dean Prosser notes:

There are . . . some defendants and some situations, as to which there is no such duty. In other words, the defendant is under no legal obligation toward the plaintiff to act with the care of a reasonable man, and he is not liable even though his conduct falls far short of the standard, and the other is injured as a result. And this is true although the danger is obvious, and the risk entirely unreasonable, considered merely as a risk.

W. Prosser, J. Wade & V. Schwartz, *Cases and Materials on Torts* 404 (6th ed. 1976).

²⁰ W. Prosser, J. Wade & V. Schwartz, *supra* note 19, at 405.

²¹ *Id.*

²² While the simplest and most common function of the court in directed verdict practice is to evaluate risk-utility factors, it is useful to bear in mind the other tasks a court may be performing when it directs a verdict. Courts may assume a supervisory role in assessing the adequacy of the evidence, a role which is not considered in the text. The court may find that the

verdict it is exercising lawmaking power, but in cases of this category the lawmaking is based solely on the facts of the case and the weighing of risk-utility factors. A court might examine, for example, costs, esthetics, safety, and function, and then decide that it would be unreasonable to judge the product according to a particular (usually high) standard of safety because the cost of a product meeting such a standard would be exorbitant. In these cases there is no attempt to classify the case according to the specific policy considerations being evaluated; rather, the court functions much like a jury. Indeed, the court sits as a super-jury declaring its view of the limits of the risk-utility trade-off process.

Any screening of cases or precedential rulemaking that might result from such a process is limited and incidental since the primary goal is to decide the case at bar in such a manner that the vagaries of erratic jury behavior do not result in an unjust verdict. Although a directed verdict of this type has some precedential value, this is limited by the fact-sensitivity of risk-utility litigation. The next case may differ in nuance and thus be distinguishable.

In the second category are verdicts on the standard of care reached through a multifactor duty analysis. In contrast to directed verdicts based on risk-utility analysis (the first category), directed verdicts derived from the multifactor duty analysis can have an impact on future litigation. This approach may be characterized as high-level lawmaking because, by clearly identifying the policy grounds for removing the case from litigation or the consideration of the jury, the court establishes principles for screening cases that should have significant precedential value.

Why, then, it may be asked, would a court employing such a duty analysis ever permit a case to proceed beyond the pleading or motion to dismiss stages? Although the policy issues should be apparent at the outset of the litigation, the court nevertheless may need a

plaintiff has failed to present evidence adequate to establish a fact essential to the imposition of liability. Should the evidence be such that, in the court's opinion, no reasonable person would accept it as sufficient, the court will direct a verdict for the defendant. A verdict on the sufficiency of the evidence is a statement that this particular plaintiff has not satisfied the burden of production. C. McCormick, *The Law of Evidence* § 338 (E. Cleary 2d ed. 1972).

Determining the adequacy of evidence is a judicial function similar to deciding whether there is sufficient doubt about a factual issue to warrant its submission to the jury. See *Restatement (Second) of Torts* § 328B(a) (1965). In short, though factual issues are within the jury's province, the court retains power to direct a verdict on a factual issue if the evidence will not allow the jury to reach more than one conclusion reasonably. See W. Prosser, *The Law of Torts* § 37 (4th ed. 1971). For a general discussion of directed verdict practice in the federal courts, see Cooper, *Directions for Directed Verdicts: A Compass for Federal Courts*, 55 Minn. L. Rev. 903 (1971).

good bit of factual information before it is able to focus on the appropriate policy concerns. This is not to suggest that the second category of directed verdict cases are fact-bound, but to recognize that a court can best address duty policy questions only with some knowledge of the facts. Once the decision whether to direct a verdict is made on the basis of a multifactor duty analysis, however, it has the import of law rather than the insignificance of simple factfinding.

Both the multifactor duty approach and the risk-utility calculus require the court to balance, weigh, and interrelate factors,²³ and thus at first blush the two tests may appear to be structurally indistinguishable. The multifactor process, like the negligence-reasonableness test for tort liability, may appear too fact-sensitive to further effectively the goals of certainty and predictability in duty rules.²⁴ If so, the

²³ The general standard in negligence cases is one of reasonable care under the circumstances. Restatement (Second) of Torts § 283 (1965). In *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947), Judge Learned Hand articulated the principle that the question of negligence requires a balancing of the magnitude of the risk created by the actor's conduct against the utility of the actor's conduct. Judge Hand's balancing test is recognized as the appropriate test for determining when an actor has been negligent. Restatement (Second) §§ 291-293 (1965) provides a similar standard for determining whether conduct is unreasonable and identifies the relevant factors for such a determination:

§ 291. Unreasonableness; How to Determine Magnitude of Risk and Utility of Conduct: Where an act is one which a reasonable man would recognize as involving a risk of harm to another, the risk is unreasonable and the act is negligent if the risk is of such magnitude as to outweigh what the law regards as the utility of the act or of the particular manner in which it is done.

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

In determining what the law regards as the utility of the actor's conduct for the purpose of determining whether the actor is negligent, the following factors are important:

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

§ 293. Factors Considered in Determining Magnitude of Risk

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

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

For a discussion of the role of judge and jury in applying risk-utility analysis, see J. Henderson & R. Pearson, *The Torts Process* 285-86 (1973) and Restatement (Second) of Torts §§ 328B-328C (1965).

²⁴ For a discussion contrasting the uncertainty of the Wade risk-utility balancing test with the predictability of the proposed multifactor duty analysis, see text accompanying notes 84-97

proposed analysis would be of questionable aid to large manufacturer-defendants attempting to plan their affairs. As will be shown, however, this is not the case.

Despite the apparent similarities, five functions performed by a court applying a multifactor duty analysis distinguish it both practically and philosophically from risk-utility balancing: (1) the court identifies policy concerns that transcend the resolution of the case at bar; (2) the court takes cases that it knows raise difficult policy issues and places them, so to speak, in a "suspect category," thus ensuring that these cases will be the object of "heightened" judicial scrutiny before being permitted to go to the jury;²⁵ (3) the court consciously performs a screening function: at the pleading stage, the dispute is removed from litigation entirely; at the directed verdict stage, the case is screened from the reasonableness test; (4) the court decides the case in light of a consideration of the precedential value of its decision;²⁶ and (5) the court balances important policy considerations rather than concentrating on weighing sensitive factual distinctions.

The significance of these five judicial functions—(1) policy identification, (2) categorization, (3) screening, (4) rulemaking, and (5) balancing of policy issues—is that they are the hallmarks of the law-making function of a court. The risk-utility balancing approach, in contrast, includes no attempt to categorize the problem; instead, there is a visceral appeal to a sense of justice and fairness that distracts the

infra. For a discussion of the need for predictable duty rulings, see text accompanying notes 36-38 & note 36 infra.

A famous example of the fact intensiveness of the reasonableness standard is the "stop, look, and listen" rule. The fear that the reasonableness standard would not lead to the desired predictability led Justice Holmes to attempt to increase the judicial role in determining negligence. In *Baltimore & O.R.R. v. Goodman*, 275 U.S. 66, 70 (1927), Justice Holmes concluded as a matter of law that a driver should always stop at a railroad crossing and under some circumstances get out of the car to ascertain whether a train is coming. Holmes' attempt to create a standard of care, as a matter of law, was later rejected unanimously in *Pokora v. Wabash Ry.*, 292 U.S. 98 (1934).

²⁵ This term is borrowed from the lexicon of constitutional law's equal protection doctrine. Just as certain legislative classifications of individuals automatically trigger heightened judicial scrutiny, so should the presence of certain policy dilemmas in design defect cases call for special categorization and a tougher standard of review.

²⁶ A decision by an appellate court on the standard of care question may have some precedential value. Moreover, an appellate court decision to affirm a jury verdict is, at the minimum, authority for the proposition that under the facts of the particular case reasonable persons can differ, thus affording some indication to courts that the standard of care in cases of that genre is debatable. Such findings, however, are too fact-sensitive to be meaningful to persons and institutions concerned with keeping their future conduct within legally secure bounds. This Article classifies such findings as low-level lawmaking. See text accompanying note 22 supra. For a discussion of the predictive value of the multifactor duty test see the application of the analysis to some well known cases in the text accompanying notes 213-89 infra.

court from its more valuable function of identifying the specific policy considerations that should determine the outcome of the case.

In light of the distinctive roles of the judge and the jury—that of policy-conscious lawmaking as opposed to fact-sensitive risk-utility balancing—and the problems plaguing design defect adjudication, judicial use of no-duty directed verdicts in this area is increasingly appropriate and necessary.

Since the proposed multifactor duty analysis is designed to aid courts in screening close-call design defect cases from the jury by directing verdicts for defendants on the initial duty issue, it is instructive to examine certain areas of the law in which courts traditionally have curtailed defendant liability by refusing to impose a duty of reasonable care. Classic examples of such limited duty precepts are rules immunizing defendants from liability in the following situations: (a) negligent infliction of emotional distress;²⁷ (b) failure to take affirmative action to assist others in distress;²⁸ and (c) landowners' failure to take reasonable care to make premises safe for trespassers.²⁹

²⁷ Recovery for emotional distress arising from negligent conduct is limited by fairly rigid legal requirements. At one time, there could be no recovery unless the plaintiff's emotional distress had been preceded by physical impact. *Mitchell v. Rochester Ry. Co.*, 151 N.Y. 107, 45 N.E. 354 (1896). The impact rule has since been abandoned by courts, see, e.g., *Daley v. LaCroit*, 384 Mich. 4, 179 N.W.2d 390 (1970); *Niederman v. Brodsky*, 436 Pa. 401, 261 A.2d 84 (1970), but there is still considerable support for predicated recovery on a "physical result," that is, something more than pure mental distress resulting from the defendant's negligent conduct. See *Sullivan v. H.P. Hood & Sons, Inc.*, 341 Mass. 216, 168 N.E.2d 80 (1970); *Daley v. LaCroit*, 384 Mich. at 4, 12-13, 179 N.W.2d at 390, 395; *Ver Hagen v. Gibbons*, 47 Wis. 2d 220, 227, 177 N.W.2d 83, 86 (1970). Finally, many courts still refuse recovery for mental distress suffered as a result of witnessing peril or harm to another person. The prototype of this case is that of the mother who witnesses her child being killed by a negligently driven car. *Dillon v. Legg*, 68 Cal. 2d 728, 441 P.2d 912, 60 Cal. Rptr. 72 (1968) is the leading pro-recovery case. Accord *Corso v. Merrill*, 119 N.H. 647, 406 A.2d 300 (1979); *Sinn v. Burd*, 486 Pa. 146, 404 A.2d 672 (1979). A significant number of jurisdictions refuse to extend recovery to the bystander. *Tobin v. Grossman*, 24 N.Y.2d 609, 249 N.E.2d 419, 301 N.Y.S.2d 554 (1969); *Shelton v. Russell Pipe & Foundry Co.*, 570 S.W.2d 861 (Tenn. 1978); *Guilmette v. Alexander*, 128 Vt. 116, 259 A.2d 12 (1969).

²⁸ See *Bishop v. City of Chicago*, 121 Ill. App. 2d 33, 257 N.E.2d 152 (1970); *Yaniã v. Bigan*, 397 Pa. 316, 155 A.2d 343 (1959); Epstein, *A Theory of Strict Liability*, *supra* note 1, at 151-68. But see, Franklin, *Vermont Requires Rescue: A Comment*, 25 Stan. L. Rev. 51 (1972); Weinrib, *The Case for a Duty to Rescue*, 90 Yale L.J. 247 (1980) [hereinafter Weinrib, *Duty to Rescue*].

²⁹ The traditional view is well set forth in James, *Tort Liability of Occupiers of Land: Duties Owed to Trespassers*, 63 Yale L.J. 144 (1953). In a landmark case, *Rowland v. Christian*, 69 Cal. 2d 108, 443 P.2d 561, 70 Cal. Rptr. 97 (1968), the California Supreme Court imposed a general duty of reasonable care on the landowner, rejecting an approach that determined the standard of care based on the category of the entrant (e.g., trespasser or invited licensee). Accord *Mile High Fence Co. v. Radovich*, 175 Colo. 537, 489 P.2d 308 (1971); *Ouellette v. Blanchard*, 116 N.H. 552, 364 A.2d 631 (1976); *Scurti v. City of New York*, 40 N.Y.2d 433, 354 N.E.2d 794, 387 N.Y.S.2d 55 (1976). While some courts have totally rejected the *Rowland* standard, see, e.g.,

As in the design defect area, a variety of policy considerations support the courts' grant of immunity: the desire to encourage and protect activities that would be stifled if defendants were required consistently to meet a reasonableness standard;³⁰ the fear that courts would be unable to separate fraudulent from just claims;³¹ or the belief that the law neither can effectively nor should regulate sensitive interpersonal relationships.³²

Gerchberg v. Loney, 223 Kan. 446, 454, 576 P.2d 593, 600 (1978); *Astleford v. Milner Enterprises, Inc.*, 233 So. 2d 524 (Miss. 1970), others have retained the limited duty rule with regard to trespassers, see, e.g., *Poulin v. Colby College*, 402 A.2d 846, 851 (Me. 1979); *Soule v. Massachusetts Elec. Co.*, 390 N.E.2d 716 (Mass. 1979); *Mounsey v. Ellard*, 363 Mass. 693, 707 & n.7, 297 N.E.2d 43, 51 & n.7 (1973); *Antoniewicz v. Reszcynski*, 70 Wis. 2d 836, 236 N.W.2d 1 (1975) (dicta).

³⁰ For example, good samaritan statutes provide that medical personnel who stop to render emergency aid at the scene of an accident are not liable for civil damages unless grossly negligent. See, e.g., Kan. Stat. Ann. § 65-2891(a) (1980). For a complete list of the various statutes see 2 D. Louisell & H. Williams, *Medical Malpractice* §§ 21.01.1-21.34 (1973 & Supp. 1981). These statutes were intended to encourage the provision of treatment by medical practitioners, who had come to fear malpractice actions. The need for and the efficacy of these statutes has been questioned. See Comment, *Good Samaritans and Liability for Medical Malpractice*, 64 Colum. L. Rev. 1301, 1311 (1964); United States Department of Health, Education and Welfare, Report of the Secretary's Commission on Medical Malpractice 15-16 (1973).

The most recent expressions of the principle that in order to encourage desirable conduct a standard of liability more lenient than the "reasonableness" rule is necessary (thus creating immunity from liability for negligence) are the first amendment cases protecting defendants from libel actions when either public officials or public figures are involved. In this category of cases, plaintiffs may recover only upon clear and convincing proof that the defamatory falsehood was made with knowledge of its falsity or with ruthless disregard of the truth. See *Certz v. Robert Welch, Inc.*, 418 U.S. 323, 348-50 (1974); *New York Times v. Sullivan*, 376 U.S. 254, 279-80 (1964).

The landowner liability cases also evidence a concern that property owners will be too heavily burdened by the imposition of a reasonableness standard. See, e.g., *Smith v. Arbaugh's Restaurant, Inc.*, 469 F.2d 97, 107-08 (D.C. Cir. 1972) (Leventhal, J., concurring); *Wood v. Camp*, 284 So. 2d 691 (Fla. 1973); Restatement (Second) of Torts § 330 Comment (h)(3), (1964).

³¹ *Waube v. Warrington*, 216 Wis. 603, 613, 258 N.W. 497, 501 (1935); *Victorian Rys. Comm'n v. Coultas*, 13 App. Cas. 222, 225 (P.C. 1888). But cf. *Tobin v. Grossman*, 24 N.Y.2d 609, 615, 249 N.E.2d 419, 422, 301 N.Y.S.2d 554 (1959) (denying recovery to third party bystander outside the zone of danger but emphasizing that fear of fraudulent claims was not the reason for the decision).

³² The unwillingness of courts to recognize a duty to rescue has been justified on principles of liberty and individual autonomy. See Epstein, *A Theory of Strict Liability*, supra note 1, at 63-68. This point of view is thoroughly discussed in Weinrib, *Duty to Rescue*, supra note 28, at 258-68. The tort immunities surrounding family relationships are grounded on the reluctance of courts to monitor relationships between husband and wife or parent and child. Thus, even after decisions limiting or abolishing family immunity rules, see *Balts v. Balts*, 273 Minn. 419, 142 N.W.2d 66 (1966); *Gelbman v. Gelbman*, 23 N.Y.2d 434, 245 N.E.2d 192, 297 N.Y.S.2d 529 (1969); *Freehe v. Freehe*, 81 Wash. 2d 183, 500 P.2d 771 (1972); *Collier v. White*, 20 Wis. 2d 402, 122 N.W.2d 193 (1963), courts remain cautious in imposing liability when the issue is the proper conduct owed by family members to each other. See, e.g., *Beaudette v. Frana*, 285 Minn. 366, 173 N.W.2d 416 (1969) (court abolished an absolute spousal immunity, but remanded for further fact finding); *Holodook v. Spencer*, 36 N.Y.2d 35, 324 N.E.2d 338, 364 N.Y.S.2d 859 (1974) (court stated that the reasonable person standard is not the "wisest" one to employ in the context of family relationships).

The late Dean Leon Green argued that a determination of the duty issue "ultimately rests upon broad policies which underlie the law."³³ He identified morality, economics, practical administration of the law, and equity between the parties as policies that help shape duty rules.³⁴ The value of courts explicitly recognizing the influence of these factors in determining the content of duty rules is that thus the process of judicial decisionmaking is thus rendered more open to reasoned argument directly addressing these considerations.³⁵

While these broadly stated considerations may help the trial or appellate judge confront the duty question with greater honesty, they add little predictability to the outcome of that confrontation. The need for predictable duty rulings is grounded in substantive tort policy as well as more broadly based process values.³⁶ One substantive goal underlying many of the no-duty rules is the encouragement of innovative action on the part of certain classes of defendants.³⁷ To the extent that the rules are uncertain and subject to constant judicial erosion, they will be less apt to bring about the desired objective. The threat of liability may be as potent a deterrent as the actual liability itself.³⁸

³³ Green, *Duties, Risks, Causation Doctrines*, 41 Tex. L. Rev. 42, 45 (1962). Dean Green, one of the earliest exponents of a well-articulated duty analysis, urged that policy questions be brought front and center in tort litigation. For an overview of Dean Green's position, see Green, *The Casual Relation Issue in Negligence Law*, 60 Mich. L. Rev. 543 (1962); Green, *Foreseeability in Negligence Law*, 61 Colum. L. Rev. 1401 (1961); Green, *The Duty Problem in Negligence Cases*, (pts. 1 & 2), 28 Colum. L. Rev. 1014 (1928); 29 Colum. L. Rev. 255 (1929). For a more recent expression of Green's view, see Thode, *Tort Analysis: Duty-Risk v. Proximate Cause and the Rational Allocation of Functions Between Judge and Jury*, 1977 Utah L. Rev. 1 (1977).

³⁴ Green, *Duties, Risks, Causation Doctrines*, *supra* note 33, at 45.

³⁵ Some of the leading tort cases of the last decade have addressed straightforwardly the policy factors behind the duty determination. See, e.g., *Sindell v. Abbott Laboratories*, 26 Cal. 3d 588, 607 P.2d 924, 163 Cal. Rptr. 132, cert. denied, 449 U.S. 912 (1980); *Coulter v. Superior Court*, 21 Cal. 3d 144, 577 P.2d 669, 145 Cal. Rptr. 534 (1978); *Tarasoff v. Regents of the Univ. of Cal.*, 17 Cal. 3d 425, 551 P.2d 334, 131 Cal. Rptr. 14 (1976); *Dillon v. Legg*, 68 Cal. 2d 728, 441 P.2d 912, 69 Cal. Rptr. 72 (1968); *Berman v. Allan*, 80 N.J. 421, 404 A.2d 8 (1979).

³⁶ When a legal dispute, if litigated, is resolved through application of precise rules rather than by reference to general, open-ended standards, it is easier for the parties to predict the outcome. In turn, an increase in the predictability of the outcome of litigation will likely result in a higher settlement rate. Because the costs of an out-of-court settlement are usually lower than the costs of litigating, a higher settlement rate should result in a reduction of the total costs of legal dispute resolution. Ehrlich & Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. Legal Stud. 257, 265 (1974) [hereinafter Ehrlich & Posner, *Economic Analysis*]. For a discussion of the beneficial effects of greater precision of legal obligations on legal system behavior, see *id.*, at 264-71.

³⁷ See note 30 *supra*.

³⁸ Ehrlich and Posner argue that uncertain rules may impose heavy social costs by deterring socially valuable conduct that is within the penumbra of the vague standard. Ehrlich & Posner, *Economic Analysis*, *supra* note 36, at 262-64. Thus, primary behavior may be affected adversely by rules that appear to have little stability. Certainly the possibility exists that the lack of formal

Justiciability, a process concern, also requires specificity in the no-duty rules governing liability. Professor Henderson has argued that standard setting through use of the "reasonable man" doctrine entangles the judiciary in polycentric litigation.³⁹ He argues that in cases where standard setting requires very complex technological analysis, usually dependent on expert testimony, the controversy becomes non-justiciable.⁴⁰ Courts have attempted to minimize the difficulties of such litigation by formulating well-focused no-duty rules so that "the issue for decision is not whether the defendant's conduct was reasonable under all the circumstances, but whether the requirements of relatively specific, formal rules of decision are satisfied."⁴¹

Thus, courts already have identified some important policies that support a judicial conclusion of no duty. Policies such as the encouragement or protection of certain primary conduct, predictability, and justiciability are well accepted justifications for limiting defendant liability in tort.

II

ANTECEDENTS OF MULTIFACTOR DUTY ANALYSIS

Areas of tort law in which the courts have demonstrated a willingness to direct policy-based no-duty verdicts provide antecedents for

rules in design litigation and the concomitant reliance on the "reasonableness" standard will lead manufacturers to be excessively cautious in designing products.

³⁹ Henderson, *Judicial Review of Design Choices*, *supra* note 1, at 1534-42.

⁴⁰ [P]olycentric problems are many-centered problems, in which each point for decision is related to all the others as are the strands of a spider web. If one strand is pulled, a complex pattern of readjustments will occur throughout the entire web. If another strand is pulled, the relationships among all the strands will again be readjusted. A lawyer seeking to base his argument upon established principle and required to address himself in discourse to each of a dozen strands, or issues, would find his task frustratingly impossible. As he moved from the first point of his argument to the second and then to the third, he would find his arguments regarding the earlier points shifting beneath him.

Henderson, *Judicial Review of Design Choices*, *supra* note 1, at 1536.

Polycentric problems present themselves to the manufacturer as well as to the court. At the preproduction phase of product design, a decision about one element of a design which is inextricably related to decisions about other aspects of the design is a polycentric decision for the manufacturer. Should a defect in one of these elements of the product become the subject of litigation, the court will face problems of polycentric decisionmaking due to the nature of the product and its design process. While not all problems of polycentricity for courts stem from products whose design was the result of polycentric decisionmaking, it is likely that most products of this sort will create such problems should they become the subject of design defect litigation.

For the background of the term "polycentricity," see Henderson, *Judicial Review of Design Choices*, *supra* note 1, at 475 n.23.

⁴¹ Henderson, *Expanding the Negligence Concept*, *supra* note 1, at 480. "These rules share the functional characteristic of all common-law rules of liability—that of screening out polycentricity and rendering legal controversies adjudicative." *Id.*

the proposed multifactor duty analysis. In several instances, courts have abandoned single factor no-duty rules and, sensitive to the need for greater specificity in formulating duty rules, have set forth in some detail the factors considered in determining whether a duty of care exists.⁴² Although these cases are not exactly analogous to the structure that will be proposed for duty decisions in product liability cases, they do provide a backdrop for the analytical scheme that will be suggested.

A. Liability of Financier for Negligence of Developers

The California Supreme Court, in several landmark cases, has attempted to identify factors that will aid courts in deciding whether to impose on the defendant a duty of due care. In *Connor v. Great Western Savings & Loan Ass'n*,⁴³ the court questioned the necessity of privity of contract to impose a duty of reasonable care on a savings and loan association that had financed a housing development project. The plaintiffs' homes had been seriously damaged by cracking, caused by poorly designed foundations that were unable to withstand the expansion and contraction of adobe soil. The court set forth a six-factor test to determine whether to impose a duty of due care upon the defendant:

The determination whether in a specific case the defendant will be held liable to a third person not in privity is a matter of policy and involves the balancing of various factors, among which are [1] the extent to which the transaction was intended to affect the plaintiff, [2] the foreseeability of harm to him, [3] the degree of certainty that the plaintiff suffered injury, [4] the closeness of the connection between the defendant's conduct and the injury suffered, [5] the moral blame attached to the defendant's conduct, and [6] the policy of preventing future harm.⁴⁴

The court examined each of the factors and found that the defendant was clearly under a duty to the homeowners "to exercise reasonable care to protect them from damages caused by major structural defects."⁴⁵

⁴² See text accompanying notes 43-65 *infra*.

⁴³ 69 Cal. 2d 850, 477 P.2d 609, 73 Cal. Rptr. 369 (1968).

⁴⁴ *Id.* at 865, 477 P.2d at 617, 73 Cal. Rptr. at 377 (quoting *Blakanja v. Irving*, 49 Cal. 2d 647, 650, 320 P.2d 16, 19 (1958)).

⁴⁵ *Id.* at 866, 477 P.2d at 617, 73 Cal. Rptr. at 377.

Connor merits careful analysis.⁴⁶ The factors appear to be broad enough to bolster most conclusions a court could reach. They appear to provide little in the way of predictive value or guidance to a court struggling with the problem of whether to grant the institutional immunity created by the privity doctrine.

Despite legitimate skepticism about the utility of these factors, the court's formulation is intriguing. An examination of the factors reveals that several of them are identical either to factors in the risk-utility (reasonableness) formula or to causation concepts. Risk foreseeability and moral blame, for example, are elements of the negligence calculus. Certainty of injury and close connection between defendant's conduct and plaintiff's injury are elements of causation analysis.

What is the role of these factors in duty analysis? The *Connor* court apparently believed that even before undertaking litigation that would focus on these issues, there would be a judicial responsibility to investigate in a more fundamental way whether foreseeability and causation issues are sufficiently developed to be litigable. It also appears that, under the cumulative six-factor formula, issues such as foreseeability and causation are to be balanced against each other in the process of making the threshold duty decision, even though they are treated separately at trial. These two aspects of the multifactor duty formula have important implications for the newly developing duty rules in the product liability area and will be discussed at length later in this Article.⁴⁷

To summarize: The *Connor* court attempted a structured approach to a rather clearly focused duty issue, privity, and it did so in part by screening some of the issues that would ultimately be litigated and by relating them to each other. It is difficult, however, to quell the suspicion that the factors are so general that they can be manipulated to achieve any result.

⁴⁶ The literature has focused almost exclusively on the interesting substantive question of lender liability for a developer's negligence. See, e.g., *Levie*, *Security Interests in Chattel Paper*, 78 *Yale L.J.* 935, 948-50 (1969); Note, *Financing of Building Construction: Liability for Structural Defects*, 10 *B.C. Ind. & Com. L. Rev.* 932 (1969); see also *Lathrop & Rinchart*, *Legal Malpractice and Rule 10b-5 Liability: Pitfalls for the Occasional Securities Practitioner*, 5 *Loy. L.A.L. Rev.* 449, 465 (1972). Little attention has been given to the mode of analysis used by the California court to reach its conclusion that a right-duty relationship existed. In a sense, it is understandable that the six-factor duty formula would be deemed unimportant. The court had first established the culpability of the lender in dealing with undercapitalized and inexperienced developers; the six-factor formula duplicated much of the earlier analysis.

⁴⁷ See text accompanying notes 138-39; 146-58 *infra*.

*B. Duty to Bystanders to Avoid Negligent
Infliction of Emotional Harm*

The famous case of *Dillon v. Legg*⁴⁸ suggests a slightly different mode of multifactor duty analysis. In *Dillon*, the California Supreme Court decided that a negligent motorist was liable to a mother who suffered emotional trauma and subsequent physical injury as a result of witnessing the death of her child. The mother had not been in the zone of danger herself. Prior to *Dillon*, the no-duty rule in California prohibited recovery by a bystander who suffered injury as a result of witnessing injury to another unless the plaintiff had been personally within the zone of danger.⁴⁹

The *Dillon* court abandoned the no-duty rule for a more flexible multifactor test, stating:

In determining . . . whether defendant owes plaintiff a duty of due care, the courts *will take into account* such factors as the following: (1) Whether plaintiff was located near the scene of the accident as contrasted with one who was a distance away from it. (2) Whether the shock resulted from a direct emotional impact upon plaintiff from the sensory and contemporaneous observance of the accident, as contrasted with learning of the accident from others after its occurrence. (3) Whether plaintiff and the victim were closely related, as contrasted with an absence of any relationship or the presence of only a distant relationship.⁵⁰

Dillon has received a mixed reception from courts and scholars. It has been praised by some for its sense of fairness⁵¹ and damned by others for creating distinctions as arbitrary as those it sought to abol-

⁴⁸ 68 Cal. 2d 728, 441 P.2d 912, 69 Cal. Rptr. 72 (1968).

⁴⁹ See, e.g., *Amaya v. Home Ice, Fuel & Supply Co.*, 59 Cal. 2d 295, 302-03, 379 P.2d 513, 517, 29 Cal. Rptr. 33, 37 (1963), in which the court stated:

As a general rule, no recovery is permitted for a mental or emotional disturbance, or for a bodily illness resulting therefrom, in the absence of a contemporaneous bodily contact or independent cause of action, or an element of willfulness, wantonness, or maliciousness, in cases in which there is no injury other than one to a third person, even though recovery would have been permitted had the wrong been directed against the plaintiff.

Id. (quoting 52 Am. Jur., Torts § 70, at 417). *Dillon v. Legg*, 68 Cal. 2d at 748, 441 P.2d at 925, 69 Cal. Rptr. at 85.

⁵⁰ *Dillon v. Legg*, 68 Cal. 2d at 740-41, 441 P.2d at 920, 69 Cal. Rptr. at 80 (emphasis added).

⁵¹ See Leibson, *Recovery of Damages for Emotional Distress Caused by Physical Injury to Another*, 15 J. Fam. L. 163, 180 (1976-1977); Comment, *Negligently Inflicted Mental Distress: The Case for an Independent Tort*, 59 Geo. L.J. 1237, 1246 n.51 (1971); cases cited in note 27 *supra*.

ish.⁵³ It has been lauded for its flexibility⁵³ and denounced because the flexibility of the multifactor approach reduces the formality of the rules, thus requiring the courts to engage in polycentric decisionmaking.⁵⁴

A decade after *Dillon*, it is now possible to assess the strengths and weaknesses of the multifactor approach. The fear that the *Dillon* factors were so flexible that they would provide little guidance for courts has not been realized. In *Justus v. Atchison*,⁵⁵ the California Supreme Court reviewed its own post-*Dillon* decisions and those of the intermediate appellate courts. Of the eight decisions it found that utilized the *Dillon* factors,⁵⁶ three upheld a cause of action⁵⁷ and five reached a no-duty decision.⁵⁸

⁵³ See *Tobin v. Grossman*, 24 N.Y.2d 609, 249 N.E.2d 419, 301 N.Y.S.2d 554 (1969); *Sinn v. Burd*, 486 Pa. 146, 182-85, 404 A.2d 672, 690-92 (1979) (Roberts, J., dissenting); *D'Ambra v. United States*, 114 R.I. 643, 666, 338 A.2d 524, 535-36 (1975) (Joslin, J., dissenting).

⁵⁴ See *Simons, Psychic Injury and the Bystander: The Transcontinental Dispute Between California and New York*, 51 St. John's L. Rev. 1, 10-11 (1976) [hereinafter *Simons, Psychic Injury and the Bystander*]; *Comment, Negligent Infliction of Emotional Distress*, 58 Calif. L. Rev. 321, 326 (1970).

⁵⁵ See *Henderson*, *Expanding the Negligence Concept*, *supra* note 1, at 517-19.

⁵⁶ 19 Cal. 3d 564, 565 P.2d 122, 139 Cal. Rptr. 97 (1977).

⁵⁷ See *id.* at 582-84, 565 P.2d at 134-35, 139 Cal. Rptr. at 109-10.

⁵⁸ In *Mobaldi v. Regents of the Univ. of Cal.*, 55 Cal. App. 3d 573, 127 Cal. Rptr. 720 (1976), a child convulsed and suffered irreversible brain damage in his foster mother's arms as a result of an improper intravenous solution. The court upheld the mother's cause of action, although she had not been aware of the defendant doctor's negligence. In *Archibald v. Braverman*, 275 Cal. App. 2d 253, 79 Cal. Rptr. 723 (1969), a mother came upon her child's body moments after an explosion. The court held that her emotional distress was contemporaneous with the accident. In *Krouse v. Graham*, 19 Cal. 3d 59, 562 P.2d 1022, 137 Cal. Rptr. 863 (1977), the court did not require actual visual observance of the impact itself as a basis for recovery, but found that plaintiff's perception of his wife's death by way of his presence on the scene and his awareness of the accident occurring at the very place he knew his wife to be standing met the *Dillon* requirement of contemporaneous observance.

⁵⁹ Recovery was denied in four of these cases because of the contemporaneous observance requirement. In *Deboe v. Horn*, 16 Cal. App. 3d 221, 94 Cal. Rptr. 77 (1971) and *Powers v. Sissoev*, 39 Cal. App. 3d 865, 114 Cal. Rptr. 868 (1974), the plaintiffs did not observe the injury until after the victim had been taken to the hospital. In *Arauz v. Gerhardt*, 68 Cal. App. 3d 937, 137 Cal. Rptr. 619 (1977), the plaintiff observed the victim's injury at the scene of the accident, but not until several minutes after the injury had occurred. In *Hair v. County of Monterey*, 45 Cal. App. 3d 538, 119 Cal. Rptr. 639 (1975), a child was injured during surgery. The mother neither observed the surgery nor realized the extent of the harm until two days later. In the fifth case, *Jansen v. Children's Hosp. Medical Center*, 31 Cal. App. 3d 22, 106 Cal. Rptr. 883 (1973), the court denied recovery to a mother who witnessed the slow deterioration of her negligently misdiagnosed child. The court held that *Dillon* contemplated a "sudden and brief event" causing injury to the victim. Moreover, the injury-causing event, as opposed to the resultant injury, "must . . . be one which can be the subject of sensory perception." To allow recovery for witnessing the effect of a tortious act would create potentially infinite liability. *Id.* at 24, 106 Cal. Rptr. at 884-85.

The predictive value of the *Dillon* factors in California seems significant. If one approached the cases objectively, one could predict fairly accurately how the court would rule.⁵⁹ The real problems with the *Dillon* factors have stemmed from their narrow focus and their failure to account for other policy considerations that should affect the duty decision. *Justus* itself demonstrates the inadequacy of the *Dillon* factors. In *Justus*, fathers present in the delivery room when their wives gave birth sought to recover for shock resulting from witnessing the delivery of a stillborn infant. The court denied recovery after reviewing the *Dillon* factors and finding at least one of them wanting. The court held that:

Dillon requires more than mere physical presence: . . . the shock must also result from a "direct emotional impact" on the plaintiff caused by "sensory and contemporaneous observance of the accident." Here, although each plaintiff was in attendance at the death of the fetus, that event was by its very nature hidden from his contemporaneous perception: he could not see the injury to the victim⁶⁰

Since *Justus*, the California Supreme Court has interpreted *Dillon* to allow recovery for distress without physical manifestations. See *Molien v. Kaiser Found. Hosps.*, 27 Cal. 3d 916, 616 P.2d 813, 167 Cal. Rptr. 831 (1980). The requisite relationship between the plaintiff and the primary victim has also been clarified somewhat by the court. See *Drew v. Drake*, 110 Cal. App. 3d 555, 168 Cal. Rptr. 65 (1980) (plaintiff could not recover for mental distress resulting from witnessing an accident in which her male de facto spouse of three years was killed); *Mobaldi v. Regents of the Univ. of Cal.*, 55 Cal. App. 3d 573, 127 Cal. Rptr. 720 (1976) (foster mother of three year old primary victim allowed to recover.) See also *Leong v. Takasaki*, 55 Hawaii 398, 520 P.2d 758 (1974), in which the Supreme Court of Hawaii noted the "strong ties among members of the same extended family group" spanning several generations, which exist in Hawaiian and Asian families, as well as the unique "cherished . . . principle of adoption" perpetuated by Hawaiians since ancient times. *Id.* at 410-11, 520 P.2d at 766. Thus, the Hawaii court found a *Dillon* recovery appropriate where plaintiff observed the death of his stepfather's mother.

⁵⁹ See *Simons, Psychic Injury and the Bystander*, *supra* note 53, at 33-34. A brief examination of two cases that came to divergent conclusions will demonstrate the point. In *Archibald v. Braverman*, 275 Cal. App. 2d 253, 255, 79 Cal. Rptr. 723, 725 (1969), "within moments" after a child was seriously injured in an explosion his mother appeared on the scene and saw him bleeding and maimed. Although the mother was not present at the scene of the accident, the shock she suffered was found to be sufficiently contemporaneous with the accident to permit recovery under the *Dillon* factors. In sharp contrast is *Powers v. Sissoev*, 39 Cal. App. 3d 865, 114 Cal. Rptr. 868 (1974), in which the mother of a child injured in an automobile accident was denied recovery. The mother, who had not witnessed the accident, first saw the child in the hospital 30 to 60 minutes after the event. The court held that the mother's shock was not contemporaneous with the accident, but arose from circumstances not materially different from those experienced by every parent whose child has been injured in a nonobserved accident. *Id.* at 874, 114 Cal. Rptr. at 874.

⁶⁰ *Justus v. Atchison*, 19 Cal. 3d 564, 584, 565 P.2d 122, 135, 139 Cal. Rptr. 97, 110 (1977) (citations omitted).

The court explained that, in its view, *Dillon* presupposed that the bystander was an involuntary witness to the accident.⁶¹ The court noted that a layman who voluntarily observes a surgical operation must be prepared for the "possibility of unpleasant or even harrowing experiences."⁶² *Dillon* may have presupposed an involuntary observer. It would have been more accurate, however, for the court to admit that the *Dillon* factors inadequately addressed the issue of the observer's role in an action for negligent infliction of emotional distress.

It would appear that from a process standpoint, *Dillon* is only a qualified success.⁶³ It delineated factors precise enough to make prediction possible. By limiting those factors to the foreseeability issue, however, the court excluded considerations that must affect the duty decision. Some courts, to their credit, have not permitted *Dillon* to straitjacket their thinking but have focused on the general methodology suggested by its structure.⁶⁴ They have thus been able to suggest additional considerations germane to a duty analysis.⁶⁵

⁶¹ *Id.* at 585, 565 P.2d at 136, 139 Cal. Rptr. at 111.

⁶² *Id.*

⁶³ See Henderson, Expanding the Negligence Concept, *supra* note 1, at 517-19 (criticizing *Dillon* as devoid of formal rules, thus necessitating decisionmaking on a case-by-case basis). However, Henderson observes that the court was "flirting with disaster without actually confronting it," *id.* at 519, since courts following *Dillon* have applied formal rules to limit liability.

⁶⁴ See, e.g., *Rodriguez v. State*, 52 Hawaii 156, 472 P.2d 509 (1970). The plaintiffs sued, in part, for damages for emotional distress resulting from the negligent flooding of their newly constructed home. Though plaintiffs had intended to move into their new residence on the day of the flooding, they were not near the house when the damage occurred. The case does not specify how soon they became aware of the damage. The court found a duty to refrain from negligent infliction of mental distress and remanded the case to be decided on general tort principles of reasonableness and foreseeability. While not adopting the *Dillon* limitations (indeed, application of the *Dillon* criteria would probably have mandated a no-duty finding, as there appeared to be an inadequate temporal, physical, and emotional relationship between the injury and the mental distress), the court cited important policy reasons tending to limit liability to cases of serious mental distress. *Id.* at 172-73, 472 P.2d at 520. See also *Leong v. Takasaki*, 55 Hawaii 398, 411-13, 520 P.2d 758, 764-67 (1974). A *Dillon*-style limitation was adopted in *Kelley v. Kokua Sales & Supply, Ltd.*, 56 Hawaii 204, 532 P.2d 673. The father and grandfather of the primary victim, informed over the phone of the accident in Hawaii, brought an action for emotional distress suffered in California. The court held that a duty is owed only to a plaintiff located within a reasonable distance of the scene of the accident, measured by the foreseeability of the consequences to the defendant.

The New Jersey Supreme Court in *Portee v. Jaffee*, 84 N.J. 88, 417 A.2d 521 (1980), after a thorough analysis and approval of the *Dillon* requirements, added that the severity of the injury causing the distress should also be considered. *Id.* at 99-100, 417 A.2d at 527-28. In *D'Ambra v. United States*, 354 F. Supp. 810 (D.R.I. 1973), *aff'd*, 518 F.2d 275 (1st Cir. 1975), plaintiff witnessed her daughter's injury in an automobile accident. The district court took the liberty of anticipating Rhode Island's adoption of *Dillon*. Notably, the court added a fourth factor to the duty analysis—the foreseeability of the plaintiff's proximity to the accident—and suggested a five-factor test for this determination. The court found that although all *Dillon* requirements

III

THE MIDDLE GROUND

These foregoing cases demonstrate that, with the passing of the single factor no-duty rules, courts have *not* moved automatically to total reliance upon the reasonableness standard in the hands of the jury. They have instead struggled to establish a middle ground in order to retain some control over an area greatly affecting, and affected by, large issues of social policy and thus demanding coherent treatment. In order to evaluate the propriety of courts utilizing a multifactor analysis to assume a more activist position on the duty issue, it is useful to compare design defect litigation with other areas of tort law in which risk-utility analysis often plays a crucial role in determining liability.⁶⁶

were met, the presence of a 13-year-old boy's mother near her child was not reasonably foreseeable, and thus defendant owed no duty to the mother. On appeal the First Circuit certified to the Supreme Court of Rhode Island the question of extending liability past the zone of danger. 114 R.I. 643, 338 A.2d 524 (1975). The Rhode Island court, replying affirmatively, did not adopt the foreseeability doctrine, but instead engaged in a general policy analysis, touching on moral, economic, and administrative factors similar to those recognized by Professor Green. See Green, *Duties, Risks, Causation Doctrines*, *supra* note 33, at 45. Characterizing its finding of a duty as an "exception and not the rule," the court recognized that application of the zone of danger rule in this case would "deny psychological reality." 114 R.I. at 657, 338 A.2d at 531. As both the concurrence and dissent point out, the majority's opinion fails to set guidelines for this cause of action.

⁶⁵ There are other instances where the courts have made reference to a multifactor duty analysis. In *Tarasoff v. Regents of Univ. of Cal.*, 17 Cal. 3d 425, 434, 551 P.2d 334, 342, 131 Cal. Rptr. 14, 22 (1976), the court mentioned a broad range of factors in its policy analysis supporting the imposition of a duty on a psychiatrist to warn a victim that a patient posed a serious threat of danger. See also *Rowland v. Christian*, 69 Cal. 2d 108, 113, 443 P.2d 561, 564, 70 Cal. Rptr. 97, 100 (1978); *Coulter v. Superior Court of San Mateo*, 21 Cal. 3d 144, 152-53, 577 P.2d 669, 674, 145 Cal. Rptr. 534, 539 (1978).

Yet another example of a multifactor duty analysis is the six-factor test for the imposition of strict liability for "abnormally dangerous" products under Restatement (Second) of Torts § 520 (1977). Courts have used this test to determine whether certain categories of activities should be subject to strict liability. See, e.g., *Cities Serv. Co. v. State*, 312 So. 2d 799 (Fla. Dist. Ct. App. 1975) (storage of one billion gallons of phosphate slimes is abnormally dangerous activity); *Siegler v. Kuhlman*, 81 Wash. 2d 448, 502 P.2d 1181 (1972), cert. denied, 411 U.S. 983 (1973) (transportation of gasoline on highway is abnormally dangerous activity). The Restatement formulation is closely analogous to the structure of the test suggested in this Article for the resolution of the duty question in product liability cases since the Restatement imposes on the court responsibility for making a policy decision through the use of clearly articulated policy factors. Only one aspect differentiates the Restatement test from those identified in this Section and from the proposed product liability multifactor test. The Restatement test for abnormally dangerous activities is directed toward broad categories of activities (e.g., blasting, dynamiting, transportation of highly flammable substances); the proposed multifactor test operates on a case-by-case basis.

⁶⁶ While the Restatement (Second) of Torts does advocate the use of risk-utility balancing to determine whether an activity is abnormally dangerous, see note 70 *supra*, not all jurisdictions

Commentators have identified a spectrum within the field of tort litigation for the purpose of analyzing the appropriate roles of judge and jury.⁶⁷ At one end of the spectrum are cases addressing the question whether a particular activity, such as crop dusting⁶⁸ or dynamiting,⁶⁹ should be treated under negligence or strict liability theory. In such cases many courts perform a classic risk-utility analysis: To justify a strict liability standard the court must first conclude that, on the whole, the societal benefits of the activity outweigh the risks. It must then conclude that the activity is attended by a high likelihood of serious, irreducible risk.⁷⁰ Whether an activity is to be classified "abnormally dangerous" is a question solely for the court. It is purely a matter of law whether crop dusting, blasting, or driving a gasoline truck, for example, fall within that category.⁷¹ As such, the decision has high visibility⁷² and is not fact-sensitive.⁷³ Instead, it is a policy

have adopted the approach. See Note, *The Rylands v. Fletcher Doctrine in America: Abnormally Dangerous, Ultrahazardous, or Absolute Nuisance?*, 1978 *Ariz. St. L.J.* 99 [hereinafter Note, *The Rylands v. Fletcher Doctrine*].

⁶⁷ See Twerski, Weinstein, Donaher & Piehler, *Shifting Perspectives*, supra note 1, at 379 n.82; Wade, *On the Nature of Strict Tort Liability for Products*, 44 *Miss. L.J.* 825, 838-39 (1973) [hereinafter Wade, *On Strict Liability*].

⁶⁸ See, e.g., *Young v. Darter*, 363 P.2d 829 (Okla. 1961); *Loe v. Lenhard*, 227 Or. 242, 362 P.2d 312 (1961); *Langan v. Valicopters, Inc.*, 88 Wash. 2d 855, 567 P.2d 218 (1977).

⁶⁹ See *Spano v. Perini Corp.*, 25 N.Y.2d 11, 250 N.E.2d 31, 302 N.Y.S.2d 527 (1969); blasting cases collected in Annot., 56 A.L.R.3d 1017, 1017-27 (1974).

⁷⁰ The Restatement (Second) of Torts § 520 (1977) lists six factors to be considered when determining whether a certain class of conduct should be classified as abnormally dangerous activity:

- (a) existence of a high degree of risk of some harm to the person, land or chattels of others;
- (b) likelihood that the harm that results from it will be great;
- (c) inability to eliminate the risk by the exercise of reasonable care;
- (d) extent to which the activity is not a matter of common usage;
- (e) inappropriateness of the activity to the place where it is carried on; and
- (f) extent to which its value to the community is outweighed by its dangerous attributes.

⁷¹ Restatement (Second) of Torts § 520 comment (l) (1977); see *Langan v. Valicopters, Inc.*, 88 Wash. 855, 861, 567 P.2d 218, 221 (1977); *Loe v. Lenhard*, 227 Or. 242, 249, 362 P.2d 312, 316 (1961).

⁷² A decision is "highly visible" when the policy considerations underlying the final determination are identifiable and do not get lost in a morass of facts. Clear articulation of the policy issues concerning the court together with a fully developed discussion of their role in the court's decisionmaking will result in a highly visible decision. Decisions of this type contribute greatly to predictability in the design defect area.

⁷³ Wade, *On Strict Liability*, supra note 67, at 838; see note 65 supra. For a general discussion of the policies supporting strict liability, see Fischer, *Products Liability—Functionally Imposed Strict Liability*, 32 *Okla. L. Rev.* 93, 114-16 (1979) [hereinafter Fischer, *Products Liability*]; Note, *The Rylands v. Fletcher Doctrine*, supra note 66, at 104. For recent scholarly efforts to identify policies justifying the abandonment of risk-utility balancing for ultrahazardous

decision that an entire class of activity should be removed from consideration under the fault principle.⁷⁴

At the other end of the spectrum are negligence cases, in which the plaintiff's basic contention is that the defendant's conduct at a particular time and in particular circumstances was unreasonable. The decision as to the reasonableness of the conduct is fact sensitive in the extreme. It is in the power of a court to direct a verdict on the issue of negligence either because reasonable persons could not differ on the findings of fact⁷⁵ or because the standard necessary for the imposition of liability is unrealistically high.⁷⁶ It is rare, however, that courts intervene to make findings that conduct is or is not negligent as a matter of law.⁷⁷ Trial courts are extremely reluctant to direct verdicts on the standard of care issue, an attitude reinforced by decades of appellate reversals of overly zealous trial court decisions.⁷⁸

Design defect cases based on risk-utility analysis lie near the abnormally dangerous activity end of the spectrum with regard to the appropriate role of judge and jury.⁷⁹ On the one hand, design defect litigation is similar to negligence litigation in that it requires a fact-sensitive decision, that is, a decision referring to only one feature of one product. On the other hand, design defect litigation ultimately is concerned not with the conduct of a particular defendant on a particular day but with an entire product line.⁸⁰

As such, design defect litigation might have implications for the safety practices of an entire industry. The impact of a finding that a product was defectively designed may cause the defendant to redesign

activities, see Epstein, *A Theory of Strict Liability*, supra note 1; Fletcher, *Fairness and Utility*, supra note 1.

⁷⁴ The Restatement test does not necessarily remove an entire class of activity without qualification from consideration under a fault standard, for example, an activity may be "abnormally dangerous" in some places but not in others. See, e.g., Restatement (Second) of Torts § 520(e) and comment j.

⁷⁵ For a discussion of directed verdict practice, see note 22 supra. See also Restatement (Second) of Torts § 328 B(a), (d) (1965).

⁷⁶ See James, *Functions of Judge and Jury*, supra note 18, at 676-78 ("A jury will not be permitted to require a party to take a precaution which is clearly unreasonable.").

⁷⁷ See note 24 supra. Whether conduct is negligent is typically an issue of fact for the jury. For a general discussion of the respective functions of judge and jury in negligence cases, see J. Henderson & R. Pearson, supra note 23, at 285-86.

⁷⁸ See *Pokora v. Wabash Ry. Co.*, 292 U.S. 96, 104-06 (1934); *Toschi v. Christian*, 24 Cal. 2d 354, 364, 149 P.2d 848, 851-52 (1944).

⁷⁹ See Wade, *On Strict Liability*, supra note 67, at 838-39.

⁸⁰ See generally Birnbaum, *Unmasking the Test for Design Defect*, supra note 1; Owen, *Rethinking the Policies of Strict Products Liability*, 33 Vand. L. Rev. 681 (1980); Wade, *Design Defects*, supra note 1. See also Fischer, *Products Liability*, supra note 73, at 104-09; Wade, *On Strict Liability*, supra note 67, at 838.

the product, thus raising the cost to consumers and removing a cheaper, although perhaps acceptable, product from the marketplace. Whether or not offensive collateral estoppel can preclude litigation of other cases involving a similar defect,⁴¹ the practical effect is that the defendant is vulnerable to suit by plaintiffs who will be encouraged by a previous plaintiff's success. The exposure for a defendant is enormous.

From this perspective, design litigation bears a striking similarity to litigation of the "abnormally dangerous" issue.⁴² A finding of defect

⁴¹ Offensive collateral estoppel prevents a defendant from relitigating an issue decided against the defendant in previous litigation with another party. Offensive collateral estoppel was sanctioned by the Supreme Court for the federal courts in *Parklane Hosiery Co. v. Shore*, 439 U.S. 322 (1979). *Parklane* recognized, however, that a trial court should deny offensive estoppel when "a plaintiff could easily have joined in the earlier action or where . . . the application of offensive estoppel would be unfair to a defendant." *Id.* at 331.

Parklane left open the question of whether state or federal law on offensive collateral estoppel should be applied in diversity cases. Several federal courts have applied the federal doctrine of collateral estoppel in diversity actions involving product liability. See, e.g., *Hardy v. Johns-Manville Sales Corp.*, 509 F. Supp. 1353, 1360-61 (E.D. Tex. 1981); *Flatt v. Johns-Manville Sales Corp.*, 488 F. Supp. 836, 839 (E.D. Tex. 1980); *Mooney v. Fibreboard Corp.*, 485 F. Supp. 242, 245 (E.D. Tex. 1980). But see *McCarty v. Johns-Manville Sales Corp.*, 502 F. Supp. 335, 339 (S.D. Miss. 1980), holding that state law controls application of collateral estoppel in diversity cases.

As this Article went to press, the Fifth Circuit Court of Appeals decided *Hardy v. Johns-Manville Sales Corp.*, No. 81-2204, slip op. (*Hardy II*) (July 26, 1982), reversing the district court's opinion and denying plaintiffs the offensive use of collateral estoppel against asbestos manufacturers on the basis of *Borel v. Fibreboard Paper Products Corp.*, 493 F.2d 1076 (5th Cir. 1973), cert. denied, 419 U.S. 869 (1974). One practical effect of the Fifth Circuit's opinion will be to permit asbestos manufacturer-defendants to introduce evidence on the issues of the carcinogenic properties of asbestos, state of the art, and the adequacy of warnings.

Three months after *Hardy II*, a New York Court upheld the use of offensive collateral estoppel against manufacturers of diethylstilbestrol (DES) in *Kaufman v. Eli Lilly & Co.*, N.Y.L.J., Oct. 29, 1982, at 6, col. 2 (Sup. Ct. Special Term, Oct. 26, 1982). The *Kaufman* court, applying state law, pointed out to the nonexistence of any inconsistent DES verdicts in the jurisdiction, *id.* at 8, col.2, as one basis for its decision. In contrast, the Fifth Circuit in *Hardy II*, in reversing the lower court, relied upon the fact that subsequent to *Borel*, numerous verdicts had been rendered in favor of defendants in asbestos litigation cases, slip op. at 3720. For a recent discussion of *Hardy II*, see Birnbaum & Wrubel, Limits on Using Collateral Estoppel to Streamline Asbestos Litigation, Nat'l. L.J., Nov. 8, 1982, at 31, col. 1.

In *Vincent v. Thompson*, 50 A.D.2d 211, 221, 377 N.Y.S.2d 118, 128 (1975), offensive use of collateral estoppel was denied because the issue of causation was substantially different from that in the previous litigation. Nonetheless, the court intimated that given other facts it might sanction the use of offensive collateral estoppel. *Id.* at 222 n.3, 377 N.Y.S.2d at 128 n.3; cf. *Rosenfeld v. A.H. Robins Co.*, 63 A.D.2d 11, 17, 407 N.Y.S.2d 196, 199, appeal dismissed, 46 N.Y.2d 731, 385 N.E.2d 1301, 413 N.Y.S.2d 374 (1978) (similar causation problems militate against class action treatment in product liability action).

⁴² See Fischer, Products Liability, *supra* note 73, at 114-16; Wade, Design Defects, *supra* note 1, at 573-75. See generally Twerski, Weinstein, Donaher & Pichler, Shifting Perspectives, *supra* note 1, at 347, 379 n.82.

can affect an entire industry by mandating safety features that might have to be incorporated in all similar products. By allowing a single case to go to the jury, the court may be signalling open season on certain types of design defects.⁴³ Since policy issues in design defect cases might involve classifying a whole group of products as unsafe, a design defect decision is different from the "individual" fact-sensitive decision that is the essence of negligence litigation.

Courts should seriously consider the implications of all this before sending the case to the jury. Judicial oversight ought to be more than pro forma—not every design defect case should find its way to the jury.

Dean Wade has recognized the tension in design defect litigation between the traditional factfinding role of the jury and policy implications for large manufacturer-defendants,⁴⁴ and his analysis of the proper role of the court in such litigation is superb. However, although he correctly argues that design litigation occupies an ideological middle ground between the fact-sensitive negligence issues and the

⁴³ If a court permitted a case like *Metal Window Prods. Co. v. Magnusen*, 485 S.W.2d 355 (Tex. Civ. App. 1972), to reach a jury, one could expect reverberations in industries manufacturing similar products. In *Metal Window*, the court overturned a judgment for the plaintiff, refusing to hold a manufacturer of glass doors liable for injuries suffered by a woman who walked into the door believing it was open. The allegation of design defect suggested that such doors should bear etchings that would signal the presence of a door. *Id.* at 357. But cf. *Kemline v. Simonds*, 231 Cal. App. 2d 165, 41 Cal. Rptr. 653 (1964) (imposing liability for negligence on home owner for injuries sustained by child social guest who ran into sliding glass door). If products of such common use and esthetic value would have to be redesigned to account for a remote chance of injury, there are countless changes that would have to be considered in similar products. See note 191 and accompanying text *infra*.

⁴⁴ In an action for negligence it is normally the function of the jury to determine whether the defendant was negligent, subject, of course, to the authority of the judge to direct a verdict for the defendant. If he finds that the jury could not reasonably find for the plaintiff. On the other hand, in an action based on strict liability of the *Rylands* [*Rylands v. Fletcher*] type, for an abnormally dangerous activity, the determination as to whether strict liability will be imposed for the activity is held to be one for the judge, not the jury—for the reason that the decision involves issues of general social policy. In the products cases the courts seem not to have approached the problem in this fashion. Instead, they seem to have assumed that strict products liability is like negligence in this respect, so that a plaintiff, in order to recover, must convince the jury that the product was "defective" or "unreasonably dangerous" or "not duly safe," or whatever test is used. This generally works quite satisfactorily when the question is whether the product was unsafe because of an error in the manufacturing process so that it was not in the condition in which it was intended to be. The issue then seems more factual, of the kind the jury is accustomed to handling. The difficulty comes when it is not just the single article which is to be classed as unsafe because something went wrong in the making of it, but a whole group or class or type which may be unsafe because of the nature of the design. It is here that the policy issues become very important and the factors which were enumerated above must be collected and carefully weighed.

broad-based, policy-oriented "abnormally dangerous activity" issue, he has failed to provide a multifactor duty test to guide the courts in their analysis of the policy issues implicated in design defect litigation.

To the cognoscenti of product liability law, that statement appear ludicrous. The most widely adopted test for unreasonable danger is Dean Wade's. He has suggested that a court consider the following factors in deciding whether to submit a case to the jury:

- (1) The usefulness and desirability of the product—its utility to the user and to the public as a whole.
- (2) The safety aspects of the product—the likelihood that it will cause injury, and the probable seriousness of the injury.
- (3) The availability of a substitute product which would meet the same need and not be as unsafe.
- (4) The manufacturer's ability to eliminate the unsafe character of the product without impairing its usefulness or making it too expensive to maintain its utility.
- (5) The user's ability to avoid danger by the exercise of care in the use of the product.
- (6) The user's anticipated awareness of the dangers inherent in the product and their avoidability, because of general public knowledge of the obvious condition of the product, or of the existence of suitable warnings or instructions.
- (7) The feasibility, on the part of the manufacturer, of spreading the loss by setting the price of the product or carrying liability insurance.⁸⁵

A careful review of these factors indicates that they are an expanded version of the risk-utility factors that the Restatement of Torts (Second) provides for the assessment of negligence cases.⁸⁶ The factors are tailored to meet the products situation but they remain primarily risk-utility oriented. Though Wade has admonished the courts to be sensitive to policy issues, his test does not help focus the policy discussion. The upshot is that a court focusing on the risk-utility factors can do little more than the low-level lawmaking discussed earlier,⁸⁷ sitting as a super-jury on the reasonableness issue. It is fair to conclude that the Wade criteria have done much to increase the sophistication of risk-utility analysis but little to further policy analysis.

Wade, On Strict Liability, *supra* note 67, at 838 (1973) (emphasis added; footnote omitted).

⁸⁵ *Id.* at 837-38. The Wade factors have been widely accepted by the courts. See, e.g., *Thibault v. Sears, Roebuck & Co.*, 118 N.H. 802, 807, 395 A.2d 843, 846 (1978); *Cepeda v. Cumberland Eng'g Co.*, 76 N.J. 152, 173-75, 386 A.2d 816, 828-27 (1978); *Roach v. Kononen*, 269 Or. 457, 463-65, 525 P.2d 125, 128-29 (1974).

⁸⁶ See note 23 *supra*.

⁸⁷ See text following note 22 *supra*.

Dean Wade's choice of some rather unfortunate examples to demonstrate the use of his criteria in directed verdicts denigrates the policy-making function of the courts. He suggests:

If a plaintiff sues the manufacturer of a butcher knife because he cut his finger, on the sole ground that the knife was so sharp that it was likely to cut human flesh, the court would probably take the case out of the hands of the jury and not give it the opportunity to find that the knife was unsafe. Similarly with an aspirin manufacturer, when an ordinary tablet stuck to the lining of the plaintiff's stomach and caused a hemorrhage, or the manufacturer of the Pasteur treatment for rabies, when there were untoward reactions. The problem in these cases is likely to be called one of law and decided by the court. Court control of jury action is more extensive here than in the ordinary negligence action.⁸⁸

The difficulty with Dean Wade's examples is not that they are inaccurate but rather that they are too simple. These cases so obviously demand a directed verdict for defendant that it would be hard to find a dissenting view. Certainly the power of a court to limit liability in design defect litigation is not limited to such obvious cases of nondefect and is perhaps more necessary in the close-call, difficult cases.

A more enlightening example of the court's role in directing verdicts in close-call design defect cases can be found in *Wilson v. Piper Aircraft Corp.*⁸⁹ In *Wilson*, plaintiffs alleged that the airplane crash in which their decedents died was caused by engine failure resulting from carburetor icing and that the carburetor's susceptibility to icing was inherent in the basic design of the engine.⁹⁰

The court's reasoning in reversing the jury verdict for the plaintiffs is instructive. The court ruled that although there was ample evidence to support each of the plaintiffs' allegations concerning the design of the aircraft, the likelihood of this design contributing to carburetor icing, and the causal connection between such icing and the crash of the aircraft, the evidence was nonetheless insufficient to support a jury finding that the airplane was "dangerously defective"

⁸⁸ Wade, *On Strict Liability*, *supra* note 67, at 838-39.

⁸⁹ 282 Or. 61, 577 P.2d 1322 (1978).

⁹⁰ Plaintiffs' complaint alleged that (1) the aircraft was not equipped with an injection type fuel system; (2) the carburetor was not so designed and equipped that it would provide a proper fuel-air mixture under icing conditions; (3) the aircraft was not supplied with an adequate carburetor heating system; and (4) the plane was not equipped with a carburetor heat gauge. *Id.* at 63-64, 577 P.2d at 1324.

in design.⁹¹ The court based its decision primarily upon the impracticality of requiring all aircraft to be manufactured with fuel injection engines in order to avoid the dangers of icing. The court noted that eighty to ninety percent of comparable small aircraft were manufactured with carburetor rather than fuel injection engines and that the plaintiffs had provided no evidence as to the effect of the proposed design alternative on such matters as "cost, economy of operation, maintenance requirements, over-all performance, and safety" of such planes.⁹²

Wilson cannot be dismissed simply as a case in which the court believed the quantum of evidence to be insufficient on the issue of defective design. Plaintiffs had clearly introduced evidence that the alternate design they were proposing was feasible. The fuel injection engine was not an untested hypothetical design; it had been in actual use and had apparently performed well. There is no question that it did not present the danger of carburetor icing that the carburetor engine exhibited. Why then did the court find the evidence insufficient to go to the jury on the issue of design defect?

The court averred that the case should have been withheld from the jury because there was insufficient evidence on the cost effectiveness and overall performance of the fuel injected engine.⁹³ However, in offering an alternative design to a court, it is virtually impossible to present the kind of evidence that the court was professing to seek in *Wilson*. In most design defect cases, the plaintiff's proposed alternative will be a new and relatively untested design which does not have a track record on such matters as cost, overall performance, and maintenance.

The *Wilson* court did, however, tip its hand, indicating that the carbureted engine was extremely popular.⁹⁴ It was used widely and considered safe by FAA standards in spite of the icing problem. Such a widely accepted design could not be held "defective" on evidence showing only that an alternative design could eliminate a fairly remote danger, without some demonstration that the costs to society of declaring the design defective were negligible.⁹⁵

In short, *Wilson* demonstrates that courts can take their policy-making role very seriously. A court that perceives it is making an

⁹¹ Id. at 65, 577 P.2d at 1325.

⁹² Id. at 69-70, 577 P.2d at 1327.

⁹³ Id.

⁹⁴ Id.

⁹⁵ For a more complete analysis of *Wilson v. Piper Aircraft Corp.*, utilizing the author's multifactor duty analysis, see text accompanying notes 254-65 *infra*.

important policy decision by letting a design defect case go to a jury will transcend the simple counting or balancing of the elements of a risk-utility analysis in order to consider the overall social and economic impact of a possible jury finding of defect.

In the next Section, this article shall examine in depth those factors that, in isolation or in combination, tend to lead a court to decide that there is no defect as a matter of law. Sometimes this conclusion is expressed in a statement that there is "no duty" to make a product as safe as the plaintiff demands,⁹⁶ while sometimes it is expressed in standard "directed verdict" language, leaving the impression that a court is doing nothing more than evaluating the evidence to determine whether reasonable persons can differ.⁹⁷ In truth, however, such actions should be recognized as attempts by the courts to ride very tight herd on design defect litigation.

IV

THE FACTORS IN DEPTH

Before turning to the ten factors comprising the multifactor test proposed by this Article, it is necessary to ask why a court should be influenced by a cluster of no-duty factors, when each standing alone would not constitute grounds for a directed verdict. Early in this piece, "duty" was identified as a code word indicating that the law would not permit the "reasonableness" doctrine free reign throughout the tort universe.⁹⁸ Courts have a significant lawmaking function to perform in the design defect area of tort law. As factors militating against imposition of liability accumulate, a court must decide at what point this combination of factors renders the imposition of liability unwise. Thus, a case containing all ten factors would cry out for a directed verdict even though each factor taken alone would not support such a result. By disregarding the cluster, a court would be closing its eyes to the reality that the case encroached upon numerous areas in which the law traditionally has favored entrepreneurial decisionmaking.

The question arises whether the proposed multifactor duty analysis does not raise many of the same problems presented by the Wade risk-utility factors.⁹⁹ Does the multifactor analysis not present similar

⁹⁶ See, e.g., *Schemel v. General Motors Corp.*, 261 F. Supp. 134, 135-36 (S.D. Ind. 1966) (mem.); *Mieher v. Brown*, 54 Ill. 2d 539, 544-45, 301 N.E.2d 307, 310 (1973); *Robinson v. Reed-Prentice Div. of Package Mach. Co.*, 49 N.Y.2d 471, 479-80, 403 N.E.2d 440, 442-43 (1980).

⁹⁷ See, e.g., *Hagans v. Oliver Mach. Co.*, 576 F.2d 97, 99-103 (5th Cir. 1978).

⁹⁸ See text accompanying notes 18-21 *supra*.

⁹⁹ See text accompanying notes 84-86 *supra*.

polycentricity problems?¹⁰⁰ Are the factors not so numerous that accurate prediction of results is unlikely?¹⁰¹ I believe that the clustering phenomenon would not trigger polycentricity problems. Polycentric litigation entangles a court in a never-ending circle of decisionmaking—a task particularly inappropriate for the judicial forum.¹⁰² The factors of the proposed duty analysis do not present this difficulty. The factors, while numerous, are not hopelessly interwoven. The fact that a court will act in response to an accumulation of factors is not the equivalent of moving the litigation into the nonjusticiable class. More troubling is whether the multifactor approach can provide some certainty and predictability for manufacturers. Admittedly, the multifactor analysis is not a simple rule that ensures predictability.¹⁰³ But neither is it an open-ended reasonableness standard. Once courts begin using and articulating the multifactor analysis, its predictive value will increase.

The factors break down into two major categories:¹⁰⁴ (1) institutional limitations preventing courts from fairly litigating design defect cases,¹⁰⁵ and (2) problems stemming from the preception of courts that alternative decisionmaking mechanisms exist for determining the appropriate level of product safety.¹⁰⁶ The two categories are closely related, and some of the factors bridge both categories. The extent to which a court relies on alternative decisionmaking mechanisms will depend on its perception of its own ability to adjudicate fairly the case before it. The converse is also true; a court's perception of the fairness of its adjudication will depend on its opinion of alternative decisionmakers and whether their judgment is worthy of respect.

1. *Polycentricity*

The hallmark of a justiciable case is that the issues which comprise the claim may be separated and resolved in sequential fashion.

¹⁰⁰ See text accompanying notes 39-41 *supra*.

¹⁰¹ See text accompanying notes 36-38 *supra*.

¹⁰² See text accompanying notes 107-111 *infra*.

¹⁰³ Certainty, or the ability to predict with some certainty the outcome of litigation, is an important aspect of any judicial rule and has been called "a determinant of the efficiency of the legal process." Erlich & Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. Legal Stud. 257, 257 (1974); see text accompanying notes 36-38 *supra*.

¹⁰⁴ I am indebted to my colleague, Professor James Henderson Jr., for his suggestion that the ten factors be broken down into broad categories. Any errors in the implementation of his fine suggestions are mine alone.

¹⁰⁵ Factors falling within the category of institutional limitations include polycentricity, close risk-utility proof, state of the art, and tenuous causation.

¹⁰⁶ Factors included in the category of alternate decisionmaking mechanisms are shifting duty, consumer choice, obviousness of danger, cost, the design safety review process, and legislation.

Each party's claim is supported by proof and argument under established legal rules which allegedly entitle that person to a favorable result as of right. According to Professor Henderson, the distinguishing characteristic of nonjusticiable cases is that the issues "are interrelated in such a way that sensible consideration of any issue, or element, requires the simultaneous consideration of most, or all, of the others."¹⁰⁷ Adjudication "requires problems the various issues and elements of which may be taken up in an orderly sequence,"¹⁰⁸ and thus is ill-suited to the resolution of polycentric, nonlinear problems.

Risk-utility analysis presupposes a balancing of costs, esthetics, safety, and utility against potential for harm, a balancing that involves a court in the kind of interdependent analysis of elements that renders a case nonjusticiable. The introduction of one change may lead to the need for another, which in turn can affect the safety, efficiency, or esthetics of still other aspects of the product. Absent clear rules of law providing direction, the judicial system is unable to deal with the multiplicity of issues in anything but an arbitrary manner.¹⁰⁹

¹⁰⁷ Henderson, *Expanding the Negligence Concept*, *supra* note 1, at 471 (footnotes omitted). In several highly influential articles, Professor Henderson argues that design defect litigation embroils the courts in an effort to decide essentially nonjusticiable claims. See Henderson, *Judicial Review of Design Choices*, *supra* note 1; Henderson, *Expanding the Negligence Concept*, *supra* note 1, at 469-77; Henderson, *Renewed Judicial Controversy*, *supra* note 1, at 779-81.

¹⁰⁸ Henderson, *Expanding the Negligence Concept*, *supra* note 1, at 471.

¹⁰⁹ It is not necessary to reexamine Professor Henderson's thesis in detail, as this has already been done in another article. Twerski, Weinstein, Donaher & Piehler, *Use and Abuse of Warnings*, *supra* note 1, at 495-500, 524-40. But see Henderson, *Design Defect Litigation Revisited*, 61 *Cornell L. Rev.* 541 (1976) (responding to the criticism contained in the previous article). Despite our rebuttal of his views, I and my colleagues have acknowledged that he has identified a serious problem in products liability litigation. In Twerski, Weinstein, Donaher & Piehler, *Shifting Perspectives*, *supra* note 1, we suggested an alternative approach to design litigation that focuses on the process leading to a manufacturer's design decision rather than on judicial standards for assessing the quality of a product's design itself, in part because of our concern with the polycentric nature of product design litigation. This issue is explored further in Henderson, *Should a "Process Defense" Be Recognized in Product Design Cases?*, 56 *N.Y.U. L. Rev.* 585 (1981), and Twerski, Weinstein, Donaher & Piehler, *In Defense of Process*, 56 *N.Y.U. L. Rev.* 616 (1981). Numerous courts have taken Professor Henderson's thesis into consideration in their decisionmaking. See, e.g., *Knippen v. Ford Motor Co.*, 546 F.2d 993, 999 (D.C. Cir. 1976); *Bowman v. General Motors Corp.*, 427 F. Supp. 234, 241 & n.12 (E.D. Pa. 1977); *Korli v. Ford Motor Co.*, 69 Cal. App. 3d 115, ___, 137 Cal. Rptr. 828, 833 (1977) (opinion withdrawn); *Rucker v. Norfolk & W. Ry. Co.*, 64 Ill. App. 3d 770, 795-96, 381 N.E.2d 715, 734-35 (1978) (Jones, J., dissenting); *Gullyot v. Del-Gulf Supply, Inc.*, 362 So. 2d 816, 819 n.1 (La. Ct. App. 1978); *Owens v. Allis-Chalmers Corp.*, 83 Mich. App. 74, 79-81 & nn.1-4, 268 N.W.2d 291, 294 & nn.1-4 (1978); *Temple v. Wean United, Inc.*, 50 Ohio St. 2d 317, 328, 364 N.E.2d 267, 273 (1977); *Turner v. General Motors Corp.*, 514 S.W.2d 497, 507 (Tex. Civ. App. 1974) (Tunk, C.J., dissenting), *rev'd*, 567 S.W.2d 812 (Tex. Civ. App. 1978) (also citing Henderson at 818 n.13), *rev'd*, 584 S.W.2d 844 (Tex. 1979).

Conscious design choice cases are typically highly polycentric, but the degree of polycentricity may vary substantially from case to case. Some cases involve the design of a small, insignificant part whose alteration will affect little but the part itself.¹¹⁰ Others involve the court in virtually redesigning an automobile or an airplane.¹¹¹ Litigation of the first type may be quite judicially manageable; litigation of the second type may compromise the judicial process. Courts should assess the "polycentricity quotient" based on the facts of each case. A court may, at one extreme, disregard polycentricity and, at the other, direct a verdict for defendant because of it. In the more commonly encountered middle range, a court should accord polycentricity whatever weight it believes the factor deserves in considering it together with the other duty factors.

2. Close Risk-Utility Proof

There is danger in using design litigation to establish product safety standards. As noted earlier, the standards that emerge from litigation may affect an entire product line or an entire industry.¹¹² Standard-setting in litigation occurs in the context of a serious injury to an individual. The tactics of litigation demand that the plaintiff seek to establish a standard for product safety which would have prevented the plaintiff's injury had the manufacturer complied with it. If the plaintiff does not take this tack, the case will probably fail for

¹¹⁰ See, e.g., *Polk v. Ford Motor Co.*, 529 F.2d 259, 266-67 (8th Cir. 1976), cert. denied, 426 U.S. 907 (1976) (strap-mounted fuel tank instead of flange-mounted variety would have prevented explosion upon collision); *McCormack v. Hanksraft Co.*, 278 Minn. 322, 329-31, 154 N.W.2d 488, 494-96 (1967) (screw-on cap would have prevented scalding if vaporizer tipped over); *Caprara v. Chrysler Corp.*, 52 N.Y.2d 114, 119-20, 417 N.E.2d 545, 547-48, 436 N.Y.S.2d 251, 253-54 (1981) (addition of plastic insert in ball joint would have prevented wear); *Phillips v. Kimwood Mach. Co.*, 269 Or. 485, 488-89, 525 P.2d 1033, 1035 (1974) (line of metal teeth could have been installed in sanding machine at low cost to prevent regurgitation of odd-sized boards); *General Motors Corp. v. Hopkins*, 548 S.W.2d 344, 346-47 (Tex. 1977) (redesign of lock-out lever on a carburetor would have prevented loss of control).

¹¹¹ See, e.g., *Dawson v. Chrysler Corp.*, 630 F.2d 950, 954, 958-59 (3d Cir. 1980), cert. denied, 450 U.S. 959 (1981) (increasing second collision capability of automobile by adding 250-300 pounds of steel to side structure of the car); *Garst v. General Motors Corp.*, 207 Kan. 2, 7-19, 484 P.2d 47, 52-60 (1971) (redesign of braking and hydraulic systems of 80-ton earth moving equipment); *Back v. Wickes Corp.*, 375 Mass. 633, 636-38, 378 N.E.2d 964, 967-68 (1978) (relocating motor home fuel tank); *McMullen v. Volkswagen of Am.*, 274 Or. 83, 85-86, 545 P.2d 117, 118-19 (1976) (redesign of automobile seats to prevent them from being disengaged from anchorage tracks during collision); *Turner v. General Motors Corp.*, 584 S.W.2d 844, 846 (Tex. 1979) (installing roll bar to protect passengers when vehicle overturns); *Seattle First Nat'l Bank v. Tabert*, 86 Wash. 2d 145, 146, 155, 542 P.2d 774, 775, 780 (1975) (inadequate structural integrity in front panel of microbus).

¹¹² See text accompanying notes 80-83 *supra*.

lack of sufficient proof of causation.¹¹³ The plaintiff thus must attack with pinpoint precision, suggesting *the* design change that would have avoided *this* accident. This takes place after the fact, the jury having full knowledge of the plaintiff's injuries. Defendant must then argue to the jury that overall design considerations not implicated in the instant case justify the defendant's design choice.¹¹⁴ The defendant is thus required to suggest accident scenarios other than the one before the court that are potentially dangerous.¹¹⁵ The defendant may also argue that adoption of the alternate design would result in a reduction of product utility.¹¹⁶ The very structure of design litigation suggests that the parties may never address the same issue. While the plaintiff is focusing on the actual design utilized and the injury suffered, the defendant is forced to discuss product risks and utility in general and hypothetical terms. The opposing cases may pass each other as two ships in the night.

Defendants correctly perceive that in this nonencounter they tend to come out second best. Their arguments, although interesting,

¹¹³ See generally W. Prosser, *The Law of Torts* § 103, at 672 (4th ed. 1971); *Haragan v. Union Oil Co.*, 312 F. Supp. 1392, 1395 (D. Alaska 1970); *Stewart v. Von Solbrig Hosp., Inc.*, 24 Ill. App. 3d 599, 603, 321 N.E.2d 428, 431-32 (1974); *Midwestern V.W. Corp. v. Ringley*, 503 S.W.2d 745, 747 (Ky. 1973); *Berkibile v. Brantly Helicopter Corp.*, 462 Pa. 83, 93-94, 97, 337 A.2d 893, 898, 900 (1975); *Technical Chem. Co. v. Jacobs*, 480 S.W.2d 602, 604-06 (Tex. 1972). But see *Riviere v. Philco Corp.*, 349 So. 2d 971, 972 (La. Ct. App. 1977); Green, *Strict Liability Under Sections 402A and 402B: A Decade of Litigation*, 54 Tex. L. Rev. 1185, 1197-1200 (1976).

¹¹⁴ See, e.g., *Dawson v. Chrysler Corp.*, 630 F.2d 950, 958-59, 962 (3d Cir. 1980), cert. denied, 450 U.S. 959 (1981); *Self v. General Motors Corp.*, 42 Cal. App. 3d 1, 7-8, 116 Cal. Rptr. 575, 579 (1974).

¹¹⁵ In an ironic twist, the defendant finds it necessary to defend the design choice on the basis of hypothetical situations not presently before the court. The threshold test for causation is the *sine qua non* or but-for test. In order to establish causation under this standard plaintiff must hypothesize the absence of negligent conduct (or a nondefective product) and then ask whether the injury would have happened in any event. The formal requirement that plaintiff establish the hypothetical but-for by the balance of probabilities has been honored as much in the breach as in observance. See generally Malone, *Ruminations on Cause-In-Fact*, 9 Stan. L. Rev. 50 (1956) [hereinafter Malone, *Cause-In-Fact*]. Leading scholars have perceived the unfairness of forcing the plaintiff to establish liability by demonstrating what would have happened if what happened had not occurred. See Green, *The Causal Relation Issue in Negligence Law*, 60 Mich. L. Rev. 543, 559-60 (1962); Thode, *The Indefensible Use of the Hypothetical Case to Detriment Cause In Fact*, 46 Tex. L. Rev. 423 (1968). In defending a design defect case, defendant attempts to show that the design which caused the harm would be safer in other kinds of accidents and that the alternative design offered by the plaintiff would be more dangerous in those hypothetical accidents. Whether a jury is ever able to make the transition between the case at bar and the hypothetical situations is questionable. In any event, it is a burden under which defendants labor.

¹¹⁶ See, e.g., *Dawson v. Chrysler Corp.*, 630 F.2d 950, 957 (3d Cir. 1980), cert. denied, 450 U.S. 959 (1981); *Dreisonstok v. Volkswagenwerk, A.G.*, 489 F.2d 1066, 1071-73 (4th Cir. 1974); *Metal Window Prod. Co. v. Magnusen*, 485 S.W.2d 353, 357-58 (Tex. Civ. App. 1972).

are decidedly lacking in jury appeal. There is justifiable fear that sensible, even prudent, design decisions may result in plaintiffs' verdicts. Defendants look to directed verdict practice to resolve this problem.

One possible approach is that embodied in the proposed National Product Liability Act,¹¹⁷ which provides that a design alternative shall not be adequate to establish a case for design defect unless it:

[c]ould have been adopted for use by the manufacturer without causing increases in the costs associated with the manufacture, distribution, or use of the product, or decreases in the marketability or utility of the product, unless such increases and decreases when taken together are significantly outweighed by the added safety benefits of such alternative formula or design.¹¹⁸

This proposal aims at clarifying the issue of the too-close-to-call design defect case by demanding a directed verdict unless there is strong evidence of an improper design choice.¹¹⁹ Whatever the virtue of establishing this test as an independent ground for granting a directed verdict, it seems that when the proof on both sides of the risk-utility scale is closely balanced, a court should be especially sensitive to other no-duty policy factors that may be present. Considered together, they may constitute grounds for a directed verdict.

It is important to note that polycentricity raises problems separate and apart from those raised by closely balanced proof. The former implicates the ability of the courts to replicate the complex process of product design. The latter questions the fairness of after-the-fact decisions that condemn the design of an entire product line based on an isolated injury when there is reason to believe that the manufacturer's design decision was reasonable.

The closeness of proof factor also raises a process question that goes, not to the institutional capability of courts to determine fairly the reasonableness of design decisions, but rather to the ability of juries to weigh fairly abstract risk-utility factors when the case before them raises questions of safety in a much more focused setting. While alternative methods of reducing the unfairness to defendants forced to demonstrate a design's reasonableness in hypothetical situations may

¹¹⁷ National Product Liability Act, H.R. 5626, 96th Cong., 1st Sess. (1979), reprinted in *Product Liability: Legislative Hearings: Supplemental Hearings on H.R. 5626, H.R. 7000 Before the Subcomm. on Consumer Protection and Finance of the House Comm. on Interstate and Foreign Commerce, 96th Cong., 2d Sess. 340 (1980).*

¹¹⁸ *Id.* § 5(b)(3).

¹¹⁹ For a more complete discussion of this aspect of the legislation, see Twerski, Weinstein, Donaher & Piehler, *In Defense of Process*, *supra* note 109, at 617 n.7.

be posited, it is important not to lose sight of the inherent intractability of the problem. The proof problem is substantial and cannot be resolved by fine tuning the present system or by increasing evidentiary burdens.¹²⁰ Unless fundamental changes are undertaken, courts must acknowledge the problem and factor it into their consideration of whether to grant a directed verdict.¹²¹

3. State of the Art

In a large number of product liability cases the manufacturer-defendant argues against the imposition of liability on the ground that it has conformed with the "state of the art."¹²² The term "state of the art" has been used to describe at least three different kinds of problems, each of which bears upon the duty question.

a. Proof of Practical Feasibility—Design defect litigation ordinarily requires that a plaintiff suggest alternative designs or warnings that would reduce potential risk without destroying the utility of the product.¹²³ This typically requires expert testimony that the alternative design is practical.¹²⁴ The crucial concern is the quality of the evidence supporting the viability of the alternative design. Is it sufficient that an expert testify to feasibility, or will the court demand that feasibility be demonstrated through testing? Must the defendant supply evidence to the court that the alternative design is reproducible on the assembly line or will expert testimony to that effect get the case to the jury? Manufacturers contend that courts often permit plaintiffs to

¹²⁰ Even this author's proposals to shift the focus in products litigation from product quality to the process of decisionmaking, discussed in Twerski, Weinstein, Donaher & Piehler, *Shifting Perspectives*, *supra* note 1, do not fully resolve the problem identified in the text. Under that proposal if a process defense were established, litigation would proceed with the plaintiff bearing a higher evidentiary burden. This would give the trial judge significant control over the directed verdict; however, once a case went to trial the problem would reappear.

¹²¹ For suggestions that could have a significant impact on the problem described in the text, see Weinstein, Twerski, Piehler & Donaher, *Product Liability: An Interaction of Law and Technology*, 12 Duq. L. Rev. 425, 458-62 (1974).

¹²² See generally Henderson, *Coping With the Time Dimension in Products Liability*, 69 Calif. L. Rev. 919 (1981) [hereinafter Henderson, *Coping With the Time Dimension*]; O'Donnell, *Design Litigation and the State of the Art: Terminology, Practice and Reform*, 11 Akron L. Rev. 627 (1978) [hereinafter O'Donnell, *Design Litigation and the State of the Art*]; Raleigh, *The "State of the Art" in Product Liability: A New Look at an Old Defense* 4 Ohio N.U.L. Rev. 249 (1977).

¹²³ See authorities cited at note 113 *supra*.

¹²⁴ See MUPLA, *supra* note 11, at § 107E; Donaher, Piehler, Twerski & Weinstein, *The Technological Expert in Products Liability Litigation*, 52 Tex. L. Rev. 1303, 1310-11 (1974) [hereinafter Donaher, Piehler, Twerski & Weinstein, *The Technological Expert*].

establish a prima facie case on the basis of expert opinion without requiring rigorous proof that the alternative designs are in fact practical.¹²⁵

An articulate spokesperson for the manufacturers has described the problem:

In spite of their vagueness, most appellate pronouncements on the subject are reasonable in principle; and trial judges may well think they are following this moderate approach if they speak of the importance of practicality, cost and marketability. But *many unwittingly reverse the burden of proof and adopt a more radical approach in practice, if not in theory, by permitting the verbal ritual—unsupported statements of opinion by paid partisans—to take the place of evidence concerning these practical limitations.* It is understandable that courts are reluctant to involve themselves more deeply in unfamiliar and time consuming technical matters. Yet the application of legal principles to technology is the essence of product litigation: the issues are difficult and important precisely because they arise at the uneasy border between engineering, law and public policy. The judge who attempts to separate those elements artificially may distort both legal and scientific principles, and upset the balance among competing policy goals as well.¹²⁶

The response of the courts has been mixed. Some appear to demand that experts come in with more than mere hypothetical alternative designs.¹²⁷ Others, mindful of the factfinding role of the jury, have refused to direct a verdict solely on the ground that they found plaintiff's expert testimony unconvincing.¹²⁸ Even these courts, however, might be willing to consider that factor as part of a multifactor duty analysis.¹²⁹ For example, when an alternative design requires exten-

¹²⁵ O'Donnell, Design Litigation and the State of the Art, *supra* note 122, at 646-53.

¹²⁶ *Id.* at 628 (emphasis added).

¹²⁷ E.g., *Bunn v. Caterpillar Tractor Co.*, 415 F. Supp. 286, 291 (W.D. Pa. 1976), *aff'd*, 556 F.2d 564 (3d Cir.), *cert. denied*, 434 U.S. 875 (1977); *Garst v. General Motors Corp.*, 207 Kan. 2, 20-21, 484 P.2d 47, 61-62 (1971); *Marted v. Pacific Car & Foundry Co.*, 527 P.2d 832, 836 (Wyo. 1974).

¹²⁸ E.g., *Melia v. Ford Motor Co.*, 534 F.2d 795 (8th Cir. 1976); *Blohm v. Cardwell Mfg. Co.*, 380 F.2d 341 (10th Cir. 1967); *Self v. General Motors Corp.*, 42 Cal. App. 3d 1, 116 Cal. Rptr. 575 (1974).

¹²⁹ The problem of the quality of evidence presented by experts is very different from that of the difficulty of proof. The latter presents an institutional problem. While plaintiff can link causation of the particular injury to the specific defect, defendant is required to defend the design by setting forth general uses of the product in which the alternative design might be more dangerous. As noted earlier, raising the level of the plaintiff's burden of proof may ameliorate but will not resolve this institutional problem, which is endemic to design litigation. See text accompanying notes 119-20 *supra*. The problem raised by the state of the art question can be addressed by requiring greater verification of speculative expert opinions.

sive alteration of many parts of the product,¹³⁰ the risk-utility evidence is closely balanced, and plaintiff's expert has offered no more than speculative opinions as to the feasibility of the alternative design, a court might justly direct a verdict for the defendant.

b. After-Acquired Knowledge and Technology—The shift to strict liability in product cases¹³¹ turned the emphasis from the conduct of the manufacturer to the quality of the product.¹³² This principle was readily accepted in production or manufacturing defect cases that held the manufacturer liable for a product which came off the assembly line defective.¹³³ In design defect and failure to warn cases, however, a sharp controversy has developed as to both the wisdom and fairness of applying a true strict liability theory. Those favoring a state of the art limitation contend that it is unjust to apply a risk-utility analysis with the benefit of hindsight.¹³⁴ The opposing view is that ascertaining the state of a defendant's knowledge at any given point in time is exceedingly difficult. Such a requirement would deny plaintiffs recovery merely because they are unable to pinpoint the exact moment a risk or a technological advance should have become known to the defendant.¹³⁵

¹³⁰ See cases cited at note 111 *supra*.

¹³¹ Under the regime of negligence, a manufacturer was liable only for reasonably foreseeable risks and for technology that could have been developed with the exercise of reasonable care. *Ford Motor Co. v. Zahn*, 285 F.2d 729, 731 (1959); *Rhoads v. Service Mach. Co.*, 329 F. Supp. 367, 374-75 (E.D. Ark. 1971); see Restatement (Second) of Torts § 395 (1965).

¹³² See *Greenman v. Yuba Power Prods., Inc.*, 59 Cal. 2d 57, 62, 377 P.2d 897, 900, 27 Cal. Rptr. 697, 700 (1962); *Phipps v. General Motors Corp.*, 278 Md. 337, 344, 363 A.2d 955, 958 (1976); Restatement (Second) of Torts § 402A (1965).

¹³³ Under a strict liability theory, in production or manufacturing defect cases, liability attached even though the manufacturer had exercised reasonable care in the choice of quality control techniques. See, e.g., *Phipps v. General Motors Corp.*, 278 Md. 337, 363 A.2d 955. See also Schwartz, *The Uniform Product Liability Act—A Brief Overview*, 33 Vand. L. Rev. 579, 584-87 (1980). Dean Wade has noted that the drafters of the Restatement (Second) of Torts § 402A focused exclusively on manufacturing defect cases in formulating the strict liability standard. See Wade, *On Strict Liability* *supra* note 67, at 830-31.

¹³⁴ Birnbaum, *Unmasking the Test for Design Defect*, *supra* note 1, at 622; Henderson, *Coping with the Time Dimension*, *supra* note 122 (hindsight approach to design defect litigation unwise under sound economic analysis); see also *Stonehocker v. General Motors Corp.*, 587 F.2d 151, 156, 157 (4th Cir. 1978); *Ward v. Hobart Mfg. Co.*, 450 F.2d 1176, 1184-86 & n.24 (5th Cir. 1971).

¹³⁵ For discussion of the application of strict liability to both design and failure to warn cases, see Keeton, *Product Liability and the Meaning of Defect*, 5 St. Mary's L.J. 30 (1973); Wade, *On Strict Liability*, *supra* note 67, at 831, 836-37, 842. Judicial approval for this position can be found in *Jackson v. Coast Paint & Lacquer Co.*, 499 F.2d 809, 811-12 (9th Cir. 1974); *Suter v. San Angelo Foundry & Mach. Co.*, 81 N.J. 150, 406 A.2d 140 (1979); *Phillips v. Kimwood Mach. Co.*, 269 Or. 485, 494-97, 525 P.2d 1033, 1040-42 (1974).

Each of these arguments has merit.¹³⁶ A multifactor duty analysis allows the state of the art to become part of the court's overall duty consideration in design cases. The reality is that the "state of the art," when referring to newly acquired information, is not an ascertainable

Strict liability (a hindsight test) need not necessarily apply both to technological advances and to postdistribution information concerning design hazards. See Schwartz, Foreword: Understanding Products Liability, 67 Calif. L. Rev. 435, 482-88 (1979); Twerski & Weinstein, A Rush to Judgment, *supra* note 16, at 227. Indeed, Professor Henderson concludes that the Wade-Keeton strict liability test advocates reliance on hindsight only in cases of unknowable hazards. Henderson, *Coping With the Time Dimension*, *supra* note 122, at 929 & n.43.

¹³⁶ Several recent cases demonstrate that courts are in conflict on the issue of after-acquired knowledge. In *Woodill v. Parke Davis & Co.*, 79 Ill. 2d 26, 402 N.E.2d 194 (1980), suit was brought against the manufacturer of Pitocin (a uterine contraction-inducing drug) for failing to warn that the drug was contraindicated when the fetus was in high station. The issue was whether in an action based on strict liability plaintiff must allege and prove that the defendant "knew or should have known" of the danger. In an opinion that defies logical analysis, the court concluded that to "require knowledge to be alleged and proved" does not "infuse negligence principles into strict liability." The court said:

We perceive that requiring a plaintiff to plead and prove that the defendant manufacturer knew or should have known of the danger that caused the injury, and that the defendant manufacturer failed to warn plaintiff of that danger, is a reasonable requirement, and one which focuses on the nature of the product and on the adequacy of the warning, rather than on the conduct of the manufacturer. The inquiry becomes whether the manufacturer, because of the "present state of human knowledge" (Restatement (Second) of Torts sec. 402A, comment k (1965)), knew or should have known of the danger presented by the use or consumption of a product. Once it is established that knowledge existed in the industry of the dangerous propensity of the manufacturer's product, then the plaintiff must establish that the defendant did not warn, in an adequate manner, of the danger.

79 Ill. 2d at 35, 402 N.E.2d at 198. See also *id.* at 38-44, 402 N.E.2d at 200-03 (Moran, J., dissenting).

In *Boatland of Houston, Inc. v. Bailey*, 609 S.W.2d 743 (Tex. 1980), the court faced the question whether it was appropriate to admit evidence of the feasibility of a safety kill switch on a boat manufactured and sold several years before. It was undisputed that such safety switches became feasible after the sale of the boat in question. In allowing defense testimony that focused on feasibility at the time of manufacture the court said:

In cases involving strict liability for defective design, liability is determined by the product's defective condition; there is no need to prove that the defendant's conduct was negligent. Considerations such as the utility and risk of the product in question and the feasibility of safer alternatives are presented according to the facts as they are proved to be, not according to the defendant's perceptions.

Id. at 749. See also *Heritage v. Pioneer Brokerage & Sales, Inc.*, 604 P.2d 1059 (Alaska 1980).

These cases are puzzling in that they appear to adopt a negligence standard while insisting that they are faithful to strict liability theory. The courts' avowal in all three cases that the focus is on the "state of the art" rather than on the "knowledge of the particular defendant" is interesting but irrelevant: case law has long established that a manufacturer is held to the standard of an expert in that particular industry. F. Harper & F. James, *The Law of Torts* 1541 (1956).

Perhaps these cases are best explained as positing a test of "scientific unknowability" as a defense. The defendant's nonnegligence in not knowing of a technological development may not preclude liability unless that absence of knowledge is attributed to the technological community as a whole. Whatever the appropriate explanation for these cases, it is clear that they seek a middle way between negligence and strict liability.

fact.¹³⁷ Rather, the evidence on this question will place the issue within a certain range. Courts should include the foreseeability of technological advances as a factor in their determination of the duty question, but they should not become obsessed with it.¹³⁸ On one hand, the lack of foreseeability certainly favors the argument against the imposition of liability on the basis of technology acquired after the product has been distributed. On the other hand, the court's reluctance to impose a duty in that situation might be overcome if the alternative design did not create polycentric difficulties and the evidence of unreasonable risk were clear. Thus foreseeability should be an element in the court's multifactor duty analysis,¹³⁹ although courts continue to disagree about whether it should present a jury issue in a strict liability case.

c. Changing Societal Standards—There is a third context in which the "state of the art" terminology appears in design defect litigation. In some cases it is quite clear that at the time the product was designed there was available a practical alternative design that would have enhanced the safety of the product and avoided the injury. Yet the court may resist sending the case to the jury on the issue because the reasonableness standard is ultimately a measure of societal acceptability, and society's attitudes toward safety have changed drastically over the past two decades.¹⁴⁰ Safety features that have become commonplace were simply not considered important fifteen or twenty years ago. When older product designs are alleged to be defective, the defendant often argues that the product met the state of the art at the time of manufacture. This argument resembles the "custom" defense.¹⁴¹ The manufacturer does not contend that the proposed alternative design was not technologically feasible. Rather, the argument is that society did not at that time demand the level of safety suggested by the plaintiff in this case

¹³⁷ See Henderson, *Coping With the Time Dimension*, supra note 122, at 921 n.2, 926 n.22; Twerski & Weinstein, *A Rush to Judgment*, supra note 16, at 240.

¹³⁸ See Green, *Foreseeability in Negligence Law*, 61 Colum. L. Rev. 1401, 1417-18 (1961); articles cited in note 33 supra.

¹³⁹ Green, *Foreseeability in Negligence Law*, supra note 138, at 1421-22.

¹⁴⁰ See Henderson, *Coping with the Time Dimension*, supra note 122, at 923-24, 959-63.

¹⁴¹ That defendant's conduct or product meets the industry custom is not technically a defense to a tort action. Custom is relevant to, but not determinative of, the standard of care question. W. Prosser, *The Law of Torts* 166-68 (4th ed. 1971); Restatement (Second) of Torts § 295A comments b and c (1965). Nonetheless, as a practical matter custom is often introduced by the defendant in defense of the allegedly negligent behavior. When there is no evidence to the contrary, adherence to custom may be sufficient to support a directed verdict. *Low v. Park Price Co.*, 95 Idaho 91, 96-98, 503 P.2d 291, 298 (1972).

and that the manufacturer could not have predicted current attitudes. It is akin to the "custom" defense in that the defendant points to socially accepted industry practices to justify its design decision. The argument goes on to defend the industry practice on the ground that manufacturers cannot be expected to set standards which are wholly unrelated to consumer expectations and basic societal attitudes.

*Bruce v. Martin-Marietta Corp.*¹⁴² demonstrates the strength of this argument. In *Bruce*, a Martin 404 airplane, first sold in 1952, was chartered in 1970 by the Wichita State University football team. The plane crashed into a mountain; seats in the passenger cabin broke loose from their floor attachments and blocked the exit. More than half the passengers were trapped in the airplane and died in the ensuing fire.¹⁴³ Plaintiffs contended that the seats and seat fastenings were not designed or manufactured to withstand a crash. They submitted an affidavit from a recognized expert that airplane seats in common use *on the date of the accident* would have remained in place and not trapped the passengers in the burning aircraft. Thus, the claim of a design defect was based on a design in use some seventeen years after the date of sale of the aircraft. In upholding a summary judgment verdict for the defendant, the Tenth Circuit said:

[T]here is 'general' agreement that to prove liability under § 402A the plaintiff must show that the product was dangerous beyond the expectation of the ordinary customer. . . . A consumer would not expect a Model T to have the safety features which are incorporated in automobiles made today. The same expectation applies to airplanes. Plaintiffs have not shown that the ordinary consumer would expect a plane made in 1952 to have the safety features of one made in 1970.¹⁴⁴

It is difficult to discern when a court will decide that the changing societal standards factor alone is sufficient to dictate a directed verdict. This much is clear, however: as the gap between present expectations and past societal standards widens, judicial unease at allowing the case to go to the jury will increase.¹⁴⁵ Juries have enough difficulty dealing with the foreseeability problem; to expect them to account for shifts in societal attitudes is unrealistic. This is a function for the court.

¹⁴² 544 F.2d 412 (10th Cir. 1976).

¹⁴³ *Id.* at 444.

¹⁴⁴ *Id.* at 447.

¹⁴⁵ See *Hagans v. Oliver Mach. Co.*, 576 F.2d 97, 100-01, 104-05 (5th Cir. 1978); *Ward v. Hobart Mfg. Co.*, 450 F.2d 1176, 1182-85 (5th Cir. 1971).

4. Tenuous Causation

A plaintiff must establish a factual nexus between defect and injury in order to state a legally cognizable cause of action.¹⁴⁶ The test for causation is most often stated in but-for terminology:¹⁴⁷ but for the negligence of the defendant or the defect in the product, the plaintiff would have suffered no harm. This need to hypothesize away the negligence (or defect) in order to test causal connection has been the subject of much academic debate.¹⁴⁸ The plaintiff bears the difficult burden of establishing that the injury would not have occurred absent the alleged negligence or defect. The quality of proof on the hypothetical question varies greatly from case to case. There is good evidence that courts approach these cases with a healthy sense of realism and do not hold plaintiffs strictly to their burden of proof. Many cases go forward even when it is clear that but-for causation cannot be established.¹⁴⁹

Where the causal link is too tenuous, however, courts deny plaintiffs the right to take the case to the jury. For example, at one time courts tended to dismiss prenatal injury claims¹⁵⁰ out of concern that medical science was simply too primitive to establish causation.¹⁵¹ As

¹⁴⁶ See authorities cited in note 113 *supra*.

¹⁴⁷ *Id.*

¹⁴⁸ See authorities cited in note 115 *supra*.

¹⁴⁹ See *Kirincich v. Standard Dredging Co.*, 112 F.2d 163 (3d Cir. 1940); *Reynolds v. Texas & Pac. Ry. Co.*, 37 La. Ann. 694 (1885); *Engberg v. Ford Motor Co.*, 87 S.D. 196, 205 N.W.2d 104 (1973); *Malone, Cause-In-Fact*, *supra* note 115, at 60. In product liability cases based on claims of failure to warn, courts have helped plaintiffs overcome the difficult but-for burden by positing a rebuttable presumption that the warning would have been heeded if given. See, e.g., *Reyes v. Wyeth Laboratories*, 498 F.2d 1264, 1291 (5th Cir.), cert. denied, 419 U.S. 1096 (1974); *Davis v. Wyeth Laboratories, Inc.*, 399 F.2d 121, 130 (9th Cir. 1968); *Nissen Trampoline Co. v. Terre Haute First Nat'l Bank*, 332 N.E.2d 820 (Ind. 1975), rev'd on other grounds, 265 Ind. 457, 358 N.E.2d 974 (1976); *Technical Chem. Co. v. Jacobs*, 480 S.W.2d 602 (Tex. 1972). But cf. MUPLA, *supra* note 11, at § 104(c)(3) (MUPLA sets forth a basic causation link. The claimant must show that if adequate warnings or instructions had been provided, the harm would have been avoided.)

¹⁵⁰ *Stanford v. St. Louis-San Francisco Ry.*, 214 Ala. 611, 108 So. 566 (1926); *Magnolia Coca-Cola Bottling Co. v. Jordon*, 124 Tex. 347, 78 S.W.2d 944 (1935).

¹⁵¹ See Note, *The Impact of Medical Knowledge on the Law Relating to Prenatal Injuries*, 110 U. Pa. L. Rev. 534 (1962); Note, *Prenatal Injuries and the Puhl Case*, 1962 Wis. L. Rev. 150 (1962). The clearest statement of this issue is found in the concurring opinion of Mr. Justice O'Brien in *Walker v. Great N. Ry. of Ire.*, 28 L.R.Ir. 69, 81-82 (Q.B. 1891):

[T]here are instances in the law where rules of right are founded upon the inherent and inevitable difficulty or impossibility of proof. And it is easy to see on what a boundless sea of speculation in evidence this new idea [to allow an action for prenatal injuries] would launch us. What a field would be opened to extravagance of testimony, already great enough—if Science could carry her lamp . . . into the unseen laboratory of nature—could profess to reveal the causes and things that are hidden there—could trace a hair-lip [sic] to

medical science in this field became more sophisticated, courts permitted such cases to go forward.¹⁵²

A more recent example of this phenomenon is the unwillingness of most courts to recognize the seat belt defense.¹⁵³ The issue can really no longer be whether the failure to wear a seat belt is unreasonable conduct. The evidence is overwhelming that seat belts reduce injuries in many car accidents.¹⁵⁴ What has troubled courts throughout the country is the second step—the proof of causation. To what degree does wearing a seat belt reduce injuries? Courts, aware that the courtroom would become a theatre for highly speculative expert testimony on that issue, have eschewed recognition of the defense.¹⁵⁵

Similarly, in "second collision" cases,¹⁵⁶ some courts have been unwilling to shift to the defendant the burden of untangling first and second collision damages and have insisted instead that plaintiff clearly establish the second collision damages for which the manufac-

nervous shock, or a bunch of grapes on the face to the fright—could, in fact, make *lulus naturae* the same thing as *lulus scientiae*. There may be a question of evidence, [plaintiff's attorney] modestly put it; but the law may see such danger in that evidence, may have such a suspicion of human ignorance and presumption, that it will not allow any question of evidence to be entered into at all.

Id. at 81-82. See also *Stanford v. St. Louis-San Francisco Ry.*, 214 Ala. 611, 108 So. 566 (1926); *Bliss v. Passanesi*, 326 Mass. 461, 95 N.E.2d 206 (1950); *Magnolia Coca-Cola Bottling Co. v. Jordan*, 124 Tex. 347, 78 S.W.2d 944 (1935).

¹⁵² Compare *Sinkler v. Kneale*, 401 Pa. 267, 164 A.2d 93 (1960) with *Puhl v. Milwaukee Auto. Ins. Co.*, 8 Wis. 2d 343, 99 N.W.2d 163 (1959). Similar concerns are evident in actions brought by infants for injuries inflicted upon the mother prior to the infant's conception. Courts evince concern that medical science has not yet developed sufficiently to remove the case from the realm of speculation. See generally *Jorgenson v. Meade Johnson Laboratories*, 483 F.2d 237 (10th Cir. 1973); *Renslow v. Mennonite Hosp.*, 67 Ill. 2d 348, 367 N.E.2d 1250 (1977). Only when it is well established medically that certain acts are likely to cause harm will courts recognize an action for injury to a fetus occasioned by a preconception injury to the mother.

¹⁵³ See, e.g., *Britton v. Doehring*, 286 Ala. 498, 242 So. 2d 666 (1970); *Clark v. State*, 28 Conn. Supp. 398, 284 A.2d 366 (1970); *Romankewicz v. Black*, 16 Mich. App. 119, 167 N.W.2d 606 (1969); *Miller v. Miller*, 273 N.C. 228, 160 S.E.2d 65 (1968); *Robinson v. Lewis*, 254 Or. 52, 457 P.2d 483 (1960). See also *Kircher, Seat Belt Defense—State of the Law*, 53 Marq. L. Rev. 172 (1970).

¹⁵⁴ See generally *Bowman, Practical Defense Problems—The Trial Lawyer's View*, 53 Marq. L. Rev. 191, 195-97 (1972).

¹⁵⁵ See, e.g., *Britton v. Doehring*, 286 Ala. 498, 242 So.2d 666 (1970); *Lipcomb v. Diamiani*, 226 A.2d 914 (Del. Super. Ct. 1967); *Derheim v. N. Fiorito Co.*, 80 Wash. 2d 161, 492 P.2d 1030 (1972). But see *Spier v. Barker*, 35 N.Y.2d 444, 323 N.E.2d 164, 363 N.Y.S.2d 916 (1974). For a full discussion of proof of causation problems see *Twerski, From Defect to Cause to Comparative Fault—Rethinking Some Product Liability Concepts*, 60 Marq. L. Rev. 297, 326-29 & nn.80-81 (1977).

¹⁵⁶ The term "second collision" refers to the collision "of the passenger with the interior part of the automobile" after the initial impact or collision. See *Larsen v. General Motors Corp.*, 391 F.2d 495, 502 (8th Cir. 1968).

turer is responsible.¹⁵⁷ Courts have imposed this sometimes impossible burden despite traditional tort law which shifts to the defendant the burden of proof on damages in cases where harm caused by successive tortfeasors is difficult to apportion.¹⁵⁸ The lesson is clear: when the causation issue appears to be open-ended and unmanageable, it may become a significant factor in a duty analysis. The courts have failed to articulate the duty analysis with clarity, but the holdings speak louder than the stated reasoning of the courts.

The role of causation, in the proposed multifactor duty analysis will be significant because failure to take causation problems into account may result in the substitution of one nonjusticiable problem for another. It is likely that courts will face more difficult causation issues as they attempt to scale down the design demands of plaintiffs. In a court sympathetic to plaintiffs, hypothetical alternative designs could be tailored to fit the causation issue. Plaintiffs, with the benefit of hindsight, could easily posit a design that would have avoided the harm which had materialized. As judicial and legislative constraints on design defect claims increase, however, courts will insist that alternative designs be more realistic; and real safety devices will never live up to the extravagant claims made for hypothetical ones. Thus plaintiffs will be forced to meet a greater burden of proof on the causation issue; they will have to demonstrate that a realistically feasible safety design, with a safety potential lower than most of the designs that pass muster under present litigation standards, would have averted the harm. Courts must be conscious that their attempts to force plaintiffs to establish design defects with clarity may not simplify the litigation at all. The reformers may simply be trading too-close-to-call design cases for too-close-to-call causation cases.

5. Shifting Duty

Considerable controversy in design defect litigation has centered on whether a manufacturer can absolve itself of liability by asserting

¹⁵⁷ The leading cases requiring plaintiff to establish the extent of second collision injuries are: *Caiazza v. Volkswagenwerk, A.G.*, 647 F.2d 241 (3d Cir. 1981); *Stonehocker v. General Motors Corp.*, 587 F.2d 151 (4th Cir. 1978); *Huddell v. Levin*, 537 F.2d 726 (3d Cir. 1976). *Contra Fox v. Ford Motor Co.*, 575 F.2d 774 (10th Cir. 1978); *Lahocki v. Contee Sand & Gravel Co.*, 41 Md. App. 579, 396 A.2d 490 (1979), rev'd on other grounds sub nom. *General Motors Corp. v. Lahocki*, 286 Md. 714, 410 A.2d 1039 (1980).

¹⁵⁸ See Restatement (Second) of Torts § 433B (1965). For an excellent discussion of the authorities that supports shifting the burden of proof to the defendant in cases of this type, see *Huddell v. Levin*, 537 F.2d 726, 744-47 (1976) (Rosenn, J., concurring); Note, Apportionment of Damages in the "Second Collision" Case, 63 Va. L. Rev. 475 (1977).

that its product was sold to a responsible third party who decided to make use of it with full knowledge of its dangerous characteristics.¹⁵⁹ The classic situation involves the sale of industrial machinery to a manufacturer who fails to install safety equipment, with resultant injury to an employee.¹⁶⁰ In the ensuing litigation, the defendant buyer inevitably contends that the manufacturer of the machine should have installed the safety device prior to sale. The legal question may focus on whether responsibility for guarding against a particular danger should shift from the manufacturer to the buyer or user,¹⁶¹ or it presented as a problem of proximate cause or of an intervening superseding cause.¹⁶²

The shifting duty issue might appear at first blush to raise a single factor duty question. Since the question is not whether the design is defective but rather who should be charged with the duty of eliminating the danger, it does not seem to bring into the limelight many of the factors discussed earlier.¹⁶³ The issue of responsibility for setting a standard, however, cannot easily be divorced from the evaluation of the standard itself. If a manufacturer found a particular design decision to be a very close call, and a sophisticated buyer decided to choose that manufacturer's product over a marginally safer competing product, the shifting duty argument might appropriately be made. In such cases, delegation of the safety decision to a knowledgeable decisionmaker who is most familiar with the product's actual use and who has a more precise sense than the manufacturer of potential safety hazards may be justified.

¹⁵⁹ See, e.g., *Verge v. Ford Motor Co.*, 581 F.2d 384, 387-89 (3d Cir. 1978) (manufacturer not liable when unaware of use to which product will be put); *Pust v. Union Supply Co.*, 38 Colo. App. 435, 444-45, 561 P.2d 355, 363 (1977) (manufacturer may be liable for design defects despite employer-buyer's knowledge of safety hazards); rev'd on other grounds, 572 P.2d 148 (1977) (en banc), but aff'd in pertinent part, 196 Colo. 162, 583 P.2d 276 (1978) *Bexiga v. Havir Mfg. Corp.*, 60 N.J. 402, 410-11, 290 A.2d 281, 285-86 (1972) (manufacturer may be held liable for not installing safety device).

¹⁶⁰ See, e.g., *Balido v. Improved Mach. Co.*, 29 Cal. App. 3d 633, 105 Cal. Rptr. 890 (1972); *American Chain & Cable Co. v. Howell*, 511 S.W.2d 573 (Tex. Civ. App. 1974).

¹⁶¹ See, e.g., *Garrison v. Rohm & Haas Co.*, 492 F.2d 346, 350-51 (6th Cir. 1974); *Robinson v. Package Mach., Inc.*, 49 N.Y.2d 471, 479-81, 403 N.E.2d 440, 443-44, 426 N.Y.S.2d 717, 720-22 (1980).

¹⁶² See, e.g., *Balido v. Improved Mach., Inc.*, 29 Cal. App. 3d 633, 644-49, 105 Cal. Rptr. 890, 898-901 (1972) (buyer's negligence in adding safety device may be a superseding cause of injury absolving manufacturer of liability); *State Stove Mfg. Co. v. Hodges*, 189 So. 2d 113, 123 (Miss. 1966) (failure of builder to install safety device prescribed by manufacturer was an intervening, sole proximate cause of damage).

¹⁶³ However, the Restatement (Second) of Torts § 452 comment f (1965), enumerates a number of factors relevant to the decision regarding transfer of control from one party to another.

The idea of permitting manufacturers to delegate evenly balanced design safety decisions to sophisticated buyers should not be controversial. There is little doubt, however, that this proposal will be viewed with disdain by some. Courts have strained to uphold design defect claims against manufacturers of heavy industrial machinery even when the grounds for sustaining the action were questionable.¹⁶⁴ The perceived inadequacy of worker compensation recovery has created heavy pressure to sustain third party actions against manufacturers. In many instances, recovery is clearly justified.¹⁶⁵ In others, a multifactor duty analysis should be used to protect manufacturers from unwarranted liability.¹⁶⁶

6. Consumer Choice

One factor courts appear to consider in deciding whether or not to direct a verdict is the range of choice available to consumers between competing products.¹⁶⁷ When the competing products vary in price and quality, courts are less willing to establish general product safety standards.¹⁶⁸

Judicial reluctance to enter the safety standard field when healthy competition exists is not hard to explain. Ours is basically a free market economy.¹⁶⁹ Safety is one of many factors affecting price.

¹⁶⁴ See, e.g., *Bituminous Casualty Corp. v. Black & Decker Mfg. Co.*, 518 S.W.2d 868 (Tex. Civ. App. 1974) (manufacturer liable due to inadequate warnings of danger if safety device not used; misuse by owner-user no defense); cf. *West v. Broderick & Bascom Rope Co.*, 197 N.W.2d 202 (Iowa 1972) (manufacturer liable where warning of danger due to improper use was given to buyer, but not to ultimate user-plaintiff, who was injured due to improper use).

¹⁶⁵ See, e.g., *Pike v. Frank G. Hough Co.*, 2 Cal. 3d 465, 467 P.2d 229, 85 Cal. Rptr. 629 (1970) (wrongful death action against manufacturer upheld; manufacturer should have been aware of and corrected design defect caused by no rearview mirror); *Bexiga v. Havar Mfg. Corp.*, 60 N.J. 402, 290 A.2d 281 (1972) (manufacturer liable where safety device suitable for every use to which machine might be put was not installed).

¹⁶⁶ If the system of worker compensation is inadequate, that problem should be confronted directly, not resolved by forcing manufacturers to become the defendants of last resort in every case where industrial safety is implicated.

¹⁶⁷ See *Dreisonstok v. Volkswagenwerk, A.G.*, 489 F.2d 1066, 1071-73 & n.19 (4th Cir. 1974); *Wilson v. Piper Aircraft Corp.*, 282 Or. 61, 60-71 & n.5, 577 P.2d 1322, 1327-28 & n.5 (1978). As these two cases show, courts are most apt to take this factor into consideration in cases involving commonly and widely consumed items.

¹⁶⁸ The language of the Fourth Circuit in *Dreisonstok v. Volkswagenwerk, A.G.* has been repeated frequently in design defect cases:

Of course, if an article can be made safer and the hazard of harm may be mitigated "by an alternate design or device at no substantial increase in price," then the manufacturer has a duty to adopt such a design but a Cadillac may be expected to include more in the way of both conveniences and "crashworthiness" than the economy car.

See, e.g., *Wilson v. Volkswagen of Am., Inc.*, 445 F. Supp. 1368, 1371-72 (E.D. Va. 1978).

¹⁶⁹ See generally M. Friedman, *Why I'll Die a Capitalist* (1979).

When consumers have the opportunity to choose among competing products, their choices, as reflected in the market, tell us much about the societal acceptability of a particular product. If the suggested alternative design is only marginally better than the design that caused the injury, it may be preferable to defer to the marketplace for standard setting on the theory that in a competitive market the consumer is free to purchase whatever degree of product safety is desired.

But the existence of consumer choice cannot constitute the sole ground for denying liability. Consumer choice may not be very meaningful, for example, where the design defect is not obvious or the manufacturer has failed to give adequate warnings. Moreover, the value of an opportunity to choose is substantially undermined when the consumer does not know that safety features ought to be a factor in that choice.¹⁷⁰

Despite its limitations, the range of consumer choice ought to be a significant component in the court's decision as to whether a manufacturer is under a duty to use or not to use a certain design. One of the important functions of tort law is to deter only *unacceptable* social behavior. When the market for a product offers consumers a choice of design as well as price, it may be undesirable for the courts to set design safety standards.¹⁷¹ The consequence of judicial standard setting in truly competitive markets could be the deterrence of manufacturing behavior that, judging from buying patterns, society deems acceptable. On one hand, such deterrence is not justified by a minimal gain in product safety. On the other hand, the mere existence of choice will not justify a holding for the manufacturer. It is a factor, however, that should be weighed by a court in making a directed verdict decision.

7. Obviousness of Danger

For many years the patent danger rule operated as a single factor no-duty rule in products liability cases,¹⁷² providing that if the danger

¹⁷⁰ "[P]erhaps even in instances where information as to product design is available, this argument [about the value of consumer choice] may attribute to most consumers a higher degree of awareness and sophistication than is realistic." Recent Cases-Torts, 80 Harv. L. Rev. 688, 691 (1967).

¹⁷¹ One commentator has suggested that the impetus behind the Seventh Circuit's no-duty decision in the landmark case of *Evans v. General Motors Corp.*, 359 F.2d 822 (1966), may have been the availability of other car models which were advertised as offering more protective frames. Recent Cases-Torts, 80 Harv. L. Rev. 688, 691 & n.18 (1967).

¹⁷² See generally Darling, *The Patent Danger Rule: An Analysis and a Survey of its Vitality*, 29 Mercer L. Rev. 583 (1978) [hereinafter Darling, *The Patent Danger Rule*]; Marschall, *Obvious Wrong*, supra note 2; Twerski, *Restructuring Assumption Of Risk*, supra note 2.

created by the defective design was open and obvious, the manufacturer would not be held liable.¹⁷³ As a New York court noted in *Campo v. Scofield*:

The cases establish that the manufacturer of a machine or any other article, dangerous because of the way in which it functions, and patently so, owes to those who use it a duty merely to make it free from latent defects and concealed dangers. Accordingly, if a remote user sues a manufacturer of an article for injuries suffered, he must allege and prove the existence of a latent defect or a danger not known to plaintiff or other users.¹⁷⁴

The New York Court of Appeals overruled *Campo* in the landmark case of *Micallef v. Miehle Co.*,¹⁷⁵ and now takes the position that a manufacturer will not automatically be excused from liability because the danger created by its product is patent. Instead, the court requires a risk-utility analysis in design defect cases to determine whether the product is reasonably safe.¹⁷⁶ Although many courts now apply a rule similar to that of *Micallef*,¹⁷⁷ a significant number of courts continue to absolve manufacturers of responsibility for damage caused by obviously dangerous products on the ground that the product meets the ordinary consumer's expectations.¹⁷⁸ This emphasis on consumer expectation amounts to a backhand endorsement of the patent danger doctrine.¹⁷⁹

It would appear that the three policy justifications that gave the patent danger doctrine such vitality in the past are not sufficient to support its application as a single factor no-duty rule. They do, how-

¹⁷³ *Blankenship v. Morrison Mach. Co.*, 255 Md. 241, 245-46, 257 A.2d 430, 432-33 (1969); *Campo v. Scofield*, 301 N.Y. 468, 471-75, 95 N.E.2d 802, 803-05 (1950); 2 F. Harper & F. James, Torts § 28.5 (1956).

¹⁷⁴ *Campo v. Scofield*, 301 N.Y. 468, 471, 95 N.E.2d 802, 803 (1950).

¹⁷⁵ 39 N.Y.2d 376, 348 N.E.2d 571, 384 N.Y.S.2d 115 (1976).

¹⁷⁶ *Id.* at 385-86, 348 N.E.2d at 577-78, 384 N.Y.S.2d at 120-21.

¹⁷⁷ See *Mitchell v. Fruehauf Corp.*, 568 F.2d 1139, 1143 (5th Cir. 1978); *Pike v. Frank G. Hough Co.*, 2 Cal. 3d 465, 473-74, 467 P.2d 229, 234-35, 85 Cal. Rptr. 629, 634-35 (1970); *Auburn Mach. Works Co. v. Jones*, 366 So. 2d 1167, 1169-72 (Fla. 1979); *Uloth v. City Tank Corp.*, 376 Mass. 874, 881, 384 N.E.2d 1188, 1192-93 (1978).

¹⁷⁸ *Hartman v. Miller Hydro Co.*, 499 F.2d 191, 194 (10th Cir. 1974) (product not unreasonably dangerous if dangerous only to the extent expected by ordinary consumer); *Vineyard v. Empire Mach. Co.*, 119 Ariz. 502, 505-06, 581 P.2d 1152, 1155-56 (Ct. App. 1978) (lack of rollbar obvious danger to an ordinary consumer); *Skyhook Corp. v. Jasper*, 90 N.M. 143, 147-48, 560 P.2d 934, 938-39 (1977) (manufacturer under no duty to warn of dangers actually known to ordinary consumers); *Vincer v. Esther Williams All-Aluminum Swimming Pool Co.*, 69 Wis. 2d 328, 333, 230 N.W.2d 784, 796-99 (1975) (average consumer should be aware of danger of small infant climbing into pool; manufacturer not liable for failure to provide locking gate).

¹⁷⁹ See *Darling, The Patent Danger Rule*, *supra* note 172, at 598-99; *Donaher, Pichler, Twerski & Weinstein, The Technological Expert*, *supra* note 124, at 1304.

ever, warrant consideration by a court using a multifactor duty analysis. The first reason for the doctrine was a belief that if the danger was obvious, the likelihood of an accident occurring was lowered.¹⁸⁰ When this is factored into the risk-utility analysis of patent danger cases, one of the variables—the probability of harm—is diminished, making it more likely that the negligence or standard of care question will be decided in favor of the manufacturer.

This in itself is not objectionable. Problems arise when a court focuses solely on the hypothesized connections between the patency of the danger and the probability that the product will cause harm, while losing sight of the other variables comprising a proper risk-utility analysis. In attacking judicial reliance on the patent danger doctrine, one writer has argued:

[T]he patent danger rule flies in the face of the calculus of risk analysis by insulating defendants with the *per se* position that obvious flaws are not actionable. Obviousness of danger, which should be but one factor in determining foreseeability and reasonableness of risk, becomes *the* factor in determining whether defendant's conduct is actionable. The position that a risk is automatically reasonable by virtue of being obvious is indefensible under ordinary negligence analysis.¹⁸¹

Patent danger is not the functional equivalent of reasonableness and clearly does not merit recognition as a single factor no-duty rule. It is less clear, however, that it is misplaced in a multifactor context. As noted earlier, courts applying a multifactor test identify certain categories of cases as suspect and warranting careful scrutiny before they are permitted to go to the jury.¹⁸² If courts are concerned about permitting design defect cases to go to a jury when the standard of care question is closely balanced, as it is in obvious danger/low probability of harm cases, they should flag cases of this type as suspect and scrutinize them accordingly.

A second rationale advanced in support of the patent danger rule is that, when the danger is obvious, recovery normally would be barred by the defense afforded the manufacturer under the assumption of risk doctrine.¹⁸³ According to this doctrine, the defendant must

¹⁸⁰ *Dorsey v. Yoder Co.*, 331 F. Supp. 753, 760 (E.D. Pa. 1971), *aff'd mem.*, 474 F.2d 1339 (3d Cir. 1973). See also *Darling, The Patent Danger Rule*, *supra* note 17, at 588.

¹⁸¹ *Darling, The Patent Danger Rule*, *supra* note 172, at 588-89. See also 2 F. Harper & F. James, *The Law of Torts* § 28.5 (1956).

¹⁸² See text accompanying note 25 *supra*.

¹⁸³ See Rheingold, *The Expanding Liability Of The Product Supplier: A Primer*, 2 Hofstra L. Rev. 521, 541 (1974). Where defendant's duty was limited to warning about, rather than

establish that the particular plaintiff had actual knowledge of the risk;¹⁸⁴ the presence of an "obvious" danger does not mean that this particular plaintiff was aware of the risks although it is a factor to consider in relation to the degree of care exercised by the plaintiff.¹⁸⁵ Under the patent danger rule, the plaintiff's ability to perceive the risk and capacity to avoid the danger are not even legitimate issues. Children and bystanders, as a matter of law incapable of assuming risks, have been denied recovery through operation of the patent danger rule.¹⁸⁶

One explanation for judicial reliance on the patent danger rule to serve the policy underlying the assumption of the risk defense is the belief that juries should not be trusted to decide whether a plaintiff had actual knowledge of the danger.¹⁸⁷ A jury aware that its decision could result in a denial of relief to a seriously injured plaintiff might be inclined to reach its conclusion without careful consideration of the evidence. Thus, if a danger is truly obvious, the court will find there has been an assumption of risk as a matter of law through application of the patent danger rule.¹⁸⁸

eradicating dangers there was substantial support for the view that the assumption of risk doctrine should not be recognized as a separate defense. See James, *Assumption of Risk: Unhappy Reincarnation*, 78 Yale L.J. 185, 185-89 (1968). It was only when the scope of duties expanded to impose a full duty of reasonable care on a manufacturer of chattels that serious concern arose as to whether the assumption of risk doctrine caused substantial harm to chattel users. See *id.* at 191-92 & n.29.

¹⁸⁴ *Moran v. Raymond Corp.*, 484 F.2d 1008, 1014-16 (7th Cir. 1973), cert. denied, 415 U.S. 932 (1974); *Heil Co. v. Grant*, 534 S.W.2d 916, 922 (Tex. Civ. App. 1976); *Restatement (Second) of Torts*, § 402A comment n, § 496D comments b and c (1965).

¹⁸⁵ See *Dorsey v. Yoder Co.*, 331 F. Supp. 753, 765-66 (E.D. Pa. 1971), *aff'd mem.*, 474 F.2d 1339 (3d Cir. 1973); *Micallef v. Miehle Co.*, 39 N.Y.2d 376, 387, 348 N.E.2d 571, 578, 384 N.Y.S.2d 115, 122 (1976).

¹⁸⁶ See *Stovall & Co. v. Tate*, 124 Ga. App. 605, 609-10, 613-14, 184 S.E.2d 834, 837-38, 840 (1971) (recovery denied to child injured by rock thrown by lawn mower; absence of safety guard, and hazard posed by this, were obvious); *Murphy v. Cory Pump & Supply Co.*, 47 Ill. App. 2d 382, 393, 401-02, 197 N.E.2d 849, 854, 858 (1964) (recovery denied to seven-year-old injured by lawn mower where absence of safety guard was an obvious danger); *Meyer v. Gehl*, 36 N.Y.2d 760, 761-66, 329 N.E.2d 666, 667-69, 368 N.Y.S.2d 834, 835-38 (1975) (Fuchsberg, J., dissenting) (criticizing injustice of majority's application of patent danger defense to defeat negligence claim arising out of six-year-old child's injury by farm machinery).

¹⁸⁷ Professor Keeton has suggested that the primary reason for the limited duty concept prohibiting recovery from landowners for injuries arising from open and obvious dangers is the well-known sympathy of juries for injured plaintiffs, who tend to impose liability on defendants even when the law may not support such a result. Keeton, *Personal Injuries Resulting From Open and Obvious Conditions*, 100 U. Pa. L. Rev. 629, 641-42 (1952). Under this rationale, in order to insure that a landowner's duty is limited to warning of hazards, plaintiffs would be denied recovery in all situations in which the danger is obvious, thus avoiding the question of whether any particular plaintiff was truthful in denying his cognizance of the danger.

¹⁸⁸ It is difficult to assess whether this aspect of the patent danger doctrine should continue to have effect in the context of the multifactor duty test. In jurisdictions such as Colorado where

50

The final and most significant policy underlying the patent danger doctrine is doubt about the propriety of courts mandating any level of safety when it is clear that the defendant has honestly marketed the product with adequate warning of the risks.¹⁰⁰ Where the

assumption of risk may act as a complete bar to a strict product liability claim, see, e.g., *Kinard v. Coats Co.*, 37 Colo. App. 555, 557, 553 P.2d 835, 837 (1976), (if defendant can show user voluntarily and unreasonably encountered known danger arising from defect, recovery under § 402A may be barred), courts still might be concerned that the defense will be ignored by overly sympathetic juries. They might then take the patentness of the danger into consideration on the duty issue to ensure that the affirmative defense is duly considered.

In those jurisdictions that have opted for comparative fault and have merged contributory negligence and assumption of risk into one affirmative defense, see, e.g., *Daly v. General Motors Corp.*, 20 Cal. 3d 725, 735-36, 742, 575 P.2d 1162, 1167-68, 1172, 144 Cal. Rptr. 380, 383-85, 390 (1978); *Thibault v. Sears, Roebuck & Co.*, 118 N.H. 802, 810-11, 395 A.2d 843, 848-49 (1978), it is less likely that courts will use the obviousness of the danger to assure that proper consideration be given to plaintiff's conduct. When juries are asked to return a comparative verdict, they are presumably aware that the plaintiff's recovery will be reduced in proportion to the plaintiff's negligence. Courts can leave the correct apportionment to the good sense of juries. It is possible that in a "pure comparative fault" jurisdiction, e.g., N.Y. Civ. Prac. Law §§ 1411 (McKinney 1976); R.I. Gen. Laws §§ 9-20-4, 4.1 (Supp. 1981), if a court suspects that a jury may find a high percentage of plaintiff fault but still hold the defendant liable to some extent, it may use the patent danger doctrine to prevent unjust defendant liability. But since defendant's exposure is potentially much smaller, courts probably will not be concerned with the duty problem. In jurisdictions requiring that in order to recover, plaintiff's fault be less than the fault of the defendant, e.g., Me. Rev. Stat. Ann. tit. 14, § 156 (1964); Minn. Stat. Ann. § 604.01 (West Supp. 1982), it is still very likely that a court, convinced that plaintiff's fault is the greater but sensing that the jury may return a 51-49% verdict for plaintiff, will direct a verdict for defendant based upon some formulation of the patent danger rule. In thus treating the affirmative defense as an absolute bar, the court would be taking steps to protect the defense from erosion by unwarranted jury sympathies.

¹⁰⁰ Several commentators have argued that the main thrust of product liability law is "representational." Shapo, *A Representational Theory of Consumer Protection: Doctrine, Function and Legal Liability for Product Disappointment*, 60 Va. L. Rev. 1109 (1974). Professor Shapo's statement of the theory is that:

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

These determinations of liability should consider, generally, the integrated image of the product against the background of the public communications that relate to it; and should refer, specifically, to those communications concerning the characteristics or features of the product principally related to the element of disappointment, and to the question of whether these characteristics or features reasonably might have aroused conflict with respect to the decision to buy or otherwise to encounter the product.

Id. at 1370 (italics omitted). See also Green, *Strict Liability Under Sections 402A and 402B: A Decade of Litigation*, 54 Tex. L. Rev. 1185, 1188-89 (1976).

danger is latent or any form of deception exists, or so the argument runs, the defendant should be held liable on a failure to warn theory.¹⁰⁰ When a product is honestly marketed, it is questionable whether, in addition to mandating honesty in the marketplace, the courts should mandate safety as well. It may be, however, that a principled reason underlies the refusal of courts to impose safety standards on manufacturers whose products carry only obvious dangers: there must be some limit to judicial paternalism in the field of product safety. Some products are so mechanically and functionally simple, and the dangers they present so manifest, that liability is unwarranted.¹⁰¹

*Vincer v. Esther Williams All-Aluminum Swimming Pool Co.*¹⁰² is, in my opinion, such a case. Plaintiff, a two year old, was injured when, left alone in his grandfather's backyard, he climbed a retractable ladder left in the down position to an above-ground swimming pool and fell in. Plaintiff contended that the swimming pool was defectively designed because the manufacturer had failed to take the reasonable and low cost precaution of building the swimming pool so that the fencing extended across the deck at the top of the ladder opening, with a self-latching gate on the deck of the swimming pool. Such a design would prevent access to the swimming pool area by young children even when the ladder from the deck to the ground was in the down position.

The Wisconsin court dismissed the complaint, holding that, as a matter of law, the swimming pool was not defectively designed. Its reason for so holding was that the "consumer expectation" test demanded such a result. The court said:

If the average consumer would reasonably anticipate the dangerous condition of the product and fully appreciate the attendant risk of

¹⁰⁰ This was the import of many of the earlier product cases. See, e.g., *Greenman v. Yuba Power Prods., Inc.*, 59 Cal. 2d 57, 63-64, 377 P.2d 897, 901, 27 Cal. Rptr. 697, 701 (1963); *Campo v. Scofield*, 301 N.Y. 468, 472-73, 95 N.E.2d 802, 804 (1950).

¹⁰¹ The unwillingness of some courts to impose liability for common dangers is in this author's opinion best expressed in this way. To illustrate this point, see *Jamieson v. Woodward & Lothrop*, 247 F.2d 23, 29-30 (D.C. Cir.) (elasticized rope has propensity to snap back upon itself), cert. denied, 355 U.S. 855 (1957); *Bojorquez v. House of Toys, Inc.*, 62 Cal. App. 3d 930, 934, 133 Cal. Rptr. 483, 484-85 (1976) (slingshots can be used to propel rocks); *Cenaust v. Illinois Power Co.*, 62 Ill. 2d 456, 466, 343 N.E.2d 465, 471 (1976) (metals conduct electricity and are not to be used near live high voltage wires); *Fanning v. LeMay*, 38 Ill. 2d 209, 211-12, 230 N.E.2d 182, 184-85 (1967) (soles of shoes become slippery when wet); *Menard v. Newhall*, 135 Vt. 53, 55-56, 373 A.2d 505, 507 (1977) (BB's fired from air rifle can injure eyes). See also Owen, *Problems in Assessing Punitive Damages Against Manufacturers of Defective Products*, 49 U. Chi. L. Rev. 1, 39 (1982).

¹⁰² 69 Wis. 2d 328, 230 N.W.2d 794 (1975).

injury, it would not be unreasonably dangerous and defective. This is an objective test and is not dependent upon the knowledge of the particular injured consumer. . . . The lack of a self-latching gate certainly falls within the category of an obvious rather than a latent condition. Equally important, the average consumer would be completely aware of the risk of harm to small children due to this condition, when the retractable ladder is left in a down position and the children are left unsupervised.¹⁸³

It is possible to read *Vincer* as nothing more than a modern patent danger case.¹⁸⁴ However, a better reading of *Vincer* is that the court was actually undertaking a multifactor analysis. One part of its inquiry reflected a genuine concern with how paternalistic the law should be with regard to the safety of swimming pools. The injury in *Vincer* occurred because children played unsupervised in the immediate vicinity of a swimming pool, a situation fraught with danger. In such situations, it is clear that modifications in the product would be meaningless, and the unavoidable conclusion is that the problem is not one which should appropriately be shouldered by the manufacturer.

A risk-utility analysis will not necessarily lead to the same conclusion. In fact, using risk-utility reasoning, one might conclude that a *particular* safety feature is desirable. Nonetheless, a court utilizing the multifactor analysis might conclude that:

- (1) redesign of the swimming pool fence would require complex and interdependent changes to be made in the product;
- (2) a broad range of choices is available to consumers in the swimming pool market;
- (3) the danger is so inherent and obvious that only parental or adult supervision is sufficient to prevent it and that courts should not be forced to play such a paternalistic role.

Whether or not this multifactor reading of *Vincer* is accepted, courts ought to be aware of the limits of paternalism. To the extent that judicial unease with an unduly paternalistic role is embodied in the patent danger rule, the concept of patent danger remains a valid factor in any sophisticated duty analysis undertaken by a court.

8. Cost

Courts performing a risk-utility analysis¹⁸⁵ typically consider cost as one element of the analysis. If the cost of the alternative design

¹⁸³ Id. at 332-33, 230 N.W.2d at 798-99.

¹⁸⁴ Indeed, I admit to having endorsed this rather facile reading of *Vincer*. Twerski, From Defect to Cause to Comparative Fault—Rethinking Some Product Liability Concepts, 60 Marq. L. Rev. 297, 306-07 (1977).

¹⁸⁵ Wade, On the Nature of Strict Tort Liability for Products, 44 Miss. L.J. 825, 837-38 (1973) (fourth of six factors in determining whether a product is unreasonably dangerous includes

suggested by the plaintiff exceeds the savings projected from the reduction in the level or severity of injuries, then some commentators claim the product is not defectively designed.¹⁹⁶

In some cases the cost of the suggested alternative design is a factor not only in the risk-utility analysis but in the duty analysis as well. Where the dollar cost of the suggested alternative is high, courts evince some reluctance in letting cases go to the jury.¹⁹⁷ Perhaps this reluctance stems from the operation of many of the duty factors already enumerated. An especially high price tag on a suggested alternative design may signal the presence of other problematic policy issues; for instance, the more expensive the change the greater the likelihood it will involve polycentric problems and questions concerning the closeness of proof on the risk-utility issue. However, it is likely that the cost factor has independent significance stemming from a sense by courts that they are not the proper political body to make judgments having potentially drastic impact upon product design costs. It is admittedly difficult to support this factor with direct authority from case law; the cost of suggested alternatives is rarely singled out for lengthy comment by the courts. Nonetheless, courts cannot and should not be oblivious to the cost factor when engaging in a duty analysis.

9. Design Safety Review Process

There is evidence of increasing emphasis being attached to the quality of the decisionmaking process leading to the establishment of a particular product safety level.¹⁹⁸ In a recent article written in conjunction with several colleagues, we endorsed the development of a free-standing defense in design defect cases based on the strength and integrity of the process by which a manufacturer establishes a particular safety standard.¹⁹⁹ Whether or not the proposal that process be

manufacturer's ability to eliminate unsafe character of the product without rendering it too expensive for its normal use); Montgomery & Owen, *Reflections on the Theory and Administration of Strict Tort Liability for Defective Products*, 27 S.C.L. Rev. 803, 818 (1976) (second of four factors in determining liability is the incremental cost of marketing the product without the offending condition).

¹⁹⁶ Posner, *Utilitarianism, Economics and Legal Theory*, 8 J. Legal Stud. 103, 133 (1980); Posner, *A Theory of Negligence*, 1 J. Legal Stud. 29, 32-33 (1972) (discussing Judge Learned Hand's formulation of the negligence standard in *United States v. Carroll Towing Co.*, 159 F.2d 169 (2d Cir. 1947)).

¹⁹⁷ See, e.g., *Garst v. General Motors Corp.*, 207 Kan. 2, 22, 484 P.2d 47, 62 (1971); *Skyhook Corp. v. Jasper*, 90 N.M. 143, 146-47, 560 P.2d 934, 936-37 (1977).

¹⁹⁸ See generally Twerski, Weinstein, Donaher & Pichler, *Shifting Perspectives*, *supra* note 1.

¹⁹⁹ See generally *id.*

recognized as a single factor no-duty test is accepted,²⁰⁰ evidence of excellent process is a relevant component of a multifactor no-duty test. Manufacturers who have made good faith efforts to use the skill and ingenuity at their disposal to develop good standards deserve the protection of the courts from the vagaries of improvident jury verdicts in close-call cases. This is especially true when the trial judge has determined that the evidence on defect is very closely balanced. In arguing for increased judicial sensitivity to the quality of the safety standard-setting process at the preproduction stage of manufacture, we noted that "to appreciate the significance of focusing on the process or product development, one must understand the complexity of the design process, the various stages at which critical decisions are made, and the array of competing interests and points of view that affect decisions at each stage."²⁰¹ The theory underlying this defense is based on an awareness that as the development of the product progresses, "the quality and the nature of the decisionmaking process change significantly."²⁰² At certain stages of the process, design decisions of a fundamental nature may be easily incorporated in the product; later on, such decisions may entail radical and costly alterations. Awareness of this process is significant for design defect litigation in that "we may be less willing to second-guess decisions made on the basis of limited alternatives if: (1) the alternatives were carefully considered at an early stage of product development; (2) the reasons for rejecting certain alternatives are clearly articulated; and (3) few viable alternatives were available."²⁰³ We suggested that a formal recognition be given to a *process* defense:²⁰⁴ if a manufacturer establishes that a standard was set pursuant to an exhaustive, highly structured process representing the competing concerns of safety, utility, efficiency, and esthetics, a product will be presumed nondefective unless the plaintiff proves otherwise by clear and convincing evidence. In the context of a multifactor duty analysis, when many of the other duty factors are also present, the court should decide the initial duty question taking into account that the process by which the safety standard was established was of the highest order.

²⁰⁰ See Henderson, Should Process Defense Be Recognized in Design Defect Cases?, 56 N.Y.U. L. Rev. 585 (1981), and the response, Twerski, Weinstein, Donaher & Piehler, In Defense of Process, 56 N.Y.U. L. Rev. 616 (1981).

²⁰¹ Twerski, Weinstein, Donaher & Piehler, Shifting Perspectives, *supra* note 1, at 358-59 (footnotes omitted).

²⁰² *Id.*

²⁰³ *Id.*

²⁰⁴ *Id.* at 375-80.

10. Legislation

One major item in many legislative proposals concerning the product liability crisis is the legal effect to be given to compliance with statutory product safety standards.²⁰⁵ Manufacturers complain that it is unfair to subject them to liability after they have complied with rigorous and exacting state or federal standards.²⁰⁶ Consumer groups fear that governmental standards are often the product of political compromise and thus not reflective of the optimal level of safety.²⁰⁷ The statutory enactments reflect legislative ambivalence. On the one hand, they provide that compliance with the statutory standard be deemed evidence of or create a presumption of nondefectiveness subject to rebuttal by the plaintiff.²⁰⁸ On the other hand, they permit the plaintiff to demonstrate that the legislative standard is unreasonable.²⁰⁹ An argument can be made that these proposals are merely restatements of the traditional common law position and add nothing new to the law of torts.²¹⁰

²⁰⁵ The most recent attempt to resolve the problem of compliance with regulatory standards can be found in MUPLA § 108(A), which provides:

When the injury-causing aspect of the product was, at the time of manufacture, in compliance with legislative regulatory standards or administrative regulatory safety standards relating to design or performance, the product shall be deemed not defective . . . unless the claimant proves by a preponderance of the evidence that a reasonably prudent seller could and would have taken additional precautions.

MUPLA, *supra* note 11, at § 108A. Some recently enacted state statutes go beyond MUPLA by creating either an affirmative defense or a rebuttable presumption that a product is nondefective or not unreasonably dangerous based on compliance with regulatory standards. See, e.g., Colo. Rev. Stat. § 13-21-403(1)(b) (Cum. Supp. 1980) (rebuttable presumption); N.H. Rev. Stat. Ann. § 507-D:4 (Cum. Supp. 1979) (affirmative defense); Tenn. Code Ann. § 29-28-104 (1980) (rebuttable presumption); Utah Code Ann. § 78-15-6(3) (1977) (rebuttable presumption).

²⁰⁶ See MUPLA, *supra* note 11, at 62,730 (analysis commenting on § 108). Manufacturers also point out the unfairness in permitting lay jurors to reevaluate standards determined by government experts. *Id.*

²⁰⁷ See, e.g., Hearings Before the Senate Select Committee on Small Business on Product Liability Problems Affecting Small Business, 94th Cong., 2d Sess. 1584, 1593-941 (1976) (statement of Ralph Nader, Center for Study of Responsive Law (arguing against lobbying effort by both insurers and manufacturers to establish adherence to governmental standards as an "iron-clad" defense)); Birnbaum, *Reform or Retreat?*, *supra* note 16, at 277-79 (recognizing that state and federal standards often are simply the voluntary standards adopted by manufacturers within an industry); Johnson, *Products Liability "Reform": A Hazard to Consumers*, 56 N.C.L. Rev. 677, 687-89 (1978) (acknowledging the power and influence of manufacturers in the formation of government standards).

²⁰⁸ See statutes cited at note 205 *supra*.

²⁰⁹ *Id.*

²¹⁰ The provision in the MUPLA § 108A, set forth in note 205 *supra*, does not appear to accomplish anything more than to restate the traditional common law approach. It does not shift the burden of proof because the plaintiff bears the burden of proving defect. Every product at the outset is deemed "not defective" unless the claimant proves the unreasonableness of the

It would be a mistake, however, to underrate legislative developments in this area. Legislative and administrative standards play an important role in limiting the class of potential plaintiffs in design defect cases. The objective of manufacturers is the establishment of a single factor no-duty test that would prevent the imposition of liability when the statutory standard was met.²¹¹ This position is anathema to consumer groups who fear that government will not perform its role aggressively.²¹² The result is an unsatisfactory compromise in which statutory standards occupy an uncertain position.

Under a multifactor analysis, such uncertainty does not arise. Manufacturer compliance with governmental standards is relevant to a resolution of the duty question and should be considered by the court before submitting the design to the scrutiny of a jury. If, in addition to such compliance, a cluster of other no-duty factors are present, then a directed verdict might be appropriate. Thus, for example, if the statutory standard governed a technically complex design feature which, if litigated, would create problems of polycentricity, the argument for a directed verdict would be stronger. If the alternative design feature suggested by the plaintiff is only marginally superior to the statutory standard, that too would be a factor supporting a directed verdict. And if the suggested alternative safety device is supported only by untested, hypothetical expert evidence, the case for a directed verdict would be strengthened even further.

design. See Restatement (Second) of Torts § 402A comment g (1965) ("The burden of proof that the product was in a defective condition at the time that it left the hands of the particular seller is upon the injured plaintiff; and unless evidence can be produced which will support the conclusion that it was then defective, the burden is not sustained.").

In an attempt to be evenhanded, the drafters of the MUPLA addressed the question of noncompliance with a statutory standard:

When the injury-causing aspect of the product was not, at the time of manufacture, in compliance with legislative regulatory standards or administrative regulatory safety standards relating to design or performance, the product shall be deemed defective . . . unless the product seller proves by a preponderance of the evidence that its failure to comply was a reasonably prudent course of conduct under the circumstances.

MUPLA *supra* note 11, § 108(B), at 62,730 (emphasis added). This section appears to create a reasonableness defense to negligence *per se*. It is possible that the drafters meant to excuse a violation of the statute only when compliance would have created greater dangers than noncompliance. See Restatement (Second) of Torts §§ 288(A)(e), 295 (1965). The language of § 108(B), however, would permit a finding of nonnegligence merely because the conduct of the defendant was reasonable under the circumstances. The doctrine of excused violation, see W. Prosser, *Handbook of the Law of Torts* § 38, at 197-200 (4th ed. 1971), was never meant to undermine the basic standard of care judgment reflected in the statute.

²¹¹ See Birnbaum, *Reform or Retreat?*, *supra* note 16, at 277; U.S. Dep't of Commerce Interagency Task Force, *1 Product Liability: Final Report of the Insurance Study 4-91* (1977).

²¹² See note 207 *supra*.

There are cases in which the court should direct a verdict based solely on compliance with a statutory standard, for example, when a statutory standard is well regarded and the product clearly complies with the standard. But even when statutory standards, taken alone, are insufficient to dictate a directed verdict, they may contribute in part to the final judgment that a directed verdict is proper in a particular case.

V

CASE LAW AND MULTIFACTOR DUTY ANALYSIS

The theoretical framework for a multifactor duty analysis and the ten-factor test for its application have been presented. This Section will show that courts, in well-reasoned opinions, have used such an analysis to determine the propriety of directing verdicts.²¹³ Some courts that do not appear to be applying a multifactor approach seem instead to be groping for an analytical framework within which to reach sensible results in light of the policies implicated in design defect litigation.

A. Dreisonstok v. Volkswagenwerk, A.G.

*Dreisonstok v. Volkswagenwerk, A.G.*²¹⁴ is a design defect case involving the "crashworthiness" issue. It is worthy of detailed examination here because the *Dreisonstok* court touched on many of the factors that have been suggested as germane to a multifactor duty analysis. *Dreisonstok* is a design defect case decided under a negligence theory.²¹⁵

²¹³ In addition to the five cases discussed at length in the following section, this Article has treated other cases as examples of multifactor duty analysis. See, e.g., text accompanying notes 192-94 *supra* (discussing *Vincer v. Esther Williams All-Aluminum Swimming Pool Co.*). The following cases suggest that courts wittingly or unwittingly utilize the form of analysis suggested by this Article: *Jeng v. Witters*, 452 F. Supp. 1349, 1356-62 (M.D. Pa. 1978), *aff'd* without opinion, 591 F.2d 1334 (1978) (factors considered in upholding jury verdict for defendant included the likelihood of injury, feasibility of eliminating unsafe characteristic without impairing usefulness or increasing cost, and the contemplated ordinary use of the product); *Garst v. General Motors Corp.*, 207 Kan. 2, 20-23, 484 P.2d 47, 61-63 (1971) (factors used in determining manufacturer's liability include whether others are using a safer design, feasibility of a safer design, and the adequacy of testing); *Tibbetts v. Ford Motor Co.*, 4 Mass. App. Ct. 738, 740-42, 358 N.E.2d 460, 461-62 (1976); see also *Kropp v. Douglas Aircraft Co.*, 329 F. Supp. 447, 456, 461-63 (E.D.N.Y. 1971) (discussion of impracticality of alternative design); *Fletcher Co. v. Melroe Mfg. Co.*, 238 So. 2d 142, 146-49 (Fla. Dist. Ct. App. 1970) (discussion of the feasibility of improving the design, the obviousness of the defect, and the foreseeability of the injury).

²¹⁴ 489 F.2d 1066 (4th Cir. 1974).

²¹⁵ Whether one proceeds under either a negligence or strict liability theory in a design defect case, an analysis to determine the propriety of a directed verdict is still necessary. As noted

In *Dreisonstok*, the plaintiff was a passenger in a Volkswagen microbus that struck a telephone pole on the passenger side of the front of the vehicle. The plaintiff was seated in the center of the seat, next to the driver, and as a result of the impact, her right leg was caught between the back of the seat and the dashboard of the van and she apparently was thrown forward. She sought recovery alleging that her injuries were enhanced by the vehicle's lack of crashworthiness.²¹⁶ The district court agreed that the microbus was negligently designed because it failed to provide "sufficient energy-absorbing materials or devices or 'crush space' . . . so that at 40 miles an hour the integrity of the passenger compartment would not be violated."²¹⁷ As a result, the plaintiff's injuries were enhanced "over and above those injuries which the plaintiff might have incurred."²¹⁸

The Fourth Circuit reversed the district court's verdict for the plaintiff.²¹⁹ It first considered the question whether an automobile manufacturer has a legal duty to manufacture a crashworthy car. The court noted the divergence of authority on this issue.²²⁰ Some courts have held that no such duty exists since the "intended use" of an automobile does not include collisions.²²¹ The overwhelming majority of courts, however, have followed *Larsen v. General Motors Corp.*,²²² which requires a manufacturer to design an automobile to prevent "unreasonable risk of injury in the event of a collision."²²³ The *Dreisonstok* court cast its lot with the majority.²²⁴

earlier, one difference between strict liability and negligence in a product liability case is that newly developed information or technology under a strict liability theory may render the product defective even though the defendant might not have been negligent in having failed to discover that information. See notes 131-36 and accompanying text *supra*. If the issue of newly developed information or technology is not present in the case, then the duty analysis will proceed identically whether the operative theory is negligence or strict liability. In *Dreisonstok*, neither newly developed information nor technology was at issue. Thus the duty analysis performed by the court is instructive as to how one should actually proceed with a multifactor test.

²¹⁶ 489 F.2d at 1068.

²¹⁷ *Id.* at 1068-69.

²¹⁸ *Id.* at 1069.

²¹⁹ *Id.* at 1076. The action had been tried without a jury. *Id.* at 1068.

²²⁰ *Id.* at 1069.

²²¹ E.g., *Evans v. General Motors Corp.*, 359 F.2d 822, 825 (7th Cir.), cert. denied, 385 U.S. 836 (1966); *Yetter v. Rajeski*, 364 F. Supp. 105, 108 (D.N.J. 1973). For a list of early cases rejecting the lack of crashworthiness as a basis for liability, see *Hoenig & Goetz, Crashworthy Automobiles*, *supra* note 3, at 4 n.11.

²²² 391 F.2d 495 (8th Cir. 1968).

²²³ *Id.* at 502. Leading courts have approved the *Larsen* position. For an extensive list of authorities supporting *Larsen*, see *Huff v. White Motor Corp.*, 565 F.2d 104, 110-11 (7th Cir. 1977).

²²⁴ In retrospect, its decision to abandon the minority view was sound, since that view was later repudiated by the court that created it. In *Huff v. White Motor Corp.*, 565 F.2d 104 (7th

The court's rejection of such a single factor no-duty test, which would bar second collision claims, did not resolve the issue whether to impose liability. It did, however, enable the court to expand its inquiry and examine many of the factors that this Article has suggested are central to a multifactor approach. In opining that the court utilized a multifactor duty analysis to reach its directed verdict, one must refute the argument that the court, sitting in the capacity of super jury, simply found the evidence of negligence unsatisfactory. Both the language and the tone of the opinion suggest that the court was speaking in broad public policy terms. More importantly, the court directly addressed many of the duty factors identified by this Article.

(1) *Polycentricity*: To have been sufficiently crashworthiness to withstand a collision of this magnitude, the microbus would have required the front-end protection of a 1966 front-engine automobile. This level of safety would have necessitated major redesign of the microbus and the sacrifice of many of its most desirable features. Although the court did not label this problem "polycentric," it seemed reluctant to evaluate and impose judicially such a potentially drastic design modification. The court's language on this point is instructive:

Under this standard, any rear engine car would be "inherently dangerous. . . ." To avoid liability for negligent design, no manufacturer could introduce any innovative or unique design, even though reasonably calculated to provide some special advantage such as greater roominess. Such a strait-jacket on design is not imposed, whether the rule applied is that of *Evans* or of *Larsen*.²²⁵

Whether viewed as polycentric, merely too complex, or inappropriate for judicial resolution, the court deemed this aspect of the case to be important in its ultimate decision to direct a verdict.

(2) *Close Risk-Utility Proof*: In the earlier discussion of this factor, it was noted that extraordinary tensions exist in the litigation of a design defect case.²²⁶ The plaintiff has the luxury of pinpointing the design feature that would have prevented the injury. The defendant

Cir. 1977), the Seventh Circuit concluded that "[t]here is no rational basis for limiting the manufacturer's liability to those instances where a structural defect has caused the collision and resulting injury Since collisions for whatever cause are foreseeable events, the scope of liability should be commensurate with the scope of the foreseeable risks." *Id.* at 109.

²²⁵ *Dreisonstok v. Volkswagenwerk, A.G.*, 489 F.2d 1066, 1075 (4th Cir. 1974).

²²⁶ See text accompanying notes 112-21 *supra*.

must then focus on the overall design of the product and either demonstrate that the suggested alternative design presents greater dangers in other situations or argue that the product's utility would be reduced by the design alternative. In either event, the defendant must turn the focus away from the specific accident that actually occurred to a more general view of the product's design. It was suggested that, given this imbalance, courts should proceed cautiously and assure themselves that the evidence presented by the plaintiff is clearly sufficient to support the overall superiority of the plaintiff's design alternative. If the court is not convinced that the defendant made a poor design choice, it should direct a verdict.

There are indications in *Dreisonstok* that the court was aware of this tension between the plaintiff's proof and the defendant's rebuttal testimony. The court made numerous references to the fact that the forty-mile-per-hour crashworthiness standard proffered by the plaintiff was created out of thin air, saying:

And why "40 miles an hour" as the standard anyway? This standard was adopted, it seems clear from the District Court's order, because the plaintiffs contended that a "standard American passenger car" had sufficient "crash space" that its passenger compartment would not have been invaded in a 40 mile impact.²²⁷

The court then noted that creating a standard on the basis of causation was not sufficient since it was necessary to consider the "special purpose and character of the particular type of vehicle" before establishing the appropriate standard.²²⁸ The *Dreisonstok* court thus appears to have recognized the suspect, litigious character of the standard in deciding to direct a verdict for defendant.

(3) *State of the Art*. The earlier discussion of the "state of the art" issue raised the question how exacting the courts should be regarding the quality of expert testimony.²²⁹ Is it sufficient for experts to present unsupported opinions or should courts require proof through extensive testing that the alternative designs proffered by the plaintiffs are in fact practicable?

The issue arose in *Dreisonstok*, not with regard to the standards issue, but with regard to causation. The court appeared unwilling to accept the untested hypothesis of the experts that the second collision

²²⁷ 489 F.2d at 1075.

²²⁸ *Id.* at 1076.

²²⁹ See text accompanying notes 123-30 *supra*.

damages were avoidable. The court criticized the forty-mile-per-hour crashworthiness standard as resulting merely from the plaintiffs' experts' comparative measurements of the interior space of a microbus and of a 1966 Ford passenger car. "No tests were made by these experts to confirm experimentally these conclusions. . . . [B]ecause the distance in the latter instance was greater than in the former, they concluded that, had the plaintiff been riding in a 1966 Ford passenger car, she would have escaped injury."²³⁰ Given the relationship between causation and defect in this case, it appears that the court's dissatisfaction with the quality of the expert testimony was an additional factor that may have tipped the scales in the court's decision to direct the verdict.

(4) *Tenuous Causation*: Second collision cases present difficult causation issues.²³¹ The plaintiff must establish that the injury was aggravated by the absence of the proposed safety feature, must prove the extent of the aggravation, and must translate the "add-on" damages into a dollar figure. In some cases, these tasks are very difficult, in others, they are virtually impossible. As the severity of the first collision increases, it becomes more difficult to establish the second collision damages. When this difficult determination presents itself, courts demonstrate considerable reluctance to let the case go forward. This reluctance is especially apparent when the evidence on both sides of the design defect issue is evenly balanced.²³²

The court in *Dreisonstok* was clearly troubled by this aspect of the case and appears to have considered it in support of its directed verdict, noting:

It, perhaps, may not be amiss to note that there is not substantial evidence to sustain a finding that as a result of the design of the microbus the plaintiff's injuries were enhanced. . . . It may be that in every case the injuries may be somewhat different but any "head-on" collision at a speed of 40 miles an hour or more will result in severe injuries to the occupants of a vehicle and, certainly in 1968, no design short of an impractical and exorbitantly expensive tank-like vehicle . . . could have protected against such injuries. . . . Can it be said that a manufacturer in 1968 must have, in its design, so built its vehicle as to protect against such an "unreasonable risk of injury"? We think not.²³³

²³⁰ 488 F.2d at 1075-76.

²³¹ See text accompanying notes 156-58 *supra*.

²³² See, e.g., *Huddell v. Levin*, 537 F.2d 726, 736-38 (3d Cir. 1976).

²³³ 489 F.2d at 1076 (footnote and citations omitted).

The court thus added another element to the directed verdict decision—the tenuousness of the causation issue. It is, of course, impossible to tell whether, absent the other no-duty factors, the *Dreisonstok* court would have directed a verdict for defendant solely on causation grounds. What is significant, however, is that the court felt it necessary to relate the causation issue to the other no-duty factors in the case in order to bolster its directed verdict.

(5) *Consumer Choice*: The court noted that the microbus was a popular vehicle with “special utility as a van for the transportation of light cargo, as a family camper, as a station wagon and for use by passenger groups too large for the average passenger car.”²³⁴ The consumer had thus selected from a wide array of alternative models the one that fit his special needs. The *Dreisonstok* court acknowledged that consideration of such choices should be permitted in the design process, citing *Dyson v. General Motors Corp.*²³⁵ and its proposition that “design safety must take account of ‘differentiation between various models of automobile’ and involves ‘a recognition of the inherent characteristics of each.’”²³⁶ Consistent with its attitude toward choice, the court noted that price must also be considered in the assessment of safety and that “a Cadillac may be expected to include more in the way of both conveniences and ‘crashworthiness’ than the economy car.”²³⁷ This consideration bore heavily on its resolution of the case in favor of the defendant manufacturer.

(6) *Obviousness of Danger*: The *Dreisonstok* court also discussed the obvious nature of the danger. The court did so even though there was neither a legitimate question of assumption of risk²³⁸ nor a plausible argument that the obviousness of the danger increased risk reduction in this case. Appreciation of the danger could not lead to consumer behavior aimed at reducing the risk level unless drivers made a concerted effort to drive more carefully while in microbuses. The only rationale supporting the consideration of the obviousness of the danger as a factor in *Dreisonstok* is that the court was averse to treating

²³⁴ *Id.* at 1074.

²³⁵ 296 F. Supp. 1064 (E.D. Pa. 1969).

²³⁶ 489 F.2d at 1072 (quoting *Dyson v. General Motors Corp.*, 298 F. Supp. at 1073).

²³⁷ 489 F.2d at 1073.

²³⁸ The plaintiff was a passenger in the microbus. The passenger is unlikely to have had sufficient appreciation of the risk even to raise the issue of “subjective” knowledge of risk. See Restatement (Second) of Torts § 496D (1965); text accompanying notes 183-88 *supra*. Plaintiff, however, had not fastened her seatbelt. 489 F.2d at 1076.

consumers with overbearing paternalism. The language of the court supports this reading:

This design was uniquely developed in order to provide the owner with the maximum amount of either cargo or passenger space in a vehicle inexpensively priced and of such dimensions as to make possible easy maneuverability. To achieve this, it advanced the driver's seat forward, bringing such seat in close proximity to the front of the vehicle, thereby adding to the cargo or passenger space. This, of course, reduced considerably the space between the exact front of the vehicle and the driver's compartment. *All of this was readily discernible to any one using the vehicle*; in fact, it was, as we have said, the unique feature of the vehicle.²³⁹

The consumers had chosen for themselves, and the court did not wish to impose paternalistic safeguards by judicially raising the safety standards of the manufacturers.

(7) *Legislation*: At the time of *Dreisonstok*, there was no legislation directly covering the crashworthiness of the microbus. The court, however, did note²⁴⁰ that the Traffic and Motor Vehicle Safety Act,²⁴¹ which undertakes "to establish motor vehicle safety standards,"²⁴² requires the Secretary of Transportation in setting standards to "consider whether any such proposed standard is reasonable, practicable and appropriate for the particular type of motor vehicle."²⁴³ The court interpreted this guidance to require a consideration of the differentiation of purpose among vehicles of the same general type in setting safety standards.²⁴⁴

Although the court did not find this expression of legislative intent binding in a common law action, the court did consider the legislative framework in deciding how broad the scope of the risk-utility inquiry should be. The existence of legislation permitted the court to narrow its inquiry substantially and to conclude that it would be inappropriate to compare the microbus with other vehicles whose function and design were so radically different.²⁴⁵ The legislation's existence and guidance helped the court reach the conclusion that a directed verdict was appropriate.

²³⁹ 489 F.2d at 1073-74 (footnote omitted) (emphasis added).

²⁴⁰ Id. at 1072.

²⁴¹ 15 U.S.C. §§ 1381-1431 (1976 & Supp. IV 1980).

²⁴² Id. § 1381.

²⁴³ Id. § 1392(f)(3).

²⁴⁴ 489 F.2d at 1072.

²⁴⁵ Id. at 1073-75.

Dreisonstok is heavily laden with the factors that should contribute to the conclusion that the manufacturer has met its duty to consumers. Had the court clearly identified the policy factors bearing on its decision, the decision could have served as a model for other courts faced with similar questions of social policy. As it stands, *Dreisonstok* is too easily relegated to the run-of-the-mill "reasonable-people-cannot-differ" category. With this Article's clearer articulation of the relevant policies, the case can become a significant decision that points the way to high level judicial lawmaking.

B. *Uloth v. City Tank Corporation*

A case that would have benefited from a multifactor duty analysis is *Uloth v. City Tank Corp.*³⁴⁶ In that case plaintiff was a town-employed general laborer. He had helped with trash collection on several occasions and twice had been assigned to a Loadmaster 316 garbage truck. The design of the Loadmaster included a rear step running the full width of the truck on which the workers rode. Above the step was a "trash hopper" area into which trash was loaded. A packer blade swept through this trash hopper area during the compaction cycle, coming in contact with the loading sill and pushed the trash into the storage area of the truck.

The compaction cycle on the Loadmaster 316 was activated by placing the truck in neutral, operating several switches in the cab, and pulling a lever on the side of the truck, after which the packer blade would descend. The compaction cycle could be interrupted at any time by disengaging the lever at the side of the truck.

On the day of the accident the plaintiff operated the lever once without incident. Ten minutes after starting work, Uloth signalled the driver to put the truck in neutral and activate the switches in the cab, after which the plaintiff operated the lever on the side of the truck and lit a cigarette. When he heard the engine noise increase and saw the truck move slightly, the plaintiff assumed that the truck was about to move ahead, and leapt onto the rear step of the truck. He lost his balance; the descending panel caught his left foot, dragged it into the trash hopper, and severed it from his leg.

Uloth is of particular interest because the packer was purchased by a municipality which had the option to purchase competing models equipped with safety features that might well have prevented the accident. The plaintiff contended that the Loadmaster 316 was defec-

³⁴⁶ 376 Mass. 874, 384 N.E.2d 1188 (1978).

tively designed due to its continuous cycle compaction mechanism, and pointed to other companies using safety devices such as interlocking hopper doors, a stop bar, an interrupted cycle or a "deadman control."²⁴⁷ In addition, plaintiff argued that had the steps on the garbage truck been placed on the side rather than in the rear the accident would not have occurred.²⁴⁸

The issue of design defect was sharply disputed. Defendant argued that the competition's compaction chambers equipped with the safety devices had a much faster compaction cycle,²⁴⁹ while the Load-master's slower cycle permitted the user to become aware of the slowly descending panel and avoid danger. Furthermore, defendant argued that the more sophisticated safety devices were unusually dangerous in that sanitation workers seeking to find shortcuts around time-consuming safety features might bypass them so that they could complete their work more quickly. Thus, according to the defendant, in this instance the simpler design that was not subject to tampering was in truth safer than the more complex design which offered a surface appearance of greater safety.²⁵⁰ The court acknowledged that there was conflicting evidence but held that the controverted issue was for the jury to resolve.²⁵¹

The facts of *Uloth* suggest it may be unwise to separate the issue of the safety standard from the issue of who should be responsible for setting the standard. If the contest between the design actually utilized and the possible alternatives is a close one, then why not permit the decision to be made by a sophisticated buyer, able to assess the product in an actual employment setting? A municipality that requires a set number of hours per week from its sanitation workers may make a judgment different from that of a city that permits the workers to leave the job after completing the assigned route. In the first case the town may choose the machine with the safety feature because there is little incentive for employees to bypass safety to complete more quickly. In the latter instance the city may choose the simpler but slower compaction chamber in order to prevent the bypass problem. In any event, when the choice among safety features is closely balanced, a manufacturer should not be required to impose safety of one kind on an entire industry.

²⁴⁷ *Id.* at 878 n.4, 384 N.E.2d at 1191 n.4.

²⁴⁸ *Id.*

²⁴⁹ Brief for Appellant at 7, *Uloth v. City Tank Corp.*, 376 Mass. 874, 384 N.E.2d 1188 (1978).

²⁵⁰ *Id.*

²⁵¹ 376 Mass. at 878 n.4, 384 N.E.2d at 1191, n.4.

Were *Uloth* to be evaluated on the basis of the duty factors proposed in this Article, there would be an extremely strong argument in avor of a directed verdict. Consider the following points:

(1) *Polycentricity*: The choice of the safety mechanism had major implications for the operation of the entire compaction operation, affecting the speed of compaction, the minimum number of workers necessary to operate the truck, the engine mechanism, the location of the steps on the truck, etc.

(2) *Close Risk-Utility Proof*: The proof issue was clouded at best. The Loadmaster design was standard, well accepted, and popular. The imbalance between the specifically directed plaintiff's case and the more general design defense was particularly telling.

(3) *Consumer Choice*: There was a broad range of competing products and designs from which the purchaser chose.

(4) *Obviousness of Danger*: The danger was open and obvious, so much so that defendant argued that assumption of risk was made out as a matter of law.²⁵² The court refused to direct a verdict on this issue saying that it rarely directed a verdict on this affirmative defense.²⁵³ The danger that the jury would permit the plaintiff to recover even though the evidence on assumption of risk was strong clearly existed here.

(5) *Shifting Duty*: The decision to purchase was made by a sophisticated buyer best positioned to evaluate the dangers present in its own employment setting.

The point need not be labored. Where many of the no-duty factors exist in combination, courts should bear in mind not only the limitations on judicial competence to set design standards but also the appropriateness of distributing responsibility in a market situation where decisionmakers other than the manufacturer play a legitimate role in deciding whether the standard is appropriate for their needs.

C. Another Look at *Wilson v. Piper Aircraft Corporation*

In an earlier section, *Wilson v. Piper Aircraft Corp.*²⁵⁴ was identified as a case in which a court took seriously its lawmaking role in design defect litigation.²⁵⁵ In *Wilson*, plaintiffs' decedents were killed in an airplane crash allegedly resulting from carburetor icing. Plain-

²⁵² Id. at 881-82, 384 N.E.2d at 1191-92.

²⁵³ Id. at 882, 384 N.E.2d at 1193.

²⁵⁴ 282 Or. 61, 577 P.2d 1322 (1978).

²⁵⁵ See text accompanying notes 89-95 *supra*.

tiffs contended that, had the airplane been equipped with an injection-type fuel system, the accident would have been averted.

An in-depth examination of the *Wilson* decision reveals a confluence of the no-duty factors that have been presented as relevant to a directed verdict decision. The presence of these factors accounts for the directed verdict in *Wilson* even though there appears to have been sufficient evidence to have given the design defect issue to the jury.²⁵⁶

Plaintiffs' suggestion that a fuel injection system be installed in the aircraft required highly polycentric decisionmaking on the part of the court. The impact of the alternative design upon the "airplane's cost, economy of operation, maintenance requirements, over-all performance, or safety in respects other than susceptibility to icing"²⁵⁷ would have to be determined in order to evaluate the alternative system fairly. The court was concerned that the evidence on these issues raised real questions as to the clarity of proof on the design defect issue.²⁵⁸ The court noted that eighty to ninety percent of all small airplanes were manufactured with a carbureted engine,²⁵⁹ thereby indicating a reluctance to interfere with an apparently popular product.

There was considerable discussion in *Wilson* about the role of legislative standards.²⁶⁰ The Federal Aviation Administration (FAA) had specifically approved the design of the carburetor engine and had issued the airplane in question a certificate of crashworthiness.²⁶¹ FAA approval had continued even though the FAA was aware of the icing problems inherent in the design. The court stated "it is proper to take into consideration, in determining whether plaintiffs have produced sufficient evidence of defect to go to the jury, the fact that the regulatory agency has approved the very design of which they complain after considering the dangers involved."²⁶²

Wilson supports the multifactor thesis in full measure. The court made clear its belief that compliance with administrative safety stand-

²⁵⁶ There appears to have been sufficient evidence on the issue of the unreasonableness of the carbureted engine. The court noted that carbureted airplane engines are characteristically subject to icing that can cause engine failure and that fuel-injected engines are not subject to such icing. There was also evidence that fuel-injected engines of appropriate horsepower were available. Experts testified that FAA approval probably could have been obtained for such airplanes. See *Wilson v. Piper Aircraft Corp.*, 282 Or. at 70, 577 P.2d at 1327.

²⁵⁷ *Id.* at 70, 577 P.2d at 1327.

²⁵⁸ See *id.*

²⁵⁹ *Id.*

²⁶⁰ *Id.* at 64-65, 70-71, 577 P.2d at 1324-25, 1327-28.

²⁶¹ *Id.* at 64, 577 P.2d at 1324.

²⁶² *Id.* at 70-71, 577 P.2d at 1328.

ards should be one factor in a court's decision of whether there is sufficient risk-utility evidence to permit a case to go to the jury. The court was unwilling to allow a close-call, risk-utility case to proceed when the allegedly defective standard was set by a respected agency that had been aware of the very hazard at issue.

The concurring opinion of Judge Linde²⁸³ adds one additional perspective to the case. He notes that in judging the efficacy of governmental standards it is important to examine the process by which the agency reached its conclusions so that a court can be assured that the agency did in fact address risk-utility considerations in a comprehensive fashion.²⁸⁴ This observation relates to the "process" aspect of the duty analysis discussed earlier.²⁸⁵ The court's seeming satisfaction with this aspect of the case strengthened its conclusion that a directed verdict was appropriate under the facts of *Wilson*.

D. Skyhook Corporation v. Jasper

*Skyhook Corp. v. Jasper*²⁸⁶ is another example of a directed verdict decision best explained by reference to a multifactor analysis. In *Skyhook*, plaintiff's decedent, as apprentice to a journeyman sign installer, used a 100-foot telescoping crane to position a heavy signpost. Clearly visible on the boom was a warning concerning the danger of allowing the equipment within ten feet of high voltage lines. Both the journeyman and the apprentice worker had read the warning, and both were aware of the presence of overhead high voltage wires at the work site. The crane was positioned according to the journeyman's estimates, but no measurements were taken to assure that no portion of the equipment could come within ten feet of the lines. When the lift cable somehow came into contact with the overhead power lines, plaintiff's decedent was electrocuted.²⁸⁷

Plaintiff alleged that the crane was defectively designed because it was not equipped with either an "insulated link" or a "proximity warning device." An insulated link isolates the lifting hook from the cable so that there is no electrical continuity between the crane and the load being lifted. No manufacturer installed this device as standard equipment at the time the crane in question was manufactured, but it was available for \$300 to \$400, depending on the size of the

²⁸³ Id. at 79-87, 577 P.2d at 1332-36.

²⁸⁴ Id. at 82-88, 577 P.2d at 1333-35.

²⁸⁵ See text accompanying notes 199-204 *supra*.

²⁸⁶ 90 N.M. 143, 560 P.2d 934 (1977).

²⁸⁷ Id. at 145, 560 P.2d at 936.

link. A proximity warning device sets off an alarm if the crane is positioned at the minimum distance desired from the power line. At the time of sale, this item was not sold by any crane manufacturer as either standard or optional equipment. At the time of the accident, the cost of such a device was \$700.

On appeal, the New Mexico Supreme Court affirmed the trial court's directed verdict for the defendant. In doing so the court found as a matter of law that the seller's failure to include an optional safety device did not render the crane defective and emphasized that the product was not unreasonably dangerous for the "ordinary consumer or user of such a rig when used in the ordinary ways and for the ordinary purposes for which such a rig is used."²⁶⁸

It is possible to interpret *Skyhook* as nothing more than a modern case reaffirming the patent danger rule.²⁶⁹ Such a reading, misconstrues in my opinion, the New Mexico court's position. Although the court noted that the two operators of the rig were aware of the overhead wires and had accounted for them in positioning the rig, it made no direct reference to the patent danger doctrine nor to the leading cases that have become synonymous with it. If the court was not applying the single factor patent danger rule, why then did it direct a verdict rather than let the case go to the jury to determine whether or not the product was unreasonably dangerous?

The court's decision was based on far more than the obviousness of the danger. Several factors that have been suggested as central to the multifactor analysis were present in *Skyhook*. First, it is important to note that with regard to the patent danger rule itself, the facts of *Skyhook* implicated all of the policies supporting the rule in its traditional form.²⁷⁰ The obviousness of the danger and the warning were of such magnitude that they drastically reduced the probability of harm. Indeed the court made note of the fact that the crane in question had been used by the employer for five years without incident.²⁷¹ The assumption of risk issue was present in *Skyhook* as well. The plaintiff's decedent and his coworker had both been specifically warned about the overhead wires and had supposedly positioned the crane to allow for sufficient clearance. A court might be reluctant to submit this kind of assumption of risk question to the vagaries of the jury. Finally, the class of workers involved in this accident, crane rig operators, are not

²⁶⁸ Id. at 147, 560 P.2d at 936.

²⁶⁹ See W. Keeton, D. Owen & J. Montgomery, *Products Liability and Safety Cases and Materials* 405 (1980); Darling, *The Patent Danger Rule*, supra note 172, at 605 n.168.

²⁷⁰ See text accompanying notes 180, 183-91 supra.

²⁷¹ See 90 N.M. 143, 145, 147, 560 P.2d 934, 936 (1977).

a group with whom the law should deal in an unduly paternalistic manner. They are, in general, highly paid and well-disciplined specialists who take care of themselves. For the courts to mandate safety rather than honesty in product design for such a sophisticated group seems questionable.

In addition to its being aware of the obvious danger element, the court took note of the high cost of alternative safety features. This is not a case of a "cotter-pin" costing a penny or an inexpensive safety screen;²⁷² the alternative safety devices suggested in *Skyhook* were expensive, ranging in price between \$300 and \$700. Their substitution would have an impact on other cost and safety decisions regarding other parts of the product. This would create polycentricity problems.

Finally, there is a clear shifting duty issue in *Skyhook*. Decisions about the purchase of safety devices can best be made by a purchaser who knows whether the crane is likely to be used in the vicinity of high voltage wires. It is highly possible that an employer will be better situated than the manufacturer to make this sort of safety device decision. Moreover, in addition to the employer's greater capacity to make the ultimate decision, an important shifting duty question exists in regard to the employees themselves. As previously noted, the employees in this case were crane rig operators, who may have independent notions of which safety devices are useful and which are more trouble than they are worth. It is not startling for a court to take the position that even if a marginal increase in the safety of the crane were possible, responsibility for that decision should be shifted from the judiciary to a knowledgeable and well-organized craft. The custom of crane rig operators thus becomes part of the duty analysis. Ultimately, they may have practical control of which safety devices are actually used on the job site.

E. Dawson v. Chrysler Corporation—A Case in Search of a Duty Analysis

In *Dawson v. Chrysler Corp.*,²⁷³ the Third Circuit affirmed a several million dollar jury verdict for the plaintiff in a design defect case. The plaintiff contended that Chrysler's failure to design an adequately crashworthy automobile caused him to suffer enhanced injuries in a crash. Although the appeals court affirmed the lower court verdict, it expressed frustration that it was powerless to do

²⁷² See *Patten v. Logemann Bros. Co.*, 263 Md. 364, 283 A.2d 567 (1971) (patent danger inherent in operation of printing press); *Micallef v. Miehle Co.*, 39 N.Y.2d 376, 386, 348 N.E.2d 571, 578, 384 N.Y.S.2d 115, 121 (1976) (same).

²⁷³ 630 F.2d 950 (3d Cir. 1980), cert. denied, 450 U.S. 959 (1981).

otherwise. A multifactor duty analysis would have provided the court with the analytical means to decide otherwise.²⁷⁴

Plaintiff was seriously injured when he lost control of his Dodge Monaco on a rainy highway. The car ran off the highway, over a curb, through a small sign, and finally crashed into an unyielding steel pole fifteen inches in diameter. Due to the force of the impact, the car was literally wrapped around the pole, and the plaintiff sustained injuries that left him quadriplegic.²⁷⁵

Plaintiff alleged that the design of the Monaco was defective because "it did not have a full, continuous steel frame extending through the door panels, and a crossmember running through the floor board between the posts located between the front and rear doors of the vehicle."²⁷⁶ Experts testified that, had such a design been incorporated into the car, it would have deflected the car off the pole, allowing only minimal penetration into the passenger space and greatly minimizing Dawson's injuries.²⁷⁷

Chrysler contended that the Monaco was not defective for the following reasons: (1) the design complied with all federal vehicle safety standards; (2) deformation of the body of the vehicle is desirable in most crashes because it absorbs the impact of the crash and decreases the rate of deceleration on the occupants of the vehicle. Thus, for most types of accidents, the actual design was safer than the suggested alternative design; (3) the suggested alternative design would have added an estimated 200-250 pounds to the weight of the vehicle; and (4) the suggested alternative design would have added \$300 to the cost of the vehicle.²⁷⁸ In addition, Chrysler contended on appeal that the plaintiff had produced insufficient evidence in support of the claims that his injuries were caused by the Monaco's design,²⁷⁹ that the proposed alternative design was safer,²⁸⁰ or that his injuries were enhanced beyond what they would have been had the suggested alternative design been substituted.²⁸¹

²⁷⁴ The court in *Dawson* was bound under the rule of *Erie R.R. v. Tompkins*, 304 U.S. 64 (1938), to apply state law and in fact purported to apply the rule of *Suter v. San Angelo Foundry & Mach. Co.*, 81 N.J. 150, 406 A.2d 140 (1979). The New Jersey Supreme Court in *Suter* advocated a highly visible duty approach to tort actions. *Id.* at 172, 406 A.2d at 151. The *Dawson* court actually only paid lip service to the duty analysis, but proceeded to examine the issue of unreasonable danger at a considerable length. *Id.*; 630 F.2d at 956-57. There is no reason to believe that the analysis set forth in this Article could not fit the strictures of New Jersey "duty" law as articulated in *Suter*.

²⁷⁵ 630 F.2d at 953-54.

²⁷⁶ *Id.* at 954.

²⁷⁷ *Id.*

²⁷⁸ *Id.*

²⁷⁹ *Id.* at 955.

²⁸⁰ *Id.* at 957.

²⁸¹ *Id.* at 959.

The court painstakingly reviewed the evidence on the issues of risk-utility and causation and found it sufficient to support the jury verdict, at the same time commenting on its limited role as an appellate court reviewing a jury finding. The record was not "critically deficient of [the] minimum quantum of evidence from which a jury might reasonably afford relief," and thus required affirmance.²⁸² That did not stop the court from decrying a system that permits different juries in different jurisdictions from reaching inconsistent conclusions with regard to the standard of automobile safety. The court said:

The result of such arrangement is that while the jury found Chrysler liable for not producing a rigid enough vehicular frame, a factfinder in another case might well hold the manufacturer liable for producing a frame that is too rigid. Yet, as pointed out at trial, in certain types of accidents—head-on collisions—it is desirable to have a car designed to collapse upon impact because the deformation would absorb much of the shock of the collision, and divert the force of deceleration away from the vehicle's passengers. In effect, this permits individual juries applying varying laws in different jurisdictions to set nationwide automobile safety standards and to impose on automobile manufacturers conflicting requirements. It would be difficult for members of the industry to alter their design and production behavior in response to jury verdicts in such cases, because their response might well be at variance with what some other jury decides is a defective design. Under these circumstances, the law imposes on the industry the responsibility of insuring vast numbers of persons involved in automobile accidents.²⁸³

The *Dawson* courts could have profited from the use of a multifactor duty analysis in two ways. First, by identifying the duty considerations, the trial court would have been able to free itself from the chains of fact-sensitive risk-utility analysis and, instead, would have been able to focus on policy in articulating its lawmaking role. Second, a multifactor duty analysis would require the court to relate each policy concern to the other policy concerns and to make a directed verdict judgment based on the totality of the factors involved in the case. The court is not free under this approach to give the issues separate examination to determine whether there is sufficient evidence on a given issue to support a *prima facie* case. A court must be cognizant that it is dealing with numerous issues, each of which has implications for important policies in the design defect area. When

²⁸² *Id.*

²⁸³ *Id.* at 962.

many of these issues appear in combination, the court must decide whether it is just to permit the action to go forward. Utilizing this approach, I believe it can be demonstrated that *Dawson* was wrongly decided.

The design change suggested by the plaintiff would have necessitated highly polycentric decisionmaking: it would have required a major redesign of the automobile body and would have seriously affected its style, weight, economy, and cost. The court noted that the decision to add 200 to 250 pounds of weight to an automobile at a time when fuel economy was a major national issue was not to be made lightly.²⁸⁴ *Dawson* further illustrates the very serious tension between the plaintiff's ability to pinpoint the desired design change that would have prevented his particular injuries and the defendant's difficulty in persuading a jury that in collisions other than the one under litigation the design actually used would frequently be superior. As noted earlier,²⁸⁵ in this type of case the quality of proof required on the superiority of an alternative design must be considered a significant matter of policy.

The scope of consumer choice in the automobile market constitutes an important policy factor in negating liability. The wide array of choice and prices available make the market a realistic substitute for a litigation system unable to guarantee uniformity and fairness in its results. The reluctance of a court to mandate a safety feature that would increase the cost per auto by \$300 is also understandable. This would entail a major invasion of the price structure of this particular model. A court should easily find that this factor alone places the case in a suspect category.²⁸⁶

To all of the above factors must now be added a very questionable causation issue. Perhaps there was sufficient expert testimony in *Dawson* to prove causation,²⁸⁷ but one need not be especially astute to

²⁸⁴ In expressing concern that the case-by-case approach to automobile safety had an impact on other "national social and economic goals," the court said:

As we have become more dependent on foreign sources of energy, and as the price of the energy has increased, the attention of the federal government has been drawn to a search to find alternative supplies and the means of conserving energy. More recently, the domestic automobile industry has been struggling to compete with foreign manufacturers which have stressed smaller, more fuel-efficient cars. Yet, during this same period, Congress has permitted a system of regulation by ad hoc adjudications under which a jury can hold an automobile manufacturer culpable for not producing a car that is considerably heavier, and likely to have less fuel efficiency.

Id. at 962-63.

²⁸⁵ See text accompanying notes 112-21 *supra*.

²⁸⁶ See text accompanying note 25 *supra*.

²⁸⁷ See 630 F.2d 950, 960.

recognize that the level of expertise in this class of cases tends to be little more than educated guesswork.²⁸⁸ For the plaintiff to prevail, a court must submit a polycentric, close-call case with grave social implications to the jury for its causation "guess." When the plaintiff won on a defective design theory, despite the fact that the 1974 Monaco met federal standards of crashworthiness set by an agency with a reputation for considerable expertise,²⁸⁹ it is not difficult to conclude that the *Dawson* court should have stepped in and said that the verdict could not be justified.

CONCLUSION

The time has come for courts to exercise their lawmaking function in tort cases.²⁹⁰ Design defect litigation presents the courts with policy questions that deserve serious attention. The pronouncements of the courts in this area speak to the manufacturing community at large, which must attempt to divine what awaits it at the end of the litigation line. This Article urges the courts to speak with greater clarity in addressing these concerns.

This paper will be read as highly defense oriented; that is inevitable. I would caution potential critics to be deliberate in their judgment, for I believe that unless rational limitations are grafted onto the judge-made law of product liability, irrational limitations will come in their stead. The legislative effort to date has been not only reactionary but illogical as well.²⁹¹ The problem cannot be passed off as one created by politically powerful lobbies who have imposed their views on legislative bodies; it goes much deeper. The legislative effort will remain ineffectual and at times irrational because the law of torts cannot be effectively legislated. There are too many nuances that require the touch of a common law judge. But to make judging effective, the judiciary must be provided adequate analytical tools with which to resolve these newfound problems. This Article has suggested a set of guidelines for design defect litigation. It will have served its purpose if it opens inquiry into the art of creative judging.

²⁸⁸ See Hoenig & Goetz, *Crashworthy Automobiles*, *supra* note 3, at 78-80.

²⁸⁹ See 640 F.2d 950, 954, 957.

²⁹⁰ See Owen, *supra* note 191, at 50-59 (1982).

²⁹¹ See notes 16 & 210 *supra*.