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THE DUTY TO WARN IN PRODUCTS LIABILITY: CONTOURS AND CRITICISM

M. STUART MADDEN*

I. INTRODUCTION

Although a product is unerringly designed, manufactured and assembled, injury or damage occasioned by its intended or reasonably foreseeable use may subject the seller to liability. Such liability may be found if the product has a potential for injury that is not readily apparent to the user and carries no warnings of the risk or, where appropriate, instructions as to the efficacious use of the product without harm.¹ The seller's obligation to warn of product hazards and to give instructions on how such hazards may be avoided is a fairly recent development in the law of tort and sales.²

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¹ *Conti v. Ford Motor Co.*, 743 F.2d 195 (3d Cir. 1984), *cert. denied*, 105 S. Ct. 1396 (1985) (even where properly designed, a product may be in an unreasonably dangerous condition if the manufacturer fails to warn of latent dangers in the use of or operation of the product); *Ragsdale Bros., Inc. v. Magro*, 693 S.W.2d 530 (Tex. Civ. App. 1985) (the liability of the seller can extend to nondefective products released into commerce without adequate warnings of dangerous propensities or adequate instructions for safe use). See *Johnson v. Standard Brands Paint Co.*, 274 Cal. App. 2d 331, 79 Cal. Rptr. 194 (1969); *Alfieri v. Cabot Corp.*, 17 A.D.2d 455, 235 N.Y.S.2d 753 (1962), *aff'd*, 13 N.Y.2d 1027, 245 N.Y.S.2d 600, 195 N.E.2d 310 (1963); *Biller v. Allis Chalmers Mfg. Co.*, 34 Ill. App. 2d 47, 180 N.E.2d 46 (1962).

² It was only at the turn of the century that in buyer-seller transactions significant departure from the general rule of caveat emptor was recognized. Prior to that time, the dominant rule of law that required the purchaser "to take care of his own interests" is described in reverential tones by the Court in *Barnard v. Kellogg*, 77 U.S. (10 Wall) 383, 388-89 (1870):

No principle of the common law has been better established, or more often affirmed, both in this country and in England, than that in sales of personal property, in the absence of express warranty, where the buyer has an opportunity to inspect the commodity, and the seller is guilty of no fraud, and is neither the manufacturer nor grower of the article he sells, the maxim of *caveat emptor* applies. Such a rule, requiring the purchaser to take care of his own interests, has been found best adapted to the wants of trade in the business transactions of life. And there is no hardship in it, because if the purchaser distrusts his judgment he can require of the seller a warranty that the quality or condition of the goods he desires to buy corresponds with the sample exhibited.

A seller's responsibility for providing adequate warnings may be found under principles of strict liability, negligence, and warranty. In the aggregate, these duties are well described as a seller's informational obligation. Under strict liability, a seller's failure to warn may result in liability if the warning deficiency renders the product "unreasonably dangerous," which is more dangerous than would be expected by the ordinary consumer.³ Under negligence principles, a supplier may be liable for injury or damage incident to a failure to warn adequately when it knows or should know that the product is likely to pose an unreasonable risk without warnings, but fails to exercise reasonable care to inform users of that risk.⁴ In warranty, an inadequate warning may also render a product unsuited for the ordinary purpose for which it is used, constituting a breach of the implied warranty of merchantability.⁵

The duty to warn is perhaps the most widely-employed claim in modern products liability litigation. This development is aided by the recognition that nearly any product capable of causing injury can or could be rendered less hazardous by conveying effective warnings or instructions to the user or to one administering the use of the product. Nevertheless, when a product poses a substantial danger that can be eliminated from its design at a modest cost, even accompanying the product with a warning that is arguably sufficient should not preclude a finding of manufacturer liability.⁶ Furthermore, when a product has no conventional utility or only a frivolous utility, but poses a significant risk of personal injury, the seller probably should be liable in damages for any harm caused by its introduction into the market, without regard to the warnings that might accompany it.⁷ Thus,

³ *Borel v. Fibreboard Paper Prods. Corp.*, 493 F.2d 1076 (5th Cir. 1973), *cert. denied*, 419 U.S. 869 (1974) (interpreting RESTATEMENT (SECOND) OF TORTS § 402A comment i (1965)).

⁴ *Gracyalny v. Westinghouse Elec. Corp.*, 723 F.2d 1311, 1317 n.11 (7th Cir. 1983) (interpreting RESTATEMENT (SECOND) OF TORTS § 388 (1965)).

⁵ *E.g.*, *Ellis v. International Playtex, Inc.*, 745 F.2d 292 (4th Cir. 1984) (verdict of plaintiff on breach of implied warranty of merchantability count alleging failure to warn of tampon's risk of causing toxic shock syndrome); *Streich v. Hilton-Davis*, 692 P.2d 440 (Mont. 1984) (manufacturer's failure to warn of adverse side effects of potato sprout suppressant could violate implied warranty of merchantability).

⁶ *See Sturm, Ruger & Co. v. Day*, 594 P.2d 38, 44 (Alaska 1979), *modified*, 615 P.2d 621, *on rehearing*, 627 P.2d 204 (1980), *cert. denied*, 454 U.S. 894 (1981), *overruled on other grounds*, *Dura Corp. v. Harned*, 703 P.2d 396 (Alaska 1985). In a personal injury action involving a handgun, the court comments: "Where the most stringent warning does not protect the public, the defect itself must be eliminated if the manufacturer is to avoid liability." *Id.* at 44 (citations omitted); *Uloth v. City Tank Corp.*, 376 Mass. 874, 384 N.E.2d 1188 (1978) "If a slight change in design would prevent serious, perhaps fatal, injury, the designer may not avoid liability by simply warning of the possible injury." *Id.* at 1192. The rule in strict liability permitting a manufacturer to avoid liability for a product's hazards by giving warnings or directions as to its use applies only if the product is safe for use if the warning is followed. *D'Hedouville v. Pioneer Hotel Co.*, 552 F.2d 886, 893 (9th Cir. 1977).

⁷ *Cf. Frandix Alonso Jr.*, (Mylar Star Kites), 1 Consumer Prod. Safety Rep. (CCH) ¶75,109 (1976) (initial decision); *Proposed Order set aside on other grounds*, [1977-79 Transfer Binder] Con-

if there is shown a manufacturer's duty to redesign, that duty should not be discharged merely by providing warnings concerning the misdesign.

To be adequate under any theory of liability, a necessary warning, by its size, location and intensity of language or symbol, must be calculated to impress upon a reasonably prudent user of the product the nature and extent of the hazard involved.⁸ The language used must be direct⁹ and should, where applicable, describe methods of safe use.¹⁰ An adequate warning should also be timely and should advise of significant hazards from reasonably foreseeable misuse of the product¹¹ and, where appropriate, antidotes for misuse.¹²

sumer Prod. Safety Dec. (CCH) ¶75,155 (1977). In this action the Consumer Product Safety Commission weighed the allegation that long-tailed aluminized kites created a risk of electrocution if they came into contact with high voltage lines. The kites were sold with the warning: "Never fly your dragon, or any other kite, near power lines or during wet weather." The Administrative Law Judge rejected as insufficient the manufacturer's offer to add an additional warning label to the kites, and to distribute warning literature, observing: "[t]here is no guarantee that adequate instructions against flying kites near power lines will invariably be obeyed, even by adults." Initial Decision, *Id.* at 60,075. Affirming the Administrative Law Judge's findings of fact concerning the existence of a hazard, the Commission concluded that the purely aesthetic value of the kite's aluminized surface, with no compensating benefit to the kite's performance sufficient to justify the risk, required affirmance of the finding of a substantial product hazard. 2 Consumer Prod. Safety Dec. (CCH) ¶75,155 at 60,290 (1977).

⁸ *Hubbard-Hall Chem. Co. v. Silverman*, 340 F.2d 402 (1st Cir. 1965), a case involving two Spanish-speaking farm workers who perished from exposure to insecticide dust. In affirming jury verdicts for the survivors, the appellate court commented that, notwithstanding the fact that cautionary language on the insecticide conformed with Department of Agriculture regulations, a jury might reasonably find that a product to be used by persons who did not read English should convey a more effective warning by skull and bones or other comparable symbols or hieroglyphics. *Id.* at 405.

⁹ *E.g.*, *Dougherty v. Hooker Chem. Corp.*, 540 F.2d 174 (3d Cir. 1976), finding that a warning that exposure to the fumes of a degreasing compound could cause drowsiness or nausea was inadequate in light of fact that extended exposure could cause death.

¹⁰ *Edwards v. California Chem. Co.*, 245 So. 2d 259 (Fla. Dist. Ct. App.), *cert. denied*, 247 So. 2d 440 (1971) (recommendation of proper procedures for using a product, such as wearing of gloves, or respirators, is part of adequate warning); *Murray v. Wilson Oak Flooring Co.*, 475 F.2d 129 (7th Cir. 1973) (information for safe use inadequate for vagueness).

¹¹ *Hill v. Husky Briquetting, Inc.*, 54 Mich. App. 17, 220 N.W.2d 137, *aff'd*, 393 Mich. 136, 223 N.W.2d 290 (1974) (indoor use of charcoal briquettes); *Bean v. Ross Mfg. Co.*, 344 S.W.2d 18 (Mo. 1961) (potential for myriad misuses of drain cleaner).

¹² See *Rumsay v. Freeway Manor Minimax*, 423 S.W.2d 387 (Tex. Civ. App. 1968) (suggesting a duty to advise user of insecticide that no antidote exists for consumption). The policies underlying the duty to warn in products liability require the conclusion that the emphasis is on prompt presentation, rather than the reluctant withholding of safety-related information. "A duty to warn attaches, not when scientific certainty is established (concerning risk), but whenever a reasonable man would want to be informed of the risk in order to decide whether to expose himself to it." *Johns-Manville Sales Corp. v. Janssens*, 463 So. 2d 242, 251 (Fla. Dist. Ct. App. 1984), *review denied*, 467 So. 2d 999 (1985) (citations omitted). *Cf.* 16 C.F.R. § 1115.4(e) (1980), regulations under the substantial product hazard reporting provisions of Consumer Product Safety Act, § 15(b), 15 U.S.C. § 2064(b) (1976), which stress that firms should report promptly to the Commission product problems which may pose a substantial product hazard, even if there is some doubt as to whether a defect exists.

It is valuable at the outset to distinguish warnings from instructions. Warnings call attention to a danger, while instructions are intended to describe procedures for effective and reasonably safe product use. Thus, a product's warning may be adequate, while its instructions are deficient and actionable; or obversely, instructions may not alert the consumer of the danger to be avoided, or a warning may highlight the danger but not state how the consumer may avoid it.¹³ This article will frequently describe warnings and instructions collectively as warnings, while treating the two separately when warranted by individual authority.

The theory of liability for failure to warn that is grounded in negligence focuses, at least initially, upon the conduct of the supplier and asks: "Was it

See Madden, *Consumer Product Safety Act Section 15 and Substantial Product Hazards*, 30 CATH. U.L. REV. 195, 203 n.29 (1981).

¹³ See *Boyl v. California Chem. Co.*, 221 F. Supp. 669 (D. Or. 1963) (manufacturer liable both for failing to warn of the long-lasting contamination potential of sodium arsenate used in garden weed killer, and for inadequate instructions for safe disposal of the rinse residue); see also 2 F. HARPER & F. JAMES, *THE LAW OF TORTS* 1549 (4th printing 1974) ("Directions for use may not discharge the maker's duty (to warn) if failure to follow directions will involve danger not apparent to the user who has not been warned"). The court in *McCully v. Fuller Brush Co.*, 68 Wash. 2d 675, 678, 415 P.2d 7, 10 (1966) reiterates: "Directions and warnings are intended to serve different purposes. The former are designed to assure the *effective* use of a product; a warning, on the other hand, is intended to assure a *safe* use." See Dillard & Hart, *Product Liability: Directions for Use and the Duty to Warn*, 41 VA. L. REV. 145 (1955), in which the authors state: "If warnings and directions serve different purposes, *i.e.*, if warnings have to do with avoiding danger while directions have to do with promoting efficiency, the requirements of the former may not be discharged by giving the latter." *Id.* at 147. See also *McLaughlin v. Mine Safety Appliances Co.*, 11 N.Y.2d 62, 69, 226 N.Y.S.2d 407, 412, 181 N.E.2d 430, 434 (1962) ("the *instructions*, not particularly stressed, did not amount to a *warning of the risk at all*, and it is foreseeable that the small print instruction might never be read, and might be disregarded even if read").

Professors Schwartz and Driver suggest an alternative dichotomy that describes both warnings and instructions as warnings, characterizing the former as "admonitory" warnings and the latter as "instructional" warnings. They state:

There are different kinds of warnings designed to communicate different kinds of information. Two categories generally recognized in the law are admonitory warnings and instructional warnings. One also can distinguish between these two categories from a communication perspective. An admonitory warning is intended to point out to a user of a product a particular hazard associated with the product. Admonitory warnings are generally appropriate where the number or source of hazards is small, the hazard and the means of avoidance are easily recognized and understood, and the user need not encounter the hazard to use the product properly. An instructional warning provides the information necessary for safe, efficient and effective use of the product. An instructional warning is generally necessary when there are several hazards or several sources of a hazard inherent in the use of the product, when the dangers may not be easily recognized, and when specific procedures that may involve several steps are required to avoid the hazard. An instructional warning, moreover, usually contemplates that the user will encounter the hazards during normal use of the product.

Schwartz & Driver, *Warnings in the Workplace: The Need for a Synthesis of Law & Communication Theory*, 52 U. CIN. L. REV. 38, 52 (1983) (citations omitted).

reasonable for this supplier to release this product into the market with these warnings or lack of warnings?" Strict liability, which imposes liability without fault for the sale of an unreasonably dangerous product, and warranty, under which breach can be found without regard to the conduct of the seller, constitute analytically distinct theories. In the context of defining the supplier's duty to warn, however, the jurisprudence of negligence and strict liability can be seen to have converged. The analysis of the duty to warn under each principle proceeds quite similarly in evaluating the nature of the hazard and the type and efficacy of the supplier's warning.¹⁴ The conventional evaluation of an asserted duty to warn under these two torts principles has been ably synthesized by Professor Kidwell. Relative to the facts of a given situation, this evaluation embraces the nature of the product and the harm risked, the information available to the seller or supplier, the user's information, the position of the seller or supplier in the chain of distribution, the cost or other burden of adding efficacious warnings or instructions, the probability that harm will result from the absence of warnings or instructions, and the causal relation between the absence or inadequacy of warnings or instructions and the harm suffered.¹⁵

The comments to Restatement (Second) of Torts section 402A suggest that a product will be considered to be defective and unreasonably dangerous to the user or consumer when it is "dangerous to the extent beyond that which would be contemplated by the ordinary consumer who purchases it."¹⁶ This gives rise to the so-called "consumer expectation" test of strict liability. Rather than confine evaluation of the meaning of unreasonably dangerous to the monochromatic consideration of the consumer expectation test, growing authority suggests that even under principles of strict liability, a product should be considered unreasonably dangerous if the danger arises from mismanufacture, misdesign, or misinformation¹⁷ by reference to the seller's actual or constructive knowledge. A seller would incur liability for failure to warn where he "would be negligent if he sold the product knowing of the risk involved."¹⁸ The argument for the symbiosis between a consumer view standard for unreasonable danger and a manufacturer view standard is made by one court that urges that the consumer's viewpoint and that of the manufacturer are in reality "two sides of the same standard."¹⁹

¹⁴ Cf. *Gracyalny*, 723 F.2d at 1317 n.11.

¹⁵ See Kidwell, *The Duty to Warn: A Description of the Model of Decision*, 53 TEX. L. REV. 1375, 1390-1408 (1975); Schwartz, *The Post-Sale Duty to Warn: Two Unfortunate Forks in the Road to a Reasonable Doctrine*, 58 N.Y.U.L. REV. 892 n.2 (1983).

¹⁶ RESTATEMENT (SECOND) OF TORTS § 402A comment i (1979).

¹⁷ See Wade, *On the Nature of Strict Tort Liability For Products*, 44 MISS. L.J. 825, 830 (1973) (including failure to warn as a design defect).

¹⁸ *Phillips v. Kimwood Mach. Co.*, 269 Or. 485, 525 P.2d 1033 (1974).

¹⁹ *Welch v. Outboard Marine Corp.*, 481 F.2d 252, 254 (5th Cir. 1973), in which the court elaborates:

The opinion of the Oregon Supreme Court in *Phillips v. Kimwood Machine Co.*²⁰ reiterates that application of the reasonable manufacturer standard should yield the same result as application of the reasonable consumer standard for unreasonable danger. This is because "a manufacturer who would be negligent in marketing a given product, considering its risks, would necessarily be marketing a product which fell below the reasonable expectations of consumers who purchase it."²¹ Thus perceived, a duty to warn arises when the manufacturer should reasonably see that there is an imbalance between the germane, safety-related information known to the manufacturer which is pertinent to the use or operation of the product and what information of a like safety-related nature is known to the average consumer. The most recent decisions reiterate that the gravamen of the informational obligation of the duty to warn in products liability is the correction of buyer-seller imbalances in pertinent safety-related information.²² For the single indicator of buyer versus seller safety-related information, this creates a virtual analytical primacy among the ten factors proposed by Professor Kidwell in 1975.²³

The obligation of parity in buyer and seller safety-related information is seen correctly as a corollary to the *Phillips* court's mirror imaging of the reasonable

We see no necessary inconsistency between a seller-oriented standard and user-oriented standard when, as here, each turns on foreseeable risks. They are two sides of the same standard. A product is defective and unreasonably dangerous when a reasonable seller would not sell the product if he knew of the risks involved or if the risks are greater than a reasonable buyer would expect.

Id.

²⁰ *Phillips*, 269 Or. 485, 525 P.2d 1033.

²¹ *Id.* at 493, 525 P.2d at 1037. The court adds: "The foreseeable uses to which a product could be put would be the same in the minds of both the seller and the buyer unless one of the parties was not acting reasonably." *Id.*

²² A harmonious proposition was expressed by the court in *Ragsdale Bros., Inc.*, 693 S.W.2d 530, in which the court observes correctly that "[a] manufacturer's duty to warn of risks inherent in its product is based on the sound policy that the user is entitled to information necessary to make an intelligent choice as to whether the product's utility or benefits justify exposing himself to a risk of harm." *Id.* at 536; see also *Thursby v. Reynolds Metals Co.*, 466 So. 2d 245 (Fla. Dist. Ct. App. 1984), *appeal denied*, 476 So. 2d 676 (1985). "[T]here is a duty to warn when the hazards associated with the use of the product are . . . not as well known to the user as to the manufacturer." *Id.* at 251; *Zehring v. Wick Argri-Buildings* 590 F. Supp. 138 (D. Ohio 1984) (A supplier is under a duty to exercise ordinary care to give the user information which it has and which it should realize would be necessary to make the use of a product safe); *Cleveland Bd. of Ed. v. Armstrong World Indus.*, 476 N.E.2d 397 (Ohio Comm. Pl. 1985) (Each seller in the distribution chain is "imposed with the duty of communicating its superior knowledge to those who, because of their limited knowledge and information, would otherwise be unable to protect themselves while using the product." *Id.* at 405); *Mills v. United States*, 764 F.2d 373 (5th Cir. 1985), *cert. denied*, 106 S. Ct. 808 (1986) (the manufacturer has a duty to warn of any dangers that are inherent in a product's use and which would not be within the knowledge of the ordinary user).

²³ See Kidwell, *supra* note 15.

expectations of the consumer with the reasonable expectations of the seller.²⁴ The concept of analyzing the seller's duties and expectations *in pari materia* with the reasonable expectations of the buyer has descended lineally from the earliest of the formulations of modern products liability law. Analysis of reasonable reciprocal expectations was presaged in *MacPherson v. Buick Motor Co.*,²⁵ in which the wheel on the vehicle sold by Buick was made of defective wood that crumbled into fragments while in use, injuring the buyer. A principal dereliction to which the *MacPherson* court adverts is that the seller knew or should have known that the vehicle, or more specifically its wheels, would be used by a secondary purchaser who would neither know of the existence of any defect nor be likely to inspect for any such hazard.²⁶

Thus, the focus of the *MacPherson* decision is upon the product which is capable of harm if defectively made, and is sold under conditions in which the eventual user will use the product without further inspection in "[r]eliance on the skill of the manufacturer."²⁷ The implicit holding of *MacPherson* is that the reasonableness of the buyer's conduct in purchasing such a product and putting it to use without further testing is the purchaser's rational supposition that the manufacturer would not "put the finished product on the market without subjecting the component parts to ordinary and simple tests."²⁸ Contemporary duty to warn analysis might be superimposed upon *MacPherson*. It would provide that if a purchaser is wholly without information as to the testing and quality control measures employed by a manufacturer and, perhaps as a consequence of this ignorance, reposes total confidence in the conduct of the seller, the seller's knowledge that it does not subject important components of its product to testing constitutes pertinent safety-related information known to the seller and not to the buyer. This would give rise to a duty to warn.

In *Baxter v. Ford Motor Co.*,²⁹ the plaintiff was injured by the shattering of an automobile front windshield which the manufacturer had advertised as elim-

²⁴ *Phillips*, 269 Or. at 495, 525 P.2d at 1036-37.

²⁵ *MacPherson v. Buick Motor Co.*, 217 N.Y. 382 (1916).

²⁶ The court stated:

If the nature of a thing is such that it is reasonably certain to place life and limb in peril when negligently made, it is then a thing of danger. Its nature gives warning of the consequences to be expected. If to the element of danger there is added knowledge that the thing will be used by persons other than the purchaser, and used without new tests, then, irrespective of contract, the manufacturer of this thing of danger is under a duty to make it carefully.

Id. at 389.

²⁷ *Id.* at 395, distinguishing an action brought by a servant against a master, and describing the master's reliance on the manufacturer, the master in that action being in an informational position comparable to that of Mr. MacPherson.

²⁸ *Id.* at 394 (citation omitted).

²⁹ *Baxter v. Ford Motor Co.*, 168 Wash. 456, 12 P.2d 409 (1932).

inating the danger of flying glass. This case is remembered primarily as a mis-information or misrepresentation case, insofar as it bolstered the then novel theory that an injured party could maintain a cause of action against a remote manufacturer for false representations concerning the product. For present purposes, however, it is interesting to note that the holding also undertook to correct an imbalance between the product-related information available to the consumer and that available to the manufacturer. That endeavor is evidenced by the court's repeated reference to the consumer's inability to discover the windshield's defect by usual and customary examination of the product. This left the consumer in a shroud of ignorance comparable, in the words of the court, "to that of the consumer of a wrongly labeled drug, who has bought the same from a retailer, and who has relied upon the manufacturer's representation that the label correctly set forth the contents of the container."³⁰ Perceived in this light, the decision in *Baxter* can be recognized for its secondary proposition that the consumer of a product with potential defects that cannot be readily identified by ordinary examination is entitled to expect that the product-related information imparted by the manufacturer, be it qualitative, hazard-related or a combination of the two, will reveal the information a reasonable consumer would expect as essential for the safe and efficacious use of the product.

The court's rebalancing of a then prevalent condition in the market for the purchase of new automobiles served to correct contract of adhesion practices employed until only recently by the major automobile manufacturers. These practices foreshortened buyers' satisfaction of reasonable expectations as to product information and remedies and, were, among other considerations, at the heart of the landmark decision of the New Jersey Supreme Court in *Henningsen v. Bloomfield Motors, Inc.*³¹ Regarding the effect of the commercial environment for such sales, described by the court as evidencing a "gross inequality of bargaining position,"³² the facts in *Henningsen* involved a standardized contract employed at that time by many manufacturers. This contract called for the buyer to relinquish any personal injury claim that might in the future be available against the manufacturer for a defect in the automobile in return for a limited parts replacement warranty.³³ Such a practice, during its time, operated as a blanket disincentive for manufacturers to be searching and forthcoming in making product-related information available to consumers. The defeat of such practices in 1960, forty-four years after *MacPherson* was decided, stands by itself as a benchmark of the dynamic immobility of early products liability law.

Justice Traynor, the most prominent early champion of strict products liability, invoked a similar theme in *Escola v. Coca-Cola Bottling Co.* He argued

³⁰ *Id.* at 461-62, 12 P.2d at 412.

³¹ *Henningsen v. Bloomfield Motors, Inc.*, 32 N.J. 358, 161 A.2d 69 (1960).

³² *Id.* at 391, 161 A.2d at 87.

³³ *Id.* at 385, 161 A.2d at 84.

that the monopoly on product-related information, including safety information, held by the manufacturer, required imposition of liability without fault for placing on the market a defective product that causes human injury.³⁴ Traynor identified modern means of mass production, marketing and promotion as responsible in part for the dulling of the ordinary consumer's awareness of qualitative and safety-related information that should be made available as a matter of commercial right.³⁵ One, though by no means the only, pernicious effect of this was the depressing impact of the modern commercial milieu, with its cacophony of product-related claims, on the consumer's competence to ask for or appreciate complete and pertinent quality and safety-related product information. The commercial environment described by Justice Traynor, it is seen, attacked the buyer's ability *ab initio* to identify reasonable expectations as to the product safety informational predicate.

The analysis of warnings in products liability has profited from significant critical review. One offering of Professor Keeton's³⁶ proposed an alternative and

³⁴ *Escola v. Coca-Cola Bottling Co.*, 24 Cal. 2d 453, 150 P.2d 436 (1944) (Traynor, J., concurring).

³⁵ As handicrafts have been replaced by mass production with its great markets and transportation facilities, the close relationship between the producer and consumer of a product has been altered. Manufacturing processes, frequently valuable secrets, are ordinarily either inaccessible to or beyond the ken of the general public. The consumer no longer has means or skill enough to investigate for himself the soundness of a product, even when it is not contained in a sealed package, and his erstwhile vigilance has been lulled by the steady efforts of manufacturers to build up confidence by advertising and marketing devices such as trade-marks. Consumers no longer approach products warily but accept them on faith, relying on the reputation of the manufacturer or the trade-mark. Manufacturers have sought to justify that faith by increasingly high standards of inspection and a readiness to make good on defective products by way of replacement and refunds. (See Bogert and Fink, *Business Practices Regarding Warranties in the Sale of Goods*, 25 Ill. L. Rev. 400.) The manufacturer's obligation to the consumer must keep pace with the changing relationship between them; it cannot be escaped because the marketing of a product has become so complicated as to require one or more intermediaries. Certainly there is greater reason to impose liability on the manufacturer than on the retailer who is but a conduit of a product that he is not himself able to test.

Id. at 467-68, 150 P.2d at 443-44 (citations omitted).

Indeed it is possible to perceive that the individual consumer's position in the commercial environment has come full circle with respect to the quantum, if not the quality, of product-related information available. The progression has its beginning in the era of relative powerlessness in which the predominant rule of law was caveat emptor; maturing to the more simple, and for that reason perhaps more fair, era of the "traditional contract . . . the result of free bargaining of parties . . . brought together by the play of the market, and who meet each other on a footing of approximate economic equality." *Henningsen*, 32 N.J. at 387, 161 A.2d at 86; and now again in an environment where the consumer may, with respect to available product information, enjoy an embarrassment of riches, but in reality live in almost abject ignorance as to the safety of the formulae of pharmaceuticals, the safety of home insulation or wiring, or the roadworthiness of vehicles.

³⁶ Keeton, *Products Liability—Inadequacy of Information*, 48 TEX. L. REV. 398 (1970).

explicit definition of an unreasonably dangerous condition that would include products that "at the time of sale . . . the ordinary man, knowing the risks and dangers actually involved in its use, would not have marketed . . . without supplying more information about the risks and dangers involved in its use and ways to avoid harm therefrom."³⁷ Professor Keeton therein also suggested a recovery-based analysis of both warning adequacy and certain defenses based upon user conduct. Concerning warning adequacy alone, he proposed the justification of recovery by any consumer-victim "if he was not *actually put on notice* of a risk or danger involved in the use of a product that *would be material to some users in making the choice whether* to accept the risk."³⁸ Emphasis on the choice-making mechanism of the consumer is, one may argue, as fully grounded in the jurisprudence of informed consent as it is in the products liability duty to warn.³⁹ Professor Keeton further proposes a reduction in stature of the knowledge of the user as an affirmative seller defense in warnings litigation.⁴⁰

Naturally the proponents of standards of products liability that can be interpreted as recovery-based have drawn criticism. One of the most prominent forms of criticism has been the perennial endeavor to pass a federal law of product liability. The criticism directed specifically at the growing role of the duty to warn in products liability would have it that promiscuous resort to this means of recovery has created a condition wherein corporate counsel entertaining a doubt as to whether or not to add a warning or enhance an existing one will today almost invariably resolve to provide more information to the consumer. A counterbalance to this trend is the recognition that in many situations the addition of warnings on many products is not practical.⁴¹ A distinct but related doctrine that similarly

³⁷ *Id.* at 404 (citations omitted).

³⁸ *Id.* at 411. Such analysis might be described by others as involving "a single value axis (i.e., maximum information to the user or consumer)," typified by the questions "How much warning is enough?" or "How much warning is too much?" as distinct from analysis pursuant to the question "How much product safety is enough?" involving arguably greater attention to a greater range of internally competing societal values. See Henderson, *Design Defect Litigation Revisited*, 61 CORNELL L. REV. 541, 546 (1976).

³⁹ See generally Twerski, Weinstein, Donaher & Piehler, *The Use and Abuse of Warnings in Products Liability—Design Defect Litigation Comes of Age*, 61 CORNELL L. REV. 495, 519 (1976).

⁴⁰ Keeton *supra* note 36, at 401. Keeton continues:

Even if economic efficiency can best be obtained by leaving the consumer and the producer free to bargain about legal liability for accident costs, fairness in the allocation of the costs of accidents when they do occur should be the primary concern of tort law. Every effort should be made to minimize the effect on wealth distribution of accident costs.

Id.

⁴¹ *Hethcoat v. Chevron Oil Co.* 364 So. 2d 1243 (Fla. Dist. Ct. App. 1978), *rev'd and remanded*, 380 So. 2d 1035 (1980), in which the court stated:

To hold that every part subject to repair at grave risk must have a posted warning would result in an impossible and even undesirable situation. One wonders, for instance,

recognizes the logical and common sense limitations on the warning duty holds that the manufacturer will not be required to provide the user with superfluous information or safety-related information already known to the user.⁴² Also to be considered is the "cry wolf" phenomenon, described by one influential commentator in these words: "If every possible danger in life were accompanied by warning, product users would quickly become inured to all warnings, and eventually would ignore them."⁴³

As will be examined in detail below, the negligence standard for a manufacturer's duty to warn derives in the main from Restatement (Second) of Torts section 388. This section focuses upon what the manufacturer knows or should know of the familiarity of the user or the user's employer with any hazardous propensities of a product. The comments to the strict liability provision of Restatement (Second) of Torts section 402A, on the other hand, state a test for determining whether a product is unreasonably dangerous, for informational or for any other reason, that turns upon whether the product is in a condition that presents a hazard in excess of that which would be contemplated by the ordinary consumer.⁴⁴ Analysis of the supplier's duty to warn conducted under merged negligence and strict liability principles has created a Janus-like standard that has contributed to problems for the courts in some actions. The problems are most obvious in those decisions interpreting the duty to warn where the purchaser or the purchaser's employees are professional users of like products. Dissonant authority has emerged as well in those decisions called upon to interpret the extent to which the manufacturer may reasonably rely upon the purchaser's supervisory personnel to adequately advise and instruct employees of the danger of certain

where the warning should be posted on a bicycle chain subject to severing the fingers of a repairman; the gas tank of an automobile subject to exploding while in the process of repair; the electric motor of all sorts of household devices (blenders, dishwashers, washing machines, air conditioners, etc.) subject to electrocuting a repairman if the current is not cut off.

Id. at 1244-45.

⁴² *McCaleb v. Mackey Paint Mfg. Co.*, 343 So. 2d 511 (Ala. 1977) holding that the manufacturer of paint thinner should not necessarily have included the product's flash point on the label where the purchasers' employees knew the substance would catch fire if hit by sparks of grinding wheel, and the requested cautionary information would not have supplied the information that users did not already have. See discussion of known or obvious risks, and assumption of risk, *infra* nn.119-53, nn.429-45.

⁴³ Schwartz & Driver, *supra* note 13, at 60. To the discussion Dean Prosser adds: "Those who argue for warning as the judicial solution to latent design defects labor under a naive belief that one can warn against all significant risks. Too much detail can be counterproductive. A warning to be effective must be read and understood." W. PROSSER & W. KEETON, *HANDBOOK ON THE LAW OF TORTS* 686 (5th ed. 1984). As Professor Twerski recognizes, "[m]aking the consumer account mentally for trivia or guard against risks that are not likely to occur imposes a very real societal cost." Twerski, Weinstein, Donaher & Piehler, *supra* note 39, at 514.

⁴⁴ RESTATEMENT (SECOND) OF TORTS § 402A comment i.

products.⁴⁵ As will be seen from the discussion to follow, it is in the professional user and the employer-purchaser jurisprudence that one still finds a high incidence of retrogressive opinions defeating the recovery of injured parties whose superiors may have been informed of a product's risk, but who were, themselves, never made aware of the danger.

In recent years there have arisen many conflicting observations and proposals as to the metes and bounds of the seller's informational obligation. Professor Keeton has proposed the elimination of the negligence standard, and with it, the task of assessing what scientific or engineering information was known or knowable at the time of initial manufacture and sale.⁴⁶ The discussion to follow shows, nonetheless, that the examination of the seller's duty to warn, even when brought under a theory of strict liability in tort, has become wed inextricably to a quasi-negligence based evaluation of the seller's conduct. This evaluation includes consideration of the seller's knowledge which would therefore be at issue even if the seller were stripped of the advantages of the negligence standard. Thus, concern about the burden of trying the issue of the supplier's actual or constructive knowledge is misplaced since such issues have become the conventional inquiry not only of negligence, but also in the strict liability causes of action for breach of the implied warranty of merchantability and of strict liability in tort.⁴⁷

Other authority suggests a type of parasitism between the products liability cause of action alleging a design defect and that claiming a failure to warn adequately. The suggestion made there is that the courts have quailed at the task of evaluating manufacturers' conscious design choices, the review of which, be-

⁴⁵ See generally Schwartz & Driver, *supra* note 13, at 41.

⁴⁶ If the conduct is unreasonably dangerous, then there should be strict liability without reference to what excuse defendant might give for being unaware of the danger. It should be a cost of doing business that in the course of doing that business an unreasonable risk was created. The task of identifying, for strict liability purposes, the risks of which a reasonable man could justifiably be unaware but that were scientifically knowable is an almost impossible one

My principal thesis is and has been that theories of negligence should be avoided altogether in the products liability area in order to simplify the law, and that if the sale of a product is made under circumstances that would subject someone to an unreasonable risk in fact, liability for harm resulting from those risks should follow.

Keeton, *supra* note 36, at 408-09.

⁴⁷ [T]he better view treats the failure to warn as establishing negligence, or breach of an implied warranty, or violation of one's duty under strict liability in tort. The critical conclusion of this section will be that no relevant differences appear to distinguish the three theories in the duty-to-warn context because recovery, under any theory requires the proof of identical facts, proof of injury, and proof that defendant knew or should have known of the risk of injury and did not warn plaintiff about it.

Kidwell, *supra* note 15, at 1377-78.

cause of its polycentrism, is both intricate and time consuming,⁴⁸ and incline instead to find any peril associated with a manufacturer's design either obvious or already adequately warned against.⁴⁹ Such an analysis, if correct, serves to intensify the need for a plaintiff to allege a failure to warn,⁵⁰ for in the absence of a failure-to-warn-count in the complaint the plaintiff alleging product-related injury would be playing against a stacked deck.⁵¹ Other analysis, grounded in economics, proposes the comprehensive assignment of liability for tort loss to the best cost avoider,⁵² which will almost invariably be the supplier, and usually the manufacturer.

In the main, the courts have declined the invitation of authors who exhort the departure from the practiced and familiar negligence analysis that dominates duty to warn jurisprudence.⁵³ From the multifaceted inquiry of the negligence standard, modern decisions have gravitated towards a more particularized approach, the fairly constant concern of which is the imbalance or asymmetry, if any, in the safety-related information held by the buyer and the seller respectively. While phrasing varies, the predominant authority almost always inquires: (1) What did the seller know regarding safety-related information that would be pertinent to the buyer, and what did the seller do about it? Herein are the issues of the seller's knowledge and conduct, congruent with accepted negligence evaluation, and the question of warning adequacy; and (2) what safety-related information, if any, was known to the buyer, and did he act in conformity therewith? Herein

⁴⁸ Henderson, *Judicial Review of Manufacturers' Conscious Design Choice: The Limits of Adjudication*, 73 COLUM. L. REV. 1531, 1539-42 (1973).

⁴⁹ *Id.* at 1561-62, 1565.

⁵⁰ *Id.* at 1562.

⁵¹ The sardonic observation of another contributor to products liability scholarship is "The popular solution to every alleged design defect problem seems to be: 'Warn against it.' Like mother's chicken soup it is the panacea for all ills." Twerski, Weinstein, Donaher & Piehler, *supra* note 39, at 500.

⁵² See *Union Oil Co. v. Oppen*, 501 F.2d 558 (9th Cir. 1974):

Recently a number of scholars have suggested that liability for losses occasioned by torts should be apportioned in a manner that will best contribute to the achievement of an optimum allocation of resources. See, e.g., Calabresi, *The Cost of Accidents*, 69-73 (1970); Coase, *The Problem of Social Cost*, 3 J. Law & Econ. 1 (1960). This optimum, in theory, would be that which would be achieved by a perfect market system. In determining whether the cost of an accident should be borne by the injured party or be shifted, in whole or in part, this approach requires the court to fix the identity of the party who can avoid the costs more cheaply. Once fixed, this determination then controls liability.

Id. at 569.

⁵³ Compare *Dartez v. Fibreboard Corp.*, 765 F.2d 456 (5th Cir. 1985) (in a failure to warn case including a strict liability claim, to prove that a product was unreasonably dangerous the plaintiff must prove that the magnitude of danger it presents outweighs its utility) with *Dambacher v. Mallis*, 485 A.2d 408 (Pa. Super. Ct. 1984), *appeal dismissed*, 508 Pa. 643, 500 A.2d 428 (1985) (the risk-utility analysis is not well suited to the failure to warn case, for the utility of a product will remain a constant irrespective of whether a warning is added.)

are the issues of causation, including, without limitation, defenses based upon obviousness, knowledge, contributory negligence, and assumption of risk.

Thus, even from the variegated principles and diverse policies of negligence, warranty, and strict liability in tort, an overall doctrine can be identified. Its distillate is this: a seller will have a duty to provide warnings as to the risks of use or consumption of a product where the risk is material and the seller knows or should know that the user is less informed concerning that risk than the seller. The warning itself must be communicated by means of positioning, lettering, coloring, and language that will convey to the typical user of average intelligence the information necessary to permit him to avoid the risk, and as appropriate, to use the product safely.

This article will essay the principal interpretations that have been placed upon the continuously enlarging scope of the seller's duty to warn. In identifying the doctrinal and policy underpinnings of the leading theories, it will also, where applicable, review decisions that are arguably wrongly decided. This will permit observations as to whether different conclusions would have been reached through evaluation of the buyer's and the seller's reasonable reciprocal expectations as to product information. This review will demonstrate also that identification of a material disparity in germane safety-related information known to the seller as opposed to that known to the injured claimant will, with only limited exceptions, predict seller liability for inadequate warnings or instructions.

II. WHEN A DUTY TO WARN ARISES UNDER NEGLIGENCE PRINCIPLES

At common law, a seller or supplier has a duty to give adequate warnings of any risk involved in the use of a product when the seller "knows of or has reason to know" that in the absence of such warnings the product is likely to be dangerous for the use supplied.⁵⁴ This duty to warn under negligence principles

⁵⁴ RESTATEMENT (SECOND) OF TORTS § 388 provides:

CHATTEL KNOWN TO BE DANGEROUS FOR INTENDED USE:

One who supplies directly or through a third person a chattel for another use is subject to liability to those whom the supplier should expect to use the chattel with the consent of the other or to be endangered by its probable use, for physical harm caused by the use of the chattel in the manner for which and by a person for whose use it is supplied, if the supplier

a) knows or has reason to know that the chattel is or is likely to be dangerous for the use for which it is supplied, and

b) has no reason to believe that those for whose use the chattel is supplied will realize its dangerous condition, and

c) fails to exercise reasonable care to inform them of its dangerous condition or the facts which make it likely to be dangerous.

See *McKay v. Rockwell Int'l Corp.*, 704 F.2d 444 (9th Cir. 1983), *cert. denied*, 464 U.S. 1043 (1984);

is triggered where the potential for harm from the use of the product without warnings or instructions is "significant."⁵⁵

Resolution of the question of whether the risk is significant or unreasonable requires a balancing of the seriousness of harm, and the probability that the harm will occur if appropriate steps are not taken, against the cost or burden of taking precautions.⁵⁶ The manufacturer's duty to warn under negligence principles attaches when it knows or should know of a product's hazards.⁵⁷ Significantly, of all of the members in the chain of distribution, only the manufacturer is charged with the "should know" standard, thereby creating the burden "of discovering the product's dangers to the foreseeable user and providing the warning concerning those dangers."⁵⁸ In contrast, the seller or the distributor of a product manufactured by another must, under negligence principles, give a warning only when it knows or has reason to know of product-related hazards. This lesser obligation has been construed to mean that the nonmanufacturing seller should warn when it has actual knowledge of a hazard or when it has been given "information from

see also W. PROSSER, HANDBOOK ON THE LAW OF TORTS § 96 (4th ed. 1971); *Burch v. Amsterdam Corp.*, 366 A.2d 1079 (D.C. App. 1976) (mastic adhesive with inadequate warnings as to flashpoint and flammability). Courts have given diverse expressions to the standard of actual or constructive knowledge contemplated by the negligent breach of the manufacturer's duty to warn, but they are all materially indistinguishable. *E.g.*, *Brocklesby v. United States*, 753 F.2d 794 (9th Cir. 1985) (duty to warn of defects of which the manufacturer "is or should be aware"); *Wood v. Ford Motor Co.*, 71 Or. App. 87, 691 P.2d 495 (1984), *cert. denied*, 298 Or. 773, 697 P.2d 556 (1985) (duty to warn of a product's dangerous propensities of which the manufacturer or seller "knows or reasonably should know"); *Thomas v. Amway Corp.*, 488 A.2d 716 (R.I. 1985) (the defendant seller's duty to warn under negligence theory limited to those dangerous properties of the product the seller "had reason to know about"); *Ford Motor Co. v. Stubblefield*, 171 Ga. App. 331, 319 S.E.2d 470 (1984) (manufacturer of product must give warning of danger to users of which it has "actual or constructive knowledge").

⁵⁵ See *Suchomajcz v. Hummel Chem. Co.*, 524 F.2d 19 (3d Cir. 1975) (two minors killed and four injured from experimentation with firecracker "kits" ordered by mail from advertisement in *Popular Mechanics*).

⁵⁶ RESTATEMENT (SECOND) OF TORTS §§ 291-293, 298; *Moran v. Faberge, Inc.*, 273 Md. 538, 332 A.2d 11 (1975).

⁵⁷ *Temple v. Wean United, Inc.*, 50 Ohio St. 2d 317, 325, 364 N.E.2d 267, 272-73 (1977); *Carter v. Yardley & Co.*, 319 Mass. 92, 64 N.E.2d 693 (1946).

⁵⁸ *Foremost-McKesson Co. v. Allied Chem. Co.*, [1983-84 Transfer Binder] Prod. Liab. Rep. (CCH) ¶ 9884 (Ariz. Ct. App. 1983), in which the court explains:

While other parties in the chain of distribution may be liable for negligently failing to warn of a product's hazards, it is only the manufacturer that bears the heavy burden of discovering the product's dangers to the foreseeable user and providing the warnings regarding those dangers. That burden is reflected in the "should know" standard placed on the manufacturer. The duty placed on the retailer and distributors . . . is not as exacting as that borne by the manufacturer.

Id. at 25,110.

which a person of reasonable intelligence . . . would infer that the (risk) exists⁵⁹

The rationale for applying the "knows or should know" standard to the manufacturer is grounded in the manufacturer's presumed "superior knowledge" of the product, its components, its attributes and its hazards. This justifies the manufacturer's informational obligation to the user or consumer that is triggered when it may reasonably foresee danger of injury or damage to one less knowledgeable, unless an adequate warning is given.⁶⁰

⁵⁹ The negligence standard for the duty to warn of the nonmanufacturing seller is set forth at RESTATEMENT (SECOND) OF TORTS § 401, which provides:

CHATTEL LIKELY TO BE DANGEROUS:

A seller of a chattel manufactured by a third person who knows or has reason to know that the chattel is, or is likely to be, dangerous when used by a person to whom it is delivered or for whose use it is supplied, or to others whom the seller should expect to share in or be endangered by its use, is subject to liability for bodily harm caused thereby to them if he fails to exercise reasonable care to inform them of the danger or otherwise to protect them against it.

Comment a to this section elaborates upon the distinction between the "reason to know" and the "should know" standards of 388 and 401 respectively. The comment states:

a. The words 'reason to know', . . . are used to denote the fact that the actor has information from which a person of reasonable intelligence or of the superior intelligence of the actor would infer that the fact in question exists or that such person would govern his conduct upon the assumption that such fact exists. The words 'reason to know' do not impose any duty to ascertain unknown facts, and are to be distinguished from the words should know

Id. at comment a.

⁶⁰ The justification of the greater informational duty for the manufacturer, based upon superior knowledge of the propensities of the product, is highlighted in the discussion of RESTATEMENT (SECOND) OF TORTS § 388 (a) comment g which states:

There are many chattels which, even though perfect, are unsafe for any use or for the particular use for which they are supplied unless their properties and capabilities are known to those who use them. If such a chattel is supplied to another whom the supplier should realize to be unlikely to know its properties and capabilities, the supplier is required to exercise reasonable care to give to the other such information thereof as he himself possesses.

In evaluating a failure to warn claim, "the manufacturer is held to that degree of skill and of knowledge of developments in the art of the industry then existing when the product was manufactured." *Smith v. FMC Corp.*, 754 F.2d 873, 877 (10th Cir. 1985). "[A]nyone who enters a special field of manufacturing will be held to possess the knowledge and skill of an expert in that field and must 'keep reasonably abreast . . . of techniques and devices used by practical men in his trade.'" Noel, *Manufacturer's Negligence of Design or Directions for Use of a Product*, 71 YALE L. J. 816, 847 (1962). Professor Noel suggests that inquiry into certain subjects is pertinent to determination of whether or not the manufacturer has employed the skill and judgment of an expert, to wit: whether or not other manufacturers are using the same design, or a safer design; whether or not a safer design is known to be feasible; and whether or not there has been adequate testing. *Id.* at 848.

Thus, under negligence principles, the manufacturer is required to warn of those dangers of which he is aware or, in the exercise of reasonable care, should have been aware.⁶¹ It is not necessary that the manufacturer appreciate the specific nature of the hazard posed by the product to create the duty to warn. Rather to trigger the duty to warn it is sufficient that the manufacturer have only some general awareness of the risk.⁶²

The duty to warn under conventional negligence principles turns upon the reasonable foreseeability⁶³ of harm by use of or exposure to the product in the absence of warnings. The additional question of what use of a product is reasonably foreseeable, the determination of which fixes the manufacturer's duty to anticipate potentially unconventional product uses, is inextricably tied to the question of foreseeable harm. The presence or absence of this reasonable foreseeability and the question of what is foreseeable as applied to product use and inadequate warnings or instructions has been litigated extensively.⁶⁴ In the end, probably no standard provides any better guidance than that of one court that observed: "If

⁶¹ *Moran*, 273 Md. 538, 332 A.2d 11. See *Bottazzi v. Petroleum Helicopters, Inc.* 664 F.2d 49 (5th Cir. 1981) (evidence was sufficient to support a finding of negligence on the part of a helicopter engine manufacturer; the helicopter crashed as a result of an oil leak, and the manufacturer failed to warn customers of this known potential danger and failed to specify in its manual the test required to detect such a leak). See also *German v. Illinois Power Co.*, 115 Ill. App. 3d 977, 451 N.E.2d 903 (1983); *Johnson v. Murphy Metals Inc.*, 562 F. Supp. 246 (N.D. Tex. 1983); *Duke v. Gulf & W. Mfg. Co.*, 660 S.W.2d 404 (Mo. Ct. App. 1983).

⁶² Consciousness of a vague danger, without appreciation of the seriousness of the consequences, may nonetheless require the manufacturer to provide warnings. *Graham v. Joseph T. Ryerson & Sons*, 96 Mich. App. 480, 292 N.W.2d 704 (1980).

⁶³ *Petty v. United States*, [1984-85 Transfer Binder] Prod. Liab. Rep. (CCH) ¶10,161 at 26,459 (8th Cir. 1984) (under Iowa law, in an action brought for injuries attributed to administration of the swine flu vaccine, the duty to warn is triggered by the "reasonable foreseeability" of the particular injury sustained); see, e.g., *Lakatos v. Diamond Alkali Co.*, 208 N.W.2d 910, 913 (Iowa 1973). The profile of supplier conduct encouraged by the Restatement provision is that of the reasonably prudent person, RESTATEMENT (SECOND) OF TORTS § 388 comment g, and contemplates the giving of warnings only as to those uses of the product that are reasonably foreseeable. See *id.* at comment e, which provides:

In order that the supplier of a chattel may be subject to liability under the rule stated in this Section, not only must the person who uses the chattel be one whom the supplier should expect to use it with the consent of him to whom it is supplied, but the chattel must also be put to a use to which the supplier has reason to expect it to be put.

⁶⁴ The results have not always been reconcilable. Compare *Blissenbach v. Yanko*, 90 Ohio App. 557, 107 N.E.2d 409 (1951) (involving an allegation of failure to warn following the scalding of a child when the top to a vaporizer dislodged, and with respect to the design of the vaporizer the court states: "It was not intended that the top should remain intact at all times.", *Id.* at 562, 107 N.E.2d at 411) with *McCormack v. Hanksraft Co.*, 278 Minn. 322, 154 N.W.2d 488 (1967) (another vaporizer scalding case, this time finding manufacturer liability on facts differentiable only in that by the time of the litigation of the latter suit there existed a feasible alternative design for the container of heated water). The court in the latter action affirmed the jury verdict that the manufacturer failed to exercise reasonable care to warn of the hazards of scalding water.

there is some probability of harm sufficiently serious that ordinary men would take precautions to avoid it, then failure to do so is negligence."⁶⁵ The limitations of any definition of foreseeability necessarily conceded, there are certain propositions as to which there is general agreement. The most significant of these is that it is the harm that must be foreseeable, rather than the precise means by which that harm may eventually occur.⁶⁶ Under this principle, there should be no liability where the injury falls beyond the compass of the general type of harm that the seller could reasonably anticipate given the product's use in a particular environment with inadequate warnings.⁶⁷ However, even when the type of harm that actually takes place is not the type a knowledgeable person would have supposed to be possible, liability may be found. Such a finding will result when the injury falls within the "general danger area" caused by the manufacturer's negligent acts or omissions to act.⁶⁸ As will be developed more fully below, while

⁶⁵ *Bean*, 344 S.W.2d at 25, cited with approval in *Moran*, 273 Md. App. 538, 332 A.2d 11.

⁶⁶ *E.g.*, *Spruill v. Boyle-Midway Inc.*, 308 F.2d 79 (4th Cir. 1962) (insufficient warning given to mother in household where fourteen month old infant perished from chemical pneumonia following ingestion of furniture polish). The court advised that in addition to the injuries arising from the intended uses for which a product is manufactured, the manufacturer

[M]ust also be expected to anticipate the environment which is normal for the use of his product and where, as here, that environment is the home, he must anticipate the reasonably foreseeable risks of the use of his product in such an environment . . . to anticipate (such) risks, and to warn of them, though such risks may be incidental to the actual use for which the product was intended.

Id. at 83-84.

⁶⁷ *E.g.*, *Lawson v. Benjamin Ansehl Co.*, 180 S.W.2d 751 (Mo. Ct. App. 1944), in which a five year old child was fatally burned after splashing himself with flammable fingernail polish remover. Dean Prosser suggests that an alternative ground for finding no liability might have been futility, for cautionary information as to such a rare use "would probably have served no purpose in most instances since those who read or could read would already know of the existence of the likely flammability of the product." W. PROSSER & W. KEETON, *supra* note 43, at 687. Unintended and unforeseeable use is discussed in detail below. One means by which the defendant may attempt to prove that the occurrence of which plaintiff complains was not foreseeable is by showing no earlier instances of similar occurrences that would have put defendant on actual or constructive notice of the hazard. *See, e.g.*, *Koloda v. General Motors Parts Div.*, 716 F.2d 373 (6th Cir. 1983) (where manufacturer of valve lubricant vapors which were alleged to cause mechanic's heart attack was erroneously prevented at trial from introducing into evidence lack of prior claims or incidents).

⁶⁸ In *Pease v. Sinclair Ref. Co.*, 104 F.2d 183 (2d Cir. 1939), an action for damages arising from the defendant's alleged negligence in placing a kerosene label on a bottle filled with water, the court identified its task as that of looking for the possibility of hazard to *some* person, rather than for an expectation of the particular mishap that took place. *See* F. HARPER, A TREATISE ON THE LAW OF TORTS 14-15 (1933). "The sequence of events, of course, need not be foreseeable. The manner in which the risk culminates in harm may be unusual, improbable and highly unexpected, from the point of view of the actor at the time of his conduct. And yet, if the harm suffered falls within the general danger area, there may be liability, provided other requisites of legal causation are present." *Id.*, *See also* *Hall v. E. I. Du Pont de Nemours & Co., Inc.*, 345 F. Supp. 353, 362 (E.D.N.Y. 1972); Noel, *Defective Products: Abnormal Use, Contributory Negligence, and Assumption of Risk*. 25 VAND.

the seller is permitted to expect the consumer to protect himself against certain obvious and avoidable hazards,⁶⁹ a user's ignorance or carelessness may nevertheless be anticipated, and thus may be foreseeable.⁷⁰

L. REV. 93 (1972); Comment, *Foreseeability in Product Design and Duty to Warn Cases—Distinctions and Misconceptions*, 1968 WISC. L. REV. 228 (1968).

The distinction between the foreseeability of use and the foreseeability of harm is set forth by the court in *Newman v. Utility Trailer and Equip. Co., Inc.*, 278 Or. 395, 564 P.2d 674 (1977). While discussed with reference to strict liability, the analysis is applicable equally to the negligence cause of action for failure to warn, and states:

It is obvious that trial courts are experiencing difficulty in distinguishing *foreseeability of use* from *foreseeability of the risk of harm*. Before a manufacturer or other seller is strictly liable for injury inflicted by a product, the product must have been put to a foreseeable use. As an example: if a shovel is used to prop open a heavy door, but, because of the way the shovel was designed, it is inadequate to the task and the door swings shut and crushes the user's hand, no responsibility for the injury results by reason of the shovel's not being designed to prop open doors since it was not reasonably foreseeable by the manufacturer or seller that it would be so used. Whether or not the article was put to a foreseeable use is a jury question unless, as in the above hypothetical case of the shovel, reasonable minds could not differ, in which instance the case would be at an end. On the other hand, if it is decided as a matter of law by the court or as a matter of fact by the jury that the article was being put to a foreseeable use at the time of the injury, it is assumed that the manufacturer or seller was aware of the risk involved which caused harm to plaintiff, whether or not the manufacturer or seller actually had such knowledge or reasonably could have been expected to have it. As a further illustration: if the shovel is being used to dig a ditch, and, while it is being so used, the blade strikes a rock in the soil and a piece of steel from the blade flies up and injures plaintiff's eye, the manufacturer or seller is assumed to have had knowledge of the risk of injury to plaintiff occasioned by the use of the shovel. The shovel was being used for a purpose for which it was manufactured. Whether the article is defective is then determined by whether a reasonably prudent manufacturer or seller, knowing of the risk which the shovel presented, would have put the article into the stream of commerce.

Id. at 675-77.

⁶⁹ See *Iacurci v. Lummus Co.*, 340 F.2d 868 (2d Cir. 1965), *vacated*, 387 U.S. 86 (1967). "It required no knowledge of electrical or mechanical engineering to perceive the danger in wedging one's body between fixed steel plates and a moveable 450 pound bucket or to realize that safety lay in insuring that the bucket would not be put in motion." *Id.* at 871-72. In *Jamieson v. Woodward & Lothrop*, 101 U.S. App. D.C. 32, 247 F.2d 23 (D.C. Cir. 1957), *cert. denied*, 355 U.S. 855 (1957), where the plaintiff was unable to recover damages for injuries received while using an exercise device that was, in essence, a simple rubber rope, the court described its reasoning for holding that the device was not unreasonably dangerous:

If a man drops an iron dumbbell on his foot the manufacturer is not liable.

* * *

The only 'dangerous condition' was that a rubber rope is elastic and when stretched will, when released, return to its original length with some degree of force. Small boys know that fact and fashion slingshots upon the principle. Surely every adult knows that, if an elastic band, whether it be an office rubber band or a rubber rope exerciser, is stretched and one's hold on it slips, the elastic snaps back. There was no duty on the manufacturer

Coequal with foreseeability as part of the evaluation of the manufacturer's duty to warn under negligence principles is the familiar weighing of costs against benefits. Relevant to the seller's duty to provide warnings and instructions, there are two questions for resolution. First, what is the likelihood of harm if warnings are not used, and what will be the seriousness of that harm? Second, what is the cost or burden of taking appropriate precautions?⁷¹

to warn of that simple fact.

Id. at 37, 247 F.2d at 28.

⁷⁰ See Noel, *supra* note 60; 5 L. FRUMER & M. FRIEDMAN, PRODUCTS LIABILITY 114 (1966).

⁷¹ RESTATEMENT (SECOND) OF TORTS § 291 provides the general risk-utility standard that may be applied to the supplier's duty to warn under negligence principles. That section states:

UNREASONABLENESS; HOW DETERMINED; 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 the particular manner in which it is done.

An articulation of this cost-benefit analysis is of particular relevance to circumstances in which the product is not to be handled by the manufacturer's immediate vendee, but is instead to be used by a third party, such as the vendee's employee. RESTATEMENT (SECOND) OF TORTS § 388 Comment n states:

Here, as in every case which involves the determination of the precautions which must be taken to satisfy the requirements of reasonable care, the magnitude of the risk involved must be compared with the burden which would be imposed by requiring them . . . , and the magnitude of the risk is determined not only by the chance that some harm may result but also the serious or trivial character of the harm which is likely to result.

See *Boyl*, 221 F. Supp. 669 (liquid weed killer "Triox", targeted to home gardener, found to have warnings that were inadequate to convey extreme toxicity of dermal contact, and consequential need for cautious disposal of waste). "Whether any such unreasonable risk exists in a given situation depends on balancing the probability and seriousness of harm, if care is not exercised, against the costs of taking appropriate precautions." *Moran*, 273 Md. at 543, 332 A.2d at 15 (citing RESTATEMENT (SECOND) TORTS §§ 291-93, 298). The weight of the authority in duty to warn actions based in negligence states that the seller's duty of care may be ascertained by taking the likelihood of harm, and the gravity of the harm, should it happen, as weighed against the burden of precautions that could effectively avoid the harm. *E.g.*, *Holladay v. Chicago, Burlington & Quincy R. Co.*, 255 F. Supp. 879, 884 (S.D. Iowa 1966) (issue of failure to warn against skin irritations from herbicide).

See also *Wright v. Carter Prods. Inc.*, 244 F.2d 53 (2d Cir. 1957) (an action involving failure to warn of risk of skin disorder from use of deodorant), in which the court suggests: "[I]n addition to the incidence of sensitivity to aluminum sulfate, the trial court should also consider the gravity of the possible injury from the use of Arrid and the difficulty, if any, of embodying an effective precaution in the labels or literature attached to the product." *Id.* at 59 and *Dougherty*, 540 F.2d 174, (a wrongful death action brought by the widow of an employee of an aircraft manufacturer who purchased the chemical solvent trichloroethylene). The court therein cast the seller's duty of care concerning warnings in this way:

The care to be exercised in discharging the duty to warn is . . . measured by the dangerous potentialities of the commodity as well as the foreseeable use to which it might be put

The determination of whether the method or means utilized to warn is sufficient will depend

It is here that the real footing of the negligence analysis in the asymmetry of buyer-seller information can be seen. Evaluation of the likelihood of harm if warnings are not used is nothing more and nothing less than a measurement of the germane safety-related information held by the seller and that, if any, held by the buyer. If the nature of the harm from the ignorant use or consumption of the product is more than trivial, and the buyer knows as much as the seller about the safety characteristics, there will be buyer-seller informational parity and its concomitant, no duty to warn. Any action brought by the buyer for injuries occasioned by the use of the product should be successfully deflected by the defense of assumption of risk, based upon the user's full awareness of the risk and knowing and voluntary encounter with it. On the other hand, again assuming a nontrivial harm and also a modest burden in effecting any warnings, if the seller holds more germane safety-related information than would be known to the ordinary user or consumer, the duty to warn and to impart that information should invariably attach.

While the cost-benefit analysis employed by the courts in duty to warn actions can be harmonized easily with the requirements of due care in a universe of man's other affairs,⁷² a crucial distinction exists between defective warning actions on the one hand, and defective design cases on the other. The distinction pertains to the *burden of precaution* element of the equation, or the cost to the manufacturer to act to avoid or at least lessen the risk. In design defect cases, the cost of implementation of a new design may be quite substantial, or even nonfeasible when a design alteration would impair the product's utility, or the cost of such changes would eliminate the product's economic viability. On the other hand, putting aside certain situations such as products sold in bulk, it is almost always

upon a balancing of considerations involving among other factors, the dangerous nature of the product, the form in which the product is used, the intensity and form of the warnings given, the burdens to be imposed by requiring warnings, and the likelihood that the particular warning will be adequately communicated to those who will foreseeably use the product.

Id. at 179.

⁷² The revered equation of Judge Learned Hand in *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947), *reh'g denied*, 160 F.2d 482 (1947) states that the duty owed to protect others from injury was a function of three variables: (1) the probability of the injurious event; (2) the gravity of the injury should the event take place; and (3) the burden of adequate precautions. Rendered algebraically, with Probability P, Injury L, and Burden B, liability will attach where B is less than PL. The formulation of the warning standard in many of the modern warning decisions bears a resemblance to the Hand formulation. *E.g.*, *Frederick v. Niagara Mach. and Tool Works*, 107 A.D.2d 1063, 1064, 486 N.Y.S.2d 564, 565 (1985):

The nature of the warning and to whom it should be given depends upon a number of factors including the harm that may result from use of the product without the warnings, the reliability and adverse interest of the person to whom notice is given, the kind of product involved and the burden in disseminating the warning.

practicable to create warnings or instructions for a product or to improve upon existing ones. Relative to the cost of a design change, it is usually a modest financial endeavor to add or improve warnings. Thus, in applying the risk benefit analysis, to a duty to warn action where there has been adduced some evidence that more adequate warnings would improve the safety of the product, the finder of fact will more often than not conclude that the manufacturer failed in its duty to warn.⁷³

III. WHEN A DUTY TO WARN ARISES UNDER STRICT LIABILITY PRINCIPLES

The most widely-referenced distinction between liability based in negligence and that based in strict liability in tort is that the strict liability inquiry pertains to the condition, or dangerousness, of the product, while the negligence evaluation focuses on the reasonableness or unreasonableness of the seller in marketing the product in its final condition.⁷⁴ The distinction between a product-based and a conduct-based analysis is not, for its familiarity, as instructive as one might hope. More helpful than the particularization of the technical and semantic differences between the theories of negligent failure to warn and failure to warn based on strict liability is the recognition that identical to analysis under both theories is the concern with products posing an unreasonable risk of injury to users or consumers, and the adequacy of warnings.

As is equally true under negligence principles, the vital issue in strict liability is what is the type of harm, measured in terms of the degree of risk, the severity of injury, and the number of persons likely to be affected, that represents an unreasonable danger. A generally accepted standard is that a dangerously defective article is one "which a reasonable man would not put into the stream of commerce

⁷³ This is the gist of the court's observation in *Moran*, 273 Md. 538, 332 A.2d 11 in which it states:

[W]e observe that in cases such as this the cost of giving an adequate warning is usually so minimal, amounting only to the expense of adding some more printing to a label, that this balancing process will almost always weigh in favor of an obligation to warn of latent dangers, if the manufacturer is otherwise required to do so.

Id. at 543, 332 A.2d at 15.

To similar effect is the observation of the court in *Jonescue v. Jewel Home Shopping Serv.*, 16 Ill. App. 3d 339, 306 N.E.2d 312 (1973). An action involving a child's ingestion of an all-purpose cleaner, in which the court stated: "[T]he addition of appropriate words of warning on the Jetco label would have constituted only a slight burden of precaution for defendant to have undertaken." *Id.* at 347, 306 N.E.2d at 318.

⁷⁴ See *Roach v. Kononen*, 269 Or. 457, 465, 525 P.2d 125, 129 (1974); *In re Air Crash Disaster at Washington, D.C.*, 559 F. Supp. 333 (D.D.C. 1983) (in strict liability, the merchant selling an unreasonably dangerous product is liable for injuries proximately caused therefore, regardless of fault); *Bridges v. Chemrez Specialty Coatings, Inc.*, 704 F.2d 175 (5th Cir. 1983) (in Louisiana, the strict liability concepts and those of negligence are similar, save for the pertinence in negligence evaluation of the defendant's knowledge of the risk involved).

if he had knowledge of its harmful character."⁷⁵ Put another way, the question is whether the seller would be negligent if he sold the article knowing of the risk involved.⁷⁶ From the above it becomes clear that in the context of failure to warn jurisprudence, the functional characteristics of strict liability and negligence theories are almost indistinguishable.⁷⁷

Thus, the duty to warn under strict liability principles differs from the prevalent interpretation of the duty to warn in negligence in that, under strict liability, one may impute to the manufacturer constructive knowledge of the hazardous condition of the product.⁷⁸ At the same time, the theory of strict liability in tort for warnings cases adds little, either doctrinally⁷⁹ or literally⁸⁰ to the tort of negligent failure to warn.

⁷⁵ *Phillips*, 269 Or. 485, 525 P.2d 1033; *Borel*, 493 F.2d 1076, 1088; *Helene Curtis Indus., Inc. v. Pruitt*, 385 F.2d 841, 850 (5th Cir. 1967), *cert. denied*, 391 U.S. 913 (1968); *Dorsey v. Yoder*, 331 F. Supp. 753, 759-60 (E.D. Pa. 1971), *aff'd*, 474 F.2d 1339 (3d Cir. 1973); *Keeton*, *supra* note 36, at 403-04.

⁷⁶ *Cf.*, *Welch*, 481 F.2d at 254; *see Keeton, Products Liability-Some Observations About Allocation of Risks*, 64 MICH. L. REV. 1329, 1335 (1966).

⁷⁷ *Gracyalny*, 723 F.2d at 1317 n.11. The negligence concepts of foreseeability and actual or constructive knowledge have been interpreted as common to both strict liability and negligence, with particular regard to the manufacturer's knowledge of the risk to be warned against. *See, e.g.*, *Holmes v. Sahara Coal Co.*, 131 Ill. App. 3d 666, 475 N.E.2d 1383 (1985) (plaintiff in a strict liability action alleging failure to warn must establish the manufacturer's knowledge of the danger).

⁷⁸ *Phillips*, 269 Or. 485, 525 P.2d 1033. In this connection, of course, the imputation of constructive knowledge to the manufacturer is virtually identical to the "should know" aspect of the negligence standard for the manufacturer's duty to warn as described in RESTATEMENT (SECOND) OF TORTS § 388.

⁷⁹ *See, e.g.*, *Opera v. Hyva, Inc.*, 86 A.D.2d 373, 450 N.Y.S.2d 615 (1982). "Where the theory of liability is failure to warn or adequately instruct, negligence and strict products liability are equivalent causes of action." *Id.* at 377, 450 N.Y.S.2d at 618 (citations omitted). In *Werner v. Upjohn Co., Inc.*, 628 F.2d 848 (4th Cir. 1980), *cert. denied*, 449 U.S. 1080 (1981), an action involving allegations of a failure to provide adequate warnings concerning administration of the prescription ophthalmic pharmaceutical Cleocin, the court, after noting the "close similarity" between negligence and strict liability when applied to warnings cases, stated:

The elements of both are the same with the exception that in negligence plaintiff must show a breach of a duty of due care by defendant while in strict liability plaintiff must show the product was unreasonably dangerous. The distinction between the two lessens considerably in failure to warn cases since it is clear that strict liability adds little in warning cases. Under a negligence theory the issue is whether the defendant exercised due care in formulating and updating the warning, while under a strict liability theory the issue is whether the lack of a proper warning made the product unreasonably dangerous. Though phrased differently the issue under either theory is essentially the same: was the warning adequate?

Id. at 858 (citation omitted). *See also Basko v. Sterling Drug, Inc.*, 416 F.2d 417 (2d Cir. 1969) (applying Connecticut law), which held that for unavoidable unsafe products comment k of RESTATEMENT (SECOND) OF TORTS § 402A "simply adopts the ordinary negligence concept of duty to warn" and, thus, the two theories are virtually identical. *Id.* at 426-27. There have been, nevertheless,

The comments to Restatement (Second) of Torts section 402A provide guidance both as to the distinctions and similarities between negligence and strict liability. Restatement (Second) of Torts section 402A comment a states that in general "[t]he rule of strict liability subjects the seller to liability to the user or consumer even though he has exercised all possible care in the preparation of the product." Restatement (Second) of Torts section 402A comment j, in turn, states the seller's obligation to inform the consumer or user of hazards of which the seller either knew or should have known at the time of initial sale. Even in strict liability, therefore, "a seller is under a duty to warn of only those dangers that are reasonably foreseeable," a standard which by its grounding in foreseeability "coincides with the standard of due care in negligence cases."⁸¹

influential expressions of the distinction between the breach of duty to warn analysis in strict liability and that in negligence. The court in *Phillips*, 269 Or. 485, 525 P.2d 1033, for example, states:

The article can have a degree of dangerousness because of a lack of warning which the law of strict liability will not tolerate even though the actions of the seller were entirely reasonable in selling the article without a warning considering what he knew or should have known at the time he sold it.

Id. at 498, 525 P.2d 1039.

⁸⁰ RESTATEMENT (SECOND) OF TORTS § 402A does not mention warnings or directions for use. As pertinent to the issue of when the duty to warn arises, the prefatory language of comment j thereto, entitled "Directions or Warning," states: "In order to prevent the product from being unreasonably dangerous, the seller may be required to give directions or warning, on the container, as to its use." *Id.* comment j.

⁸¹ *Borel*, 493 F.2d at 1088. In the helpful expression of one court, this requirement that the risk be reasonably foreseeable impels the inquiry into "whether it was reasonably foreseeable to the manufacturer that the product would be unreasonably dangerous if distributed without a warning on the label and, if so, whether the manufacturer supplied the warning that a reasonably prudent manufacturer would have supplied." *Anderson v. Klix Chem. Co.*, 256 Or. 199, 203, 472 P.2d 806, 808 (1970). While *Borel* represents the majority view that the manufacturer's duty is to be evaluated with reference to what it knew or should have known, *i.e.*, what was scientifically or technically knowledgeable about the dangerous potentialities of the product at the time of marketing, a strong minority is represented in such opinions as that of *Jackson v. Coast Paint & Lacquer Co.*, 499 F.2d 809 (9th Cir. 1974), where the court states: "In strict liability it is of no moment what defendant had reason to believe." *Id.* at 812. *See also* the comments of the court in *Little v. PPG Indus., Inc.*, 19 Wash. App. 812, 579 P.2d 940 (1978), *modified*, 92 Wash. 2d 118, 594 P.2d 911 (1979):

It is true as plaintiff contends that RESTATEMENT (SECOND) OF TORTS § 402A, comment j suggests that strict liability for failure to warn is based upon the manufacturer's knowledge or imputation of knowledge of the danger. But his suggestion is incongruous, since it shifts the emphasis away from the condition of the product (strict liability) and back to the reasonableness of the manufacturer's conduct (negligence). Aside from situations in which a danger is obvious or known to the user, strict liability (as distinct from negligence) for a manufacturer's failure to provide adequate warnings does not depend on the manufacturer's knowledge of the danger. Such knowledge is assumed, *Phillips v. Kimwood Machine Co.*, [269 Or. 485, 525 P.2d 1033 (1974)], and it is the failure to give the adequate warning that renders the product unreasonably dangerous. (citations.) Plaintiff's proposed instruction couched in terms of RESTATEMENT (SECOND) OF TORTS § 402A comment j should not be given in this type of case. In summary, if the product has dangerous propensities even

The now conventional inquiry in duty to warn claims brought in strict liability is “(1) whether the manufacturer knew or should have known of the danger, and (2) whether the manufacturer was negligent in failing to communicate this superior knowledge to the user or consumer of its product.”⁸² For its simplicity and consistency with the leading decisional law, a representative expression of when the duty to warn arises under principles of strict liability in tort is stated by the courts as “whenever a reasonable man would want to be informed of the risk in order to decide whether to expose himself to it.”⁸³ The former protocol, specifically its second part, can be seen as similar to the inquiry into whether the seller held pertinent safety-related information not imparted to the buyer. It is arguable, however, that the subsequent proposition of an inquiry into whether the manufacturer was negligent in failing to share its superior safety-related knowledge is flummery. The decisional law by now establishes that where there is a hazard and a feasible means of its abatement by dissemination of warnings or instructions, the seller will be liable for failing to do so. Such a standard will apply even where the risk or causal relation between the product and the resulting harm has not been established to a scientific certainty.⁸⁴ The standard will also apply when information available to the manufacturer concerning some risk is distinguishable from the risk the injured plaintiff now seeks to prove.⁸⁵

For there to be strict liability for failure to warn, the absence or inadequacy of warnings or instructions must be of such a nature as to render the product

though they are unknown to the manufacturer and reasonable care has been taken to make and market the product—unless the dangers are obvious or known to the user, the manufacturer will be held strictly liable if it has not adequately warned the user of the dangers inherent in the use of the product by, for example, affixing a proper label.

Id. at 821-22, 579 P.2d at 946-47.

⁸² *Borel*, 493 F.2d at 1089.

⁸³ *Moran v. Johns-Manville Sales Corp.*, 691 F.2d 811, 814 (6th Cir. 1982) (quoting with approval *Borel*, 493 F.2d at 1089).

⁸⁴ *Seley v. G.D. Searle & Co.*, 67 Ohio St. 2d 192, 198, 423 N.E.2d 831, 836-37 (1981).

⁸⁵ *Ferebee v. Chevron Chem. Corp.*, 736 F.2d 1529, 1536-37 (D.C. Cir. 1984), *cert. denied*, 469 U.S. 1062 (1984), an action by an agricultural worker alleging contraction of pulmonary fibrosis due to long-term exposure to paraquat, in which the manufacturer at trial discounted reports it had of at least three critical injuries, two resulting in death, on the grounds that the chronic illness suffered by the plaintiff was altogether different. The court responded:

Chevron seeks to distinguish these incidents and to establish compliance with its duty to warn by arguing that these incidents all involved *immediate* internal complications resulting from dermal paraquat exposure, whereas Ferebee suffered from delayed and prolonged pulmonary fibrosis. Chevron argues that it had no information that prolonged exposure to paraquat could cause a chronic illness like Ferebee's or that such illness could continue long after exposure to paraquat had ceased. But the fact that the injuries of which Chevron knew occurred much more quickly than the prolonged illness through which Ferebee suffered is no answer to Chevron's complete failure to warn that *any* such injuries, whether immediate or latent, could result from dermal exposure to paraquat.

Id. at 1537.

unreasonably dangerous.⁸⁶ Restatement (Second) of Torts section 402A comment i emphasizes that the evaluation of what is unreasonably dangerous is the focal point of the strict liability inquiry, be the product hazard attributable to mis-manufacture, a design or formulation defect, or a failure to provide adequate warnings.⁸⁷ A prevalent means for evaluation of when an alleged warning inadequacy renders a product unreasonably dangerous within the meaning of Restatement (Second) of Torts section 402A requires reference to the "ordinary consumer," posited in comment i, and the consumer expectation test. Under the consumer expectation test, a product will be considered to have been sold in a defective condition and to be unreasonably dangerous to the user or consumer where, by its manufacture, design, or informational inadequacies, it is "dangerous to an extent beyond that which would be contemplated by the ordinary consumer" purchasing it.⁸⁸

One helpful analysis places the claims of unreasonable danger and inadequate warning in strict liability in the context of two tests as to whether a product is safe: (1) whether the product's utility outweighs the risk to its user, and (2) if the utility outweighs the risk, whether the risk has been reduced insofar as possible without a material diminution of the product's utility. When a product succeeds in passing the first standard, it must pass the second test, for a product will not be considered reasonably safe if the same product could have been either made

⁸⁶ The unreasonably dangerous standard is that of RESTATEMENT (SECOND) OF TORTS § 402A with its imposition of liability upon "[o]ne who sells any product in a defective condition unreasonably dangerous to the user or consumer . . ." *Id.* comment j, discussed *supra* note 80, simply reiterates the requirement that liability will be imposed only where the informational absence or inadequacy renders the product unreasonably dangerous.

⁸⁷ RESTATEMENT (SECOND) OF TORTS § 402A comment i states in pertinent part: "The rule stated in this section applies only where the defective condition of the product makes it unreasonably dangerous to the user or consumer." *Id.*

⁸⁸ *Id.*; See *Teagle v. Fischer & Porter Co.*, 89 Wash. 2d 149, 570 P.2d 438 (1977), applying the consumer expectation test to the issue of whether an unguarded flowrator "was not reasonably safe without (defendant) first giving a warning of the dangers of measuring liquids above 50 p.s.i. and of using Viton O-Rings when measuring ammonia." *Id.* at 155, 570 P.2d at 442. There was evidence in that action that the manufacturer knew that it was hazardous to operate the flowrator in question applying in excess of 50 p.s.i., although the machine was rated as capable of operation with pressures of up to 440 p.s.i. The explosion causing the injury occurred when the machine was running at 175 p.s.i. Finding in favor of the respondent on the basis of reasonable consumer expectations, the court states:

In terms of the reasonable expectations of the ordinary consumer, given the fact that this flowrator was rated at 440 p.s.i., we believe reasonable persons could only conclude that this unguarded flowrator was not reasonably safe when it was sold without a warning. In addition, appellant knew that Viton O-rings were incompatible with ammonia, yet it did nothing more than recommend the use of Buna O-rings. It did not warn of the dangers which could result from using Viton O-Rings with ammonia. The lack of this warning, by itself, would render the flowrator unsafe.

Id. at 155-6, 570 P.2d at 442.

or marketed more safely, with no substantial lessening of utility. Warnings cases in strict liability reflect most clearly the second standard, for they advance the proposition that "regardless of the overall cost benefit calculation the product is unsafe because a warning could have made it safer at virtually no added cost and without limiting its utility."⁸⁹

While in strict liability the manufacturer will be presumed to have a knowledge of any hazardous propensities of the product sold, the leading authority concludes that this constructive knowledge will properly be considered to extend only to worldly and not to supernal matters. This conclusion is reached with both explicit and implicit reference to the language of Restatement (Second) of Torts section 402A comment k, and the suggestion therein that limitations imposed by "the present state of human knowledge,"⁹⁰ may be properly considered in determining what degree of safety was or is possible to achieve in a particular product. Accordingly, the decisions conclude that in evaluating whether a manufacturer failed in its duty to warn, the manufacturer's constructive knowledge of the risk (meaning what the manufacturer knew or should have known, or what knowledge can fairly be imputed to the manufacturer), is limited by the "present state of human knowledge," as that phrase is used in comment k. In most instances, the limits of such scientific or technical knowledge are readily ascertainable by reference to the knowledge existing in the relevant industry as to the characteristics of the product.⁹¹ Therefore, the manufacturer of pharmaceuticals will be considered to have constructive knowledge of information related in accepted scholarly journals.⁹² The manufacturer of ethical drugs alleged to have caused an injury about which it did not warn may defend on the grounds that knowledge as to the alleged, and subsequently litigated, adverse consequences of the drug were beyond the reach of medical and scientific knowledge. Therefore, such adverse consequences were beyond foreseeability at the time of initial manufacture and sale.⁹³

⁸⁹ *Beshada v. Johns-Manville Prods. Corp.*, 90 N.J. 191, 201, 447 A.2d 539, 545 (1982).

⁹⁰ RESTATEMENT (SECOND) OF TORTS § 402A comment k.

⁹¹ See *Woodill v. Parke Davis & Co.*, 79 Ill. 2d 26, 37 Ill. Dec. 304, 402 N.E.2d 194 (1980), involving a child severely injured at birth by administration of the pharmaceutical Pitocin, in which the court found further that to impose manufacturer liability for failure to warn the plaintiff must prove that the manufacturer knew or should have known of the risks of fetal injury, and that such analysis contemplates analysis of what knowledge existed in the industry of the dangerous propensity of a manufacturer's product.

⁹² *Allen v. Upjohn*, [1982-83 Transfer Binder] Prod. Liab. Rep. (CCH) ¶ 9173 (Tenn. Ct. App. 1982).

⁹³ *Woodill*, 402 N.E.2d at 199. To the objection that evaluation of the manufacturer's knowledge at the time of original distribution of the product was inappropriate to the inquiry in strict liability as to failure to warn, the court responded:

We think that the imposition of a knowledge requirement is a proper limitation to place on a manufacturer's strict liability in tort predicated upon a failure to warn of a danger inherent in a product. We do not agree with the plaintiffs that to require knowledge to be alleged and proved is to infuse negligence principles into strict liability. Indeed, liability

This symbiosis of the constructive knowledge that will be imputed to the manufacturer for the purposes of a claim of strict liability for failure to warn, as influenced by the level of scientific and technical knowledge available to the industry at the time of manufacture and marketing, is readily harmonized with the reference in section 402A, comment j to the seller's obligation to warn "if he has knowledge, or by the application of reasonable, developed human skill and foresight should have knowledge, of the presence of . . . the danger."⁹⁴ For the purpose of any evaluation of seller safety-related knowledge vis-a-vis comparable knowledge held by the buyer, the delimitation of the information that will be imputed to the seller to that appreciated in the relevant industry also has the salutary effect of requiring the plaintiff to confine proof of the seller's actual or imputed safety familiarity to that information known to the seller or at least known to others in the seller's industry. It also prevents the otherwise harsh result of permitting a plaintiff's proof of theoretical bases for the seller's knowledge of the risk, while confining the defendant's buyer-conduct defenses to a showing, if possible, of the buyer's hands-on familiarity with the hazard.

In the context of products liability claims involving injuries occasioned by long latency disease-inducing substances, the augury of recent authority may be that a more chilly reception awaits manufacturers who defend the duty to warn count in a plaintiff's complaint by arguing that the risks posed by the product were unknown and unknowable at the time of initial manufacture and distribution. The New Jersey Supreme Court decision in *Beshada v. Johns-Manville Products Corp.*,⁹⁵ concluded that a manufacturer might still be strictly liable for failure to warn even where the risk was undiscoverable at the time of manufacture. Such a conclusion, according to the court, is consistent with the strict liability goals and policies of risk spreading, accident avoidance, and maintenance of a manageable judicial fact-finding process. The court provocatively adds that the holding

based upon a failure to warn adequately of dangers . . . is itself a doctrine borrowed from negligence Yet the failure-to-warn theory in strict liability has been upheld as a distinguishable doctrine from its counterpart in negligence, based on the fact that it is the inadequacy of the warning that is looked to, rather than the conduct of the particular manufacturer, to establish strict liability.

Id. at 198.

⁹⁴ RESTATEMENT (SECOND) OF TORTS § 402A comment j. A contrary interpretation would make the manufacturer the insurer of its product:

[A] logical limit must be placed on the scope of a manufacturer's liability under a strict liability theory. To hold a manufacturer liable for failure to warn of a danger of which it would be impossible to know based on the present state of human knowledge would make the manufacturer the virtual insurer of the product, a position rejected by this court in *Suvada. Woodill*, 402 N.E.2d at 199.

⁹⁵ *Beshada*, 90 N.J. 191, 447 A.2d 539.

could fairly be viewed as creating "an incentive for [manufacturers] to invest more actively in safety research."⁹⁶

After *Beshada*, some other decisions alleging strict liability in tort and alleging the seller's failure to warn have spurned the attempts of defendants to show that the hazard was not foreseeable given the state of general scientific knowledge at the time of introduction into commerce. The aspects of that principle pertinent to the seller's knowledge of the risk, without regard to whether such knowledge reposed in the frontiers of science or was commonplace, were followed in later New Jersey authority⁹⁷ and applied to rebuilders of machines and manufacturers of component parts.⁹⁸ Additional authority has weighed in to support the position that the seller must warn the buyer of risks associated with the consumption or use of the product "regardless of whether the seller knew or had reason to know of the risks and limitations."⁹⁹

Those decisions declining to follow the actual or constructive knowledge standard of section 402A comment j¹⁰⁰ take the approach that, under strict liability, courts should disregard evaluation of the reasonableness of the manufacturer's conduct, including questions of what it or the industry knew of the hazard. Courts should focus instead upon the condition of the product at the time of sale, the axial coordinate of strict liability.¹⁰¹ Illustrative of such authority is one action arising from the death of an industrial worker who asphyxiated while using defendant's cleaning product containing methyl chloroform. The court found that the issue of the adequacy of the defendant's somewhat bland warning should be submitted to the jury, reasoning that, in strict liability, a finding of

⁹⁶ *Id.* at 201, 447 A.2d at 539. The court's comment in full states "The 'state-of-the-art' at a given time is partly determined by how much industry invests in safety research. By imposing on manufacturers the costs of failure to discover hazards, we create for them an incentive to invest more actively in safety research." *Id.*, 447 A.2d at 539.

⁹⁷ *Michalko v. Cooke Color & Chem. Corp.*, 91 N.J. 386, 451 A.2d 179 (1982). *But see* *Feldman v. Lederle Laboratories*, 97 N.J. 429, 479 A.2d 374 (1984) (an action concerning the discoloring effects on the teeth of children administered the drug during certain periods of tooth growth, and confining the precedential effect of the decision in *Beshada* to its facts).

⁹⁸ *Michalko*, 91 N.J. at 395, 451 A.2d at 183. In the words of New Jersey Supreme Court: [W]hen it is feasible for the rebuilder of machinery or the manufacturer of component parts to incorporate safety device and it fails to do so, the rebuilt machine or component part will be deemed to be a defective product when delivered by the manufacturer to its owner. Further, the fact that the product was built according to the plans and specifications of the owner does not constitute a defense to a claim based on strict liability for the manufacturer of a defective product when the injuries are suffered by the innocent foreseeable user of the product. *Id.*, 451 A.2d at 183.

⁹⁹ *Pegg v. General Motors Corp.*, 258 Pa. Super. 59, 62, 391 A.2d 1074, 1075 (1978).

¹⁰⁰ RESTATEMENT (SECOND) OF TORTS § 402A comment j.

¹⁰¹ *Little*, 19 Wash. App. at 821, 579 P.2d at 946.

manufacturer liability does not depend upon what the manufacturer knew for "[s]uch knowledge is assumed."¹⁰² An additional logic offered by this court for declining to consider the state of scientific knowledge at the time of manufacture is the recognition that even where a product has been manufactured with all reasonable care, many such products "can have a degree of dangerousness which the law of strict liability will not tolerate"¹⁰³

IV. FAILURE TO WARN AS A BREACH OF WARRANTY

The absence of adequate warnings or instructions on a product may in some circumstances support a finding that the product marketed in this condition is not merchantable, and is in breach of section 2-314 of the Uniform Commercial Code (UCC), as codified in most jurisdictions. The court so concluded in the celebrated decision of *Borel v. Fibreboard Paper Products Corp.*,¹⁰⁴ in which the plaintiff, an industrial insulation worker who contracted the diseases of mesothelioma and asbestosis as a result of thirty-three years of exposure to respirable asbestos, brought an action against certain manufacturers of insulation products containing asbestos. The warranty count of the complaint alleged that the defendant's products were unreasonably dangerous and unmerchantable, because of defendant's "failure to provide adequate warnings of the foreseeable danger associated with them."¹⁰⁵ That court's affirmance that the manufacturer's failure to warn adequately rendered the insulation products unreasonably dangerous sufficed to support both the allegation of breach of implied warranty of merchantability and that of strict liability in tort.¹⁰⁶

In another action illustrative of how a seller's failure to provide adequate warnings may be found to render the product unmerchantable, plaintiff brought suit alleging breach of an implied warranty of merchantability against the seller

¹⁰² The warning read as follows: "Caution: Vapor may be harmful. Use with adequate ventilation. Avoid prolonged or repeated breathing of vapor." *Id.* at 822, 579 P.2d at 946 (citing with approval *Phillips*, 269 Or. 485, 525 P.2d 1033).

¹⁰³ *Phillips*, 525 P.2d 1033, at 1037 (citing *Roach*, 269 Or. 452, 525 P.2d 125). See also *Haugen v. Minnesota Mining and Mfg. Co.*, 15 Wash. App. 379, 550 P.2d 71 (1976); *Anderson v. Heron Eng'g Co.*, 198 Colo. 391, 604 P.2d 674 (1979) cautioning that permitting strict liability to be affected by the manufacturer's "knowledge or reasonable imputation of knowledge" would divert attention "away from the condition of the product (strict liability) and back to the reasonableness of the manufacturer's conduct (negligence)." *Id.* at 679 (citing with approval *Little*, 19 Wash. App. at 821, 579 P.2d at 946).

¹⁰⁴ *Borel*, 493 F.2d 1076.

¹⁰⁵ *Id.* at 1086.

¹⁰⁶ *Id.* at 1091. Describing the common nature of the proof sufficient for warranty or strict tort liability, be it a failure to warn case or otherwise, the court added: "Breach of warranty cases invariably speak in terms of fitness for the particular purpose for which the goods are sold. This formulation parallels the 'unreasonably dangerous' rule applied in the strict liability in tort cases." *Id.* (citations omitted).

of aerosol deodorant that, after application, ignited on his skin as he lit a cigarette. The court agreed with plaintiff's contention that an implied warranty of merchantability applied to the contents of the deodorant can as well as to the can itself. The court further agreed that a failure to warn of dangerous propensities of either could render the product unmerchantable and that plaintiff's contention that the warnings on the can were inadequate therefore posed factual questions for the jury.¹⁰⁷ It has been urged accordingly that in the context of a failure to warn allegation, no material differences exist between the negligence, warranty and strict liability counts inasmuch as "recovery under any theory requires the proof of identical facts: proof of injury, and proof that defendant knew or should have known of the risk of injury and did not warn plaintiff about it."¹⁰⁸

Other authority equates the negligence-based duty to warn obligations of Restatement (Second) of Torts section 388 with the requirements of UCC section 2-314, obligating the seller to sell only such goods as are "fit for the ordinary purpose for which such goods are used." Instructive in this regard is one action in which an apartment house owner brought suit against the manufacturer and seller of hair rollers after one apartment resident inadvertently started a fire by permitting the water to boil away in the pot used to heat the rollers. The cautionary comments accompanying the rollers at the time of sale stated that they "may" be inflammable should they be left over a "flame" in a container without water, but adding that otherwise, the rollers were "perfectly safe." The court, applying South Carolina law, granted a new trial, concluding that the evidence raised jury questions as to the adequacy of the manufacturer's warnings, sounding equivalently in negligence and in warranty.¹⁰⁹

¹⁰⁷ *Reid v. Eckerds Drugs, Inc.*, 40 N.C. App. 476, 253 S.E.2d 344, *cert. denied*, 297 N.C. 612, 257 S.E.2d 219 (1979) (summary judgment reserved).

¹⁰⁸ *Kidwell*, *supra* note 15, at 1377-78. *Cf.* *Fisher v. Gate City Steel Corp.*, 190 Neb. 699, 703, 211 N.W.2d 914, 917 (1973) (failure to instruct on implied warranty not prejudicial when covered by instruction on strict liability) (dictum).

¹⁰⁹ *Gardner v. Q.H.S. Inc.*, 448 F.2d 238, 242 (4th Cir. 1971). The court went on to state: For the law has now reached the stage of development that a supplier and a manufacturer of a chattel are liable to all whom they should expect will use the chattel or be endangered by its use if (a) they know or have reason to know that the chattel is or is likely to be dangerous for the use for which it is supplied, (b) they lack reason to believe that the user will realize the potential danger, and (c) they fail to exercise reasonable care to inform of its dangerous condition of the facts which make it likely to be dangerous. RESTATEMENT (SECOND) OF TORTS §§ 388 and 395 (1965 Ed.). The same is true with respect to a cause of action for breach of an implied warranty of merchantability under the Uniform Commercial Code, as that warranty is breached when goods are not 'fit for the ordinary purposes for which such goods are used.'

Id. (citation omitted). *See also Basko*, 416 F.2d at 427; *Santor v. A. & M. Karagheusian, Inc.*, 44 N.J. 52, 207 A.2d 305 (1965), equating "defective" for purposes of Restatement section 402A with "not reasonably fit for the ordinary purposes for which such articles are sold and used." *Id.* at 67, 207 A.2d at 313; *Goldberg v. Kollsman Inst. Corp.*, 12 N.Y.2d 432, 240 N.Y.S.2d 592, 191 N.E.2d

The similarity between the failure to warn case based on negligence and that based on warranty extends, naturally, to the requirement that plaintiff prove that the hazard posed by the seller's product, or conduct, was a cause of the injuries suffered by the plaintiff.¹¹⁰ It has been held that even when a product is, strictly speaking, fit to perform its intended function, the manufacturer's failure to warn the buyer of adverse side effects may constitute a breach of the implied warranty of merchantability. In one representative action, a purchaser of potato sprout suppressant alleged a failure to warn in both tort and warranty against the seller of that product, used for dusting seed potatoes before storage to retard sprouting. The bags in which the product was contained cautioned only that there might, after planting the following season, be "a slight delay in emergence."¹¹¹ While the product apparently succeeded in retarding emergence, it also, evidence showed, caused erratic emergence, multiple sprouting, and small potatoes.¹¹² The court affirmed that goods are not fit for their ordinary purpose within the meaning of UCC section 2-314 if the manufacturer fails to warn of adverse "side-effects which [result] from its use."¹¹³

Distinctions do exist between the warranty cause of action and the tort cause of action. Unlike the defenses available on a claim of tortious failure to warn, the defendant may defend the warranty claim with the defenses of lack of privity, lack of notice of breach, contractual assumption of the risk, express disclaimer or express limitation of remedy.¹¹⁴ The failure to warn claim sounding in warranty is also distinguishable from the allegation of negligent failure to warn in that in negligence, the seller will be liable if the inadequacy of its warning constitutes *conduct* that is unreasonable under Restatement (Second) of Torts section 388. Resolution of the issue of whether the seller has breached a duty to warn under

81 (1963); *Greeno v. Clark Equip. Co.*, 237 F. Supp. 427 (N.D. Ind. 1965) (strict liability under § 402A "is hardly more than what exists under implied warranty when stripped of the contract doctrines of privity, disclaimer, requirements of notice of defect, and limitations through inconsistencies with express warranties." *Id.* at 429); *Davis v. Wyeth Laboratories, Inc.*, 399 F.2d 121, 126 (9th Cir. 1968) (the difference between implied warranty and strict liability in tort is largely one of terminology); *Cintrone v. Hertz Truck Leasing & Rental Serv.*, 45 N.J. 434, 212 A.2d 769 (1965).

¹¹⁰ *Spencer v. Ford Motor Co.*, 141 Mich. App. 356, 367 N.W.2d 393 (1985). In this action both the manufacturer of the truck and the manufacturer of a multi-piece rim were sued for injuries sustained by a repairman when the rim explosively disengaged. Plaintiff alleged breach of warranty and negligence for failure to warn of dangers inherent in the three-piece rim. First acknowledging that "[n]egligence and breach of implied warranty claims based on a failure to warn involve proof of the same elements." *Id.* at 361, 367 N.W.2d at 396. The appellate court affirmed the finding below that the plaintiff's awareness of the risk and acknowledgment that this conduct would have been the same had a warning been issued "refuted a causal connection between the lack of warning of the danger of three-piece wheel rims and plaintiff's injury." *Id.* at 362, 367 N.W.2d at 396.

¹¹¹ *Streich*, 692 P.2d at 442-43.

¹¹² *Id.* at 442.

¹¹³ *Id.* at 448, and continuing: "Surely goods are not merchantable, if in their ordinary use, the goods cause damage to property to which they are applied or harm to the person using them." *Id.*

¹¹⁴ See *Chestnut v. Ford Motor Co.*, 445 F.2d 967, 969 (4th Cir. 1971).

an implied warranty of merchantability, on the other hand, "focuses upon whether the *lack of warning* renders the product unreasonably dangerous and thereby breaches an implied warranty."¹¹⁵

One of the most important distinctions between warranty and tort as applied to allegations of failure to warn is that the manufacturer's duty to warn under a tort theory is "continuous," in that it is not interrupted by the manufacture or the sale of the product.¹¹⁶ Under warranty theory, on the other hand, the seller's obligation is that the product be merchantable, or not unreasonably dangerous, at the time of initial sale.¹¹⁷ Therefore, where plaintiff alleges a failure to warn sounding in breach of implied warranty of merchantability, if the product is not unreasonably dangerous for want of adequate warnings at the time it leaves the control of the manufacturer, "it cannot at some later date 'become' unreasonably dangerous due to the lack of warnings."¹¹⁸

V. THE EFFECT OF OBVIOUSNESS OF THE HAZARD ON USER'S KNOWLEDGE OF THE HAZARD

In many situations the risk associated with the use of or the exposure to a product is of such a nature that it is known to the buyer or consumer, or is readily apparent to the casual observer. Where there is such knowledge or obviousness of the risk, there exists in most instances an equilibrium between the safety-related information held by the seller and that known by the buyer or user, and there should be no duty to warn. Where the hazard is apparent, but not the means by which the hazard can be avoided or the product used without an unnecessary risk, the seller should still have a duty to warn or offer instructions to the user or consumer.

The majority rule is that there exists no duty to warn of certain obviously hazardous conditions.¹¹⁹ Authority consistent with the conclusion that a manufacturer need not warn of hazards that are of common knowledge has involved

¹¹⁵ *Goodbar v. Whitehead Bros.*, 591 F. Supp. 552, 556 (W.D. Va. 1984), *aff'd*, 769 F.2d 213 (4th Cir. 1985) (emphasis in original) (no breach of implied warranty of merchantability for failure to warn under Virginia law where a skilled purchaser, a foundry, knew, or should have known of the hazardous propensities of silica).

¹¹⁶ *Bly v. Otis Elevator*, 713 F.2d 1040, 1046 (4th Cir. 1983); W. Prosser, *supra* note 54, at 647.

¹¹⁷ *Bly*, 713 F.2d at 1046; *Barber v. General Elec. Co.*, 648 F.2d 1272 (10th Cir. 1981); *Logan v. Montgomery Ward & Co., Inc.*, 216 Va. 425, 219 S.E.2d 685 (1975); 1 R. Hursh & H. Bailey, *American Law of Products Liability* 674 (2d ed. 1974).

¹¹⁸ *Bly*, 713 F.2d at 1046.

¹¹⁹ *See, e.g.*, *Fanning v. Lemay*, 38 Ill. 2d 209, 230 N.E.2d 182 (1967) (slipperiness of shoes when wet); *Ward v. Hobart Mfg. Co.*, 450 F.2d 1176 (5th Cir. 1971) (placing hand in operating meat grinder).

slingshots,¹²⁰ BB guns,¹²¹ darts,¹²² chairs on casters for invalids,¹²³ kerosene used by industrial workers,¹²⁴ and the activity of diving from a roof into a four-foot-deep swimming pool.¹²⁵

The law has been often, but inadequately, summarized that there should be no recovery for failure to warn where the hazard posed by the product was obvious to the ordinary user or consumer. The position taken in the decisions comprising this body of law is stated by one court in this language: "A manufacturer cannot manufacture a knife that will not cut or a hammer that will not mash a thumb or a stove that will not burn a finger. The law does not require him to warn of such common dangers."¹²⁶ Whatever may be the limitations of this articulation of the law, it nevertheless finds substantial support. A consistent position is suggested by the comments to Restatement (Second) of Torts section 388 which provide that the supplier's duty to warn others of hazardous propensities of a product applies "if, and only if, he has no reason to expect that those for whose use the chattel is supplied will discover its condition and realize the danger involved."¹²⁷

¹²⁰ *Bojorquez v. House of Toys, Inc.*, 62 Cal. App. 3d 930, 133 Cal. Rptr. 483 (1976).

¹²¹ *Menard v. Newhall*, 135 Vt. 53, 373 A.2d 505 (1977); *Bookout v. Victor Comptometer Corp.*, 40 Colo. App. 417, 576 P.2d 197 (1978).

¹²² *Atkins v. Aslans Dept. Store of Norman, Inc.*, 522 P.2d 1020 (Okla. 1974).

¹²³ *McIntyre v. Everest & Jennings, Inc.*, 575 F.2d 155 (8th Cir.), *cert. denied*, 439 U.S. 864 (1978).

¹²⁴ *Burton v. L.O. Smith Foundry Prods. Co.*, 529 F.2d 108 (7th Cir. 1976).

¹²⁵ *Hensley*, 65 Mich. App. 662, 238 N.W.2d 362.

¹²⁶ *Jamieson*, 101 U.S. App. D.C. at 36, 247 F.2d at 26. *Jamieson* involved the plaintiff's purchase of an elastic exerciser that was essentially "an ordinary rubber rope, about the thickness of a large lead pencil, about forty inches long, with loops on the ends." *Id.* at 35, 247 F.2d at 25. Plaintiff was injured when the extended exerciser slipped and struck her in the eye.

¹²⁷ RESTATEMENT (SECOND) OF TORTS § 388, comment k. Importantly, however, the comment goes on to state that the supplier will have a duty to warn where the condition, however "readily observable," represents "one which only persons of special experience would realize to be dangerous." *Id.* Professor James summarizes the consistent conclusion in this way:

[The obviousness of a danger, including the likelihood that it will be appreciated] is a factor which diminishes the likelihood of danger and militates against the need for precautions. The sharpness of knives and axes, or the tendency of unpacked fresh meat to spoil are so notorious that a warning could be expected to add nothing useful to the perception gained from one's senses and the knowledge common to all men. Nor does any alternative feasible precaution suggest itself. People generally can and do protect themselves against the dangers, thus they are not unreasonable ones.

2 F. HARPER & F. JAMES, *supra* note 13, at 1542.

"Under this analysis the obviousness of a condition will still preclude liability if the obviousness justifies the conclusion that the condition is not unreasonably dangerous; otherwise it would simply be a factor to consider on the issue of negligence." *Id.* at 1543. Perhaps the sharpest articulation of the patent danger rule to date has been offered by the Pennsylvania Supreme Court in *Bartkewich v. Billinger*, 432 Pa. 351, 247 A.2d 603 (1968): "[W]e hardly believe it is anymore necessary to tell an experienced factory worker that he should not put his hand into a machine that is at that moment breaking glass than it would be necessary to tell a zookeeper to keep his head out of a hippopotamus' mouth." *Id.* at 356, 247 A.2d at 606.

Similar results include a denial of recovery to the plaintiff upon a finding of the obviousness of the hazard of using a power saw without the guard in place,¹²⁸ flammability of kerosene,¹²⁹ and putting one's hand in a meat grinder during operation.¹³⁰

Reflections of the doctrine precluding liability in a failure to warn case where the product hazard was obvious also include findings of no manufacturer liability for the failure to warn the operator of a forklift truck of the danger of falling cartons in the absence of an overhead guard;¹³¹ that the top of a trash dumpster could close on a child;¹³² or that objects might be hurled outward from the blades of a bushhog rotary mower, injuring a co-worker.¹³³ There exists a lively dispute as to whether the capacity of a champagne cork to fly from the bottle upon opening, with the consequent risk of injury to celebrants, represents an obvious risk as to which no warning is required.¹³⁴

The almost invariable issue in the discussion of the effect of hazard obviousness on the duty to warn is the subject of the injured party's actual knowledge of the danger as to which it is later alleged defendant should have warned. In the workplace setting, the majority rule is that there can be no liability for failure to warn of a hazard known specifically and individually to the user, or even sometimes the user's employer. Thus, recovery has been denied to a plaintiff punch-press operator who was injured while changing a broken punch when the defendant was successful in showing that the injured party was an experienced operator of the machine and was aware of the dangers involved in the residual motion of the ram after the power is shut off.¹³⁵ Similarly, when the retail seller of a winch truck was made a defendant in an action after one of the employees of the purchaser was injured while driving the truck with a heavy load attached

¹²⁸ *Haines v. Powermatic Houdaille, Inc.*, 661 F.2d 94 (8th Cir. 1981) (applying Missouri law).

¹²⁹ *Burton*, 529 F.2d 108.

¹³⁰ *Ward*, 450 F.2d 1176.

¹³¹ *Posey v. Clark Equip. Co.*, 409 F.2d 560 (7th Cir.), *cert. denied*, 396 U.S. 940 (1969) (applying Indiana law).

¹³² *Greenway v. Peabody Int'l Corp.*, 163 Ga. App. 698, 294 S.E.2d 541 (1982).

¹³³ *Colson v. Allied Prods. Corp.*, 640 F.2d 5 (5th Cir. 1981).

¹³⁴ For a finding that the obviousness and common knowledge that such corks disengage under power does not convey obviousness that they may eject spontaneously. *See Burke v. Almaden Vineyards Inc.*, 86 Cal. App. 3d 768, 150 Cal. Rptr. 419 (1978) (also admitting evidence of warning added to label after incident for purpose of showing feasibility of cautionary effort). *But see Shuput v. Heublein Inc.*, 511 F.2d 1104 (10th Cir. 1975) in which the court states: "The duty to warn . . . does not extend to a perfectly obvious hazard but we do not consider this to be such a case. The propensities of bubbly wine may be well known to many but are not a matter of such common knowledge as to be established as a matter of law and imposed as a matter of judicial knowledge." *Id.* at 1106.

¹³⁵ *Bullock v. Gulf & W. Mfg.*, [1983-84 Transfer Binder] Prod. Liab. Rep. (CCH) ¶9865 (Mich. App. 1983).

to the winch, no liability for failure to warn was found upon the seller's showing that the buyer was fully cognizant of the risks involved.¹³⁶

Another dimension of the doctrine denying recovery where a product's perils are obvious is represented by those holdings on facts not involving injuries in the workplace, and reaching the companion conclusion that there should be no recovery for inadequate or absent warning when the party to whom the warning would be properly directed is already aware of the danger.¹³⁷ Consistent with the authority concerning hazards in the workplace, these decisions focus upon the knowledge of the person to whom the warning would be ostensibly due, and not upon the apparent or unapparent nature of the risk. It has been held, therefore, that the seller's defense that a hazard was readily observable or known will be applicable even when the product's hazards might not be considered obvious to the uninformed.¹³⁸ There is authority extending the applicability of the known hazard doctrine to claims brought in strict liability in tort as well as in negligence.¹³⁹

Importantly, under the known danger doctrine, the user's generalized awareness of some peril will not defeat recovery unless the user knows of the specific risk involved and of its magnitude.¹⁴⁰ Accordingly, a manufacturer may be found to have breached its duty to warn where the evidence shows that the injured party perceived some, but not all, of the danger. Illustrative is one action in which the court found that the plaintiff, severely injured by diving into a shallow pool, raised sufficient issue of material fact to avoid summary judgment since the evidence suggested that the plaintiff had some knowledge of some risk, but no appreciation of the entirety of such risk or its severity.¹⁴¹

¹³⁶ *Cruz v. Texaco, Inc.*, [1984-85 Transfer Binder] Prod. Liab. Rep. (CCH) ¶10307 (S.D. Ill. 1984). The defendant here relied upon the knowledgeable purchaser doctrine, by which is posited that in certain circumstances a seller may be entitled to rely upon the buyer to impact to the ultimate users any pertinent warnings or instructions. *See Hopkins v. E. I. Du Pont de Nemours & Co.*, 212 F.2d 623 (3d Cir.), *cert. denied*, 348 U.S. 872 (1954) (no duty to warn found for dynamite manufacturer where blasting operations supervised by foreman knowledgeable of the dangers).

¹³⁷ *See, e.g., Martinez v. Dixie Carriers Inc.*, 529 F.2d 457 (5th Cir. 1976).

¹³⁸ *See, e.g., McIntyre*, 575 F.2d 155, which involved the instability of a commode when the use would be by a handicapped person.

¹³⁹ *Garrett v. Nissen Corp.*, 84 N.M. 16, 21, 498 P.2d 1359, 1364 (1972), involving the hazard of falling from a trampoline, and finding that there is no duty under either RESTATEMENT (SECOND) OF TORTS § 388 or § 402A to warn of a risk known to the user or consumer.

¹⁴⁰ *See, e.g., Hopkins v. E. I. Du Pont de Nemours & Co.*, 199 F.2d 930 (3d Cir. 1952).

¹⁴¹ *Corbin v. Coleco Indus. Inc.*, [1984-85 Transfer Binder] Prod. Liab. Rep. (CCH) ¶ 10342 (7th Cir. 1984). Specifically, the injured plaintiff therein knew generally of the dangers associated with diving into a shallow pool, but at the time of the incident itself he had intended only a shallow, or "belly flop," dive. The court seems to have agreed with the proposition that the risk, of which the plaintiff was not aware, was that of injury caused by a diver inadvertently taking a regular deep dive, rather than the shallow belly flop intended. *But cf. Colosimo v. May Dept. Store, Inc.*, 466 F.2d 1234 (3d Cir. 1972), where a fifteen year old boy was injured in a comparable way, but where recovery was denied on a showing of the plaintiff's extensive aquatics familiarity, including Red Cross courses in diving.

The doctrine denying recovery for injuries caused by product hazards that are obvious or known to the user or consumer has been applied even where the injured parties are children, embracing a logic that prompted one court in an action caused by slingshot to state: "Ever since David slew Goliath young and old alike have known that slingshots can be dangerous and deadly."¹⁴² Comparable results have been reached in actions involving minors' use of BB guns,¹⁴³ pointed darts,¹⁴⁴ and denatured alcohol.¹⁴⁵

Although the doctrine is sometimes stated that recovery may not be had for failure to warn where the hazard posed by the product is both known and obvious, the more supportable expression of the law is that if the danger is known *or* obvious, a warning will not be required. Thus, for the application of this defense, the manufacturer need only show that the risk was either known or obvious.¹⁴⁶

While the patent danger rule has achieved substantial currency, the better reasoned argument is that automatic preclusion of liability based only upon alleged obviousness of the danger ill serves the risk spreading concepts underlying strict liability in tort.¹⁴⁷ The authors of Restatement (Second) of Torts section 402A

¹⁴² *Borjorquez*, 62 Cal. App. 3d at 931, 133 Cal. Rptr. at 484.

¹⁴³ *Bookout*, 40 Colo. App. 417, 576 P.2d 197.

¹⁴⁴ *Atkins*, 522 P.2d 1020.

¹⁴⁵ *Patrick v. Perfect Parts Co.*, 515 S.W.2d 554 (Mo. 1974).

¹⁴⁶ *Mather v. Caterpillar Tractor Corp.*, 23 Ariz. App. 409, 533 P.2d 717 (1975) (alleged design defect and failure to warn concerning absence of tractor roll-over bars).

¹⁴⁷ See generally Marshall, *An Obvious Wrong Does Not Make a Right: Manufacturers' Liability for Patently Dangerous Products*, 48 N.Y.U.L. REV. 1065 (1973), arguing, among other things, that the patent defect rule ought not to apply to actions in strict liability in tort. See also *Thompson v. Package Mach. Co.*, 22 Cal. App. 3d 188, 99 Cal. Rptr. 281 (1971); 2 L. FRUMER & M. FRIEDMAN, *PRODUCTS LIABILITY* § 16A(5)(F) (1985). Related hereto is fairly sharp criticism of the patent peril doctrine as it has been interpreted in design defect litigation. One such criticism was leveled in *Palmer v. Massey-Ferguson, Inc.*, 3 Wash. App. 508, 476 P.2d 713 (1970) (an action against a hay baler manufacturer for injuries arising from the adjustment of a draw-bar). To the defendant's interposition of the obviousness defense, the court responded: "The manufacturer of the obviously defective product ought not to escape because the product was obviously a bad one. The law, we think, ought to discourage misdesign rather than encouraging it in its obvious form." *Id.* at 517, 476 P.2d at 719. See *Micallef v. Miehle Co.*, 39 N.Y.2d 376, 348 N.E.2d 571, 384 N.Y.S.2d 115 (1976) (citing with approval *Palmer*, 3 Wash. App. at 517, 476 P.2d at 719) involving a printing press operator who injured his hand "chasing a hickie," or removing a foreign object, from the surface of the plate of the unit. A new trial was ordered notwithstanding the plaintiff's admitted knowledge of the danger, and, for that matter, the common knowledge through the industry of the hazard. The court stated: As now enunciated, the patent-danger doctrine should not, in and of itself, prevent a plaintiff from establishing his case. That does not mean, however, that the obviousness of the danger as a factor in the ultimate injury is thereby eliminated, for it must be remembered that in actions for negligent design, the ordinary rules of negligence apply. Rather, the openness and obviousness of the danger should be available to the defendant on the issue of whether plaintiff exercised that degree of reasonable care as was required under the circumstances

stated plainly that the "purpose of such liability is to ensure that the costs of injuries resulting from products are borne by the manufacturers that put such products on the market, rather than by the injured persons who are powerless to protect themselves."¹⁴⁸ More appropriate than immunizing from liability sellers who ignore patent dangers in their products,¹⁴⁹ it has been suggested that the obviousness of the danger should not be an absolute defense, but rather should constitute but one of the factors in determining whether a product poses an unreasonable danger.¹⁵⁰ Pertinent to the question of the quantum of safety-related information held by the seller and the buyer respectively, it is further urged that, in measuring the likelihood of harm, "one may consider the obviousness of the defect since it is reasonable to assume that the user of an obviously defective product will exercise special care in its operation, and consequently the *likelihood* of harm diminishes."¹⁵¹

Upon its review of like authority, the Supreme Court of North Dakota so concluded in *Olson v. A. W. Chesterton, Co.*,¹⁵² an action brought by the injured

Id. at 387, 348 N.E.2d at 578, 384 N.Y.S.2d at 122 (citations omitted). See also 2 F. HARPER & F. JAMES, *supra* note 13 at § 28.5.

[T]he bottom does not logically drop out of a negligence case against the maker when it is shown that the purchaser knew of the dangerous condition. Thus if the product is a carrot-topping machine with exposed moving parts, or an electric clothes wringer dangerous to the limbs of the operator, and if it would be feasible for the maker of the product to install a guard or safety release, it should be a question for the jury whether reasonable care demanded such a precaution, though its absence is obvious. Surely reasonable men might find here a great danger, even to one who knew the condition; and since it was so readily avoidable they might find the maker negligent.

Id. at 1543 (citations omitted), *quoted in Micallef*, 39 N.Y.2d at 384, 348 N.E.2d at 576, 384 N.Y.S.2d at 120.

¹⁴⁸ *Lugue v. McLean*, 8 Cal. 3d 136, 144, 501 P.2d 1163, 1169, 104 Cal. Rptr. 443, 449 (1972) (quoting *Greenman v. Yuba Power Prods., Inc.*, 59 Cal. 2d 57, 63, 377 P.2d 897, 901, 27 Cal. Rptr. 697, 701 (1962)).

¹⁴⁹ *Id.*, 501 P.2d at 1169, 104 Cal. Rptr. at 449 (pointing out that it is anomalous to allow a plaintiff to prove that a manufacturer was negligent in marketing an obviously defective product, while precluding him from establishing the manufacturer's strict liability for doing the same thing).

¹⁵⁰ *Dorsey*, 331 F. Supp. at 759.

¹⁵¹ *Id.* at 760 (emphasis in original). As an aid in evaluation of "likelihood of harm" the court employed protocol of Dean Wade, which suggests the weighing of:

(1) the usefulness and desirability of the product, (2) the availability of other and safer products to meet the same need, (3) the likelihood of injury and its probable seriousness, (4) the obviousness of the danger, (5) common knowledge and normal public expectation of the danger (particularly for established products), (6) the avoidability of injury by care in use of the product (including the effect of instructions or warnings), and (7) the ability to eliminate the danger without seriously impairing the usefulness of the product or making it unduly expensive.

Id. (quoting Wade, *Strict Liability of Manufacturers*, 19 Sw. L.J. 5, 17 (1965)).

¹⁵² *Olson v. A. W. Chesterton Co.*, 256 N.W.2d 530, 537-38 (N.D. 1977).

operator of a conveyor belt against the manufacturer of a dressing applied to the belt before the accident. Affirming the verdict for the plaintiff below, the court turned to its view of the relationship between the patent danger rule and the allegation of duty to warn, stating:

There is no valid reason for automatic preclusion of liability based solely upon obviousness of danger in an action founded upon the risk-spreading concept of strict liability in tort which is intended to burden the manufacturers of defectively dangerous products with special responsibilities and potential financial liabilities for accidental injuries. . . . We do not agree with [the manufacturer's] contention that since the dangers inherent in the conveyor belt system are obvious to everyone, no warning of potential danger need be placed on a product designed to be used in conjunction with that system.¹⁵³

The latter authority suggests that when the hazard is known, but the user or consumer remains at risk for want of information as to the means for avoiding the danger or using the product in a reasonably safe manner, an informational duty is preserved in the seller. Such a conclusion is consistent with the model that would require the seller to warn or offer instructions to the user or consumer when there exists an asymmetry between the germane, safety-related information held by the seller and that held by the buyer, when, as in *Olson*, the informational deficit suffered by the user or consumer is the lack of information known to the seller that will permit the use or consumption of the product free from an unreasonable risk of harm.

VI. WARNINGS AS TO UNINTENDED OR UNFORESEEABLE USE OF THE PRODUCT

Generally stated, a manufacturer is required only to produce a product that is reasonably safe for its intended use. Where misuse of the product may create an unreasonable risk of injury or damage, the manufacturer must provide warnings adequate to permit the user to avert the hazard. This duty to warn extends to all risk-creating misuse that is reasonably foreseeable and is not limited by whether the foreseeable misuse is likely or unlikely; it need only be reasonably foreseeable.¹⁵⁴

Not very long ago, as measured in years, products liability jurisprudence permitted the manufacturer to presume that its product would be devoted to its normal use, and if it was safe when so used, it would "not [be] liable in damages for injury resulting from an abnormal or unusual use not reasonably antici-

¹⁵³ *Id.* at 537 (citing RESTATEMENT (SECOND) OF TORTS § 402A comment c).

¹⁵⁴ The proposition has been variously expressed: "[T]he manufacturer is not liable for injuries resulting from abnormal or unintended use of his product, *if* such use was reasonably foreseeable. The issue is one of foreseeability, and misuse may be foreseeable." 1A L. FRUMER & M. FRIEDMAN, *supra* note 147, at 405-06. See Noel, *supra* note 68, at 97.

pated.”¹⁵⁵ Under this view of a seller’s duty, when the injury caused by the product arose from a use that could not be foreseen, the manufacturer would not be liable.¹⁵⁶ In light of such policy it was held that it was not a foreseeable use of an automobile that it might be involved in collisions,¹⁵⁷ that a hood designed for use as harness equipment might be used to support a man pruning trees,¹⁵⁸ or that a consumer might splash cleaning fluid into her eye.¹⁵⁹

As is true of the decisional law concerning what represents foreseeable injury, the characterization of a product’s foreseeable use, or if preferred, foreseeable misuse, has changed dramatically. This change has effectively rewritten the common law and created a products liability remedy for injuries occasioned by product misuse where no remedy existed before. A galvanizing influence in this development has been comment k to Restatement (Second) of Torts section 395 which states that “[t]he manufacturer may . . . reasonably anticipate other uses than the one for which the chattel is primarily intended.”¹⁶⁰

The thread connecting the decisions evaluating the conduct of the consumer in determining whether the particular and often creative use to which the product has been put is one that the seller ought reasonably to have foreseen, and as to which he should be liable for any injury caused, is “whether the plaintiff was acting within a commonly known area of conduct.”¹⁶¹ By such a common conduct standard, therefore, a kitchen chair used by a consumer to reach a high shelf was found to be in foreseeable use when the backrest failed to support her weight, causing injury.¹⁶² Similarly, a fifteen-year-old boy’s dive into a thirty-inch deep backyard pool would be common conduct and foreseeable use of the pool for which the manufacturer could be held liable for consequent damages.¹⁶³ The common conduct standard would likewise support the conclusion that the common,

¹⁵⁵ *McCready v. United Iron & Steel Co.*, 272 F.2d 700, 703 (10th Cir. 1959).

¹⁵⁶ The first Restatement took this approach, establishing that manufacturer liability for negligence is confined to situations where the product is used “for a purpose for which it is manufactured.” *RESTATEMENT OF TORTS* § 395 (1934). A learned observation of the same sensibility stated it this way: “A roller skate or even a book may become an instrument of serious injury if placed strategically at the top of a flight of stairs in the dark.” 2 F. HARPER & F. JAMES, *supra* note 13, at 1546.

¹⁵⁷ *Evans v. General Motors Corp.*, 359 F.2d 822, 825 (7th Cir.), *cert. denied*, 385 U.S. 836 (1966), *overruled*, *Huff v. White Motor Corp.*, 565 F.2d 104 (7th Cir. 1977).

¹⁵⁸ *O'Donnell v. Asplundh Tree Exp. Co.*, 13 N.J. 319, 99 A.2d 577 (1953).

¹⁵⁹ *Sawyer v. Pine Oil Sales Co.*, 155 F.2d 855 (5th Cir. 1946).

¹⁶⁰ *RESTATEMENT (SECOND) OF TORTS*, § 395 comment k continues by stating in part: “The maker of a chair, for example, may reasonably expect that someone will stand on it; and the maker of an inflammable cocktail robe may expect that it will be worn in the kitchen in close proximity to a fire.”

¹⁶¹ Note, *Foreseeability in Product Design and Duty to Warn Cases—Distinctions and Misconceptions*, 1968 Wisc. L. Rev. 228, 233.

¹⁶² *Phillips v. Ogle Aluminum Furniture, Inc.*, 106 Cal. App. 2d 650, 235 P.2d 857 (1951).

¹⁶³ *Colosimo v. May Dept. Store Co.*, 325 F. Supp. 609 (W.D. Pa. 1971), *rev'd*, 466 F.2d 1234 (3d Cir. 1972).

while unfortunate, use of an automobile is its involvement in collisions.¹⁶⁴ It also provides justification for imposing manufacturer liability where the vehicle's design, instructions or warnings heightened the risk of accident or worsened the effects of one.¹⁶⁵

Application of a "commonly known area of conduct" standard, or a comparable standard, to our measurement of the seller's safety-related information and any informational responsibilities with respect to that information, has the felicitous result of providing a reasonable limitation on what information the seller will be expected to impart to the buyer in connection with any particular product. The manufacturer, presumptively expert in an often expansive field of endeavor, should only be expected to make available to the buyer safety-related information related to the use or the foreseeable misuse of that product. The informational obligation should not extend to such activities as are at the furthest reaches of the pessimistic imagination of human conduct, but should extend instead to such use or misuse as can be described as being within a commonly known area of conduct.

Restatement (Second) of Torts section 402A comment h provides limited guidance as to a manufacturer's duties to warn concerning potential misuse of a product and support for the above propositions. Reiterating that a product will generally not be considered in a defective condition within the meaning of strict liability when it is safe for normal handling and consumption, the comment sets forth examples of abnormal use which, if injury follows, should not result in manufacturer liability. The examples are those of a bottled beverage struck against a radiator to remove the cap (abnormal handling); the addition of too much salt to food (abnormal preparation for use); and a child eating too much candy and thereby becoming ill (abnormal consumption). From these somewhat benign risks, the comment distinguishes the situation where the manufacturer "has reason to anticipate that danger may result from a particular use" of the product, such as in the case of a pharmaceutical that is safe for use only in limited dosages. For such a product and for such a risk that can be reasonably anticipated or foreseen, and when the injury or illness risked, should it occur, is serious, the manufacturer "may be required to give adequate warning of the danger . . . and a product sold without such warning is in a defective condition."¹⁶⁶

¹⁶⁴ Volkswagen of America, Inc. v. Young, 272 Md. 201, 321 A.2d 737, 745 (1974).

¹⁶⁵ Larsen v. General Motors Corp., 391 F.2d 495, 503 (8th Cir. 1968).

¹⁶⁶ RESTATEMENT (SECOND) OF TORTS § 402A comment h. Comment j, of the RESTATEMENT (SECOND) OF TORTS § 395 states:

Unforeseeable Use or Manner of Use. The liability stated in this Section is limited to persons who are endangered and the risks which are created in the course of uses of the chattel which the manufacturer should reasonable anticipate. In the absence of special reason to expect otherwise, the manufacturer is entitled to assume that his product will be put to normal use, for which the product is intended or appropriate; and he is not subject to

One excellent example of the liberal interpretation of the concept of foreseeable misuse¹⁶⁷ is offered by *Lebouef v. Goodyear Tire & Rubber Co.*,¹⁶⁸ an action stemming from an accident in which the tread separated from the body of one of the vehicle's tires while the vehicle was being driven at over one hundred miles per hour. Interpreting state law holding that a warning could be considered inadequate where it rendered a product "unreasonably dangerous to normal use"¹⁶⁹ and providing further that the manufacturer's duty and consequent liability for failure to warn encompasses "all reasonably foreseeable uses of a product,"¹⁷⁰ the court concluded that the automobile's high horsepower and marketing to youthful drivers attracted to the product's power and potential speed made it "not simply foreseeable, but . . . readily expected, that the [vehicle] would, on occasion, be driven in excess of the . . . proven maximum safe operating speed of its . . . tires."¹⁷¹

The case of *Moran v. Faberge, Inc.*, a decision approaching the outer doctrinal reaches of liability for failure to warn as to hazards of unconventional use, involved an injury from ignition of women's cologne and corroborated the court's observation that "[t]he idle mind knows not what it is it wants."¹⁷² In *Moran*, two teen-aged girls were passing casual time in one family's recreation room when one concluded it would be diverting to see if she could scent a lighted candle by

liability when it is safe for all such uses, and harm results only because it is mishandled in a way which he has no reason to expect, or is used in some unusual or unforeseeable manner. Thus a shoemaker is not liable to an obstinate lady who suffers harm because she insists on wearing a size too small for her, and the manufacturer of a bottle of cleaning fluid is not liable when the purchaser splashes it into his eye.

RESTATEMENT (SECOND) OF TORTS § 395 comment j.

¹⁶⁷ See the excellent discussion of the distinction between the foreseeability of use and the foreseeability of risk of harm in *Newman*, 278 Or. at 564, 564 P.2d at 675-77, and set forth in part *supra* note 68.

¹⁶⁸ *Lebouef v. Goodyear Tire & Rubber Co.*, 623 F.2d 985 (5th Cir. 1980).

¹⁶⁹ *Id.* at 988 (citing *Chappuis v. Sears, Roebuck & Co.*, 358 So. 2d 926, 929 (La. 1978)).

¹⁷⁰ *Id.* at 989; see, e.g., *Rey v. Cuccia*, 298 So. 2d 840, 844 n.2, 847 (La. 1974) (duty to warn of "possible hazard" known to manufacturer); *Amco Underwriters of the AMCO Underwriters of Audubon Ins. Co. v. American Radiator & Standard Corp.*, 329 So. 2d 501, 504 (La. Ct. App. 1976) (duty to warn of dangers even from improper use of otherwise nondefective product). See also, e.g., *Jones v. Menard*, 559 F.2d 1282, 1285 n.4 (5th Cir. 1977) (dictum, construing Louisiana law to the effect that "[i]n inadequate warning cases misuse means that the seller had no duty to warn against unforeseeable uses of its products, while in design cases misuse means that the manufacturer had no duty to design a product so as to prevent injuries arising from unforeseeable uses of that product." *Id.*).

¹⁷¹ *Lebouef*, 623 F.2d at 989. To the manufacturer's argument that the injured party's illegally excessive speed should not be considered a "normal" use, the court answered: "It would be blinking reality in this case to hold that Ford could not reasonably have expected purchasers of any automobile, much less one equipped and marketed as was the Cougar, to transgress our nation's speeding laws periodically." *Id.* n.4.

¹⁷² *Moran v. Faberge, Inc.*, 273 Md. 538, 540, 332 A.2d 11, 13 (1975).

pouring some of the contents of a bottle of the defendant's cologne on the bottom of the taper. The immediate ignition severely burned one of the two girls. The cologne carried no warning as to its alcohol content; about its low flash point, described by one expert witness as approximately room temperature; or about the hazards associated with its use around open flame. The manufacturer naturally claimed no duty to warn existed for a hazard that was so obvious and was, moreover, occasioned by the injured girl's unusual, even bizarre use of the cologne. In finding for the plaintiff, the Maryland Court of Appeals first described the duty to warn most broadly, stating that "a duty to warn is imposed on a manufacture if the item it produces has an inherent and hidden danger about which the producer knows, or should know, could be a substantial factor in bringing injury to an individual or his property."¹⁷³ To the Maryland court, the issue was not that the manufacturer should have foreseen the injured girl's improvident behavior. Instead, the issue was whether a cologne with a substantial alcohol content and a low flash point might reasonably be used near an open flame. This, the court concluded, was reasonably foreseeable, giving rise to the manufacturer's duty to warn.¹⁷⁴

By requiring that a manufacturer anticipate the environment in which a product will be used, and the risks of misuse, however unorthodox, that may inhere in such an environment, the court in *Moran* did no more than follow a line of authority that antedates strict liability in tort and which found a most succinct expression in *Spruill v. Boyle-Midway, Inc.*¹⁷⁵ The court in *Spruill* held that, in addition to foreseeing the literal intended uses of the product, the seller "must also be expected to anticipate the environment which is normal for the use of his product, and where . . . that environment is the home, he must anticipate the reasonable foreseeable risks of the use of his product in such an environment . . . [even] though such risks may be incidental to the use for which the product was intended."¹⁷⁶ Consistent with the doctrine expressed in *Moran* and *Spruill*,

¹⁷³ *Id.* at 552, 332 A.2d at 20.

¹⁷⁴ The court summarized its analysis:

Thus, in the context of this case, it was not necessary for a cologne manufacturer to foresee that someone would be hurt when a friend poured its product near the flame of a lit candle; it was only necessary that it be foreseeable to the producer that its product, while in its normal environment, may be brought near a catalyst, likely to be found in that environment, which can untie the chattel's inherent danger. For example while seated at a dressing table, a woman might strike a match to light a cigarette close enough to the top of the open cologne bottle so as to cause an explosion, or that while seated in a similar manner she might turn suddenly and accidentally bump the bottle of cologne with her elbow, splashing some cologne on a burning candle placed on the vanity.

Id. at 553, 332 A.2d at 20.

¹⁷⁵ *Spruill*, 308 F.2d 79.

¹⁷⁶ *Id.* at 83-84. In that action the plaintiff's infant decedent died after drinking some of the defendant's cherry red furniture polish left only momentarily on a bureau near the child's crib. The

it is today well settled that the manufacturer must design for and impart warnings for involvement of its product in mishaps that are in no way related to the product's intended use. Thus, to use one widely appreciated example, the manufacturer of clothes must foresee that the wearer may, unwittingly, bring the garment into contact with cigarettes, stove burners, or other sources of ignition. The manufacturer will be liable for any injury occasioned by the garment's unreasonable flammability in such a setting, notwithstanding the fact that bringing the fabric into contact with an ignition source is surely not an intended use of the product. It is, nevertheless, a foreseeable misuse.¹⁷⁷

In a duty to warn action, including one in which misuse of the product is at issue, a third party's negligence is not a defense unless that negligence is the sole proximate cause of the plaintiff's injuries.¹⁷⁸ The most common test for determination of whether an intervening negligent act represents a superseding cause is one of the "foreseeability of the third person's conduct."¹⁷⁹ In the intervening conduct cases, the informational asymmetry analysis may be applied not to the safety-related information known to the injured claimant, but instead to what

defendant argued that the container's label "harmful if swallowed, especially by children" was adequate, particularly where the product was not intended to be consumed. Affirming judgment for the plaintiff, the court observed that the concept of "intended use" is actually an articulation of "reasonable foreseeability." *Id.* at 83.

The earlier cases undulate inconsistently regarding consumer misuse of the manufacturer's duty to warn. One such holding that is harmonious with *Spruill* involved a manufacturer's sale, without warnings, of "spit devils" (fireworks) wrapped in red paper and with the appearance, to children, of candy. A small child ate a "spit devil" and died from the poisonous explosive compound. The unconventional use of the fireworks withal, the manufacturer was found liable for failure to warn. *Victory Sparkler & Specialty Co. v. Latimer*, 53 F.2d 3 (8th Cir. 1931). A conflicting result was reached in *Lawson*, 180 S.W.2d 751 (five-year-old unable to read sprinkles self with flammable nail polish that ignites when child proceeds to play with matches, held: no duty to warn of this particular misuse).

¹⁷⁷ See RESTATEMENT (SECOND) OF TORTS § 395 comment k, which provides:

Foreseeable Uses and Risks. The manufacturer may, however, reasonably anticipate other uses than the one for which the chattel is primarily intended. The maker of a chair, for example, may reasonably expect that someone will stand on it; and the maker of an inflammable cocktail robe may expect that it will be worn in the kitchen in close proximity to a fire. For an early and illustrative case, see *Noone v. Fred Perlberg, Inc.*, 268 A.D. 149, 49 N.Y.S.2d 460 (1944), where a woman wearing a glazed double-netted skirt manufactured by the defendant was seriously injured when the netting of the dress, which contained some form of nitro-cellulose sizing, ignited, enveloping her in flames. Directing reinstitution of the judgement below for the plaintiff, the court stated: "The manufacturer knew or should have known that such an evening gown would be worn to dinners and cocktail parties where large numbers of persons gather and many indulge in smoking." *Id.* at 153, 49 N.Y.S.2d at 463.

¹⁷⁸ *Ontai v. Straub Clinic & Hosp., Inc.*, 66 Haw. 237, 248-49, 659 P.2d 734, 743 (1983) (citing with approval *Brown v. Clark Equip. Co.*, 62 Haw. 530, 618 P.2d 267 (1980)).

¹⁷⁹ *Id.* at 249, 659 P.2d at 743.

was known by the third party. Often an absent or inadequate warning or instruction given to one who is to handle an instrumentality in which the claimant has placed confidence will predict the conclusion that the subsequent mishap was foreseeable.

Instructive is the holding in one action brought by a patient who, while being x-rayed on a tilted table, was dropped to the floor when the foot rest on the mechanical examination platform disengaged. The evidence showed that the foot rest could disengage by the same method used to determine positive engagement, posing, in the view of the court, an "unreasonable and foreseeable" hazard. That a hospital technician might have misused the product by failure to appreciate that subtle distinction should not, resolved the court, prevent a jury from concluding that the manufacturer's conduct was the proximate cause of the plaintiff's injuries.¹⁸⁰

Similar to the effect that the negligent installation or maintenance of a manufacturer's product will not defeat liability if that misuse is foreseeable is one action brought by a ski instructor against the manufacturer of a chair lift. It was alleged that the mishap causing an adjoining chair to spring loose and knock him to the ground was caused by a cable clamp unit which secured the chair to the cable.¹⁸¹ The manufacturer defended on the ground, among others, that the actual cause of the accident was that the lift area's maintenance employees had not applied the recommended level of torque to a connecting screw. The court rejected that argument as a defense, however, stating that irrespective of the possible contribution of the maintenance employees to the peril, their actions would "not diminish any duty to warn, since a manufacturer is obligated to warn of dangers that may arise from improper use and handling"¹⁸² Normal misuse of an automobile has likewise been found not to preclude the jury from finding as a matter of law that a small automobile's susceptibility to overturning could render it unreasonably dangerous in the absence of adequate warnings concerning that risk.¹⁸³

¹⁸⁰ *Id.* at 248-49, 659 P.2d at 743.

¹⁸¹ *Anderson*, 198 Colo. 391, 397-98, 604 P.2d 674, 678.

¹⁸² *Id.* at 397, 604 P.2d at 678. See *Higel v. General Motors Corp.*, 190 Colo. 57, 544 P.2d 983 (1975); *Crane v. Sears Roebuck & Co.*, 218 Cal. App. 2d 855, 32 Cal. Rptr. 754 (1963).

¹⁸³ *Greiner v. Volkswagenwerk Aktiengesellschaft*, 540 F.2d 85 (3d Cir. 1976), where evidence at trial showed the plaintiff's inebriated condition and incautious driving, including speeding on an unknown road and driving on the wrong side of the road at the time of the accident. The appellate court concluded that the trial judge correctly instructed the jury that they could find normal use "even if [the appellant] was mishandling the V.W. In the Judge's words, 'normal misuse' would be sufficient to support a finding of defect." *Id.* at 96. See also *Benoit v. Ryan Chevrolet*, 428 So. 2d 489 (La. Ct. App. 1982), an action brought by an automobile owner who claimed that while proceeding down the road at a moderate speed one of the rear tires exploded with such force that a large fragment of the tire was propelled through the wheel well, causing damage that included, among other things, bending the rear door frame so as to prevent it from being closed. The defendant, by expert witness produced proof that the explosion occurred by overspinning, which results when the automobile is

A complementary result was reached in an action brought against the seller of a cuprock grinding wheel that flew apart during use, injuring the plaintiff.¹⁸⁴ The appellate court overturned a jury verdict that included answers to special issues, responding affirmatively that plaintiff's improper storage, transportation, and handling of the grinder had been the producing cause of the accident. Conceding that the putative misuse might increase the risk of the accident that occurred, the court found the evidence showed that a guard probably would have contained any disintegration of the wheel and that a warning concerning use of the guard would have likely prevented such a mishap, irrespective of any mishandling.¹⁸⁵

Whether the application to which the plaintiff has put the defendant's product is a foreseeable one is a question involving the multiple factors of the foreseeability of the use in question, the type of danger involved, and the relative degree of the user's knowledge of that danger.¹⁸⁶ In the ordinary course, these evaluations will not be decided by summary disposition and should instead be considered by the trier of fact.¹⁸⁷ There exists, of course, an undeniable synergy between the degree of the user's knowledge of the risk, as that factor may be deemed to be pertinent to the evaluation of foreseeable use, and like knowledge held by the seller. Where the seller is the user or consumer's sole source of knowledge as to the nature of the risk and has offered no warnings or instructions to the buyer as to the identity or the avoidance of that risk, one should pause before countenancing a seller defense based upon nonforeseeable use. Where the seller has denied the buyer any information whatever as to the risks of misuse and means for avoidance of such hazards, in a later action arising from injury caused from such use, a user conduct defense should not prevail except in the most extreme instances of consumer foolhardiness.

On the other hand, when the misuse of the product is of such a nature as to have been not reasonably foreseeable, the paramount logic of the rule of law

in such a position one drive wheel rests on the ground or road surface and the other drive wheel does not touch the ground, while the engine is accelerated. *Id.* at 491. Finding liability proper, the court stated: "While the overspinning of tires is not part of their intended use, it is easily foreseeable and part of their normal use." *Id.* at 493.

¹⁸⁴ *Bituminous Casualty Corp. v. Black & Decker Mfg. Co.*, 518 S.W.2d 868 (Tex. Civ. App. 1974).

¹⁸⁵ *Id.* at 875. The court stated the proposition in these words: "If the injury resulting from the foreseeable misuse of the product is one of which an adequate warning would likely prevent, then such misuse is no defense to an action based on the failure to given such a warning." *Id.*

¹⁸⁶ See generally *Greenway*, 163 Ga. App. 698, 294 S.E.2d 541.

¹⁸⁷ *Beam v. Omark Indus., Inc.*, 143 Ga. App. 142, 237 S.E.2d 607 (1977). See *Giordano v. Ford Motor Co.*, 165 Ga. App. 644, 646, 299 S.E.2d 897, 899 (1983), in which the court reversed summary judgement below for the manufacturer, and remanded for trial the question, *inter alia*, of foreseeable use. The action arose from injuries sustained by the plaintiff who, upon believing that his automobile had run out of gas, purchased two gallons of gasoline from a service station, and poured a small amount of gasoline on the carburetor while a service station attendant turned the ignition, resulting in a ball of fire causing severe burns to the plaintiff's torso.

precluding a plaintiff's recovery for an injury that occurred by nonforeseeable misuse of the product, is that the manufacturer is not required to produce a product that is wholly incapable of injuring the user. Instead, as is stated at the outset, it is only required to produce and sell a product that is reasonably safe.¹⁸⁸ By this definition of obligation or duty, the seller of a product does not become "an insurer against any and all injuries" caused by the product.¹⁸⁹ The *reductio ad absurdum* result of the contrary approach is suggested by one court hypothesizing an accident in which an automobile leaves the road coming to rest in a river. "It could scarcely be argued," the court states, "that the manufacturer should have produced an automobile which would float."¹⁹⁰

When the seller issues no warnings or other information whatever, the manufacturer should not be liable for failure to provide adequate warnings if the hazard ultimately causing injury is markedly different from the hazard to which the duty to warn logically arises. Authority so holding includes, for example, a decision finding that the manufacturer of a substance sprayed on fresh cement to hasten curing would not be liable for failure to warn for injuries sustained by a worker as a result of children playing with firecrackers near an empty and unsealed drum of the product which caught fire and exploded.¹⁹¹ Similarly, the manufacturer of insulation employing a paper backing to block vapor and which, due to treatment for water repellency, was flammable, but which was to be used between studs of the building, would not be liable for failure to warn adequately for injuries sustained by a user who wrapped the insulation around water pipes and then used a propane torch to thaw adjoining frozen pipe section.¹⁹² It follows therefrom that where the manufacturer sets forth instructions for the use of the product, and the instructions are understandable and emphatic regarding the haz-

¹⁸⁸ See *Serpiello v. Yoder Co.*, 418 F. Supp. 70, 71-72, (E.D. Pa. 1976), *aff'd*, 556 F.2d 568 (3d Cir. 1977) (industrial accident involving chopping machine).

¹⁸⁹ *Beron v. Kramer-Trenton Co.*, 402 F. Supp. 1268, 1276 (E.D. Pa. 1975), *aff'd*, 538 F.2d 318 (3d Cir. 1976) (per curiam).

¹⁹⁰ *Dyson v. General Motors Corp.*, 298 F. Supp. 1064, 1073 (E.D. Pa. 1969), the court continuing, "Similarly, it could not reasonably be argued that a car manufacturer should be held liable because its vehicle collapsed when involved in a head-on collision with a large truck, at high speed." *Id.*

¹⁹¹ *Bridges*, 704 F.2d 175 (applying Louisiana law).

¹⁹² *Calvert Fire Ins. Co. v. Fyr-Fyter Sales & Serv.*, 67 Ohio App. 2d 11, 21 Ohio Ops. 3d 332, 425 N.E.2d 910 (1979). *Cf.* *May v. Gillette Safety Razor Co.*, 464 N.E.2d 401, 402 (Mass. 1984), a personal injury claim brought after the plaintiff swallowed one of defendant's razor blades. Affirming a judgment adverse to plaintiff's warranty claims, the court expressed its view that a user's ingestion of its razor blades was not "a risk which the defendant is required to anticipate." *Id.* at 402. See also *Marker v. Universal Oil Prods. Co.*, 250 F.2d 603 (10th Cir. 1957), an action arising from the death by asphyxiation of an oil company employee in the process of recharging by hot catalyst, which in contact with air creates carbon monoxide, rather than cold catalyst, which had previously been used. The court therein states that the duty to warn does not "extend [] to the potential danger involved in the totally unanticipated misuse of an item." *Id.* at 606 (citation omitted).

ards of misuse, the consumer's disregard of them can be considered misuse precluding liability for the seller. Such a result has been reached in actions involving a plaintiff that used tires of improper size and improper inflation,¹⁹³ and a plaintiff that mixed together the defendant's hair bleaching preparation with the preparation of another manufacturer.¹⁹⁴

Another action in which the injured party's disregard of the manufacturer's instructions, taken in conjunction with a creative, if unfortunate, misuse of the product, led to a denial of recovery is *Brown v. General Motors Co.*¹⁹⁵ The plaintiff and a companion, undertaking to lubricate the driveshaft of a bulldozer manufactured by the defendant, touched the starter button momentarily to rotate the shaft to facilitate the job. The engine started, and the machine crushed the plaintiff. The court, impressed by the evidence of the manufacturer's express prohibition of the maneuver executed by the plaintiff,¹⁹⁶ and the agility required for its accomplishment,¹⁹⁷ determined that there was insufficient evidence of plaintiff's normal use to permit submission of the issue to the jury.¹⁹⁸ Even where the type

¹⁹³ *McDevitt v. Standard Oil Co.*, 391 F.2d 364 (5th Cir. 1968) "We do not believe that the strict liability doctrine means that . . . a consumer may knowingly violate the plain, unambiguous instructions and ignore the warnings, then hold the makers, distributors and sellers of a product liable in the face of the obvious misuse of the product." *Id.* at 370 (quoting *Proctor & Gamble Mfg. Co. v. Langley*, 422 S.W.2d 773, 780 (Tex. Civ. App. 1967)).

¹⁹⁴ *Helene Curtis Indus., Inc.*, 385 F.2d 841, where beauty shop's unauthorized resale to plaintiff of preparation clearly marked "FOR PROFESSIONAL USE", court on review holds that subsequent nonprofessional application leading to scalp injuries constituted intervening cause precluding manufacturer liability for alleged inadequate warnings.

¹⁹⁵ *Brown v. General Motors Co.*, 355 F.2d 814 (4th Cir. 1966).

¹⁹⁶ *Id.* Several of the instructions, read *in pari materia*, served to bolster the simple warning therein: "Make sure no one is working on the unit before starting engine" *Id.* at 817-18.

¹⁹⁷ In the words of the court, "[I]f the engine was in gear, [the plaintiff] could touch the starter only by squeezing his thumb or finger between the shield and the button." *Id.* at 820.

¹⁹⁸ *Id.* In the view of the court: "Certainly, the manufacturer did not warrant the safety of the machine against a blind operation of it; nor was it reasonably foreseeable that the machine would be activated by one fumbling in the dark." *Id.* See also *Zollman v. Symington Wayne Corp.*, 438 F.2d 28 (7th Cir.), *cert denied*, 404 U.S. 827 (1977), an action brought by plaintiffs who were injured when a vehicle fell from an automobile hoist manufactured by the defendant. Where evidence from numerous tests on the same or on identical hoists showed that automobiles fell only when the front crossbar was placed under the front edge of the bumper, allowing the crossbar to slide out under minimal pressure, and which procedure the plaintiff admitted was dangerous:

(while denying that it was the procedure employed prior to the accident). The verdict for plaintiffs was reversed and the action remanded with instructions. The appellate court concluded that one plaintiff "must have lifted the automobile in what he acknowledged would be a dangerous manner." A manufacturer has no duty to warn against obvious misuses of a product under Indiana law.

Id. at 32 (citations omitted).

Cf. Littlehale v. E.I. DuPont de Nemours & Co., 380 F.2d 274 (2d Cir. 1967), a negligence action against the manufacturer of detonators (blasting caps), manufactured during wartime for war-

of mishap that ultimately occurs is similar in nature to that which could be created by the risk inherent in a particular product, the means by which the accident occurred may be of such a nature as to prompt a finding of unforeseeable misuse. One illustrative action, mentioned above, was that brought against the manufacturer of a chemical used to aid in the proper curing of concrete.¹⁹⁹ Aware of the flammable nature of the product, the manufacturer undertook to identify on the container the flammability of the product and other detailed cautions.²⁰⁰ The plaintiff, a foreman of a crew using the product on a construction product, was injured when he neared an open, discarded drum he thought to be on fire, which then exploded. The evidence showed the possibility that the fire in the drum had been started by children observed earlier that day playing with firecrackers near the site. On the issue of whether the sequence of events was unforeseeable, the court was impressed by the recognition that three different circumstances, each of which were cautioned against by the manufacturer, had to take place before the explosion occurred.²⁰¹ Taking the evidence in the aggregate, the court concluded that a jury could reasonably find that the defendant was not negligent in failing to foresee the hazard of explosion and warn against it.²⁰² However, another case which purported to apply a comparable standard found no liability of the manufacturer even where the chain of causation was not attenuated. In that case,

time use by trained ordinance personnel, but then put into use over a decade later by civilian personnel of one of the armed forces branches who, in the words of the court, "apparently considered (any) warnings by the manufacturer to be superfluous." *Id.* at 275. The court held that there should be no liability for a defendant where the manufacturer "could not have foreseen that its detonators would be used by a person untrained in the handling of such explosives and in a manner that was never intended." *Id.* at 276 (citations omitted).

¹⁹⁹ *Bridges*, 704 F.2d 175.

²⁰⁰ *Id.* at 177. The warnings included: "Keep Away From Heat and Open Flame," "Close Container After Each Use and Use Only With Adequate Ventilation," and "Keep Out of the Reach of Children".

²⁰¹ *Id.* at 179. In the words of the court:

In this case, the combination of occurrences was unusual, making anticipation of the events by the manufacturer difficult. The drums were discarded without resealing, contrary to the manufacturer's instructions. If the drums had been sealed, an open fire could not have entered. Contrary to warnings, children were playing nearby. The contractors had known of prior trouble with neighborhood children, yet had taken insufficient action to prevent accidents. Finally, the evidence supports a conclusion that open flame in the form of a firecracker was introduced to the drum, contrary to warnings. Bridges knew the contents of the drum were burning when he approached it. Where three different circumstances, each the result of a practice against which the manufacturer cautioned, needed to occur in combination before an explosion took place, a jury could reasonably conclude that the manufacturer was not negligent in failing to foresee the hazard and to warn against the risk of explosion. Similarly, a jury could find the product not unreasonably dangerous or defective in the absence of such a warning. Even under strict liability, a manufacturer need not insure against all defects, but only against unreasonable dangers.

Id.

²⁰² *Id.*

the court held in favor of the defendant manufacturer of a toy combination of a balloon and doll that simulated blowing a bubble, which was responsible for the death of a child who ingested the balloon.²⁰³

From the standpoint of the symmetry of safety-related information held by the buyer and the seller respectively, in the "firecracker-in-drum" case, one could claim reasonably that the warnings as to flammability, closure, and keeping the product away from children represented all that the manufacturer could reasonably be said to know about the risks of its product. Put another way, the informational duty should not require one to warn about what cannot be imagined. In the balloon and doll action, on the other hand, it is one thing to say that balloons are not unreasonably dangerous, but it is quite another to market for infants a toy that simulates the use of a balloon as though it were an edible foodstuff, i.e., bubble gum. When such a risk cannot be warned against, the product should be removed from the market.

VII. CAUSATION AND DISREGARD OF WARNINGS BY THE PLAINTIFF OR OTHERS

In the failure to warn claim, as in other products liability causes of action, the plaintiff's proof must establish causation. In its most elementary form, such proof will show that, had the seller supplied an adequate warning, the injured claimant would have altered his or her behavior so as to avoid injury.²⁰⁴

Thus, pivotal to the successful maintenance of plaintiff's claim of actionable failure to warn is the demonstration that the seller's failure to warn adequately of the hazard was the cause-in-fact and the proximate cause of the injury. As expressed by one court, "the evidence must be such as to support a reasonable

²⁰³ *Landrine v. Mego Corp.*, 95 A.D.2d 759, 464 N.Y.S.2d 516 (1983), in which the court, finding the infant's actions, and, inferentially, the guardian's omission to act in permitting the infant's actions, an unforeseeable misuse of the product, states:

Balloons in and of themselves are not dangerous. Their characteristics, features and propensities are well-known, to children and adults alike. No duty to warn exists where the intended or foreseeable use of the product is not hazardous Digestion of a balloon is not an intended use, and to the extent it is a foreseeable one, it is a misuse of the product for which the guardian of children must be wary.

Id. at 759-60, 464 N.Y.S.2d at 518.

²⁰⁴ *Van Buskirk v. Carey Canadian Mines, Ltd.*, 760 F.2d 481 (3d Cir. 1985), in which the court states:

Where . . . the initial hurdles of duty and failure to warn have been passed, plaintiff must establish causation by showing that had defendants issued a proper warning, plaintiffs would have altered their behavior to avoid the injury. Defendants can defeat causation in a failure to warn case by discrediting plaintiffs' claims that they would have acted to avoid injury, or by pointing to a third party as the sole proximate cause.

Id. at 492-93.

inference, rather than a guess, that the existence of an adequate warning may have prevented the accident before the issue of causation may be submitted to the jury.”²⁰⁵ In that action an automobile manufacturer avoided liability for an asserted breach of duty to warn of the risk that its automobile with a standard transmission may lurch forward or backward if started without engaging the clutch. The court concluded that plaintiff’s argument that a warning would have prevented the injury was “mere speculation.”²⁰⁶ Congruent authority is found in an action arising from plaintiff’s injuries following an effort to prime an automobile carburetor by application of gasoline poured from a quart jar. The trial court’s judgment for the automobile manufacturer and retailer was affirmed. The appellate court approved the introduction at trial of evidence tending to show that the plaintiff was careless and would have disregarded any warning in the vehicle’s manual against such do-it-yourself initiatives, including evidence of the plaintiff’s drinking and smoking during the events in question and his disregard of other admonitions contained in the manual.²⁰⁷

Two presumptions, both bearing on causation, have gained widespread approval in duty to warn litigation. The first, applicable where some warning is,

²⁰⁵ *Conti*, 743 F.2d at 198. An illustrative jury instruction on the requirement of plaintiff’s proof of proximate cause in a duty to warn claim as expressed by one court states:

[T]he words proximate cause . . . mean first, that there must have been a connection between the conduct of the defendants, . . . which the plaintiff claims was negligent and the injury complained of by the plaintiff, and second, that the occurrence which is claimed to have produced that injury was a natural and probable result of such conduct of the defendant [T]he words proximately contributed . . . mean first, that there must have been a connection between the conduct of the plaintiff which defendant claims was negligent and the injury of which plaintiff complains, and second, that the occurrence which is claimed to have produced that injury was a natural and probable result of such conduct of the plaintiff

Warner v. General Motors Corp., 137 Mich. App. 340, 344, n.1, 357 N.W.2d 689, 692-93 n.1 (1984).

²⁰⁶ *Conti*, 743 F.2d at 198. The plaintiff therein sustained injuries when her husband started the automobile without disengaging the clutch, and the car jumped backwards, injuring her. To plaintiff’s argument that an effective warning could have averted the accident, the appellate court responded that the plaintiff had not proved that any additional warning would have prevented the husband’s “momentary inadvertence” in failing to disengage the clutch before starting the automobile. *Id.* at 197-98. Also illustrative is the decision of the same court, *Powell v. J. T. Posey Co.*, 766 F.2d 131 (3d Cir. 1985), in which the court was asked to consider the claim of a nurse who injured her back as she assisted a patient who had released himself from a restraining vest. The court reversed the judgment below, finding the manufacturer of the “Houdini Security Suit” liable for failure to warn, as it concluded that no warning would have altered the plaintiff’s decision to employ this vest, rather than a more restrictive one, due to the patient’s history of passivity, and that her action to assist the partially disengaged patient when he appeared to be falling was an “instinctive one” that no warning would have prevented. In the words of the court, “The manufacturer could have placed a warning in its literature, on the vest itself, or even on the door of Adam’s room, and yet this accident still would have occurred.” *Id.* at 134-35.

²⁰⁷ *Warner*, 137 Mich. App. at 344-46, 357 N.W.2d at 693-95.

in fact, given, is stated in comment j to Restatement (Second) of Torts section 402A. It provides that "[w]here a warning is given, the seller may reasonably assume that it will be read and heeded...." The reciprocal presumption adopted by many courts is that when no warning has been given, a plaintiff may benefit from the presumption that had a warning been given, it would have been read and heeded.²⁰⁸ Such a presumption, which can be viewed as supportive of the purposes behind the doctrine of strict liability, has the meritorious effect of obviating the need for speculative testimony concerning whether plaintiff would have heeded a warning.²⁰⁹

The defendant may overcome plaintiff's claim that the inadequate or absent warning was one proximate cause of injury by showing either that (1) even with an adequate warning the plaintiff would have acted in an identical way, and thus would have suffered the injury; or (2) that the independent acts, negligent or otherwise, of a third party were the proximate cause of the plaintiff's injury. The required causal connection between the inadequacy of the warning and the plaintiff's injury is weak if the proof shows that the claimant would have pursued the same course of conduct irrespective of any cautionary information.²¹⁰ An illustrative example of decisional law so holding is that reached in an action in which a truck manufacturer and the manufacturer of a multipiece rim were sued for injuries when the rim components explosively disengaged. The injured party therein employed a safety cage for the task of repairing the tire and reassembly of the rim parts, but attempted to replace the repaired tire and rim on the truck without the benefit of the cage. Reversing the trial court's denial of summary disposition for the tire manufacturer, an appellate court found that the plaintiff's claim was precluded by his own testimony "that if had he read a warning with respect to

²⁰⁸ *Nissen Trampoline Co. v. Terre Haute First Nat'l Bank*, 332 N.E.2d 820, 826 (Ind. Ct. App. 1975), *rev'd on other grounds*, 265 Ind. 457, 358 N.E.2d 974 (1976). Either presumption can be rebutted by evidence, one court suggests with asperity, "that the user was blind, illiterate, intoxicated at the time of use, irresponsible or lax in judgment or by some other circumstances tending to show that the improper use was or would have been made regardless of the warning." *Technical Chem. Co. v. Jacobs*, 480 S.W.2d 602, 606 (Tex. 1972) (reversing 472 S.W.2d 191 (Tex. Civ. App. 1971)).

²⁰⁹ *Nissen Trampoline Co.*, 332 N.E.2d 820.

²¹⁰ The naked proposition that a warning might have induced the party to elect a different, and preferably more safe, course of conduct, has been held not to be a sufficient basis for imposition of liability for failure to warn. *Powell*, 766 F.2d at 134-35 (recovery denied for failure to show that any warning as to such a potential mishap would have caused the plaintiff to alter her conduct precluded recovery on the claim of the manufacturer's failure to warn).

In *Kohler v. Medline Indus., Inc.*, [1984-85 Transfer Binder] Prod. Liab. Rep. (CCH) ¶ 10,249 (Fla. Dist. Ct. App. 1984), the court affirmed summary judgment for the manufacturer of a urine bag that, after use, was left unclosed by one nurse, causing another nurse, the plaintiff, to slip and fall when some of the bag's contents fell to the floor. In the opinion of the appellate court, the forgetfulness of the first nurse was the sole cause of the accident, and the mishap was one that even a "multilingual warning . . . printed on the bag" would not have prevented. On the facts before it, the court concluded that to grant a remedy in failure to warn for plaintiff "would be as futile as an attempt to reverse the seasons." *Id.* at 26,869.

the danger he would still have followed precisely the same repair procedures.”²¹¹

The manufacturer may also attempt to overcome the plaintiff's proof of causation by showing that the act of a third party, often the employer, or in the case of pharmaceuticals, the physician, operated as the “efficient intervening cause” of the injury.²¹² Where the conduct of a third party is implicated in the defense of an allegation of failure to warn, the defendant is required to show that the act or omission to act of the third party was not foreseeable.²¹³ Proof of sufficiently intrusive third party conduct sufficient to break causation is a formidable task and must show that the third party's conduct is itself the proximate cause of injury. One court, in the appeal of an asbestos-related claim, suggested that the manufacturer's showing that the conduct of the employee was the “sole proximate cause” of the plaintiff's pernicious exposure to respirable asbestos might only be achieved by the proffer of evidence that the employer had, for example, “removed the warning labels, or . . . forced its employees in some manner to work in direct contact with asbestos against their will.”²¹⁴

²¹¹ *Spencer v. Ford Motor Co.*, 141 Mich. App. 356, 367 N.W.2d 393 (1985), the court explaining in pertinent part:

Plaintiff Robert Spencer was specifically questioned about his awareness of the nature and extent of danger. He stated that he was aware of the cause of the explosive disengagement and indicated that if he had read a warning with respect to the danger he would still have followed precisely the same repair procedures. After the accident, he continued to change tires following the same procedure he had followed before the accident despite his awareness of the risk. Thus, by his own testimony, plaintiff refuted a causal connection between the lack of a warning of the danger of three-piece wheel rims and plaintiff's injury.

Id. at 361-62, 367 N.W.2d at 396.

²¹² *Bennison v. Stillpass Transit Co.*, 5 Ohio St. 2d 122, 214 N.E.2d 213 (1966), where the employee of the purchaser was injured while cleaning out a tank which still smelled of gasoline and which was purchased from the defendant. The authorization by the employer to use these cleaning procedures when gasoline vapors were still present in the tank constituted a break in causation sufficient to relieve the seller of liability.

²¹³ *Evridge v. American Honda Motor Co.*, 685 S.W.2d 632, 635 (Tenn. 1985), was an action brought against a motorbike manufacturer for injuries sustained by a young child when a nine-year old neighbor, carrying a passenger on the bike in disregard of the manufacturer's warnings against doing so, lost control of the bike, resulting in burns to the plaintiff's foot caused by contact with the product's exhaust pipe. On the issue of whether the conduct of the nine-year-old neighbor, and his parents, in permitting “doubling” on the bike, was the efficient intervening cause of the harm, the court stated: “The characterization as an intervening cause of the failure to heed warning is a determination that is particularly for the jury because of the test of foreseeability which is attached to that characterization.” *Id.* at 636 (citation omitted).

²¹⁴ *Van Buskirk*, 760 F.2d at 493. RESTATEMENT (SECOND) OF TORTS § 442 provides the most widely-enlisted aid to evaluation of when an intervening act breaks causation and becomes an efficient intervening cause. The section states:

§ 442. CONSIDERATIONS IMPORTANT IN DETERMINING WHETHER AN INTERVENING FORCE IS A SUPERSEDING CAUSE

The following considerations are of importance in determining whether an intervening force

Taken together, the issues to be resolved in the inquiry as to whether an employer's acts or omissions to act operate to relieve the manufacturer from liability for failure to warn are these: (1) Whether the manufacturer's failure to warn was a substantial cause of the plaintiff's injury; (2) whether the manufacturer's negligent conduct was of a continuing nature; (3) whether the plaintiff's injury resulting from the employer's negligence was the same type of injury expected to result from the manufacturer's negligence; and (4) whether the employer's negligent failure to warn was reasonably foreseeable to the manufacturer.²¹⁵ Under such a test, it is unlikely that a third party's conduct in simply failing to warn employees of the hazard would supersede the manufacturer's acts as the proximate cause of the consequent injury. A conclusion consistent with this was reached in an action in which the hand of the plaintiff employee was injured by the unexpected cycling of a punch press. The only warning provided by the manufacturer was that set forth in a service manual the court described as "unlikely

is a superseding cause of harm to another:

(a) the fact that its intervention brings about harm different in kind from that which would otherwise have resulted from the actor's negligence;

(b) the fact that its operation or the consequences thereof appear after the event to be extraordinary rather than normal in view of the circumstances existing at the time of its operation;

(c) the fact that the intervening force is operating independently of any situation created by the actor's negligence, or, on the other hand, is or is not a normal result of such a situation;

(d) the fact that the operation of the intervening force is due to a third person's act or to his failure to act;

(e) the fact that the intervening force is due to an act of a third person which is wrongful toward the other and as such subjects the third person to liability to him;

(f) the degree of culpability of wrongful act of a third person which sets the intervening force in motion.

Some authority holds that where the inadequate warning is implicated in the injury of an employee, but where the employer, and buyer, failed, for example, to adequately train its employees in the use of the product, or failed to enforce its plant safety rules, that the buyer's misconduct should be admitted into evidence as bearing upon the adequacy of the warnings given, and upon whether the asserted deficiency in the warnings was a proximate cause of the accident or injury. In one such action involving the claims of numerous workers for injuries resulting from exposure to asbestos-based insulation products, the primary supplier of the asbestos defended on the grounds that irrespective of the efficacy of the manufacturer's warnings, the fabricator's subsequent failure to warn its employees and to protect them from asbestos operated as the superseding cause of the injuries. The court found that such a defense should not be prevented, as a matter of law, from going to the jury. *Menna v. Johns-Manville Corp.*, 585 F. Supp. 1178 (D.N.J. 1984). Superseding cause is defined as: "An act of a third person or other force which by its intervention prevents the actor from being liable for harm to another which his antecedent negligence is a substantial factor in bringing about." RESTATEMENT (SECOND) OF TORTS, § 440 (1965).

²¹⁵ *Gordon v. Niagara Mach. and Tool Works*, 574 F.2d 1182, 1192 (5th Cir. 1982) (citing *Solomon v. Continental Baking Co.*, 172 Miss. 388, 160 So. 732 (1935) and RESTATEMENT (SECOND) OF TORTS § 447), *reh'g denied*, 578 F.2d 871 (1978).

to reach operators of the press.” The manufacturer countered that the employer’s failure to warn the operators of the dangers of placing their hands in the die area of the press was the proximate cause of the injury. The court was persuaded by expert testimony, however, that appropriate and conspicuous warnings affixed to the press itself would have been, under any circumstances, the best means of fulfilling the informational obligation to the users of the press, and that the manufacturer’s “substantial and continuing” omission to do so required a finding of liability.²¹⁶

It is generally agreed, therefore, that even when the product’s original defect, by warning, design or otherwise, is not the sole cause of the accident, but is, rather, a substantial cause of the injury along with the subsequent conduct of the purchaser, the manufacturer will remain liable.²¹⁷ Thus, convincing authority holds that, absent the manufacturer’s showing of an intervening superseding cause or of the proximate cause, the simple showing that the purchaser “failed to take reasonable steps” to protect against the risk created by the manufacturer should not permit a jury finding that the purchaser’s conduct was the proximate cause of the injury.²¹⁸

When, on the other hand, the employer-purchaser of machinery to be used by others disregards the manufacturer’s explicit advice that precautionary measures be adopted with respect to the machine to ensure safe use, an employee’s later claim against the manufacturer for failure to warn, alleged to be the proximate cause of the employee’s injuries, may fail. Such was the holding in an action brought against the manufacturer of a chemical mixer, the documents ac-

²¹⁶ *Id.* at 1194. The court states:

The Court of Appeals asks the hypothetical question, ‘If Poloron had given the required warnings, what more could Niagara’s inanimate warning plate have accomplished?’ Plaintiff’s expert on industrial accident prevention signs gave what, to us, is a most reasonable answer. He testified that a direct warning attached to the press and conspicuously displayed at eye level would surely be a more effective warning than oral words of caution taken from Niagara’s manual. A prominent warning on the machine itself would be readily understood as necessary for one’s safety, regardless of the level of the operator’s skill or experience or whatever the task at hand. Thus, even if Poloron had advised its press operators of physical danger, the failure of Niagara to affix explicit warnings on the machine itself is an omission of such substantial and continuing effect as to have a definite causal connection with plaintiff’s injuries.

Id.

²¹⁷ See discussion in *Brown v. United States Stove Co.*, 98 N.J. 155, 484 A.2d 1234 (1984).

²¹⁸ *Butler*, 2 Prod. Liab. Rep. (CCH) at 28,252 to which discussion the court adds:

The public interest in assuring that defective products are not placed into the channels of trade imposes a duty on the manufacturer to take feasible steps to render his product safe; the manufacturer may not rely on ‘the haphazard conduct of the ultimate purchaser’ to remedy or protect against defects for which he is responsible.

Id. at 28,252 (citations omitted).

companying the sale of which required the purchaser, prior to use, to install an electric motor, starter, and switches. The instructions to the purchaser also advised that a "suitable fuse disconnect switch" be employed to permit power to be shut off during repairs. The buyer did not install such a disconnect switch, and plaintiff employee was injured thereafter while cleaning the interior of the mixer. The appellate court, affirming the trial court's judgment for the seller, found that the buyer's "failure to heed" the seller's suggested precautions, was "the intervening, sole proximate cause" of the injury.²¹⁹

Similarly, a third party's disregard of warnings for failure to communicate warnings to employees may be considered to break causation where the third party's acts are coupled with the third party's direction that the product be put to unsafe uses or reuses that are beyond the reasonably foreseeable contemplation of the manufacturer.²²⁰ In one action presenting such circumstances the plaintiff's employer was sold a cylinder of refrigerant upon which a label stated: "This is a no deposit, disposable container. Illegal to refill." At the employer's direction, the cylinder was refilled with compressed air for other purposes, and exploded when the plaintiff employee picked it up. The appellate court reversed judgment below for the plaintiff, concluding that the seller had "no duty to protect the plaintiff against such an intervening cause."²²¹

Related but distinct policies are evidenced in the evaluation of whether the acts or omissions to act of a prescribing physician should exculpate a pharmaceutical manufacturer's failure to provide adequate warnings for the administration of pharmaceuticals. As a general proposition, the manufacturer of a

²¹⁹ *Thomas v. Munson Mach. Co.*, 463 So. 2d 1044, 1046 (Miss. 1985) (quoting *E. I. Du Pont de Nemours & Co. v. Ladner*, 221 Miss. 378, 73 So. 2d 249 (1954), an action involving a claim against the manufacturer of a chemical compound, where the manufacturer stated expressly that the product was not to be used as cattle feed).

²²⁰ A manufacturer is entitled to expect that a warning, once given, will be observed. *See Furstenheim v. Congregation of the First Church of Kew Gardens*, 21 N.Y.2d 893, 236 N.E.2d 638, 289 N.Y.S.2d 410 (1968) (manufacturer relieved of liability in action brought by pedestrian injured by explosion caused by contractor's disregard of caution on cleaner can to extinguish pilot lights).

²²¹ *Union Carbide Corp. v. Holton*, 136 Ga. App. 726, 222 S.E.2d 105 (1975), in which the court offered this analysis:

Even if appellant could have foreseen that its disposable cylinders might be reused, it had no control over how they might be refilled, what and how much substance would be used in them, how long they could be safely refilled, and what gauges or release valves should be used on them. No amount of labeling on the original container can instruct the consumer in all aspects of how to safely modify and reuse the cylinders, considering the myriad of conceivable reuses to which such cylinders might be put It was not the duty of appellant to provide equipment on the cylinder that would make it safe for refilling because it did not sell it for that purpose. It was instead the duty of the person reusing it to make it safe for the purpose for which he intended to use it. In effect, appellant had no 'duty to protect the plaintiff against such an intervening cause.'

Id. at 729-30, 222 S.E.2d at 109 (citations omitted).

prescription drug has the legal duty to warn the medical profession, and not the individual patient, of any risk associated with the use of its products.²²² The physician is expected to assume the role of learned intermediary between the drug manufacturer and the patient and to convey to the patient the information, warnings and instructions provided by the manufacturer. The troubling issue often arises that the physician fails to do or is alleged to have failed to do so. Illustrative is an action in which an ophthalmologist prescribed for a patient ethambutol hydrochloride, the use of which carried the risk of causing optic neuritis and attendant permanent loss of vision. The plaintiff's complaint alleged that the manufacturers of this ophthalmic drug issued warnings that were "ambiguous, incomplete, inadequate, [and] watered down." The defendants countered that the injury was probably caused by the physician's admitted departure from the eye testing procedures and dosage recommendations of the manufacturers. The court concluded that the issue of whether the physician's actions were not foreseeable and were the independent intervening cause was proper for jury resolution.²²³

To like effect, in an action to recover for neurological injuries resulting from excessive doses of the drug dilantin, an anticonvulsive, the defendant manufacturer defended successfully by proving that the plaintiff's physician prescribed the drug without checking the package insert or the Physician's Desk Reference for information on the drug and continued to prescribe administration of the drug, first in capsule, and then in liquid form.²²⁴ Similarly, in an action brought by the parents of a child born with birth defects alleged to have resulted from the mother's ingestion of the drug Biphedamine during pregnancy, the court determined that the defendant manufacturer presented a jury issue as to intervening cause by offering proof that the prescribing physician failed to read the package

²²² *E.g.*, *Smith v. E.R. Squibb & Sons, Inc.*, 405 Mich. 79, 88, 273 N.W.2d 476, 479 (1979). The adequacy of a warning is ordinarily a question for the jury, *e.g.*, *Formella v. Ciba-Geigy Corp.*, 100 Mich. App. 649, 300 N.W.2d 356 (1980), and contemplates an evaluation of whether the warning, "under all the circumstances . . . reasonably discloses to the medical profession all the risks inherent in the use of the drug which the manufacturer knew or should have known to exist." *Seley*, 67 Ohio St. 2d at 198, 423 N.E.2d at 836-37; *see also* *McEwen v. Ortho Pharmaceutical Corp.*, 270 Or. 375, 528 P.2d 522 (1974). The standards relevant to the adequacy of warnings associated with the use of prescription drugs, require that (1) the warning indicate sufficiently the scope of the hazard; (2) the warning communicate effectively the extent and seriousness of the harm that may result from misuse; (3) the size, style, and location of the warning must be sufficient to alert a reasonably prudent person to the danger; and (4) the means employed to bring the warning to the attention of the physician must be adequate and effective. *Ross v. Jacobs*, 684 P.2d 1211, 1214 (Okla. App. 1984) (citing with approval *Richards v. Upjohn Co.*, 94 N.M. 675, 615 P.2d 992, *cert. denied*, 96 N.M. 675, 625 P.2d 1192 (1980)).

²²³ *Ross*, 684 P.2d 1211.

²²⁴ *Peterson v. Parke-Davis & Co.* [1984-85 Transfer Binder] Prod. Liab. Rep. (CCH) ¶ 10,558. (Colo. App. 1985). "Where, as here, an attending physician, in prescribing and in supervising the use of a drug, disregards the manufacturer's warnings and instruction, it is that conduct which renders the product unreasonably dangerous, and thus defective, and the adequacy of the warnings or instructions are not relevant." *Id.* at 28,177 (citation omitted).

inserts and the Physician's Desk Reference before prescribing the drug.²²⁵ Such authority suggests, in effect, that a physician's inadequate or negligent action or inaction in heeding or conveying a manufacturer's cautionary materials for pharmaceuticals may represent a "misuse" of the product that breaks causation between the asserted imperfections of the manufacturer's warnings and instructions and the patient's injury or illness. Under such reasoning, it is the physician's conduct that renders the drug dangerously defective, and thus the issue of the seller's warnings and their adequacy are not relevant.²²⁶

It is, however, by no means automatic that a manufacturer's showing of the negligent failure to heed a warning will exonerate the manufacturer when the warning is proved to be inadequate. The manufacturer may avoid liability in a failure to warn action only if it can establish affirmatively that the prescribing physician would not have heeded and followed an adequate warning.²²⁷ When, on the other hand, plaintiff's evidence provides some support for the contention that an adequate warning might have altered the physician's conduct or might have been heeded, it has been held that the action should be able to go to the jury on the question of causation.²²⁸

²²⁵ *Reeder v. Hammond*, [1983-84 Transfer Binder] Prod. Liab. Rep. (CCH) ¶ 9,721 (Mich. App. 1983).

²²⁶ See *Uptain v. Huntington Lab., Inc.*, 685 P.2d 218 (Colo. App. 1984). As perceived by courts adopting this view, where the physician's acts or omissions to act were reasonably foreseeable, the intervening negligence of the doctor, however lamentable, will not break the link of causation between the manufacturer's failure to provide adequate warnings, and the resulting injuries. On the other hand, where the physician's actions were not reasonably foreseeable, and constituted an independent intervening cause, the manufacturer should not be held liable. *Ross*, 684 P.2d 1211. *Richards*, 95 N.M. 675, 625 P.2d 1192 (whether physician's negligence constitutes an independent intervening cause is a jury question).

²²⁷ *May*, 142 Mich. App. at 418, 370 N.W.2d at 379; *Stanback v. Parke-Davis & Co.*, 657 F.2d 642, 645 (4th Cir. 1981). *E.g.*, *Fraley v. American Cyanamid Co.*, 589 F. Supp. 826, 827-28 (D. Colo. 1984), in which the plaintiff contracted polio from contact with her child who had been given a polio vaccine, and who alleged that the manufacturer failed to warn of such risks; (citing *Douglas v. Bussabarger*, 73 Wash. 2d 476, 438 P.2d 829, (1968) (physician statement that he did not read the warning)); *Oppenheimer v. Sterling Drug Co.*, 7 Ohio App. 2d 103, 219 N.E.2d 54, 58 (1964) (physicians statement that he relied not on manufacturer's warnings, but rather on his own expertise).

²²⁸ *May*, 142 Mich. App. 404, 370 N.W.2d 371, where on the issue of whether a physician who prescribed oral contraceptives would have altered his conduct had the manufacturer effectively warned physicians that persons with Type A blood had a three times greater risk of developing blood clots as those with Type O, the physician testified that he would have "undoubtedly" warned the decedent. *Id.* at 379. In another action for inadequacy of the drug manufacturer's warning, the evidence showed that the physician had in any event forgotten such warning as there was. The court rejected the pharmaceutical company's claim that the physician's action constituted superseding negligence, and countered that if the physician had been adequately warned, and then had forgotten, there would be

VIII. THE DUTY OF THE NONMANUFACTURING SELLER

Liability for failure to provide adequate warnings may be imposed upon all entities within the chain of distribution, including not only manufacturers, but suppliers, wholesalers, distributors and retailers as well.²²⁹ Therefore, it is not unusual for liability for failure to warn or to furnish a safe product to be placed upon a distributor, notwithstanding the fact that the party did not itself manufacture the risk-creating product.²³⁰

Notwithstanding the coexistence of informational duties between and among the different entities in the distribution chain, there are recognized distinctions in nature and degree between the duty to warn of the manufacturer and that of the distributor or the retailer. For example, the duty to warn of the manufacturer is understood generally to be greater than that of the retailer,²³¹ with such distinctions being "grounded in the different information that the manufacturer and the vendor may possess as to the hazards of the product."²³² Thus, there exists authority that limits nonmanufacturing dealer liability for failure to warn to situations in which the defect or hazard is one that is known...or visible...[and]

no manufacturer liability. However, where the manufacturer had put a "dangerous drug" on the market without adequate warning, the court concluded that the company should not be heard to say that the physician might have disregarded a proper one. *McCue v. Norwich Pharmaceutical Co.*, 453 F.2d 1033, (1st Cir. 1972).

²²⁹ *Hammond v. North American Asbestos Corp.*, 97 Ill. 2d 195, 454 N.E.2d 210 (1983); *Venus v. O'Hara*, 127 Ill. App. 3d 19, 468 N.E.2d 405 (1984).

²³⁰ *In re "Agent Orange" Prod. Liab. Litig.*, 597 F. Supp. 740, 830 (E.D.N.Y. 1984); *see, e.g.*, *Greenberg v. Lorenz*, 9 N.Y.2d 195, 173 N.E.2d 773, 213 N.Y.S.2d 39 (1961); *Henningsen v. Bloomfield Motors, Inc.*, 32 N.J. 358, 161 A.2d 69 (1960); RESTATEMENT (SECOND) OF TORTS § 402A.

In the leading case of *Vandermark v. Ford Motor Co.*, 61 Cal. 2d 256, 391 P.2d 168, 37 Cal. Rptr. 896 (1964), Justice Traynor develops the rationale for application of strict liability to retailers: Retailers like manufacturers are engaged in the business of distributing goods to the public. They are an integral part of the overall producing and marketing enterprise that should bear the cost of injuries resulting from defective products In some cases the retailer may be the only member of that enterprise reasonably available to the injured plaintiff. In other cases the retailer himself may play a substantial part in insuring that the product is safe or may be in a position to exert pressure on the manufacturer to that end; the retailer's strict liability thus serves as an added incentive to safety. Strict liability on the manufacturer and retailer alike affords maximum protection to the injured plaintiff and works no injustice to the defendants, for they can adjust the costs of such protection between them in the course of their continuing business relationship. Accordingly, as a retailer engaged in the business of distributing goods to the public, [Defendant] is strictly liable in tort for personal injuries caused by defects in cars sold by it.

Id. at 262, 391 P.2d at 171-72, 37 Cal. Rptr. at 899 (citations omitted).

²³¹ *E.g.*, *Cover v. Cohen*, 61 N.Y.2d 261, 275, 461 N.E.2d 864, 871, 473 N.Y.S.2d 378, 864 (1984) (The manufacturer and the vendor do not necessarily have the same obligation to warn concerning dangers learned of after delivery of the product).

²³² *Martell v. Boardwalk Enter., Inc.*, 748 F.2d 740, 749 (2d Cir. 1984).

readily ascertainable," under which doctrine the seller has no duty to warn of defects either hidden from or unknown to the seller.²³³

The distinction may be accounted for if the imbalance of safety-related information held, respectively, by the distributor and the consumer is of a lesser order (if such imbalance exists at all) than the asymmetry of such information. For this reason the seller or other distributor of a product manufactured by a third party will for the most part be held to a somewhat lesser duty to warn, and the nonmanufacturing supplier will be liable for the negligent failure to warn of a product's hazards only when it knows or has reason to know of such dangers.²³⁴ The prevalent view, therefore, is that a distributor will not be found in breach of any duty to warn unless it is in receipt of information that would give it reason to know of a product's hazard and the warning already provided is either absent or inadequate.

The factors pertinent to whether to impose such a duty on the nonmanufacturing seller have been summarized as requiring weighing of the distributor's "integral [role in] the overall producing and marketing enterprise [which justifies its] bear[ing] the cost of injuries resulting from defective products."²³⁵ The court in *Hall v. E. I. DuPont DeNemours & Co., Inc.* has followed this reasoning, suggesting that relevant factors include:

- (1) [T]he standard of care—itsself a function of the foreseeability and gravity of risk and the capacity of avoiding it; (2) the participants' capabilities of promoting the requisite safety in the risk-creating process; (3) the need to protect the consumer, both in terms of ascertaining responsible parties and providing compensation; and (4) the participants' ability to adjust the costs of liability among themselves in a continuing business relationship.²³⁶

²³³ *Warner*, 137 Mich. App. at 346, 357 N.W.2d at 693. In that action the husband and the wife brought suit against an automobile dealership arising from injuries sustained by the husband when the automobile backfired while he was repairing it, igniting his shirt. To douse the flame he dove into a lake breaking his neck. Concerning the nonmanufacturing seller's duty to warn, however, the appellate court here affirmed the trial court verdict for the distributor based upon, among others, the quoted portion of the trial court's instructions as to the seller's duty to warn, which relate to plaintiff's claim of breach of implied warranty of merchantability.

²³⁴ RESTATEMENT (SECOND) OF TORTS § 401 comment a specifically distinguishes the duties conveyed by the "reason to know" standard from those of the "should know" standard. See *Guglielmo v. Klausner Supply Co.*, 158 Conn. 308, 259 A.2d 608 (1969); *Davis v. Siloo, Inc.*, 47 N.C. App. 237, 267 S.E.2d 354, *appeal denied*, 301 N.C. 234, 283 S.E.2d 131 (1980).

²³⁵ *Vandermark*, 61 Cal. 2d at 262, 391 P.2d at 171, 37 Cal. Rptr. at 899.

²³⁶ *Hall v. E.I. Du Pont de Nemours & Co., Inc.* 345 F. Supp. 353, 375 (E.D.N.Y. 1972) (analyzing *Vandermark*).

See *Evrige*, 685 S.W.2d 632 reversing and remanding for trial action by six-year-old child and father for injuries sustained by child in falling from rear platform of motorbike on which she was a passenger. The owner's manual and other legends cautioned the vehicle was for "Operator Only", but the court found that the evidence created "substantial issues of material fact as to adequacy of warnings, particularly inasmuch as the defendants should have taken into account that the motorbike

There is authority holding the retailer to a continuing duty to warn the purchaser of a hazard discovered to exist in the foreseeable use of a product even where the hazard is not appreciated by the retailer until after the sale. Support for this proposition was offered by the court in *Harris v. International Harvester Co.*,²³⁷ which involved a design flaw in the defendant's tractors that permitted fuel pressure buildup to cause heated fuel to geiser, spray, and ignite when the fuel cap was removed. With knowledge of this problem, the manufacturer made available an insulation package for the tractor's critical heat shield. The retailer learned of the fuel buildup hazard through literature from the manufacturer, but failed to inform the buyer of the problem and the availability of the heat shield insulation package. The court concluded that this was a breach of the retailer's duty to warn.²³⁸

Dealers in used goods also have been found to have a duty to warn.²³⁹ The general duty of the seller of used goods towards the purchaser has been described as a duty "to future and foreseeable users of the product to exercise the reasonable care required of a reasonably prudent seller under the existing circumstances."²⁴⁰ This may include the duty to advise the buyer of any information that will permit the buyer to appreciate any risk associated with the use of the product.²⁴¹ As is true for the duty of sellers of new products, the used seller's duty includes a duty to "relate information as to the character and condition of the chattel which [the seller] should recognize as necessary to enable the prospective user to realize the danger of using it."²⁴²

Commercial lessors have also been found to be within the class of commercial entities that may be found to owe a duty to warn of dangerous conditions in the

was designed for and intended for use by children." *Id.* at 637. In agreement that the distributor does not have an "absolute" duty to test for, discover, and warn of all product related dangers is *Fish Breeders of Idaho, Inc. v. Rangen, Inc.*, 108 Idaho 379, 700 P.2d 1 (1985), an action arising from the application of malachite green for the treatment of disease in fish, which product was alleged instead to have killed them. The court refused appellant's proposed instructions on the grounds that they would have, in the view of the court, "impose[d] an absolute duty upon a distributor to test for, discover, and warn of all possible dangers with the product." *Id.* at 384, 700 P.2d at 6.

²³⁷ *Harris v. International Harvester Co.*, 127 Misc. 2d 426, 486 N.Y.S.2d 600 (1984).

²³⁸ *Id.* at 428-29, 486 N.Y.S.2d at 604.

²³⁹ *Galanos v. United States*, 608 F. Supp. 360 (E.D. Mich. 1985) (an action involving personal injuries arising from use of surplus Postal Service vehicles. Sold used by the government, as passenger vehicles, this created a duty of the Postal Service, cognizant of the danger of rollover and foreseeability of use by purchasers of the vehicle for passenger purposes, to warn purchasers in writing not to undertake such use. *Id.* at 375).

²⁴⁰ *Johnson v. Purex Corp.*, 128 Mich. App. 736, 341 N.W.2d 198 (1983).

²⁴¹ *Id.*, 341 N.W.2d at 198.

²⁴² *Elkins v. United States*, 307 F. Supp. 700 (W.D. Va. 1969), *aff'd*, 429 F.2d 297 (4th Cir. 1970). Even one-time sellers of used products may be found to have such a duty. *Bevard v. Ajax Mfg. Co.*, 473 F. Supp. 35 (E.D. Mich. 1979).

use of their products.²⁴³ Inclusion of commercial lessors among those upon whom informational responsibilities may be fairly placed is consistent with the recognition that commercial lessors, by reason of their regular dealing with the product, will ordinarily be in a better position to analyze potential hazards in the product than will the lessee.²⁴⁴ Illustrative of such policies, a commercial lessor of a motor home was, together with the motor home manufacturer, found strictly liable for failing to warn the lessee of the home about the inadequacy of the tires offered as original equipment for use on the home.²⁴⁵ Reversing and remanding, the appellate court found that the plaintiff should have been allowed at trial to offer proof that the lessor "was aware that the tires supplied with the motor home were inadequate for its load as a basis for liability, and that [the lessor] failed to warn plaintiff of that defect"²⁴⁶

With respect to ethical pharmaceuticals, the seller in the ordinary course is the pharmacist. The prevailing authority holds that in the absence of any evidence that the pharmacist altered the product by compounding, adding to or taking from the pharmaceutical as prescribed by the physician, the pharmacist has no duty to warn. One court so holding relied substantially on its observation that, particularly with drugs, the manufacturer alone may have the practical opportunity to detect defects in a pharmaceutical.²⁴⁷ The court also stated the expectations of product information to which reference has been made. In the words of the court:

Implied warranties are conditioned on the buyer's reliance upon the skill and judgment of the seller but when a consumer asks a druggist to fill a prescription,

²⁴³ There is ample authority in several jurisdictions that holds that commercial lessors may be held strictly liable for leasing defective products. *E.g.*, *Cintrone*, 45 N.J. 434, 212 A.2d 769; *Stang v. Hertz Corp.*, 83 N.M. 730, 497 P.2d 732 (1972); *Nastasi v. Hochman*, 58 A.D.2d 564, 396 N.Y.S.2d 216 (1977); *Dewberry v. LaFollette*, 598 P.2d 241 (Okla. 1979); *Fulbright v. Klamath Gas Co.*, 271 Or. 449, 533 P.2d 316 (1975); *Tillman v. Vance Equip. Co.*, 286 Or. 747, 596 P.2d 1299 (1979); *Francioni v. Gibsonia Truck Corp.*, 472 Pa. 362, 372 A.2d 736 (1977); *Nath v. National Equip. Leasing Corp.*, 497 Pa. 126, 439 A.2d 633 (1981); *Rourke v. Garza*, 511 S.W.2d 331 (Tex. Civ. App. 1974), *aff'd*, 530 S.W.2d 794 (1975); *George v. Tonjes*, 414 F. Supp. 1199 (D. Wis. 1976); *Bachner v. Pearson*, 479 P.2d 319 (Alaska 1970); *Lechuga, Inc. v. Montgomery*, 12 Ariz. App. 32, 467 P.2d 256 (1970); *Price v. Shell Oil Co.*, 2 Cal. 3d 245, 466 P.2d 722, 85 Cal. Rptr. 178 (1970); *McClafflin v. Bayshore Equip. Rental Co.*, 274 Cal. App. 2d 446, 79 Cal. Rptr. 337 (1969); *Martin v. Ryder Truck Rental, Inc.*, 353 A.2d 581 (Del. 1976); *Stewart v. Budget Rent-A-Car Corp.*, 52 Haw. 71, 470 P.2d 240 (1970); *Galluccio v. Hertz Corp.*, 1 Ill. App. 3d 272, 274 N.E.2d 178 (1971); *Crowe v. Public Bldg. Comm. of Chicago*, 74 Ill. 2d 10, 383 N.E.2d 951 (1978); *Perfection Paint & Color Co. v. Konduris*, 147 Ind. App. 106, 258 N.E.2d 681 (1970); *Gabbard v. Stephenson's Orchard, Inc.*, 565 S.W.2d 753 (Mo. App. 1978).

²⁴⁴ See *Brimbau v. Ausdale Equip. Rental Corp.*, 440 A.2d 1292 (R.I. 1982).

²⁴⁵ *Miles v. General Tire and Rubber Co.*, 10 Ohio App. 3d 186, 187, 188-91, 460 N.E.2d 1377, 1379, 1380-82 (1983). The action claimed both a defect in the motor home and a failure to warn concerning the tires, with respect to the latter claiming that the tires placed on the motor home were overloaded and not appropriate for that vehicle.

²⁴⁶ *Id.* at 189, 460 N.E.2d at 1381.

²⁴⁷ *Bichler v. Willig*, 58 A.D.2d 331, 397 N.Y.S.2d 57 (1977).

thus enabling him to obtain a drug which is not otherwise available to the public, he does not rely on the druggist's judgment as to whether that particular drug is inherently fit for its intended purpose but rather he places that confidence and reliance in the physician who prescribed the remedy.²⁴⁸

Later authority has endorsed the decisions extricating the pharmacist from those nonmanufacturing sellers who may be found to have a duty to warn, but cautions that the pharmacist will have the duty to convey warnings that the physician includes in the prescription.²⁴⁹ Similarly, should the pharmacist violate the standard of ordinary care associated with reasonable conduct of such business, liability for failure to warn customers of potential perils in the ingestion or use of pharmaceuticals may be imposed. Thus, it has been held that a pharmacist may be found liable for failure to warn a customer, known to the pharmacist to be an alcoholic, of the side effects of taking certain psychotropic pharmaceuticals in combination with alcohol.²⁵⁰

Where there is alleged a failure to warn by the manufacturer of a component part of the finished product, the question arises whether it is the component part manufacturer or the assembler of the completed product that has the duty to warn. There is ample authority that the component manufacturer-supplier of a nondefective part should not be liable for injuries occasioned by the final product when the claim of the injured party is failure to warn or to include a warning device²⁵¹ and the component manufacturer simply supplied parts made to the specification of the assembler.²⁵² Consistent authority, in deciding to assign liability for failure to warn to the manufacture-assembler and not the component part manufacturer, emphasizes the difference in expertise between the two. One such decision found no liability for the manufacturer of the star component of a helicopter manufactured to specification for the manufacturer-assembler, when the

²⁴⁸ *Id.* at 333-34, 397 N.Y.S.2d at 59.

²⁴⁹ *Ingram v. Hook's Drugs Inc.*, 476 N.E.2d 881, 886-87 (Ind. Ct. App. 1985).

²⁵⁰ *Hand v. Krakowski*, 89 A.D.2d 650, 453 N.Y.S.2d 121 (1982)

Here [the druggist] knew that the decedent was alcoholic and knew, or should have known, that the prescribed drugs were contraindicated and, therefore, extremely dangerous to the well-being of its customer. Clearly, under these circumstances, the dispensing druggist may have had a duty to warn decedent of the grave danger involved and to inquire of the prescribing doctors if such drugs should not be discontinued.

Id. at 651, 453 N.Y.S.2d at 123.

²⁵¹ *E.g.*, *Spangler v. Kranco, Inc.*, 481 F.2d 373 (4th Cir. 1973).

²⁵² *See Verge v. Ford Motor Co.*, 581 F.2d 384 (3d Cir. 1978), an action in which plaintiff had been injured by a garbage truck as it was backing up, and the complaint alleged that the truck should have had a warning device. Defendant Ford had produced the chassis for the truck, but the vehicle had undergone substantial work thereafter before it was completed. Where there were multiple participants in the manufacture of a product, the court reasoned that identifying which entity had the duty to supply the buzzer required reference to three factors: (1) trade custom, (2) expertise, and (3) practicality. *Id.* at 387.

star was found to be free of defect, the assembler had examined the part before acceptance, and the assembler was in the business of manufacturing helicopters while the component manufacturer was not.²⁵³ Nonetheless, still other authority proposes with equally apparent logic that the component manufacturer's duty to warn should be infeasible, inasmuch as the component maker has the greatest access to information on its product, this logic obtains all the more when the component part is incorporated without change into the final product.²⁵⁴

²⁵³ Orion Ins. Co., Ltd., v. United Technologies Corp., 502 F. Supp. 173 (E.D. Pa. 1980). The court therein makes the additional observations as to why the duty to warn reposes best with the ultimate manufacturer and not with the manufacturer of component parts to specification, particularly where the component manufacturer's reliance upon the specifications is reasonable. In the words of the court:

Finally, no public policy can be served by imposing a civil penalty on a manufacturer of specialized parts for a highly technical machine according to the specification supplied by one who is expert at assembling these technical machines, who does so without questioning the plans or warning of ultimate user. The effect of such a decision on component parts manufacturers would be enormous. They would be forced to retain private experts to review an assembler's plans and to evaluate the soundness of the proposed use of the manufacturer's parts. The added cost of such a procedure both financially and in terms of stifled innovation outweighs the public benefit of giving plaintiffs an additional pocket to look to for recovery [T]he better view is to leave the liability for design defects where it belongs and where it now is—with the originator and implementer of the design—the assembler of the finished product.

Id. at 178. See also Mayberry v. Akron Rubber Mach. Corp., 483 F. Supp. 407 (N.D. Okla. 1979), holding that the supplier of nondefective used component parts for use by subsequent manufacturer in the construction of a large rubber mixing mill of the manufacturer's exclusive design had no duty to warn the manufacturer, or the employees of the manufacturer of the advisability of certain safety devices, including, among others a sufficient space between the floor level and the top of the rollers to lessen the operators opportunity to reach into the danger area. *Id.* at 411.

²⁵⁴ In *Beuchamp v. Russel*, 547 F. Supp. 1191 (N.D. Ga. 1982), involving the issue of the relation, if any, of an air valve component in a pneumatically-run palletizer to the injury of plaintiff's spouse, the court suggests that the duty to warn should properly be with the participant in manufacture with the greatest access to information, and the most easy means of its dissemination. In the words of the court:

The responsibility for information collection and dissemination should rest on the party who has the greatest access to the information and who can make it available at the lowest cost. Where a component part is incorporated into another product, without material change, the manufacturer of the part is in the best position to bear this responsibility.

Id. at 1197.

RESTATEMENT (SECOND) OF TORTS § 402A comment q states concerning strict liability, but not specifically warnings, this language: "*Component parts* . . . It is no doubt to be expected that where there is no change in the component part itself, but it is merely incorporated into something larger, the strict liability will be found to carry through to the ultimate user or consumer." A well-reasoned suggestion that in apportioning liability between a component part manufacturer and an assembler, liability should be assigned to the cheapest cost avoider, is explained in Comment, *Apportionment Between Partmakers and Assemblers in Strict Liability*, 49 U. CHI. L. REV. 544 (1982), the author writing:

The repairer or servicer of a product will not generally be found responsible for failure to warn of risks associated with the use of a product, particularly if the risk is not attributable to any act of the repairer, and the hazard is as apparent to the owner of the product as it is to the repairer.²⁵⁵ Thus, the repairer of a cotton compress who did not redesign the compress, but rather repaired certain specified parts and replaced or rematched others, would not be held liable for failure to warn by one court where the existence of "pinch points" on the machine, the parts actually involved in the subsequent accidental injury, were as apparent to the machine's owner as they were to the repairer.²⁵⁶ One might wish that a humanitarian impulse would lead the repairer or installer to share with the owner or user any such discovery of a hazardous condition. In the above case, however, because the owner and user, and the repairer had equal and ready access to the observation of the hazardous condition, it can be claimed defensibly that the goal of informational parity has been met, albeit marginally.

IX. PERSONS TO BE WARNED

The general rule is that the seller of a product that may pose a risk of injury if not accompanied by adequate warnings as to the risk and, as appropriate, instructions for safe use, has a duty to warn the purchaser of the hazards.²⁵⁷ Moreover, where the seller can reasonably foresee that the warning conveyed to the immediate vendee will not be adequate to reduce the risk of harm to the likely users of the product, the duty to warn has been interpreted to extend beyond the purchaser to persons who foreseeably will be endangered by use of or exposure

Under this approach, the fact-finder should simply ask who can more easily detect and correct the defect [T]he party with the lowest detection costs would bear full liability, but could shift this liability to the party with the lowest correction costs if it provided full warnings of the detected dangers.

Id. at 547.

²⁵⁵ The majority of jurisdictions considering the matter have declined to impose strict liability upon repairers or installers. *E.g.*, *McLeod v. W.S. Merrell Co.*, 174 So. 2d 736 (Fla. 1965); *Slayton v. Wright*, 271 Cal. App. 2d 219, 76 Cal. Rptr. 494 (1969); *Raritan Trucking Corp. v. Aero Commander Inc.*, 458 F.2d 1106 (3d Cir. 1972).

²⁵⁶ *Johnson v. William C. Ellis & Sons Iron Works, Inc.*, 604 F.2d 950 (5th Cir. 1979), *reh'g granted in part, denied in part*, 609 F.2d 820 (5th Cir. 1980), the court explained:

Even if we were to conclude that Mississippi would impose liability without fault upon those who provide services, we do not think that it would make the servicer liable to warn its customers of patent dangers neither created or aggravated by the services provided and not within the scope of the work contracted for.

Id. at 956 (citations omitted).

²⁵⁷ *E.g.*, *Galanos*, 608 F. Supp. 360 (duty extends as well to sellers of used goods and to one time sellers of used products).

to the product.²⁵⁸ Included are members of the public who might be injured as a result of lack of adequate warning.²⁵⁹

The leading expression of the weighing process that should accompany a manufacturer's determination of whether additional warnings should be given beyond those available to the immediate purchaser is stated by the court in *Dougherty v. Hooker Chemical Co.*²⁶⁰ That court called for the balancing of the following considerations: "the dangerous nature of the product, the form in which the product is used, the intensity and form of the warnings given, the burdens to be imposed by requiring warnings, and the likelihood that the particular warning will be adequately communicated to those who will foreseeably use the product"²⁶¹

The issue of to whom, beyond the immediate purchaser, the warning should be given is of paramount significance to the informational equilibrium model. Using the workplace as an example, if in the sale of an industrial solvent to a commercial buyer, the seller informs the buyer of the hazards of the product and the means for its safe use, and the buyer faithfully imparts that information to the workers likely to be exposed to the product in the work environment, there should be no liability. The workers have not been denied access to safety-related

²⁵⁸ See *Hopkins v. Chip-In-Saw, Inc.*, 630 F.2d 616 (8th Cir. 1980), in which the court states: When a manufacturer can reasonably foresee that the warnings it gives to a purchaser of its product will not be adequately conveyed to probable users of the product, then its duty to warn may extend beyond the purchaser to those persons foreseeably endangered by the products use. Warnings given to the purchaser do not necessarily insulate the manufacturer from liability to injured users of the product.

Id. at 619.

²⁵⁹ Compare *Kirk v. Michael Reese Hosp. & Medical Center*, 136 Ill. App. 3d 945, 483 N.E.2d 906 (1985) (allowing recovery for failure to warn an automobile passenger injured when the driver of a vehicle lost control and crashed, allegedly the result of side effects of administration of psychoactive pharmaceuticals, the court stating a general principle that the manufacturer has a duty to warn of possible adverse effects of drugs even to members of the public who might be injured by others' use of the product) with *Kinney v. Hutchison*, 468 So. 2d 714 (La. Ct. App.), *cert. denied*, 472 So. 2d 35 (La. 1985) (finding no manufacturer liability to bystander who was shot by a stranger who had taken the drug Preludin, the court finding that the manufacturer had provided sufficient cautionary information to prescribing physicians that even in normal dosages the drug could produce psychotic episodes).

²⁶⁰ *Dougherty*, 540 F.2d 174.

²⁶¹ *Id.* at 179. In *Dougherty* the appellate court found that the plaintiff had adduced sufficient evidence to warrant submission to the trier of fact as to the manufacturer's duty to convey warnings beyond the immediate purchaser and to the workers who could be expected to use the industrial solvent upon the showing that trichloroethylene posed a latent, and potentially lethal, hazard; that no warnings of this risk were communicated by the employer, or by the manufacturer, to the workers who were being exposed; and there was not reasonable basis on which the manufacturer could rely on the purchaser to give "appropriate information to its employees of all the hazards of working with [the product]." *Id.* at 181-82.

information essential to the safe discharge of their work. On the other hand, if the seller, innocently or negligently, informs the purchaser of the pertinent safety-related information, and the purchaser does not communicate that information to the employees, the failure of the intermediary to perform the desired instructional function preserves the informational imbalance between the seller and the users of the product. Arguably, liability should attach.

As is also true for the evaluation of the nature of a warning that should be given, the question concerning to whom it should be given requires evaluation of the harm likely to occur in the product's use without warnings, the reliability of any intermediary to whom the warning is given, the nature of the product involved and the burden on the manufacturer in disseminating the warning.²⁶² In some

²⁶² E.g., *Frederick*, 107 A.D.2d 1063, 486 N.Y.S.2d 564, 565. These factors may be seen as congruent with the considerations recommended by RESTATEMENT (SECOND) OF TORTS § 388, comment *n*, which advises reference to the relative hazard posed by the product, the immediate purchaser's familiarity with the risk, the trust that may be properly reposed in the intermediary to convey information of the risk to those who will use the product, and the feasibility of carrying the message directly to the ultimate user. The comment states in pertinent part:

Thus, while it may be proper to permit a supplier to assume that one through whom he supplies a chattel which is only slightly dangerous will communicate the information given him to those who are to use it unless he knows that the other is careless, it may be improper to permit him to trust the conveyance of the necessary information of the actual character of a highly dangerous article to a third person of whose character he knows nothing. It may well be that he should take the risk that this information may not be communicated, unless he exercises reasonable care to ascertain the character of the third person, or unless from previous experience with him or from the excellence of his reputation the supplier has positive reason to believe that he is careful. In addition to this, if the danger involved in the ignorant use of a particular chattel is very great, it may be that the supplier does not exercise reasonable care in entrusting the communication of the necessary information even to a person whom he has good reason to believe to be careful. Many such articles can be made to carry their own message to the understanding of those who are likely to use them by the form in which they are put out, by the container in which they are supplied, or by a label or other device, indicating with a substantial sufficiency their dangerous character. Where the danger involved in the ignorant use of their true quality is great and such means of disclosure are practicable and not unduly burdensome, it may well be that the supplier should be required to adopt them.

A contemporary analysis provides that the manufacturer owes the foreseeable user of its product a duty to warn of risks involved in using the product, a proposition applicable equally under strict liability and under negligence. *Powell*, 166 Cal. App. 3d 357, 212 Cal. Rptr. 395. From this premise it is stated that the manufacturer's duty to warn "is restricted to warnings based on the characteristics of the manufacturer's own product," *Id.* at 363, 212 Cal. Rptr. at 397. E.g., *Cronin*, 8 Cal. 3d 121, 104 Cal. Rptr. 433, 501 P.2d 1153 (1972). Because insofar as the manufacturer's evaluation of the nature and quantum, if any, of warnings to accompany its product is "based upon and tailored to" the characteristics of the manufacturer's own product, for the purpose of a duty to warn in tort, "the most the manufacturer could reasonably foresee is that consumers might be subject to the risks of the manufacturer's own product, since those are the only risks he is required to know." *Powell* 166 Cal. App. 3d at 364, 212 Cal. Rptr. at 398. Accordingly, in *Powell*, where the plaintiffs had

circumstances the class to which the duty is owed and that to which the warning should go are not coextensive. The professional user and the medical-pharmacological learned intermediary doctrines represent two such types of situations. The bystander doctrine represents another. The court in *Sills v. Massey-Ferguson, Inc.*,²⁶³ framed the bystander issue well in its disposition of an action brought against the manufacturer of a lawnmower for an injury suffered by a bystander struck in the jaw by a bolt picked up and thrown by the lawnmower. Identifying the duty of a manufacturer of a product that creates a hazard to give effective warnings to those who may foreseeably be affected by it, the court recognized that such a warning need not necessarily go to the person injured.²⁶⁴ It also recognized that, on the facts before it, "it would be admittedly difficult for a manufacturer to warn the general public" of the lawnmower projectile phenomenon.²⁶⁵ The appropriate warning in such a setting, the court concluded, would be one "adequate and sufficient . . . [to] apprise the reasonable person of the dangers at hand." This would probably be one as to safety precautions "given to the user of the mower"²⁶⁶

In other duty to warn actions not involving the workplace, well-reasoned authority expresses a resistance to permitting the seller to discharge its duty to warn to remote users or bystanders by simply conveying cautionary information to the immediate purchaser. One discussion of the arguably indefeasible nature of the manufacturer's duty to warn the ultimate user or bystander of a product's hazardous propensities is the decision of the Supreme Court of Kentucky in *Montgomery Elevator Co. v. McCullough*.²⁶⁷ This action was brought against the manufacturer of an escalator and the department store purchaser of that escalator. It arose from injuries sustained by a ten-year-old boy when his tennis shoe was caught up and crushed into the space between the escalator treads and side skirt. The manufacturer defended on the grounds that, upon its recognition of the product's design flaw, it sent to the purchaser letters advising of the hazard and including suggestions of remedial measures and an offer to sell to the department store a "kit" that would permit effectuation of those measures. The department

labored for one day with the paint thinner manufactured by the defendant, and after depleting that product switched the following day to the product of another manufacturer, suffered an injurious explosion thereby, the court affirmed judgment for defendant Standard Brands as, in the view of the court, "it was not reasonably foreseeable . . . that Standard Brands' failure to warn of risks of its product would cause plaintiffs to suffer injuries while using the product of another." *Id.* at 366, 212 Cal. Rptr. at 400.

²⁶³ *Sills v. Massey-Ferguson, Inc.*, 296 F. Supp. 776 (N.D. Ind. 1969).

²⁶⁴ *Id.* at 783; *see, e.g.*, *McCormack v. Hankschraft Co.*, 278 Minn. 322, 154 N.W.2d 488 (1967) (child injured by scalding water from overturned bedroom vaporizer, where appropriate warnings as to hazard of scalding would go logically to purchaser of product, rather than to the infant for whose benefit the product is to be used).

²⁶⁵ *Id.*

²⁶⁶ *Id.* at 783.

²⁶⁷ *Montgomery Elevator Co. v. McCullough*, 676 S.W.2d 776 (1984).

store in which this plaintiff was injured took no such action, and the manufacturer claimed that this was a superseding cause sufficient to obviate liability.²⁶⁸

The court acknowledged that there are circumstances in which the buyer's actions or omissions to act with the product "can be of such a nature as to prevent finding that the injury was caused by the unreasonably dangerous condition of the escalator."²⁶⁹ It concluded, however, that here the intermediary's, action, or inaction, was not of such a nature or degree as to become the cause in fact of the accident. The court further stated, "[t]he manufacturer has a non-delegable duty to provide a product reasonably safe for its foreseeable uses, a duty not abrogated by warning to the immediate purchaser."²⁷⁰

Putting aside products for household use or consumption, the majority of the circumstances in which the seller's product will be used by those other than the immediate vendee, are sales to commercial or industrial buyers whose employees will actually use or be exposed to the products. Interpretation of the

²⁶⁸ *Id.* at 778, 779.

²⁶⁹ *E.g.*, the careless handling of dynamite (*Hercules Powder Co. v. Hicks*, 453 S.W.2d 583 (Ky. 1970)), or the failure to keep a product in safe working order (*Ulrich v. Kasco Abrasives Co.*, 532 S.W.2d 197 (Ky. 1976)).

²⁷⁰ *Id.* at 781, 782, and stating also:

In the final analysis, as a general rule the purchaser's failure to remedy a defect in the product is no defense for the manufacturer where the claim is based on the defective condition of the product at the time of manufacture and is made on behalf of an ultimate user or bystander who has not been adequately warned of the danger The purchaser who has notice of the dangerous condition may be concurrently liable to the ultimate user for failure to provide adequate warning, for failure to remedy the defect or on some other basis, but the purchaser's failure to act is not an intervening cause except in extraordinary circumstances.

Id. at 782.

See also *Minert v. Harsco Corp.*, 26 Wash. App. 867, 875, 614 P.2d 686, 691 (1980): "We agree that the manufacturer has a duty to warn the ultimate user of any dangers in its product [other than those that are open or obvious.] This duty is non-delegable If the injury was the result of the manufacturer's breach, the liability for the injury will lie with the manufacturer." But see *Borel*, 493 F.2d at 1091-92 in which that court states:

In general, of course, a manufacturer is not liable for miscarriages in the communication process that are not attributable to his failure to warn or the adequacy of the warning. This may occur, for example, where some intermediate party is notified of the danger, or discovers it for himself, and proceeds deliberately to ignore it and to pass on the product without a warning.

Cf., *Jones v. Hittle Serv., Inc.*, 219 Kan. 627, 549 P.2d 1383 (1976); *Alm v. Aluminum Co. of America*, 687 S.W.2d 374 (Tex. Civ. App. 1985) *aff'd in part, rev'd in part*, 55 U.S.L.W. 2080 (1986) (implied jury finding that on the basis of bottle cap designer's instruction manual reference that "[l]eakage or closure blow-off at lower pressures can occur when the closure application is improper" was sufficient to put the bottler on notice that a misapplied cap could result in personal injury, permitted conclusion of insufficient evidence of designer's breach of a duty to warn. *Id.* at 382).

seller's duty to warn in this commercial and industrial environment is governed by Restatement (Second) of Torts section 388 which provides that the seller owes a duty to communicate effective cautionary information to these employees or other ultimate users, unless it has reason to believe that those persons exposed to the product will realize its dangerous condition.²⁷¹

Thus, the two crucial inquiries in measuring the manufacturer's duty, if any, to warn the remote employee are (1) what reason does the seller have to believe that the users will appreciate any product-related risk sufficiently to avoid harm; and (2) what confidence may the supplier prudently repose in the ability and the willingness of the buyer, or if the two are different, the employer, to communicate effectively to the actual users adequate cautionary information. Under a standard of informational equivalence these obligations may be recast to state that the manufacturer must inquire into what, if any, germane safety-related information known to it is likely not to be known to the persons who will actually be using the product. If there is such an imbalance between what is known to the manufacturer and what is known to the employee, the manufacturer must also question what are the optimal means for communicating this information to the actual users.

The expertise of the employee in using the product in question is one factor in the analysis of whether the supplier discharges its duty by warning the immediate vendee or the user's employer. The language of Restatement (Second) of Torts section 388(b) states that a manufacturer will not have to convey any additional warning to those for whom use of the product is intended, absent a reason to believe that those persons will fail to realize the limitations or hazards of the product. This would suggest that when the actual user has expertise in such matters, it lessens the likelihood that the seller would reasonably believe the user would fail to appreciate the risk. It is, nevertheless, noteworthy that in one action brought by an ironworker who was injured when a sling manufactured by the defendant failed, a jury question existed as to whether the manufacturer's duty to warn was present, notwithstanding the plaintiff's conceded expertise in such matters. The conflicting evidence in the record showed that the ironworkers professed collective expertise, and that the union had distributed pertinent literature to members, but also showed the ironworkers' disclaimer of the knowledge "of the working capacity of the sling that was employed," requiring, the court concluded, submission of the duty to warn issue to the jury.²⁷²

²⁷¹ RESTATEMENT (SECOND) OF TORTS § 388(b).

²⁷² *West v. Broderick & Bascom Rope Co.*, 197 N.W.2d 202, 210-11 (Iowa 1972) ("We are not persuaded we should hold as a matter of law that no duty to warn existed because of the ironworkers' expertise." *Id.* at 211); see *Bean*, 344 S.W.2d at 24, where the court stated: "We decline to hold, as a matter of law, that defendant owed him no further duty to warn merely because he was a licensed plumber."

There will be instances where the practice of one identifiable proportion of the population involves

Employer familiarity with the hazard was deemed irrelevant in one action brought by former employees of an asbestos insulation products manufacturer. The court found that the language of Restatement (Second) of Torts section 388, together with state products liability authority, required the conclusion that "the manufacturer of an inherently dangerous product has a non-delegable duty to provide warnings to the ultimate consumer or user."²⁷³ Distinguishing the defendants' opposing authority that would have limited the seller's liability where the buyer knew of the hazard, the court stated that such authority usually involves hazards that are either obvious or known to the employee.²⁷⁴ Similarly, *Seibel v.*

the relatively safe use of a product, while the practice of another proportion engages in a more hazardous, but foreseeable use. Where those engaging in the unsafe practice are suspected to be many in number, the manufacturer may have a duty to warn that group to otherwise protect its members. This issue is discussed in the interesting decision in *Gootee v. Colt Indus., Inc.*, 712 F.2d 1057 (6th Cir. 1983). One issue in the appeal involved the hazards of using the Colt .45 pistol in a half-cock position as a substitute for engaging the safety. Appellant on appeal claimed that persons first trained on this weapon in the police or in the military learned of this risky use, and that the manufacturer's awareness of that widespread use gave rise to its duty to warn. The court stated:

Where there is a heterogeneous market for a product, a regular practice or use among members of a single trade constituting a small fraction of the total users would not necessarily give rise to a duty to warn or protect against dangers from that use to those not members of the particular trade. The facts of this case differ markedly from such a situation, however. Those trained by the military or the police represent the vast majority of Colt .45 users.

Id. at 1065.

²⁷³ *Neal v. Carey Canadian Mines, Ltd.*, 548 F. Supp. 357, 368 (E.D. Pa. 1982), *aff'd sub nom.*, *Van Buskirk v. Carey Canadian Mines, Ltd.*, 760 F.2d 481 (3d Cir. 1985). The court in *Jackson*, 499 F.2d 809, responded sharply to a comparable proposition that employer knowledge of a risk extinguished a seller's duty to warn in an action where a painter engaged to paint the inside of certain railroad tank cars was injured when the vapors of the highly flammable epoxy paint ignited, and stated with respect to the showing of employer, but not employee, familiarity with a risk:

The most serious error in the challenged instruction is the statement that knowledge of the hazard on the part of plaintiff's employer would obviate any duty to warn plaintiff. Besides improperly focusing on the knowledge of an individual rather than general or common knowledge, this erroneously conceives the community whose common knowledge the jury is to ascertain. The seller's duty under § 402A is to 'the ultimate user or consumer.'

Id. at 812.

²⁷⁴ *Neal*, 548 F. Supp. at 369. Analysis under a substantially similar set of factors convinced a court in an asbestos-related disease action brought by land-based ship repair workers to reject the manufacturers' contention that the asbestos manufacturers satisfied their duty to warn the workers of the perils of inhalation of respirable asbestos insofar as the workers' employers, the builders of private and public ocean-going vessels, were "aware of the dangers involved in the use of the product." *Id.* at 232. Emphasizing the hazard, intermediary knowledge, and feasibility of direct warning factors of RESTATEMENT (SECOND) OF TORTS § 388 comment n, the court let stand the lower court's refusal to grant the manufacturer's requested jury instruction, concluding:

In this case the product, because it contained asbestos fibers, was very dangerous. The burden on the manufacturers in placing a warning on the product was not great. The

*Symons Corp.*²⁷⁵ found liability for failure to warn when the manual accompanying building material contained some cautionary language, but there was no evidence that the warning had ever been communicated to the employee. The employee, working on the manufacturer's steel concrete forms, fell and was injured when a weld broke on a V-shaped end support rod to which he had affixed the lanyard of his safety belt. On page three of the 115-page technical manual included the following warning: "Do Not Hang Off V-Shaped End Rail Support Rods." There was no evidence, however, that the specific or general import of this was communicated to the injured employee.²⁷⁶ The court let stand the jury verdict that the employer was negligent in failing to communicate adequately the warning to the employee who was the ultimate user of the product.²⁷⁷ The court distinguished authority which held that the manufacturer's warning conveyed to the employer insulates the employer from liability, even when the employer fails to communicate the warning to the employee, as arising from factual situations "where either the danger is slight or the difficulties of giving the warning are immense."²⁷⁸

Restatement (Second) of Torts section 388 comment n, offers the most particularized guidance for the supplier whose goods are to be used or consumed by persons other than the immediate buyer. The two most prominent examples are that of the distributor selling goods to the retailer, with knowledge that the goods will be purchased and actually used by remote buyers, and the manufacturer or the contractor making available to the contractor or subcontractor products that will be used by the latter party's employees or construction workers. Should a warning or other cautionary information be made to the immediate buyer, the issue posed is whether such method "gives a reasonable assurance that the information will reach those whose safety depends upon their having it."²⁷⁹ The comment suggests that this evaluation comprehends (1) a weighing of the relative seriousness of the harm that may occur if the information is not conveyed effectively to the remote user, and (2) an assessment of the confidence the seller may reasonably repose in the immediate vendee to impart faithfully the information to its servants. Understandably, comment n continues, if the product is of such a nature that, if "ignorantly used," is unlikely to cause more than "trivial" harm, it may be unnecessary for the supplier to do more than to ascertain that the vendee is an ordinary business person toward whom no particular scep-

employer was unaware of the danger until 1964. Finally, once the employer became aware of the potential danger it failed to convey its knowledge to its employees.

Id. at 233.

²⁷⁵ *Seibel v. Symons Corp.*, 221 N.W.2d 50 (N.D. 1974).

²⁷⁶ *Id.* at 53.

²⁷⁷ *Id.* at 57.

²⁷⁸ *Id.*

²⁷⁹ RESTATEMENT (SECOND) OF TORTS § 388 comment n.

ticism is warranted.²⁸⁰ If, on the other hand, the actual character of the product, taken together with the purpose for which it is to be used, would create a risk of serious injury if not used according to warnings or instructions, the supplier should consider direct communication to those actually using the product, even when there is no reason to believe that the vendee would not exercise due care.²⁸¹

Many of the decisions employing the justifiable reliance standard of Restatement (Second) of Torts section 388 comment n describe the requirement that the manufacturer have a reasonable basis for ascribing to the vendee the responsibility for conveying to others the nature of any pertinent product risk. Illustrations of circumstances in which confidence was found unjustifiable, as distinct from findings that failure of the warning to reach the employee is, without more, sufficient for imposition of liability, are quite scarce. One informative case involved a lumber planing device that forcibly ejected a board, killing the plaintiff's husband.²⁸² The product was sold equipped with "anti-kickback fingers" designed to protect the operator from kickback should a blade hit a knot or a piece of metal in the wood. The evidence adduced, however, showed that the very design of the "fingers" encouraged operators to shove them to the side of the saw pocket or to remove them altogether. When the machine's maintenance manual failed to caution against the removal of the fingers, the evidence in the aggregate suggested to the court that it was foreseeable that the manufacturer's vendee would not pass along adequate warnings to the actual users of the product.²⁸³

One insightful treatment holding that a manufacturer's warnings to even a highly skilled intermediary may be inadequate to prevent liability arose from an action brought by a woman who alleged that she suffered a stroke caused by her use of oral contraceptives.²⁸⁴ In that action the court recognized that in most circumstances involving prescription drugs the manufacturer satisfies its duty to warn by conveying the necessary and appropriate information to the treating phy-

²⁸⁰ *Id.*

²⁸¹ [I]f the danger involved in the ignorant use of a particular chattel is very great, it may be that the supplier does not exercise reasonable care in entrusting the communication of the necessary information even to a person whom he has good reason to believe to be careful. Many such articles can be made to carry their own message to the understanding of those who are likely to use them by the form in which they are put out, by the container in which they are supplied, or by a label or other device, indicating with a substantial sufficiency their dangerous character. Where the danger involved in the ignorant use of their true quality is great and such means of disclosure are practicable and not unduly burdensome, it may well be that the supplier should be required to adopt them.

Id.

²⁸² *Hopkins*, 630 F.2d 616.

²⁸³ *Id.* at 621.

²⁸⁴ *McDonald*, 475 N.E.2d 65.

sician.²⁸⁵ It also examined the patient-physician relationship in the administration of oral contraceptives in light of the Restatement (Second) of Torts section 388 comment n. The court concluded that in matters of the duty to warn, the manufacturer's reliance on an intermediary must be reasonable.²⁸⁶ The court discovered that unlike the ordinary circumstances of patient-physician consultation common to the authorization of most prescriptions, with oral contraceptives there exist (1) "heightened participation of patients relating to use," (2) "substantial risks," (3) the ease and practicability of direct warnings from the manufacturer to the user, and (4) the limited prescribing ("annual") and oral ("insufficient or . . . scanty . . .") contact with the physician to justify reliance on manufacturer communication to the medical community alone.²⁸⁷

Some vestigial authority would provide that a manufacturer's warning to the contractor or employer of the risks of use or installation of the product will satisfy the seller's duty to warn irrespective of whether the warning reaches the employee working with the material. However incongruous such decisions may at first appear to be with the policies espoused in Restatement (Second) of Torts section 388 and comment n, examination of these decisions reveals the typicality of either the employee's actual or constructive familiarity with the hazard or the adventurism of the employer or contractor in departing substantially with the warnings or instructions provided.²⁸⁸ For example, one action was brought by the employee of a construction contractor following the employee's injuries during erection of spanned truss joists in construction of a gymnasium which collapsed. The manufacturer interposed as its defense the several pages of pictorial representations of the correct erection of the product, given to the project supervisor together with printed information pertaining to erection, bracing, and instability, and cautioning as to the latter, "[i]f you are not completely satisfied that the joists are being installed correctly, call your supplier immediately."²⁸⁹ Rather than contacting the supplier regarding perceived problems, the court observed, the contractor and work crew "knowingly deviated from those instructions and used a

²⁸⁵ *Id.* at 69, ("[t]he duty of the ethical drug manufacturer is to warn the doctor, rather than the patient, [although] the manufacturer is directly liable to the patient for a breach of such duty." *Id.*, 475 N.E.2d at 69 (citing *McEwen*, 270 Or. at 386-87, 528 P.2d at 529) (emphasis in original).

²⁸⁶ *Id.* at 68.

²⁸⁷ *Id.* at 70. Accordingly, the court set forth the manufacturer's duty with regard to the sale of oral contraceptives as requiring the manufacturer: "to provide the consumer written warnings conveying reasonable notice of the nature, gravity, and likelihood of known or knowable side effects, and advising the consumer to seek fuller explanation from the prescribing physician or other doctor of any such information of concern to the consumer." *Id.* at 70.

²⁸⁸ As to the latter phenomenon, the court in *Phillips*, 269 Or. 485, 525 P.2d 1033 proposed that where the employer's actions represent only a "minor variation" from the instructions at issue, the manufacturer may still be liable.

²⁸⁹ *Schmizer v. Truss-Joist Corp.*, 540 P.2d 998, 1000-02 (Or. 1975).

'shortcut' procedure."²⁹⁰ This conduct, in the court's view, was sufficient to deny recovery.²⁹¹ One can quarrel legitimately with such a result that permits the contractor's cavalier disregard of the seller's instructions to bar the injured employee's action against the seller. The correctness of such a decision, however, rests ultimately with the proposition that, regarding products that are not by themselves extremely hazardous, the seller should be permitted to discharge its duty to warn by conveying adequate safety-related information to the immediate purchaser, unless the seller has actual or constructive awareness that the buyer will deviate from those instructions or fail to communicate them to the employees.

Also, some authority that at first seems like a reflexive application of the informed purchaser doctrine, with its occasional harsh consequences for the actual user of the product, reveals in actuality a substantial user awareness of the risk. Not infrequently, the decisions granting judgment to the manufacturer can be legitimated on the grounds of the employee's familiarity with the product and the risks involved and could support resort to the professional user exception, with the same result. A good example of such decisions which may have been correctly decided, but under the wrong rationale, is *Cruz v. Texaco*.²⁹² In *Cruz*, representatives of the decedent tow truck driver brought an action against the

²⁹⁰ *Id.* at 1006.

²⁹¹ *Id.* at 1006-07 (relying on *Procter & Gamble Mfg. Co.*, 422 S.W.2d 773, 780).

Such a resolution is arguably wrong, however, in light of the utter absence of evidence that the information known to the contractor was known similarly to the injured employee, or could be imputed fairly to the injured employee.

There remain also certain decisions that give weight to the employer's familiarity with the hazard, which evidence should normally be an irrelevancy inasmuch as the real issue is whether the manufacturer's warning was adequate to reach the ultimate user or handler of the product as those concepts are described under RESTATEMENT (SECOND) OF TORTS § 388 and § 402A. *E.g.*, *Wilhelm v. Globe Solvent Co.*, 373 A.2d 218 (Del. Super. 1977), involving an action brought by the employee of a dry cleaning plant against the manufacturers and distributors of cleaning solvent. The court therein gives summary judgment to the manufacturer on the failure to warn count on the grounds that "[s]ince the manufacturers . . . had no control over the dry cleaning machines or work area at [the plant] if there was a duty to warn it was only to warn . . . plaintiff's employer." *Id.* at 223. Of course the court's focus on "control" here, and the manufacturer's lack of "control" over the vendee's premises, misses the mark altogether. Only in unusual circumstances would the supplier have actual or constructive control over the premises of the vendee. The correct inquiry is the feasibility, where appropriate, of making cautionary information available directly to the actual users or consumers of the product. It is seen that the *Wilhelm* court offers an analysis paying not even lip service to the gravity of the risk, trustworthiness of the intermediary, and burden of conveying the warning directly to the worker—issues set out in RESTATEMENT (SECOND) OF TORTS § 388 comment n, and withholds also any legal or moral solicitude concerning the predicament of workers proceeding in ignorance of the hazards inherent in the flammable chemicals surrounding them. Parenthetically, it bears mentioning that supportable grounds for the decision of the court might have been found in the fact that the solvent manufacturer was a bulk seller, its product being stored in drums at the plant premises, and plaintiffs' testimony as to their individual awareness of the flammability of the product. *Wilhelm*, 373 A.2d at 220.

²⁹² *Cruz*, 589 F. Supp. 777.

seller of the truck for failure of the seller to warn that when the truck's winch was in use, the truck could become unstable and overturn if used at high speeds and towing heavy weights. Decedent's employer was knowledgeable in the use of winch trucks and testified at trial that he "did not need any advice as to how to operate the [winch] truck" from the seller.²⁹³ This evidence, it was submitted, was irrelevant to the question of whether the seller discharged its duty to communicate safety-related information to persons likely to use or be affected by the hazard. Granting summary disposition to the seller based upon its conclusion that the action was "analogous" to *Hopkins v. E.I. Du Pont*,²⁹⁴ the court concluded simultaneously that the decedent received training in the use of the winch trucks by other experienced employees, although there was no reported evidence of this by anyone other than the employer. If, nevertheless, one were to accept as true the representation of the decedent's specific familiarity with the risk, the result in *Cruz* is arguably supportable under the professional user doctrine.²⁹⁵

The manufacturer's dilemma of what, if any, information must be imparted to persons other than the immediate purchaser arises as well where the manufacturer sells in bulk. The issue requires resolution of whether the bulk seller for resale discharges its duty to warn by conveying adequate information to the distributor intermediary. It extends also to the question of what circumstances represent adequate assurance to the initial seller that the intermediary is capable of passing along such product information to the latter's customers.

This question has been treated in actions on claims involving products such as chemicals and natural gas, with a resolution that can be stated generally as providing that, for products sold in bulk, the wholesaler discharges its duty to warn by conveying adequate warning to the immediate purchaser. If, on the other hand, the products sold by the bulk seller are already packaged, "ordinary prudence may require the manufacturer to put his warning on the package where it is available to all who handle it."²⁹⁶

When the manufacturer sells in bulk by means of conveyancing that do not involve packages or containers that may readily be labeled, the majority rule is that the bulk seller fulfills its duty to warn if it conveys to the immediate purchaser sufficient information concerning any pertinent product risks. The manufacturer

²⁹³ *Id.* at 779.

²⁹⁴ *Hopkins*, 212 F.2d 623.

²⁹⁵ *Cruz*, 589 F.2d at 779-80.

²⁹⁶ *Jones*, 219 Kan. at 637, 549 P.2d at 1393-94. See *Hubbard-Hall Chem. Co.*, 340 F.2d 402 (manufacturer of insecticide required to place adequate warnings on the bags in which it was sold, including, arguably, international symbols of toxicity, such as the skull and crossbones, where the evidence showed that English warnings might not be understood by semi-literate farm laborers); *Steele v. Rapp*, 183 Kan. 371, 327 P.2d 1053 (1958) (manufacturer of finger nail polish, sold packaged, had duty to label the bottles indicating explosive propensities).

must also be reasonably satisfied that the intermediary possesses the ability to impart such information to subsequent purchasers.²⁹⁷

With the bulk natural gas genre of duty to warn limitations should be compared the contrary conclusion reached in *Shell Oil Co. v. Gutierrez*.²⁹⁸ There, a worker's injury in an explosion was caused by welding operations in proximity to waste, but not altogether empty, drums of the highly flammable solvent xylene. The manufacturer and seller of the xylene identified each drum as "highly flammable," but did not convey to the plaintiff's employer or to the distributor intermediary the importance of proper disposal of waste drums. The appellate court turned aside the manufacturer's appeal that it had no duty to provide such information to the final users of its product inasmuch as it was sold in bulk carload lots by responding:

[B]eing a bulk supplier in carload lots and not having direct access to the barrels does not insulate [the manufacturer] from liability. Labeling is but one of the methods which may give adequate warning Lack of access to the final form

²⁹⁷ E.g., *Parkinson v. California Co.*, 255 F.2d 265 (10th Cir. 1958) (an action involving bulk sale of propane to transporter, with subsequent sales to a retailer and the plaintiff, who suffered personal injuries and property damage as a result of a propane explosion). Concerning the claimed duty to warn the ultimate consumer of the possible loss of the fuel's cautionary odorant, the court states:

The propane was delivered to [the transporter] not in containers, but in bulk When it was sold, there was no method by which defendants could warn the plaintiff how it could be handled. The gas not being sold in original containers, and as it was not known to whom [the retailer] might sell the same, defendants could only warn [the transporter]. [The transporter and the retailer] knew of the possible chemical reaction. Warning is required to impart knowledge, and if that knowledge has already been acquired, it is not necessary.

Id. at 269 (citations omitted).

Congruent authority is found in *Hendrix v. Phillips Petroleum Co.*, 203 Kan. 140, 453 P.2d 486 (1969) "[The manufacturer], having once fulfilled the above duty [to warn], can not be held liable for [the distributor's] failure to take advantage of, use, or impart to others such instruction." *Id.* at 496, cited with approval in *Jones*, 219 Kan. at 635, 549 P.2d at 1392, in which the syllabus of the court states the general rule:

The manufacturer of [propane gas] who sells it to a distributor in bulk fulfills his duty to the ultimate consumer when he ascertains that the distributor to whom he sells is adequately trained, is familiar with the properties of the gas and safe methods of handling it, and is capable of passing on his knowledge to his customers. A manufacturer so selling owes no duty to warn the ultimate consumer, and his failure to do so is not negligence, and does not render the product defective.

Id. at 627, 549 P.2d at 1383.

In *Bryant v. Technical Research Co.*, 654 F.2d 1337 (9th Cir. 1981) (applying Idaho law), the court concluded that "the adequacy of a bulk manufacturer's warning to those other than its immediate vendee is usually held to be a jury question." *Id.* at 1346.

²⁹⁸ *Shell Oil Co., v. Gutierrez*, 119 Ariz. 426, 581 P.2d 271 (Ariz. Ct. App. 1978).

in which the product reaches the user is simply one of the considerations bearing upon the existence and extent of duty.²⁹⁹

The absence of any identifiable reason for the bulk seller to suspect imprudence on the part of its immediate purchaser has been held to insulate the manufacturer from a claim of failure to warn adequately, even in a setting where the manufacturer accompanied its initial sale with no warnings whatsoever.³⁰⁰ In one such case a lacquer thinner manufacturer sold the thinner in bulk to a distributor who packaged it to another distributor, who sold it to the retailer. The plaintiff used the thinner upon the recommendation that she could clean tar stains on her floor, proceeded to use it to clean her entire kitchen floor. The extreme flammability of the product caused the ensuing accident in which the plaintiff was injured. The warning in question was agreed by the parties to be adequate for use of the product as lacquer thinner, but unfortunately the label, for which preparation the thinner manufacturer claimed no responsibility, recommended the product's utility for removal of tar.³⁰¹ The court identified the only issue before it as whether the manufacturer had a duty to inspect the middleman's package or warning for adequacy. The court responded that it did not, explaining that "[i]t would have been highly unlikely, under the circumstances, however, for [the manufacturer] to have foreseen that [the middleman] would add an inappropriate use to an otherwise adequate warning label."³⁰²

A different issue is whether the private label manufacturer selling goods to the retailer for sale under the name of the retailer alone has a duty to warn the ultimate consumer of salient safety and usage information. Such was the object of discussion, but not resolution, in *Edwards v. Sears Roebuck & Co.*³⁰³ This involved an appeal of an action brought on behalf of a decedent involved in an accident in which the automobile's tires had been manufactured by Michelin in Europe and sold to defendant for resale under Sears' Allstate trademark. Michelin argued that under negligence it had "no duty to warn consumers regarding the vagaries of inflation, weights, speeds, and uses involved in driving with tires otherwise free from defect or danger," a proposition which the court agreed had "some merit."³⁰⁴

X. DUTY TO WARN THE ALLERGIC OR IDIOSYNCRATIC USER

Where a manufacturer's product is safe for use by most persons likely to come into contact with it, but is likely to create an allergic or highly unusual

²⁹⁹ *Id.* at 434, 581 P.2d at 279 (citing *Davis*, 399 F.2d 121).

³⁰⁰ *Manning v. Ashland Oil Co.*, 721 F.2d 192 (7th Cir. 1983).

³⁰¹ *Id.* at 194.

³⁰² *Id.* at 195.

³⁰³ *Edwards v. Sears, Roebuck & Co.*, 512 F.2d 276 (5th Cir. 1975).

³⁰⁴ *Id.* at 287. See also 1 L. FRUMER & M. FRIEDMAN *supra*, note 70, at §§ 8.01-8.05(2).

reaction in only a small proportion of the population, special issues arise as to the manufacturer's duty to warn the allergic or idiosyncratic individual.

Several decisions have adverted to the comments to Restatement (Second) of Torts section 402A as an aid in defining the standard to be applied to the manufacturer's duty to warn the unusual, but predictable, allergic or idiosyncratic user. One potential guideline found therein is that of comment i, which in its narrative regarding the concept of "unreasonably dangerous" states, in part, that to be unreasonably dangerous, "[t]he article sold must be dangerous to an extent beyond that which would be contemplated by the *ordinary* consumer who purchases it" ³⁰⁵ This language, with its emphasis on the ordinary consumer, has been interpreted by some courts as inviting the conclusion that an allergic or hypersensitive reaction to a product is not that of an ordinary or normal consumer. It, therefore, represents a factor militating against finding that allergic reactions can support a finding of unreasonable danger. A second guideline is found in comment j which provides that the manufacturer should provide a warning where "the product contains an ingredient to which a *substantial number* of the population are allergic, and the ingredient is one whose danger is not generally known" ³⁰⁶

Illustrative decisions adopting a "substantial" number or an "appreciable" number test include *Cudmore v. Richardson-Merrill, Inc.*, ³⁰⁷ involving cataracts and hair loss linked to the defendant's MER/29. The court stated that "the manufacturer of a drug for human consumption or intimate bodily use should be held liable . . . for injurious results only when such results [were foreseeable] in an appreciable number of persons." ³⁰⁸ In *Kaempfe v. Lehn and Fink Products Corp.*, ³⁰⁹ the court stated that there exists no manufacturer duty to warn unless the consumer is one of a "substantial number or of an identifiable class of persons who were allergic to the defendant's products." ³¹⁰ The court in the latter case

³⁰⁵ Restatement (Second) of Torts § 402A comment i (emphasis added).

³⁰⁶ *Id.* comment j:

. . . or if known is one which the consumer would reasonably expect not to find in the product, the seller is required to give a warning against it, if he has knowledge, or by the application of reasonable, developed human skill and foresight should have knowledge, of the presence of the ingredient and the danger.

Id.

³⁰⁷ *Cudmore v. Richardson-Merrell, Inc.*, 398 S.W.2d 640 (Tex. Civ. App. 1965), *cert. denied*, 385 U.S. 1003 (1967), *disapproved by*, *Crocker v. Winthrop Lab. Div. of Sterling Drug, Inc.*, 514 S.W.2d 427 (Tex. 1974).

³⁰⁸ *Id.* at 644.

³⁰⁹ *Kaempfe v. Lehn & Fink Prods., Corp.*, 21 A.D.2d 197, 249 N.Y.S.2d 840 (1964), *aff'd*, 20 N.Y.2d 818, 284 N.Y.S.2d 708, 231 N.E.2d 294 (1967).

³¹⁰ *Id.* at 201, 249 N.Y.S. at 846. *See also* *Presbrey v. Gillette Co.*, 105 Ill. App. 3d 1082, 435 N.E.2d 513 (1982), finding no duty to warn where the evidence showed that youth's welts from use of an antiperspirant were a systemic antigen-antibody reaction that was idiosyncratic to that user, and concluding therefore that the product was not fairly considered injurious to normal users.

found that under this standard there should be no recovery where the evidence showed only four complaints out of approximately 600,000 units of spray deodorant sold,³¹¹ a determination required, the court emphasized, not only by "the weight of authority but also by common sense application of the negligence doctrine."³¹²

Other decisions adopt the "appreciable number" language of *Cudmore* and state that for the product to be considered unreasonably dangerous, and for a duty to warn to attach, the adverse reaction must be of such a nature as to affect an "appreciable number" of users. Such an approach was adopted by one court finding for the defendant manufacturer in an action by a user of its fair coloring product for scalp injuries sustained in using the product.³¹³

Other authority describes the standard to be applied as that of whether the product was dangerous to an extent that would not be contemplated by the ordinary consumer purchasing it. This language was also employed by the authors

³¹¹ *Kaempfe*, 21 A.D.2d at 203, 249 N.Y.S.2d at 848. In *Kaempfe* the markings on the deodorant specifically stated "safe for normal skin" and "contains aluminum sulfate." The plaintiff, as in *Wright* suffered a severe allergic reaction. In reviewing why the manufacturer had not failed to warn, the court analyzed evidence that showed the manufacturer's projection that only one out of every 150,000 users would experience an adverse reaction. With this small number in mind the court stated this view of the law: "According to prevailing authority the existence of a duty on the part of a manufacturer to warn depends upon whether or not to his actual or constructive knowledge, the product contains an ingredient to which a substantial number of the population are allergic." *Id.* at 199, 249 N.Y.S.2d at 845. Finding no liability for want of any "substantial" number of persons who would react poorly to the product, the court was impressed additionally by its perception of the lack of causation between the seller's conduct and the consumer's injury, observing that a product containing a particular ingredient to which the manufacturer knew some were allergic would, by definition, warn only those who knew they had an allergy. A warning would therefore, by this argument, be useless to those persons such as Mrs. Kaempfe who did not know they had an allergy.

³¹² *Id.* at 204, 249 N.Y.S.2d at 848.

³¹³ *Alberto-Culver Co. v. Morgan*, 444 S.W.2d 770 (Tex. Civ. App. 1969) (finding no duty to warn in the absence of evidence that the user belonged to an appreciable class of users or potential users). One early review of what number of affected persons should be necessary to demonstrate that a product is hazardous is *Zirpola v. Adam Hat Stores, Inc.*, 122 N.J.L. 21, 4 A.2d 73 (1939), which involved an allergic reaction to a poisonous dye concentrated in the head band of the plaintiff's hat. After several warnings the consumer noticed his normally black hair had turned orange and he began to suffer from a skin eruption across his forehead. Judgment at trial went to Mr. Zirpola. On appeal the defendant contended that there should be no liability because the evidence demonstrated that only a small portion (four or five percent) of persons coming into contact with the dye would suffer injury. The court rejected the proposition in these words:

The mere fact that only a small proportion of those who use a certain article would suffer injuries by reason of such use does not absolve the vendor from liability under the implied warranty created by statute. Otherwise in every action to recover damages for the breach of an implied warranty it would be necessary to show that the article sold whether it be food or wearing apparel would be injurious to every user.

Id. at 23, 4 A.2d at 75.

of Restatement (Second) of Torts section 402A comment i. Under this approach, it has been held that a severe allergic reaction to a shampoo in one user was insufficient to show the manufacturer's failure to warn upon evidence showing that only somewhat more than one millionth of one per cent of the units sold had been associated with provable allergic reactions.³¹⁴

Even when only a very small proportion of the population is put at risk, the severity of the illness or injury to which the warning would be directed is properly a factor in determining whether the manufacturer has a duty to warn. Such was the logic of the court in *Davis v. Wyeth Laboratories, Inc.*,³¹⁵ an action involving the risk to participants in a mass polio immunization program of contracting the disease inoculated against, a risk argued to be only one in a million. Expressly rejecting the quantitative approach to determining the manufacturer's duty to warn, the court stated the test as being applicable to the law of informed consent as to products liability: "When, in a particular case, the risk qualitatively (e.g., of death or major disability) as well as quantitatively, on balance with the end sought to be achieved, is such as to call for a true choice judgment, medical or personal, the warning must be given."³¹⁶

The analysis in *Davis* is congruent with the emphasis given in *Wright v. Carter Products, Inc.*³¹⁷ Even if the risk is very slight, when the consequences of an injury are very grave, the manufacturer may in some circumstances have a duty to warn "those few persons who it knows cannot apply its product without serious injury."³¹⁸

³¹⁴ *Mountain v. Procter & Gamble Co.*, 312 F. Supp. 534 (E.D. Wis. 1970).

³¹⁵ *Davis*, 399 F.2d 121.

³¹⁶ *Id.* at 129-30. Glynn Davis was a healthy 38 year old man who took the drug as part of a nationwide immunization push. Within days he became paralyzed. The manufacturer sought to introduce evidence of a Surgeon General's report which put the risk of contracting the disease for persons over twenty years of age at nine out of every one million. Because of the small number defendant urged the court to classify this case as one in which "the personal risk although existent and known is so trifling in comparison with the advantage to be gained as to be de minimus." Rejecting this argument the court said, "Such treatment would qualify only in situations where sale [of the product] is accompanied by proper directions and warnings. Thus we are returned to the problem of a duty to warn." *Id.* at 128-29. The consumer must be given a chance, the court continues, to personally balance the benefits and risks of the administration of the drug, and absent a clear indication of the risks to him this risk-reward evaluation cannot be made. Particularly in situations involving drugs, the court emphasized the need for the consumer to be accurately informed of the risk of adverse reactions even if in view of the seller such risk are minimal, concluding "responsibility for choice is not one that the manufacturer can assume for all comers . . . it is the responsibility of the manufacturer to see that warnings reach the consumer . . ." *Id.* at 131.

³¹⁷ *Wright v. Carter Prods., Inc.*, 244 F.2d 53 (2d Cir. 1957).

³¹⁸ *Id.* at 58. (emphasis added). See also *Sterling Drug, Inc. v. Cornish*, 370 F.2d 82 (8th Cir. 1966) (holding that it is not unreasonable "to expect a manufacturer to foresee that some few customers among its many customers will suffer a rare allergic reaction to some ingredient in the product." *Id.* at 85); *Gober v. Revlon Inc.*, 317 F.2d 47 (4th Cir. 1963) (cosmetic manufacturer's nail base creating

Subsequent authority supports the argument in *Wright*³¹⁹ that the duty to warn cannot in all cases be measured by a quantitative standard,³²⁰ and that the manufacturer will in some circumstances be required to warn even a very few persons who cannot use the product without serious injury.³²¹ In agreement is the court in *Basko v. Sterling Drug, Inc.*,³²² which, in an action involving blindness caused by chloroquine retinopathy, stated: "The manufacturer is obligated to warn in cases where the drug may affect only a small number of idiosyncratic or hypersensitive users, and the obligation to warn attaches regardless of whether the number of persons affected can fairly be said to be 'appreciable.'"³²³

allergic reaction in some users is sufficient to create an obligation to warn). In *Wright*, Mrs. Carter had used Arrid deodorant for five years without suffering any ill effect but in June 1951, with an application of the product, she contracted a rash. She discontinued use of the product and the rash subsided. Later upon resumption of use no harmful effects were noticed. Unfortunately, with still a later application the rash reappeared, this time in the form of a severe case of contact dermatitis, a condition that must be continually treated. At trial, evidence was introduced to show that some individuals will experience varying degrees from mild to extremely severe dermatitis when using aluminum sulfate products, and that in the years 1948 through 1951 the manufacturer had received 373 complaints of skin irritation caused by Arrid. The trial court found persuasive the fact that 82,000,000 jars of the product had been sold generating only 373 complaints. Such a miniscule percentage compelled the court's conclusion that no duty to warn had arisen. The court of appeals, however, rejected the rationale that a small number of injuries always negates a duty to warn, and stated that while the number of persons harmed is properly considered in determining whether the manufacturer had knowledge of a danger:

[W]hen the fact is once established and demonstrated by experience that a certain commodity apparently harmless, contains concealed dangers and when distributed to the public through the channels of trade and used for the purpose for which it was made and sold is sure to cause suffering to and injure the health of some innocent purchaser even though the percentage of those injured be not large a duty arises to and a responsibility rests upon the manufacturer and dealer with knowledge to the extent, at least, of warning the ignorant consumer.

Wright, 244 F.2d at 58 (quoting *Gerkin v. Brown & Sehler Co.*, 177 Mich. 45, 60, 143 N.W. 48, 53 (1913)).

³¹⁹ *Wright*, 244 F.2d 53. See *Advance Chem. Co. v. Harter*, 478 So. 2d 444 (Fla. Dist. Ct. App. 1985), which involved a person's respiratory injury from use of a cleaning product containing ammonia. The defendant therein argued that plaintiff should not recover absent a showing that the product was hazardous "to the average person." *Id.* at 447. The appellate court considered such a standard "too great a burden" *Id.*, and determined instead that the court would adopt the rule that "if a particular injury is reasonably foreseeable, however rare, the manufacturer or seller has the duty to warn." *Id.* at 448. Liability may attach, the court continued, even in the absence of prior complaints about the product, as in the court's view "if the injury is reasonably foreseeable, even if rare, the seller cannot rely on its history of good fortune to exempt itself from liability." *Id.* at 448 (citations omitted).

³²⁰ *Wright*, 244 F.2d at 56.

³²¹ *Id.* at 58.

³²² *Basko*, at 416 F.2d 430.

³²³ *Id.*

Other authority supporting the position taken in *Wright* and involving an even more remote risk of allergic reaction is *Braun v. Roux Distribution Co.*³²⁴ There, the incidence of a user of the manufacturer's hair dye (which contained small amounts of a coal tar derivative) contracting allergic periarteritis nodosa was so remote as to have never, to anyone's knowledge, occurred. Notwithstanding the manufacturer's distribution of tens of millions of applications of the hair dye each year without comparable incident, the court found that the jury could reasonably conclude that the manufacturer, held to the standard of an expert, should have known of the risk and given an adequate warning against it.³²⁵

XI. DUTY TO WARN THE PROFESSIONAL USER

The rule is stated generally that there is no duty to give a warning to members of a trade or profession against dangers generally known to that group.³²⁶ Adherence to this approach is demonstrated by decisions holding that there is no duty to warn about the dangers of high exposure to benzene when the individual exposed to the benzene is a professional tank stripper whose job required contact with comparably hazardous cargo;³²⁷ and that there is no duty to warn an experienced stuntman about the hazards of jumping from a height of 323 feet into an air cushion rated for 200 feet.³²⁸

One obvious rationale for distinguishing the so-called professional user doctrine from the doctrines discussed above, concerning the duty to warn about known or obvious dangers, is that the product sold to or coming into contact with the professional may frequently be sold only to members of that trade. A single example will suffice. One can plausibly maintain that the producer of bulk quantities of rodenticide, sold only to seed and feed stores in bags not smaller than 100 pounds, can expect that the product will see only agricultural use, and that the users would have at least a rudimentary acquaintance with the safe use of rodenticide. A like supposition can be said to have led one court to conclude that a manufacturer should not have to warn a farmer about the dangers of drinking concentrated herbicide.³²⁹

³²⁴ *Braun v. Roux Distrib. Co.*, 312 S.W.2d 758 (Mo. 1958).

³²⁵ *Id.* at 763.

³²⁶ *Lockett v. General Elec. Co.*, 376 F. Supp. 1201, 1209 (E.D. Pa. 1974), *aff'd*, 511 F.2d 1394 (3d Cir. 1975); *see, e.g., Martinez*, 529 F.2d 457; *Collins v. Ridge Tool Co.*, 520 F.2d 591 (7th Cir. 1975), *cert. denied*, 424 U.S. 949 (1976); *Henderson Brothers Stores, Inc., v. Smiley*, 120 Cal. App. 3d 903, 174 Cal. Rptr. 875 (1981); *Ziglar v. E.I. du Pont de Nemours & Co.*, 53 N.C. App. 147, 280 S.E.2d 510 (1981).

³²⁷ *Martinez*, 529 F.2d at 464.

³²⁸ *Bakunas v. Life Pack, Inc.*, 531 F. Supp. 89, 92 (E.D. La. 1982), *aff'd*, 701 F.2d 946 (5th Cir. 1983).

³²⁹ *Ziglar*, 53 N.C. App. at 153, 280 S.E.2d at 515.

One early articulation of this approach was offered in *Helene Curtis Industries, Inc. v. Pruitt*,³³⁰ in which the injured party claimed, among other things, that the instructions accompanying the hair preparation inadequately described precautions that could have been taken and which would have lessened the likelihood or severity of the plaintiff's injuries. The manufacturer countered that its product was plainly marked "For Professional Use Only," that its warnings and other cautionary information was sufficient for the safe administration of the product by beauticians, and that it should not be required also to have prepared information for the audience of the plaintiff and her friend who assisted in the casual home administration of the product. With this latter proposition the court agreed, stating: "When these products were marketed, the makers could only foresee that they would be applied by a trained beautician. Therefore, the directions had to be adequate only for the professional's use."³³¹

The professional user exception has not been limited to circumstances where the injured party has had trade or professional exposure to the product. It has also been invoked successfully when the injured individual or individuals have had first-hand knowledge of the characteristics of a product, even absent direct professional experience. One such holding was an affirmed lower court finding for a defendant concrete manufacturer in an action brought by two men who purchased the defendant's concrete for use as a foundation for an addition to their home and suffered chemical burns from contact with the product. Noting that "[b]oth plaintiffs had experience in working with concrete" and had clothed themselves to provide protection from the risk of, among other things, chemical burns, the court held that a manufacturer had no duty to warn of risks thus known to the user.³³²

Similarly, if the experienced worker, knowledgeable of the risks inhering in the use of a product not itself inherently dangerous, proceeds incautiously to attempt to use the product, it may be found that a later claim of failure to warn will be barred for lack of any causal connection between the injuries sustained and the lack of warning. Such was the result in *Horak v. Pullman, Inc.*,³³³ in which a railway workman brought suit against, among others, the manufacturer of a gravity outlet gate after he sustained back injuries attempting to work open the closed exit chute. Reviewing the record below, the appellate court concluded

³³⁰ *Helene Curtis Indus. Inc.*, 385 F.2d 841.

³³¹ *Id.* at 858 (citations omitted); see *Dahlback v. Dico Co.*, [1984-85 Transfer Binder] Prod. Liab. Rep. (CCH) ¶ 10,195 (Minn. App. 1984), finding no duty to warn for manufacturer of trolley boom hoist following injury where hand-held control unit malfunctioned and operator came into contact with a power line, as the plaintiff's employer, a sophisticated purchaser familiar with the varying types of control units available, was knowledgeable of the risks in such a product. *Id.* at 26, 561-63, 26,562.

³³² *Gary v. Dyson Lumber & Supply Co.*, 465 So.2d 172 (La. Ct. App. 1985) (citing *Thornhill v. Black, Sivals & Bryson Inc.*, 385 So. 2d 336 (La. Ct. App. 1980)).

³³³ *Horak v. Pullman, Inc.*, 2 Prod. Liab. Rep. (CCH) ¶10,585 (5th Cir. 1975).

that the plaintiff "knew that excessive force might be required to open the hopper car," knew also that the use of such force "could pose a threat of injury to him," and, by his admitted disregard of various mechanical assist devices at the site, showed that any other warnings or instructions would have been unavailing. "Thus," the court decided, "the failure to warn could not have been a producing cause of [the plaintiff's] accident."³³⁴

Subsection (b) of Restatement (Second) of Torts section 388 has been interpreted as supporting the proposition that no duty to warn exists if the user knows or should know of the hazard, especially when the user is a professional who should be aware of the characteristics of the product. Illustrative of the decisions supporting this rationale is the leading case of *Strong v. E.I. Du Pont de Nemours & Co.*³³⁵ In *Strong*, the widow of the decedent, a construction supervisor for the public gas company, brought an action for the death of her husband who was killed by a gas explosion while investigating a report of gas odor. The explosion was attributed to a two-inch plastic pipe, containing a metal insert stiffener, which pulled from a compression coupling because of shrinkage in the plastic pipe due to cold. The plaintiff alleged, among other things, that the manufacturer failed to warn that such plastic pipe, when connected to steel pipe by means of compression coupling, would not maintain its integrity as the plastic pipe contracted with temperature drop. The evidence showed that the coupling in question had been installed under the direction of the decedent, and that the decedent was, prior to the explosion, aware of at least two other incidents involving similar pullouts.³³⁶

The evidence in *Strong* also showed that the manufacturer had issued "a variety of printed instructions and technical information" to the gas company, including advisories on the need for precautionary measures on anchoring procedures with plastic pipe. The testimony of gas company employees, however, was uniformly that none had read the latest and most timely manufacturer newsletter on the subject.³³⁷ Citing subsection (b) of Restatement (Second) of Torts section 388, the appellate court agreed with substantial precedent that the provision has been correctly "interpreted to mean that there is no duty to warn if the user knows or should know of the danger, especially when the user is a professional who should be aware of the characteristics of the product."³³⁸ The court continued by adding that the alleged lack of warnings could not, in any event, be the proximate cause of the fatality when "a user is fully aware of the danger which a warning would alert him or her of."³³⁹

³³⁴ *Id.* at 28,288.

³³⁵ *Strong v. E.I. Du Pont de Nemours & Co.*, 667 F.2d 682, 687 (8th Cir. 1981).

³³⁶ *Id.* at 684.

³³⁷ *Id.* at 685.

³³⁸ *Id.* at 687.

³³⁹ *Id.* at 688. See *Hammond v. Nebraska Natural Gas Co.*, 204 Neb. 80, 82-83, 281 N.W.2d 520, 522 (1979), an action arising from the same explosion as that in the principal case, and in which

Courts have not, however, reflexively denied recovery to experienced workers on the basis of a presumptive familiarity with any hazards associated with their trade or craft. This is particularly true in a hierarchal trade or craft where the contractor or supervisor, by information, experience, or training, may know more about the performance characteristics of certain products than the subordinate craftsmen. Leading authority has proposed the better rule to be that where the pertinent product safety information has not reached the individual who will use the product or be exposed to the peril, it is of no moment that the worker's supervisor or employer may have superior knowledge or information of the hazard. Thus, in *Jackson v. Coast Paint & Lacquer Co.*,³⁴⁰ an action was brought by a painter severely burned when the epoxy paint with which he was painting the inside of a railway tank car ignited. The evidence showed that while the plaintiff's employer may have been familiar with the risk that vapors accumulating in a confined area could create the risk of explosion when coming into contact with a spark, the plaintiff himself was not. Reversing on the basis of the trial court's instruction that knowledge of the hazard on the part of the plaintiff's employer would obviate any need for a warning to the plaintiff,³⁴¹ the court stated that "[t]he adequacy of warnings must be measured according to whatever knowledge and understanding may be common to painters who will actually open the containers and use the paints; the possibly superior knowledge and understanding of painting contractors is irrelevant."³⁴²

As in *Jackson*, the record in *Borel v. Fibreboard Paper Products Corp.*³⁴³ required the conclusion that, however familiar others might have been with the

the court observed that as the gas company was under a high duty of care concerning its gas lines, the manufacturer could assume that it was familiar with the pullout problem, a hazard that was "well known throughout the industry." *Id.* at 86, 281 N.W.2d at 524. In such circumstances, that court concluded: "Any negligence on the part of Du Pont in failing to adequately instruct and warn the Gas Co. could not have been the proximate cause of the accident if the Gas Co. had actual knowledge of the matter." *Id.* at 86, 281 N.W.2d at 524. See also *Jacobson v. Colorado Fuel & Iron Corp.*, 409 F.2d 1263, 1273 (9th Cir. 1969), where the decedent, a manufacturing foreman, was killed when a steel strand broke in the preparation of prestressed concrete. The plaintiff alleged inadequate warning to the decedent of the hazards of oversteering, but there was testimony of familiarity with the danger in the industry, as well as particular knowledge of the hazard by the defendant's production coordinator and the decedent's supervisor. The court there found only a duty to warn those who would be supervising and directing the application of the materials, stating its view of the correct rule of law:

Where a supplier furnishes chattels, the use of which is to be directed by technicians or engineers, it is sufficient to insulate the supplier from liability for failure to warn if the warnings given are sufficient to apprise the engineers or technicians of the dangers involved, or if the technicians have knowledge of the dangers involved. There is no duty to warn those who simply follow the directions of the engineers or technicians.

Id. at 1273 (quoting the trial court's conclusion of law number VI).

³⁴⁰ *Jackson*, 499 F.2d 809.

³⁴¹ *Id.* at 812.

³⁴² *Id.* at 812-13.

³⁴³ *Borel*, 493 F.2d 1076.

hazards of inhalation of respirable asbestos, the dangers of such exposure were not sufficiently apparent to insulation workers to relieve the manufacturers of the duty to warn.³⁴⁴

Other authority reiterates that the provider of a warning must adopt methods of communication that offer reasonable assurance that the user or consumer will be apprised of the information either personally or vicariously. The presumption that a skilled contractor or a knowledgeable foreman will act successfully to protect employees who are less informed of the risk, or not informed at all, can be rebutted by facts showing no communication, or inadequate communication, of safety-related information to the employee. One helpful analysis is provided in *Eck v. E.I. Du Pont de Nemours & Co.*,³⁴⁵ an action brought by a laborer injured by remaining too close to a blast of dynamite detonated by the project's foreman. The manufacturer argued that it had provided sufficient instructions for use of the explosive by means of flyers in each carton of the dynamite and the invitation therein for the purchaser to contact the manufacturer for additional information. The evidence at trial, however, suggested that even plaintiff's foreman was not familiar with the proper distances to be maintained for safe use of the dynamite. Reversing summary judgment for defendant below, the court of appeals held it to be a jury question as to whether the manufacturer's practice of providing flyers gave "reasonable assurance that the information [would] reach those whose safety depends upon it."³⁴⁶

The professional user exception has not been confined to determination of the manufacturer's duty to warn the professional worker in a setting where, for example, pertinent inquiry would necessarily comprehend the reasonable reciprocal expectations of the professional home painter and the manufacturer of house paint whose product is purchased. The doctrine has been interpreted by some courts to identify a lesser duty to warn for the manufacturer who sells to a professional buyer who may be expected to know of any hazards posed, without regard to whether employees or others working at the direction of the buyer are "professional users" as that characterization is understood in common usage or in the sense of the fairness of a presumed familiarity with any risks.

Illustrative in this regard is the frequently cited decision in *Hopkins v. E.I. Du Pont de Nemours & Co.*³⁴⁷ In that action the plaintiff's decedent was killed when placing a stick of dynamite in a recently drilled hole in rock the crew was blasting. At trial the foreman testified that, while he was unaware of any other

³⁴⁴ *Id.* at 1093. A life long insulation worker would not, for example, be expected to be familiar with the documentation, however substantial, in the medical journals of the hazards of asbestosis. See *id.* at 1081-1086.

³⁴⁵ *Eck v. E.I. Du Pont de Nemours & Co.*, 393 F.2d 197 (7th Cir. 1968).

³⁴⁶ *Id.* at 813 (quoting RESTATEMENT (SECOND) OF TORTS § 388 comment *n*).

³⁴⁷ *Hopkins*, 212 F.2d 623.

premature explosions caused under similar circumstances, he had learned from sources he considered reliable of the nature of the risk and had instructed men on his crew to check the temperature of the hole by the crude method of insertion of a wooden pole and its later removal and observation. Thus, from the record, although the knowledge of the foreman as to the risk was perhaps marginal, there was uncontradicted evidence suggesting that the decedent had received specific instruction of means of lessening, if not eliminating, the risk.³⁴⁸

It is seen that the issue of the nature and quantum of warning that will be appropriate for the professional user is related closely to the question of when the manufacturer selling to the professional buyer and providing warnings, where appropriate, to the immediate purchaser must proceed in addition to provide warnings or other information to the agents or employees of the purchaser who will actually use or be affected by the product. For example, the court in *Hopkins* probably erred in concluding that the seller could presume that the foreman was familiar with the hazard of premature explosion. From all that can be learned from the reported decision, the foreman's knowledge was at best vague and was obtained from collateral sources. There would have been, on the other hand, sufficient support in the record for concluding that the worker killed was himself knowledgeable about the risk by virtue of having been instructed in a rudimentary procedure for determining whether the drill holes had cooled sufficiently. Therefore, in a decision reached prior to strict liability, the plaintiff could have been denied recovery on the grounds of contributory negligence.

Nevertheless, an additional caution concerning reliance on *Hopkins* is that the characterization by the court of the construction firm, the purchaser of the explosive, and specifically the foreman of the firm, as the only pertinent "user" of the product is insupportable. It is true that the contractor was the purchaser of the explosive for the purposes of warranty law and would be the consumer of the product if that term is considered to include the person who disposes of or directs the disposition of property. It is incorrect, however, to style the contractor's foreman as the "user" in this instance, disregarding the patent reality that it was the decedent who was using the substance and who was mortally injured thereby. Moreover, modern authority would reject the invitation to impute the negligence or assumption of risk of the contractor or the supervisor to the innocent employee.³⁴⁹

³⁴⁸ *Id.* at 625-26.

³⁴⁹ See *Hammond*, 691 F.2d 646, 652 (imprudence of farm manager or farm owner in ordering a tractor without a rollover protective structure should not be imputed to an employee killed while using the tractor); *Brown v. Caterpillar Tractor Co.*, [1984-85 Transfer Binder] Prod. Liab. Rep. (CCH) ¶ 10,166 (3d Cir. 1984) (an action brought by an Army reservist against the manufacturer of a bulldozer for injuries alleged to have been sustained for reason of the bulldozer's lack of a rollover protective device, holding that the pertinent authority required that the duty to warn be gauged by the users' knowledge, and that any knowledge held by the reservist's Army employer should not necessarily be imputed to him.)

Accordingly, proper application of the professional user variation on the manufacturer's duty to warn requires careful restriction of the group considered to have notice of the risk, whether that notice is actual, constructive or vicarious. No advancement of risk spreading and related policies served by Restatement (Second) of Torts sections 388 and 402A is gained by hypertechnical evaluation of whether the knowledge of the employer is shared by or imputable to the employee. Human experience suggests that only rarely will the employee know what is known to the employer. In other legal areas such as, for example, the law of evidence, the courts will not impute an employer's statement to signify the assent of the employee.³⁵⁰ Equally important is countenancing a seller's defense that the buyer-employer was a professional user or an expert concerning the safety characteristics of the product, where the persons to be exposed to the hazard had no such superior knowledge. This serves only to cripple the recognized contemporary goal that the manufacturer share with the user or consumer such safety-related information as is necessary to the reasonably safe use of the product. The informational burden should be placed on the party with the lowest cost of detection, usually the manufacturer, rather than on the unknowing employee for whom the burden of understanding the propensities of complex chemicals or machinery is very substantial, if achievable at all.

The professional user exception is best reserved for factual settings involving an expert buyer of a product that is not available for general consumption. The product is to be used or handled either by the buyer exclusively or by those who work under the supervision of the buyer and who are already either experienced in the use or handling of the product or have been effectively informed concerning safe use and handling. A good example of the limited and appropriate application of the professional user rule is offered in *Martinez v. Dixie Carrier, Inc.*,³⁵¹ which involved a suit brought by the widow of a shore-based worker who was overcome by noxious fumes while stripping a barge empty of all liquids. The barge in question had been used most recently to transport a petrochemical mixture containing a substantial concentration of benzene.³⁵² Reversing the trial court's conclusion that the seller's cautionary information had been inadequate, the appeals court determined that the warnings were adequate, "[a]t least for the limited class of professionals to which . . . employees belonged,"³⁵³ because (1) there was

³⁵⁰ *E.g.*, *Mahlandt v. Wild Canid Survival & Research Center, Inc.*, 588 F.2d 626 (8th Cir. 1978) (in personal injury action following alleged attack on child by wolf kept by defendant's employee and owned by defendant, comments in defendant's corporate minutes admitting attack could not operate co-equally as admission of co-defendant employee as "there was no servant, or agency, relationship which justified admitting the evidence of the board minutes as against [the employee]." *Id.*).

³⁵¹ *Martinez*, 529 F.2d 457.

³⁵² *Id.* at 460.

³⁵³ *Id.* at 467 (regarding claim in strict liability). As to the negligence count, the court stated: In view of the limited marketing of Hytrol-D to industrial users, Du Pont could reasonably

"limited marketing" of the product, only to "industrial user[s];"³⁵⁴ (2) the crew on which the decedent worked "was conversant with the hazards and precautions necessary for the safe handling of a chemical mixture with a high benzene content . . . ;"³⁵⁵ and (3) the barge and its cargo displayed large permanent signs about "Dangerous Cargo," a benzene warning card pursuant to Coast Guard requirements, and a product identification card promulgated by a national trade group.³⁵⁶

XII. ADEQUACY OF WARNINGS OR INSTRUCTIONS

Once there is determined to be a duty to warn, the task of the finder of fact is often to evaluate whether the warnings or instructions as were provided were adequate. Because the finding of a duty to warn presupposes the existence of a disparity between the essential safety-related information known to the seller and that known to the buyer in the absence of any warnings whatever, the focus of the inquiry into the adequacy is whether the warning provided was sufficient to right this imbalance.

To be sufficient in the legal sense, the warning or instruction must be adequate, if followed, to render the product safe for its intended and foreseeable uses.³⁵⁷ As with the question of whether a failure to warn is a proximate cause of the injury is a question of fact,³⁵⁸ generally the adequacy of warnings or instructions will be a question of fact.³⁵⁹ Naturally, the publication of a warning

anticipate that only professionals familiar with the precautions necessary for safe handling of benzene and similar petrochemical substances would come in contact with or otherwise handle the cargo of the B-29. The Wilsco stripping crew was in fact composed of such professionals, and the crew had been made aware of the nature of the liquid residue to be stripped from the barge. At least with regard to individuals having such expertise, the warnings provided by Du Pont in the form of benzene warning card and the product identification card should have been adequate to apprise crew members of the hazards of entering the barge's tanks. Accordingly, we conclude that the District Court erred to the extent that it imposed liability on Du Pont on the basis of negligent failure to warn.

Id. at 465.

³⁵⁴ *Id.*

³⁵⁵ *Id.* at 467.

³⁵⁶ *Id.* at 462.

³⁵⁷ See generally Noel, *Products Defective Because of Inadequate Directions or Warnings*, 23 Sw. L. J. 256 (1969).

³⁵⁸ *E.g.*, *Kavanaugh v. Kavanaugh*, 131 Ariz. 344, 641 P.2d 258 (Ariz. Ct. App. 1981) (consideration of whether prior breaking of safety lever or lack of warning that the self-propelled mower could become operative regardless of safety lever, proximately caused serious injury to a child's foot).

³⁵⁹ *E.g.*, *Brown v. Sears, Roebuck & Co.*, 136 Ariz. 556, 667 P.2d 750 (Ariz. Ct. App. 1983) (issue of instructions for use of electric saw where risk was of electrocution, when used with non-grounded two-prong extension cord); *Buley v. Rexnord Process Mach. Div.*, 105 A.D.2d 965 (N.Y. App. Div. 1984); *Stone v. Sterling Drug*, 2 Prod. Liab. Rep. (CCH) ¶10,580, (N.Y. App. Div. 1985).

or instructions must be timely, providing the opportunity for the user or consumer to understand and act upon the message.³⁶⁰

Evaluation of the adequacy of a warning requires a balancing of considerations that include at least (1) the dangerousness of the product; (2) the form in which the product is used; (3) the intensity and form of the warnings given; (4) the burdens to be imposed by requiring warnings; and (5) the likelihood that the particular warning will be adequately communicated to those who will foreseeably use the product.³⁶¹

Thus, measuring the adequacy of a warning requires consideration of both form and content. The form of the warning label, be it rendered in a separate tag or integrated into the printed material on the product's container, must first be such that it could reasonably be expected to catch the attention of the reasonably prudent man in the circumstances of its use. The content of the warning, in turn, then must be of such a nature as to be "comprehensible to the average user and to convey a fair indication of the nature and extent of the danger to the mind of a reasonably prudent person."³⁶² A warning may be inadequate if (1) its physical characteristics, including its size and placement, are so small or obscure that the reasonable consumer would not read it; or (2) it fails to inform the reasonable consumer of the pertinent hazard and the means for its avoidance.³⁶³

For example, concerning the dual prongs of the latter requirement, if the hazard to be avoided is venomous snakes in the grass, a sign saying simply "Keep off the Grass" would be inadequate for its failure to describe with sufficient impact the nature of the risk as well as for its failure to inform the visitor of any means of safe passage. Concerning impact alone, such an understated warning would surely fail, in the expression of one court, to convey an "intensity sufficient to illuminate the mind of a reasonable [person]."³⁶⁴ On the other hand, if the sign said "Use Foot Bridge," it might be adequate in terms of advising the reader of the means of avoidance of the risk. Yet it would also fail our hypothetical duty to warn again for its failure to impress the reader with the fact that "a minor departure from instructions might cause serious danger"³⁶⁵ Lastly, were the sign to state, in an idiom popular in parking regulation, "Don't Even Think of Stepping Here!," the message would arguably convey the prohibitory

³⁶⁰ See *Casetta v. United States Rubber Co.*, 260 Cal. App. 2d 792, 67 Cal. Rptr. 645 (1968) (action by injured tire moulder against manufacturer where evidence conflicted as to availability of instructional poster prior to accident).

³⁶¹ *Dougherty*, 540 F.2d at 179.

³⁶² *Harless v. Boyle-Midway Div., American Home Prods.*, 594 F.2d 1051, 1054 (5th Cir. 1979) (action brought in products liability following death of fourteen year old boy who attempted to use pressurized propellant recreationally).

³⁶³ See *Brown v. Gulf Oil Co.*, [1984-85 Transfer Binder] ¶ 10,474 (Tenn. Ct. App. 1985).

³⁶⁴ *D'Arienzo v. Clairol, Inc.*, 125 N.J. Super. 224, 310 A.2d 106 (1973).

³⁶⁵ *Phillips*, 269 Or. at 502 n.17, 525 P.2d at 1041 n.17.

message to the reader with sufficient emphasis. Again, it would fail as a warning for its want of information as to the nature of the risk, or of the means of its avoidance.

The physical characteristics of the warning itself are pertinent to the evaluation of its adequacy. The warning's conspicuousness, prominence, and size of print, in comparison to the print size employed for other parts of the manufacturer's message, must be "adequate to alert the reasonably prudent person."³⁶⁶ Thus, for example, a manufacturer's notice, printed on the label of bottles of its furniture polish in print of size and color identical to that used for the balance of the manufacturer's message, was held insufficient to avoid liability for the death of an infant who died of chemical pneumonia after ingesting only a small quantity of the product.³⁶⁷ Additional authority confirms that the evaluation of the impact of a warning and its consequent effect on the user or consumer involves "[q]uestions of display, syntax, and emphasis."³⁶⁸

A widely referenced and most particularized model of determination for the adequacy of a warning results from an action involving pharmaceuticals. With minor modifications, the guidelines apply with equal force to products liability actions involving any product having the potential for harm if sold with inadequate warnings or instructions. The standards are: (1) the warning must adequately indicate the scope of the danger; (2) the warning must adequately communicate the extent and the seriousness of the harm that could result from the misuse of the product; (3) the physical aspects of the warning must be adequate to alert a reasonably prudent person to the danger, and thus, a simple directive warning may be inadequate when it fails to indicate the consequences that might result from failure to follow it; and (4) the means to convey the warning must be adequate to bring the warning home to the user, consumer, or in the case of ethical pharmaceuticals, the physician.³⁶⁹ Concerning further the special nature of ethical pharmaceuticals, the manufacturer's duty to warn is interpreted to provide a warning that "under all of the circumstances . . . reasonably discloses to the medical profession all risks inherent to the use of the drug which the manufacturer knew or should have known to exist."³⁷⁰

³⁶⁶ First Nat'l Bank in Albuquerque v. Nor-Am Agric. Prods., Inc., 88 N.M. 74, 84, 537 P.2d 682, 692 (N.M. App. 1975) (action against manufacturer of disinfectant used to treat seed, later ingested by a hog, caused injuries to central nervous systems of children eating the meat of the animal).

³⁶⁷ *Spruill*, 308 F.2d 79 (the warning had nothing to attract special attention to it except the words "safety note" and the language advising that the product "may be harmful, especially if swallowed by children.").

³⁶⁸ *D'Arienzo*, 125 N.J. Super. at 230-31, 310 A.2d at 112, *quoted with approval in* Stapleton v. Kawasaki Heavy Indus., Inc., 608 F.2d 571, 573 n.4 (5th Cir. 1979), *reh'g denied*, 612 F.2d 905 (1980).

³⁶⁹ *Ross*, 684 P.2d 1211.

³⁷⁰ *Seley*, 67 Ohio St. 2d 192, 423 N.E.2d 831; *accord*, *Ross*, 684 P.2d 1211.

A leading decision finding manufacturer liability for failure to warn of the "extent" and "gravity" of the risks posed by exposure to the manufacturer's product is *Borel v. Fibreboard Paper Products Co.*³⁷¹ This was an action by an insulation worker against manufacturers of insulation materials containing asbestos to recover for alleged breach of duty to warn adequately of the risks of asbestos-related disease. Reviewing warnings that cautioned, in part, that protracted inhalation of respirable asbestos "may" be harmful, and advised workers to "avoid breathing [asbestos] dust." The court responded sharply: "[N]one of these so-called 'cautions' intimated the gravity of the risk: the danger of fatal illness caused by asbestosis and mesothelioma or other cancers. The mild suggestion that inhalation of asbestos . . . 'may be harmful' conveys no idea of the extent of the danger."³⁷² Additional representative examples of actions in which the manufacturer's warning has been found inadequate for its failure to convey sufficiently the extent or severity of the risk include the failure of a herbicide manufacturer to warn of the long-lasting toxic propensities of the chemical and the consequent need for safe disposal;³⁷³ the failure of a manufacturer of floor tile adhesive, while warning of the product's overall flammability, to caution more specifically that the fumes or vapors could ignite on contact with a pilot light, resulting in a violent explosion;³⁷⁴ the failure of a pharmaceutical manufacturer

³⁷¹ *Borel*, 493 F.2d 1076.

³⁷² *Id.* at 1104. Concerning the manufacturers' request that the workers avoid "breathing the dust", the court described it as "black humor" inasmuch as "[t]here was no way for insulation workers to avoid breathing asbestos dust." See also *Tampa Drug Co. v. Wait*, 103 So. 2d 603 (Fla. 1958), in which the court states:

Implicit in the duty to warn is the duty to warn with a degree of intensity that would cause a reasonable man to exercise for his own safety the caution commensurate with the potential danger. It is the failure to exercise such a degree of caution after proper warning that constitutes contributory negligence in a case such as this.

Id. at 609.

³⁷³ *Boyl*, 221 F. Supp. 669 (liquid weed killer Triox alleged to have severely and painfully injured and sickened user who unwittingly laid down to sun bathe in area in which waste herbicide had been earlier discarded).

³⁷⁴ *Burch v. Amsterdam Corp.*, 366 A.2d 1079 (D.C. App. 1976) (The seller or manufacturer of a product whose use could result in foreseeable harm has a duty to give a warning which adequately advises the user of attendant risks, and which provides specific directions for safe use. The sufficiency of a particular warning is ordinarily a question for the jury):

The particular hazard encountered by appellants in using VICO-102 was that fumes or vapors from the product could ignite on contact with a pilot light, resulting in a violent fire or explosion. The pertinent cautionary statements on the VICO-102 label were: 'DANGER! EXTREMELY FLAMMABLE . . . CAUTION: FLAMMABLE MIXTURE. DO NOT USE NEAR FIRE OR FLAME . . . USE WITH ADEQUATE VENTILATION.' Given the potential for serious injury, we cannot say as a matter of law that this warning adequately alerted users of the dangers inherent in the product. Among other things, an ordinary user might well not have realized that 'near fire or flame' included nearby pilot lights or that fumes and vapors, as well as the adhesive itself, were extremely flammable. Whether more

to warn of additional side effects, including the risk of deafness, associated with the administration of a drug used post-surgically to combat infection;³⁷⁵ and the failure of a manufacturer to fashion the warning on its rider spreader to specify the danger created by the agitator and the risk thus posed to life and limb.³⁷⁶

Warning language that is ambiguous, obtuse, or a hedge of the manufacturer's acknowledgement of the hazards associated with the product will be found to be inadequate to communicate the extent and the seriousness of the harm. In one action implicating a prescription drug in a patient's loss of vision with the potential for permanent blindness due to optic neuritis, the warning under review stated only that administration of the drug "may produce decreases in visual acuity which appear to be due to optic neuritis." That statement, in light of information available to the manufacturer indicating a "permanent loss of vision [to patients] in a significant number of instances," impressed the appellate court as being "highly ambiguous."³⁷⁷

Another good example of a manufacturer's warning that may, by its mildness, ambiguity, or internal inconsistency, fail to avoid liability was presented in an action brought by a property owner whose building was damaged by fire after a tenant warmed hair rollers in a pot of water on an electric stove, but neglected to remove the pot when the water boiled away. The printed material on the box of rollers included a "cautionary Note" stating that the rollers, when heated in a pan of water, "may be inflammable only if left over flame in pan without water," but added that the rollers were "[o]therwise . . . perfectly safe."³⁷⁸ The court on review reversed the judgment for the manufacturer, finding that the record presented jury questions concerning the warning's failure to suggest that the paraffin rollers could have ignited even when not over "flame" and to inform the reader sufficiently that such ignition could involve flames of considerable height.

specific instructions or warnings were required is a question of fact for the jury. *Id.* at 1087 (citations omitted).

³⁷⁵ *Bristol-Myers Co. v. Gonzales*, 548 S.W.2d 416 (Tex. Civ. App. 1976), *revd. on other grounds*, 561 S.W.2d 801 (1978) (action against manufacturer of Kantrax, used in this instance to combat hip infection, both before and after surgery, where initial warnings of the manufacturer failed with sufficient specificity to warn of the serious ototoxic effect).

³⁷⁶ *Palmer v. Avco Distrib. Corp.*, 82 Ill. 2d 211, 412 N.E.2d 959 (1980) "Considering this principle, there was sufficient evidence from which the jury could infer that the warning was ineffective. The warning itself did not specify the danger by the agitator. It did not detail the extent of the risk it posed to life and limb." *Id.* at 222, 412 N.E.2d at 964. *See also Jackson*, 499 F.2d 809. (Ignition of paint fumes from static electricity or broken light bulb; sufficiency of warning "Keep away from heat, sparks, and open flames. USE WITH ADEQUATE VENTILATION" was a question of fact); *Tucson Indus. v. Schwartz*, 108 Ariz. 464, 501 P.2d 936 (1972) (en banc) (warning inadequate to indicate that fumes from contact cement could cause blindness; label stated "DANGER . . . Use with adequate ventilation. Keep container closed VAPORS HARMFUL. TOXIC . . .).

³⁷⁷ *Ross*, 684 P.2d 1211.

³⁷⁸ *Gardner v. Q.H.S. Inc.*, 448 F.2d 238, 241 (4th Cir. 1971).

The court further determined that the manufacturer's "cautionary note," offered in a type of the same size as the instructions for use "and unobtrusively made part of them,"³⁷⁹ was inadequate.

In yet another illustration, a plaintiff's physician's testimony that the pharmaceutical company's package insert for its polio vaccine product was sufficiently "nebulous" to obviate any cautionary mention to the patient formed one basis of an appellate court's affirmance of a verdict that the manufacturer failed to warn adequately of the risk of contracting polio after administration of oral vaccine. The warning literature, while apparently conceding the risk of paralytic disease to the consumer, continued by stating that any causal connection with the company's product had not been established, and that any risk, if it existed, was no more than one in three million.³⁸⁰ The court was ultimately persuaded that the hedging language of the manufacturer's package insert obliterated whatever cautionary impact there might have otherwise been to the manufacturer's message, where the evidence in that action given by the physician was that the manufacturer's purported "warning" left that individual with the impression "that not a single case of vaccine-induced polio had actually occurred and that there may be no risk at all."³⁸¹

First aid instructions found to be "internally incongruous" may be found to be inadequate, as were the instructions for washing off an industrial strength acid coming into contact with the user's eyes or skin in *Stone v. Sterling Drug, Inc.*³⁸²

³⁷⁹ *Id.* at 243.

³⁸⁰ *Givens v. Lederle*, 556 F.2d 1341, 1345 (5th Cir. 1977).

³⁸¹ *Id.*, at 1343. The insert stated, *inter alia*:

Paralytic disease following the ingestion of live polio virus vaccines has been reported in individuals receiving the vaccine, and in some instances, in persons who were in close contact with subjects who had been given live oral polio virus vaccine. Fortunately, such occurrences are rare, and it could not be definitely established that any such case was due to the vaccine strain and was not coincidental with infection due to naturally occurring poliomyelitis, or other enteroviruses.

Id. (quoting Plaintiff's Exhibit 71, Exhibit Volume at 80-81). See also *Wolf v. Ford Motor Co.*, 376 N.E.2d 143 (Mass. 1978):

A jury question was presented whether the manual and the rating plate were sufficient to bring home the danger of a serious accident, which might result from a blowout, to the ordinary buyer of the truck who might use it with a camper. The jury's finding that there was no adequate warning was well warranted. The recommended gross vehicle weight was opaque even as a direction with respect to the load which the truck could carry without overloading; nowhere was the weight of the vehicle given so that the user could subtract that figure from the maximum gross vehicle weight rating of seven thousand five hundred pounds (subtracting also in this case the weight of added optional equipment) to derive the weight which could safely be loaded on the truck.

Id. at 146 (citations omitted).

³⁸² *Stone v. Sterling Drug, Inc.*, 2 Prod. Liab. Rep. (CCH) ¶10,580 (N.Y. App. 1985).

This action followed injury to a worker who sustained burns to the back of her hand when the cleanser splashed during use. The court there reviewed the first aid instructions on the product's label, which advised one coming into contact with the product to "[w]ipe off the acid gently, immediately flood the surface with water, using soap freely, then cover with moist magnesia or baking soda."³⁸³ On the basis of expert testimony, the court found the instructions to be "woefully inadequate" in that they neglected to state that the irrigation with water should be sustained for at least fifteen minutes. The instructions were further found to be "internally incongruous" in that they advised fifteen minutes irrigation if the cleanser came into contact with a person's eyes, but no minimum amount of time, established as necessary by the evidence, for washing with water when the cleanser came into contact with the user's skin. This inadequacy, the court found, had in fact aggravated the plaintiff's injury.³⁸⁴ In addition to the responsibility providing instructions for the safe use of a product when misuse, such as failure to follow instructions, would subject the consumer to serious hazards, the manufacturer must provide "adequate warnings of dangers that might be encountered if the instructions given are not followed."³⁸⁵

When the warnings used are considered sufficient to bring home the nature of the risk to a reasonably prudent person, it is, nevertheless, possible for a manufacturer to avoid liability if an injury results from the injured person's insistence on using the product in a manner inconsistent with the warnings. This may occur when the manufacturer has communicated to the user or consumer the totality of the pertinent information as to risk and the means for safe use of the product and avoidance of that risk. One example of such authority was the holding in an action involving an industrial strength cleaning compound that was capable of causing chemical burns on contact with skin. The compound container announced "Danger," bracketed by two skull and crossbones logos, and carried language that, among other things, directed the user to precautions on the back of the container. Under the heading "Precautions," the back of the container warned against contact with the skin and set forth antidotes for external contact. Evidence adduced at trial showed that the plaintiff had used the cleaner as directed during her first days on the job, but she became dissatisfied with the way her cleaning cloth continued to drip. As a consequence, she commenced to wring it with her bare hands and soon sustained severe chemical burns. On appeal of a verdict for defendant, the appellate court sustained the judgment for the manufacturer on the grounds that the warning was adequate, observing further that the injured claimant had misused the product.³⁸⁶

³⁸³ *Id.* at ¶ 28,271.

³⁸⁴ *Id.*

³⁸⁵ *Brown*, 136 Ariz. at 564, 667 P.2d at 758. "Bland instructions which if followed would involve no risk are no substitute for a skull and crossbones warning where the misuse of the product will have lethal results." *Id.*, 667 P.2d at 758.

³⁸⁶ The paragraph read, in part, "Danger: Corrosive. Fatal if swallowed. Do not breathe vapor

Nevertheless, even if the supplier warns of a risk in the most gripping language, including explicit reference to even "severe or even fatal" risk, the warning may be found to be inadequate if the generality of the warning as a whole, sometimes coupled with the promotion of the product in the most laudatory terms, serves to detract from the warning's impact in the perception of the consumer or user. Thus, there is authority in some of the swine flu litigation that the impact of the government's warning's reference to "severe or potentially fatal reactions" was severely undermined by the government's "unprecedented promotional campaign." Informed consent forms secured from those were thereby invalidated, and there was a finding that both the government and the vaccine manufacturer breached a duty to adequately warn the ultimate users of the vaccine.³⁸⁷

Actions taken by the manufacturer or by persons working on its behalf can erode the efficacy of an otherwise adequate warning. In *Incollingo v. Ewing*,³⁸⁸ the court held that the plaintiff should be able to adduce evidence that "detail men" working on behalf of a pharmaceutical manufacturer "overpromoted" the attributes of the drug in their presentations to the medical community at large and to such an extent as to obscure the import of cautionary written material accompanying sale of the pharmaceutical.³⁸⁹ Such authority may be harmonized readily with the conclusion of another court that it is the duty of the pharmaceutical manufacturer to instruct its detail men "at least, to warn the physicians on whom they regularly call of the dangers of which [the manufacturer] has learned, or in the exercise of reasonable care should have known."³⁹⁰ To like effect is the conclusion of one appellate court that a pharmaceutical company's providing to a physician a desk calendar advertising a drug, later implicated in the patient's contracting aplastic anemia, which could foreseeably serve as "a constant reminder to prescribe a drug long after the sample and its warning had been removed," might constitute "a form of over promotion which nullified the effect of even a valid warning on the package."³⁹¹

A product's statement, rendered with great particularity and at substantial length, will not necessarily satisfy the seller's informational obligation. For ex-

or fumes. Produces chemical burns. Do not get in eyes, skin, or on clothing. Contains hydrochloric acid . . . " *Uptain*, [1984-85 Transfer Binder] Prod. Liab. Rep. (CCH) at ¶ 26,383.

³⁸⁷ *Petty*, [1984-85 Transfer Binder] Prod. Liab. Rep. (CCH) ¶10,161.

³⁸⁸ *Incollingo v. Ewing*, 444 Pa. 263, 282 A.2d 206 (1971).

³⁸⁹ *Id.* (noting testimony of plaintiff's expert witnesses of the propensity of detail meant to minimize the hazards associated with use of the drug, while emphasizing its effectiveness and widespread acceptance).

³⁹⁰ *Sterling Drug, Inc. v. Yarrow*, 408 F.2d 978, 992 (8th Cir. 1969) (action involving blindness allegedly caused by administration of drug Aralen for treatment of rheumatoid arthritis).

³⁹¹ *Salmon v. Parke, Davis & Co.*, 520 F.2d 1359, 1363 (4th Cir. 1975). See *Maize v. Atlantic Ref. Co.*, 352 Pa. 51, 41 A.2d 850 (1945) (conspicuous display of trade name "Safety-Kleen" on all sides of container of cleaning solvent could "lull the user of that fluid so called into a false sense of security irrespective of separate warning"); *Whitley v. Cubberly*, 24 N.C. App. 204, 210 S.E.2d 289 (1974).

ample, a container may carry an arguably sufficient warning and a comprehensive description of the uses to which the product may be put, but still be found to be in breach of the seller's duty to warn if the information fails to instruct the user as to how the product may be used safely. Such was the gist of the holding in an action brought by a laborer whose duties included the care of a golf course and who was sickened by exposure to an insecticide containing arsenic. Liability was found against the manufacturer who, while providing a warning employing the skull and crossbones and setting forth with "extreme particularity how, where, and for what purpose to use the product as an insecticide," nevertheless, failed to tell the user how to use the product in safety. The warning specifically failed to state that in applying the insecticide a respirator and protective clothing must be used.³⁹²

Also, if the product is technically complex and its use requires some degree of assembly by the consumer, the guides or instructions for such preparation by the consumer must be sufficient to permit the user to avoid conditions or circumstances that would render the product unreasonably dangerous. An example of an action in which the manufacturer's instructions for such a product were found to have fallen short of this informational goal involved a refracting telescope requiring home assembly.³⁹³ The telescope conveyed a warning against its use to look at the sun without a special filter,³⁹⁴ but had no pictorial display for installation of that filter. A child undertook to use the telescope with the sun filter, but through incorrect assembly, unwittingly screwed it in in such a way as to permit injurious sunlight to leak around the sun filter into his eye. The appellate court found that the court below erred in rejecting the plaintiff's proposed instructions on failure to warn. In the words of the appellate court, "a product requiring assembly and use in conformity with the supplier's directions is defective if the supplier fails to warn adequately of conditions and circumstances created by such assembly or use which would render the product dangerous to the user."³⁹⁵

³⁹² *Edwards*, 245 So. 2d at 264-65. See also *McLaughlin v. Mine Safety Appliance Co.*, 11 N.Y.2d 62, 181 N.E.2d 430, 226 N.Y.S.2d 407 (1962), where the manufacturer of "Redi-Heat Blocks", advertised and sold for the purpose of restoring normal body heat to persons in a state of shock or comparable condition. Manufacturer defended an action brought on behalf of child burned by administration of the blocks. The court found manufacturer liability because the only caution stating that an insulating medium should be used between the person and the block was in small print in the final sentence of the instructions on the back of the product's container.

³⁹³ *Midgley v. S.S. Kresge Co.*, 55 Cal. App. 3d 67, 127 Cal. Rptr. 217 (1976).

³⁹⁴ The warning provided: "CAUTION: Please refrain from looking up [at] the sun without attaching the sun glass". *Id.* at 70, 127 Cal. Rptr. at 219.

³⁹⁵ *Id.* at 74, 127 Cal. Rptr. at 221. The court continued:

[T]he defendant herein marketed a technically complex product intended for use by technically unsophisticated consumers, to be assembled and used by them in accordance with instructions prepared and supplied by the technically knowledgeable supplier. Failure to assemble or use the product in accordance with these directions may well cause physical injury and thus constitutes a potential danger. It begs the obvious to say that the supplier

It is well established that the compliance of a label, a warning, or instructions with guidelines or regulations imposed by a state or other body do not preclude a finding that the manufacturer is liable for failure to provide more explicit or effective warnings. One rationale of the decisions so holding is that seldom, if ever, do the statutes or regulations establishing requirements for warnings or labeling imply that the implementing body intended that the regulation affect the seller's common law duty to warn.³⁹⁶ The Restatement (Second) of Torts supports this position, confirming that compliance with a legislative or administrative enactment "does not prevent a finding that a reasonable man would take additional precautions."³⁹⁷

Consistent conclusions have been reached in actions pertaining to warning or labeling requirements of the Food, Drug, and Cosmetic Act,³⁹⁸ the Federal Insecticide, Fungicide and Rodenticide Act,³⁹⁹ and comparable state statutes.⁴⁰⁰ Sim-

knows or reasonably should know that the directions furnished by him will form the unsophisticated consumer's only guide to assembly and use. Thus a product requiring assembly and use in conformity with the supplier's directions is defective if the supplier fails to warn adequately of conditions and circumstances created by such assembly or use which would render the product dangerous to the user. Therefore, the supplier is strictly liable for injury proximately resulting from composing and furnishing a set of instructions for assembly and use which does not adequately avoid the danger of injury.

Id., 127 Cal. Rptr. at 221.

On the issue of proper jury instructions and the general rule that liability for failure to warn may be found only where the defendant is shown to have had actual or constructive knowledge of the hazard, the court states further that "in these circumstances the duty to warn is not conditioned upon such knowledge where the defectiveness of a product depends on the adequacy of instructions furnished by the supplier which are essential to the assembly and use of its product." *Id.*, 127 Cal. Rptr. at 221.

³⁹⁶ *Burch*, 366 A.2d 1079 (floor tile adhesive's labeling compliance with requirements of the Federal Hazardous Substances Act does not preclude a finding of negligence in manufacturer's failure to also warn of the particular hazard of ignition or explosion by contact of vapors with a pilot light. The court further observed "the overwhelming majority of courts presented with similar arguments in product liability cases have held that compliance with federal and state requirements for the manufacture and sale of products does not immunize a manufacturer or seller from liability.." *Id.* at 1085.).

³⁹⁷ RESTATEMENT (SECOND) OF TORTS § 288C comment a thereto explains:

Where there are not special circumstances, the minimum standard prescribed by the legislation or regulation may be accepted by the triers of fact, or by the court as a matter of law, as sufficient for the occasion; but if for any reason a reasonable man would take additional precautions, the provision not preclude a finding that the actor should do so.

³⁹⁸ *Stevens v. Parke, Davis & Co.*, 9 Cal. 3d 51, 507 P.2d 653, 107 Cal. Rptr. 45 (1973) (en banc) (the warnings required by federal regulation, "may be only minimal in nature and when the manufacturer or supplier knows of, or has reason to know of, greater dangers not included in the warning, its duty to warn may not be fulfilled." *Id.* at 65, 507 P.2d at 661, 107 Cal. Rptr. at 53.

³⁹⁹ *Hubbard-Hall Chem. Co.*, 340 F.2d 402; *Gonzalez v. Virginia-Carolina Chem. Co.*, 239 F. Supp. 567 (E.D.S.C. 1965).

⁴⁰⁰ *Hill*, 54 Mich. App. 17, 220 N.W.2d 137.

ilarly, a warning label's compliance with industry standards may be relevant to the manufacturer's due care, but will not be dispositive of the absence of liability.⁴⁰¹

In the context of cigarette products liability, important authority to the contrary, holding that compliance with warning and labeling requirements pertaining to that product will preclude failure to warn tort recovery against a cigarette manufacturer, is found in *Cipollone v. Liggett Group, Inc.*⁴⁰² This action was brought initially by, and later on behalf of, a cigarette smoker who alleged a manufacturer's failure to provide adequate warnings, and that such warnings as were provided were robbed of impact by the manufacturer's overall promotional practices. Review of the Federal Cigarette and Advertising Labeling Act led the appellate court to conclude that "the Act represents a carefully drawn balance between the purpose of warning the public of the hazards of cigarette smoking and protecting the interests of national economy."⁴⁰³ Because permitting state law liability actions alleging manufacturer duties other than those prescribed in the federal legislation would "[tip] the Act's balance of purposes," the litigant's claims of failure to warn adequately were, the court determined, preempted by federal law.⁴⁰⁴

XIII. THE CONTINUING DUTY TO WARN

A post-sale duty to warn may attach even if the product was, at the time of manufacture and sale, reasonably safe for use (or arguably so), but through use or operation, has betrayed hazards not earlier known to the seller, or to other sellers of like products.

When the allegation of failure to warn is grounded in tort, as one court has observed, "the duty to warn is continuous and is not interrupted by manufacture or sale of the product."⁴⁰⁵ In a case illustrative of such authority, a claim was brought by the widow of a man killed in the explosion of a propane gas water heater.⁴⁰⁶ The court identified the governing law, that the duty of the manufacturer to effect such post-sale warnings, turns upon the actual or constructive knowledge of the product danger and stated further that a manufacturer may be put on notice as to dangers in the use of a product by varying means, including "ad-

⁴⁰¹ "Assuming appellees established conformance with the industry practice, such evidence is relevant but not conclusive in assessing whether reasonable care was exercised. 'Even an entire industry . . . cannot be permitted to set its own uncontrolled standard.'" *Burch*, 366 A.2d at 1087 n.23 (citations omitted).

⁴⁰² *Cipollone v. Liggett Group, Inc.*, 789 F.2d 181 (3d Cir. 1986).

⁴⁰³ *Id.* at 187.

⁴⁰⁴ *Id.*

⁴⁰⁵ *Bly*, 713 F.2d at 1046.

⁴⁰⁶ *Young v. Robertshaw Controls, Inc.*, 104 A.D.2d 84, 481 N.Y.S.2d 891 (1984).

vancements in the state of art" or "later accidents involving dangers in the product."⁴⁰⁷

The earliest modern decisions in which a post-sale duty to warn was imposed upon the manufacturer involved product defects that, left uncorrected, posed a risk of loss of life or serious bodily harm. The leading and innovative decision of *Comstock v. General Motors Corp.*⁴⁰⁸ involved the alleged failure of the automobile manufacturer to take remedial measures after learning, soon after the model was put on the market, of its propensity to lose its brakes. A personal injury claim was brought by a mechanic at an automobile dealership who suffered severe injuries when a car rolled unimpeded into him in a service bay. The court, after first describing the manufacturer's general duty to warn at the point of sale, stated that "a like duty to give prompt warning exists when a latent defect which makes the product hazardous becomes known to the manufacturer shortly after the product has been put on the market."⁴⁰⁹ Following *Comstock*, like holdings were rendered in several actions arising from aviation accidents.⁴¹⁰

In strict liability, a continuing duty to warn exists only if the product, when initially introduced into commerce was defective, albeit presumably unknown to the seller. Such interpretation would seem to be required by the proviso to Restatement (Second) of Torts section 402A comment g that limits application of the rule to "where the product is, at the time it leaves the seller's hands, in a condition not contemplated by the ultimate consumer, which will be unreasonably

⁴⁰⁷ *Id.* at 894 (quoting *Cover*, 61 N.Y.2d 261, 473 N.Y.S.2d 378, 461 N.E.2d 864, in which that court continues: "Although a product be reasonably safe when manufactured and sold and involve no then known risks of which warning need be given, risks thereafter revealed by user operation and brought to the attention of the manufacturer or vendor may impose upon one or both a duty to warn." *Id.* at 274-75, 461 N.E.2d at 864, 473 N.Y.S.2d at 378. The court states also that the plaintiff's allegation that the manufacturer was engaged in an international and ongoing scheme to conceal the harm posed by its flawed controls stated a cause of action in fraud).

⁴⁰⁸ *Comstock v. General Motors Corp.*, 358 Mich. 163, 99 N.W.2d 627 (1959).

⁴⁰⁹ *Id.* at 632.

⁴¹⁰ A helpful exposition of this is provided in *Jackson v. New Jersey Mfrs. Ins. Co.*, 166 N.J. Super 448, 400 A.2d 81, 90 n.3, *cert. denied*, 81 N.J. 330, 407 A.2d 1204 (1979), where the court states:

Our review of these cases leads us to conclude that this phrase has been used most often to describe no more than the obligation imposed where a manufacturer or seller, believing that it has sold a non-defective product, subsequently learns that its product *was, in fact, defective when placed in the stream of commerce*. In these circumstances, saying that there is a 'continuing duty to warn' is, of course, a tacit recognition that the duty existed in the first instance. Such an obligation is not at all synonymous, however, with the claim-made here by plaintiff-that where a product is free from all defects when sold, the seller, nevertheless, has a duty to monitor changes in technology and notions of safety and, either periodically or otherwise, notify its purchasers thereof. For where, as here, no initial duty to warn exists, none can be said to continue.'

Id. at 466 n.3, 400 A.2d at 90 n.3.

dangerous to him.”⁴¹¹ Thus, for there to be a defect in a product, be it of a design, manufacture, or informational nature, the defect has to have existed at the time of initial sale. Without such an antecedent flaw, and a consequent initial duty to warn, there can be no continuing duty to warn.⁴¹² When, on the other hand, the complainant proceeds under a negligence theory or in a jurisdiction that applies negligence principles to allegations of failure to warn irrespective of the presentation of such claims under any other theory, the sufficiency of the complaint will be judged by, *inter alia*, the allegation that the supplier had knowledge of or had reason to know of the product-related hazard.⁴¹³ Consistent with this expression of the law, an appellate court reversed and remanded for trial an action brought on behalf of two steelworkers fatally injured by falling material. It cautiously approved the trial court’s instruction that the manufacturer is held to the degree of skill and knowledge existing in the industry at the time the product was manufactured, but suggested that the trial court “may wish to review this instruction on remand, inasmuch as a manufacturer also has a responsibility to warn of a defective product at any time after it is manufactured and sold if the manufacturer becomes aware of the defect.”⁴¹⁴ Other authority has held for the defendant Postal Service in an action arising from the rollover of a jeep sold to the public as a used vehicle. The evidence showed that the Service “had neither knowledge or reason to have knowledge of a rollover problem.”⁴¹⁵

As is equally true of the duty to warn at the point of sale, the doctrinal underpinning of the manufacturer’s post-sale informational obligations is the commitment to remedying the asymmetry of information held by the seller, on the one hand, and by the consumer on the other. The object, in general terms, is to encourage manufacturers to impart to consumers that information the manufacturers receive in the ordinary course of their business, germane to product safety

⁴¹¹ RESTATEMENT (SECOND) OF TORTS § 402A comment g.

⁴¹² See *DeVito v. United Air Lines*, 98 F. Supp. 88 (E.D.N.Y. 1951) (involving, among other things, the failure of the manufacturer to communicate to the carrier information concerning the problem of excessive carbon monoxide in the cabin); *Braniff Airways, Inc. v. Curtiss-Wright Corp.*, 411 F.2d 451 (2d Cir.), *cert. denied*, 396 U.S. 959 (1969) Involving the manufacturer’s failure to warn or initiate remedial action following revelation of an engine hazard, and in which the court states this standard for a manufacturer’s post-sale duties:

It is clear that after such a product has been sold and dangerous defects in design have come to the manufacturer’s attention, the manufacturer has a duty to either remedy these or, if complete remedy is not feasible, at least give users adequate warnings and instructions concerning methods for minimizing the danger.

Id. at 453. See generally Royal, *Post Sale Warnings: A Review and Analysis Seeking Fair Compensation Under Uniform Law*, 33 *DRAKE L. REV.* 817 (1983-84).

⁴¹³ *E.g.*, *Shirey v. United States*, 582 F. Supp. 1251 (D.S.C. 1984), in which the District Court confirms that “[u]nder a negligence theory of failure to warn, the duty is continuous and is not interrupted by the manufacture or sale of the product.” *Id.* at 1258 n.17 (citing *Bly*, 713 F.2d 1040).

⁴¹⁴ *Smith*, 754 F.2d at 877.

⁴¹⁵ *Shirey*, 582 F. Supp. at 1261.

and technological advances⁴¹⁶ and to the performance and accident histories of those products sold and in use.

Particularly with regard to manufacturers of ethical pharmaceuticals, the courts have interpreted the duty to warn as extending to a "continuous duty" to remain apprised of new scientific and medical developments and to inform the medical profession of pertinent developments related to treatment and side effects.⁴¹⁷ This continuing informational obligation imposed upon the manufacturer even after the marketing of the product is not confined to the passive interpretation of scientific, medical, or technical advances or revelations explored by third parties. Under certain circumstances the manufacturer's continuing post-sale duties have been found to include the initiation of further investigations, studies or tests of its own.⁴¹⁸

The assignment of a continuing manufacturer duty to remain current with scientific or other advancements pertinent to safety has been found applicable to industries other than manufacturers of prescription drugs. Thus, in an automobile products liability action it was alleged that the manufacturer failed, among other things, to warn users of its product about an allegedly defective design in an accelerator spring. The manufacturer was said to be responsible for warning buyers and users of dangers in the use of the product which came to the manufacturer's knowledge after sale by means, among others, of "advancements in the state of the art, with which it [was] expected to stay abreast."⁴¹⁹

⁴¹⁶ The author of Comment, *The Manufacturer's Duty to Notify of Subsequent Safety Improvements*, 33 STAN. L. REV. 1087, (1981) introduces discussion by observing:

The duty to inform previous purchasers of technological advances rests on the assumption of an asymmetry of information between producer and consumer. The producer obtains information about technological advances in the ordinary course of doing business, but the customer who might act upon such information would have to expend extraordinary amounts of time to obtain and understand it. The same asymmetry forms the basis of the duty to warn customers of product-related dangers at the time of purchase (point-of-sale warnings). The purpose of product warnings is to have the manufacturer give customers the information it can best provide, instead of forcing the consumer to attempt to obtain the information independently.

Id. at 1090 (citation omitted).

⁴¹⁷ *Schenebeck v. Sterling Drug, Inc.*, 423 F.2d 919, (8th Cir. 1970) (applying Arkansas law) (identifying a "continuous duty . . . to warn physicians of the dangers incident to prescribing the drug, [and] to keep abreast of scientific developments touching upon the manufacturer's product and to notify the medical profession of any additional side effects discovered . . ." *Id.* at 922), and adding: "A drug manufacturer's compliance with such rule enables physicians to balance the risk of possible harm against benefits to be derived by their patients' use of such drugs. In considering the alternatives of treatment, the prescribing physician is entitled to make an informed choice." *Id.* See also *Basko*, 416 F.2d at 426 (2d Cir. 1969); *Davis*, 399 F.2d at 130; *O'Hare v. Merck & Co.*, 381 F.2d 286, 290-291 (8th Cir. 1967); *Johnston v. Upjohn Co.*, 442 S.W.2d 93, 95 (Mo. App. 1969); *Krug v. Sterling Drug, Inc.*, 416 S.W.2d 143 (Mo. 1967).

⁴¹⁸ See *Barson v. E.R. Squibb & Sons, Inc.*, 682 P.2d 832 (Utah 1984).

⁴¹⁹ *Cover*, 61 N.Y.2d 261, 274, 461 N.E.2d 864, 871, 473 N.Y.S.2d 378, 385.

Thus, the manufacturer's duty to warn users and consumers of risks inhering in the use of its products attaches both to risks that are apparent at the time of sale, as well as to any risks that arise after marketing. While "warning" provides a convenient characterization of the manufacturer's post-sale obligations, the manufacturer's responsibility may range from providing the buyer with a corrective device,⁴²⁰ to the simple sending of a letter.⁴²¹

As is true of the seller's point-of-sale informational duty, this post-sale duty to warn has been interpreted to require the manufacturer to convey warnings or hazard-related information to purchasers in the stream of distribution beyond the manufacturer's immediate buyers. For example, in *Comstock v. General Motors*, the court concluded that the manufacturer should have done more than alert its dealers to the defect, leaving any remedial effort to them. To discharge its duty in such a situation, the court advised, the manufacturer should have conveyed effective warnings to all individual purchasers of its automobiles equipped with power brakes.⁴²²

There is also authority suggesting that a manufacturer must advise its buyers of safety improvements in its products.⁴²³ In addition, when the manufacturer has actual or constructive knowledge that its product has been subject to widespread

⁴²⁰ E.g., *Rebak, Inc., v. Frank Hrubetz & Co.*, 261 Md. 141, 274 A.2d 107 (1971), where it was held as a matter of law that an amusement ride manufacturer's delivery of a letter to a purchaser of a ride, stating the manufacturer's intent to install a new part on a particular ride, and also supplying the buyer with the new part, constituted an adequate warning.

⁴²¹ E.g., *Nishida v. E.I. Du Pont De Nemours & Co.*, 245 F.2d 768 (5th Cir. 1957), *cert. denied*, 355 U.S. 915 (1958), an action arising from the deaths and illnesses of cattle fed soybean meal manufactured by a process of oil extraction by a chemical solvent developed by du Pont, holding that the personal delivery of a letter from the manufacturer to the soybean producer was sufficient to exempt the manufacturer from liability. See generally *LaBelle v. McCauley Indus. Corp.*, 649 F.2d 46 (1st Cir. 1981); *Rodriguez v. Besser Co.*, 115 Ariz. 454, 565 P.2d 1315 (Ariz. Ct. App. 1977); *doCanto v. Ametek, Inc.*, 367 Mass. 776, 328 N.E.2d 873 (1975); *Braniff Airways*, 411 F.2d 451.

Compare *Nishida*, 245 F.2d 768 with *Miller Indus. v. Caterpillar Tractor Co.*, 733 F.2d 813 (11th Cir. 1984) (involving allegations that the manufacturer discovered, subsequent to sale, that certain gears in its marine engines might fail within the first 200 hours of operation. The seller's post-sale initiative consisted of sending service letters to dealers, instructing them on how to repair the defect). The appellate court concluded that due to the foreseeability that dealers would not take the suggested remedial measures, and in recognition also that the defect posed a danger that vessels might become disabled at sea, "a single form letter to . . . dealers concerning [the] defect did not constitute a reasonable effort to warn that a potentially dangerous engine was in need of repair before installation aboard a seagoing vessel." *Id.* at 822.

⁴²² *Comstock v. General Motors Corp.*, 358 Mich. 163, 99 N.W.2d 627 (1959).

⁴²³ E.g., *Gracyalny*, 723 F.2d at 1318-19. But see *Kozlowski v. John E. Smith's Sons Co.*, 87 Wis. 2d 882, 275 N.W.2d 915 (1979) (distinguishing mass consumer products from industrial machines, and while recognizing some continuing duty on the part of manufacturers to warn of dangers in their products, finding no duty to advise of safety improvements achieved a substantial time after the initial sale). See also Comment, *supra* note 415, at 1090-93. But see *Jackson*, 166 N.J. Super. 448, 400 A.2d at 89.

modifications by users, and there is information suggesting that such modifications create a risk of injury to persons or damage to property, the manufacturer's obligation to issue post-sale warnings will turn on the foreseeability of harm that may be occasioned by such modifications.⁴²⁴

Evaluation of the efficacy or adequacy of any post-sale warning is similar, but not identical to that pertaining to point-of-sale warnings. As with point-of-sale warnings, the seller's duty is owed generally to foreseeable product users or to intermediaries who can reasonably be expected to pass on the warning.⁴²⁵ However, when the prudence of a warning following sale is evaluated, the decisions appear to be in agreement that the questions as to both the nature of the warning and to whom it should be given are guided properly by evaluation of the harm that may follow from use of the product without notice, the reliability of any intermediary who may be enlisted to convey the warnings to the current user; the burden on the vendor or manufacturer in locating the persons to be warned; the attention that a notice of the type contemplated will likely receive from the ultimate recipient; the nature of the product involved; and the corrective actions, if any, taken by the manufacturer or vendor in addition to the post-sale warning.⁴²⁶

There is no bright line standard for the point in time, if one exists, when a manufacturer will no longer be found legally liable for deficiencies in inadequate warnings concerning products no longer in use. Such a question applies to liability under the diverse state laws governing products liability and the duty to warn, and leaves unaffected the independent obligations of product sellers that attach by virtue of the substantial product hazard reporting requirements under Section 15 of the Consumer Product Safety Act.⁴²⁷ There is no general agreement in the

⁴²⁴ *E.g.*, in *Perry v. Rockwell Graphics Systems, Inc.*, [1984-85 Transfer Binder] Prod. Liab. Rep. (CCH) ¶10,445 (D. Mass. 1985), involving injuries sustained in 1982 on a cardboard cutting machine manufactured by defendant in 1914, the court states that the manufacturer's "actual or imputed" knowledge of "widespread modification" of its presses in the cardboard industry "could be the basis for liability for failure to warn of hazards discovered after manufacture of the machine." *Id.* at 27,719.

⁴²⁵ W. PROSSER, *supra* note 54, at 647. See RESTATEMENT (SECOND) OF TORTS § 388 comment n (method of warning should give "reasonable assurance that the information will reach those whose safety depends upon their having it").

⁴²⁶ *Cover*, 61 N.Y.2d at 276, 461 N.E.2d at 872, 473 N.Y.S.2d at 386; see generally *Rekab, Inc.*, 261 Md. 141, 274 A.2d 107; *Comstock*, 358 Mich. 163, 99 N.W.2d 627; *Kozłowski*, 87 Wis. 2d 882, 275 N.W.2d 915; *Labelle*, 649 F.2d at 49; *Jones v. Bender Welding & Mach. Works*, 581 F.2d 1331, 1334-1335 (9th Cir. 1978) (failure to advise of design change); *Pan-Alaska Fisheries v. Marine Constr. & Design Co.*, 565 F.2d 1129, 1137 (9th Cir. 1977) (warning of immediate purchaser and dealer of fuel filter defect held inadequate); *Noto v. Pico Peak Corp.*, 469 F.2d 358, 360-361 (2d Cir. 1972) (evidence created jury question as to whether hazard of chair lift bull wheel bearing defect was adequately warned against by manufacturer's letter and instruction pamphlet to operator).

⁴²⁷ 15 U.S.C. § 2064. See generally *Madden*, *supra* note 12.

state law authorities as to the length and breadth of such an obligation.⁴²⁸ Language suggesting that the manufacturer's post-sale duty to warn is not inexhaustible is offered by one court, construing Texas law, in finding that the manufacturer of a teller stool implicated in the injury of an office worker, and sold to the plaintiff's employer "years" before, should not be found liable for failure to warn or recall the product.⁴²⁹

XIV. CONTRIBUTORY NEGLIGENCE AND ASSUMPTION OF RISK

An injured party's dismissal or disregard of manufacturer's cautioning may be of such a nature and degree as to relieve the manufacturer of liability for failure to warn. An injured party's affirmatively incautious conduct has been held to bar recovery even when the claimant is not the owner of the product or the employee of the owner, but is instead a guest⁴³⁰ or a bystander.⁴³¹

⁴²⁸ Compare *Bell Helicopter Co. v. Bradshaw*, 594 S.W.2d 519 (Tex. Ct. App. 1979) (finding a duty to warn or to recall products upon later production of a design safer than that on the market) with Comment, *Products Liability: Manufacturer's Liability for Products Not Unreasonably Dangerous When Originally Marketed*, 12 ST. MARY'S L.J. 494, 522 (1980), where the author states:

No authority is cited by the court, and none exists for the proposition that, once a manufacturer designs and markets an improved component for its new products, it then assumes a duty to complete the remedy by causing the substitution of the improved component in used products that are already on the market.

Id.

⁴²⁹ *Syrie v. Knoll Int'l*, 748 F.2d 304, 310-312 (5th Cir. 1984), the court commenting: "Texas courts have apparently not established a cause of action for failure to warn about hazards discovered after a product has been manufactured and sold." *Id.* at 311. See *Kozlowski*, 87 Wisc. 2d 882, 275 N.W.2d 915, which conveys the suggestion of the Wisconsin Supreme Court that it would create an unreasonable and impracticable burden on manufacturers to require manufacturers to warn consumers and to advise them of product modifications for a period of time in excess of a few years after initial sale. The court there stated:

[W]e do not in this decision hold that there is an absolute continuing duty, year after year, for all manufacturers to warn of a new safety device which eliminates potential hazards. A sausage stuffer and the nature of that industry bears no similarity to the realities of manufacturing and marketing household goods such as fans, snowblowers or lawn mowers which have become increasingly hazard proof with each succeeding model. It is beyond reason and good judgment to hold a manufacturer responsible for a duty of annually warning of safety hazards on household items, mass produced and used in every American home, when the product is 6 to 35 years old and outdated by some 20 newer models equipped with every imaginable safety innovation known in the state of the art. It would place an unreasonable duty upon these manufacturers if they were required to trace the ownership of each unit sold and warn annually of new safety improvements over a 35 year period.

Id. at 901, 275 N.W.2d at 923-24.

⁴³⁰ *E.g.*, *Van Dike v. AMF, Inc.*, 146 Mich. App. 176, 379 N.W.2d 412 (1985), where in an action brought by the guest of the owner against the manufacturer of a trampoline for injuries sustained while attempting a sophisticated flip on the product in the owner's backyard, recovery was

An injured claimant's contributory fault will excuse a seller who has failed to give adequate product warnings only if the claimant's negligent conduct, rather than the allegedly inadequate warning, constitutes the proximate cause of the injury. The showing required for that type of contributory fault described as assumption of the risk is that the person voluntarily exposed himself to a known and appreciated danger.⁴³² The claimant's awareness of the general risk associated

denied where evidence showed that the guest had not read the manufacturer's cautionary label advising use only by trained and qualified participants under supervised conditions, and further evidence that the injured party had been warned prior to the accident to cease use because of the hazard. As stated by the court in *Ellsworth v. Sherne Lingerie, Inc.*, 303 Md. 581, 598 n.12, 495 A.2d 348, 356 n.12 (1985):

Failure to read or follow instructions . . . involves conduct that may be considered [contributorily] negligent [or an assumption of the risk] If a product unreasonably dangerous can be made safe for foreseeable uses by adequate warnings or liability will be avoided, and the focus such cases is generally upon the adequacy of the notice. If the warnings or instructions are adequate the product is not defective, and the plaintiff cannot recover under a theory of strict liability in tort. The cause of the injury in such cases is the failure to read or follow the adequate warnings or instructions, and not a defective product. One who reads the warning and then proceeds voluntarily and unreasonably to encounter the danger thereby made known to him will assume the risk of that danger.

The accepted criteria for proof of the defense of assumption of risk are the subjective showing that "(1) the plaintiff actually knew and appreciated the particular risk or danger created by the defect; (2) the plaintiff voluntarily encountered the risk while realizing the danger; and (3) the plaintiff's decision to encounter the known risk was unreasonable." *Sheehan v. Anthony Pools*, 50 Md. App. 614, 626 n.11, 440 A.2d 1085, 1092 n.11 (1982), *aff'd*, 295 Md. 285, 455 A.2d 434 (1983).

RESTATEMENT (SECOND) OF TORTS § 496A comment d elaborates, stating:

In theory the distinction between the two (contributory negligence and assumption of risk) is that assumption of risk rests upon the voluntary consent of the plaintiff to encounter the risk and take his chance A subjective standard is applied to assumption of the risk, in determining whether the plaintiff knows, understands, and appreciates the risk.

Consistent herewith, it has been held that a plaintiff's "inadvertence, momentary inattention, or diversion of attention" should not constitute assumption of the risk. *Elder v. Crawley Book Mach. Co.*, 441 F.2d 771, 774 (3d Cir. 1971). *See also Alexander v. Conveyers and Dumpers, Inc.*, 731 F.2d 1212 (5th Cir. 1984), where the court approved a "knew or must have known" standard for plaintiff's appreciation of risk sufficient for applicability of the assumption of risk defense.

The defense of contributory negligence is not available to the defendant on a count alleging strict liability for failure to warn, but contributory negligence may be a bar to the same count predicated on negligence. *See Struder v. Riddell Co.*, [1983-84 Transfer Binder] Prod. Liab. Rep. (CCH) ¶10,060 (Tenn. Ct. App. 1984), affirming verdict for manufacturer on negligence and strict liability counts in failure to warn claims of action for injuries sustained by the user of a football helmet. Note that the subjective standard enunciated in the defense of assumption of risk is the opposite of the objective evaluation for contributory negligence. *Sheehan*, 50 Md. App. at 625 n.10, 440 A.2d at 1091-92 n.10.

⁴³¹ *Brown v. Link Belt Corp.*, 565 F.2d 1107 (9th Cir. 1977) (involving worker injured by a crane with poor visibility and no warning devices).

⁴³² *Heil Co. v. Grant*, 534 S.W.2d 916 (Tex. Ct. App. 1976) (involving a fatal injury when the telescopic sleeve hoist used to raise and lower the bed of a dump truck failed, crushing plaintiff's

with the use of a product will ordinarily not be considered sufficient to show that the risk was assumed, unless there is evidence that he knew of and proceeded in the face of the specific danger that caused the injury.⁴³³

A representative example of when the plaintiff's awareness of the risk has been held sufficient to bar the claim of failure to warn was described in the decision entered by a Louisiana trial court in *Bakunas v. Life Pack, Inc.*⁴³⁴ It was held there that the manufacturer of an air-inflated device known to be designed to absorb the impact of a falling human body from a height of 200 feet was not under a duty to warn of the hazards of jumping into it from a height of over 300 feet. In the action brought for the death of this individual, a professional stunt man, the court held that recovery was barred on all grounds, including the allegation of failure to warn, because the decedent had "certain knowledge" of the risks.⁴³⁵ A claimant may also be found to be barred from recovery if he

decedent who was working beneath). The action alleged, among other things, that the manufacturer failed to provide bracing instructions. The appellate court reversed the verdict below for plaintiffs and remanded for a new trial on the basis of evidence that decedent may have known of the danger by virtue of a warning from his brother, irrespective of the manufacturer's failure to warn, concluding that knowledge of the risk, from whatever source derived, may provide a basis for the defense of assumption of risk.

⁴³³ *E.g.*, *Haugen*, 15 Wash. App. 379, 550 P.2d 71, in which the claimant was injured by the flying piece of a grinding wheel that struck him in the eye. To defendant's argument that the plaintiff's failure to wear safety goggles constitutes assumption of the risk, the court countered that such conduct assumed, at most, "the risk of having dust or small particles" injure the eye, not of having a substantial portion of the wheel itself disengage and injure him. *Id.* at 385, 550 P.2d at 76. The appellate court affirmed the trial court's characterization of the specificity of the claimant's awareness necessary for invocation of the defense of assumption of the risk in these words: "It is not enough to bar recovery by the plaintiff on the defense of assumption of the risk that the plaintiff knew that there was a general danger connected with the use of the product, but rather it must be shown that the plaintiff actually knew, appreciated, and voluntarily and unreasonably exposed himself to the specific defect and danger which caused his injuries." *Id.* at 382-83, 550 P.2d at 75 (quoting jury instruction 18). *See also* *Kerns v. Engelke*, 54 Ill. App. 3d 323, 369 N.E.2d 1284 (1977) *aff'd in part and rev'd in part*, 76 Ill. 2d 154, 390 N.E. 2d 859 (1979) (holding that the plaintiff's knowledge that a part of the machine could be removed was not the equivalent of knowledge that it was hazardous not to do so).

⁴³⁴ *Bakunas v. Life Pack, Inc.*, 531 F. Supp. 89 (E.D. La. 1982), *aff'd*, 701 F.2d 946 (5th Cir. 1983).

⁴³⁵ *Id.* at 92. *See* *Mico Mobile Sales & Leasing Inc. v. Skyline Corp.*, 97 Idaho 408, 546 P.2d 54, (1975) ([I]f the danger is obvious, or if the danger is known to the person injured, the duty to warn does not attach." *Id.* at 44, 546 P.2d at 60); *Garrett*, 84 N.M. 16, 498 P.2d 1359 (recovery of damages by experienced gymnast familiar with trampoline use and injured in execution of one and three quarters front flip barred on strict liability for failure to warn count where showing that the risk was actually known to the claimant).

A succinct criticism of the applicability of the plaintiff conduct defenses ab initio to failure to warn claims is offered in *Dillard & Hart*, *supra* note 13 at 163, the authors stating:

Though these time-honored defenses are frequently invoked to defeat recovery, they are theoretically inapplicable when the defendant's breach of duty is based on a failure to warn. To allow these defenses is to indulge in circular reasoning, since usually the plaintiff cannot

has entered a clear, fair, and unequivocal agreement to hold the manufacturer or operator harmless for injuries occasioned by use of the product.⁴³⁶

The contributory negligence of a plaintiff in failing to heed a warning will bar, if at all, only the cause of action in negligence. With respect to plaintiff's claim, if any, in strict liability for failure to warn, it has been held that the defendant's assertion of the defense of plaintiff's contributory negligence will raise a jury question as to the adequacy of the warning.⁴³⁷

If the conduct of the injured party has been careless or somewhat negligent, the prevalent authority is that such behavior may suggest, but will not prove, that the plaintiff would have behaved similarly even had a better warning been provided. The latter proposition was rebuffed in one action in which the plaintiff, who worked on an assembly line making pacemakers, inadvertently spilled some resinous substances on her hand and shortly thereafter brushed the side of her face with her hand.⁴³⁸ A component of the substance caused a severe chemical burn to her face. The court upheld a jury verdict that the warning provided by the substance's manufacturer as to the risks of dermal contact was inadequate, in light of, among other things, a much stronger warning proposed by the pertinent national trade association. It rejected the manufacturer's claim that causation was broken on the logic that, if the plaintiff was careless with the warning already in place, she would behave identically even with a stronger warning. The court concluded, to the contrary, that it was at least possible that a clear warning as to the risk of severe chemical burns might cause a reasonably prudent person to be more careful than she would be if the only known risk was minor.

Similarly, if the warning that a manufacturer does issue is inadequate on its face, evidence that the injured plaintiff did not read or follow the warning that

be said to have assumed a risk of which he was ignorant or to have contributed to his own injury when he had no way of reasonably ascertaining that the danger of injury existed. On the other hand, if the plaintiff knew of the danger from an independent source, the manufacturer's failure to warn would not be the proximate cause of the injury.

⁴³⁶ *Hulsey v. Elsinore Parachute Center*, 168 Cal. App. 3d 333, 214 Cal. Rptr. 194 (1985) (parachutist injured when flight brought him into contact with power lines; held: recovery precluded by claimant's entry prior to jump into hold harmless agreement that was clear on its face and not unconscionable).

⁴³⁷ *Stapleton*, 608 F.2d at 573. This action was brought against a motorcycle manufacturer for damages caused when a motorcycle tipped over in the home, and the fuel spill was ignited by a pilot light. The product's owner's manual stated, at page 13 and in ordinary type, that if the fuel switch was "on," gas would spill freely if the machine were tipped to its side. The plaintiff's son testified that he had glanced at the manual to look for anything "exceptional." On the basis of which evidence the appellate court states: "The jury could conclude that the danger posed by gas leakage was sufficiently great that the warning should have been presented in a way immediately obvious to even a casual reader." *Id.*

⁴³⁸ *Billiar v. Minnesota Mining & Mfg. Co.*, 623 F.2d 240, 246-247 (2d Cir. 1980) (citations omitted).

was offered should not necessarily bar recovery for the injuries sustained. This was one of the issues raised in the action of *Ferebee v. Chevron Chemical Co.*,⁴³⁹ which was brought by an agricultural worker, alleging that he contracted pulmonary fibrosis due to long-term exposure to the herbicide paraquat. The label under review therein warned about immediate and perhaps severe skin irritation from exposure to the chemical, but did not convey "persuasively . . . that users whose skin comes into contact with the herbicide should be concerned about other possible consequences of skin exposure . . . particularly the specter of long-term lung disease culminating, perhaps, in death."⁴⁴⁰ However, the evidence in that action showed that the plaintiff, who died during the course of the proceeding, probably did not even read the label that was provided, predicting the manufacturer's argument on appeal that if the decedent did not "read the label that was provided, . . . a more detailed label . . . would have done nothing to prevent [his] injuries."⁴⁴¹ The court, however, observed that the evidence showed that even though the plaintiff did not himself read the notice, the elements of any cautionary information would have been communicated to him, in any event through the means of workplace contact between supervisors and workers and between the workers *inter se*. This phenomenon, the court was persuaded, "is a typical method by which information is disseminated in the modern workplace." For these reasons, the court held, the failure of the manufacturer to provide an adequate warning could still be treated as a proximate cause of decedent's injuries.⁴⁴²

Similarly, in some circumstances a plaintiff's use of a product in a manner inconsistent with its express warnings may itself become the proximate cause of any consequent injury, precluding liability for the manufacturer.⁴⁴³ The plaintiff's disregard of or ignorance of a warning, will not, however, relieve the manufacturer of liability if the plaintiff can claim plausibly that the manufacturer was negligent in communicating the warning and should have employed better means of bringing the message to the attention of the user. One helpful example of such reasoning is offered in the appeal of an action in which the plaintiff was injured when battery acid exploded in his face as he used a match to aid his examination of a dead automobile battery. Although the battery casing was embossed with an extensive and vigorously worded warning against this hazard and others, the plaintiff claimed that the manufacturer should have used more effective means of

⁴³⁹ *Ferebee v. Chevron Chem. Co.*, 736 F.2d 1529 (D.C. Cir.), *cert. denied*, 105 S. Ct. 545 (1984).

⁴⁴⁰ *Id.* at 1537.

⁴⁴¹ *Id.* at 1538.

⁴⁴² *Id.* at 1538-1539.

⁴⁴³ *E.g.*, *McCleskey v. Olin Mathieson Chem. Corp.*, 127 Ga. App. 178, 193 S.E.2d 16 (1972) (fire triggered by plaintiff's employee's pouring of the oxidant chemical HTH into a bucket containing soap residue and other foreign matter, notwithstanding extensive and explicit written caution to avoid bringing oxidant into contact with soap or cleansers for risk of fire).

communication, "such as phosphorus paint that would be visible at night, advertising through the media, and verbal warnings issued by the seller."⁴⁴⁴ Reversing summary disposition below on the plaintiff's claim of negligent failure to warn, the appellate court found that notwithstanding the plaintiff's failure to read the warning, inasmuch as plaintiff had not had the opportunity to read the warning in sufficient lighting, and had no experience in handling this battery, the plaintiff should be permitted to present proof that the manufacturer was "negligent in not attempting to convey the risks in a more effective manner."⁴⁴⁵

Another important limitation upon the defendant's use of the plaintiff's conduct in a duty to warn action is recognized in some jurisdictions. The defense of assumption of the risk will not be available for injuries that occur in the workplace where the injured individual "is an employee working at an assigned task on an industrial machine."⁴⁴⁶ This exception represents recognition of the reality that in the workplace environment and, potentially, in other circumstances, the employee directed to work on or near a hazardous instrumentality may have no meaningful alternative.⁴⁴⁷

In duty to warn jurisprudence, the defenses based upon the plaintiff's conduct suffer from the tenuousness of the defendant's proposition that the plaintiff would have proceeded foolishly even had a prominent and adequate warning been given and the actual allegedly inadequate or nonexistent warning was not, in any event, connected causally with the injury. However, the dominant profile of liability in decisions among the contributory fault cases is that the seller will not be relieved for a failure to adequately warn even if it can be shown that the claimant proceeded with inadequate circumspection. In this disposition the decisions can be seen as declining to excuse the failure of the seller to discharge its duty to communicate effectively safety-related information not known to the user or consumer, on the fortuity that the conduct of a user of the product could be described

⁴⁴⁴ *Rhodes v. Interstate Battery System of America*, 722 F.2d 1517, 1518-1519 n.2 (11th Cir.), *reh'g denied*, 727 F.2d 1116 (1984).

⁴⁴⁵ *Id.* at 1520.

⁴⁴⁶ *Colella v. Safway Steel Prods.*, 201 N.J. Super. 588, 592, 493 A.2d 634, 636 (1985).

⁴⁴⁷ See *Suter v. San Angelo Foundry & Mach. Co.*, 81 N.J. 150, 167 n.5, 406 A.2d 140, 148 n.5 (1979), in which the court observed: "an employee engaged at his assigned task on a plant machine as in *Bexiga* has no meaningful choice." *Id.*, 406 A.2d at 148. The Court added, "We are herein not passing upon other situations wherein an employee may similarly be held to have had no meaningful choice." *Id.*, 406 A.2d at 148. In *Colella*, the injured plaintiff asserted that his injuries sustained in a fall from a workplace scaffold used occasionally as a ladder for ascent to and decent from a platform that was defective in that its appearance invited its use as a ladder, claiming both a design defect and a failure to warn. The court declined to follow the plaintiff's suggestion that the authority of *Suter* precluded application of the defense of contributory negligence, however, on the basis of its observation that the instrumentalities involved in the industrial machine exception were ordinarily ones over which the employee had only "limited control", while the scaffold involved in this accident "afford[ed] the worker greater control and direction of its use." *Colella*, 201 N.J. Super. at 592, 493 A.2d at 636.

as contributorily at fault. The exceptions to this general rule, as reflected above, are that recovery may still be denied on the basis of the plaintiff's conduct (1) when the facts show that the injured party's knowledge of the hazard was so entire as to make the unfortunate conduct brazen in the extreme, and (2) when an arguably adequate safety-related communication from the seller was read and disregarded.

XV. CONCLUSION

The decisional injunction to product sellers is that they timely and clearly state to product users and consumers germane product safety related information known to them that they have no reason to believe is known to those who will encounter the product. The duty to warn attaches, therefore, "whenever a reasonable man would want to be informed of the risk in order to decide whether to expose himself to it."⁴⁴⁸ The product seller's discharge of this duty can be said to be fulfilled when the information conveyed alleviates the asymmetry between the safety-specific information known to the seller and that known to the user or consumer.

This abbreviated means of demarcating the seller's duty to warn does not have the breadth of other and earlier protocols of decision. Most prominent of these is Professor Kidwell's identification of ten indicia courts have used in evaluating a duty to warn.⁴⁴⁹ An asymmetry analysis is, in fact, derived from two of the aforementioned longer list of criteria and could not reasonably be advanced as a replacement of its forerunners. Isolated from the cluster of other criteria, however, what it does provide is an efficient and accurate barometer of when a duty to warn is likely to exist, as well a suggestion of the nature and quantum of information that is likely to satisfy that duty. More specifically, absent evidence of a limited number of particular circumstances associated with a product transaction, such as (1) sales in bulk, (2) a product capable of only trivial harm, or (3) a workplace from which the seller is completely foreclosed from communication, an injured party's showing that the seller did not communicate pertinent safety-related information to users or consumers, when there was no reason to know they would have a particularized knowledge of the specific risks involved, should satisfy the claimant's *prima facie* case of a breach of the duty to warn.

This article commends the fairness of a principle that places upon the manufacturer the burden of ensuring that persons who will use, consume, or be affected by a product will receive in an understandable form that germane, safety-related information held by the manufacturer which will permit them to make an informed decision as to whether to encounter the risk. If a product-related

⁴⁴⁸ *Janssens*, 463 So.2d at 251.

⁴⁴⁹ See *Kidwell*, *supra* note 15 and accompanying text.

injury occurs and the user or consumer's lack of safety-related information is the cause in fact of the injury, it is proposed further that the plaintiff's prima facie case, absent special circumstances, will be satisfied by proof that the manufacturer held safety-related information regarding warning of a risk or instructions for safe use, but did not succeed in communicating this information to the plaintiff or the members of the plaintiff's class. Definitionally, a plaintiff's showing is that of an asymmetry between such information known to the manufacturer and that known to the user or consumer or, conversely, the lack of informational parity or equilibrium.

Product-related injuries will never be eliminated, for, among other reasons, "[n]o one has developed a system to match the creativity of the consumer in finding new and sometimes unsafe ways to use products."⁴⁵⁰ The most attainable and estimable goal of products liability law, however, is the achievement of a commercial environment, judicially encouraged as necessary, in which product sellers prepare and present to consumers product safety-related information as readily and unselfconsciously as they prepare a bill of sale.

⁴⁵⁰ ANNUAL CHIEF JUSTICE EARL WARREN CONFERENCE ON ADVOCACY REPORT, PRODUCT SAFETY IN AMERICA 42 (The Roscoe Pound Foundation 1984).

