1984

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POST-SALE OBLIGATIONS OF PRODUCT MANUFACTURERS

John S. Allee*

1. Introduction

Reported product liability decisions have increased dramatically in recent decades and provide a rich, though a frequently confusing and inconsistent, source for determining the obligations of those who produce and sell allegedly defective products.\(^1\) In contrast to the well-developed body of time-of-sale product liability law is the mere handful of cases that discuss post-sale obligations of product manufacturers.\(^2\) This is surprising because a potential post-sale problem is a frequent occurrence and can arise whenever a manufacturer receives

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1. Nearly 10,000 cases are reported in the Commerce Clearing House (CCH) Product Liability Reporter, which contains only a selected number of the more recent cases.

notice that one of its products has malfunctioned or is found by a court or jury to have produced a defective product.\(^3\)

The reason for a paucity of cases involving post-sale obligations is difficult to establish by objective means. In part, it can be explained by the extensive recall legislation adopted by the federal government.


3. The number of cases involving post-sale product problems increases substantially if cases involving the admissibility of prior similar accidents are included. See, e.g., Rimer v. Rockwell Int'l Corp., 641 F.2d 450, 456 (6th Cir. 1981) (prior accidents in which fuel was siphoned through a single gas intake); Bowman v. General Motors Corp., 64 F.R.D. 62, 69-70 (E.D. Pa. 1974) (information concerning subsequent models of automobile that came into existence prior to accident held admissible); Cloroben Chem. Corp. v. Comegys, 464 A.2d 887, 891-93 (Del. 1983) (manufacturer required to produce claims files regarding prior accidents caused by defective pop-lock closure on plastic container of drain cleaner); Warn Indus. v. Geist, 343 So. 2d 44, 46 (Fla. Dist. Ct. App.) (not an abuse of discretion for trial court to have allowed reading of interrogatory in which representative of defendant-manufacturer of winches stated date on which it received prior complaint of injury), cert. denied, 353 So. 2d 680 (1977); Montgomery Elevator Co. v. McCullough, Prop. LIAB. Rep. (CCH) ¶ 9611, 23, 708 (Ky. Ct. App. 1983) (evidence of 500 accidents involving similar escalators held admissible); Rucker v. Norfolk & W. Ry. Co., 77 Ill. 2d 434, 437, 396 N.E.2d 534, 537-38 (1979) (forty-two prior accidents admissible to show danger of design even though only twenty-six of them involved situation at issue); Ginnis v. Mapes Hotel Corp., 86 Nev. 408, 415-17, 470 P.2d 135, 139-40 (1970) (subsequent accidents involving automatic door and prior and subsequent repair orders admissible as evidence); Johantgen v. Hobart Mfg. Co., 64 A.2d 858, 859, 407 N.Y.S.2d 355, 356 (4th Dep't 1978) (prior accidents involving meat grinder attachments); Boyd v. Marion Coca-Cola Bottling Co., 240 S.C. 383, 126 S.E.2d 178, 179 (1962) (exploding bottle containing soft drink; three other bottles of soft drink manufactured exploded in same store within two week period); Rush v. Bucyrus-Erie Co., 646 S.W.2d 298, 301 (Tex. Ct. App. 1983) (previous fatal accidents to two men while dismantling crane boom relevant to crane boom manufacturer’s liability).
that to a large extent governs the post-sale obligations of manufacturers of products such as automobiles, consumer products and boats.\footnote{4} A more plausible reason, however, is that post-sale product problems usually are readily definable and thus more easily resolved by a manufacturer than are time-of-sale problems. A post-sale product problem is a real life problem; it usually arises in the context of a known product malfunction causing known risks resulting from known uses of the product.\footnote{5} A time-of-sale problem, in contrast, often involves speculation over possible product defects, uses and risks the dimensions of which cannot always be accurately predicted during the design and testing phase of product development,\footnote{6} particularly if the product is a drug or chemical that reacts over time with human tissue.

Because post-sale product problems frequently are readily identifiable and manageable and because the case law addressing these problems seems to be relatively sparse, a circumstantial case can be made that most manufacturers are addressing post-sale product problems in a responsible manner. This conclusion cannot be demonstrated objectively, and, of course, one can always point to exceptions. In any event, a case has yet to be made that non-judicial solutions to post-sale product problems are not functioning well or that the apparent equilibrium that exists between the rights of sellers and buyers should be disturbed by innovative judicial approaches, hypertechnical criticism of voluntary solutions or outright judicial hostility.

Part II of this Article initially will identify four instances when a post-sale duty to warn may arise. It then will examine the unique problems for the manufacturer presented by each of these situations, particularly in light of the varying judicial standards set. Some courts have suggested that the manufacturer may not only have the duty to warn but may also have the duty to recall or to repair the product under some circumstances. Part III will explore this limited obligation of the product manufacturer as reflected in case law. Lastly, Part IV will discuss the various types of post-sale product issues that are likely


\footnote{5} See, e.g., Comstock v. General Motors Corp., 358 Mich. 163, 99 N.W.2d 627, 634-36 (1959) (manufacturer discovered after sale that power brakes on Buick could malfunction); Bell Helicopter Co. v. Bradshaw, 594 S.W.2d 519, 529-30 (Tex. Civ. App. 1979) (discovery after sale of defective rotary blade on helicopters).

\footnote{6} In recent years, however, manufacturers of products have become more sophisticated in discovering product risks and defects during the design process. See Molloy & Grant, Preparing For Design Litigation, in PRODUCT DESIGN LITIGATION 241 (PLI 1982). See generally Twerski, Shifting Perspectives in Products Liability: From Quality to Process Standards, 55 N.Y.U. L. Rev. 347 (1980).
to arise, with emphasis on recent decisions that expand post-sale obligations to warn and improve products by imposing unrealistic post-sale burdens on manufacturers or that frustrate incentives to undertake post-sale remedial measures by recognizing principles that unduly penalize those who undertake such measures.

II. Post-Sale Duty To Warn

In most jurisdictions, a time-of-sale duty to warn of risks inherent in the use of a product arises whenever the product seller knew or should have known of the risks of harm, and the failure to provide a
adequate warning renders the product unreasonably dangerous. A minority view is that the "knew or should have known" requirement should be eliminated and that it is no defense that the risk of harm was scientifically undiscoverable at the time the product was distributed.
A potential post-sale duty to warn may arise when (1) a danger that was knowable but not disclosed at the time of sale or manufacture is discovered at a later time;\textsuperscript{10} (2) a danger inherent in the foreseeable uses of the product that was unknown and unknowable at the time of sale becomes known at a later time;\textsuperscript{11} (3) a danger resulting from an unforeseeable use of the product becomes known because the use is discovered after the product is sold;\textsuperscript{12} or (4) a risk reduction measure, such as a more effective safety device, is developed because of a post-sale improvement in the state of the art.\textsuperscript{13}

A. Dangers Knowable At Time Of Sale

A clear case for requiring a post-sale warning exists when the manufacturer learns after a product is distributed that it failed to warn of a danger that was knowable at the time of sale.\textsuperscript{14} In many situations it may be impossible to give the same type of warning after sale as would have been required at the time of sale. For example, the identity of the purchaser may not be known once the product is sold, the opportunity to issue point-of-sale warnings or to attach a warning to the product or its container may have been lost, the product may have changed hands one or more times, or the useful life of the product may have expired.\textsuperscript{15} A requirement that the manufacturer

\begin{itemize}
  \item[\textsuperscript{10}] See infra notes 14-16 and accompanying text.
  \item[\textsuperscript{11}] See infra notes 17-22 and accompanying text.
  \item[\textsuperscript{12}] See infra notes 23-27 and accompanying text.
  \item[\textsuperscript{13}] See infra notes 28-30 and accompanying text.
  \item[\textsuperscript{15}] See Schwartz, supra note 2, at 895-97; Comment, \textit{Products Liability}, supra note 2, at 54-58; Note, \textit{The Manufacturer's Duty}, supra note 2, at 1098-99.
\end{itemize}
give the same type of post-sale warning that it should have given at
the time of sale would not only be unrealistic, but might well discour-
age any post-sale warning since a manufacturer who cannot absolve
itself of future liability by giving a warning may have a decreased
incentive to issue a warning. Thus, although the degree of initial fault
in not discovering the knowable risk at the time-of-sale cannot be
ignored in determining the reasonableness of a post-sale warning,
limitations inherent in the ability to contact every current user should
be an important factor in the court's decision.  

B. Danger Unknownable At Time Of Sale

In the case of drugs and other life threatening products, some courts
have recognized a post-sale duty to warn of dangers that were not
knowable at the time of sale but which became known at some later
time. The extent to which less serious dangers should be the subject
of a post-sale warning is an unsettled question that probably should be
determined on the basis of a reasonableness standard that gives proper
weight to the facts that the product was not defective when sold and
the added cost and inconvenience of post-sale warnings. Because a
warning was not required when the product was sold, the manufac-
turer should have a reasonable time to issue whatever warning is
required after it discovers the previously unknown danger.

In a jurisdiction in which knowledge of the risk of harm is pre-
sumed, a manufacturer has a time-of-sale duty to warn of unknowa-

N.W.2d 915, 923-27 (1979) (it is unreasonable to hold manufacturer liable to an-
ually warn of dangers of items mass produced when the product is six to thirty-five
years old and outdated by twenty newer models); but see LaBelle v. McAuley
Indus. Corp., 649 F.2d 46, 49 (1st Cir. 1981) (indirect notice not sufficient). Other
factors would include the seriousness of harm, the reliability and possible adverse
interest of the person to whom notice is given, the burden in locating the persons to
whom notice should be given, the attention the notice is expected to receive from the
recipient, the kind of product sold and the other steps taken to correct the problem.

17. See Schenebeck v. Sterling Drug, Inc., 423 F.2d 919, 922-23 (8th Cir. 1970);
Basko v. Sterling Drug, Inc., 416 F.2d 417, 426 (2d Cir. 1969); Comstock v. General
Motors Corp., 358 Mich. 163, 177-78, 99 N.W.2d 627, 634-35 (1959); see also Jones
v. Bender Welding & Mach. Works, Inc., 581 F.2d 1331, 1335 (9th Cir. 1978)(fail-
ure of fishing vessel oil cooler supply line while on ocean voyage).

(E.D. Ky. 1982)(possibility that engine compartment could ignite when hose leaked
hydraulic fluid could not have been known at time-of-sale; therefore no warning was
required at that time and defendant manufacturer was not guilty on negligence or
strict liability grounds).
ble dangers, and thus the post-sale discovery of a previously unknown danger should not add to its post-sale warning obligations. A manufacturer should have a post-sale opportunity in these jurisdictions to absolve itself of liability for failing to disclose the unknowable at the time of sale, but the extent to which this duty differs from the duty to warn of risks that become knowable post-sale in a knew or should have known jurisdiction is an unresolved question. Certainly, the number of potential situations that call for such a warning is greater in a presumed knowledge jurisdiction. It is equally clear that a manufacturer in a presumed knowledge jurisdiction would not have a reasonable time to issue a post-sale warning after it discovers a risk since it is liable for initially selling the product without a warning until at least such time as the warning is made. But if a warning is made and received by the plaintiff before the injury, the only issue should be the adequacy of the warning—a question that should not vary between a presumed knowledge and a knew or should have known jurisdiction.

A more difficult question arises when the manufacturer issues an adequate post-sale warning of a previously unknowable risk and distributes the warning in an adequate manner. However, a person is subsequently prompted to use the product by an incomplete time-of-sale warning. This person never read the post-sale warning that would have discouraged that use, and as a result of this failure, is injured by the product. In a knew or should have known jurisdiction, no liabil-

19. See supra note 9. For a discussion of situations in which the presumed knowledge of harm test will create liability where it would not exist under the knew or should have known test, see Wheeler & Kress, A Comment on Recent Developments in Judicial Imputation of Post-Manufacture Knowledge in Strict Liability Cases, 6 J. of Prod. Liab. 127, 136-45 (1983) [hereinafter cited as Wheeler]. For a critical discussion of how the elimination of the knowledge requirement in a duty-to-warn case eliminates the distinction between the point-of-sale and the post-sale duties to warn, see Schwartz, supra note 2.

20. The increase in liability producing situations more likely would occur in the food, drug and chemical industries which, in contrast to the machine industry, experience a greater combination of post manufacture knowledge of risks and an absence of technological means to eliminate the risks once they have been perceived. See Wheeler, supra note 19, at 136-45.

21. Such a situation arose in Schindler v. Lederle Labs., Prod. Liab. Rep. (CCH) ¶ 9900 (6th Cir. 1983), in which a manufacturer of Sabin Polio vaccine was sued by a boy who contacted polio from the vaccine because he suffered from an immunodeficiency that made him highly susceptible to the disease. Id. at 25,165. The boy’s physician administered the vaccine at a time when its package insert as well as the American Academy of Pediatrics “Red Book” warned against such use. The physician had not read these warnings, relying instead on much earlier warnings accompanying the vaccine that did not mention the immunodeficiency problem and his belief that the manufacturer’s “detail men” would advise him of any revised warnings. Id.
ity should result from the time-of-sale warning which fully disclosed all knowable risks. But in a presumed knowledge jurisdiction, liability could attach because the initial warning was inadequate in that it failed to disclose the unknowable risk; the only recourse to the manufacturer in such a jurisdiction might be to argue that the plaintiff's failure to read the warning was a superseding cause of the injury.22

C. Dangers From Unknowable Uses

A manufacturer has no point-of-sale duty to warn of dangers from unforeseeable misuses or alterations of its product.23 But an unforeseeable use of a product may be brought to the manufacturer's attention

The court upheld the adequacy of the revised warnings and exonerated the manufacturer. Id. at 25,166.

22. Even the physician's failure to read an inadequate warning has sometimes been held to raise a superseding cause issue. See Reeder v. Hammond, 336 N.W.2d 3, 5-6 (Mich. Ct. App. 1983) (failure to read warning raises jury question); Oppenheimer v. Sterling Drug, Inc., 7 Ohio App. 2d 103, 108-10, 219 N.E.2d 54, 58-59 (1964) (physician's failure to observe warnings, druggist's refilling of prescription beyond expiration date, and plaintiff's failure to notify physician of side effects all contributed to plaintiff's injury and relieved manufacturer of liability); Douglas v. Bussabarger, 73 Wash. 2d 476, 478, 438 P.2d 829, 831 (1968) (physician's failure to read label relieves manufacturers of liability); but see Sterling Drug, Inc. v. Yarrow, 408 F.2d 978, 994 (8th Cir. 1969) (applying South Dakota law) (physician's failure to learn of warning with respect to side effects of drug from sources other than drug manufacturer did not relieve manufacturer of liability); Sterling Drug, Inc. v. Cornish, 370 F.2d 82, 85 (8th Cir. 1966) (applying Kansas law) (manufacturer is liable regardless of whether plaintiff's doctor failed to read medical literature); Richards v. Upjohn Co., 95 N.M. 675, 680-81, 625 P.2d 1192, 1196-97 (1980) (physician's failure to read manufacturer's warnings in Physician's Desk Reference and drug package inserts, and resulting misuse of drug were foreseeable; thus, summary judgment relieving manufacturer of liability was improper); Baker v. St. Agnes Hosp., 70 A.D.2d 400, 407, 421 N.Y.S.2d 81, 86 (2d Dep't 1979) (physician's failure to search or be aware of literature does not rise to level of being a superseding cause); Allen v. Upjohn Co., Prod. Liab. Rep. (CCH) ¶ 9173, 21,532 (Tenn. Ct. App. 1981) (drug manufacturer liable even if physician failed to read warning); Bristol-Myers Co. v. Gonzales, 548 S.W.2d 416, 424-25 (Tex. Civ. App. 1976) (manufacturer liable where it failed to give physician adequate warning), rev'd on other grounds, 561 S.W.2d 801 (1978).

23. See, e.g., Barnes v. Litton Indus. Prods., Inc., 555 F.2d 1184, 1188 (4th Cir. 1977) (applying Virginia law) (misuse of burning alcohol was reasonably foreseeable; thus a duty to warn existed); Kysor Indus. Corp. v. Frazier, 642 P.2d 908, 912 (Colo. 1982) (en banc) ("a duty to warn or instruct does not occur where a product's dangerous condition is created solely by the plaintiff's own mishandling or misuse"); Knapp v. Hertz Corp., 59 Ill. App. 3d 241, 246, 375 N.E.2d 1349, 1353 (1978) (where "a manufacturer knows or should know that danger may result from a particular use of his product, the product may be held to be in a defective condition if sold without adequate warnings"); Hoffman v. E.W. Bliss Co., 448 N.E.2d 277, 283-84 (Ind. 1983) (product is misused if used in a manner contrary to legally sufficient instructions but is not misused if employer has failed to pass on to user adequate instructions as to proper use); McLaughlin v. Mine Safety Appliances Co., 11 N.Y.2d
after the product is sold, thus rendering that use foreseeable. Though this newly acquired knowledge may require a change in the warning accompanying a product when it is thereafter sold, it is not clear whether a manufacturer has a duty to warn a misuser of the product that was sold prior to the time the manufacturer acquired such knowledge. However, many courts invest a manufacturer with the powers of a clairvoyant in order to deem foreseeable product uses that in any practical sense are unforeseeable. Therefore, a manuf-

62, 72, 181 N.E.2d 430, 435, 226 N.Y.S.2d 407, 414 (1962) (manufacturer may not be liable where it has warned original purchaser and that purchaser fails to pass along warning to third party who misuses product in his presence); Prata v. National R.R. Passenger Corp., 70 A.D.2d 114, 118, 420 N.Y.S.2d 276, 279 (1st Dep't 1979) (manufacturer may be found liable for failing to warn user of inherent danger of improper handling of product); Tucci v. Bossert, 53 A.D.2d 291, 294, 385 N.Y.S.2d 328, 331 (2d Dep't 1976) (recovery not foreclosed by fact that manufacturer might not foresee, or warn of, dangers of improper disposal of product).

Even in presumed knowledge jurisdictions the courts distinguish between knowledge of harm or risks, and knowledge of use, and no court has held that knowledge of use is presumed. See Wade, On the Effect in Product Liability of Knowledge Unavailable Prior to Marketing, 58 N.Y.U. L. Rev. 734, 752, 758 (1983) [hereinafter cited as Wade].


26. See, e.g., LeBouef v. Goodyear Tire & Rubber Co., 623 F.2d 985, 991 (5th Cir. 1980) (applying Louisiana law) (Ford liable for failure to warn that tread on Goodyear tires could separate when Ford Cougar is driven in excess of 100 miles per hour by intoxicated person); Spruill v. Boyle-Midway, Inc., 308 F.2d 79, 86 (4th Cir. 1962) (applying Virginia Law) (child drank cherry-red furniture polish left by mother near crib; manufacturer liable for failure to warn adequately even though label read: "May be harmful if swallowed, especially by children"); Kavanaugh v. Kavanaugh, 131 Ariz. 344, 348-49, 641 P.2d 258, 262-63 (Ct. App. 1981) (manufacturer that sells product has duty not only to warn of inherent dangers, but also to warn of dangers involved in use which can be reasonably anticipated); Moran v. Faberge, Inc., 273 Md. 538, 553, 332 A.2d 11, 20 (1975) (cologne caught fire when poured over lighted candle to scent it; manufacturer liable for failure to warn that cologne was flammable, even though type of injury may not have been foreseeable; "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 unite the chattel's inherent danger"); American Laundry Mach. Indus. v. Horan, 45 Md. App. 97, 104-06, 412 A.2d 407, 412-14 (1980) (use of commercial clothes dryer to dry hot air balloon foreseeable); Tucci v. Bossert, 53 A.D.2d 291, 294, 385 N.Y.S.2d 328, 331 (2d Dep't 1976) (plaintiff, an infant, removed discarded can of Drano from garbage can and filled it with water, whereupon it exploded; the court held that failure to warn about use of water in can could render manufacturer liable, although precise accident may have been unforeseeable).
turer that ignores post-sale knowledge of dangerous misuses of his products probably does so at its peril.27

D. State Of The Art Improvements In Risk Reduction Measures

A product may develop a post-sale problem not because of an increase in the knowledge of its inherent dangers, but because of an improvement in the state of the art, such as the development of a more effective safety device. For business reasons a manufacturer may seek to bring product improvements to the attention of its past customers, and it would be reasonable to require that it do so in a manner that does not underplay important safety developments in the improved design. But a requirement that a manufacturer seek out past customers and notify them of changes in the state of the art would be both unreasonable and inconsistent with the well recognized rule that a product's compliance with the state of the art is judged no later than the time of sale.28

For cases which interpret foreseeability more realistically, see, e.g., Kerr v. Koemm, 557 F. Supp. 283, 288 n.2 (S.D.N.Y. 1983) (court noted that, if tractor manufacturer had to warn of danger of infants' riding on running board, it would have to warn of all other equally foreseeable practices which were equally dangerous with equal obviousness; "[t]he list of foolish practices warned against would be so long, it would fill a volume"); McCaleb v. Mackey Paint Mfg. Co., 343 So. 2d 511, 514 (Ala. 1977) (unintended use of paint thinner); Rogers v. Unimac Co., 115 Ariz. 304, 309-10, 565 P.2d 181, 186-87 (1977) (manufacturer not liable for failure to warn of dangers arising from lack of normal repair of commercial washer-extractor); Kysor Indus. Corp. v. Frazier, 642 P.2d 908, 912 (Colo. 1982) (en banc) (duty to warn does not occur when product's dangerous condition is created solely by plaintiff's mishandling); Talley v. City Tank Corp., 158 Ga. App. 130, 138, 279 S.E.2d 264, 271 (1981) (manufacturer not liable for failure to warn about dangers of garbage truck that was remodeled by purchaser); Potmesil v. E.I. duPont de Nemours Co., 408 So. 2d 315, 319-20 (La. Ct. App. 1981) (manufacturer not liable for misuse of product caused by failure to read instructions); Hill v. General Motors Corp., 637 S.W.2d 382, 386 (Mo. Ct. App. 1982) (manufacturer has no duty to warn "in anticipation that a user will alter its product so as to make it dangerous," even if alteration was foreseeable); Thibault v. Sears, Roebuck & Co., 118 N.H. 802, 814, 395 A.2d 843, 850 (1978) (not foreseeable that mower would be used up and down slope rather than around slope); Johnson v. Jones-Blair Paint Co., 602 S.W.2d 305, 306 (Tex. Civ. App. 1980) (no duty to warn that paint should not be removed by gasoline near open flame).

27. Consider, for example, the plight of the manufacturer in Temple v. Velcro USA, Inc., 148 Cal. App. 3d 1090, 196 Cal. Rptr. 531 (1983), which discovered that its closure device was being used in hot air balloons, a dangerous use for which the closure was never designed. Id. at 1093, 196 Cal. Rptr. at 533. Arguably, it had no obligation to warn such users of the danger, but wisely it chose to issue a stern warning. The warning was approved by the court but ignored by an owner of a balloon that crashed.

The case law is not consistent on this issue: It has been held that a manufacturer of a faultlessly designed product has no duty to notify customers of changes in the state of the art relating to the safe operation of the product.\(^2\) But it also has been held that such a duty may exist depending upon the nature of the industry, the warnings given, the nature and intended life of the product, the nature of the safety improvements, the number of units sold, marketing practices and consumer expectations.\(^3\)


See also the Indiana statute creating a state-of-the-art defense, Ind. Code Ann. §§ 34-4-20A-4 (1983), which seems to provide that the product's design is judged by the state of the art at the time the product is designed, its manufacture is judged by the state of the art at time of manufacture, packaging at the time the product is packaged and warnings or labeling at the time the product is labeled.


30. Kozlowski v. John E. Smith's Sons Co., 87 Wis. 2d 882, 901, 275 N.W.2d 915, 923-24 (1979) ("a sausage stuffer and the nature of that industry bears no similarity to the realities of manufacturing and marketing household goods such as fans, snow blowers 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 . . . ").

In Bell Helicopter Co. v. Bradshaw, 594 S.W.2d 519, 532 (Tex. Civ. App. 1979), Bell developed, many years after sale of a helicopter, a safer rotary blade, in part because the earlier model tended to develop metal fatigue. The court held Bell liable when the helicopter crashed, reasoning that when Bell developed a safer design it owed a duty to persons using its helicopter to refrain from allowing the earlier system to be used and to insist that the earlier design be replaced. See also Ellis v. H. S. Finke, Inc., 278 F.2d 54, 55-56 (6th Cir. 1960)(evidence failed to show that installation of new safety device at later time after original sale would have prevented fall of platform); see generally Comment, The Manufacturer's Duty, supra note 2.
III. Post-Sale Duty To Recall Or Repair

A few cases have involved post-sale repairs by a manufacturer or have discussed post-sale duties to remedy a defective product. These cases, however, involved defects that appear to have been knowable at the time the product was sold or manufactured. Properly understood, nothing more is established than that a manufacturer of a defective product can "absolve itself from future liability" by taking "reasonable steps to correct its error." Far from creating an obligation to repair, these decisions merely suggest the steps that can be taken to relieve a manufacturer of a potential liability based on its having sold a defective product. No case has imposed a common law tort duty to recall or unequivocally held that a tort duty to recall or repair exists where there is not a potential liability for selling the product in the first place.

31. See Braniff Airways, Inc. v. Curtiss-Wright Corp., 411 F.2d 451, 453 (2d Cir.) (airplane manufacturer that was aware that design change caused increased scuffing but took no action to remedy may be liable in the event of a crash; "[i]t 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 either to remedy these or, if complete remedy is not feasible, at least to give users adequate warnings and instructions concerning methods for minimizing the danger"), cert. denied, 396 U.S. 959 (1969); Noel v. United Aircraft Corp., 342 F.2d 232, 237 (3d Cir. 1964) (manufacturer under duty to improve propeller system where it was aware system endangered public safety); Balido v. Improved Mach. Inc., 29 Cal. App. 3d 633, 645, 105 Cal. Rptr. 890, 898 (1972) (series of warnings given owner by manufacturer absolves manufacturer of liability); Rekab, Inc. v. Frank Hrubetz & Co., 261 Md. 141, 150, 274 A.2d 107, 112 (1971) (manufacturer's letters to customer that it would replace part believed to be subjected to strains not originally considered deemed adequate notice to customer).


33. See National Women's Health Network, Inc. v. A.H. Robins Co., 545 F. Supp. 1177, 1180-81 (D. Mass. 1982) (no common law duty to recall exists under state law with respect to allegedly defective IUD); but see Noel v. United Aircraft Corp., 342 F.2d 232, 236 (3d Cir. 1964) (court's language suggests that manufacturer had continuing post-sale duty to develop and provide to its past customers an improved propeller system; court had second thoughts about far-reaching implications of such suggestion because, on rehearing, it belatedly emphasized that product was defective as sold).


Of course, a requirement to recall, remedy or repair could be imposed if the
The case law is still unclear as to what steps a manufacturer must take to absolve itself of future liability. A manufacturer should be able to avoid this liability if it (1) offers free-of-charge repairs, (2) communicates that offer in time to prevent an accident, and (3) warns of the risks and dangers involved in using the unrepaired product. Any measure short of this may raise an issue of fact for the jury. However, in some instances, even a warning or some other measure that falls short of eliminating the risk entirely, but which clearly puts the owner of the product on notice and indicates how the risk can be reduced, may be sufficient to exonerate the manufacturer on superseding cause grounds if the warning and risk-reducing measures are ignored.

breach of warranty provisions of the Uniform Commercial Code were still applicable to the transaction. See U.C.C. § 2-602 (1978) (rejection of goods); id. § 2-608 (revocation of acceptance of goods); id. § 2-719 (limitation of remedy to repair and replacement of parts).

34. In Rekab, Inc. v. Frank Hrubetz & Co., 261 Md. 141, 274 A.2d 107 (1971), the manufacturer of an amusement park ride determined after the sale that the design of the ride’s shaft was dangerous. He warned the purchaser and shipped a replacement shaft free of charge. The purchaser continued to operate the ride with the old shaft, which broke, injuring a rider. The manufacturer, after settling with the rider, sought indemnity from the purchaser. Id. at 144-46, 274 A.2d at 109-10. The appellate court affirmed a trial court judgment for the manufacturer, noting, among other facts, that (1) the buyer was aware of the risks, (2) the manufacturer had shipped a new shaft free of charge and had sent warnings, and (3) any mechanic could have replaced the shaft. Id. at 147-50, 274 A.2d at 111-12. But see Balido v. Improved Mach., Inc., 29 Cal. App. 3d 633, 105 Cal. Rptr. 890 (1972), in which the manufacturer of a molding press offered to sell for $500 a package of safety devices to correct a design defect in presses previously sold. The plaintiff suffered an injury from a press owned by her employer, who had received the manufacturer’s offer to sell the safety package as well as a warning of the dangers in the unfixed product. The court held that it was for the jury to decide whether the warnings were sufficient or whether the manufacturer also should have offered to provide the safety package for free. Id. at 648, 105 Cal. Rptr. at 900-01.

As a general proposition it can be said that a manufacturer who has taken all reasonable steps to correct its error may succeed in absolving itself from future liability . . .

The infinite variety of factual situations arising out of corrective efforts highlights the factual nature of an inquiry as to whether the manufacturer has done what it could reasonably be expected to do to correct an earlier design deficiency. Central to the inquiry here is the question whether under the particular circumstances the manufacturer could have reasonably foreseen that the neglect of third persons to respond to the manufacturer’s warnings of danger would frustrate its corrective efforts . . . . It is also a question of fact whether the manufacturer . . . could reasonably foresee that a purchaser of the product would not spend additional money to correct the deficiency.

Id.

35. See Braniff Airways, Inc. v. Curtiss-Wright Corp., 411 F.2d 451, 453 (2d Cir.) (applying New York law) ("after . . . a product has been sold and dangerous defects in design have come to the manufacturer’s attention, the manufacturer has a
IV. Recent Developments

A few recent decisions significantly affect the post-sale obligations of product manufacturers and sellers. These decisions affect:

— the persons who must issue post-sale warnings;  

— the persons who must receive those warnings;  

— the remedial obligations of a manufacturer;  

and

— the incentive to issue a post-sale warning.

A. Persons Who Must Warn—Successor Corporations

Post-sale duties to warn generally arise when the product manufacturer or seller learns of a product defect after the product has been distributed. A few decisions have imposed this post-sale obligation on a successor to the corporation that sold the product. A recent decision by the New York Court of Appeals, *Schumacher v. Richards Shear Co.*, has substantially broadened the circumstances under which a successor corporation may be liable for failure to issue a post-sale warning to its predecessor's customers.42

Plaintiff Schumacher was blinded in one eye in 1978 from a shearing machine that was purchased by his employer from Richards Shear Company in 1964. The machine was allegedly defective because it did not have a guard to deflect metal ejected from the machine. Defendant Logemann Brothers Company acquired the right in 1968 to manufacture Richards Shear products, but it did not thereafter produce the machine in question or maintain an inventory of those machines. Logemann's only direct contact with the plaintiff's employer after the acquisition was the rendering of repair service on one occasion in 1968 on the power unit of the Richards Shear machine and the solicitation of service business on two occasions.43

The court rejected as inapplicable traditional theories of successor corporation liability based on express or implied assumption of tort duty to either remedy these or, if complete remedy is not feasible, at least to give users adequate warnings and instructions concerning methods for minimizing the danger (*cert. denied*, 396 U.S. 959 (1969); Montgomery Elevator Co. v. McCullough, *Prod. Liab. Rep.* (CCH) ¶ 9611 (Ky. App. Ct. 1983) (proximate cause issue raised when owner of escalator ignored warnings of danger and recommendations by manufacturer of changes that would reduce the risk)).

36. *See infra* notes 41-55 and accompanying text.

37. *See infra* notes 56-58 and accompanying text.

38. *See infra* notes 61-70 and accompanying text.

39. *See infra* notes 71-95 and accompanying text.

40. *See infra* note 47 and accompanying text.


42. *Id.* at 246, 451 N.E.2d at 199, 464 N.Y.S.2d at 441.

43. *Id.* at 244, 451 N.E.2d at 196-98, 464 N.Y.S.2d at 439-40.
liability, consolidation or merger, the continuation of the selling corporation in the form of the purchasing corporation or fraud. Nor did it find applicable the more recent extensions of successor liability based on the "continuity of the enterprise" or "product-line" theories. Instead, the court chose to substantially extend existing authority on a successor corporation's duty to warn by holding that a jury could find such a duty arising out of the "relationship" created by Logemann's meager contacts with plaintiff's employer. The court ultimately found that Logemann's servicing of a non-defective aspect of the machine created a jury issue concerning whether it knew or should have known of the alleged design defect because the evidence indicated that this defect was "open and notorious" based on prevailing industry standards. Paradoxically, the court refused to follow the overwhelming precedent that relieves a manufacturer of its duty to warn of open and obvious defects.


47. Other cases that have discussed a duty to warn in such situations require that the successor corporation establish a much closer relationship to the owner of the product than that in Schumacher. See, e.g., Gee v. Tennesco, Inc., 615 F.2d 857, 863 (9th Cir. 1980) (relationship not sufficient to impose a duty to warn); Travis v. Harris Corp., 565 F.2d 443, 449 (7th Cir. 1977) (single service call clearly insufficient to create such a duty); Cowan v. Harris Corp., PROD. LIAB. REP. (CCH) ¶ 9663 (U.S.D.C. Kan. 1982) (no duty to warn when no continuing relationship and no knowledge of existence or location of product in question); Shane v. Hobam, Inc., 332 F. Supp. 526, 530 (E.D. Pa. 1971) (purchase of assets of corporate manufacturer alone does not support product liability claim); Gonzalez v. Rockwell Eng'g & Equip. Co., 117 Ill. App. 3d 435, 438, 453 N.E.2d 792, 795 (1983)(successor did not have duty to warn when it did not succeed to service contracts of predecessor, nor service particular machine in question under a service contract); Pelc v. Bendix Mach. Tool Corp., 111 Mich. App. 343, 352, 314 N.W.2d 614, 618 (1981)(successor must have control over product); Adducci v. Skyworker Div. of Concrete Mfg. Corp., PROD. LIAB. REP. (CCH) ¶ 9462 (S.D.N.Y. 1983).


49. Id. at 249, 451 N.E.2d at 200, 464 N.Y.S.2d at 442.

50. Id. See, e.g., Brech v. J.C. Penney Co., 698 F.2d 332, 335 (8th Cir. 1983) (flammability of cotton flannelette nightgown is open and obvious); Haines v. Po-

Although most jurisdictions have eliminated the obviousness or patent defect rule in design defect cases, many of these jurisdictions have continued to treat the obvi-
The court's decision in *Schumacher* can be criticized on many
grounds, but the most troubling is its suggestion that a post-sale duty
to warn of design defects can be imposed on a non-manufacturer or
seller that sporadically services or offers to service a product. The

ousness of the danger of a product as relieving its manufacturer of any duty to warn. The reason is clear: The obviousness of the danger in a defect case should properly relate only to the plaintiff's culpability in ignoring the obvious, and is best treated not as an absolute bar to plaintiff's recovery, but as contributory or comparative fault. On the other hand, in a warning case the obviousness of danger requirement is focused not on plaintiff's appreciation of the danger, but on the scope of the manufacturer's duty to warn as determined by those aspects of the dangers that are communicated by the product itself. Many objects are as capable of communicating their dangerous qualities as words or symbols are, and if a warning would add nothing to what is already obvious, the warning would not decrease (or its absence increase) the risk of harm. See Kerr v. Koemm, 557 F. Supp. 283, 287 n.1 (S.D.N.Y. 1983) (applying New York law) ("[n]or does the rationale for eliminating the patent danger rule on design defects apply to the duty to warn. Obviousness should not relieve manufacturers of a duty to eliminate dangers from their design if that can reasonably be done, but obviousness relieves the manufacturer of the duty to inform users of a danger"); Forrest City Mach. Works, Inc. v. Aderhold, 273 Ark. 33, 37, 616 S.W.2d 720, 723 (1981) ("there is no duty on the part of a manufacturer to warn of a danger when the dangerous defect is open and obvious"); Michigan Mut. Ins. Co. v. Heatilator Fireplace, 126 Mich. App. 837, 842 (1983) (no duty to warn exists if defect is obvious and product is "simple tool or product," but duty does exist if product is more complex) (relying on Owens v. Allis-Chalmers Corp., 414 Mich. 413, 326 N.W.2d 732 (1982)). But see Olson v. A.W. Chesterton Co., 256 N.W.2d 530, 537 (N.D. 1977) (obviousness of danger should not automatically relieve manufacturers of liability).

51. Repairers who did not manufacture the product generally are held to a lesser standard than repairers who manufactured the product. See Johnson v. William C. Ellis & Sons Iron Works, Inc., 604 F.2d 950, 956 (5th Cir. 1979) (court emphasized that in many cases installer or repairer would not have knowledge or opportunity to recognize defects and to require full examination of products serviced would increase consumer's cost); Lemley v. J & B Tire Co., 426 F. Supp. 1378, 1380 (W.D. Pa. 1977) (applying Pennsylvania law) (plaintiff's remedy is in negligence); Slayton v. Wright, 271 Cal. App. 2d 219, 222, 76 Cal. Rptr. 494, 501 (1969) (installer); McLeod v. W.S. Merrell Co., 174 So. 2d 736, 739 (Fla. 1965) (druggist); Hoffman v. Simplot Aviation, Inc., 97 Idaho 32, 37-38, 539 P.2d 584, 589-90 (1975) (repairer of airplane not suitable in strict liability, but can be sued for implied warranty that services would be performed in workmanlike manner, i.e., non-negligently); Nickel v. Hyster Co., 97 Misc. 2d 770, 773, 412 N.Y.S.2d 273, 276 (1978) (purchaser of vehicle was not permitted to sue in strict liability repairer of vehicle, who did not sell product). See generally Restatement (Second) of Torts § 404 (1965); Note, Application of Strict Liability to Repairers: A Proposal for Legislative Action in the Face of Judicial Inaction, 8 Pac. L.J. 865 (1977).

Seller-repairers, on the other hand, have been held liable in strict liability. See Young v. Aro Corp., 36 Cal. App. 3d 240, 111 Cal. Rptr. 535 (1974); Winters v. Sears, Roebuck & Co., 554 S.W.2d 565 (Mo. App. 1977); Jackson v. Melvey, 56 A.D.2d 836, 392 N.Y.S.2d 312 (2d Dep't 1977) (warranty); but see Winans v. Rockwell Int'l Corp., 705 F.2d 1449, 1452-53 (5th Cir. 1983) (manufacturer of jet engines that exploded in mid-air not liable in strict liability for defects that existed...
imposition of a duty to warn may be appropriate when the service involves rebuilding the entire product,\textsuperscript{52} when a manufacturing flaw is or should have been discovered in the course of service work or perhaps even when the successor has undertaken to provide general maintenance of the product.\textsuperscript{53} But an isolated service call ten years before the accident and two solicitations of service work\textsuperscript{54} is a tenuous basis on which to assume that a servicer of a product has the expertise to appreciate dangers lurking in its design, or that it has a special duty to warn of a design defect that is just as open and obvious to the owner and user of the product as it is to the service company.

\section*{B. Persons Who Must Be Warned}

A duty to warn extends to foreseeable users of a product including, at times, the employees of the purchaser.\textsuperscript{55} But the duty to warn may be discharged by warning only the employer when it is a knowledgeable industrial user of the product, is well aware of its risks, and can be expected to supervise the use of the product and issue appropriate warnings to its employees.\textsuperscript{56}

\begin{footnotes}
\item[52.] See also Various Underwriters at Lloyds v. Page Airmotive, Inc., 389 F. Supp. 831, 836 (W.D. La. 1975) (applying Louisiana law)/reassemble and overhaul of aircraft engine parts.
\item[56.] McWaters v. Steel Serv. Co., 397 F.2d 79, 80 (6th Cir. 1979) (per curiam) (supplier of steel rods held not strictly liable for death of construction company employee where employer was experienced highway contractor and supplier had no control over use of rods); Martinez v. Dixie Carriers, Inc., 529 F.2d 457, 465-67 (5th Cir. 1976) (lack of sufficient warning must be considered together with the knowledge and experience of those who could reasonably be expected to use product); Jacobson v. Colorado Fuel & Iron Corp., 409 F.2d 1263, 1273 (9th Cir. 1969) (no duty to warn those who follow directions of engineers or technicians exists when manufacturer gives those engineers or technicians sufficient warning or if they have knowledge of dangers involved); Wilhelm v. Globe Solvent Co., 373 A.2d 218, 223 (Del. Super. Ct. 1977) (duty to warn was only to employer where manufacturers of dry cleaning machines had no control over use of its machines or employee's work area); Shanks v. A.F.E. Indus., 416 N.E.2d 833, 836-38 (Ind. 1981) (manufacturer may fulfill its duty to warn employees by warning employer when manufacturer has no control over work space, hiring, instruction or placement of personnel and manner of integration of product into employer's operation); Mays v. Ciba-Geigy Corp., 233 Kan. 38, 661 P.2d 348, 365 (1983) (the "hooking up of a natural gas well is a highly specialized industrial activity . . . . This may be distinguished from the operation of a machine commonly used by low echelon personnel or laborers where a simple warning on the machine may be necessary . . . . Misco and Ciba-Geigy are
A recent decision by the United States Court of Appeals for the Seventh Circuit, *Gracyalny v. Westinghouse Electric Corp.*,\(^{57}\) fails to give proper weight to this principle in the context of a post-sale warning. The plaintiffs were employees or representatives of employees of the Wisconsin Public Service Corporation (WPS) who were seriously burned in 1979 when a circuit breaker manufactured and not under a duty to provide each employee of the installer of their products with the manual on proper installation . . . "); Bonhert Equip. Co. v. Kendall, 569 S.W.2d 161, 165-66 (Ky. 1978) (where manufacturer warns buyer or buyer agrees to assume responsibility for installation of bracing for crane, manufacturer will not be liable to injured employee); Ulrich v. Kasco Abrasives Co., 532 S.W.2d 197, 201 (Ky. 1976) (manufacturer may assume owner/employer will maintain machine in safe working order); Temple v. Wean United, Inc., 50 Ohio St. 2d 317, 324, 364 N.E.2d 267, 272 (1977) (manufacturer had no duty to warn purchaser of danger of assembly when purchaser was aware guards could be purchased to avoid such danger); Schmeiser v. Trus Joist Corp., 273 Or. 120, 123, 540 P.2d 998, 1005 (1975) (adequate warnings and instructions to contractor on assembly of joist relieved manufacturer of its duty to warn contractor's employees); Reed v. Pennwalt Corp., 22 Wash. App. 718, 722-23, 591 P.2d 478, 480-81, aff'd, 93 Wash. 2d 5, 604 P.2d 164 (1979) (manufacturer who had properly warned employer of hazards of using caustic soda was relieved of duty to warn employees); but see Jones v. Meat Packers Equip. Co., 723 F.2d 370, 373-74 (4th Cir. 1983) (manufacturer's negligence in failing to warn cleaning people of danger that meat mixer-blender machine could start by itself was jury question); Hopkins v. Chip-in-Saw, Inc., 630 F.2d 616, 619-21 (8th Cir. 1980) (manufacturer not relieved of duty to warn about removal of safety device when warning conveyed only to purchaser and when foreseeable that purchaser-employer would not convey warning to employees); Gordon v. Niagara Mach. & Tool Works, 574 F.2d 1182, 1189 (5th Cir. 1978) (per curiam) (warning attached to machine required when information of dangerous propensity is supplied to plaintiff's employer in service manual); Jackson v. Coast Paint & Lacquer Co., 499 F.2d 809, 815 (9th Cir. 1974) (manufacturer could be held liable when employer knew of hazards and failed to communicate them to employee); Hoffman v. E.W. Bliss Co., 448 N.E.2d 277, 281-83 (Ind. 1983) (duty to warn cannot be delegated completely to employer where product installed is not a component in a multi-faceted operation and equipment such as ram press operates independently of all others); Seibel v. Symons Corp., 221 N.W.2d 50, 54-57 (N.D. 1974) (manufacturer held liable where technical manual furnished employer never reached employee and no other warning was provided).

Of course, if the manufacturer supplies only limited information to the employer, his duty to the employee will not be discharged. See Billiar v. Minnesota Mining & Mfg. Co., 623 F.2d 240, 245 (2d Cir. 1980) (duty is not discharged where label merely warns of harmful propensities; warning must be sufficient to apprise fully of danger); Kammer v. Lamb-Grays Harbor, 55 Or. App. 537 (1982). See also Model Uniform Product Liability Act § 104(C)(5) (1979), providing that the manufacturer “is under an obligation to provide adequate warnings or instructions to the actual product user unless the manufacturer provided such warnings to a person who may be reasonably expected to assure that action is taken to avoid the harm, or that the risk of the harm is explained to the actual product user.”

\(^{57}\) 723 F.2d 1311 (7th Cir. 1983). See also Jones v. Meat Packers Equip. Co., 723 F.2d 370 (4th Cir. 1983) (mixer-blender machine manufacturer liable as employee not contributorily negligent in cleaning machine as instructed).
sold by Westinghouse exploded. The circuit breaker had been designed in 1959, and in 1964 and 1965 Westinghouse learned that a few units of the model circuit breaker sold to WPS had malfunctioned. A Westinghouse engineer assigned to investigate the problem discovered the source of the malfunction and designed a baffle that would eliminate it. Westinghouse then informed WPS by letter that a number of units had malfunctioned, and cautioned that failure could cause extensive damage to equipment and personnel. The manufacturer offered to supply baffles without charge to be installed by WPS. WPS wrote back to Westinghouse requesting baffles for seven breakers, including the three breakers located at the Quincy Street substation where the accident took place and one breaker of a type not mentioned by Westinghouse in its letter. Westinghouse promptly sent six baffles, and WPS installed five of these baffles on breakers, including only two of the three breakers at the Quincy substation. Fifteen years later the third breaker at the substation exploded. No circuit breaker equipped with a baffle ever failed.\(^{58}\)

In reversing summary judgment in favor of Westinghouse, the court stated that "[p]erhaps Westinghouse should have also undertaken to warn WPS employees who came into direct contact with the circuit breakers."\(^{59}\) It is difficult to understand how Westinghouse was supposed to ascertain in 1965 the identity of those who would come in contact with the breaker over the many years of its use or how a warning to these employees would have prompted their employer to respond more responsibly to Westinghouse's warning. In any event, the court's opinion indicates that Westinghouse had every reason to believe that a sophisticated purchaser such as WPS had the expertise, incentive and opportunity to make the modification to the breakers, and that Westinghouse had no reason to foresee that it would not be made.

C. Post-Sale Remedial Measures

The \textit{Gracyalny} decision also exhibits an excessively critical approach to Westinghouse's efforts to remedy the breaker malfunction and an unwarranted indulgence of WPS' negligent failure to modify the third Quincy substation breaker. Despite Westinghouse's warning of the risk of harm and the potential for causing personal injury and offering free corrective measures, that court found a jury issue on the

\(^{58}\) 723 F.2d at 1313-15.

\(^{59}\) \textit{Id.} at 1321.
sufficiency of those measures because the jury might find that:

1. the language of the Westinghouse warning letter minimized the danger presented by the defective breakers;
2. Westinghouse was negligent in failing to follow up its letter with another letter or a personal visit to verify that the baffles were properly installed;
3. Westinghouse should have undertaken to install the breaker itself; or
4. the defect was not rendered "open and obvious" by the Westinghouse letter and the furnishing of baffles.

The court based its decision primarily on authority that post-sale obligations can include a duty to advise of changes in the state of the art, that ambiguities in the language of a warning should be construed against the party mailing the warning, that the open and obvious exception to the duty to warn does not necessarily apply when the user may not fully appreciate the risk, and that a manufacturer may not delegate to the user the duty to design and manufacture a defect-free product. Finally, the court ruled that WPS' failure to

60. The Westinghouse letter suggested that the installation could be made at a convenient inspection time and that it would not be necessary to initiate an immediate program to install the baffles. Id. at 1315. It seems unlikely that this language forestalled any attempt to install the third Quincy substation baffle during the fifteen years that elapsed after the letter was sent.
61. Given the sophistication of WPS, it seems unreasonable to impose on Westinghouse a duty to warn twice.
62. The implication that those who sell equipment to electric power companies have a duty to install the equipment is astonishing.
63. Id. at 1321-22. The defect was certainly open and obvious, and from the standpoint of WPS, an adequate warning was given. In any event, the open and obvious rule is a substitute for a warning requirement, see supra note 50 and accompanying text, and has no place in a case in which an unequivocal warning has been issued.
64. See supra note 45.
65. 723 F.2d at 1318-21. The rule that prohibits, under certain circumstances, a manufacturer from delegating the duty to manufacture a defect free product has never been used to require a manufacturer to assemble the entire product and should be satisfied when the manufacturer supplies the safety device to a sophisticated supplier. Indeed, even when the manufacturer expects the purchaser to provide and install the safety device, the result under the delegation-of-duty rule generally turns on such factors as feasibility, custom and expertise. See, e.g., Heckman v. Federal Press Co., 587 F.2d 612, 617 (3d Cir. 1978) (whether manufacturer, as opposed to purchaser, must provide safety features depends on "feasibility of incorporating safety features during manufacture . . . the likelihood that users will not secure adequate devices, whether the machinery is of a standard make or built to the customer's specifications, the relative expertise of manufacturer and customer, the extent of risk to the user, and the seriousness of injury which may be anticipated"); Verge v. Ford Motor Co., 581 F.2d 384, 387-89 (3d Cir. 1978) (as between final assembler and component manufacturer, responsibility for providing safety device
install the baffle was not a superseding cause of the accident since its negligence may have been foreseeable.\textsuperscript{66}

should be determined on basis of trade custom, relative expertise of parties and stage of installation which is most feasible); Gordon v. Niagara Mach. & Tool Works, 574 F.2d 1182, 1190 (5th Cir. 1978) (applying Mississippi law) ("t\_he machine having been designed for many kinds of operation, it was incumbent upon the machine purchaser to select safety devices appropriate for his particular function"); Lesnefsky v. Fischer & Porter Co., Inc., 527 F. Supp. 951, 956 (E.D. Pa. 1981)(manufacturer of component part made to specification of buyer not liable for injuries sustained as a result of defect in product); Stephenson v. Dreis & Krump Mfg. Co., 101 Ill. App. 3d 380, 384-85, 428 N.E.2d 190, 193 (1981)(jury question whether safety device attached to machine by employer corrected dangerous condition of machine when sold by defendant-manufacturer); Rios v. Niagara Mach. & Tool Works, 12 Ill. App. 3d 739, 745-48, 299 N.E.2d 86, 92-93 (1973)(duty of supplying safety device rested on purchaser, not manufacturer), affd, 59 Ill. 2d 196, 319 N.E.2d 232 (1974); Fredericks v. General Motors Corp., 411 Mich. 712, 720-21, 311 N.W.2d 725, 728 (1981)(failure of supplier to provide guard for power press did not result in liability); Elliot v. Century Chevrolet Co., 597 S.W.2d 563, 564 (Tex. Civ. App. 1980)(manufacturer and dealer had no duty to install back-up buzzer on truck; third party that had installed beer storage unit that obstructed vision in rear view mirror was more appropriate party for this task).

The failure of the assembler of the product, in a case against the component manufacturer, to minimize the risk of damage was held to be the cause of plaintiff's injury in Fierro v. International Harvester Co., 127 Cal. App. 3d 862, 869-70, 179 Cal. Rptr. 923, 926 (1982). Accord Wiler v. Firestone Tire & Rubber Co., 95 Cal. App. 3d 621, 629, 157 Cal. Rptr. 248, 252 (1979) ("Firestone could reasonably believe that Ford Motor Co. would take appropriate measures to insure proper installation of the valve stem"). Cf Pust v. Union Supply Co., 38 Colo. App. 435, 561 P.2d 355, 361 (1976), affd, 196 Colo. 162, 172-73, 583 P.2d 276, 283 (1978) (en banc) (component part manufacturer is strictly liable even when purchaser assembled final product and component manufacturer supplied unguarded parts pursuant to instructions of purchaser, who was expected to supply guards); State Stove Mfg. Co. v. Hodges, 189 So. 2d 113, 121 (Miss. 1966) (manufacturer held not liable for supplying water heater without pressure relief valve but with instructions to installer to add one); Michalko v. Cooke Color & Chem. Corp., 91 N.J. 386, 395, 451 A.2d 179, 183 (1982) (where it was feasible for component part manufacturer to install safety device, manufacturer held strictly liable even though it fully complied with owner's specifications which did not include a safety device); Bexiga v. Havir Mfg. Corp., 60 N.J. 402, 410, 290 A.2d 281, 285 (1972) ("w\_here such safety devices can feasibly be installed by the manufacturer, the fact that he expects that someone else will install such devices should not immunize him"); Mott v. Callahan AMS Mach. Co., 174 N.J. Super. 202, 206-10, 416 A.2d 57, 59-61 (1980)(question of fact whether to impose duty on manufacturer to install safety device).

66. \textit{Gracyalny}, 723 F.2d at 1323. Many cases have recognized that the obligation of the original wrongdoer can be replaced or shifted to a third party who has knowledge of and control over the risk of harm. \textit{See, e.g.}, Strong v. E.I. DuPont de Nemours & Co., 667 F.2d 682, 688 (8th Cir. 1981)(applying Nebraska law)(manufacturer's failure to warn gas company of danger not proximate cause of explosion because gas company had actual knowledge of danger); Nishida v. E.I. DuPont de Nemours & Co., 245 F.2d 768, 733-74 (5th Cir. 1957) (applying Mississippi law) (warning letter of defendant held an intervening act that severed chain of causation); Mueller v. Jeffrey Mfg. Co., 494 F. Supp. 275, 278 (E.D. Pa. 1980) (applying Pennsylvania law) (employer's failure to guard opening in floor held superseding
cause of injury); Stultz v. Benson Lumber Co., 6 Cal. 2d 688, 693, 59 P.2d 100, 103 (1936) (defendant furnished defective lumber to plaintiff’s employer, who used it to build scaffolding even though he knew lumber was unsafe; employer’s conduct held to be superseding cause of plaintiff’s injury); Conder v. Hull Lift Truck, Inc., 435 N.E.2d 10, 15-16 (Ind. 1982) (plaintiff’s foreman failed to warn plaintiff of defect; judgment for manufacturer upheld); Montgomery Elevator Co. v. McCullough, Prod. Liab. Rep. (CCH) ¶ 9611 (Ky. Ct. App. 1983) (failure of store to heed warnings of escalator manufacturer about need to make certain modifications on escalator to be superseding cause issue if jury finds warnings sufficient); Ford Motor Co. v. Atcher, 310 S.W.2d 510, 512 (Ky. 1957) (driver’s knowledge that door of car had history of suddenly opening held to relieve manufacturer of liability); Bekab, Inc. v. Frank Hrubetz & Co., 261 Md. 141, 151, 274 A.2d 107, 113 (1971) (ferris wheel manufacturer not liable for defect in product when he notified customer of deficiency, shipped free replacement parts and offered free installation of new parts); Rost v. C.F. & I. Steel Corp., 616 P.2d 383, 386-87 (Mont. 1980) (owner’s failure to observe dangerous condition of elevator cable superseded liability of manufacturer); Hammond v. Nebraska Natural Gas Co., 204 Neb. 80, 86, 281 N.W.2d 520, 524 (1979) (manufacturer’s failure to warn gas company not proximate cause of accident if gas company had known of danger); McLaughlin v. Mine Safety Appliances Co., 11 N.Y.2d 62, 69-72, 181 N.E.2d 430, 434-35, 226 N.Y.S.2d 407, 412-14 (1962) (callous refusal to pass on warning held to supersede manufacturer’s conduct); Drazen v. Otis Elevator Co., 96 R.I. 114, 119, 120, 189 A.2d 693, 696 (1963) (store owner’s failure to respond to its knowledge of defects in escalator held to be proximate cause of accident, relieving manufacturer of liability); Claytor v. General Motors Corp., 286 S.E.2d 129, 132 (S.C. 1982) (mechanic’s improper pressure on lug nuts held superseding cause of automobile collision); Steagall v. Dot Mfg. Corp., 223 Tenn. 428, 439, 446 S.W.2d 515, 520 (1969) (manufacturer’s liability superseded by employee’s action in putting solvent, whose corrosive nature employee was aware of, in location where it could be spilled by person reaching for supplies); Ford Motor Co. v. Wagoner, 183 Tenn. 392, 192 S.W.2d 840, 844 (1946) (original owner’s refusal to accept free repair of defect held to be superseding cause of subsequent owner’s injury); Reed v. Pennwalt Corp., 22 Wash. App. 718, 723-25, 591 P.2d 478, 481-82 (1979) (negligence of intermediate buyer with its own safety programs is superseding cause; manufacturer not liable).

In arguably similar circumstances, other courts have refused to find a superseding cause as a matter of law. See d’Hedouville v. Pioneer Hotel Co., 552 F.2d 886, 892 (9th Cir. 1977) (although fiber manufacturer warned carpet manufacturer of fiber’s inherent flammability, fiber manufacturer not relieved of responsibility for hotel fire because carpet manufacturer was aware of risk; such knowledge not a defense when product is unreasonably dangerous because of its inherent unsuitability for the reasonably foreseeable use, but is a defense when failure to warn is basis for claim); Gordon v. Niagara Mach. & Tool Works, 574 F.2d 1182, 1189-95 (5th Cir. 1978) (applying Mississippi law) (manufacturer not relieved of duty to warn employees despite employer’s failure to warn inexperienced employees of dangers of which they were ignorant; court suggested that plate attached to machine would have been more effective than oral warnings); Neal v. Carey Canadian Mines, Ltd., 548 F. Supp. 357, 370-72 (E.D. Pa. 1982) (failure of employee to use adequate dust control, individual monitoring, or to warn of asbestos dangers not superseding cause as a matter of law even if employer intentionally failed to warn); Balido v. Improved Mach. Inc., 29 Cal. App. 3d 633, 649, 105 Cal. Rptr. 890, 891 (1972) (manufacturer advised purchaser of defect and offered to provide safety devices for $500; jury question presented on issue of whether vendee’s refusal to take up manufacturer’s proposal was superseding cause); Pepper v. Selig Chem. Indus., 288 S.E.2d 693, 696 (Ga. 1982) (manufacturer of combustible solution not relieved of responsibility by acts of rebottler); Comstock v. General Motors Corp., 358 Mich. 163, 180, 99
The options available to Westinghouse when it first learned that approximately one percent of its breakers had malfunctioned were many. That it chose to investigate the problem, devise a remedy, warn the purchaser of the dangers and offer free remedial measures is the type of response that will save lives and lead to a safer working condition. It is unfortunate indeed that this overriding policy issue received so little attention from the Gracyalny court.

A more sympathetic approach to a post-sale measure is exhibited by the Sixth Circuit in Schindler v. Lederle Laboratories. In that case, the court rejected the argument of an injured polio vaccine user that a post-sale warning of the risk of a harmful reaction should have been made to his physician by the manufacturer’s detail men in addition to inclusion of the revised warning in the vaccine’s package insert and in a medical “Red Book.”

D. Incentives

The decision to issue a post-sale warning or to undertake post-sale repairs or other remedial measures is not always an easy one. The corporate manager must assess numerous tangible and intangible factors related to costs, benefits and risks. Legal, engineering, business, humanitarian and public relations considerations may not always encourage the same response. When either issuing a warning or refraining from any action is arguably a reasonable decision in light of the circumstances, no responsible manager would fail to ask whether a risk reduction measure, which may or may not be legally required and which may or may not reduce or eliminate a future product liability problem, will intensify an existing problem by being construed as an admission that the product as presently designed and marketed is defective.

The admissibility of evidence of post-sale and post-accident remedial measures, particularly in strict product liability, is an issue surrounded by controversy. Those who favor its admissibility contend

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67. See supra note 58 and accompanying text.
68. PROD. LIAB. REP. (CCH) ¶ 9900 (6th Cir. 1983).
69. Id. at 25,166. For a more complete discussion of this case, see supra note 21 and accompanying text.
70. See authorities listed in Grenada Steel Indus. v. Alabama Oxygen Co., 695 F.2d 883, 886 n.1 (5th Cir. 1983). See also supra note 66.
that a manufacturer will not forego making post-sale product improvements because evidence of these measures may be admitted in a time-of-sale product liability case. No empirical study supports this assumption and it is naive to suggest that a measure that increases the likelihood of exposure to liability will not be a relevant consideration whenever the benefits from the measure (including safety) are marginal.\footnote{71} Fortunately, evidence of subsequent remedial measures is usually excluded in negligence,\footnote{72} and the trend, at least in the federal courts interpreting Federal Rule of Evidence 407, favors the exclusionary rule in strict liability.\footnote{73} A recent decision by the United States Court of


\footnote{72}{See, e.g., Federal Rule of Evidence 407 and numerous state counterparts, such as Ariz. Stat. Ann. R. Evid. 407 and Cal. Code of Evid. \$ 1151. Even in negligence, the subsequent measure is admissible to show ownership, control and feasibility of precautionary alternatives, as well as for impeachment purposes. Id. Maine is the only state that generally admits such evidence in negligence. See Me. Rule of Evid. 407(a). See also, e.g., Werner v. Upjohn Co., 628 F.2d 848, 856 (4th Cir. 1980)(warning concerning side effects of drug), \textit{cert. denied}, 449 U.S. 1080 (1981).}

\footnote{73}{For federal cases, see, e.g., Cook v. McDonough Power Equip. Co., 720 F.2d 829, 831 (5th Cir. 1983)(post-design modification of lawn mower not admissible because would confuse jury as to real question of whether product was defective when sold); Grenada Steel Indus. v. Alabama Oxygen Co., 695 F.2d 883, 888 (5th Cir. 1983) (subsequent remedial measures are irrelevant on issue of defect); Hall v. American Steamship Co., 688 F.2d 1062, 1066 (6th Cir. 1982) (corrective policy change to show previous unseaworthiness of vessel held inadmissible); Josephs v. Harris Corp., 677 F.2d 985, 990-91 (3d Cir. 1982) (subsequent warnings and instructions held inadmissible); Cann v. Ford Motor Co., 658 F.2d 54, 59 (2d Cir. 1981) (modification of design of transmission and change in owner's manual held inadmissible), \textit{cert. denied}, 456 U.S. 960 (1982); Oberst v. International Harvester Co., 640 F.2d 863, 866 (7th Cir. 1980)(evidence of post-accident change in bunk restraint design in sleeping compartment in truck cab was properly excluded where feasibility of alternative designs was not controverted); Lindsay v. Ortho Pharmaceutical Corp., 637 F.2d 87, 94 (2d Cir. 1980) (subsequent revisions and inserts in patient's pamphlets warning of dangers of use of contraceptive drug held inadmissible); Werner v. Upjohn Co., 628 F.2d 848, 854 (4th Cir. 1980)(warning of side effects of drug that was alternative antibiotic to penicillin held inadmissible), \textit{cert. denied}, 449 U.S. 1080 (1981); Bauman v. Volkswagenwerk Aktiengesellschaft, 621 F.2d 230, 232 (6th Cir. 1980) (modification car door latch design held inadmissible); Roy v. Star Chopper Co., 584 F.2d 1124, 1134 (1st Cir. 1978) (post-accident repairs held inadmissible), \textit{cert. denied}, 440 U.S. 916 (1979); Smyth v. Upjohn Co., 529 F.2d 803, 805 (2d Cir. 1975) (applying New York law) (evidence of post-accident warnings excluded in mass-produced drug case). \textit{Compare} DeLuryea v. Winthrop Labs., 697 F.2d 222, 227-28 (8th Cir. 1983) (evidence is admissible where strict liability is governing standard, but in failure to warn case in which standard is negligence, evidence is inadmissible \textit{with} Unterberger v. Snow Co., 630 F.2d 599, 603-04 (8th Cir. 1977) (evidence admissible on strict liability) \textit{and} Farner v. Paccar, 562 F.2d 518, 528 (8th Cir. 1977)(same). \textit{See also} Longenecker v. General Motors Corp., 594
Appeals for the Tenth Circuit, *Herndon v. Seven Bar Flying Service, Inc.*, however, runs counter to this trend. In *Herndon*, the court admitted a post-accident service bulletin requiring a post-sale design change to an aircraft. The court noted that (1) a “tortfeasor” would not risk litigation by foregoing design changes simply to avoid the use of those changes as evidence, (2) insurers would not tolerate their

F.2d 1283, 1286 (9th Cir. 1979) (question not reached as to whether Rule 407 includes subsequent remedial measures in strict liability case).


74. 716 F.2d 1322 (10th Cir. 1983), cert. denied, 104 S. Ct. 2170 (1984). The Tenth Circuit also has recently held, contrary to most other federal decisions, that state law governs the admissibility of subsequent remedial measures. Moe v. Avions Marcel Dassaulte Brequeat Aviation, 12 PROD. SAFETY & LiAB. REP. (BNA) No. 7 (10th Cir. 1984).

75. 716 F.2d at 1326-31.

76. Id. at 1327.
insured's refusing to take remedial measures,77 (3) governmental agencies as well as juries contemplating punitive damages claims would be unlikely to approve of such "callous" behavior,78 and (4) no proof exists that manufacturers even know about the evidentiary rule or adjust their behavior as a result of it.79

The court's reasoning in Herndon exhibits the need for a strict exclusionary rule. If those who seek to improve their products are blithely characterized by an appellate court as "tortfeasors,"80 and if those who decide, after weighing all relevant facts, that a post-sale remedial measure is not warranted are branded by the court as "callous," 81 then the need to insulate the post-sale decisions of corporate managers from the deliberations of a jury would seem obvious.82

77. Id. at 1328.
78. Id.
79. Id.
80. See supra note 76 and accompanying text.
81. See supra note 78 and accompanying text.
82. Additional reasons for excluding such evidence are:
(1) The probative value of such evidence is usually outweighed by its prejudicial effect because subsequent remedial measures are not evidence that the product is defective and can often be based on factors having nothing to do with defective design. These factors include technological improvements, responses to regulatory requirements, reasons of efficiency, cost reduction or aesthetics, or other reasons unrelated to safety.
(2) In design defect and failure to warn cases the standard of responsibility is virtually the same in negligence and strict liability, and therefore no basis exists for distinguishing between a negligence claim and one based on strict liability. Because strict liability warning cases ultimately ask the same "unreasonableness" question that is asked about warnings in negligence cases, the exclusionary rule should apply in all warning cases. In design defect strict liability cases, the "defect" question ultimately is the same "reasonableness" question that is asked in negligence design defect cases. That is, since "defect" in strict liability design cases has generally been held to turn on either the reasonable consumer's expectations or on the balancing of the various costs and benefits of the challenged design, and since the question the jury must ask in a negligence case is whether the challenged design is reasonable, in view of the various costs and benefits, strict liability design cases in most jurisdictions are so similar to negligence cases that the exclusionary rule should apply to the former to the same extent that it governs the latter.
(3) In most product liability cases, a negligence claim is usually joined with a strict liability claim. A juror probably would be incapable of understanding why the evidence is admissible as to one claim but not as to the other, particularly if negligence is the test under both claims.
(4) The same reasoning which excludes evidence of subsequent remedial measures in negligence cases should apply if the plaintiff is seeking punitive damages since the focus of such actions is clearly on the manufacturer's conduct rather than on the character of the product.

See Wheeler, Selected Evidentiary Issues of Importance in Product Liability Litigation, PRODUCT DESIGN LITIGATION 1023 (PLI 1981), as updated by Wheeler in
A 1984 decision of the California Supreme Court, Schelbauer v. Butler Manufacturing Co., also evinces a lack of understanding of the plight of the manufacturer when faced with the dilemma of whether to take a post-sale measure. In that case, the court held evidence of a post-accident warning admissible in strict liability. The accident occurred when Schelbauer slipped while installing roofing panels that had been oiled to prevent corrosion. The manufacturer had not received any complaints prior to this accident of a danger associated with the excess oil or the slippery condition of the panels, but shortly after the accident, it issued a warning about the slippery condition. Relying on its decision in Ault v. International Harvester Co., which sanctioned the admissibility in strict liability of subsequent changes in the product itself, the court reasoned that the decision in Ault was as applicable to a subsequent warning as to a subsequent change in the manufacture of design of the product.

The court's failure to distinguish a design change from a post-accident warning of a risk in the use of the product is difficult to comprehend. A post-accident design change is at least arguably relevant in some cases when the feasibility of that change at the time-of-sale is an issue. But feasibility of a warning of a risk of harm is rarely an issue in a product liability case as long as the manufacturer is aware of the risk of harm; allowing a plaintiff to use a warning that was motivated by his own accident as proof that the manufacturer was aware of the risk of harm prior to that accident has an undeniable boot strap quality to it.

Another difficult question concerns the admissibility of a remedial measure undertaken after manufacture and sale of a product but before an accident resulting from use of the product. A 1984 decision by the New York Court of Appeals, Cover v. Cohen, seems correct in deciding that such a measure is inadmissible to show that the product as originally manufactured was defective. The policy of encouraging
post-sale product improvements and warnings is equally applicable to pre-accident remedial measures as to post-accident remedial measures. Evidence of a manufacturer's action in either situation that is admitted is equally prejudicial and furthermore is irrelevant on the issues of time-of-sale knowledge and conditions.

Arguably, however, a post-sale but pre-accident remedial measure may be admissible on the issue of whether the manufacturer had or discharged a post-sale obligation. This question probably should turn on the nature of the measure and its relevancy under the applicable substantive law. For example, a post-sale warning, such as that involved in Cover, which disclosed the nature and seriousness of the post-sale product problem and the manufacturer's response thereto, presents the strongest case for admissibility as these are the very facts that determine whether a post-sale obligation exists and has been satisfied. Conversely, a post-sale but pre-accident design change made possible by an improvement in the state of the art should not be admissible unless the court rules that the manufacturer had a duty to warn past customers of safety related changes in the state of the art.

V. Conclusion

The principal issue in cases involving post-sale duties of product manufacturers is not whether a better warning could have been given or remedial measure undertaken. Any warning, for example, like any judicial opinion or other written document, can be improved upon with the benefit of hindsight. Rather, the fundamental issue is whether a manufacturer's response to a very real, and sometimes urgent, post-sale product problem is the type of corporate conduct that should be encouraged rather than condemned. Unfortunately, policy questions such as this usually arise in the context of personal injury actions where the "concern for the victims" is the "paramount policy."  

A large degree of uncertainty inevitably will surround the time-of-sale obligations of product manufacturers because of the numerous

91. See supra notes 70-73 and accompanying text.
92. See supra notes 74-88 and accompanying text.
93. The warning in Cover was a technical service bulletin sent to dealers thirteen months after sale of a vehicle that acknowledged that some of these vehicles may exhibit erratic idle speed.
94. See supra notes 28-30 and accompanying text.
unknown variables. A relatively higher level of predictability is not an unrealistic goal for the law of post-sale obligations. This objective, however, will be defeated if, as in Gracyalny, the courts become immersed in their efforts to conjure up factual issues for submission to the jury.