Overuse in Products Liability

David E. Gardels

University of Nebraska College of Law, david.gardels@huschblackwell.com

Follow this and additional works at: https://digitalcommons.unl.edu/nlr

Recommended Citation

David E. Gardels, Overuse in Products Liability, 57 Neb. L. Rev. 817 (1978)
Available at: https://digitalcommons.unl.edu/nlr/vol57/iss3/9
I. INTRODUCTION

This note will examine products liability cases in which an injury results in part from the "overuse" of a product. "Overuse" can be defined as the use of a product beyond its safe capacity. It is normally a use of the product in the intended manner, not use in a manner for which the product was not designed or manufactured. It is, therefore, a use of the product for its normal purpose, but a use that is too fast, too strenuous, or too much for the product's structural capacity. Examples include subjecting an abrasive wheel to excessive speed, putting too much stress on a surgically implanted steel pin, and the overinflation of a tire. These uses, because they are in the normal and intended manner, should reasonably be foreseeable to the manufacturer. That is, considering the environment of the product's use (the work place, home, or roadway) it is normally foreseeable that a product may often be used beyond its maximum capacity. The issue which must be addressed in overuse cases is whether the manufacturer or the consumer should bear responsibility for an injury caused in part by the product's overuse.

This issue may be examined from two perspectives, that of the consumer and that of the manufacturer. These perspectives should be kept in mind when analyzing each case. The most important aspect of the consumer perspective is the extent of user awareness of the dangers of product use beyond the safe capacity: is the consumer fully apprised of the inherent limitation of the product and of the risks and dangers of use beyond that limitation? The most important aspect with respect to manufacturers is the ability of the manufacturer reasonably to foresee the inherent danger of a product, including the likeli-

---

1. See notes 23 and 98 and accompanying text infra.
2. See note 59 and accompanying text infra.
3. See note 66 and accompanying text infra.
hood of its being overused, and the cost and feasibility of reducing the risk of overuse.

The first section of this note will discuss overuse in the context of warnings and design defectiveness. The second section will examine overuse in cases dealing with questions of causation. The final section will discuss overuse as related to affirmative defenses based on the misconduct of the user. It is not the purpose of this note to examine in depth the various theories of products liability,\(^5\) and the discussion will, wherever possible, apply generally to the products liability theories.

II. DEFECTIVENESS

A product may be "defective" because of an inadequacy of manufacture, warnings, or design.\(^6\) Defects of manufacture are for the most part excluded from this discussion. The safe capacity of each product discussed herein is assumed to be the result of a conscious design choice, as affected by the drafting of accompanying warnings and instructions.

A. Warnings

A distinction between instructions and warnings must be made in order to properly define the term "warnings."\(^7\) A case which illustrates this point is *McCully v. Fuller Brush Co.*,\(^8\) which dealt with a cleaning powder which was "overused." The following language was contained on the cleaning powder box: "To MAKE A GALLON OF CLEANING SOLUTION, simply dissolve one to two tablespoonfuls of FULLER ALL PURPOSE CLEANER in a gallon of hot water."\(^9\) However, the cleaner contained several chemicals well known to be dangerous to human tissue.\(^10\) The plaintiff placed an unspecified quantity of the powder in a bucket, and diluted it with water. She then used the solution continuously for four and one-half hours, frequently immersing her bare hands into the solution. By the next morning her hands were "red, burning and blistered";\(^11\) the injury required periodic medical treatment for almost three years.

The court, because of the defendant's failure to warn, revers-
ed a verdict for the defendant which had been based on the
defense of contributory negligence in failing to follow the given
instructions. Because the record was "devoid of evidence that
plaintiff was aware, or facts from which it can be said that she
should have been aware, of the product's potentially dangerous
attributes" the court held that the case should not have been
sent to the jury on such a theory. The court explained that there
is a distinction between instructions and warnings: instructions
are given to assure an effective use; warnings are given to assure safe use. The court continued:

There were no expressions of warnings or caution on the label of
the container here sold to plaintiff. In fact, it bears repeating, the
words "It's Kind to Your Hands" were printed thereon. The mixing
instructions were directory only, not imparting notice to plaintiff that
deviation therefrom might have injurious consequences.

The importance of the instruction/warning distinction is that
a product which is unreasonably dangerous may be made safe
or non-defective with a proper warning. But mere instructions,
which do not explain the danger of their violation, will not be
adequate to make a product safe. As illustrated by McCully,
the overall impression conveyed by the label is important, and
"puffing" (the statement in McCully that the product was "kind
to hands") may well affect the adequacy of a mild warning. As
the case makes clear, an overuse of a product in violation of
mere instructions will not bar a plaintiff's recovery. This
conclusion is correct because mere instructions do not convey to
the consumer an awareness of the risks or dangers of a use
more strenuous than that instructed. When a user is not ap-
prised of the fact that a product does have a maximum safe
capacity for use in the intended manner, the defendant clearly
should not be relieved of liability for a use beyond that capacity.
Such a product is "defective," and the manufacturer should
bear responsibility for the injuries from use of the product.

Another aspect of defective warnings is the determination of
when the duty to warn arises. It has been stated that there is a
duty to warn of all product dangers that are reasonably foresee-
able. This duty is related primarily to the manufacturer's per-
spective of the overuse problem. When should the manufactur-
er, considering the total environment of a product's intended

12. Id. at 680, 415 P.2d at 10.
13. Id. at 678, 415 P.2d at 10.
14. Id. at 679, 415 P.2d at 10.
15. 1 L. FRUMER & M. FRIEDMAN, supra note 6, § 8.05(1).
16. Id. § 8.05(2).
17. See, e.g., Borel v. Fibreboard Paper Products Corp., 493 F.2d 1076, 1088
use, foresee that there may be an overuse and, therefore, be under a duty to inform the consumer of the dangers of such a use?

In *Gardner v. Q.H.S., Inc.*,\(^{18}\) the plaintiff was the owner of an apartment building which had burned to the ground when hair rollers used by a tenant ignited and set fire to the building. The defendant was the manufacturer of the hair rollers which were designed to be heated in boiling water for fifteen minutes and then placed in the hair. The hair rollers were filled with paraffin which when melted would retain the heat and cause the rolled hair to curl. The tenant had placed the rollers in a pan of water as directed, but after turning the electric burner on "high," she left the room and fell asleep. The water boiled away, the rollers melted, and the paraffin ignited, starting the fire which destroyed the plaintiff's building.\(^ {19}\)

The court in *Gardner* stated that a manufacturer would be liable for injuries caused by a product if it (1) knew the product was likely to be dangerous, (2) had reason to believe the consumer would not realize the danger, and (3) failed to inform the consumer of the dangerous condition of the product.\(^{20}\) In reference to the dangerousness of the product, the court stated that the manufacturer must anticipate uses for which the product was designed and sold:

> However, he must 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 reasonably foreseeable risks of the use of his product in such an environment. These are the risks which are inherent in the proper use for which his product is manufactured.\(^ {21}\)

This language clearly demonstrates that the uses the manufacturer is required to foresee are related to the total environment of the product's use. In *Gardner*, the curlers would not have been dangerous if every user stood watch over the pan of boiling water. However, as the decision correctly points out, in the home environment, it is foreseeable that a user frequently will be called away from the stove while the product is being used in its intended manner. The overuse (allowing the pot to boil dry and the rollers to melt) is therefore foreseeable, and the manufacturer should be responsible for the results of the accident when no warning of the dangers has been given.\(^ {22}\)

---

18. 448 F.2d 238 (4th Cir. 1971).
19. *Id.* at 240-41.
20. *Id.* at 242 (relying on RESTATEMENT (SECOND) OF TORTS §§ 388, 395 (1965)).
21. *Id.* at 243 (citing Spruill v. Boyle-Midway, Inc., 308 F.2d 79, 83-84 (4th Cir. 1962)).
22. The following cautionary note was present on the label: "Rollers may be
When a duty to warn is established, the product will be non-defective only if a warning is “adequate.” *Ulrich v. Kasco Abrasive Co.*\(^{23}\) and *Fegan v. Lynn Ladder Co.*\(^{24}\) demonstrate this proposition. In *Ulrich*, the basis of the plaintiff’s complaint was inadequate warnings. The plaintiff was employed in a manufacturing plant, frequently making use of a grinding machine to which an abrasive wheel manufactured by the defendant was attached. Affixed to the abrasive wheel was a label which stated: “maximum r.p.m. 6000.”\(^{25}\) The court found that it was a well-known fact in the industry that the danger of subjecting abrasive wheels to excessive speed was that the wheel would disintegrate. Shortly after the plaintiff began to use the mechanism, the wheel disintegrated, causing parts of the wheel to strike and seriously injure him. Post-accident testing revealed that at the time of the accident the grinding machine ran at speeds of up to 9000 r.p.m.\(^{26}\)

The analysis in *Ulrich* centered on the definition of the “defective condition unreasonably dangerous to the user,” language used in the strict tort liability section of the *Restatement of Torts.*\(^{27}\) The court stated that if a product is hazardous because of a danger which might not be comprehended by the consumer, an adequate warning, affixed so that it should reach the ultimate user, will be an important factor in determining whether the product is unreasonably dangerous. Affirming a verdict for the defendant, the court held that the wheel itself was not unreasonably dangerous, stating that

> a jury could not justifiably find . . . the wheel, marked and labeled as it was, unreasonably dangerous in the sense that a prudent manufacturer of similar products fully apprised of the condition and tendencies of the product when he put it in the stream of commerce would have anticipated a substantial likelihood of injury . . . .\(^{28}\)

The statement “maximum r.p.m. 6000,” coupled with the general knowledge in the industry, made the warning adequate and, therefore, made the product safe for reasonably foreseeable uses.

Warnings may be held inadequate if the information sup-

\(^{23}\) 532 S.W.2d 197 (Ky. 1976).
\(^{25}\) “R.p.m.” is an abbreviation for “revolutions per minute.”
\(^{26}\) 532 S.W.2d at 199.
\(^{27}\) *Restatement (Second) of Torts* § 402A (1965).
\(^{28}\) 532 S.W.2d at 200.
plied is not sufficiently specific as to exactly what the safe capacity of the product is. Fegan v. Lynn Ladder Co., 29 involved a ladder to which was affixed a label, that stated in part: "A ladder is meant to carry only one person at a time. Do not overload." 30 The ladder was a twenty-four-foot extension ladder designed for commercial use, and was purchased for use by a painting crew. The ladder was being used to support a simple scaffold, which consisted of an eighteen-foot aluminum plank, one end of which was supported by the extension ladder by means of a "ladder jack," a device which hooked over rails of the extension ladder near the top. The two plaintiffs had been painting on the scaffold, about eighteen feet above the ground, for only a few minutes when the rails of the extension ladder broke, throwing the plaintiffs to the ground. 31

The court stated that the defendant had reason to know, and in fact did know, that ladders of this type would be used with ladder jacks, 32 and that there was no evidence that the danger of use of the jacks was known to the plaintiffs or should have been known to them. The court then held: "The warning given by the defendant, that the ladder was not to be used by more than one person at a time, had no obvious application to the foreseeable use of the ladder with jacks or other scaffolding. . . . [T]he jury could find that its warning was not sufficiently explicit." 33

In both Ulrich and Fegan the basic issue was whether the consumer had been fully advised of the product's safe capacity and the danger of exceeding it. Both courts concluded that if the consumer has not been made aware of the limit or the danger, the manufacturer should be held liable for the resulting injuries. In Ulrich, the fact that the user was given a specific statement of the safe capacity, and was aware of the danger of exceeding that capacity, relieved the manufacturer of liability for injuries caused by overuse. In the language of the strict tort liability theory used in Ulrich, the product was not unreason-

30. Id. at 13,683.
31. Id.
32. An interesting aspect of this case, regarding defendant's ability to foresee this particular use of the ladder, was the fact that the president of the defendant manufacturer was also the secretary of the American Ladder Institute, and had personally participated in writing that organization's "ladder safety code." For ladders of the specific type involved in the accident, the code stated that the ladder "should not be used by more than one man at a time nor with ladder jacks and scaffold planks where use by more than one person is anticipated." Id.
33. Id.
ably dangerous, and thus was non-defective. In *Fegan*, on the other hand, the warnings were deemed inadequate due to a lack of specificity. The plaintiff was not made aware of the safe capacity of the ladder for the use to which it was being put, and the manufacturer was, therefore, responsible for the injuries. Because the consumer in *Fegan* was not effectively warned of the limits of the ladder, the product was not reasonably safe.

Both cases were correctly decided on the warning issue. In *Ulrich* it is difficult to conceive of how the manufacturer could have provided a more specific warning. The only way for the grinding wheel to be overused was by spinning it too fast, and of this use the plaintiff was adequately warned. Further, the only risk was of the wheel spinning apart, and the plaintiff surely should have realized this danger. On the other hand, while a warning was given in *Fegan* that the ladder should not be used by two persons, it did not warn against the common use of the ladder to support one end of a scaffold. The manufacturer should have foreseen that some users might not translate the danger of two persons into the danger of a scaffold.

The final aspect of warnings to be examined here is the issue of to whom the warning must extend, that is, whether or not the product itself must bear a warning label. In the past, if the manufacturer supplied information with his product in the form of accompanying literature, that was often found to be sufficient.\(^{34}\) An example of such a case is *McKay v. Upson-Walton Co.*,\(^{35}\) in which the plaintiff's husband was killed when a hook on a hoist apparatus straightened out, dropping a pipe weighing 9100 pounds on the decedent. The hoist had a rated capacity of only 5000 pounds, but only the catalogue number appeared on the device. By use of this number, one could determine the rated capacity by referring to the defendant manufacturer's sales literature and to standard reference works available in the trade.

In affirming a judgment for the defendant, the court stated that a verdict for the plaintiff would have been possible only if it could have been concluded that the defendant was bound to foresee that someone would attempt to use the hoist to lift a load of 9100 pounds without ascertaining the device's load capacity. The court held the defendant was not "chargeable with

---

34. 1 L. FRUMER & M. FREIDMAN, supra note 6, § 8.03[3]. See also *Bryant v. Hercules, Inc.*, 325 F. Supp. 241 (W.D. Ky. 1970) (no duty personally to warn individual miners against stacking dynamite near blasting point); *Younger v. Dow Corning Corp.*, 202 Kan. 674, 451 P.2d 177 (1969) (no duty to warn vendee's employees of hazards of inhalation of chemical compounds when vendee had been adequately warned).

35. 317 F.2d 826 (7th Cir. 1963).
foresight of such careless and imprudent conduct on the part of a user and was not, therefore, under a duty to offer a warning on the device. The court stated that the defendant had discharged its duty to warn by making information available, and was under no duty, in order to prevent such an "abusive use," to take the extra step of labeling, which the court considered a mere convenience to the user.

It is important to note that the date of McKay is 1963. In light of more recent case law it is doubtful that the holding of that case would be followed today. An example of a more recent case on this issue is West v. Broderick & Bascom Rope Co. The defendant in West was the manufacturer of a "sling," a length of wire rope with eye hooks on each end. The sling was being used in conjunction with other ropes and with pulleys to move a large industrial machine, a use for which the sling was intended. The evidence established that the force exerted on the sling at the time of the accident was fifteen to twenty tons, and that the safe capacity of the sling for this particular use was only 2.7 tons. When pressure was applied to the rope it parted with great force, causing pieces of steel rope to lash out at great speed, one piece striking the plaintiff, causing severe injury.

The court first held that there clearly was a duty to warn of the safe rated capacity of the sling. The more difficult question for the court was whether the duty required placement of a metal warning tag on the sling itself. The evidence showed that the plaintiff and his co-workers were all journeymen ironworkers, skilled in the use of such devices. The manufacturer's literature, which stated the safe working capacity of the sling when used in various configurations, was supplied both to the employer and to the union local. Further, it was shown that the union itself published rating material for such devices, and held special training sessions for its members to ensure safe use of the devices. Because of the specialized knowledge of the plaintiff and his co-workers, the court considered the question to be very close. It held that the jury could properly find that the manufacturer had breached its duty of reasonable care in failing to warn the ultimate user of the device of its safe working capacity by means of a metal tag attached to the sling itself.

36. Id. at 828.
37. Id.
38. 197 N.W.2d 202 (Iowa 1972).
39. All the expert witnesses in the case agreed that it was almost a "religion" with ironworkers not to stand near the ropes in the position plaintiff was standing at the time of the accident. Id. at 207-08.
40. The court relied on Restatement (Second) of Torts § 388, Comment n.
The verdict for the plaintiff was, however, reversed on unrelated grounds and remanded for a new trial.\textsuperscript{41}

As \textit{West} illustrates, the scope of the duty to warn has expanded in recent years.\textsuperscript{42} A well-stated version of the current rule, which sums up the warnings area, is the following: "Where warnings . . . are required to make a product non-defective, it is the duty of the manufacturer to provide such warnings in a form that will reach the ultimate consumer and inform of the risks and inherent limits of the product."\textsuperscript{43}

A decision on the basis of warnings must be reached as an initial step in overuse cases. When the consumer has not been made aware of the inherent limitations on a product's safe use, it is clear that a manufacturer should bear the cost of compensation for the injuries caused by use in the intended manner beyond that limitation. It is likewise clear that the manufacturer can often foresee that the consumer, in the environment of the home or work place, will use products beyond an inherent safe capacity. A more difficult question arises when it has been decided that the warnings are "adequate."

\section*{B. Design}

It was previously stated that a product which would otherwise be defective or unreasonably dangerous can sometimes be rendered safe by the use of an adequate warning.\textsuperscript{44} As illustrated by the foregoing section, many overuse cases are decided upon a warning analysis. The problem which will be addressed in this section is a narrow issue within the broad category "defective design." The issue is whether a manufacturer should be required to design a product so that it \textit{cannot} be overused, or so that it will be safe even when being overused.\textsuperscript{45}

\begin{flushright}
(1965), which states in part:
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.
\end{flushright}

\textsuperscript{41} 427 F. Supp. at 215.
\textsuperscript{42} 1 L. FRUMER & M. FRIEDMAN, supra note 6, §§ 8.01, 8.03[3].
\textsuperscript{44} See § II-A of text supra.
It is suggested that this question may be answered by the careful application of a risk-utility balancing test which examines the product and its warnings to determine whether the product should be altered in design to make it safe for those who use it beyond its safe capacity. The suggested analysis takes the form of the risk-utility test, stated in a recent "crash-worthiness" case, *Bowman v. General Motors Corp.* In its discussion of the problems of examining a manufacturer's conscious design choice, the court in *Bowman* observed that there is no objective standard by which a jury can measure an alleged defect. "This result stems, at least in part, from the fact that a conscious design choice necessarily involves a trade-off among safety, utility, and cost." The court used the unreasonable dangerous standard in framing its design analysis: "As we see it, the unreasonably dangerous concept, properly formulated, posits a risk-utility balancing test pursuant to which the jury makes a judgment as to the social acceptability of the conscious design choice trade-off."

*Bowman* adopted a four factor balancing test, which may be used to consider whether a product, as designed and with its accompanying warnings, is unreasonably dangerous. The following factors are to be considered when applying this balancing test: (1) the likelihood that the product as marketed will result in injury, (2) the seriousness of the potential injury, (3) the ability of the manufacturer to eliminate the unsafe characteristics of the product, and (4) the dangerousness of the product beyond that which would be contemplated by the ordinary user.

This test will be applied to two cases involving an overuse fact pattern. The first is *West v. Broderick & Bascom Rope Co.*, discussed above, in which a wire rope with a specific

47. *Id.* at 241.
48. *Id.* at 242. The notion that the courts are a proper place to make such technical design choices has not been universally accepted. The leading article asserting that courts are not competent to decide conscious design cases, which provoked much discussion of the point, is Henderson, *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication*, 73 COLUM. L. REV. 1531 (1973). For an excellent rebuttal of Henderson's article, and his reply thereto, see Twerski, *supra* note 45; Henderson, *Design Defect Litigation Revisited*, 61 CORNELL L. REV. 541 (1976).
51. 197 N.W.2d 202 (Iowa 1972). *See* note 38 and accompanying text *supra*. 
rated capacity broke, seriously injuring the plaintiff, because it was being used in excess of its safe capacity. For present purposes, it will be assumed that the warning of safe capacity was adequate, and was present on the rope itself as the court held it should have been. It was admitted in West by all parties that the consequences of a rope breaking in a moving operation were very serious, and that safety required careful consideration of the capacity of the ropes used to maneuver heavy machinery. The danger of the product was apparently well known to the ironworkers, and the likelihood of ropes breaking in such operations was also known to be fairly great. The most important of the factors in this particular example is, however, the ability of the manufacturer to eliminate the unsafe characteristics of the product. It would of course have been possible for the defendant to manufacture a wire rope of greater strength, and perhaps one strong enough to withstand the use to which the rope in West was being put. But making the rope that strong would have probably made it too inflexible and heavy for most of the uses for which this rope was intended and desired. Therefore, with these assumptions, it is likely that a risk-utility analysis would result in a finding that a wire rope, marketed with proper warnings, would not be unreasonably dangerous.

An example of a case in which the use of the risk-utility test would produce a different result than that actually reached is Turner v. Manning, Maxwell & Moore, Inc. In Turner, the plaintiff and his co-workers were using a one-half ton hoist in an attempt to break up a large mass of scrap metal called a “freeze-up.” This freeze-up resulted from an incomplete melting process in the recycling section of the employer’s plant. Warnings which accompanied the hoist, and which were in the possession of the employer, warned that the hoist should not be overloaded, that the weight of each object to be lifted should always be ascertained before a lifting attempt was made, and that the load should always be free of obstructions.

From the standpoint of a risk-utility analysis, what is interesting about the fact situation of Turner is the nature of the accident and the insignificant cost of preventing it. The hook on the upper surface of the hoist, by which it hung from a movable boom, was “open-throated.” The accident occurred when plaintiff attached a rope from the hoist to the mass of metal and

52. 216 Va. 245, 217 S.E.2d 863 (1975). The case was decided on the theory that it was an unforeseeable misuse of the product to use it in the manner in which it was being used at the time of the accident, and the defendant prevailed.

53. Id. at 252, 217 S.E.2d at 869.
signaled a co-worker to activate the hoist, hoping to break off a part of the mass. The hook by which the hoist rope was attached to the load suddenly broke free, causing a "backlash" which jarred the hoist off the boom.54 The falling hoist struck the plaintiff, causing serious injuries. It was undisputed that the accident could have been prevented by a safety device to close the throat of the hook, which was in fact offered by the defendant as "optional" equipment. The cost to the manufacturer of this device was only fifty-five cents.55

In *Turner*, the likelihood of injury was probably small, since even the plaintiff's experts could not cite another instance of a hoist falling from its position due to an open throated hook. The seriousness of the potential injury, however, was very great. It could also fairly be stated that the dangerousness of the product should have been well known to the user, both because of the warnings and the danger that should have been contemplated by an ordinary user in plaintiff's position. The decisive factor, however, should be the trivial cost of the safety device compared with the cost of the hoist. The risk-utility balancing concept, which was not used in *Turner*, should have resulted in a verdict for the plaintiff. The insignificant cost of the safety device, and the fact that it would not reduce in any way the utility of the product, should, when considered with the seriousness of the potential injury, make the product unreasonably dangerous.

The application of a risk-utility balancing test to a product with "adequate" warnings is a step which need not necessarily be made separately from a warning analysis. It is suggested, however, that such a test could be used after a warning analysis to be sure that the product is indeed safe for the ordinary consumer. There are certainly many circumstances in which an overuse or abusive use of a product should bar recovery by an injured user. Such a use should not, however, bar recovery in a case like *Turner*, in which the cost of preventing the danger was so small.

The focus of the warning analysis is on whether the consumer has been made aware of the limitations and dangers of the product. The focus of the design analysis, with a risk-utility examination, is on the manufacturer. This balancing process seeks to determine if the manufacturer should go beyond warning of a foreseeable overuse and be required to redesign the product or remove it from the market. The application

54. *Id.* at 248, 217 S.E.2d at 866.
55. *Id.* at 253, 217 S.E.2d at 869.
of a risk-utility test to the entire product at some point in a court's analysis should result in a more just distribution of losses in cases involving the use of a product beyond its safe capacity.

III. CAUSATION

Causation is, of course, an essential element of a plaintiff's case in every products liability action. After plaintiff establishes that a product is defective, causation must be shown, that is, the defect must have been the cause in fact and proximate cause of the accident.\(^{56}\) What creates some confusion with regard to the causation concept is that the same circumstantial evidence used by the plaintiff to prove defectiveness may be relied on to establish causation.\(^{57}\) As one court has put the issue, "use different from or more strenuous than that contemplated to be safe by ordinary users/consumers, that is, 'misuse' would . . . refute a defective condition or causation."\(^{58}\) Discussed in this section are overuse cases in which causation issues figure prominently.

A. Cause in Fact

In *Stewart v. Von Solbrig Hospital, Inc.*,\(^{59}\) the plaintiff had suffered a severe fracture of the tibia of his left leg, necessitating the insertion of a "Rush pin"\(^{60}\) to stabilize the fracture. The plaintiff's leg was in a cast for more than one year. When the doctor removed the cast, he strictly instructed the plaintiff that he was not to walk or place his weight upon the leg as it was not yet completely healed. When plaintiff returned to the doctor one week later, complaining of pain, it was discovered that the metal pin was broken. The plaintiff admitted that he had walked on the leg without crutches several times.\(^{61}\)

The plaintiff sued the pin manufacturer, contending that the pin was defective. In support of his case, plaintiff introduced extensive scientific analysis of the pin which indicated the pres-

---

60. This device is essentially a stainless steel rod.
61. 24 Ill. App. 3d at 600-03, 321 N.E.2d at 429-31.
ence in the pin of numerous "inclusions" and the existence of scratches on its surface. An expert testified for the plaintiff that without the inclusions and scratches the pin would have been fifty percent stronger. Experts testified for the defendant that the purpose of a Rush pin was merely to stabilize a fracture, that it was not meant to bear a person's weight until a fracture was completely healed, and that walking on an unhealed leg would be enough to cause breakage of a pin.

Both the trial and appeal in Stewart centered on causation. The trial court concluded that none of the evidence pointed to the fact that the "defects" were the cause of the break. Instead, the evidence was found to show that even if the Rush pin had been of the purest quality, with no defects at all, plaintiff's act of walking on the unhealed leg would have caused the break. The appellate court affirmed the judgment for the defendant.

Lavella v. Firestone Tire & Rubber Co., was also decided on the basis of cause in fact. The court rejected evidence produced by the plaintiff that the tire involved contained a manufacturing defect, and held that the cause of the tire's explosion was the manner in which the plaintiff attempted to mount the tire on the wheel or "rim." Shortly before the accident, some of the plaintiff's co-workers had mounted the tire, but as the car was driven away from the garage, it was discovered that the tire was not properly "seated" on the rim. The improper mounting apparently caused a weakness in the "bead" of the tire. The plaintiff had some difficulty remounting the tire, and tried to force the tire into place by rapidly over-inflating it. At that point, the tire exploded injuring the plaintiff. The court concluded that the plaintiff failed to prove the explosion was caused by defective manufacture of the tire, and dismissed the complaint.

Lavella and Stewart both involved an overuse of a product. In each case the plaintiff attempted to prove that the product contained a manufacturing defect which was the cause of the accident. In each the defendant proved that an overuse, and not a defect of manufacture, was the cause in fact of the accident. Both conclusions appear to be correct as to the existence of a

62. "Inclusions" are particles of foreign matter within a metal object which make it weaker than metal of greater purity.
63. 24 Ill. App. 3d at 601, 321 N.E.2d at 450.
64. Id.
65. Id. at 604, 321 N.E.2d at 432.
67. Id. at 12, 682 n.4.
68. Id. at 12, 681.
manufacturing defect; however, the question of whether the manufacturer should improve the product's safety should also be asked in such cases.\textsuperscript{69}

A defective design analysis was considered by the court in \textit{Stewart} without explicit recognition. The court discussed the function of the rod which was, according to testimony, not to bear a person's weight, but merely to stabilize a fracture while the bone healed. One of the witnesses testified that it would not be desirable to have a rod serve as a weight bearing device.\textsuperscript{70} This would go to the risk-utility factor of the manufacturer's ability to make the product safer. The usefulness and desirability of the rod was that it would assist the bones in correctly growing into place. A pin or steel device large enough to support a person's weight while the fracture was unhealed apparently would not have been beneficial in healing the fracture.

The \textit{Lavelle} court did not consider the issue of improving the product's safety. However, if making a tire so rigid that it cannot be blown apart by excess air pressure when improperly mounted would make it impractical for use as a tire, it may be assumed that a risk-utility balance would also result in a verdict for the defendant in such a case.

A cause in fact analysis may properly be utilized to establish whether the overuse of the product or a manufacturing defect caused the accident. What should be recognized in the overuse context is that it does not decide whether the manufacturer has a duty to design a better and safer product. While that decision may be implicit in some decisions, as it was in \textit{Stewart}, it should not be ignored by the parties or the court in the consideration of a case involving product overuse and a question of cause in fact.

B. Proximate Cause

Proximate cause, an often troublesome concept in tort law, involves the idea that liability must be limited in every case by the requirement that there be "some reasonable connection between the act or omission of the defendant and the damage which the plaintiff has suffered."\textsuperscript{71} The "reasonable connection" is often established by a demonstration that the type of injury suffered by the plaintiff was "reasonably foreseeable" by the manufacturer.\textsuperscript{72}

\textsuperscript{69} See § II-B of text \textit{supra}.


\textsuperscript{71} W. PROSSER, \textit{supra} note 5, § 41, at 236.

One way in which the proximate cause-foreseeability analysis has been used in cases involving overuse, has been to bar the recovery by stating that the manufacturer will not be held to have foreseen that the product will be used in violation of adequate warnings. In Holbrook v. Koehring Co., a crane collapsed when being used to lift a load 19,000 pounds beyond its maximum capacity. The court affirmed the rejection of an instruction requested by the plaintiff that would have allowed the jury to find that overuse of this type was foreseeable. It would have been an error to so instruct the jury, the court held, when the plaintiff was using the crane beyond its known maximum capacity.

The type of analysis used in Holbrook strains the term "foreseeability" because the manufacturer should be able to foresee that a product will likely be used beyond its safe capacity, or it would not have given the warning. The foreseeability analysis in the overuse context, therefore, is frequently shifted back to a warning analysis: what should the defendant have foreseen and thus warned against. For example, in Gardner v. Q.H.S., Inc., the case which involved paraffin-filled hair rollers setting an apartment building on fire, the court first concluded that the boiling of the rollers until the water completely evaporated was foreseeable, and the manufacturer, therefore, had a duty to warn of the danger of such an occurrence. The warnings given were held inadequate for that purpose. The court then considered the defendant's argument that the actions of the user of the rollers, who fell asleep and allowed the pot to boil dry, were the sole proximate cause of the fire. Referring to the warning discussion, the court said it was clear that a jury could well have concluded that this exact chain of consequences should have been foreseen, and that the user's acts did not, therefore, relieve the manufacturer of liability.

In summary, it should normally be reasonable to foresee that a product, which has an inherent maximum safe capacity when being used in its normal and intended manner, will likely be used beyond that capacity by an ordinary consumer. A warning should, therefore, be required. In other words, the manufacturer should be responsible for (that is, the product's condition should be the proximate cause of) every use beyond the maximum safe capacity unless an adequate warning has been given.

73. This concept was expressed in the misuse-defense context in Sun Valley Airlines, Inc. v. Avco-Lycoming Corp., 411 F. Supp. 598, 602 n.4 (D. Idaho 1976).
75. Id. at 595, 255 N.W.2d at 699-700.
76. 448 F.2d 238 (4th Cir. 1971). See note 18 and accompanying text supra.
This may account for the number of cases in which the warning issue is central in the overuse context.

IV. DEFENSES

Overuse may also be analyzed as an affirmative defense. The rationale of the products liability defenses most used in the overuse context—misuse and assumption of risk—is that there are some uses of a product by a plaintiff for which the manufacturer should not be held responsible.

If a consumer employs a product in some extraordinary manner, and encounters a known danger in the course of his conduct, the doctrine of product misuse will bar recovery from the manufacturer. The adventurous consumer has voluntarily placed himself in a category distinct from the normal consumer who forgoes the pleasure and convenience of using products in novel but dangerous ways. The rationale of loss distribution does not reach his case because it is unfair to force consumers who forgo these additional benefits to subsidize those individuals who voluntarily take the additional risks.7

Such a rationale would appear to apply as well to all defenses based on user's misconduct.8

A. Assumption of Risk

The most simple definition of assumption of risk in the strict tort context is conduct by which the plaintiff voluntarily and unreasonably proceeds to encounter a known danger.7 This defense recognizes the idea that a manufacturer cannot protect against every use of his product and the consumer, therefore, must be allowed to "weigh safety values against other benefits, at least under circumstances when they can perceive the risks and benefits with relative clarity."8 This concept seemingly applies to cases involving plaintiff overuse.

A case which relied on the assumption of risk defense is

78. Contributory negligence will not be discussed in this note. The concept, in the sense of failure to discover a defect or to guard against it, is not particularly useful in the overuse context where the safe capacity of a product is made clear to the consumer. This definition of contributory negligence is taken from Restatement (Second) of Torts § 402A, Comment n (1965). Furthermore, it is not a defense to strict tort liability; assumption of risk and misuse are defenses to all three products liability theories. 63 Am. Jur. 2d Products Liability §§ 32, 33, 100, 101, 149, 150 (1972).
79. Restatement (Second) of Torts § 402A, Comment n (1965).
80. Holford, supra note 77, at 89.
Stark v. Allis-Chalmers & Northwest Roads, Inc. 81 In Stark the husband of the plaintiff was killed while operating a front-end loader when the rear of the tractor pitched up, throwing him over the hood of the loader. He was crushed between the hood and the “bucket.” The court held that there was sufficient evidence from which the jury could have found an assumption of risk by the deceased, and affirmed a verdict for the defendant. 82 The record revealed that the deceased was an experienced operator of front-end loaders. The machine in question was new, but was not stable when it was operated at excessive speed with the bucket carried too high and overloaded. The deceased was operating the machine in this manner at the time of the accident. The decedent apparently had knowledge of the danger of being thrown off the machine, since he had termed the new machine a “bucking bronko.” He was also found to know that the machine was stable if not operated in a reckless manner. As to voluntariness, it was found that he had not been ordered to proceed in that fashion (as is often the case in on-the-job products liability actions) but had been specifically counseled by a fellow employee to operate the machine more safely. 83 The reasonableness of the decedent’s action was not in issue as it had not been properly raised at trial. However, it would seem that the court would have allowed a jury finding of unreasonableness to stand under these facts.

Proctor & Gamble Manufacturing Co. v. Langley 84 is a case in which assumption of risk could have been well applied to the facts. Instead, the court decided for the defendant manufacturer on several other grounds, including misuse and a finding that the product was not defective.

The plaintiff in Langley purchased a home permanent, manufactured by the defendant, which had extensive instructions and warnings on the package. The label directed the plaintiff to make a test curl before using the hair waving solution, and to stop the procedure at once if the hair in the test patch became gummy, discolored, frizzy, or brittle. What made the case particularly appropriate for assumption of risk is that the plaintiff admitted during the trial that she had read the label and had understood clearly the instructions and warnings. Plaintiff, after reading the label, made the test curl by applying the solution for only one-half of the time directed for the test, and then applied the liquid to the rest of her hair, allowing it to

82. Id. at 401, 467 P.2d at 856.
83. Id. at 401, 467 P.2d at 856.
remain on her hair for *twice* the instructed period. As a result the plaintiff's hair was badly damaged. The elements of assumption of risk—voluntariness, appreciation of the danger, and unreasonableness of the decision so to use the product—would all appear to be present, and assumption of risk could have been correctly applied to these facts.

Assumption of risk has not been as widely used in the overuse fact situation as might be expected. One reason for this perhaps is that the elements of voluntariness, unreasonableness, and knowledge of the danger are difficult to prove in many cases. While in *Stark* the deceased was quoted as describing his awareness of the danger, and in *Langley* the plaintiff admitted reading and understanding the warnings, such clear facts of voluntariness and knowledge of the danger will seldom exist.

What the *Stark* court and others have neglected to consider is whether the manufacturer should have a duty to prevent the consumer from assuming the risk in the first instance. One commentator has suggested that an additional inquiry should be made in the assumption of risk analysis. This commentator would impose, prior to the use of an assumption of risk analysis, the use of a duty analysis which would ask: "[I]s it the desire of the law to impose a duty upon defendants to preclude plaintiffs from choice-making?" The suggested analysis would examine the product and the environment of its usage, "taking into account the kind of policy considerations which are best expressed within the framework of tort duty law." This scheme would first determine, based on policy considerations of risk and social utility, whether the manufacturer has a duty to prevent plaintiffs from choosing to use the product in a dangerous manner. If such a duty is found, the case would then be resolved in favor of the plaintiff. It is only after it is determined that the consumer should be allowed to make a choice to encounter the danger that the assumption of risk examination should come into play.

It may be true that the courts frequently achieve the correct decision based on a traditional assumption of risk analysis, but the addition of this explicit duty consideration should ensure a

85. Id. at 775.
87. Twerski, *supra* note 86.
88. Id. at 4 (emphasis in original).
89. Id. at 51.
better result. In *Langley* 90 an application of such a duty analysis would likely produce the same result. It is probable that the small risk of temporary harm to the hair, when coupled with the desirable result of the product when used correctly, would result in a finding that there is no duty to preclude the plaintiff from choice making. This would seem to be the kind of product where consumers, properly warned, should be given the choice of proceeding with the use of the product.

On the other hand, *Stark v. Allis-Chalmers & Northwest Roads, Inc.*, 91 is the type of case in which a duty analysis could have produced a different result. Given the magnitude of the danger, along with the likelihood that at sometime a driver would, under the pressure of the work place, operate the machine with haste and without great care, *Stark* may be a situation in which the manufacturer should be precluded from giving users a choice. The machine could perhaps have been made safer by the addition of a safety bar, 92 or the use of a smaller bucket, or one which could not be carried as high—any of which could have improved the safety and stability of the machine. If any of these changes were feasible, and would not significantly impair the product's usefulness, the manufacturer should have been under a duty to preclude the plaintiff from encountering the danger and "overusing" the machine in this manner.

The assumption of risk analysis fits the overuse fact pattern well. In this context, where the product carries an adequate warning and does not contain a manufacturing defect, the assumption of risk analysis outlined above considers the two key factors which should be examined in every overuse case—manufacturer foresight and consumer awareness. The initial duty analysis examines the problem of the manufacturer's ability to foresee the dangers of his product as well as the feasibility of making the product safer. Then the analysis of whether the plaintiff has voluntarily and unreasonably encountered the known danger examines the consumer's awareness of the product's safe capacity. If a plaintiff knows and appreciates the danger of using the product, and voluntarily and unreasonably

---

92. The plaintiff brought up a negligent design theory on appeal, specifically alleging the accident could have been prevented by the addition of an inexpensive safety bar. She was precluded from pursuing this theory on appeal, however, because she had failed to assert the theory during discovery or at trial. *Id.* at 403, 467 P.2d at 857.
proceeds nevertheless, the case should be decided in favor of the defendant manufacturer.

B. Misuse

Misuse as a defense concept has also been applied in the overuse fact situation. Misuse has been termed "abnormal handling"[^93] and has been defined as a use of a product that is not foreseeable.[^94]

Since an overuse is a use in the intended or normal manner beyond the product's safe capacity, neither of these definitions fits the overuse situation well. Furthermore, such a use should normally be foreseeable by a manufacturer of a product with a maximum safe capacity.[^95] The confusing terminology of "abnormal" and "unforeseeable" use has nonetheless been used to limit a manufacturer's liability when a product has been used beyond its safe limits, provided that the limits and dangers are made apparent to the user. In other words, the manufacturer will not be held responsible for the use of a product in violation of adequate warnings of safe capacity, not because he could not foresee that such a violation would never occur, but because a reasonable consumer, adequately warned, will not make such a use of the product. This of course embodies the policy that the loss distribution rationale should not apply to such cases.[^96] In other words, a manufacturer will not be held responsible for injuries caused by a use of a product "so unusual that the average consumer could not reasonably expect the product to be designed and manufactured to withstand it."[^97]

**McCurate v. Norton Co.**[^98], involved the use of an abrasive wheel manufactured by the defendant. The wheel was attached to a grinding machine which was not manufactured by the defendant. The plaintiff was an experienced grinder, frequently using the machine in the course of his employment in a manufacturing complex. Stamped on the wheel were the words "MAX 2545 RPM." The court stated that the plaintiff had used the grinding machine almost daily, and that he knew the grinder was capable of turning at a speed of up to 18,000 r.p.m. The plaintiff also knew that the words stamped on the wheel indicated the maximum safe-operating speed for that particular

[^93]: Restatement (Second) of Torts § 402A, Comment h (1965).
[^95]: See § III-B of text supra.
[^96]: See note 77 and accompanying text supra.
wheel. The plaintiff did not use any device to measure the speed of the grinder, but adjusted the speed to what he estimated to be 2500 r.p.m. The wheel disintegrated before plaintiff touched it to the work, causing the injury. The plaintiff apparently had no evidence to present on the existence of the defect except for fragments of the wheel and the occurrence of the accident. The court noted that “the testimony presented by the [defendant] that there was an unreasonable use on the part of the [plaintiff] contrasts with the absence of evidence . . . that the wheel was in defective condition.” 99 The court went on to recognize that such misuse was a defense to strict tort liability and was properly used here to refute the allegation of defective condition.

In Procter & Gamble Manufacturing Co. v. Langley, 100 discussed above with reference to assumption of risk, one ground of the verdict for the defendant was the defense of misuse. The court was “of the opinion that Mrs. Langley's violation of the plain warnings and instructions was a misuse of the Milk Wave Lilt and constitute[d] a defense to her cause of action.” 101 The court thought that this was an especially strong case of misuse because the warnings of proper use were plain and explicit and had been read by the plaintiff.

Turner v. Manning, Maxwell & Moore, Inc., 102 discussed in the design section above, was also decided on the basis of misuse. The product was safe when used in a normal manner, and for loads which were within the one-half ton capacity of the hoist. The use to which the product was being put was, the court held, a clear misuse of the product.

Misuse is not, of course, successful in every case in which it is presented as a defense. In Singer v. Walker, 103 the plaintiff was using a fourteen ounce geologist's hammer, “guaranteed unbreakable in all normal use.” 104 Plaintiff found an approximately three-pound quartz rock on an afternoon outing, and in an attempt to break the rock open, struck it as hard as possible with the hammer. A piece of steel broke off from the hammer,

99. Id. at 406-07, 69 Cal. Rptr. at 495-96 (emphasis in original).
101. Id. at 778. The court relied on RESTATEMENT (SECOND) OF TORTS § 402A, Comment j (1965), which states in part: “Where a warning is given, the seller may reasonably assume that it will be read and heeded; and a product bearing such a warning, which is safe for use if it is followed, is not in defective condition, nor is it unreasonably dangerous.”
104. Id. at 92, 331 N.Y.S.2d at 825.
striking the plaintiff in the eye, necessitating its removal. The defendant manufacturer alleged that the hammer was being misused, that is, used in an abnormal manner for which the product was not manufactured or guaranteed. Experts for defendant testified that such a small hammer would foreseeably be used only to chip the edges off a rock of this size, and was not meant to break open such rocks. Instead, defendant maintained, a chisel or small sledge hammer would be used to break rocks open. The court was unconvinced by this assertion, which it stated "presents a rather subtle distinction between chipping and breaking." The court held that it was a question of fact whether such a use was an unforeseeable misuse of the hammer, and affirmed a verdict for the plaintiff.

In order to better apply the misuse defense to overuse cases it is suggested that the analysis considered above in connection with assumption of risk be used with the misuse defense as well. Under such an analysis, an overuse should not bar a plaintiff's recovery unless the manufacturer has met his duty to design the product so that the consumer is not faced with the choice of encountering unreasonable dangers. The clearest example of how such an analysis should work is the Turner decision. The same kind of risk-utility balancing should be used to reach a policy decision on whether or not the product, as manufactured and marketed, should be available for consumer use. As discussed in the design section, the fifty-five cent cost of a safety device that would have prevented the accident should have outweighed the admittedly small likelihood of the hoist being "unhooked," even by such an abusive use. In spite of the fact that the use in that case was clearly in violation of the adequate warnings of the product's safe capacity, sound public policy should require that the minor adjustment be made to the product. Again, such an analysis may be inherent in the holdings of most courts on an asserted misuse defense, but separate recognition of the duty concept should provide a more desirable social result.

Once this question of the manufacturer's ability to foresee and prevent unreasonable risks has been considered, the misuse concept should be applied. The misuse question applied to overuse cases should not ask whether the manufacturer could.

105. Id. at 93, 331 N.Y.S.2d at 827.
106. Id. at 94, 99, 331 N.Y.S.2d at 827, 832.
107. See Twerski, supra note 86; text accompanying note 86 supra.
109. See note 52 and accompanying text supra.
foresee the overuse (which should normally be foreseeable) but whether this use was a "use . . . so unusual that the average consumer could not reasonably expect the product to be designed and manufactured to withstand it." This focuses upon the consumer awareness of the product's safe capacity and the dangers of exceeding it. For example, in *McCurter v. Norton Co.*, the average consumer of an industrial grinding wheel, once apprised of the maximum capacity and the danger, could not reasonably be expected to use the product beyond the safe capacity. On the other hand, in *Singer v. Walker*, it was correctly held that there was no misuse, because the average consumer could not be expected to consider the use of a geologist's hammer to break a rock to be a use that the product would not withstand. If the suggested analysis is followed, the misuse defense will examine both the manufacturer's ability to foresee the danger and to improve his product, and the consumer's awareness of the safe capacity of the product. This complete misuse defense would be a valid method of examining overuse cases and, if correctly applied, should properly allocate the losses from product-caused injuries.

113. In the cases discussed in the defense section, the successful assertion of the defense by the defendant completely barred the plaintiff's recovery. This need not be the case in all situations, however, and the state of the law on this point is now undergoing a transformation.

If the action is based on negligence, the usual negligence rules of the jurisdiction will apply as to whether the conduct of the plaintiff which is a proximate cause of the accident in conjunction with the negligence of the defendant will bar plaintiff's recovery, or will merely serve to reduce the plaintiff's recovery by the application of comparative negligence.

In strict tort liability, there is a split among the states as to whether or not a misuse, assumption of risk or other act of the plaintiff, which is a proximate cause (but not the sole proximate cause) of the accident, will bar plaintiff's recovery. The rule in some states is that plaintiff's recovery will be barred completely. 63 AM. JUR. 2D *Products Liability* § 22 n.11 (1972). The rule in other jurisdictions is, however, that plaintiff's acts or negligence which are a contributing proximate cause will not bar plaintiff's strict liability recovery unless the plaintiff's acts are the sole proximate cause of the injury. *See*, e.g., Vlahovich v. Betts Machine Co., 101 Ill. App. 2d 123, 242 N.E.2d 17 (1968), aff'd, 45 Ill. 2d 506, 260 N.E.2d 230 (1970); Post v. Manitowoc Engineering Corp., 88 N.J. Super. 199, 211 A.2d 386 (1965); 63 AM. JUR. 2D *Products Liability* § 22 n.12 (1972).

Another possibility is the application of a rule that will reduce, but not bar, plaintiff's recovery by the application of the rules of comparative negligence to strict liability actions. Texas recently adopted this rule in *General Motors Corp. v. Hopkins*, 548 S.W.2d 344 (Tex. 1977). *See also*
V. CONCLUSION

Overuse, as defined in this note, is a use beyond a product's safe capacity. The foregoing discussion has presented several of the principal ways in which courts have examined the overuse fact pattern. There are, of course, many cases in which such a use properly should bar or reduce a plaintiff's recovery. However, it is suggested that additional attention should be devoted in each case to the question of whether the manufacturer should have the duty to prevent such an overuse.

In warning cases the courts determine, on the basis of what kinds of uses are foreseeable, the things that a manufacturer is required to warn against. Unfortunately, as the defective design section suggested, some courts have stopped with the proposition that if the warnings are adequate, no further duty exists on the part of the manufacturer. It is submitted that the entire product—the physical product together with its accompanying warnings and instructions—should be subjected to a risk-utility balancing process to determine if the goal of optimal product safety requires that the manufacturer make design changes in the product.

Overuse of a product should, of course, be a bar to recovery when the product has been found to be safe and nondefective, or when the overuse of the product rather than some "defect" is found to have been the cause in fact of the injury. The cause in fact issue cannot, however, be considered independently of the other issues discussed herein, and care must be taken in every case to assure that, in addition to a finding that there is no defect of manufacture, warning, or design, there is not a duty to further improve the product to prevent such an overuse.

Courts have generally not used the proximate cause concept to limit manufacturers' liability in the cases discussed herein, probably in part because the foreseeability question was usually taken up under the heading of the adequacy of the warning or design. Moreover, an "overuse" of a product by consumers is normally quite foreseeable. The manufacturer thus would be
proximately responsible for such overuse-caused injuries, unless liability is cut off because of the adequacy of warning and design, cause in fact, or one of the defenses.

The defenses of assumption of risk and misuse have been frequently used in overuse cases to limit a manufacturer's responsibility for product caused injuries.\textsuperscript{118} At some point in a sound consideration of an asserted defense, it is submitted that a court should consider the question of whether the duty exists to remove the product from the market or prevent the risk of danger from overuse.

Under any of these three doctrinal approaches to cases involving product overuse, two interrelated aspects of the problem should be kept in mind. The first is the scope of the manufacturer's duty reasonably to foresee the uses to which a product will be put and its duty to design a safe product. One factor which should be an element of the manufacturer's duty is a requirement to foresee the total environment of a product's use, which should normally include overuse. The other side of the coin and the second important perspective of product overuse is the extent of consumer awareness of the product's safe capacity, which again must be related to the total environment of the product's use.

If each case is examined from both of these perspectives, the rules of warning, causation, and defense will not be applied in a mechanical fashion, and sound results should be promoted. There are many cases, particularly where the consumer has not been adequately warned of the product's capacity, in which the manufacturer should be liable for the overuse-caused injuries. There are also cases in which a sound risk-utility analysis will require that the manufacturer be held liable even when adequate warnings are present, because it has not fulfilled its duty to make the product safe for reasonably foreseeable uses—including overuse. If the consumer is aware of the risks and dangers, however, and proceeds to overuse the product, he or she should be responsible for the injuries which result from overuse. The considerations suggested in this note will not make the manufacturer liable for every overuse; they should, however, assure that proper attention is given to both the manufacturer's duty and the scope of consumer awareness of a product's capacity. Such considerations should encourage sound judicial decision making in products liability cases which involve overuse.

\textit{David E. Gardels '79}

\textsuperscript{118} See § IV of text \textit{supra.}