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Product Defects Causing Commercial Loss: The Ascendancy of Contract over Tort

WILLIAM K. JONES*

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I. INTRODUCTION

Cayuga Harvester, a large-scale farmer, purchased a harvesting machine from Allis-Chalmers.¹ The machine malfunctioned and Cayuga was unable to harvest its crop.² When Cayuga sued for

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1. *Cayuga Harvester, Inc. v. Allis-Chalmers Corp.*, 95 A.D.2d 5, 465 N.Y.S.2d 606 (1983).

2. *Id.* at 7, 465 N.Y.S.2d at 609.

breach of warranty, seeking \$10 million for its lost crop, Allis-Chalmers relied on a contractual provision that excluded recovery of consequential damages of this kind.³ The court observed that allowance of Cayuga's claim could result in a recovery many times the purchase price of the machine and that "[i]t defies reason to suppose that [Allis-Chalmers] could have intended to assume such risks."⁴ The court sustained the contractual limitation on liability even though it was shown that Cayuga had no choice in the matter; all farm machinery manufacturers insisted on contractual provisions excluding consequential damages.⁵

Cayuga also sought recovery in negligence and in strict product liability.⁶ These claims were rejected on the ground that the wasting or spoilage of crops was mere "economic loss" not subject to recovery in tort.⁷ Yet, it is clear that if Cayuga's harvester had exploded, rather than broken down, and if Cayuga's crops had been consumed by an ensuing fire, rather than left to rot in the fields, a claim could have been asserted in product liability (if the machine had been defective) and in negligence (if the machine had been carelessly made).⁸ Any effort to limit such a tort claim by a contractual stipulation would have encountered hostility in the courts.⁹

Why should these two types of claims be subject to different analyses? The losses to Cayuga are the same in both instances: one inoperable harvester and one lost crop. Moreover, in Cayuga's case, there was a contract between the parties that explicitly allocated risk and placed the burden of these losses on Cayuga. This contractual stipulation referred to both contract and tort.¹⁰

Section II of this Article briefly examines the warranties provided in the Uniform Commercial Code and the extent to which such warranties may be limited by contract. Section III analyzes the tort actions that are available to commercial buyers who purchase defective products directly from manufacturers. Section IV considers whether it is socially desirable to permit contracting parties to allocate risks despite inequality in the bargaining power of the parties and possible ignorance of the buyer or seller with respect to the nature and

3. *Id.*

4. *Id.* at 14, 465 N.Y.S.2d at 613.

5. *Id.* at 21, 465 N.Y.S.2d at 617.

6. *Id.* at 8, 465 N.Y.S.2d 610.

7. *Id.* at 25-27, 465 N.Y.S.2d at 620-21. The court held, however, that consequential damages could be recovered if fraud were proved. *Id.* at 23-25, 465 N.Y.S.2d at 618-19.

8. See *infra* notes 96-118.

9. See *infra* notes 144-51.

10. *Cayuga Harvester*, 95 A.D.2d at 13, 465 N.Y.S.2d at 611.

magnitude of the risks involved. Section V examines warranty and tort claims in cases in which the buyer of the product does not deal directly with the seller, but obtains the defective product from an intermediary. Section VI discusses personal injury claims that emerge in a commercial context and considers the extent to which they can be accommodated within the general structure of risk allocation discussed in this Article. In Section VII, this Article concludes by proposing that, in cases of commercial loss (not involving personal injury or property damage to ordinary consumers), the law of product liability should be confined to claims in contract.

II. THE UCC AND THE REGIME OF CONTRACT

A. *Standards of Liability*

Under the Uniform Commercial Code (UCC), an aggrieved buyer may sue for breach of express or implied warranty. An express warranty is any "affirmation of fact or promise made by the seller to the buyer which relates to the goods and becomes part of the basis of the bargain."¹¹ Moreover, any "description of the goods which is made part of the basis of the bargain creates an express warranty that the goods shall conform to the description."¹² The statements may appear in advertisements, labels, or brochures, as well as in the contract itself,¹³ and they may encompass representations made during negotiations.¹⁴ However, "an affirmation merely of the value of the goods or a statement purporting to be merely the seller's opinion or commendation of the goods does not create a warranty."¹⁵

There are two implied warranties. A "warranty that the goods shall be merchantable is implied . . . if the seller is a merchant with respect to goods of that kind."¹⁶ To be merchantable, goods must be "fit for the ordinary purposes for which such goods are used."¹⁷ Fur-

11. U.C.C. § 2-313(1)(a) (1987).

12. *Id.* § 2-313(1)(b). In addition, any "sample or model which is made part of the basis of the bargain creates an express warranty that the whole of the goods shall conform to the sample or model." *Id.* § 2-313(1)(c).

13. *E.g.*, *Transamerica Oil Corp. v. Lynes, Inc.*, 723 F.2d 758 (10th Cir. 1983) (advertisements); *Community Tel. Serv., Inc. v. Dresser Indus., Inc.*, 586 F.2d 637 (8th Cir. 1978) (same), *cert. denied*, 441 U.S. 932 (1979); *Midland Forge, Inc. v. Letts Indus., Inc.*, 395 F. Supp. 506 (N.D. Iowa 1975) (printed circulars); *Fundin v. Chicago Pneumatic Tool Co.*, 152 Cal. App. 3d 951, 199 Cal. Rptr. 789 (1984) (sales brochure).

14. The parol evidence rule, however, may exclude prior and contemporaneous representations. See U.C.C. § 2-202. Absent such a bar, such representations can constitute express warranties. See *Transamerica Oil*, 723 F.2d at 762.

15. U.C.C. § 2-313(2).

16. *Id.* § 2-314(1).

17. *Id.* § 2-314(2)(c). In addition, goods must be at least such as:

ther, where the seller "has reason to know any particular purpose for which the goods are required and that the buyer is relying on the seller's skill or judgment to select or furnish suitable goods, there is . . . an implied warranty that the goods shall be fit for such purpose."¹⁸

In the event of breach of warranty, the buyer may reject the goods.¹⁹ With respect to accepted goods, the buyer may be able to revoke acceptance in some cases and seek a refund of the purchase price.²⁰ The more general measure of damages is the difference "between the value of the goods accepted and the value they would have had if they had been as warranted, unless special circumstances show proximate damages of a different amount."²¹

In a proper case, the buyer may also recover incidental and consequential damages.²² Incidental damages include "any commercially reasonable charges, expenses or commissions in connection with [obtaining substitute goods] and any other reasonable expense incident to the delay or other breach."²³ Consequential damages include: "(a) any loss resulting from general or particular requirements and needs of which the seller at the time of contracting had reason to know and which could not reasonably be prevented . . . ; and (b) injury to person or property proximately resulting from any breach of warranty."²⁴

The UCC provides comprehensive protection:

1. A breach of warranty may result in product failure so complete as to render the product worthless, or the breach may cause an accident that results in the destruction of the product. In either case, the proper measure of damages is the cost of replacement ("the value

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- (a) pass without objection in the trade under the contract description; and
 - (b) in the case of fungible goods, are of fair average quality within the description; and
 - (d) run, within the variations permitted by the agreement, of even kind, quality and quantity within each unit and among all units involved; and
 - (e) are adequately contained, packaged, and labeled as the agreement may require; and
 - (f) conform to the promise or affirmations of fact made on the container or label if any.

Id. § 2-314(2). Other implied warranties "may arise from course of dealing or usage of trade."

Id. § 2-314(3).

18. *Id.* § 2-315.

19. *Id.* § 2-601. The seller, however, has a limited opportunity to cure a deficiency. See *id.* § 2-508.

20. *Id.* § 2-608.

21. *Id.* § 2-714(2).

22. *Id.* § 2-714(3).

23. *Id.* § 2-715(1).

24. *Id.* § 2-715(2).

the goods would have had if they had been as warranted").²⁵ If the product can be rehabilitated after either a breakdown or accident, the proper measure of damages is the cost of repair (a good proxy for the diminution in value caused by the product's deficiency).²⁶

2. Physical damage to other tangible property, such as damage to work-in-progress or damage to adjacent equipment, can be recovered as "injury to . . . property proximately resulting from [the] breach of warranty." Recovery can be had without regard to whether the damage is inflicted by product failure or by an accident triggered by the product's deficiency.²⁷

3. Lost profits and other economic losses can be recovered as long as the seller had knowledge or reason to know of the "general or particular requirements and needs" of the buyer. Again, recovery is available whether these losses ensue from product failure or product mishap.²⁸

B. *Contractual Limitations on Liability*

Warranties may be excluded or modified, and remedies may be limited, by agreement of the parties. As to express warranties, "[w]ords or conduct relevant to the creation of an express warranty and words or conduct tending to negate or limit warranty shall be construed wherever reasonable as consistent with each other; but . . . negation or limitation is inoperative to the extent that such construction is unreasonable."²⁹ In short, a contract cannot both create and disclaim an express warranty.

With respect to implied warranties, an exclusion or limitation of the warranty of merchantability "must mention merchantability and in case of a writing must be conspicuous"; to exclude any implied warranty of fitness, "the exclusion must be by a writing and conspicuous."³⁰ All implied warranties are excluded by "expressions like 'as

25. *Id.* § 2-714(2).

26. *Id.* § 2-714(2); 1 J. WHITE & R. SUMMERS, UNIFORM COMMERCIAL CODE 504 (practitioners ed., 3d ed. 1988). The buyer should also recover for any impairment of value remaining after repairs have been completed. *Id.*

27. U.C.C. § 715(2); see 1 J. WHITE & R. SUMMERS, *supra* note 26, at 524.

28. U.C.C. § 715(2); see, e.g., *Central Bit Supply, Inc. v. Waldrop Drilling & Pump, Inc.*, 102 Nev. 139, 717 P.2d 35 (1986) (purely economic loss may be recovered under breach of warranty theory); see also 1 J. WHITE & R. SUMMERS, *supra* note 26, at 518-19. The recovery of consequential damages is limited by foreseeability, although this limit has not proved to be a significant impediment in any of the cases examined in this Article.

29. U.C.C. § 2-316(1).

30. *Id.* § 2-316(2). Further: "Language to exclude all implied warranties of fitness is sufficient if it states, for example, that 'There are no warranties which extend beyond the description on the face hereof.'" *Id.*

is,' 'with all faults,' or other language which in common understanding calls the buyer's attention to the exclusion of warranties and makes plain that there is no implied warranty."³¹

On remedies, the UCC provides that damages for breach of warranty "may be liquidated in the agreement but only at an amount which is reasonable in the light of the anticipated or actual harm caused by the breach, the difficulties of proof of loss, and the inconvenience or nonfeasibility of otherwise obtaining an adequate remedy."³² More generally:

[T]he agreement may provide for remedies in addition to or in substitution for those provided in [Article 2 of the UCC] and may limit or alter the measure of damages recoverable under [Article 2], as by limiting the buyer's remedies to return of the goods and repayment of the price or to repair and replacement of non-conforming goods or parts.³³

There are, however, three limitations: (1) resort "to a remedy as provided is optional unless the remedy is expressly agreed to be exclusive, in which case it is the sole remedy";³⁴ (2) "[w]here circumstances cause an exclusive or limited remedy to fail of its essential purpose, remedy may be had as provided in [the UCC]";³⁵ and (3) "[c]onsequential damages may be limited or excluded unless the limitation or exclusion is unconscionable." The limitation of consequential damages is *prima facie* unconscionable for injuries to persons in the case of consumer goods, but not where the loss is commercial.³⁶ In addition to this specific reference to unconscionability, there is a more general provision empowering the courts to invalidate any contract or any clause of a contract if it was "unconscionable at the time it was made."³⁷

Within this statutory framework, efforts to disclaim or modify warranties, or to limit remedies for their breach, must comply with these requirements:

1. *Timeliness.* The disclaimer or limitation of a warranty must

31. *Id.* § 2-316(3)(a). Moreover, "when the buyer before entering into the contract has examined the goods or the sample or model as fully as he desired or has refused to examine the goods there is no implied warranty with regard to defects which an examination ought in the circumstances to have revealed to him." *Id.* § 2-316(3)(b). Additionally, "an implied warranty can also be excluded or modified by course of dealing or course of performance or usage of trade." *Id.* § 2-316(3)(c).

32. *Id.* § 2-718(1).

33. *Id.* § 2-719(1)(a).

34. *Id.* § 2-719(1)(b).

35. *Id.* § 2-719(2).

36. *Id.* § 2-719(3).

37. *Id.* § 2-302.

be part of the contract; subsequent communication is ineffective. For example, a notice that is attached to a product and delivered after the contract has been made is ineffective.³⁸

2. *Buyer awareness.* Even if a disclaimer or limitation is timely, it is inoperative unless the buyer has been given proper notice of its existence. The UCC requires that disclaimers of implied warranties be "conspicuous,"³⁹ but it imposes no similar requirement on limitations of remedies.⁴⁰ The courts, however, have sometimes gone beyond the terms of the UCC to protect unsophisticated buyers against inadvertent surrender of their rights.⁴¹ By contrast, sophisticated buyers have been held to a higher standard.⁴²

38. *Bowdoin v. Showell Growers, Inc.*, 817 F.2d 1543 (11th Cir. 1987) (collecting cases); *Horizons, Inc. v. Avco Corp.*, 551 F. Supp. 771 (D.S.D. 1982) (notice attached to product), *modified on other grounds*, 714 F.2d 862 (8th Cir. 1983); *Benco Plastics, Inc. v. Westinghouse Elec. Corp.*, 387 F. Supp. 772 (E.D. Tenn. 1974) (notice in catalogue); *Dessert Seed Co. v. Drew Farmers Supply, Inc.*, 248 Ark. 858, 454 S.W.2d 307 (1970) (notice attached to product); *Klein v. Asgrow Seed Co.*, 246 Cal. App. 2d 87, 54 Cal. Rptr. 609 (1966) (subsequent communication; pre-UCC); *Koellmer v. Chrysler Motors Corp.*, 6 Conn. Cir. Ct. 478, 276 A.2d 807 (1970) (notice in operator's manual), *cert. denied*, 160 Conn. 590, 274 A.2d 884 (1971); *Pennington Grain & Seed, Inc. v. Tuten*, 422 So. 2d 948 (Fla. Dist. Ct. App. 1982) (notice attached to product); *Chrysler Corp. v. Wilson Plumbing Inc.*, 132 Ga. App. 435, 208 S.E.2d 321 (1974) (notice delivered after delivery of product); *Album Graphics, Inc. v. Beatrice Foods Co.*, 87 Ill. App. 3d 338, 408 N.E.2d 1041 (1980) (notices on package label and invoice); *C. Christopher & Son v. Kansas Paint & Color Co.*, 215 Kan. 185, 523 P.2d 709 (1974) (notice on invoice), *modified*, 215 Kan. 510, 525 P.2d 626 (1974); *Cambern v. Hubbling*, 307 Minn. 168, 238 N.W.2d 622 (1976) (notice on receipt); *Whitaker v. Farmhand, Inc.*, 173 Mont. 345, 567 P.2d 916 (1977) (notice in operator's manual); *Pfizer Genetics, Inc. v. Williams Management Co.*, 204 Neb. 151, 281 N.W.2d 536 (1979) (notices on package label and shipping invoice); *Old Albany Estates, Ltd. v. Highland Carpet Mills, Inc.*, 604 P.2d 849 (Okla. 1979) (notice on invoice); *Cooper Paintings & Coatings, Inc. v. SCM Corp.*, 62 Tenn. App. 13, 457 S.W.2d 864 (1970) (alternative holding) (notice on label).

39. U.C.C. § 2-316; *see Neville Chem. Co. v. Union Carbide Corp.*, 294 F. Supp. 649 (W.D. Pa. 1968), *vacated on other grounds*, 422 F.2d 1205 (3d Cir.), *cert. denied*, 400 U.S. 826 (1970); *Koellmer v. Chrysler Motors Corp.*, 6 Conn. Cir. Ct. 478, 276 A.2d 807 (1970), *cert. denied*, 160 Conn. 590, 274 A.2d 884 (1971); *Oldham's Farm Sausage Co. v. Salco, Inc.*, 633 S.W.2d 177 (Mo. Ct. App. 1982); *Laudisio v. Amoco Oil Co.*, 108 Misc. 2d 245, 437 N.Y.S.2d 502 (Sup. Ct. 1981); *Cooper Paintings & Coatings, Inc. v. SCM Corp.*, 62 Tenn. App. 13, 457 S.W.2d 864 (1970).

40. U.C.C. § 2-719; *see Computerized Radiological Servs., Inc. v. Syntex Corp.*, 595 F. Supp. 1495 (E.D.N.Y. 1984), *modified on other grounds*, 786 F.2d 72 (2d Cir. 1986).

41. *See Johnson v. Mobil Oil Corp.*, 415 F. Supp. 264 (E.D. Mich. 1976); *Frank's Maintenance & Eng'g, Inc. v. C.A. Roberts Co.*, 86 Ill. App. 3d 980, 408 N.E.2d 403 (1980); *Oldham's Fine Sausage Co. v. Salco, Inc.*, 633 S.W.2d 177 (Mo. Ct. App. 1982); *Jutta's Inc. v. Fireco Equip. Co.*, 150 N.J. Super. 301, 375 A.2d 687 (Super. Ct. App. Div. 1977); *Industrialease Automated & Scientific Equip. Corp. v. R.M.E. Enters.*, 58 A.D.2d 482, 396 N.Y.S.2d 427 (1977); *Rottinghaus v. Howell*, 35 Wash. App. 99, 666 P.2d 899 (1983).

42. *See Hunter v. Texas Instruments, Inc.*, 798 F.2d 299 (8th Cir. 1986); *Delhomme Indus., Inc. v. Houston Beechcraft, Inc.*, 669 F.2d 1049 (5th Cir. 1982); *Argo Welded Prods., Inc. v. J.T. Ryerson Steel & Sons*, 528 F. Supp. 583 (E.D. Pa. 1981); *Fargo Mach. & Tool Co. v. Kearney & Trecker Corp.*, 428 F. Supp. 364 (E.D. Mich. 1977); *cf. Billings v. Joseph Harris Co.*, 27 N.C. App. 689, 220 S.E.2d 361 (1975) (A buyer was held to contractual limitations on

3. *The special status of express warranties.* Express warranties cannot be disclaimed, and modifications must be consistent with the main purport of the warranty sought to be modified.⁴³ This places a burden on the seller to assure that particular affirmations are not construed as express warranties. By appropriate language, express warranties can be negated—that is, some statements never attain the status of warranties—thereby obviating the need for disclaimer.⁴⁴

4. *Exclusivity of a limited remedy.* The UCC requires that the exclusivity of limited remedies be made explicit.⁴⁵ Otherwise, a limited remedy will be construed as an optional additional remedy and will not preclude other remedies available under the UCC.⁴⁶

5. *Failure of a limited remedy.* If an exclusive or limited remedy fails of its "essential purpose," other remedies become available.⁴⁷ The two most common situations are: (1) instances in which the exclusive remedy is the repair or replacement of defective products or parts, and the seller fails to make timely replacement or repair;⁴⁸ and (2) instances in which the buyer's right to object to deficiencies is so narrowly circumscribed as to preclude meaningful objections to latent defects.⁴⁹ The first category is unremarkable; wholly apart from rem-

liability, despite a claim of illiteracy, because of the substantial size of the buyer's operations.), *aff'd*, 290 N.C. 502, 226 S.E.2d 321 (1976).

43. U.C.C. § 2-316(1); *see, e.g.*, Northern States Power Co. v. ITT Meyer Indus., Div. of ITT Grinnell Corp., 777 F.2d 405 (8th Cir. 1985) (A disclaimer was held ineffective when it conflicted with an express warranty.); Consolidated Data Terminals v. Applied Digital Data Sys., Inc., 708 F.2d 385 (9th Cir. 1983) (Specific warranty language prevails over a general disclaimer where the two cannot be reasonably reconciled.).

44. An integration clause may serve to exclude, under the parol evidence rule, prior representations that otherwise would have qualified as express warranties. *See* Arkwright-Boston Mfrs. Mut. Ins. Co. v. Westinghouse Elec. Corp., 844 F.2d 1174 (5th Cir. 1988); Jaskey Fin. & Leasing v. Display Data Corp., 564 F. Supp. 160 (E.D. Pa. 1983); Bruffey Contracting Co. v. Burroughs Corp., 522 F. Supp. 769 (D. Md. 1981), *aff'd per curiam*, 681 F.2d 812 (4th Cir. 1982); Kalil Bottling Co. v. Burroughs Corp., 127 Ariz. 278, 619 P.2d 1055 (Ct. App. 1980). In addition, the structure of a contract may indicate that certain representations were not intended as warranties. *See* U.S. Fibres, Inc. v. Proctor & Schwartz, Inc., 509 F.2d 1043 (6th Cir. 1975); Alan Wood Steel Co. v. Capital Equip. Enter., 39 Ill. App. 3d 48, 349 N.E.2d 627 (1976).

45. U.C.C. § 2-719(1)(b).

46. *Id.* § 2-317; *see, e.g.*, Council Bros. v. Ray Burner Co., 473 F.2d 400 (5th Cir. 1973); Gramling v. Baltz, 253 Ark. 261, 485 S.W.2d 183 (1972); District Concrete Co. v. Bernstein Concrete Corp., 418 A.2d 1030 (D.C. 1980).

47. U.C.C. § 2-719(2).

48. *E.g.*, Bosway Tube & Steel Corp. v. McKay Mach. Co., 65 Mich. App. 426, 237 N.W.2d 488 (1975); Givan v. Mack Truck, Inc., 569 S.W.2d 243 (Mo. Ct. App. 1978).

49. *See* Majors v. Kalo Laboratories, Inc., 407 F. Supp. 20 (M.D. Ala. 1975); Neville Chem. Co. v. Union Carbide Corp., 294 F. Supp. 649 (W.D. Pa. 1968), *vacated on other grounds*, 422 F.2d 1205 (3d Cir.), *cert. denied*, 400 U.S. 826 (1970); Leprino v. Intermountain Brick Co., 759 P.2d 835 (Colo. Ct. App. 1988); Pittsfield Weaving Co. v. Grove Textiles, Inc., 121 N.H. 344, 430 A.2d 638 (1981); Wilson Trading Corp. v. David Ferguson, Ltd., 23

edy limitations, the seller has breached its duty to repair or replace. The second category is more troublesome. An explicit limitation on the buyer's right to object may involve a deliberate allocation of risk that should not be disturbed under the guise of preserving remedial rights.

Limited remedies—such as a restriction to repair or replace—are usually accompanied by an exclusion of consequential damages. If the seller does not make timely repairs or replacements, the exclusion of consequential damages may also be challenged. Under such circumstances, the courts are inclined to allow consequential damages when necessary to assure that the buyer receives the benefit of its bargain.⁵⁰ In other cases, however, the exclusion of consequential dam-

N.Y.2d 398, 244 N.E.2d 685, 297 N.Y.S.2d 108 (1968); *Construction Assoc. v. Fargo Water Equip. Co.*, 444 N.W.2d 237 (N.D. 1989) (alternative holding); *Trinkle v. Schumacher Co.*, 100 Wis. 2d 13, 301 N.W.2d 255 (Ct. App. 1980); *cf. Comind, Companhia de Seguros v. Sikorsky Aircraft Div. of United Technologies Corp.*, 116 F.R.D. 397 (D. Conn. 1987) (reasonableness of time limit raised issue of fact); *Q. Vandenberg & Sons, N.V. v. Siter*, 204 Pa. Super. 392, 204 A.2d 494 (1964) (reasonableness of time limit submitted to jury). These decisions frequently rely on Section 1-204 of the Uniform Commercial Code, prohibiting manifestly unreasonable time limits, and Section 2-302, prohibiting unconscionable contract provisions. See Eddy, *On the "Essential" Purposes of Limited Remedies: The Metaphysics of UCC Section 2-719(2)*, 65 CALIF. L. REV. 28 (1977).

By contrast, relatively short time limits on express warranties have been sustained in a number of cases. See *Earman Oil Co. v. Burroughs Corp.*, 625 F.2d 1291 (5th Cir. 1980) (90 days); *Polygram, S.A. v. 32-03 Enters.*, 697 F. Supp. 132 (E.D.N.Y. 1988) (same); *Office Supply Co. v. Basic/Four Corp.*, 538 F. Supp. 776 (E.D. Wis. 1982) (same); *Applications Inc. v. Hewlett-Packard Co.*, 501 F. Supp. 129 (S.D.N.Y. 1980) (same), *aff'd per curiam*, 672 F.2d 1076 (2d Cir. 1982); *Badger Bearing Co. v. Burroughs Corp.*, 444 F. Supp. 919 (E.D. Wis. 1977) (same), *aff'd per curiam*, 588 F.2d 838 (7th Cir. 1978); *cf. Landsman Packing Co. v. Continental Can Co.*, 864 F.2d 721 (11th Cir. 1989) (submitting reasonableness of 30-day limit to jury); *Hart Eng'g Co. v. FMC Corp.*, 593 F. Supp. 1471 (D.R.I. 1984) (sustaining a one-year warranty limit).

50. *Waters v. Massey-Ferguson, Inc.*, 775 F.2d 587 (4th Cir. 1985) (South Carolina law); *RRX Indus., Inc. v. Lab-Con, Inc.*, 772 F.2d 543 (9th Cir. 1985) (California law); *R.W. Murray, Co. v. Shatterproof Glass Corp.*, 758 F.2d 266 (8th Cir. 1985) (Missouri law); *Fiorito Bros. v. Fruehauf Corp.*, 747 F.2d 1309 (9th Cir. 1984) (Washington law); *Rudd Constr. Equip. Co. v. Clark Equip. Co.*, 735 F.2d 974 (6th Cir. 1984) (Kentucky law); *Matco Mach. & Tool Co. v. Cincinnati Milacron Co.*, 727 F.2d 777 (8th Cir. 1984) (Ohio law); *Soo Line R.R. v. Fruehauf Corp.*, 547 F.2d 1365 (8th Cir. 1977) (Minnesota law); *Custom Automated Mach. Co. v. Penda Corp.*, 537 F. Supp. 77 (N.D. Ill. 1982) (Illinois law); *Fargo Mach. & Tool Co. v. Kearney & Trecker Corp.*, 428 F. Supp. 364 (E.D. Mich. 1977) (Michigan law); *Koehring Co. v. A.P.I., Inc.*, 369 F. Supp. 882 (E.D. Mich. 1974) (Michigan law) (emphasis on lack of reasonable effort); *Beal v. General Motors Corp.*, 354 F. Supp. 423 (D. Del. 1973) (Delaware law); *Jones & McKnight Corp. v. Birdsboro Corp.*, 320 F. Supp. 39 (N.D. Ill. 1970) (Pennsylvania law) (emphasis on lack of reasonable effort); *Massey-Ferguson, Inc. v. Laird*, 432 So. 2d 1259 (Ala. 1983); *Kalil Bottling Co. v. Burroughs Corp.*, 127 Ariz. 278, 619 P.2d 1055 (Ct. App. 1980); *Caterpillar Tractor Co. v. Waterson*, 13 Ark. App. 77, 679 S.W.2d 814 (1984); *Earl M. Jorgenson Co. v. Mark Constr., Inc.*, 56 Haw. 466, 540 P.2d 978 (1975); *Clark v. International Harvester Co.*, 99 Idaho 326, 581 P.2d 784 (1978); *Heat Exchangers, Inc. v. Aaron Friedman, Inc.*, 96 Ill. App. 3d 376, 421 N.E.2d 336 (1981); *Adams v. J.I. Case Co.*,

ages is viewed as severable from the failed remedy; the buyer may recover only direct damages (diminution in value or cost of repair or replacement), but not consequential damages (such as lost profits).⁵¹

6. *Preservation of a minimum remedy.* In cases of unequal bargaining power, a court may strike limitations on remedies in order to preserve a minimum remedy for the buyer. For example, deficiencies in seeds, herbicides, and pesticides may lead to extensive crop losses by farmer-purchasers. In these circumstances, some courts have

125 Ill. App. 2d 388, 261 N.E.2d 1 (1970); *Ford Motor Co. v. Mayes*, 575 S.W.2d 480 (Ky. Ct. App. 1978) (reliance on state's Consumer Protection Act); *Massey-Ferguson, Inc. v. Evans*, 406 So. 2d 15 (Miss. 1981) (reliance on special state amendments to UCC); *Oldham's Farm Sausage Co. v. Salco, Inc.*, 633 S.W.2d 177 (Mo. Ct. App. 1982); *John Deere Co. v. Hand*, 211 Neb. 549, 319 N.W.2d 434 (1982); *cf. Kohlenberger, Inc. v. Tyson's Foods, Inc.*, 256 Ark. 584, 510 S.W.2d 555 (1974) (leaving issue open for further development on remand); *Hydraform Prods. Corp. v. American Steel & Aluminum Corp.*, 127 N.H. 187, 498 A.2d 339 (1985) (replacement remedy unavailable where breach was delay in delivery; consequential damages allowed).

51. *Kaplan v. RCA Corp.*, 783 F.2d 463 (4th Cir. 1986) (New Jersey law); *Chatlos Sys. v. National Cash Register Corp.*, 635 F.2d 1081 (3d Cir. 1980) (New Jersey law), *opinion on damages*, 670 F.2d 1304 (3d Cir.), *cert. dismissed*, 457 U.S. 1112 (1982); *S.M. Wilson & Co. v. Smith Int'l, Inc.*, 587 F.2d 1363 (9th Cir. 1978) (California law); *AES Technology Sys. v. Coherent Radiation*, 583 F.2d 933 (7th Cir. 1978) (California and Illinois law); *Marr Enters. v. Lewis Refrigeration Co.*, 556 F.2d 951 (9th Cir. 1977) (Washington law); *Werner & Pfleiderer Corp. v. Gary Chem. Corp.*, 697 F. Supp. 808 (D.N.J. 1988) (New Jersey law); *Harper Tax Servs., Inc. v. Quick Tax, Ltd.*, 686 F. Supp. 109 (D. Md. 1988) (Maryland law); *Cole Energy Dev. Co. v. Ingersoll-Rand Co.*, 678 F. Supp. 208 (C.D. Ill. 1988) (Illinois law); *Computerized Radiological Servs., Inc. v. Syntex Corp.*, 595 F. Supp. 1495 (E.D.N.Y. 1984) (California law), *modified on other grounds*, 786 F.2d 72 (2d Cir. 1986); *In re Feder Litho-Graphic Servs., Inc.*, 40 Bankr. 486 (E.D. Mich. 1984) (Illinois law); *Frantz Lithographic Serv., Inc. v. Sun Chem. Corp.*, 38 U.C.C. Rep. Serv. (Callaghan) 485 (E.D. Pa. 1984) (Pennsylvania law); *Garden State Food Distribs., Inc. v. Sperry Rand Corp.*, *Sperry Univac Div.*, 512 F. Supp. 975 (D.N.J. 1981) (New Jersey law); *Polycon Indus., Inc. v. Hercules, Inc.*, 471 F. Supp. 1316 (E.D. Wis. 1979) (Michigan law); *Lincoln Pulp & Paper Co. v. Dravo Corp.*, 436 F. Supp. 262 (D. Me. 1977) (Pennsylvania law); *American Elec. Power Co. v. Westinghouse Elec. Corp.*, 418 F. Supp. 435 (S.D.N.Y. 1976) (Pennsylvania and New York law); *Potomac Elec. Power Co. v. Westinghouse Elec. Corp.*, 385 F. Supp. 572 (D.D.C. 1974) (Pennsylvania law), *rev'd on unspecified grounds*, 527 F.2d 853 (D.C. Cir. 1975); *County Asphalt, Inc. v. Lewis Welding & Eng'g Corp.*, 323 F. Supp. 1300 (S.D.N.Y. 1970) (Ohio law), *aff'd*, 444 F.2d 372 (2d Cir.), *cert. denied*, 404 U.S. 939 (1971); *Carboline Co. v. Oxmoor Center*, No. 84-CA-48-MR (Ky. Apr. 5, 1985) (LEXIS, States library, Ky file); *Cox Motor Co. v. Castle*, 402 S.W.2d 429 (Ky. 1966); *Kearney & Trecker Corp. v. Master Engraving Co.*, 107 N.J. 584, 527 A.2d 429 (1987); *Cayuga Harvester v. Allis-Chalmers Corp.*, 95 A.2d 5, 465 N.Y.S.2d 606 (1983); *Stutts v. Green Ford, Inc.*, 47 N.C. App. 503, 267 S.E.2d 919 (1980); *Johnson v. John Deere Co.*, 306 N.W.2d 231 (S.D. 1981); *Envirotech Corp. v. Halco Eng'g, Inc.*, 234 Va. 583, 364 S.E.2d 215 (1988); *cf. Milgard Tempering, Inc. v. Selas Corp. of Am.*, 761 F.2d 553 (9th Cir. 1985) (Washington law) (issue remanded for hearing on the conscionability of exclusion of consequential damages); *Lewis Refrigeration Co. v. Sawyer Fruit, Vegetable & Cold Storage Co.*, 709 F.2d 427 (6th Cir. 1983) (Washington law) (same disposition).

For a general discussion, see Foss, *When to Apply the Doctrine of Failure of Essential Purpose to an Exclusion of Consequential Damages: An Objective Approach*, 25 DUQ. L. REV. 551 (1987).

allowed farmers to recover for such losses despite limitations on remedies which purported to restrict the buyers to the recovery of the purchase price.⁵² Other courts, however, have sustained such limitations as permissible allocations of risk.⁵³

In most other cases involving commercial loss, courts have sustained both limited remedies and complete disclaimers. Nonetheless, if the buyer is relatively unsophisticated and the seller is the stronger party, some courts intervene to protect the buyer—invoking the doctrine of unconscionability.⁵⁴

52. *Herrick v. Monsanto Co.*, 874 F.2d 594 (8th Cir. 1989) (South Dakota law) (defective herbicide); *Martin v. Joseph Harris Co.*, 767 F.2d 296 (6th Cir. 1985) (Michigan law) (defective seed); *Agricultural Servs. Ass'n v. Ferry-Morse Seed Co.*, 551 F.2d 1057 (6th Cir. 1977) (California law) (misabeled seed); *Majors v. Kalo Laboratories, Inc.*, 407 F. Supp. 20 (M.D. Ala. 1975) (Alabama law) (defective inoculant); *Dessert Seed Co. v. Drew Farmers Supply, Inc.*, 248 Ark. 858, 454 S.W.2d 307 (1970) (misabeled seed); *Klein v. Asgrow Seed Co.*, 246 Cal. App. 2d 87, 54 Cal. Rptr. 609 (1966) (deliberately mislabeled seeds; pre-UCC case); *Corneli Seed Co. v. Ferguson*, 64 So. 2d 162 (Fla. Dist. Ct. App. 1953) (misabeled seed); *Mallory v. Conida Warehouses, Inc.*, 134 Mich. App. 28, 350 N.W.2d 825 (1984) (defective seed); *Zicari v. Joseph Harris Co.*, 33 A.D.2d 17, 304 N.Y.S.2d 918 (1969) (defective seed); *Gore v. George J. Ball, Inc.*, 279 N.C. 192, 182 S.E.2d 389 (1971) (misabeled seed); *Schmaltz v. Nissan*, 431 N.W.2d 657 (S.D. 1988) (defective seed); *Hanson v. Funk Seeds Int'l*, 373 N.W.2d 30 (S.D. 1985) (defective seed); *Durham v. Ciba-Geigy Corp.*, 315 N.W.2d 696 (S.D. 1982) (defective pesticide); *Nakanishi v. Foster*, 64 Wash. 2d 647, 393 P.2d 635 (1964) (misabeled seed). The decision in *Hanson* was "abrogated" by statute. See S.D. CODIFIED LAWS ANN. § 57A-2-302 note (1988).

53. *Lindemann v. Eli Lilly & Co.*, 816 F.2d 199 (5th Cir. 1987) (Texas law) (defective herbicide); *Hill v. BASF Wyandotte Corp.*, 696 F.2d 287 (4th Cir. 1983) (South Carolina law) (defective herbicide); *Feeders, Inc. v. Monsanto Co.*, No. Civ. 4-77-306 (D. Minn. May 15, 1981) (LEXIS, Genfed library, Dist file) (defective herbicide); *Bickett v. W.R. Grace & Co.*, 12 U.C.C. Rep. Serv. (Callaghan) 629 (W.D. Ky. 1972) (Kentucky law) (defective seed); *Nunes Turfgrass, Inc. v. Vaughan-Jacklin Seed Co.*, 200 Cal. App. 3d 1518, 246 Cal. Rptr. 823 (Ct. App. 1988) (defective seed); *Couts v. Sperry Flour Co.*, 85 Cal. App. 156, 259 P. 108 (1927) (defective seed; pre-UCC case); *Monsanto Agric. Prods. Co. v. Edenfield*, 426 So. 2d 574 (Fla. Dist. Ct. App. 1983) (defective herbicide); *California Chem. Co. v. Lovett*, 204 So. 2d 633 (La. Ct. App. 1967) (defective pesticide); *Von Zonneveld Bros. & Philippo v. Cary*, 86 So. 2d 252 (La. Ct. App. 1956) (defective seed); *Kleven v. Geigy Agric. Chems.*, 303 Minn. 320, 227 N.W.2d 566 (1975) (defective herbicide); *Billings v. Joseph Harris Co.*, 27 N.C. App. 689, 220 S.E.2d 361 (1975) (defective seed); *Asgrow Seed Co. v. Gulick*, 420 S.W.2d 438 (Tex. Ct. App. 1967) (misabeled seed).

54. See, e.g., *National Equip. Rental, Ltd. v. Hendrix*, 565 F.2d 255 (2d Cir. 1977); *Vlases v. Montgomery Ward & Co.*, 377 F.2d 846 (3d Cir. 1967); *Johnson v. Mobil Oil Corp.*, 415 F. Supp. 264 (E.D. Mich. 1976); *Steele v. J.I. Case Co.*, 197 Kan. 554, 419 P.2d 902 (1966) (pre-UCC case); *Pittsfield Weaving Co. v. Grove Textiles, Inc.*, 121 N.H. 344, 430 A.2d 638 (1981); *Jutta's Inc. v. Fireco Equip. Co.*, 150 N.J. Super. 301, 375 A.2d 687 (Super. Ct. App. Div. 1977); *Evans v. Graham Ford, Inc.*, 2 Ohio App. 3d 435, 442 N.E.2d 777 (1981); *Construction Assocs. v. Fargo Water Equip. Co.*, 444 N.W.2d 237 (N.D. 1989) (alternative holding); cf. *Ivey Plants, Inc. v. FMC Corp.*, 282 So. 2d 205 (Fla. Dist. Ct. App. 1973) (remanded for hearing on issue of disparate bargaining power), cert. denied, 289 So. 2d 731 (Fla. 1974); *Monsanto Co. v. Alden Leeds, Inc.*, 130 N.J. Super. 245, 326 A.2d 90 (Super. Ct. Law Div. 1974) (remanded for hearing on issue of choice as to limitation of liability); *Laudisio v. Amoco*

For example, in *A & M Produce Co. v. FMC Corp.*,⁵⁵ A & M, an agricultural company, purchased a tomato processing machine from FMC.⁵⁶ The contract of sale contained a disclaimer of warranties and an exclusion of consequential damages.⁵⁷ When the machine failed to function properly, A & M lost its crop.⁵⁸ In an action by A & M to recover the value of its lost crop, the court held that both the disclaimer and the exclusion were inoperative.⁵⁹ The court found the provisions to be procedurally unconscionable because the parties were of disparate size and experience; the disclaimer and exclusion were on the reverse side of a printed form and were not called to the buyer's attention; and the terms were not subject to negotiation.⁶⁰ The court also found the provisions to be substantively unconscionable, ruling that it was unreasonable to assume that "a buyer would purchase a standardized mass-produced product from an industry seller without any enforceable performance standards," and that the seller was in a better position to bear the risks of nonperformance.⁶¹ An inexperienced buyer had relied on the expertise of FMC, and the court held FMC accountable for the product's failure.⁶²

In contrast, a limitation of liability provision was found not to be unconscionable in *Aetna Casualty & Surety Co. v. Eastman Kodak Co.*⁶³ In *Aetna*, the insurer of National Geographic sought damages for film improperly processed by Kodak.⁶⁴ The processing was incidental to sale of the film, and the contract of sale provided that Kodak would replace damaged film but would not be liable for other damages.⁶⁵ The court observed that damage to film could cause large sentimental loss (a parent's picture of a child) or substantial commercial loss (pictures taken in a space flight).⁶⁶ The court emphasized:

There does not appear any way that the company can fairly price its services unless it does limit its liability in some way, because the efforts that it otherwise [would take] in order to pro-

Oil Co., 108 Misc. 2d 245, 437 N.Y.S.2d 502 (Sup. Ct. 1981) (remanded for hearing on issue of duress).

55. 135 Cal. App. 3d 473, 186 Cal. Rptr. 114 (1982).

56. *Id.* at 478-79, 186 Cal. Rptr. at 117.

57. *Id.*

58. *Id.* at 480, 186 Cal. Rptr. at 118.

59. *Id.* at 493, 186 Cal. Rptr. at 127.

60. *Id.* at 490-91, 186 Cal. Rptr. at 124-25.

61. *Id.* at 491-92, 186 Cal. Rptr. at 125.

62. *Id.* at 492, 186 Cal. Rptr. 125-26.

63. 10 U.C.C. Rep. Serv. (Callaghan) 53 (D.C. Super. Ct. 1972).

64. *Id.* at 54.

65. *Id.* at 54-55.

66. *Id.* at 55.

tect against those anticipations of what the risks might be, will price the product right out of the market. . . .

If required to answer every conceivable lawsuit which might be filed as a result of defects [in the film or its processing], the cost to the consumer of the film would be many times as much as it presently is⁶⁷

The limitation on liability was sustained as not unconscionable.⁶⁸

A & M Produce and *Aetna* reflect the general approach of the courts to unconscionability issues in commercial cases. When a limitation on liability has not been adequately disclosed by a seller, particularly to an unsophisticated or uninformed buyer, the courts are likely to strike down such a limitation as unconscionable. The courts, as in *A & M Produce*, may also comment on the disparate size and bargaining position of the parties and the absence of negotiation over the terms of the limitation. By contrast, if the buyer is adequately informed of the limitation, the provision is likely to be sustained—without regard to the relative bargaining positions of the parties or the presence or absence of negotiations. In *Aetna*, for example, the provision was a standardized term imposed by the dominant firm in the photography industry.

C. Additional Limitations on Liability

There are four additional limitations on the liability of a seller under the Uniform Commercial Code:

1. *Notice*. On discovery of a breach of warranty, the buyer “must within a reasonable time . . . notify the seller of breach or be

67. *Id.* at 56.

68. *Id.* at 57; *accord* *Posttape Assocs. v. Eastman Kodak Co.*, 450 F. Supp. 407 (E.D. Pa. 1978); *Carr v. Hoosier Photo Supplies, Inc.*, 441 N.E.2d 450 (Ind. 1982); *D.O.V. Graphics, Inc. v. Eastman Kodak Co.*, 46 Ohio Misc. 37, 347 N.E.2d 561 (Ct. C.P. 1976). *But cf.* *Mieske v. Bartell Drug Co.*, 92 Wash. 2d 40, 593 P.2d 1308 (1979) (A limitation of liability was held to be insufficiently conspicuous in a consumer transaction.).

For discussions of the question of limiting damages to a level considered to be unduly low, see *Wyatt Indus., Inc. v. Publicker Indus., Inc.*, 420 F.2d 454 (5th Cir. 1969) (sustaining limit); *Dow Corning Corp. v. Capitol Aviation, Inc.*, 411 F.2d 622 (7th Cir. 1969) (sustaining limit); *Comind, Companhia de Seguros v. Sikorsky Aircraft Div. of United Technologies Corp.*, 116 F.R.D. 397 (D. Conn. 1987) (limit raised a triable issue); *Neville Chem. Co. v. Union Carbide Corp.*, 294 F. Supp. 649 (W.D. Pa. 1968) (invalidating limit), *vacated on other grounds*, 422 F.2d 1205 (3d Cir. 1970), *cert. denied*, 400 U.S. 826 (1970); *Phillips Petroleum Co. v. Bucyrus-Erie Co.*, 131 Wis. 2d 21, 388 N.W.2d 584 (1986) (invalidating limit).

For a discussion of unconscionability in the context of commercial warranties, see Mallor, *Unconscionability in Contracts Between Merchants*, 40 Sw. L.J. 1065 (1986); Phillips, *Unconscionability and Article 2 Implied Warranty Disclaimers*, 62 CHI.-KENT L. REV. 199 (1985); Note, *Unconscionability Redefined: California Imposes New Duties on Commercial Parties Using Form Contracts*, 35 HASTINGS L.J. 161 (1983).

barred from any remedy."⁶⁹ This should pose no problem for commercial parties represented by competent counsel, but it might pose problems for an unwary buyer.

2. *Privity*. A buyer may not be able to recover for breach of warranty if it is not "in privity" with the seller⁷⁰—that is, if the purchase was not made directly by the buyer from the seller, but was made through intermediaries. States have varied the provisions of the UCC in this respect,⁷¹ and judicial interpretations have also diverged.⁷² The ability of buyers to sue remote manufacturers is an important part of devising a solution to the problem of accountability for commercial loss. This issue is addressed in a subsequent section.⁷³

3. *Foreseeability*. The UCC provides that a seller is not responsible for losses other than those arising from physical injury to person or property, unless the losses result from the buyer's "general or particular requirements and needs of which the seller at the time of contracting had reason to know."⁷⁴ This limitation, however, has not been of decisional significance in any of the many litigated cases examined in the preparation of this Article. As long as a machine or other product is used for its intended purpose, a seller will be held responsible for losses expected to follow from product failure: damage to work-in-progress, damage to associated equipment, and disruption of the buyer's business resulting in lost profits.⁷⁵ It is not necessary to show that the manufacturer anticipated the particular losses or their magnitude, or that it knew precisely how each of its products would be used by multifarious buyers.⁷⁶

4. *Statute of limitations*. The UCC provides that an action for breach of warranty must generally be commenced within four years of the tender of delivery of the goods, "regardless of the aggrieved party's lack of knowledge of the breach."⁷⁷ The parties may shorten the statutory period to not less than one year, but they may not

69. U.C.C. § 2-607(3)(a) (1987).

70. See *infra* Section V.

71. The UCC has three variations of Section 2-318, entitled "Third Party Beneficiaries of Warranties Express or Implied." U.C.C. § 2-318. There are further variations in individual states. See 1 J. WHITE & R. SUMMERS, *supra* note 26, at 531-41.

72. See *infra* notes 208-15.

73. See *infra* Section V.

74. U.C.C. § 2-715(2)(a).

75. See *supra* notes 27-28.

76. See R. DUNN, RECOVERY OF DAMAGES FOR LOST PROFITS 97-101 (3d ed. 1987) (With rare exceptions, courts either ignore foreseeability or treat the issue perfunctorily in breach of warranty cases that seek lost profits.); 1 J. WHITE & R. SUMMERS, *supra* note 26, at 518.

77. U.C.C. § 2-725(1), (2).

extend it.⁷⁸ If, however, "a warranty extends to future performance of the goods and discovery of the breach must await the time of such performance the cause of action accrues when the breach is or should have been discovered."⁷⁹

The statute of limitations is a device for allocation of risks. If the sales transaction is silent on the issue, buyers are barred unless they discover and act on defects within four years of tender of delivery. Thus, buyers bear the risk of defects discovered after the expiration of the four-year period. But buyers can bargain for a longer period (by having the warranty extend to future performance), and sellers can bargain for a shorter period (not less than one year). Still, the UCC's statute of limitations poses a formidable obstacle to recovery when latent defects manifest themselves years after the delivery of a defective product.⁸⁰

III. EXCURSIONS IN TORT LAW

Despite the extensive treatment of sales transactions in the Uniform Commercial Code, commercial buyers frequently bring actions in tort. These litigation decisions are not adventitious; buyers seek to circumvent the requirements and limitations of the UCC. In an action in tort, neither privity nor notice to the manufacturer is required. The requirement of foreseeability may also be relaxed (although this does not seem to have been a factor in any of the reported cases). The statute of limitations will run from the time of loss rather than from the time of delivery (and this may be of great significance in at least some cases involving latent defects). Most importantly for present purposes, warranty disclaimers and limitations on remedy may be disregarded by courts in tort cases; courts are more hostile to tort disclaimers than to warranty disclaimers.

Efforts to recover commercial losses by suing in tort have

78. *Id.* § 2-725(1).

79. *Id.* § 2-725(2).

80. For several notorious examples of cases involving the sale of asbestos products, see *infra* note 105. The statute of limitations is nonetheless subject to "tolling" under state law, see U.C.C. § 2-725(3), and this may provide a solution. See *Werber v. Mercedes-Benz of N. Am., Inc.*, 199 Cal. Rptr. 765 (Ct. App. 1984) (tolling the statute of limitations until the discovery of a latent defect in a consumer case). *Werber* is not definitive on this issue; the case was decertified by the California Supreme Court, precluding its citation as precedent in the California courts. See note at 152 Cal. App. 3d 1039 (1984).

Whether the UCC statute of limitations should be modified, to permit recovery for latent defects discovered long after the sale, is a legitimate issue—particularly where, as in the asbestos cases, the sellers have engaged in a pattern of concealment. The resolution of that issue, however, does not depend on transforming warranty claims into tort claims.

spawned an expansive body of litigation.⁸¹ Most of the cases have involved claims in negligence and strict product liability, but claims premised on misrepresentation have also been asserted.

A. Negligence and Strict Liability

The starting point is the landmark California case of *Seely v. White Motor Co.*⁸² In *Seely*, the purchaser of a truck found that it bounced violently, an action known as "galloping."⁸³ Despite repeated efforts, the seller was unable to correct the deficiency. Seely sued for the purchase price of the truck and for the profits that he lost because he was unable to make normal use of the truck.⁸⁴ The California court allowed recovery on the ground that the manufacturer had breached an express warranty.⁸⁵ The court refused, however, to

81. See Bland & Wattson, *Property Damage Caused by Defective Products: What Losses Are Recoverable?*, 9 WM. MITCHELL L. REV. 1 (1983); Franklin, *When Worlds Collide: Liability Theories and Disclaimers in Defective-Product Cases*, 18 STAN. L. REV. 974 (1966); Rabin & Grossman, *Defective Products or Realty Causing Economic Loss: Toward a Unified Theory of Recovery*, 12 SW. U.L. REV. 5 (1980); Rapson, *Products Liability Under Parallel Doctrines: Contrasts Between the Uniform Commercial Code and Strict Liability in Tort*, 19 RUTGERS L. REV. 692 (1965); Schwartz, *Economic Loss in American Tort Law: The Examples of J'Aire and Products Liability*, 23 SAN DIEGO L. REV. 37 (1986); Speidel, *Products Liability, Economic Loss and the UCC*, 40 TENN. L. REV. 309 (1973); Speidel, *Warranty Theory, Economic Loss, and the Privity Requirement: Once More Into the Void*, 67 B.U.L. REV. 9 (1987) [hereinafter Speidel, *Warranty Theory*]; Towers & Gordon, *Circumvention of Article 2: Tort Remedies for Breach of Contract*, 19 U.C.C. L.J. 291 (1987); Wade, *Tort Liability for Products Causing Physical Injury and Article 2 of the U.C.C.*, 48 MO. L. REV. 1 (1983); Note, *Economic Loss in Products Liability Jurisprudence*, 66 COLUM. L. REV. 917 (1966); Note, *Privity Revisited: Tort Recovery by a Commercial Buyer for a Defective Product's Self-Inflicted Damage*, 84 MICH. L. REV. 517 (1985); Note, *Recovery for Damage to the Defective Product Itself: An Analysis of Recent Product Liability Legislation*, 48 OHIO ST. L.J. 533 (1987); see also M. SHAPO, *THE LAW OF PRODUCTS LIABILITY* ¶¶ 4-2 to 4-3, 27-1 to 27-44 (1987).

The problem of economic loss in products liability cases should be distinguished from cases involving "pure economic loss," such as where an oil spill adversely affects persons with interests in a waterway, *Louisiana ex rel. Guste v. M/V Testbank*, 752 F.2d 1019 (5th Cir. 1985), *cert. denied*, 477 U.S. 903 (1986), or where a defective bridge impedes traffic to dependent merchants, *Nebraska Innkeepers, Inc. v. Pittsburgh-Des Moines Corp.*, 345 N.W.2d 124 (Iowa 1984). For discussions of these issues, see W. LANDES AND R. POSNER, *THE ECONOMIC STRUCTURE OF TORT LAW* 251-55 (1987); S. SHAVELL, *ECONOMIC ANALYSIS OF ACCIDENT LAW* 135-40 (1987); Bishop, *Economic Loss in Tort*, 2 OXFORD J. LEGAL STUD. 1 (1982); Bishop & Sutton, *Efficiency and Justice in Tort Damages: The Shortcomings of the Pecuniary Loss Rule*, 15 J. LEGAL STUD. 347 (1986); Rabin, *Tort Recovery for Negligently Inflicted Economic Loss: A Reassessment*, 37 STAN. L. REV. 1513 (1985); Rizzo, *A Theory of Economic Loss in the Law of Torts*, 11 J. LEGAL STUD. 281 (1982). See also *THE LAW OF TORT: POLICIES AND TRENDS IN LIABILITY FOR DAMAGE TO PROPERTY AND ECONOMIC LOSS* (M. Furmston ed. 1986).

82. 63 Cal. 2d 9, 403 P.2d 145, 45 Cal. Rptr. 17 (1965).

83. *Id.* at 12, 403 P.2d at 147, 45 Cal. Rptr. at 19.

84. *Id.*

85. *Id.* at 19, 403 P.2d at 152, 45 Cal. Rptr. at 24.

allow recovery on a theory of strict product liability.⁸⁶

The distinction that the law has drawn between tort recovery for physical injuries and warranty recovery for economic loss [turns on] the nature of the responsibility a manufacturer must undertake in distributing his products. He can appropriately be held liable for physical injuries caused by defects by requiring his goods to match a standard of safety defined in terms of conditions that create unreasonable risks of harm. He cannot be held for the level of performance of his products in the consumer's business unless he agrees that the product was designed to meet the consumer's demands. . . . Even in actions for negligence, a manufacturer's liability is limited to damages for physical injuries and there is no recovery for economic loss alone.⁸⁷

The *Seely* court observed that the basis of strict product liability was the avoidance of "overwhelming misfortune" to injured persons, losses that can be "insured by the manufacturer and distributed among the public as a cost of doing business."⁸⁸ This rationale of strict product liability "in no way justifies requiring the consuming public to pay more for their products so that a manufacturer can insure against the possibility that some of his products will not meet the business needs of some of his customers."⁸⁹

In another aspect of the case, *Seely* sought recovery for damage sustained by the truck when it overturned in an accident.⁹⁰ The claim was denied because "galloping" was not shown to have caused the accident.⁹¹ The court nonetheless agreed that "the doctrine of strict liability in tort should be extended to govern physical injury to plaintiff's property."⁹² The totality of the court's reasoning was that "[p]hysical injury to property is so akin to personal injury that there is no reason for distinguishing them."⁹³

In general, the position taken by the California court in *Seely* has been followed in subsequent decisions in other states. If a product fails to function properly, the buyer usually incurs expenses in repairing or replacing the product. In addition, the buyer's business may be disrupted, resulting in lost profits. Such "economic losses" generally cannot be recovered in tort actions alleging negligence or strict prod-

86. *Id.* at 13-14, 403 P.2d at 148, 45 Cal. Rptr. at 20.

87. *Id.* at 18, 403 P.2d at 151, 45 Cal. Rptr. at 23.

88. *Id.* at 18-19, 403 P.2d at 151, 45 Cal. Rptr. at 23.

89. *Id.* at 19, 403 P.2d at 151, 45 Cal. Rptr. at 23.

90. *Id.*, 403 P.2d at 152, 45 Cal. Rptr. at 24.

91. *Id.*

92. *Id.*

93. *Id.*

uct liability.⁹⁴ If, however, the defect in the product causes physical injury to property, tort remedies are available.⁹⁵ This distinction is easy to apply in some cases, but it poses severe difficulties in others.

There is no question that recovery may be had, in strict liability or in negligence, if a defective product poses a hazard to other property of the buyer and inflicts damage on that property. For example, in *Hales v. Green Colonial, Inc.*,⁹⁶ the plaintiffs brought an action in strict liability when a gas heater manufactured by the defendant malfunctioned and started a fire that destroyed the plaintiffs' premises.⁹⁷ The court awarded damages for the property loss, for the cost of cleanup and repair, and for lost profits.⁹⁸ The court observed:

We are not here dealing with the typical "loss of bargain" issue. There is no claim that loss of profits were caused by the defective heater inadequately heating the building or that the plaintiffs incurred damages from loss of use of the heater. . . . Here the defective heater burned plaintiffs' building and disrupted their business for eight months. Loss of profits by reason of the tortious destruction of the plaintiffs' business was a foreseeable damage ordinarily cognizable in tort liability⁹⁹

Recovery has been allowed in other cases in which property of the buyer (other than the purchased product) was damaged by defects that caused fires¹⁰⁰ or explosions;¹⁰¹ contributed to the crash of air-

94. See *infra* note 119.

95. See *infra* notes 96-111.

96. 490 F.2d 1015 (8th Cir. 1974).

97. *Id.* at 1017.

98. *Id.* at 1022.

99. *Id.*

100. *Nicor Supply Ships v. General Motors Corp.*, 876 F.2d 501 (5th Cir. 1989) (action in tort, not further explained); *Gates Rubber Co. v. Irathane Sys.*, 710 F.2d 501 (8th Cir. 1983) (negligence and strict liability); *Eastern Refractories Co. v. Forty Eight Insulations, Inc.*, 658 F. Supp. 197 (S.D.N.Y. 1987) (negligence and strict liability); *Insurance Co. of N. Am. v. General Elec. Co.*, 376 F. Supp. 638 (W.D. Va. 1974) (negligence); *Monsanto Co. v. Alden Leeds, Inc.*, 130 N.J. Super. 245, 326 A.2d 90 (Sup. Ct. 1974) (negligence and strict liability); *Potsdam Welding & Mach. Co. v. Neptune Microfloc, Inc.*, 57 A.D.2d 993, 394 N.Y.S.2d 744 (1977) (strict liability); *All-O-Matic Indus. v. Southern Specialty Paper Co.*, 49 A.D.2d 935, 374 N.Y.S.2d 331 (1975) (strict liability); *Signal Oil & Gas Co. v. Universal Oil Prods.*, 572 S.W.2d 320 (Tex. 1978) (strict liability); *Bombardi v. Pochel's Appliance & TV Co.*, 9 Wash. App. 797, 515 P.2d 540 (strict liability), *modified*, 10 Wash. App. 243, 518 P.2d 202 (1973); *Star Furniture Co. v. Pulaski Furniture Co.*, 297 S.E.2d 854 (W. Va. 1982) (strict liability).

101. *Boone Valley Coop Processing Ass'n v. French Oil Mill Mach. Co.*, 383 F. Supp. 606 (N.D. Iowa 1974) (allowing lost profits in negligence and strict liability case); *Dealers Transp. Co. v. Battery Distrib. Co.*, 402 S.W.2d 441 (Ky. 1965) (negligence and strict liability). *Contra Cline v. Prowler Indus.*, 418 A.2d 968 (Del. 1980) (holding that the UCC preempts strict liability actions in sales transactions).

craft¹⁰² or the collapse of industrial equipment;¹⁰³ destroyed or contaminated agricultural products;¹⁰⁴ or damaged or contaminated buildings.¹⁰⁵ Some courts have gone further, permitting recovery when the defective product rendered a building or work environment unsafe, even though no personal injury or property damage had occurred.¹⁰⁶ Others have allowed recovery when the property dam-

102. *James v. Bell Helicopter Co.*, 715 F.2d 166 (5th Cir. 1983) (strict liability); *Sterner Aero AB v. Page Airmotive, Inc.*, 499 F.2d 709 (10th Cir. 1974) (negligence and strict liability). In each of these cases, the defective product was a component of the aircraft, not the aircraft itself.

103. *ICI Austl. Ltd. v. Elliott Overseas Co.*, 551 F. Supp. 265 (D.N.J. 1982) (negligence and strict liability); *Northern States Power Co. v. International Tel. & Tel. Corp.*, 550 F. Supp. 108 (D. Minn. 1982) (negligence and strict liability); *Fordyce Concrete, Inc. v. Mack Trucks, Inc.*, 535 F. Supp. 118 (D. Kan. 1982) (strict liability); *Southern Cal. Edison Co. v. Harnischfeger Corp.*, 120 Cal. App. 3d 842, 175 Cal. Rptr. 67 (1981) (negligence and strict liability); *Mike Bajalia, Inc. v. Amos Constr. Co.*, 142 Ga. App. 225, 235 S.E.2d 664 (1977) (negligence and strict liability).

104. *Shields v. Morton Chem. Co.*, 95 Idaho 674, 518 P.2d 857 (1974) (strict liability); *Van Wyk v. Norden Laboratories, Inc.*, 345 N.W.2d 81 (Iowa 1984) (strict liability); *Chandler v. Anchor Serum Co.*, 198 Kan. 571, 426 P.2d 82 (1967) (strict liability); *Streich v. Hilton-Davis, Div. of Sterling Drug, Inc.*, 214 Mont. 44, 692 P.2d 440 (1984) (negligence and strict liability); *O.M. Franklin Serum Co. v. C.A. Hoover & Son*, 410 S.W.2d 272 (Tex. Civ. App. 1966) (strict liability), *aff'd per curiam*, 418 S.W.2d 482 (Tex. 1967); *Tony Spychalla Farms v. Hopkins Agric. Chem. Co.*, 151 Wis. 2d 431, 444 N.W.2d 743 (1989) (strict liability); *cf. Blommer Chocolate Co. v. Bongards Creameries, Inc.*, 635 F. Supp. 911 (N.D. Ill. 1985) (sustaining negligence claim where contaminated ingredient led to contamination of chocolates and chocolate processing facilities); *Starks Feed Co. v. Consolidated Badger Co.*, 592 F. Supp. 1255 (N.D. Ill. 1984) (disallowing claim for feed contaminated by defective ingredient, but sustaining claim for injuries to livestock consuming contaminated feed). *But cf. Brown v. Western Farmers Ass'n*, 268 Or. 470, 521 P.2d 537 (1974) (rejecting strict liability claim for damage to chickens and eggs caused by defective feed).

105. *City of Greenville v. W.R. Grace & Co.*, 827 F.2d 975 (4th Cir. 1987) (negligence; asbestos products); *Adams-Arapahoe School Dist. No. 28J v. Celotex Corp.*, 637 F. Supp. 1207 (D. Colo. 1986) (negligence and strict liability; asbestos products); *City of Manchester v. National Gypsum Co.*, 637 F. Supp. 646 (D.R.I. 1986) (negligence and strict liability; asbestos products); *Town of Hooksett School Dist. v. W.R. Grace & Co.*, 617 F. Supp. 126 (D.N.H. 1984) (negligence and strict liability; asbestos products); *Cinnaminson Township Bd. of Educ. v. U.S. Gypsum Co.*, 552 F. Supp. 855 (D.N.J. 1982) (strict liability; asbestos products); *Shooshanian v. Wagner*, 672 P.2d 455 (Alaska 1983) (negligence and strict liability; non-asbestos insulation); *Board of Educ. v. A, C & S, Inc.*, 131 Ill. 2d 428, 546 N.E.2d 580 (1989) (negligence and strict liability; asbestos products); *School Dist. v. U.S. Gypsum Co.*, 750 S.W.2d 442 (Mo. Ct. App. 1988) (strict liability; asbestos products); *cf. U.S. Home Corp. v. George W. Kennedy Constr. Co.*, 565 F. Supp. 67 (N.D. Ill. 1983) (strict liability; defective sewer pipe damaged other sections of sewer system); *Walker v. Decora, Inc.*, 225 Tenn. 504, 471 S.W.2d 778 (1971) (negligence; defective floor coating created an offensive odor).

106. *Consumers Power Co. v. Curtiss-Wright Corp.*, 780 F.2d 1093 (3d Cir. 1986) (negligence and strict liability; dangerous equipment); *Corfab, Inc. v. Modine Mfg. Co.*, 641 F. Supp. 448 (N.D. Ill. 1986) (negligence and strict liability; dangerous equipment); *Philadelphia Nat'l Bank v. Dow Chem. Co.*, 605 F. Supp. 60 (E.D. Pa. 1985) (strict liability; dangerous building); *Agristor Credit Corp. v. Schmidlin*, 601 F. Supp. 1307 (D. Or. 1985) (strict liability; dangerous equipment); *Kodiak Elec. Ass'n v. DeLaval Turbine Inc.*, 694 P.2d 150 (Alaska 1984) (strict liability; dangerous equipment); *United Air Lines, Inc. v. CEI Indus.*, 148 Ill.

age was to work-in-progress or was otherwise relatively minor in scope.¹⁰⁷ The endangerment cases, and those basing tort liability on trivial and incidental impacts on physical property, have made the distinction between property damage and economic loss indistinct and elusive. At times, the inquiry takes on a metaphysical quality—as in the finding of one court that a malfunctioning mechanical planter had inflicted property damage on a crop that had never been planted.¹⁰⁸

When, as a result of a defect, the purchased product alone is

App. 3d 332, 499 N.E.2d 558 (1986) (negligence; dangerous building); Trustees of Columbia Univ. v. Exposaic Indus., Inc., 122 A.D.2d 747, 505 N.Y.S.2d 882 (1986) (negligence and strict liability; dangerous building). The "building contamination" cases, *supra* note 105, also cite safety hazards. Other decisions, however, find no more than "economic loss" when a hazardous condition has not resulted in personal injury or physical property damage. See County of Suffolk v. Long Island Lighting Co., 728 F.2d 52 (2d Cir. 1984) (negligence and strict liability); Bright v. Goodyear Tire & Rubber Co., 463 F.2d 240 (9th Cir. 1972) (negligence and strict liability); Sioux City Community School Dist. v. International Tel. & Tel. Corp., 461 F. Supp. 662 (N.D. Iowa 1978) (strict liability); Trans World Airlines v. Curtiss-Wright Corp., 1 Misc. 2d 477, 148 N.Y.S.2d 284 (Sup. Ct. 1955) (negligence).

107. Mercer v. Long Mfg. N.C., Inc., 665 F.2d 61 (5th Cir. 1982) (strict liability; damage to crop being harvested); LeSueur Creamery, Inc. v. Haskon, Inc., 660 F.2d 342 (8th Cir. 1981) (negligence; damage to cheese being processed), *cert. denied*, 455 U.S. 1019 (1982); Abco Metals Corp. v. J.W. Imports Co., 560 F. Supp. 125 (N.D. Ill. 1982) (strict liability and negligence; damage to wire being processed), *aff'd sub nom.* Abco Metals Corp. v. Equico Lessors, Inc., 721 F.2d 583 (7th Cir. 1983); Pisano v. American Leasing, 146 Cal. App. 3d 194, 194 Cal. Rptr. 77 (1983) (negligence; damage to wooden cabinets being processed; recovery in strict liability for commercial losses rejected). By contrast, many courts refuse to impose tort liability on the basis of minor property damage. See Republic Steel Corp. v. Pennsylvania Eng'g Corp., 785 F.2d 174 (7th Cir. 1986) (negligence and strict liability; damage to related equipment); 2000 Watermark Ass'n v. Celotex Corp., 784 F.2d 1183 (4th Cir. 1986) (negligence; damage to adjacent materials); Chicago Heights Venture v. Dynamit Nobel of Am., 782 F.2d 723 (7th Cir. 1986) (negligence; damage to adjacent materials and to interior of building); Daitom, Inc. v. Pennwalt Corp., 741 F.2d 1569 (10th Cir. 1984) (negligence; damage to adjacent materials); Gillette Dairy, Inc. v. Mallard Mfg. Corp., 707 F.2d 351 (8th Cir. 1983) (strict liability; damage to ice cream being processed); Jones & Laughlin Steel Corp. v. Johns-Manville Sales Corp., 626 F.2d 280 (3d Cir. 1980) (negligence and strict liability; damage to interior of building); Florida Power & Light Co. v. McGraw Edison Co., 696 F. Supp. 617 (S.D. Fla. 1988) (negligence and strict liability; damage to adjacent materials), *aff'd*, 875 F.2d 873 (11th Cir. 1989); Roxalana Hills, Ltd. v. Masonite Corp., 627 F. Supp. 1194 (S.D. W. Va. 1986) (negligence and strict liability; damage to adjacent materials), *aff'd per curiam*, 813 F.2d 1228 (4th Cir. 1987); Agristor Leasing v. Guggisberg, 617 F. Supp. 902 (D. Minn. 1985) (negligence and strict liability; damage to contents of feed storage system); Dixie-Portland Flour Mills, Inc. v. Nation Enters., 613 F. Supp. 985 (N.D. Ill. 1985) (negligence and strict liability; damage to other ingredients and packaging); National Can Corp. v. Whittaker Corp., 505 F. Supp. 147 (N.D. Ill. 1981) (negligence; damage to contents of cans); Nelson v. Todd's Ltd., 426 N.W.2d 120 (Iowa 1988) (strict liability; damage to food being processed); Minneapolis Soc'y of Fine Arts v. Parker-Klein Assocs. Architects, Inc., 354 N.W.2d 816 (Minn. 1984) (negligence and strict liability; damage to adjacent materials).

108. Manning v. International Harvester Co., 381 N.W.2d 376 (Iowa Ct. App. 1985). Another source of uncertainty is the distinction between sales of products and the provision of services. Some courts refuse to apply the "economic loss" doctrine to service contracts. See, e.g., Unger v. Bryant Equip. Sales & Servs. Co., 255 Ga. 53, 335 S.E.2d 109 (1985) (permitting a tort action alleging negligent installation and servicing of leased milking equipment).

damaged or destroyed in an accident-like occurrence, many courts allow recovery in negligence and strict liability.¹⁰⁹ There is, however, a substantial minority view,¹¹⁰ recently reinforced by the United States Supreme Court in an admiralty decision. In *East River Steamship Corp. v. Transamerica Delaval, Inc.*,¹¹¹ Seatrain and affiliated

109. *Sharon Steel Corp. v. Lakeshore, Inc.*, 753 F.2d 851 (10th Cir. 1985) (New Mexico law) (negligence, but recovery not permitted in strict liability); *James v. Bell Helicopter Co.*, 715 F.2d 166 (5th Cir. 1983) (Illinois law) (strict liability); *Comind, Companhia de Seguros v. Sikorsky Aircraft Div. of United Technologies Corp.*, 116 F.R.D. 397 (D. Conn. 1987) (admiralty and Connecticut law) (negligence and strict liability); *Corporate Air Fleet v. Gates Learjet, Inc.*, 589 F. Supp. 1076 (M.D. Tenn. 1984) (Tennessee law) (negligence and strict liability); *Fordyce Concrete, Inc. v. Mack Trucks, Inc.*, 535 F. Supp. 118 (D. Kan. 1982) (Kansas law) (strict liability); *C & S Fuel, Inc. v. Clark Equip. Co.*, 524 F. Supp. 949 (E.D. Ky. 1981) (Kentucky law) (negligence and strict liability); *Hardly Able Coal Co. v. International Harvester Co.*, 494 F. Supp. 249 (N.D. Ill. 1980) (Kentucky law) (strict liability); *Cloud v. Kit Mfg. Co.*, 563 P.2d 248 (Alaska 1977) (strict liability; consumer product); *Salt River Project Agric. Improvement & Power Dist. v. Westinghouse Elec. Corp.*, 143 Ariz. 368, 694 P.2d 198 (1984) (strict liability); *Vulcan Materials Co. v. Driltech, Inc.*, 251 Ga. 383, 306 S.E.2d 253 (1983) (negligence); *Long Mfg., N.C., Inc. v. Grady Tractor Co.*, 140 Ga. App. 320, 231 S.E.2d 105 (1976) (negligence); *Vaughn v. General Motors Corp.*, 102 Ill. 2d 431, 466 N.E.2d 195 (1984) (negligence and strict liability); *John R. Dudley Constr. Inc. v. Drott Mfg. Co.*, 66 A.D.2d 368, 412 N.Y.S.2d 512 (1979) (strict liability); *Russell v. Ford Motor Co.*, 281 Or. 587, 575 P.2d 1383 (1978) (strict liability); *Signal Oil & Gas Co. v. Universal Oil Prods.*, 572 S.W.2d 320 (Tex. 1978) (strict liability); *Capitol Fuels, Inc. v. Clark Equip. Co.*, 382 S.E.2d 311 (W. Va. 1989) (strict liability); *Star Furniture Co. v. Pulaski Furniture Co.*, 297 S.E.2d 854 (W. Va. 1982) (strict liability). Dicta in other cases have also approved of recovery under these circumstances. See *Seely v. White Motor Co.*, 63 Cal. 2d 9, 19, 403 P.2d 145, 152, 45 Cal. Rptr. 17, 24 (1965); *Moorman Mfg. Co. v. National Tank Co.*, 91 Ill. 2d 69, 81-86, 435 N.E.2d 443, 448-50 (1982); *National Crane Corp. v. Ohio Steel Tube Co.*, 213 Neb. 782, 789-90, 332 N.W.2d 39, 43 (1983). A Connecticut statute further supports this position, allowing recovery in negligence or strict liability for damage to the product sold. See CONN. GEN. STAT. § 52-572m(d) (Supp. 1988).

110. *Laurens Elec. Corp. Inc. v. Altec Indus.*, 889 F.2d 1323 (4th Cir. 1989) (South Carolina law) (strict liability); *Aloe Coal Co. v. Clark Equip. Co.*, 816 F.2d 110 (3d Cir.) (Pennsylvania law) (negligence) (disapproving *Pennsylvania Glass Sand Corp. v. Caterpillar Tractor Co.*, 652 F.2d 1165 (3d Cir. 1981) (Pennsylvania law) (damage to product itself actionable in strict liability), *cert. denied*, 484 U.S. 853 (1987)); *Florida Power & Light Co. v. McGraw Edison Co.*, 696 F. Supp. 617 (S.D. Fla. 1988) (Florida law) (negligence and strict liability), *aff'd*, 875 F.2d 873 (11th Cir. 1989); *Cargill, Inc. v. Products Eng'g Co.*, 627 F. Supp. 1492 (D. Minn. 1986) (Minnesota law) (negligence and strict liability); *Lloyd Wood Coal Co. v. Clark Equip. Co.*, 543 So. 2d 671 (Ala. 1989) (negligence and strict liability); *Valley Farmers' Elevator v. Lindsay Bros.*, 398 N.W.2d 553 (Minn. 1987) (negligence); *S.J. Groves & Sons v. Aerospatiale Helicopter Corp.*, 374 N.W.2d 431 (Minn. 1985) (negligence and strict liability); *Thofson v. Redex Indus., Inc.*, 433 N.W.2d 901 (Minn. Ct. App. 1988) (negligence and strict liability); *Nelson v. International Harvester Corp.*, 394 N.W.2d 578 (Minn. Ct. App. 1986) (negligence and strict liability); *Tri-State Ins. Co. v. Lindsay Bros.*, 364 N.W.2d 894 (Minn. Ct. App. 1985) (negligence), *aff'd*, 381 N.W.2d 446 (Minn. 1986); *Sharp Bros. Contracting Co. v. American Hoist & Derrick Co.*, 703 S.W.2d 901 (Mo. 1986) (strict liability); *Utah Int'l v. Caterpillar Tractor Co.*, 108 N.M. 539, 775 P.2d 741 (Ct. App. 1989) (negligence and strict liability); *REM Coal Co. v. Clark Equip. Co.*, 563 A.2d 128 (Pa. Super. Ct. 1989) (negligence and strict liability); *Mid Continent Aircraft Corp. v. Curry County Spraying Serv., Inc.*, 572 S.W.2d 308 (Tex. 1978) (strict liability).

111. 476 U.S. 858 (1986).

companies contracted with Delaval for the construction and installation of turbines in vessels owned by Seatrain.¹¹² The turbines in three ships were defective, and a fourth turbine was improperly installed.¹¹³ Plaintiffs sued in strict liability and negligence for the cost of repairing the turbines and for profits lost while the ships were inoperable.¹¹⁴ The Supreme Court held that neither theory was available in the absence of personal injury or damage to other property.¹¹⁵ The Court adopted the reasoning of *Seely*, but extended that reasoning to apply to damage to the defective product:

We realize that the damage [to the defective product] may be qualitative, occurring through gradual deterioration or internal breakage. Or it may be calamitous. But either way, since by definition no person or other property is damaged, the resulting loss is purely economic. Even when the harm to the product itself occurs through an abrupt, accident-like event, the resulting loss due to repair costs, decreased value, and lost profits is essentially the failure of the purchaser to receive the benefit of its bargain—traditionally the core concern of contract law.¹¹⁶

The Court emphasized that warranty law was adequate to give the buyer "the full benefit of its bargain"¹¹⁷ while imposing reasonable limitations on the scope of liability. By contrast, the Court stated that recovery in tort "could subject the manufacturer to damages of an indefinite amount."¹¹⁸

In the absence of accident-like damage to the product itself, or to other property of the buyer, the purchaser typically will be denied recovery in negligence or in strict liability.¹¹⁹ A minority view exists, however, mustering particular support in the case of negligence. For example, in *Berg v. General Motors Corp.*,¹²⁰ GM manufactured an engine, installed by an intermediary in plaintiff's fishing boat.¹²¹ When the engine malfunctioned, the plaintiff sought recovery on a theory of negligence.¹²² The damages sought were economic in nature—lost profits resulting from curtailed operations.¹²³ In

112. *Id.* at 859.

113. *Id.* at 860-61.

114. *Id.* at 859, 861.

115. *Id.* at 875-76.

116. *Id.* at 870 (citations omitted).

117. *Id.* at 873.

118. *Id.* at 874.

119. See *infra* Section VIII (Appendix, "The Economic Loss Doctrine in Commercial Sales Transactions").

120. 87 Wash. 2d 584, 555 P.2d 818 (1976).

121. *Id.* at 585, 555 P.2d at 818.

122. *Id.*

123. *Id.*

allowing recovery, the court reasoned:

The negligent manufacture of [an article purchased by persons operating commercial ventures] poses the foreseeable risk that the output of the entire enterprise would be diminished or even temporarily halted. The specie of harm generated by such work stoppage (lost profits) is well within the zone of danger created and foreseen by the negligent act. . . . [T]here is nothing in the tort of negligence which prevents lost profits from being a specie of recompensable harm which is actionable against the remote manufacturer.¹²⁴

Protection of the buyer may be supplemented by concerns for the consuming public. In *Ales-Peratis Foods International, Inc. v. American Can Co.*,¹²⁵ a packer sustained substantial financial losses when it was unable to package quantities of abalone as a result of defective cans supplied by the defendant.¹²⁶ In upholding the packer's negligence claim, the court emphasized that the cans, if used, would have posed hazards to consumers.¹²⁷ The court observed that society should seek to deter the production of such defective cans and encourage their removal from the stream of commerce when detected by intermediaries;¹²⁸ "[s]hifting this economic loss to the can manufacturer accomplishes both societal objectives."¹²⁹ Moreover, under these circumstances, the packer should not be given the option to pay a lower price and obtain a less safe product. This assumes that "a packager of foods would be willing to gamble on receiving cans which would be not only worthless, but also if used possibly expose his customers to harm and himself to liability."¹³⁰

The lines sought to be drawn in these cases are artificial and unsound. In *Seely*, for example, why distinguish between lost profits attributable to the non-use of the truck and damage to the truck resulting from an accident? Both are dollars out of Seely's pocket. Further, Seely could have insured against accidental damage to the truck if he had wished; a contractual allocation of that risk to Seely would have imposed no unusual burden upon him. Similarly, the buyer in *Hales* could have obtained casualty insurance to cover its fire loss; there was no need to hold the seller accountable in tort in order to afford protection otherwise unavailable to the buyer.

124. *Id.* at 593-94, 555 P.2d at 823. The decision in *Berg* has been superseded by a statute prescribing the opposite result. See WASH. REV. CODE ANN. § 7.72.010(6) (Supp. 1989).

125. 164 Cal. App. 3d 277, 209 Cal. Rptr. 917 (1985).

126. *Id.* at 280-81, 209 Cal. Rptr. at 918.

127. *Id.* at 290, 209 Cal. Rptr. at 924-25.

128. *Id.*

129. *Id.*, 209 Cal. Rptr. at 925.

130. *Id.*

East River reduced some of the uncertainty surrounding this issue by rejecting distinctions respecting injury to the product sold (thereby implicitly rejecting *Seely*'s approach to accidental damage to the truck). But the outcome in *Hales* and related cases, involving damage to "other property," was not affected by *East River*. As long as these rulings stand, it is difficult to resist the results reached in *Berg* and *Ales-Peratis*.

If a negligent manufacturer can be held accountable for injuries to tangible property of the buyer, why not recognize accountability for other losses of a pecuniary character—which may be larger than tangible property losses and more burdensome for the buyer to absorb? The answer, quite simply, is that none of these claims should be cognizable in tort. If there is a contract of sale, commercial losses can be allocated in that contract—either expressly or by implication in the absence of an express provision. One basis for the distinction in *Seely* was the assumption that strict liability could not be waived by contract.¹³¹ But the operative rule, recognized in a substantial number of subsequent opinions, is clearly to the contrary. In the context of commercial dealings, both negligence and strict liability may be waived by contract.¹³²

131. *Seely v. White Motor Co.*, 63 Cal. 2d 9, 17, 403 P.2d 145, 150, 45 Cal. Rptr. 17, 22 (1965). There are some decisions supporting this view. See *In re Jones*, 804 F.2d 1133 (10th Cir. 1986) (Oklahoma law); *Sterner Aero AB v. Page Airmotive, Inc.*, 499 F.2d 709 (10th Cir. 1974) (Oklahoma law); *Florida Steel Corp. v. Whiting Corp.*, 677 F. Supp. 1140 (M.D. Fla. 1988) (Florida law); *Comind, Companhia de Seguros v. Sikorsky Aircraft Div. of United Technologies Corp.*, 116 F.R.D. 397 (D. Conn. 1987) (Connecticut law); *Iowa Elec. Light & Power Co. v. Allis-Chalmers Mfg. Co.*, 360 F. Supp. 25, 27-28 (S.D. Iowa 1973) (Iowa law); *Whitaker v. Farmhand, Inc.*, 173 Mont. 345, 355, 567 P.2d 916, 922 (1977).

132. *Island Creek Coal Co. v. Lake Shore, Inc.*, 832 F.2d 274 (4th Cir. 1987) (Michigan law) (negligence); *Wisconsin Power & Light Co. v. Westinghouse Elec. Corp.*, 830 F.2d 1405 (7th Cir. 1987) (Wisconsin law) (negligence and strict liability); *Illinois Cent. Gulf R.R. v. Pargas, Inc.*, 722 F.2d 253 (5th Cir. 1984) (Illinois law) (negligence); *Airlift Int'l, Inc. v. McDonnell Douglas Corp.*, 685 F.2d 267 (9th Cir. 1982) (California law) (negligence and strict liability); *S.A. Empresa de Viacao Aerea Rio Grandense v. Boeing Co.*, 641 F.2d 746 (9th Cir. 1981) (California and Washington law) (negligence and strict liability); *Tokio Marine & Fire Ins. Co. v. McDonnell Douglas Corp.*, 617 F.2d 936 (2d Cir. 1980) (California law) (negligence and strict liability); *Idaho Power Co. v. Westinghouse Elec. Corp.*, 596 F.2d 924 (9th Cir. 1979) (Idaho law) (negligence and strict liability); *Marr Enters. v. Lewis Refrigeration Co.*, 556 F.2d 951 (9th Cir. 1977) (Washington law) (negligence); *Gates Rubber Co. v. USM Corp.*, 508 F.2d 603 (7th Cir. 1975) (Illinois law) (negligence); *Delta Air Lines, Inc. v. McDonnell Douglas Corp.*, 503 F.2d 239 (5th Cir. 1974) (California law) (negligence and strict liability), *cert. denied*, 421 U.S. 965 (1975); *Keystone Aeronautics Corp. v. R.J. Enstrom Corp.*, 499 F.2d 146 (3d Cir. 1974) (Pennsylvania law) (negligence and strict liability); *Southwest Forest Indus., Inc. v. Westinghouse Elec. Corp.*, 422 F.2d 1013 (9th Cir.) (Arizona and Pennsylvania law) (negligence), *cert. denied*, 400 U.S. 902 (1970); *Island Creek Coal Co. v. Lake Shore, Inc.*, 636 F. Supp. 285 (W.D. Va. 1986) (Michigan law) (negligence), *modified on other grounds*, 832 F.2d 274 (4th Cir. 1987); *Agristor Credit Corp. v. Schmidlin*, 601 F. Supp. 1307 (D. Or. 1985) (Oregon law) (negligence and strict liability); *ICI Austl. Ltd. v. Elliott*

One way of responding to the question of waiver is to hold that strict liability is inapplicable to commercial cases. This is the approach adopted in California, the state that produced the *Seely* dictum. In *Kaiser Steel Corp. v. Westinghouse Electric Corp.*,¹³³ the purchaser of a defective motor sued for profits lost in the shutdown of its plant, alleging strict liability among other theories.¹³⁴ The court held that "products liability does not apply as between parties who: (1) deal in a commercial setting; (2) from positions of relatively equal economic strength; (3) bargain the specifications of the product; and (4) negotiate concerning the risk of loss from defects in it."¹³⁵ The court emphasized:

Since the manufacturer and buyer have bargained in a commercial setting not only for the product but also for the measure and mode of reimbursement for defects in the product, any societal interest in

Overseas Co., 551 F. Supp. 265 (D.N.J. 1982) (New Jersey law) (negligence and strict liability); Tacoma Boatbuilding Co. v. Delta Fishing Co., 28 U.C.C. Rep. Serv. (Callaghan) 26 (W.D. Wash. 1980) (Washington law) (negligence); Thermo King Corp. v. Strick Corp., 467 F. Supp. 75 (W.D. Pa.) (Pennsylvania law) (negligence and strict liability), *aff'd mem.*, 609 F.2d 503 (3d Cir. 1979); Ebasco Servs., Inc. v. Pennsylvania Power & Light Co., 460 F. Supp. 163 (E.D. Pa. 1978) (Pennsylvania law) (negligence and strict liability); Lincoln Pulp & Paper Co. v. Dravo Corp., 445 F. Supp. 507 (D. Me. 1977) (Maine law) (negligence); Cyclops Corp. v. Home Ins. Co., 389 F. Supp. 476 (W.D. Pa. 1975) (Ohio law) (negligence), *aff'd per curiam*, 523 F.2d 1050 (3d Cir. 1975); Potomac Elec. Power Co. v. Westinghouse Elec. Corp., 385 F. Supp. 572 (D.D.C. 1974) (Maryland and Pennsylvania law) (negligence), *rev'd on unspecified grounds*, 527 F.2d 853 (D.C. Cir. 1975); Royal Indem. Co. v. Westinghouse Elec. Corp., 385 F. Supp. 520 (S.D.N.Y. 1974) (New Jersey law) (negligence); Iowa Elec. Light & Power Co. v. Allis-Chalmers Mfg. Co., 360 F. Supp. 25 (S.D. Iowa 1973) (Iowa law) (negligence); U.S. Fibres, Inc. v. Proctor & Schwartz, Inc., 358 F. Supp. 449 (E.D. Mich. 1972) (Michigan and Pennsylvania law) (negligence), *aff'd*, 509 F.2d 1043 (6th Cir. 1975); Fire Ass'n v. Allis-Chalmers Mfg. Co., 129 F. Supp. 335 (N.D. Iowa 1955) (Iowa law) (negligence); Charles Lachman Co. v. Hercules Powder Co., 79 F. Supp. 206 (E.D. Pa. 1948) (Pennsylvania law) (negligence); Philippine Airlines, Inc. v. McDonnell Douglas Corp., 189 Cal. App. 3d 234, 234 Cal. Rptr. 423 (1987) (negligence); Kaiser Steel Corp. v. Westinghouse Elec. Corp., 55 Cal. App. 3d 737, 127 Cal. Rptr. 838 (1976) (strict liability); Delta Air Lines, Inc. v. Douglas Aircraft Co., 238 Cal. App. 2d 95, 47 Cal. Rptr. 518 (1965) (negligence); Rawlings v. Layne & Bowler Pump Co., 93 Idaho 496, 465 P.2d 107 (1970) (negligence); Mid-America Sprayers, Inc. v. United States Fire Ins. Co., 8 Kan. App. 2d 451, 660 P.2d 1380 (1983) (negligence and strict liability); Westfield Chem. Corp. v. Burroughs Corp., 21 U.C.C. Rep. Serv. (Callaghan) 1293 (Mass. Super. Ct. 1977) (negligence); Monsanto Co. v. Alden Leeds, Inc., 130 N.J. Super. 245, 326 A.2d 90 (Super Ct. App. Div. 1974) (negligence and strict liability); New River Crushed Stone, Inc. v. Austin Powder Co., 24 N.C. App. 285, 210 S.E.2d 285 (1974) (negligence); K-Lines, Inc. v. Roberts Motor Co., 273 Or. 242, 541 P.2d 1378 (1975) (strict liability); Atlas Mut. Ins. Co. v. Moore Dry Kiln Co., 38 Or. App. 111, 589 P.2d 1134 (1979) (negligence and strict liability); see also McNichols, *Who Says That Strict Tort Disclaimers Can Never be Effective? The Courts Cannot Agree*, 28 OKLA. L. REV. 494 (1975); Note, *Enforcing Waivers in Products Liability*, 69 VA. L. REV. 1111, 1116-18 (1983) (distinguishing commercial losses from consumer injuries).

133. 55 Cal. App. 3d 737, 127 Cal. Rptr. 838 (1976).

134. *Id.* at 740, 127 Cal. Rptr. at 840.

135. *Id.* at 748, 127 Cal. Rptr. at 845.

loss shifting is absent. Whether the loss is thrust initially upon the manufacturer or customer, it is ultimately passed along as a cost of doing business included in the price of the products of one or the other and thus spread over a broad commercial stream.¹³⁶

Other courts have sustained contractual allocations of risk—including tort liability—because they perceived them to be both efficient and fair. In *Ebasco Services, Inc. v. Pennsylvania Power & Light Co.*,¹³⁷ an electric utility sought to recover the cost of replacement power made necessary by malfunctioning equipment.¹³⁸ Upholding a limitation of liability provision against claims based on warranty, negligence, and strict liability, the court observed:

(a) [Because of the nature of the equipment], frequent forced or scheduled outages are inevitable and cannot be completely eliminated in spite of the extraordinary care and precision with which such machinery is designed, manufactured or operated.

(b) The potential financial risk of these outages is too great for the suppliers to assume under the prices that are charged for the equipment. Furthermore, they could not be predicted or calculated with any precision.

(c) Utilities can manage and control the risk more efficiently and at less cost than the suppliers.¹³⁹

A similar opinion was voiced in *Delta Air Lines, Inc. v. Douglas Aircraft Co.*¹⁴⁰ Delta, the purchaser of an airplane from Douglas, brought an action against the manufacturer to recover for damages sustained by the aircraft when a nose wheel collapsed.¹⁴¹ Delta asserted that the manufacturer was negligent, but a provision in the purchase contract excused Douglas in the event of negligence:¹⁴²

Under the contract before us, Delta (or its insurance carrier if any) bears that risk in return for a purchase price acceptable to it; had the clause been removed, the risk would have fallen on Douglas (or its insurance carrier if any), but in return for an increased price deemed adequate by it to compensate for the risk assumed. We can see no reason why Delta, having determined, as a matter of business judgment, that the price fixed justified assuming the risk of loss, should now be allowed to shift the risk so assumed to Douglas, which had neither agreed to assume it nor been compen-

136. *Id.*

137. 460 F. Supp. 163 (E.D. Pa. 1978).

138. *Id.* at 167.

139. *Id.* at 222.

140. 238 Cal. App. 95, 47 Cal. Rptr. 518 (1965).

141. *Id.* at 97, 47 Cal. Rptr. at 519.

142. *Id.* at 97, 100, 47 Cal. Rptr. at 519, 521.

sated for such assumption.¹⁴³

While these cases reflect the general view, some courts have expressed a reluctance to permit waivers of negligence and strict liability, particularly in cases where products pose a risk of physical injury to person or property. For example, in *Salt River Project Agricultural Improvement & Power District v. Westinghouse Electric Corp.*,¹⁴⁴ a gas turbine generator purchased by Salt River from Westinghouse exploded—causing \$1.9 million in damage to itself and \$50 thousand in consequential damages.¹⁴⁵ The court sustained a limitation of liability clause as to Salt River's warranty claim,¹⁴⁶ but remanded for further hearings as to the applicability of the limitation to Salt River's claim in strict product liability.¹⁴⁷ In so deciding, the court emphasized that the "law frowns upon tort disclaimers because they tend to undermine the prophylactic principles of tort law" that provide incentives to produce safe products.¹⁴⁸ There are a number of other decisions to the same effect.¹⁴⁹ An extreme example is *Held v. Mitsubishi Aircraft International, Inc.*¹⁵⁰ In *Held*, the purchaser of an aircraft sought to recover for damages incurred in a crash, arguing

143. *Id.* at 104-05, 47 Cal. Rptr. at 524. There was evidence that Douglas had been prepared to provide a more extensive warranty for a higher price. *Id.* at 103 n.5, 47 Cal. Rptr. at 523 n.5; *accord* *Appalachian Ins. Co. v. McDonnell Douglas Corp.*, 214 Cal. App. 3d 1, 262 Cal. Rptr. 716 (1989).

144. 143 Ariz. 368, 694 P.2d 198 (1984).

145. *Id.* at 372, 374, 378, 694 P.2d at 202, 204, 208.

146. *Id.* at 374, 694 P.2d at 204.

147. *Id.* at 384-85, 694 P.2d at 214-15.

148. *Id.* at 384, 694 P.2d at 214.

149. *JIG The Third Corp. v. Puritan Marine Ins. Underwriters Corp.*, 519 F.2d 171 (5th Cir. 1975) (admiralty) (negligence and strict liability), *cert. denied*, 424 U.S. 954 (1976); *Feeders, Inc. v. Monsanto Co.*, No. Civ. 4-77-306 (D. Minn. May 15, 1981) (LEXIS, Genfed library, Dist file) (negligence); *Mead Corp. v. Allendale Mut. Ins. Co.*, 465 F. Supp. 355 (N.D. Ohio 1979) (Ohio law) (negligence and strict liability); *Lincoln Pulp & Paper Co. v. Dravo Corp.*, 436 F. Supp. 262 (D. Me. 1977) (Pennsylvania law) (negligence); *Boone Valley Coop. Processing Ass'n v. French Oil Mill Mach. Co.*, 383 F. Supp. 606 (N.D. Iowa 1974) (Iowa law) (negligence and strict liability); *Neville Chem. Co. v. Union Carbide Corp.*, 294 F. Supp. 649 (W.D. Pa. 1968) (Pennsylvania law) (negligence), *rev'd on other grounds*, 422 F.2d 1205 (3d Cir.), *cert. denied*, 400 U.S. 826 (1970); *Arrow Transp. Co. v. Fruehauf Corp.*, 289 F. Supp. 170 (D. Or. 1968) (Oregon law) (negligence and strict liability); *Southern Cal. Edison Co. v. Harnischfeger Corp.*, 120 Cal. App. 3d 842, 175 Cal. Rptr. 67 (1981) (negligence and strict liability); *Basin Oil Co. v. Baash-Ross Tool Co.*, 125 Cal. App. 2d 578, 271 P.2d 122 (1954) (negligence); *Ivey Plants, Inc. v. FMC Corp.*, 282 So. 2d 205 (Fla. Dist. Ct. App. 1973) (negligence), *cert. denied*, 289 So. 2d 731 (Fla. 1974); *Manning v. International Harvester Co.*, 381 N.W.2d 376 (Iowa Ct. App. 1985) (negligence); *Fleming v. Stoddard Wendle Motor Co.*, 70 Wash. 2d 465, 423 P.2d 926 (1967) (negligence); *Phillips Petroleum Co. v. Bucyrus-Erie Co.*, 131 Wis. 2d 21, 388 N.W.2d 584 (1986) (negligence). *But cf.* *Lincoln Pulp & Paper Co. v. Dravo Corp.*, 445 F. Supp. 507 (D. Me. 1977) (Maine law) (negligence).

150. 672 F. Supp. 369 (D. Minn. 1987) (Texas law).

that the aircraft had been negligently designed.¹⁵¹ The contract of sale provided that the seller's repair-or-replace warranty was "in lieu of all other obligations, liabilities and duties [of the seller] for any loss, expense, or damage arising out [sic] the sale, use or operation of the [aircraft], whether caused by [the seller's] negligence or otherwise."¹⁵² The court held that because "[t]he clause does not refer to losses arising out of design defects . . . it is not effective to preclude an action based on negligent design."¹⁵³

Accordingly, the availability of an action in negligence or in strict product liability may be significant, even in circumstances in which the parties are said to be free to reallocate risks, if in practice courts adopt hostile attitudes towards contractual provisions that seek to achieve just such a reallocation. Business uncertainties could be reduced, and the relevant issues could be more sharply focused, if commercial buyers were compelled to rely exclusively on the contract remedies of the UCC. The Code provides for the recovery of all categories of damage—to the product itself, to other tangible property, and to the profitability of the buyer's business—but the UCC also provides a structured basis for allocating risks of loss, one generally respected by the courts.

B. *Misrepresentation*

In the context of product liability, the law of misrepresentation is unusually complex. If physical harm results from a misrepresentation, liability may be premised on either negligence¹⁵⁴ or strict product liability.¹⁵⁵ If, however, the only loss is pecuniary, the Restatement of Torts allows recovery if the misrepresentation is the product of negligence,¹⁵⁶ but affords only limited relief (in the nature of restitution) if the representation is innocent.¹⁵⁷

In judicial determinations involving pecuniary loss, the courts are divided. The leading case sustaining liability is *Randy Knitwear*,

151. *Id.* at 372-73.

152. *Id.* at 383.

153. *Id.* at 384.

154. RESTATEMENT (SECOND) OF TORTS § 311 (1977).

155. *Id.* § 402B.

156. *Id.* § 552. Although Section 552 is normally applied to suppliers of information and not to suppliers of goods, its terms are not so limited, and it has been invoked in some commercial sales transactions. See, e.g., *United States Welding, Inc. v. Burroughs Corp.*, 587 F. Supp. 49 (D. Colo. 1984) (lease of computer system), *rev'd on other grounds*, 640 F. Supp. 350 (D. Colo. 1985).

157. RESTATEMENT (SECOND) OF TORTS § 552C. For a discussion of the evolution of the Restatement position and its consistency (or inconsistency) with precedent and general legal principles, see Hill, *Damages for Innocent Misrepresentations*, 73 COLUM. L. REV. 679 (1973).

*Inc. v. American Cyanamid Co.*¹⁵⁸ In *Randy Knitwear*, American Cyanamid manufactured resins, which were sold to fabric manufacturers (Apex and Fairtex), for use in treating fabrics to make them shrink-resistant.¹⁵⁹ Randy bought fabric from Apex and Fairtex, and, when the fabric shrank, Randy sued Apex, Fairtex, and American Cyanamid for pecuniary loss.¹⁶⁰ American Cyanamid defended against warranty liability by arguing that there was no privity.¹⁶¹ The court upheld Randy's claim on the basis of misrepresentation, finding that American Cyanamid had made representations as to the shrink-resistant quality of fabrics treated with its resins by advertising its product, and by permitting Apex and Fairtex to use labels attesting to the use of American Cyanamid's product.¹⁶² The court reasoned:

We perceive no warrant for holding . . . that strict liability should not here be imposed because the defect involved, fabric shrinkage, is not likely to cause personal harm or injury. . . . Since the basis of liability turns not upon the character of the product but upon the representation, there is no justification for a distinction on the basis of the type of injury suffered or the type of article or goods involved.¹⁶³

While the opinion is premised on a theory of misrepresentation, *Randy Knitwear* could be viewed in more traditional terms, as one permitting recovery for breach of express warranty notwithstanding an absence of privity.

Other courts, however, have based liability on tortious misrepresentation in circumstances in which a warranty claim could not have been sustained. In *Clements Auto Co. v. Service Bureau Corp.*,¹⁶⁴ for example, the buyer of an electronic data processing system sued the supplier for breach of warranty and for fraudulent misrepresentation.¹⁶⁵ The court held that the warranty claim was barred by a disclaimer,¹⁶⁶ but that the fraud claim was actionable even though: (1) the misrepresentation (as to the capability of the system) was neither deliberate nor negligent; (2) the only losses sustained were economic in character; and (3) the contract contained an integration clause purporting to bar reliance upon oral representations.¹⁶⁷

158. 11 N.Y.2d 5, 181 N.E.2d 399, 226 N.Y.S.2d 363 (1962).

159. *Id.* at 8-9, 181 N.E.2d at 400, 226 N.Y.S.2d at 364.

160. *Id.* at 9, 181 N.E.2d at 400, 226 N.Y.S.2d at 364.

161. *Id.* at 9, 181 N.E.2d at 400, 226 N.Y.S.2d at 364-65.

162. *Id.* at 9, 181 N.E.2d at 400, 226 N.Y.S.2d at 365.

163. *Id.* at 15, 181 N.E.2d at 403-04, 226 N.Y.S.2d at 369-70.

164. 444 F.2d 169 (8th Cir. 1971) (Minnesota law).

165. *Id.* at 174.

166. *Id.* at 190.

167. *Id.* at 176, 178, 190-91; accord *Vicon, Inc. v. CMI Corp.*, 657 F.2d 768 (5th Cir. 1981).

There are divergent views on this type of case. In *Wisconsin Power & Light Co. v. Westinghouse Electric Corp.*,¹⁶⁸ the buyer of a transformer sought to recover for misrepresentation after the warranty on the transformer had expired.¹⁶⁹ The buyer claimed that the transformer was not free of defects as the seller had represented.¹⁷⁰ The court rejected this claim, observing that the challenged representation:

[was] not a material representation, but is rather a promise to replace or repair such goods should there prove to be such defects. It is a promise of future performance of a duty that is limited by the terms of a warranty. If plaintiffs in this case can go forward with such a claim, it is clear that no warranty limitations can be effective. Warranties could no longer be limited in time or as to remedies.¹⁷¹

(Tennessee law) (false representation of capacity of asphalt plant); *Northern States Power Co. v. International Tel. & Tel. Corp.*, 550 F. Supp. 108 (D. Minn. 1982) (Minnesota law) (failure of anchor bolts causing physical damage and economic loss; possible fraud); *Walker Truck Contractors, Inc. v. Crane Carrier Co.*, 405 F. Supp. 911 (E.D. Tenn. 1975) (Tennessee law) (defective truck); *Board of Educ. v. A, C & S, Inc.*, 171 Ill. App. 3d 737, 525 N.E.2d 950 (1988) (asbestos insulation posing health hazard); *Irwin v. Carlton*, 369 Mich. 92, 119 N.W.2d 617 (1963) (diseased hogs represented as healthy; infection of buyer's entire herd); *St. Croix Printing Equip., Inc. v. Rockwell Int'l Corp.*, 428 N.W.2d 877 (Minn. Ct. App. 1988) (defective printing press); *County of Chenango Indus. Dev. Agency v. Lockwood Greene Eng'rs, Inc.*, 114 A.D.2d 728, 494 N.Y.S.2d 832 (1985) (defective roof); *Jasper Aviation, Inc. v. McCollum Aviation, Inc.*, 497 S.W.2d 240 (Tenn. 1972) (aircraft in need of repair); *Walker v. Decora, Inc.*, 225 Tenn. 504, 471 S.W.2d 778 (1971) (floor surfacing caused offensive odor, requiring replacement of inventory and renovation of store); *Ford Motor Co. v. Lonon*, 217 Tenn. 400, 398 S.W.2d 240 (1966) (defective tractor); *Cooper Paintings & Coatings, Inc. v. SCM Corp.*, 62 Tenn. App. 13, 457 S.W.2d 864 (1970) (defective roofing material); *Ford Motor Co. v. Taylor*, 60 Tenn. App. 271, 446 S.W.2d 521 (1969) (defective tractor). These cases all involve varying degrees of culpability on the part of the seller. Even in cases where the misrepresentations were described as "innocent," as in *Clements*, there may well have been negligence or reckless disregard of the truth.

168. 645 F. Supp. 1129 (W.D. Wis. 1986) (Wisconsin law), *aff'd*, 830 F.2d 1405 (7th Cir. 1987).

169. *Id.* at 1134-35.

170. *Id.*

171. *Id.* at 1137; *accord* *Henry Heide, Inc. v. WRH Prods. Co.*, 766 F.2d 105 (3d Cir. 1985) (New Jersey law) (warping of plastic trays); *Earman Oil Co. v. Burroughs Corp.*, 625 F.2d 1291, 1294 n.10 (5th Cir. 1980) (Florida law) (adequacy of computer system); *Flow Indus., Inc. v. Fields Constr. Co.*, 683 F. Supp. 527 (D. Md. 1988) (Maryland law) (delay in delivery of pumps); *Radionic Indus., Inc. v. GTE Prods. Corp.*, 665 F. Supp. 622 (N.D. Ill. 1987) (Illinois law) (defective light bulbs); *Cincinnati Gas & Elec. Co. v. General Elec. Co.*, 656 F. Supp. 49 (S.D. Ohio 1986) (Ohio law) (defective nuclear power station); *Wood Prods., Inc. v. CMI Corp.*, 651 F. Supp. 641 (D. Md. 1986) (Maryland law) (defective furnace); *Collegiate Enters. v. Otis Elevator Co.*, 650 F. Supp. 116 (E.D. Mo. 1986) (Missouri law) (defective elevators); *United States Welding, Inc. v. Burroughs Corp.*, 640 F. Supp. 350 (D. Colo. 1985) (Colorado law) (suitability of computer system); *Unifoil Corp. v. Cheque Printers & Encoders, Ltd.*, 622 F. Supp. 268 (D.N.J. 1985) (New Jersey law) (defective aluminum foil); *Dixie-Portland Flour Mills, Inc. v. Nation Enters.*, 613 F. Supp. 985 (N.D. Ill. 1985) (Illinois law)

In addition to divergent views on whether misrepresentation actions are available in commercial sales transactions, there is disagreement as to the efficacy of disclaimers and other limitations on liability.¹⁷² There is also disagreement on whether the parol evidence rule, fortified by contract provisions purporting to bar both prior agreements and reliance on prior representations, is effective to exclude misrepresentation claims.¹⁷³

(sand mixed in with flour); *National Can Corp. v. Whittaker Corp.*, 505 F. Supp. 147 (N.D. Ill. 1981) (Illinois law) (defective seals); *Lykes Bros. Steamship Co. v. Waukesha Bearings Corp.*, 502 F. Supp. 1163 (E.D. La. 1980) (admiralty law) (deficiency in ceramic coated lining); *Moorman Mfg. Co. v. National Tank Co.*, 91 Ill. 2d 69, 435 N.E.2d 443 (1982) (defective storage tank); *Knox College v. Celotex Corp.*, 117 Ill. App. 3d 304, 453 N.E.2d 8 (1983) (defective roofing materials); *Black, Jackson & Simmons Ins. Brokerage, Inc. v. International Business Machs. Corp.*, 109 Ill. App. 3d 132, 440 N.E.2d 282 (1982) (adequacy of computer system); *Boatel Indus., Inc. v. Hester*, 77 Md. App. 284, 550 A.2d 389 (Ct. Spec. App. 1988) (unseaworthy yacht); *Westfield Chem. Corp. v. Burroughs Corp.*, 21 U.C.C. Rep. Serv. (Callaghan) 1293 (Mass. Super Ct. 1977) (adequacy of computer system); *Rio Grande Jewelers Supply, Inc. v. Data Gen. Corp.*, 101 N.M. 798, 689 P.2d 1269 (1984) (adequacy of computer system); cf. *Sullivan v. Allegheny Ford Truck Sales, Inc.*, 283 Pa. Super. 351, 423 A.2d 1292 (1980) (limiting damages to restitutionary relief for deficient truck engine).

One case, however, goes too far. In *Werner & Pfeleiderer Corp. v. Gary Chem. Co.*, 697 F. Supp. 808 (D.N.J. 1988) (New Jersey law), the court refused to allow a claim of fraud in a dispute between commercial entities of relatively equal bargaining power. The seller was charged with knowingly delivering a machine that could not meet the guaranteed production rates specified in the contract. The buyer was limited to remedies under the contract or the UCC. *Id.* at 814-15. But if the contract had been induced by fraud, the buyer should not be bound by the contract and should be permitted to invoke the full range of tort remedies.

172. For cases sustaining disclaimers, see *S.A. Empresa de Viacao Aerea Rio Grandense v. Boeing Co.*, 641 F.2d 746 (9th Cir. 1981) (Washington law); *21st Century Properties Co. v. Carpenter Insulation & Coatings Co.*, 694 F. Supp. 148 (D. Md. 1988) (Maryland law); *Potomac Elec. Power Co. v. Westinghouse Elec. Corp.*, 385 F. Supp. 572 (D.D.C. 1974) (Maryland law), *rev'd on unspecified grounds*, 527 F.2d 853 (D.C. Cir. 1975). None of the cases discussed the issue at any length.

For cases rejecting disclaimers, see *Vicon, Inc. v. CMI Corp.*, 657 F.2d 768 (5th Cir. 1981) (Tennessee law); *M-A-S-H, Inc. v. Fiat-Allis Constr. Mach. Inc.*, 461 F. Supp. 79 (E.D. Tenn. 1978) (Tennessee law), *aff'd per curiam*, 627 F.2d 1091 (6th Cir. 1980); *Walker Truck Contractors, Inc. v. Crane Carrier Co.*, 405 F. Supp. 911 (E.D. Tenn. 1975) (Tennessee law); *Laudisio v. Amoco Oil Co.*, 108 Misc. 2d 245, 437 N.Y.S.2d 502 (Sup. Ct. 1981). In the first three cases, it was unclear whether the courts' rulings were that liability could not be disclaimed, or that the contract terms had simply failed to disclaim liability in the particular cases. In *Laudisio*, moreover, the discussion appears to have been directed to fraud. In other cases, fraud was also at issue and disclaimers were held to be ineffective. See *Agristor Leasing v. Saylor*, 803 F.2d 1401 (6th Cir. 1986) (Tennessee law); *Price Bros. v. Olin Constr. Co.*, 528 F. Supp. 716 (W.D.N.Y. 1981) (New York law); *O'Neil v. International Harvester Co.*, 40 Colo. App. 369, 575 P.2d 862 (1978); *George Robberecht Seafood, Inc. v. Maitland Bros.*, 220 Va. 109, 255 S.E.2d 682 (1979).

173. See, e.g., *Ryder Truck Lines, Inc. v. Goren Equip. Co.*, 576 F. Supp. 1348 (N.D. Ga. 1983) (Georgia law) (merger clause precluded buyer reliance on alleged fraudulent misrepresentations); *Tinker v. De Maria Porsche Audi, Inc.*, 459 So. 2d 487 (Fla. Dist. Ct. App. 1984) (merger clause vitiated by fraud; consumer case), *review denied*, 471 So. 2d 43 (Fla. 1985); *City Dodge, Inc. v. Gardner*, 232 Ga. 766, 208 S.E.2d 794 (1974) (merger clause vitiated by fraud); *Jordan v. Doonan Truck & Equip., Inc.*, 220 Kan. 431, 552 P.2d 881 (1976)

Two recent cases illustrate some of the complexities involved. In *Public Service Co. v. Westinghouse Electric Corp.*,¹⁷⁴ the buyer of a steam turbine generator claimed that the seller had been guilty of fraud in failing to provide the buyer with timely information on the malfunctions of other turbines of the same type.¹⁷⁵ The buyer's turbine sustained damage subsequent to these other incidents and after the expiration of the warranty on its turbine.¹⁷⁶ The court rejected the buyer's claim, stating that to "[a]llow[] the claim to be brought under a theory of intentional tort (herein, fraud) would effectively bypass the entire body of contract law."¹⁷⁷ A similar result was reached on similar facts in *Arkwright-Boston Manufacturers Mutual Insurance Co. v. Westinghouse Electric Corp.*¹⁷⁸ There, the seller's engineers knew of prior turbine malfunctions at the time of the sale to the buyer, but the seller's sales personnel did not obtain this information until a later date (at which time the buyer was notified).¹⁷⁹ The court refused to allow the nondisclosure to serve as the basis for an action of tortious misrepresentation or as a basis for invalidating the seller's warranty limitations;¹⁸⁰ it found that the seller's conduct did not amount to "overreaching or sharp practices."¹⁸¹

(merger clause precluded reliance on oral representations; fraud negated; consumer case); *Deerfield Commodities, Ltd. v. Nerco, Inc.*, 72 Or. App. 305, 696 P.2d 1096 (merger clause precluded seller reliance on alleged fraudulent misrepresentations), *review denied*, 299 Or. 314, 702 P.2d 1111 (1985).

In *St. Croix Printing Equipment, Inc. v. Rockwell International Corp.*, 428 N.W.2d 877 (Minn. Ct. App. 1988), a trial was ordered to determine whether a buyer had justifiably relied on a seller's oral representations antedating a written contract disclaiming warranties. The court observed that "when a party is suing for breach of warranty *and* misrepresentation, it is clear that they are trying to get around the contract provisions." *Id.* at 881. In view of the experience of these parties, the court found that the buyer arguably had "understood the consequences of a final written agreement." *Id.* at 882.

174. 685 F. Supp. 1281 (D.N.H. 1988) (New Hampshire law).

175. *Id.* at 1282, 1289-90.

176. *Id.* at 1283-84.

177. *Id.* at 1290.

178. 844 F.2d 1174 (5th Cir. 1988) (Texas law).

179. *Id.* at 1184.

180. *Id.*

181. *Id.* There is a division in the cases on whether warranty limitations can be circumvented by charging the seller with the tort of negligently failing to warn the buyer of deficiencies discovered subsequent to sale. For decisions supporting such a duty, see *Miller Indus. v. Caterpillar Tractor Co.*, 733 F.2d 813 (11th Cir. 1984) (negligent failure to warn actionable under admiralty law); *McConnell v. Caterpillar Tractor Co.*, 646 F. Supp. 1520 (D.N.J. 1986) (same). But most courts have refused to permit recovery for negligent failure to warn when the claim was for economic loss. See *Nicor Supply Ships v. General Motors Corp.*, 876 F.2d 501 (5th Cir. 1989) (admiralty); *Island Creek Coal Co. v. Lake Shore Inc.*, 692 F. Supp. 629 (W.D. Va. 1988) (Michigan law); *Frey Dairy v. A.O. Smith Harvestore*, 680 F. Supp. 253 (E.D. Mich. 1988), *aff'd*, 886 F.2d 128 (6th Cir. 1989) (Michigan law); *Zidell, Inc. v. Cargo Freight*, 661 F. Supp. 960 (W.D. Wash. 1987) (admiralty); *Allen v. Toshiba Corp.*, 599 F.

In commercial sales transactions, the tort of misrepresentation is largely redundant. If a seller makes material representations which turn out to be false, the buyer can sue for breach of express warranty. If a seller fails to make disclosures about an inferior or defective product, the buyer can sue for breach of implied warranty. In both cases, the claims of the aggrieved buyer are subject to the terms of the seller's warranty, including limitations on liability and restrictions on remedy. Even so, a seller would not be protected against all challenges. In cases involving deliberate fraud, a court would be justified in striking down these contractual impediments to the buyer's claim¹⁸² and permitting recovery for misrepresentation as well as for breach of warranty. In most instances, however, the warranty claim should suffice to protect the buyer.¹⁸³

As in the case of negligence and strict liability, the issues will be more sharply focused and the contractual allocations of risk more generally respected if aggrieved buyers are compelled to proceed under the Uniform Commercial Code.

IV. THE ECONOMICS OF RISK ALLOCATION

The Uniform Commercial Code, as well as many of the judicial decisions concerned with contractual allocations of risk, assume that it is socially desirable to permit contracting parties to allocate risks. That assumption is sound, at least in the context of the commercial sales transactions examined in this Article. The assumption requires further explication, however, including a consideration of applicable limits. Should contractual allocations of risk be sustained despite inequality of bargaining power between buyer and seller? Is the case for contractual allocations undermined by imperfections in the knowledge of the contracting parties? We begin with the general case and then consider possible limitations.

Supp. 381 (D.N.M. 1984) (New Mexico law); *Utah Int'l v. Caterpillar Tractor Co.*, 108 N.M. 539, 775 P.2d 741 (N.M. Ct. App. 1989); *Continental Ins. Co. v. Page Eng'g Co.*, 783 P.2d 641 (Wyo. 1989). For a further discussion of the duty to warn subsequent to sale, see Schwartz, *The Post-Sale Duty to Warn: Two Unfortunate Forks in the Road to a Reasonable Doctrine*, 58 N.Y.U. L. REV. 892 (1983).

If the position in this Article is adopted and the law of torts is held to be inapplicable to commercial sales transactions, a post-sale duty to warn could be imposed as a matter of contract law. As such, it would be amenable to more precise definition in the contract of sale—to the same extent as other specifications are made respecting the responsibilities of the seller.

182. The term "deliberate fraud" refers to statements known to be false and statements made by the seller without regard to their truth or falsity, with the intention of inducing reliance by the prospective buyer.

183. See U.C.C. § 2-721 (1987); cf. RESTATEMENT (SECOND) OF CONTRACTS § 164 (1979).

A. *The Logic of Risk Allocation*

The assumption of additional risk by the manufacturer, in the form of additional warranty responsibility, increases the manufacturer's costs in three ways: (1) product quality must be monitored to reduce the number of product failures; (2) a reserve must be accumulated (or an equivalent liability assumed) to compensate buyers for defects that occur despite improved quality control; and (3) transaction costs are incurred in processing warranty claims.

A buyer benefits from additional warranty protection in two ways: (1) to the extent that there are fewer product failures, the buyer will experience fewer incidents of damage to the purchased product, to other property of the buyer, and to the conduct of the buyer's business; and (2) to the extent that compensation is provided for product failures, the costs of any failures that do occur will be borne by the manufacturer rather than by the buyer. Like the manufacturer, the buyer incurs transaction costs in submitting warranty claims; the buyer's recovery will be reduced by such costs.

From a social perspective, it is desirable to extend warranty protection when the benefits to the buyer exceed the costs to the manufacturer. If the converse is true, and warranty costs exceed warranty benefits, warranty protection should be curtailed.

The typical manufacturer's warranty has three features: (1) a commitment, for a limited period, to repair or replace defective products or parts; (2) a disclaimer of all other warranties, express or implied; and (3) an exclusion of any liability for consequential damages. Under a wide range of circumstances, this form of warranty is likely to be more efficient than the statutorily prescribed remedies of the UCC. Consider the three general categories of commercial loss:

1. *Damage or destruction of the purchased product.* If the damage or destruction occurs within the warranty period and is a result of a product defect, the manufacturer is generally in the best position to provide a remedy of repair or replacement. It has the advantage of knowing its own product; it has the benefits of specialization and perhaps of economies of scale; and it can avoid the problem of moral hazard that arises if a buyer is free to spend the seller's money, with only loose constraints, in unilaterally obtaining replacement or repair. At the same time, the buyer is protected as long as the courts condition the exclusivity of the repair-or-replace remedy on timely and effective action by the manufacturer.¹⁸⁴

2. *Damage to other property of the buyer.* Focusing initially on

184. See *supra* notes 48, 50-51.

casualty losses (fires, explosions, and the like), the buyer may or may not be in the best position to avert the mishap. But the buyer is clearly in the best position to insure against the loss. The standard casualty policy protects the buyer from losses associated with accidents caused by product failures, without segregation of risks or charges. The premium on such policies will be related to the value of the buyer's property and the general risk involved in the buyer's activities.¹⁸⁵ These are matters about which the seller has limited knowledge and almost no control. As to such losses, the buyer is in the best position to obtain optimal coverage under its own policy, described as first-party insurance.¹⁸⁶ The same insurance would apply to damages to the purchased product, occurring after the expiration of the warranty period, as long as the loss is a casualty loss.

The avoidance of unnecessary transaction costs is a major advantage of having the buyer look to its own insurance company. Litigation over the liability of the seller can consume substantial resources, whether the suit is ultimately resolved in favor of the buyer or the seller.

3. *Damage to the business of the buyer (including noncasualty property losses).* Again, the buyer may or may not be in the best position to avert the mishap, but it is clearly in the best position to insure against the loss. The manufacturer-seller cannot obtain insurance against noncasualty losses to the buyer's business.¹⁸⁷ By contrast, the buyer can obtain various types of insurance to guard against losses attributable to business interruption.¹⁸⁸ Further, the buyer can struc-

185. See H. DENENBERG, R. EILERS, J. MELONE & R. ZELTEN, *RISK AND INSURANCE* 460-65, 596-97 (2d ed. 1974); R. RIEGEL & J. MILLER, *INSURANCE PRINCIPLES AND PRACTICES* 621-30 (5th ed. 1966). For a discussion of the classification of insurance risks, see K. ABRAHAM, *DISTRIBUTING RISK: INSURANCE, LEGAL THEORY, AND PUBLIC POLICY* 67-100 (1986).

186. First-party insurance also enables the buyer and his insurance company to negotiate terms that are finely tuned to the costs and risks at stake, such as, ceilings, deductibles, copayments, and exclusions. See Goldberg, *Accountable Accountants: Is Third-Party Liability Necessary?*, 17 J. LEGAL STUD. 295, 305 (1988).

187. See 2 R. LONG, *THE LAW OF LIABILITY INSURANCE* § 11.01, at 11-9 to 11-13, § 11.10, at 11-80 to 11-82 (1989); Arness & Eliason, *Insurance Coverage for "Property Damage" in Asbestos and Other Toxic Tort Cases*, 72 VA. L. REV. 943, 949, 962-69 (1986); Sorensen, *Initial Investigation of Products Liability Claims*, 1974 INS. L.J. 255, 280; Note, *Products Liability Insurance Coverage*, 31 S.C.L. REV. 718, 749-52 (1980). For an illustrative case, see *Yakima Cement Prods. Co. v. Great Am. Ins. Co.*, 93 Wash. 2d 210, 219, 608 P.2d 254, 259 (1980) ("Consequential damages arising from intangible injury may be awarded only when they result directly from injury to or destruction of tangible property." In the absence of property damage arising from defective concrete panels, the expenses of a customer's construction delay were not recoverable.).

188. See A. MILLER, "TYPES OF BUSINESS INTERRUPTION COVERAGE AVAILABLE" IN *BUSINESS INTERRUPTION INSURANCE: A PRIMER* 4-5, 18-20 (1987); R. MORRISON,

ture its operations (by maintaining spare parts, excess capacity, alternative operating modes, and the like) so as to minimize any compounding of losses.

Holding the manufacturer responsible for losses to the buyer's business is inherently inefficient because of problems of adverse selection. Assume, for example, that a machine has a probability of failure of .001 (despite all cost-justified quality control measures). Assume further that the machine is used in businesses with differing degrees of sensitivity to product failure. In *A*'s business, a machine failure will cause losses of \$5,000; in *B*'s business, the losses will be \$50,000; and in *C*'s business, the losses will be \$500,000. If the manufacturer sells the same number of machines to *A*, *B*, and *C*, it would have to charge a premium of \$185 per machine to cover the risks assumed ($(\$555,000 \times .001) / 3$).

This premium would be clearly excessive in the case of *A* and *B*, resulting in either: (1) discontinuance of their use of a machine otherwise suitable for their businesses; or (2) burdening their businesses with costs associated with *C*'s operations—reducing the attractiveness, in terms of price and quality, of the products they sell. *C*, in turn, is subsidized to the extent that *A* and *B* bear part of the costs of *C*'s operations, which are highly sensitive to product failure.

One way of resolving the problem would be for the manufacturer to discriminate in price, charging *A* a \$5 premium, *B* a \$50 premium, and *C* a \$500 premium (totaling the necessary \$555). This approach, however, requires a degree of knowledge not available to manufacturers: information about the nature of each buyer's operations, not only at the time of sale, but subsequent to the sale (as long as the buyers do not change their operations so dramatically as to afford the manufacturer a defense of unforeseeability).¹⁸⁹ Clearly the preferable solution, and the one most compatible with access to relevant information, is to have each buyer assume the risk of disruption of its own business and obtain insurance (or self-insure) against the risk. In effect, *A* would pay a premium to its own insurance company based on \$5,000 per failure; *B* would pay a premium based on \$50,000 per failure; and *C* would pay a premium based on \$500,000 per failure.

If the UCC's allocation of risks is inefficient in many instances, is this a serious shortcoming in the Code? Not necessarily. It would be difficult to formulate a universally applicable repair-or-replace warranty—considering, among other things, the duration of the warranty

BUSINESS INTERRUPTION INSURANCE: ITS THEORY AND PRACTICE 73-76 (1986) (describing some of the risks against which insurance can be obtained).

189. See *supra* notes 75-76.

and the possible exclusions of particular risks from warranty coverage. Moreover, the UCC's formulation may be appropriate for isolated ad hoc transactions in which the parties do not explicitly address the question of risk allocation. By placing the major initial responsibility on sellers, the UCC provides an incentive for sellers to formulate more precise solutions, suitable to their particular needs, and to apprise buyers of the degree of warranty protection afforded. In effect, the UCC forces the seller's hand and compels the seller to devise warranty limitations that are efficient in the context of transactions between the seller and its customers.

B. *Controlling the Incidence of Loss*

The typical repair-or-replace warranty appears to be efficient from the perspective of optimal insurance, considering, *inter alia*, problems of moral hazard and adverse selection. But is this warranty efficient in reducing the risk of loss associated with product defects? Courts resistant to contractual reallocations of risk express concern about the erosion of "prophylactic principles of tort law" that provide incentives to produce safe products.¹⁹⁰ The discussion thus far has maintained an attitude of agnosticism on whether the buyer or the seller is in the best position to avoid losses stemming from product defects.

As to the defect itself, control clearly rests with the seller. As to the consequences of the defect, the buyer exercises significant control, both in the manner in which the product is used and in precautions taken to avoid loss (such as periodic inspections and sensitivity to signs of trouble). In sum, the problem is one of joint care. In such cases, it is not possible to devise a liability rule that is optimal in all instances. For example, the diligence of the seller may be enhanced by increasing the probability that the seller will be held accountable for losses resulting from product defects. But the enhancement of seller diligence comes at the expense of buyer caution: The more probable it is that the seller will be held liable, the less care the buyer will take.

If, for example, a product defect will cause a loss of \$100,000 and the probability of that loss can be reduced by one percent by a seller expenditure of \$700, the expenditure, viewed in isolation, should be made ($.01 \times \$100,000 > \700). Similarly, if the consequences of product failure can be reduced by one percent by a buyer expenditure of \$700, that expenditure, viewed in isolation, should also be made (an

190. See *supra* notes 144-48.

identical calculation). Whether it is efficient for *both parties* to make the precautionary expenditures depends on the interaction between the two efforts. If the combined effects of the efforts of the buyer and seller are largely redundant—achieving a gain of \$1,000 at a cost of \$1,400—the expenditure of one of the parties is a waste. Under such circumstances, only one of the parties should make the precautionary expenditure. If the efforts are substantially independent, each achieving a gain of \$1,000 at a cost of \$700, both expenditures should be made. In most cases, the combined effects will be somewhere between these two extremes. No rule of law can make the appropriate distinctions, at least not with any precision, because the relationship between the efforts of buyers and sellers is strongly influenced by factors that are specific to particular transactions.¹⁹¹

This problem lends itself to a negotiated solution in which risks are allocated, each party assuming the responsibilities that are cost-effective in light of the responsibilities assumed by the other. More specifically, a seller offers a product accompanied by a warranty of particular scope at a certain price. A buyer can then seek to obtain more warranty protection (at a higher price) or less warranty protection (at a lower price) depending on whether the initial allocation assigned too little or too much responsibility to the seller. In making its determination, the buyer will consider: (1) the nature and magnitude of losses anticipated in the event of product failure; (2) the measures at the buyer's disposal to avoid or limit such losses; and (3) whether protection against such losses can be achieved more economically by negotiating a modification of the seller's warranty responsibilities (for example, by paying more to obtain additional protection).

At this point, an objection may be made that in most transactions no negotiation takes place. The buyer is confronted with a warranty term that is designed by the seller and tendered to the buyer on a take-it-or-leave-it basis. We now turn to instances in which negotiation of warranty terms is either unavailable or uninformed. Under such circumstances, can it be said that contractual allocations of risk are efficient and socially desirable?

C. *Objections to Contractual Allocations of Risk*

For present purposes, we assume that the contractual allocation

191. For other discussions of the problem of joint care, see S. SHAVELL, *supra* note 81, at 26-29 (affirming the absence of any single rule yielding optimal results in all cases of joint care); Cooter, *Unity in Tort, Contract, and Property: The Model of Precaution*, 73 CALIF. L. REV. 1, 3-19 (1985) (discussing efficient solutions in accident and contract cases); Priest, *A Theory of the Consumer Product Warranty*, 90 YALE L.J. 1297, 1307-13 (1981) (emphasizing significance of buyer as well as seller precaution).

of risk is not concealed, disguised, or misleading—that is, the parties are informed about the nature of the contractual provision. Under this assumption, two objections may be raised: (1) The contractual provision is not necessarily efficient because it is not freely selected in a competitive market, but is instead imposed by the unilateral action of a powerful seller dictating to a weak buyer; and (2) the contractual provision is not necessarily efficient because the parties (particularly the buyer) are not sufficiently apprised of the risks posed by product defects. We will consider each objection in turn and explore interactions between the two.

1. PROBLEMS OF MARKET POWER

We assume, initially, that the seller's market is competitive and that both parties are knowledgeable about the risks posed by defective products. If under these circumstances an improved warranty will cost sellers \$100 per unit and yield benefits to buyers of \$150 per unit, the improved warranty will be provided. If the improved warranty is presently being offered, a manufacturer withholding the warranty could offer a price reduction of \$100. Knowledgeable buyers, however, would shun such a proposal because it offers a savings of \$100 at a cost of \$150. If the improved warranty is not presently being offered, an innovative producer could increase its market share or raise its price (or both) by offering the improved warranty. For example, an offer of the improved warranty at a price increase of \$125 would be attractive to the innovator and to customers alike, each gaining \$25 per unit over the existing regime. Emulation of the innovator will yield a market in which the improved warranty is offered at cost (\$100 per unit), with customers reaping a net gain of \$50 per unit over the prior price/product combination. In sum, efficient warranties will drive out inefficient warranties in markets characterized by competitive conditions and knowledgeable participants.

Does market power make a difference? Take the extreme case in which the seller is a monopolist (but retaining the premise that both parties are knowledgeable). Assume, once again, that the improved warranty costs the seller \$100 per unit and provides buyers with benefits of \$150 per unit. Assume further that the seller, a monopolist, has established a profit-maximizing price of \$1,050 per unit. It would be in the interest of both parties to increase the price to \$1,175 and to provide the improved warranty. Buyers would achieve a net gain of \$25 per unit and, therefore, would not buy less. The monopolist would obtain \$25 additional profit per unit and, in addition, would be able to sell additional units (the number depending on elasticity of

demand). Assume, for example, that the initial demand and cost schedule confronting the monopolist is as follows:

<i>Output</i>	<i>Price</i>	<i>Unit Cost</i>	<i>Unit Profit</i>	<i>Total Profit</i>
5800	1,065.00	600	465.00	2,697,000
5900	1,057.50	600	457.50	2,699,250
6000	1,050.00*	600	450.00	2,700,000
6100	1,042.50	600	442.50	2,699,250
6200	1,035.00	600	435.00	2,697,200
6300	1,027.50	600	427.50	2,693,250
6400	1,020.00	600	420.00	2,688,000
6500	1,012.50	600	412.50	2,681,250

* Profit-maximizing price.

The addition of the improved warranty would increase cost by \$100 per unit, but would increase demand at every point by \$150. Thus:

<i>Output</i>	<i>Price</i>	<i>Unit Cost</i>	<i>Unit Profit</i>	<i>Total Profit</i>
5800	1,215.00	700	515.00	2,987,000
5900	1,207.50	700	507.50	2,994,250
6000	1,200.00	700	500.00	3,000,000
6100	1,192.50	700	492.50	3,004,250
6200	1,185.00	700	485.00	3,007,000
6300	1,177.50*	700	477.50	3,008,250
6400	1,170.00	700	470.00	3,008,000
6500	1,162.50	700	462.50	3,006,250

* Approximate profit-maximizing price.

At the new profit-maximizing price of \$1,175 (derived by interpolation), output is 6337 units (an increase of 337 units) and total profits are \$3,010,075 (an increase of \$310,075). At the same time, the value of the product to the buyer is increased by \$25—the old price (\$1,050) plus the value of the improved warranty (\$150) minus the new price (\$1,175).

The same reasoning applies to markets that are imperfectly competitive, but not fully monopolized: (1) markets characterized by product differentiation in which each producer has some discretion over price because of the distinctiveness of its product; and (2) markets characterized by small numbers of producers engaged in nonrivalrous behavior (including instances of overt and tacit collusion).

In the case of product differentiation, each producer is a limited monopolist. Within the bounds set by imperfect substitutes, a producer can raise its price without losing all patronage and can lower its price without necessarily triggering responses by rivals. The demand curve faced by each producer is the same as the demand curve faced

by a true monopolist, except that the elasticity of demand is much greater: relatively small changes in price will induce relatively large changes in output as buyers turn to imperfect substitutes. The difference, however, is of no significance. A monopolist, whether facing a demand curve of high or low elasticity, can achieve higher profits (and increased output) by offering optimal warranty protection. The analysis of the monopoly case is not dependent on the elasticity of demand confronting the monopolist and is fully applicable to instances of imperfect competition premised on product differentiation.¹⁹²

As to firms acting in concert, whether overtly or tacitly, the starting point is again the monopoly model. Taking the example previously stated, assume that there are now three firms: each sells 2,000 units of output at a price of \$1,050 and a cost of \$600; and each receives a \$900,000 share in monopoly profits ($\$2,700,000 \div 3$). It would be in the interest of all three participants to move to an improved warranty at a price of \$1,175 and a cost of \$750. Total output would increase by 337 units, presumably shared pro rata, and

192. Consider a monopolist (or producer of a differentiated product) facing an elastic demand curve:

Output	Price	Unit Cost	Unit Profit	Total Profit
4,750	705	600	105	498,750
5,000	700*	600	100	500,000
5,250	695	600	95	498,750
5,500	690	600	90	495,000
5,750	685	600	85	488,750
6,000	680	600	80	480,000
6,250	675	600	75	468,750
6,500	670	600	70	455,000

* Profit-maximizing price.

If an improved warranty increases cost by \$100 and demand by \$150, the new situation facing the producer is:

Output	Price	Unit Cost	Unit Profit	Total Profit
4,750	855	700	155	736,250
5,000	850	700	150	750,000
5,250	845	700	145	761,250
5,500	840	700	140	770,700
5,750	835	700	135	776,250
6,000	830	700	130	780,000
6,250	825*	700	125	781,250
6,500	820	700	120	780,000

* Profit-maximizing price.

Accordingly, the adoption of the improved warranty enables the producer to increase output from 5,000 units to 6,250 units and to increase its profit from \$500,000 to \$781,250.

For a discussion of the similarity between pricing decisions under conditions of monopoly and under conditions of product differentiation, see F. SCHERER, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 15-16, 385 (2d ed. 1980). For a discussion of the economics of product differentiation, see *id.* at 384-405.

each firm would increase its pro rata share of industry profit from \$900,000 to \$1,003,358. Just as a monopolist would find it advantageous to give an improved warranty, the firms comprising a shared monopoly would find it advantageous to do so. The improved warranty would increase the industry profit to be shared among the sellers, thereby increasing their individual shares.¹⁹³

The need for concerted action is not an impediment. Once the

193. This conclusion holds true regardless of the manner in which industry output is shared and regardless of the relative efficiency of the market participants. Assume, for example, that the industry leader controls 40% of output; that its costs are lower than the costs of other participants; and that the other firms have outputs of 30%, 20%, and 10%. Based on the monopoly example in the text, the initial demand and cost schedule facing the leading firm is:

<i>Output</i>	<i>Price</i>	<i>Unit Cost</i>	<i>Unit Profit</i>	<i>Total Profit</i>
2,320	1,065.00	600	465.00	1,078,800
2,360	1,057.50	600	457.50	1,079,700
2,400	1,050.00*	600	450.00	1,080,000
2,440	1,042.50	600	442.50	1,079,700
2,480	1,035.00	600	435.00	1,078,800
2,520	1,027.50	600	427.50	1,077,300
2,560	1,020.50	600	420.00	1,075,200
2,600	1,012.50	600	412.50	1,072,500

*** Profit-maximizing price.**

If an improved warranty increases cost by \$100 and demand by \$150, the new situation facing the industry leader, assuming a continued 40% market share, is:

<i>Output</i>	<i>Price</i>	<i>Unit Cost</i>	<i>Unit Profit</i>	<i>Total Profit</i>
2,320	1,215.00	700	515.00	1,194,800
2,360	1,207.50	700	507.50	1,197,700
2,400	1,200.00	700	500.00	1,200,000
2,440	1,192.50	700	492.50	1,201,700
2,480	1,185.00	700	485.00	1,202,800
2,520	1,177.50*	700	477.50	1,203,300
2,560	1,170.00	700	470.00	1,203,200
2,600	1,162.50	700	462.50	1,202,500

*** Approximate profit-maximizing price.**

At the new profit-maximizing price of \$1,175 (arrived at by interpolation), output is 2,535 units (an increase of 135 units) and firm profits are \$1,204,125 (an increase of \$124,125). The industry leader would adopt a profit-maximizing price and corresponding warranty because it is in that firm's interest to do so; the other sellers must follow suit or offer an inferior combination and lose market share. Other sellers would not quote a lower price or offer a superior warranty because, by hypothesis, they are less efficient than the industry leader. With their higher costs, these other sellers would prefer a higher price than the one selected by the leader, but they are constrained by the price decision of the leader; they could quote a lower price, but only by sacrificing profits to no avail.

It is not necessary that the industry leader act as innovator in this sequence of events. The economic reasoning does not depend on the market share of the innovating firm. Yet, only the leading firm (assumed to be the most efficient) can compel others to follow its lead. An inefficient innovator can be undercut by a more efficient firm, and it might be reluctant to initiate changes that could lead to intensified rivalry. Even so, the improved warranty serves the interests of all producers, and in a context of knowledgeable firms, the innovator would expect emulation with respect to the improved warranty. For a discussion on the dynamics of oligopoly pricing, see F. SCHERER, *SUPRA* note 192 at 156-58.

virtue of an improved warranty is perceived by any one of the three producers, that producer will offer the warranty and make the appropriate price change. In a context of knowledgeable sellers and buyers, the change will be made by the other producers as well. If they failed to do so, they would be offering an inferior product (all things considered), and knowledgeable buyers would shun that product.

Accordingly, as long as all market participants are knowledgeable, there is no reason to object to risk allocation provisions imposed by monopolists or others possessing lesser degrees of market power. The dominant seller has a strong incentive to develop an efficient provision, and both buyer and seller share in the resulting gain.¹⁹⁴

2. PROBLEMS OF IGNORANCE

There are three types of ignorance that need to be considered: (a) buyer ignorance; (b) seller ignorance; and (c) universal ignorance (neither party knowledgeable).

a. Buyer Ignorance

Assume, as before, that an improved warranty costs sellers \$100 per unit and yields benefits of \$150 per unit for buyers. If buyers are ignorant, they might resist the new warranty because they prefer a cost saving of \$100 (or less) to a warranty with unrecognized benefits of \$150. This configuration has posed major problems in analyses of consumer markets,¹⁹⁵ but it is not a significant problem if buyers are commercial enterprises.

i. Competitive Markets

If buyers and sellers operate in competitive markets, buyer ignorance must be massive to prevent the introduction of the improved warranty. If one or more buyers are enlightened enough to seek an improved warranty, the following consequences ensue (assuming the

194. For more formal proofs of the irrelevance of market power absent information deficiencies, see Courville & Hausman, *Warranty Scope and Reliability under Imperfect Information and Alternative Market Structures*, 52 J. BUS. L. 361, 370-73 (1979); M. GEISTFELD, PERFECT INFORMATION AND OPTIMALITY: A THEORY OF CONSUMER PRODUCT WARRANTY REVISITED 4-14, 18-19, 23-25 (Columbia Law School Center for Law & Economic Studies Working Paper No. 29, 1987).

195. See Schwartz & Wilde, *Imperfect Information in Markets for Contract Terms: The Examples of Warranties and Security Interests*, 69 VA. L. REV. 1387, 1425-50 (1983); Spence, *Consumer Misperceptions, Product Failure and Producer Liability*, 44 REV. ECON. STUD. 561, 562-64 (1977); Note, *Imperfect Information, the Pricing Mechanism, and Products Liability*, 88 COLUM. L. REV. 1057, 1059-60 (1988). Shavell makes this same point, but he fails to limit his observation to consumer transactions; yet, the discussion makes clear that consumer cases are the focus of attention. S. SHAVELL, *supra* note 81, at 61-62.

improved warranty is priced at \$125 per unit): Enlightened buyers now have an advantage of \$25 per unit over ignorant buyers, and those who sell to enlightened buyers have an advantage of \$25 per unit over those who sell to ignorant buyers. This is hardly a stable situation. Enlightened buyers will gain in their resale markets at the expense of ignorant buyers, and those who sell to enlightened buyers will gain at the expense of those who sell to ignorant buyers. Ignorance imposes penalties on buyers (as well as on those who sell to such buyers), and such penalties are a threat to survival in competitive markets. Ignorant buyers would be under great pressure to follow in the footsteps of their enlightened rivals, and those who sell to such buyers would have strong incentives to assist in their enlightenment.¹⁹⁶

Product differentiation does not change the underlying analysis. Buyers might be ignorant, not only of the benefits of the improved warranty, but of other features of differentiated products in competition with one another. The burdens of buyer ignorance and the difficulties of seller enlightenment are increased if multiple product features must be compared. But in the end, buyers must meet the test of competition in their resale markets. Buyers choosing the best product (price, warranty, and other features considered) will succeed at the expense of rivals making less wise choices; purchasers of inferior products (price, warranty and other features considered) will find themselves threatened in their resale markets. These purchasers (and their suppliers) will be subjected to market pressures to achieve improved price/product combinations, including improved warranty protection when justified by a comparison of costs and benefits.

It might be argued that product development could proceed at a pace so rapid as to preclude market evaluation and acceptance of a superior price/product combination. Assume, as before, that an improvement yielding benefits of \$150 is priced at \$125 and that ignorant buyers shun the new offering in the mistaken belief that the improvement is not worth the higher price. If the improvement is then superseded by further product developments in a relatively short time, the interval might not be long enough to permit completion of the process of learning and adaptation leading to the domination of the superior price/product combination over inferior price/product

196. One perverse impact may be the attraction of poorly-situated buyers ("lemons") by sellers making more expansive warranties. This problem of adverse selection, however, assumes buyer knowledge. If poorly situated buyers know wherein their interests lie, better situated buyers may be at least as well informed. Moreover, sellers can anticipate, or react to, adverse selection by buyers, and write their warranties so as to minimize or preclude such buyer behavior.

combinations. Anticipating such a rapid succession of products, a producer might choose not to offer the improvement for fear that the expected life of the product would be insufficient to permit a level of market acceptance necessary to make the strategy of innovation a profitable one.

This is a serious problem in the case of improvements involving changes in the physical characteristics of the product.¹⁹⁷ But the concern about potentially short product life is largely inapplicable to decision-making about improved warranties applicable to particular products. A producer incurs very little cost, and runs almost no risk, in introducing an improved warranty. Unlike changes in the physical characteristics of the product, which almost invariably involve a substitution of the new product for the old, the introduction of a new warranty need not exclude the old one. The producer can offer the old (inferior) warranty at the old price and the new (improved) warranty at the appropriate price increment (\$125 in the example given). If buyers respond favorably within the effective life of the product, the improved warranty will gain acceptance in the market. If the product life proves too short to permit such acceptance, the producer incurs a negligible loss (and probably realizes some gain) and buyers who choose the improved warranty clearly derive a benefit. In sum, the producer has everything to gain, and almost nothing to lose, in adopting improved warranties—even in dynamic markets in which the life cycle of the product might be relatively short. For any given product, improved warranties will be offered to buyers whenever a producer perceives that they confer a benefit on the parties in excess of anticipated costs.

ii. Monopolistic Markets

If the seller is an enlightened monopolist, the result is the same—the improved warranty will be provided. Assume, as before, that the initial profit-maximizing price (without the improved warranty) is \$1,050. Under the assumptions previously made, the monopolist would impose the improved warranty at a price of \$1,175. (At worst, assuming extreme inelasticity of demand, the monopolist would not charge more than \$1,200.) At any price below \$1,200, the monopolist has the power to ram the improved warranty down the throats of unwilling buyers.¹⁹⁸ The buyers have nowhere else to go; moreover,

197. On the significance of timing in product innovations, compare Winter, *Economic "Natural Selection" and the Theory of the Firm*, 4 YALE ECON. ISSUES 225, 261-67 (1964) with Alchian, *Uncertainty, Evolution and Economic Theory*, 43 J. POL. ECON. 211, 217-21 (1950).

198. Implicit in this observation is the assumption that those who buy from a monopolist,

they will not be driven out of business nor constrained to buy less product because, whatever their original ignorance, buyers will find that the benefits of the new warranty exceed its costs (by \$25 under the assumptions previously made). As long as the monopolist is knowledgeable, both parties will be better off under the improved warranty; warranty responsibility will be efficiently distributed.¹⁹⁹

Buyer ignorance is a problem only if the buyer is a monopolist in the market in which it engages in resale activity²⁰⁰ and the seller is *not* a monopolist and cannot unilaterally impose the improved warranty on the buyer. Because the buyer is not subject to competition in its own sales, it cannot be compelled by market pressure to accept the improved warranty; in fact, it might persist in refusing to do so. It should be emphasized that it is contrary to the self-interest of the buyer-monopolist to refuse the improved warranty and to forego the opportunity to reduce the net costs of its operations. A reduction in the costs of a monopolist enables it to reduce price, increase output, and increase profits (assuming a constant demand).²⁰¹ This is an example of a "slothful monopolist"—one that engages in inefficient operations but is not subject to market correction as long as its monopoly position is maintained. Nonetheless, because it is in the self-interest of the buyer-monopolist to accept the improved warranty, and because sellers have an interest in achieving the same result, there is good reason to expect that the forces of enlightenment will prevail.

having some significant investments in their businesses, will not cease operations on the announcement of a new price/product combination, but will continue to operate as long as revenues exceed variable costs. Accordingly, they will have an opportunity to learn of the true costs and benefits of the improved warranty and will not thereafter cease operations.

199. There are two variations on the monopoly theme. First, the monopolist may be facing a highly elastic demand curve. Purchasers might switch to other products rather than pay a higher price for the monopolist's product with the improved warranty. This problem of the "weak monopolist" is indistinguishable from the problem of product differentiation. As previously indicated, purchasers achieving the best price/product combination will succeed at the expense of their rivals in resale markets, putting pressure on these rivals to patronize the "weak monopolist" and to accept the improved warranty if that is in fact the best price/product combination available. *See supra* text following note 196. Only ignorance of market-wide dimensions would preclude such an outcome.

Second, monopoly power may be exercised by several firms acting in concert. This poses no distinctive problems. If the leading firm is knowledgeable, it will adopt and impose on its rivals the most efficient warranty term. *See supra* note 193.

200. "Resale activity" is intended to encompass not only situations in which the buyer incorporates the seller's product in the buyer's product, but also situations in which the seller's product is used by the buyer to provide a commercial service.

201. Assume that the buyer is a profit-maximizing monopolist with an output of 6,000 units, a price of \$1,050 per unit, a unit cost of \$600, and a total profit of \$2,700,000. *See supra* Section IV(C)(1). Assuming the demand schedule there described and a cost reduction of \$50 per unit, the results are as follows:

b. Seller Ignorance

If sellers are ignorant of the advantages of offering an improved warranty, none will do so. In competitive markets, however, this ignorance must be massive in order to pose an impediment. Once a competitor recognizes the advantages, it will become an innovator and offer the improved warranty to knowledgeable buyers. To return to the original example, the innovating seller can offer an improved warranty for \$125, providing benefits of \$25 to its buyers (the warranty's benefits are worth \$150) and benefits of \$25 to itself (the cost of the warranty is \$100). Other sellers must emulate the innovating seller or lose market share. The process can also be triggered by the entry of an enlightened seller or by the initiative of an enlightened buyer, who offers a "bribe" of \$125 to an ignorant seller and explains the mutual advantages of the improved warranty. It is doubtful that massive ignorance among sellers will persist for a prolonged period of time in competitive markets.

Product differentiation presents no distinctive problems. Seller ignorance, whether about one or more product features, will be penalized if buyers are knowledgeable.

If the seller is a monopolist, we are confronted once again with the problem of the "slothful monopolist"—a firm that, because of ignorance or indifference, refuses to introduce an improved warranty that would prove beneficial both to itself and to its customers. (Under assumptions previously made, a monopolist could increase profits from \$2,700,000 to \$3,010,075 by introducing the improved warranty.) There is no simple solution to this problem except the hope of eventual enlightenment—the monopolist awakens, an enlightened firm enters, or the monopolist responds to the proposals of customers (presumably, a powerful customer could insist on an improved war-

<i>Output</i>	<i>Price</i>	<i>Unit Cost</i>	<i>Unit Profit</i>	<i>Total Profit</i>
5800	1,065.00	550	515.00	2,987,000
5900	1,057.50	550	507.50	2,994,250
6000	1,050.00	550	500.00	3,000,000
6100	1,042.50	550	492.50	3,004,250
6200	1,035.00	550	485.00	3,007,000
6300	1,027.50*	550	477.50	3,008,250
6400	1,020.00	550	470.00	3,088,000
6500	1,012.50	550	462.50	3,006,250

* Approximate profit-maximizing price.

At the new profit-maximizing price of \$1,025 (arrived at by interpolation), output is 6,337 units (an increase of 337 units), and total profits are \$3,010,075 (an increase of \$310,075).

Even a monopolist will profit from attaining the lowest net costs of operation. See F. SCHERER, *supra* note 192, at 15-16.

ranty).²⁰² The problem of the slothful monopolist cannot readily be solved in any other manner. This is one of the reasons monopolies are opposed as a matter of public policy. The important thing to recognize is that this is not a problem unique to warranties; the ignorant monopolist may produce the wrong goods, charge the wrong price, use the wrong production techniques, or make any number of errors. The solution is to encourage new entry and to provide competition at the monopolist's level. One redeeming feature of this general configuration is that the more slothful the monopolist, the greater the inducement to new entry. (Of course, if the monopolist is regulated, the regulatory agency can regulate warranty matters along with any other aspects of price and service.)

c. Universal Ignorance

If neither buyers nor sellers are knowledgeable about the advantages of an improved warranty, the warranty will not be offered. Nonetheless, it is difficult to fashion a response to this phenomenon because it is hard to imagine that courts or legislatures will be more enlightened about optimal warranty provisions than competitors, customers, and prospective entrants, all of which focus their energies and risk their fortunes in the market.²⁰³ This scenario is impervious to solution, either public or private, but it is also unlikely to occur in any form other than as an innovation waiting to be discovered.

3. SUMMARY

Contractual allocations of risk between commercial entities are not rendered inefficient because of disparities in bargaining power. In

202. Resistance to change may be aggravated if monopoly power is shared rather than exercised by a single firm. If collusion is overt, there are no additional problems; once the efficient warranty is identified, all firms would agree to adopt it in order to increase aggregate monopoly profits and thereby increase each firm's respective share. But if the firms are pursuing a course of tacit collusion with no explicit communications among them, it is conceivable that an improved warranty could be withheld—even after its beneficial features are recognized by one of the firms participating in the tacit collusion—if variation of product features (including warranty terms) poses a threat to industry-wide adherence to a supracompetitive price. A concern for consensus could therefore delay introduction of an improved warranty. Nonetheless, a number of conditions must be met in order for this impact to be felt, including disparity in the knowledge of the colluding firms and a general fear of the breakdown of consensus pricing. In any case, the industry leader would not be deterred by such considerations because it can impose its price/product combination on its rivals. See *supra* note 193.

203. It is perhaps plausible that a specialized regulatory agency might devise a solution more efficient than any prevailing in the market. Even this contingency seems remote, but in any case the outcome is not troublesome. Market participants have strong incentives to adopt superior solutions, and the non-coercive provision of information by an agency would achieve appropriately efficient results.

this context, warranty practices are very likely to be efficient whether they are individually negotiated between parties of equal bargaining power or unilaterally imposed by a monopolist or other powerful seller.

Either buyers or sellers may lack knowledge of pertinent risks, and thus fail to appreciate the benefits of an efficient warranty arrangement. But this is not likely to pose a problem if: (1) the buyer's market and the seller's market are both competitive; (2) the seller's market is monopolistic and the seller is knowledgeable; or (3) the buyer's market and the seller's market are both monopolistic and at least one participant is knowledgeable. Ignorance poses a problem in only two cases: both buyers and sellers are ignorant (universal ignorance); or one of the market participants (either seller or buyer) is a "slothful monopolist" and the other participant lacks market power. The first case is unlikely to yield to any solution, either public or private. The second is more properly viewed as a monopoly problem rather than a warranty problem, but even here, the prospects for eventual enlightenment seem promising.

In sum, there are no substantial reasons—whether grounded in concerns over market power or over the ignorance of market participants—for refusing to enforce contractual allocations of risk in sales transactions between commercial entities. To the contrary, there is every reason to expect that market participants will be better informed and more highly motivated than any government agency in efforts to identify and adopt efficient warranty terms.

D. *Fraud, Concealment, and Sharp Practices*

While legislatures and courts are not well suited to determine whether particular warranty provisions are sound or unsound, it is possible to generalize about contracting practices. Fraud, for example, has no redeeming virtues. Resources are consumed in the creation of fraudulent schemes and in the development of measures to protect against them. Society would be better off with no fraud at all, and it is appropriate to react forcefully to fraud. The only restraining influences are: (1) adjudication costs incurred in proving fraud; and (2) possible errors in finding fraud where none exists, thereby undermining legitimate transactions.²⁰⁴ Courts appear to adopt the appropriate attitude: require clear proof of fraud, but then attack fraud with vigor.²⁰⁵

204. See Darby & Karni, *Free Competition and the Optimal Amount of Fraud*, 16 J.L. & ECON. 67 (1973).

205. See, e.g., *St. Joseph Hosp. v. Corbetta Constr. Co.*, 21 Ill. App. 3d 925, 316 N.E.2d 51

Absent blatant fraud, there is still the problem of unwitting deception or hard-to-prove fraud, the probability of which are enhanced by buyer ignorance of contract provisions adverse to their interests. The requirement of mandatory disclosure, along the lines suggested by the UCC, is a cheap remedy, and, with modest revisions, it could be made more efficacious. For example, the requirement of conspicuousness should apply to every limitation of liability, whether it takes the form of warranty disclaimer, liquidated damages, other limitation on remedy, or other term affecting redress (such as shortened inspection, notice, or claim periods). In applying the UCC, courts generally have been sensitive to such considerations, but standards could be codified with a view to reducing costs associated with uncertainty. Even so, it is appropriate for the courts to continue to police those merchants who are willing to sacrifice honor for profit. Like fraud, sharp business practices have no redeeming virtues, but policing such practices might require greater flexibility and broader tolerance due to practical constraints.²⁰⁶

V. THE DOMAIN OF CONTRACT: THE PROBLEM OF THE INDIRECT BUYER

The discussion thus far has proceeded on the assumption that only two parties are involved: a seller who deals directly with a buyer of an end product. In fact, most of the transactions in the world of commerce, as well as most of the litigated cases, are not so simple. Intermediaries are involved more often than not. The most common phenomenon is the "chain of distribution": a Ford truck, for example, is purchased from a Ford dealer rather than from the Ford Motor

(1974) (fraudulent concealment of product defects); *Oksenholt v. Lederle Laboratories*, 51 Or. App. 419, 625 P.2d 1357 (1981) (fraudulent misrepresentation as to product quality), *aff'd*, 294 Or. 213, 656 P.2d 293 (1982). Fraud may also provide a basis for suit under the federal racketeering statute. Racketeer Influenced and Corrupt Organizations (RICO) Act, 18 U.S.C. §§ 1961-1968 (1988); *see, e.g., Cincinnati Gas & Elec. Co. v. General Elec. Co.*, 656 F. Supp. 49, 74-87 (S.D. Ohio 1986) (cause of action adequately alleged against manufacturer that concealed defects). The RICO statute was applied to legitimate commercial entities engaging in fraudulent activities in *H.J. Inc. v. Northwestern Bell Telephone Co.*, 109 S. Ct. 2893 (1989) (telephone company gave bribes to the public utility commission for the approval of rates).

206. For example, in *Industrialease Automated & Scientific Equipment Corp. v. R.M.E. Enterprise*, 58 A.D.2d 482, 396 N.Y.S.2d 427 (1977), RME leased an incinerator from Industrialease but refused to make payments when the incinerator proved to be inoperable. *Id.* at 428-29. The court treated the transaction as a sale under the UCC and absolved RME of liability. *Id.* at 430-32. There had been a disclaimer of warranties in the lease, but the court held the disclaimer to be unconscionable. *Id.* at 432. A last-minute substitution of a revised lease, occurring in an atmosphere of haste and pressure, had eliminated warranties appearing in the original lease. *Id.* at 428. Further, it was clear that RME had relied on the expertise of Industrialease. *Id.* at 432.

Company. Other cases involve the incorporation of components into a finished product. If Ford includes a Clark transmission in a Ford truck and the transmission proves to be defective, may the buyer sue Clark as well as Ford? Still other cases involve purchases of used or rehabilitated products from persons other than their initial owners. If a product proves to be defective and the defect can be traced to the original manufacturer, may the buyer of the used product sue the original manufacturer?

Absent direct dealings between the parties, it is tempting to turn to the law of torts for answers to these issues. But tort doctrine is not the most germane body of law. The underlying issues are the same in these "nonprivity" cases as in cases in which the parties deal directly with one another. Contract law therefore provides the most satisfactory basis for analysis. Yet, the development of an appropriate legal framework is a complex undertaking.²⁰⁷

A. *Doing Business on the Contract-Tort Interface*

If a supplier makes representations concerning its product—in advertising, labeling, or trade literature—a remote purchaser may rely upon those representations and seek to recover for product defects on a theory of misrepresentation or breach of express warranty. In such cases, the absence of privity is unlikely to protect the supplier.²⁰⁸ Similarly, the supplier will not be permitted to rely upon limitations on liability included in contracts between the supplier and its immediate

207. See Speidel, *Warranty Theory*, *supra* note 81, at 53-57; Note, *Enforcing Manufacturers' Warranty Exclusions Against Non-Privity Commercial Purchasers: The Need for Uniform Guidelines*, 20 GA. L. REV. 461 (1986).

208. Actions on express warranties against parties not in privity have been sustained in a variety of cases. *Fullerton Aircraft Sales & Rentals, Inc. v. Beech Aircraft Corp.*, 842 F.2d 717 (4th Cir. 1988) (Kansas law); *Patty Precision v. Browne & Sharpe Mfg. Co.*, 742 F.2d 1260 (10th Cir. 1984) (Oklahoma law); *Plant Food Co-op v. Wolfkill Feed & Fertilizer Corp.*, 633 F.2d 155 (9th Cir. 1980) (Montana law); *Blommer Chocolate Co. v. Bongards Creameries, Inc.*, 635 F. Supp. 911 (N.D. Ill. 1985) (Illinois law); *N. Feldman & Son v. Checker Motors Corp.*, 572 F. Supp. 310 (S.D.N.Y. 1983) (Michigan law); *Midland Forge, Inc. v. Letts Indus., Inc.*, 395 F. Supp. 506 (N.D. Iowa 1975) (Iowa law); *L.A. Green Seed Co. v. Williams*, 246 Ark. 463, 438 S.W.2d 717 (1969); *Fundin v. Chicago Pneumatic Tool Co.*, 152 Cal. App. 3d 951, 199 Cal. Rptr. 789 (1984); *Smith v. Gates Rubber Co. Sales Div.*, 237 Cal. App. 2d 766, 47 Cal. Rptr. 307 (1965) (pre-UCC case); *Prairie Prod., Inc. v. Agchem Div.-Pennwalt Corp.*, 514 N.E.2d 1299 (Ind. Ct. App. 1987); *Peterson v. North Am. Plant Breeders*, 218 Neb. 258, 354 N.W.2d 625 (1984); *Kinlaw v. Long Mfg. N.C., Inc.*, 298 N.C. 494, 259 S.E.2d 552 (1979); *Richard W. Cooper Agency, Inc. v. Irwin Yacht & Marine Corp.*, 46 N.C. App. 248, 264 S.E.2d 768 (1980); *Dravo Equip. Co. v. German*, 73 Or. App. 165, 698 P.2d 63 (1985); *Drier v. Perfection, Inc.*, 259 N.W.2d 496 (S.D. 1977); *United States Pipe & Foundry Co. v. City of Waco*, 130 Tex. 126, 108 S.W.2d 432 (pre-UCC case), *cert. denied*, 302 U.S. 749 (1937); *Ford Motor Co. v. Lemieux Lumber Co.*, 418 S.W.2d 909 (Tex. Civ. App. 1967); *cf. Flory v. Silvercrest Indus., Inc.*, 129 Ariz. 574, 633 P.2d 383 (1981) (discussing possible non-UCC express warranties). *But cf. Refrigeration Sys. Co. v. Polarspan Corp.*, 575 F. Supp. 810 (S.D.

purchasers (the intermediaries through which the product finds its way into the hands of a dissatisfied plaintiff). In *Randy Knitwear, Inc. v. American Cyanamid Co.*,²⁰⁹ for example, American Cyanamid was held accountable for representations of the shrink-resistant quality of its resins; the representations accompanied the resins as they passed through the hands of intermediaries.²¹⁰ In such circumstances, what measures are available to protect the supplier if it seeks to limit liability?

First, the supplier can accompany its representations with appropriate qualifications. Advertisements or brochures might advise that "warranty limitations apply," further referring to the warranty statement of the manufacturer. If purchasers are on notice that their rights are qualified, there is less difficulty in holding them to limitations that are spelled out in the manufacturer's warranty statement. Second, the supplier can insist that its distributors and dealers include the manufacturer's warranty statement, including all pertinent limitations and exclusions, in their sales contracts. Properly coordinated, these steps should permit the remote vendor to impose the same limitations on ultimate purchasers as it would impose if it were dealing with them directly. Absent such measures, there are the twin risks: (1) that the unqualified representation will be treated as an express warranty, not subject to disclaimer under the UCC,²¹¹ and (2) that some purchasers will see or hear the unqualified representation and not be apprised in a timely manner of the manufacturer's warranty limitations.²¹² Unqualified statements may also give rise to claims based on misrepresentation.²¹³

These steps are required, not only in "chain of distribution" cases, but also in cases in which brand name articles are included in other products. If General Electric promotes the use of control systems employed in industrial machines manufactured by others, it can be held accountable for misrepresentation or breach of express war-

Ohio 1983) (Wisconsin law) (requiring privity for express as well as for implied warranty claims).

For a discussion of claims by assignees of express warranties, see *Collins Co. v. Carboline Co.*, 125 Ill. 2d 498, 532 N.E.2d 834 (1988) (sustaining the assignee's claim against the seller). For related discussions from the consumer perspective, see Shapo, *A Representational Theory of Consumer Protection: Doctrine, Function and Legal Liability for Product Disappointment*, 60 VA. L. REV. 1109 (1974); Whitman, *Reliance as an Element in Product Misrepresentation Suits: A Reconsideration*, 35 Sw. L.J. 741 (1981).

209. 11 N.Y.2d 5, 181 N.E.2d 399, 226 N.Y.S.2d 363 (1962); see *supra* notes 158-63.

210. *Id.* at 12-16, 181 N.E.2d at 402-04, 226 N.Y.S.2d at 367-70.

211. See *supra* note 43.

212. See *supra* note 38.

213. See *supra* notes 155-83.

ranty unless (1) the representations are qualified or (2) the manufacturer of the finished product includes in the contract of sale either a separate warranty statement of GE or a statement expressly assuming all responsibility for the finished product and expressly absolving GE.

In the absence of representations, suppliers may be liable for negligence, strict product liability, or breach of implied warranty. The absence of privity precludes actions on implied warranties in many states.²¹⁴ But an increasing number of states dispense with the requirement of privity in most, if not all, actions on implied warranties—including suits to recover damages for commercial loss.²¹⁵ The

214. *Mahalsky v. Salem Tool Co.*, 461 F.2d 581 (6th Cir. 1972) (Ohio law); *Mount Holly Ski Area v. U.S. Elec. Motors*, 666 F. Supp. 115 (E.D. Mich. 1987) (Michigan law); *Eastern Refractories Co. v. Forty Eight Insulations, Inc.*, 658 F. Supp. 197 (S.D.N.Y. 1987) (Florida law); *Mac's Eggs, Inc. v. Rite-Way Agric. Distributions*, 656 F. Supp. 720 (N.D. Ind. 1986) (Indiana law); *Wight v. Agristor Leasing*, 652 F. Supp. 1000 (D. Kan. 1987) (Kansas law); *Sanco, Inc. v. Ford Motor Co.*, 579 F. Supp. 893 (S.D. Ind. 1984) (Indiana law), *aff'd*, 771 F.2d 1081 (7th Cir. 1985); *Refrigeration Sys. Co. v. Polarspan Corp.*, 575 F. Supp. 810 (S.D. Ohio 1983) (Wisconsin law); *N. Feldman & Son v. Checker Motors Corp.*, 572 F. Supp. 310 (S.D.N.Y. 1983) (Michigan law); *Owens-Corning Fiberglas Corp. v. Sonic Dev. Corp.*, 546 F. Supp. 533 (D. Kan. 1982) (Kansas law); *Dudley v. Bayou Fabricators, Inc.*, 330 F. Supp. 788 (S.D. Ala. 1971) (Alabama law); *Flory v. Silvercrest Indus., Inc.*, 129 Ariz. 574, 633 P.2d 383 (1981); *Fundin v. Chicago Pneumatic Tool Co.*, 152 Cal. App. 3d 951, 199 Cal. Rptr. 789 (1984); *Affiliates for Evaluation & Therapy, Inc. v. Viasyn Corp.*, 500 So. 2d 688 (Fla. Dist. Ct. App. 1987); *GAF Corp. v. Zack Co.*, 445 So. 2d 350 (Fla. Dist. Ct. App. 1984); *General Motors Corp. v. Halco Instruments, Inc.*, 124 Ga. App. 630, 185 S.E.2d 619 (1971); *State v. Mitchell Constr. Co.*, 108 Idaho 335, 699 P.2d 1349 (1984); *Salmon River Sportsman Camps, Inc. v. Cessna Aircraft Co.*, 97 Idaho 348, 544 P.2d 306 (1975); *Spiegel v. Sharp Elec. Corp.*, 125 Ill. App. 3d 897, 466 N.E.2d 1040 (1984); *Prairie Prod. Inc. v. Agchem Div.-Pennwalt Corp.*, 514 N.E.2d 1299 (Ind. Ct. App. 1987); *Dutton v. International Harvester Co.*, 504 N.E.2d 313 (Ind. Ct. App. 1987); *Professional Lens Plan, Inc. v. Polaris Leasing Corp.*, 234 Kan. 742, 675 P.2d 887 (1984); *Antel Oldsmobile-Cadillac, Inc. v. Sirius Leasing Co., Div. of Sirius Enter.*, 101 A.D.2d 688, 475 N.Y.S.2d 944 (1984); *Potsdam Welding & Mach. Co. v. Neptune Microfloc, Inc.*, 57 A.D.2d 993, 394 N.Y.S.2d 744 (1977); *Richard W. Cooper Agency v. Irwin Yacht & Marine Corp.*, 46 N.C. App. 248, 264 S.E.2d 768 (1980); *United States Fidelity & Guar. Co. v. Truck & Concrete Equip. Co.*, 21 Ohio St. 2d 244, 257 N.E.2d 380 (1970); *Davis v. Homasote Co.*, 281 Or. 383, 574 P.2d 1116 (1978); *Hupp Corp. v. Metered Washer Serv.*, 256 Or. 245, 472 P.2d 816 (1970); *State ex rel. W. Seed Prod. Corp. v. Campbell*, 250 Or. 262, 442 P.2d 215 (1968), *cert. denied*, 393 U.S. 1093 (1969); *Daughtry v. Jet Aeration Co.*, 91 Wash. 2d 704, 592 P.2d 631 (1979); *Dimoff v. Ernie Majer, Inc.*, 55 Wash. 2d 385, 347 P.2d 1056 (1960); *City of La Crosse v. Schubert, Schroeder & Assocs.*, 72 Wis. 2d 38, 240 N.W.2d 124 (1976).

The North Carolina decision in *Richard W. Cooper Agency* has been questioned. See *Walsh v. Ford Motor Co.*, 588 F. Supp. 1513, 1532-33 (D.D.C. 1984) (consumer case, finding that North Carolina would probably dispense with privity).

215. The Uniform Commercial Code has been amended in 14 states to afford redress to any injured person that the seller might reasonably have expected its goods to affect. See ARK. STAT. ANN. § 4-86-101 (1987); COLO. REV. STAT. § 4-2-318 (1973); HAW. REV. STAT. § 490:2-318 (1988); IOWA CODE ANN. § 554.2318 (West Supp. 1989); ME. REV. STAT. ANN. tit. 11, § 2-318 (Supp. 1989); MASS. GEN. LAW ANN. ch. 106, § 2-318 (West 1989); MINN. STAT. ANN. § 336.2-318 (West Supp. 1990); N.H. REV. STAT. ANN. § 382-A:2-318 (Supp. 1988); N.D. CENT. CODE § 41-02-35 (1983); R.I. GEN. LAWS § 6A-2-318 (1985); S.D.

"economic loss" doctrine precludes liability in tort in many instances. But the effectiveness of this bar depends on the nature of the loss sustained by the remote purchaser and on the legal theory advanced in seeking recovery: Injuries to tangible property will be redressed in circumstances in which intangible business losses are not compensated; and negligence claims are likely to succeed in some states even if strict liability is not accepted as a basis for the recoupment of economic losses.²¹⁶ Where a tort claim can be asserted—as it can in many circumstances—a disclaimer or limitation of liability by the supplier may be exceedingly difficult to enforce against a remote purchaser.

The optimal transactional mode includes: (1) a sale by the supplier to the intermediary, disclaiming warranties and otherwise limiting the liability of the supplier to the extent it considers appropriate; (2) an agreement by the intermediary to convey the supplier's limitations to the ultimate purchaser, expressly naming the supplier as a third-party beneficiary of the intermediary-purchaser contract; and (3) inclusion of express terms limiting the supplier's liability (in war-

CODIFIED LAWS ANN. § 57A-2-318 (1988); UTAH CODE ANN. § 70A-2-318 (1980); VA. CODE ANN. § 8.2-318 (1965); WYO. STAT. § 34-21-235 (1977). In three additional states, the requirement of privity has been abolished in actions brought under the UCC. *See* MD. COM. LAW CODE ANN. § 2-314(1)(b) (1975) (only as to the implied warranty of merchantability); MISS. CODE ANN. § 11-7-20 (Supp. 1989); TENN. CODE ANN. § 29-34-104 (1980). Finally, three states afford redress for natural persons that the seller might reasonably have expected its goods to affect. *See* DEL. CODE ANN. tit. 6, § 2-318 (1974); GA. CODE ANN. § 105-106(b)(1) (Harrison Supp. 1989) (only as to the implied warranty of merchantability); S.C. CODE ANN. § 36-2-318 (Law. Co-op. 1976). In the latter states, the requirement of privity has been abolished for adversely affected proprietorships and partnerships, but not for corporations. *See* Baltimore Football Club, Inc. v. Lockheed Corp., 525 F. Supp. 1206 (N.D. Ga. 1981) (Georgia law); Gasque v. Eagle Mach. Co., 270 S.C. 499, 243 S.E.2d 831 (1978); *cf.* JKT Co. v. Hardwick, 274 S.C. 413, 265 S.E.2d 510 (1980) (extending the benefit of the statute to corporate plaintiffs).

In addition, judicial initiatives in a number of states have afforded protection to adversely affected commercial plaintiffs. *See, e.g.,* Henry Heide, Inc. v. WRH Prods. Co., 766 F.2d 105 (3d Cir. 1985) (New Jersey law); Plant Food Co-op v. Wolfkill Feed & Fertilizer Corp., 633 F.2d 155 (9th Cir. 1980) (Montana law); Held v. Mitsubishi Aircraft Int'l Inc., 672 F. Supp. 369 (D. Minn. 1987) (Texas law); Collegiate Enters. v. Otis Elevator Co., 650 F. Supp. 116 (E.D. Mo. 1986) (Missouri law); Picker X-Ray Corp. v. General Motors Corp., 185 A.2d 919 (D.C. 1962) (pre-UCC case); Acadiana Health Club, Inc. v. Hebert, 469 So. 2d 1186 (La. Ct. App. 1985) (non-UCC state); Groppe Co. v. United States Gypsum Co., 616 S.W.2d 49 (Mo. Ct. App. 1981); Streich v. Hilton-Davis, Div. of Sterling Drug, Inc., 214 Mont. 44, 692 P.2d 440 (1984); Peterson v. North Am. Plant Breeders, 218 Neb. 258, 354 N.W.2d 625 (1984); Hiles Co. v. Johnston Pump Co., 93 Nev. 73, 560 P.2d 154 (1977); Spring Motors Distribs., Inc. v. Ford Motor Co., 98 N.J. 555, 489 A.2d 660 (1985); Old Albany Estates, Ltd. v. Highland Carpet Mills, Inc., 604 P.2d 849 (Okla. 1979); Kassab v. Central Soya, 432 Pa. 217, 246 A.2d 848 (1968); Ford Motor Co. v. Lemieux Lumber Co., 418 S.W.2d 909 (Tex. Civ. App. 1967). *But cf.* Cloer v. General Motors Corp., 395 F. Supp. 1070 (E.D. Tex. 1975) (finding privity necessary under Texas law).

216. *See supra* notes 120-30.

ranty, negligence, and strict liability) in the intermediary's sales contract with the ultimate purchaser.²¹⁷

These arrangements should be efficacious in component cases as well as in "chain of distribution" cases. In the case of unbranded components, an argument can be made that the ultimate purchaser should be confined to claims against its immediate vendor, without regard to the presence or absence of special agreements, because the purchaser has no basis, *ex ante*, to look beyond its immediate supplier for fulfillment of its expectations concerning all aspects of the finished product.²¹⁸ Nonetheless, in view of the complexities of modern products liability law, precautionary measures are advisable.

Litigation on these points is not extensive, but the cases support the analysis adopted. In *Aeronaves de Mexico, S.A. v. McDonnell Douglas Corp.*,²¹⁹ Aeromexico acquired an aircraft manufactured by McDonnell Douglas, and brought an action against McDonnell Douglas when the landing gear failed and the aircraft was damaged.²²⁰ An exculpatory clause protected McDonnell Douglas against a negligence claim by Aeromexico.²²¹ The clause was also held to protect two suppliers who designed and manufactured the landing gear for McDonnell Douglas.²²² One of these suppliers, Menasco, could file a third-party claim against McDonnell Douglas if Menasco were found liable to Aeromexico; the court ruled that the allowance of a suit against Menasco would deny McDonnell Douglas the benefit of its bargain with Aeromexico as to risk allocation, thereby conferring a windfall on Aeromexico.²²³ As to the other supplier, Cleveland Pneumatic, the McDonnell Douglas sales contract provided warranty protection under the McDonnell Douglas warranty in exchange for the buyer's acceptance of the remote supplier's disclaimer of liabil-

217. See *infra* notes 219-35 & 250-58.

218. Absent representations by the component supplier, there can be no claim based on express warranty or misrepresentation; if the parties have no contact with one another, it is unlikely that a misrepresentation claim could be premised on a mere failure to disclose. Moreover, if the component supplier is not identified, neither of the implied warranty theories are applicable. See *supra* notes 16-18. For reasons previously discussed, *supra* notes 131-53, liability in negligence and in strict product liability should be rejected.

219. 677 F.2d 771 (9th Cir. 1982) (California law). The details of the transaction in this case were more complex. McDonnell Douglas Co. (MDC) sold the aircraft to McDonnell Douglas Finance Corp. (MDFC), which assigned its rights to National Aircraft Leasing (NAL), which in turn leased the aircraft to Aeromexico (AM). *Id.* at 772. The terms of the MDC-MDFC contract, including the warranty provisions, were negotiated by MDC and AM. *Id.* at 773. AM accepted an assignment of the provisions and became bound by their terms. *Id.*; see U.C.C. § 2-210(4) (1987).

220. 677 F.2d at 772.

221. *Id.* at 773.

222. *Id.*

223. *Id.*

ity.²²⁴ Accordingly, Aeromexico was barred from suing either supplier. Other courts have rejected similar suits against suppliers of components, relying on the implications of the risk allocation provisions of sales contracts between manufacturers of finished products and ultimate purchasers.²²⁵

There are, however, some cases that have reached a contrary result. In *Peterson v. North American Plant Breeders*,²²⁶ for example, Peterson purchased seed corn, produced by North American, from one of North American's dealers.²²⁷ When the seed corn proved defective, Peterson sued North American for breach of warranty and was granted relief.²²⁸ In response to North American's argument that the court's ruling would make North American an insurer of farmers' crops, the court replied that "there is no reason that [North American] cannot disclaim its warranty liability by policing its dealers and making sure that its disclaimer reaches the ultimate user of its product during the negotiations for the product's sale."²²⁹ Similarly, in *Clark v. DeLaval Separator Corp.*,²³⁰ a dairy operator sued a manufacturer of milking machines for breach of implied warranty.²³¹ The machines, which bore the manufacturer's brand name, were purchased from an intermediary who had disclaimed liability.²³² The disclaimer was held not to benefit the manufacturer because it was not sufficiently explicit;²³³ the court concluded that to hold otherwise would subject the purchaser to unfair surprise.²³⁴ The court observed that the manufacturer could protect itself by disclaiming warranties in materials included with the goods; by joining with the retailer in the

224. *Id.* at 774.

225. See, e.g., *King v. Hilton-Davis*, 855 F.2d 1047 (3d Cir. 1988) (Pennsylvania law), *cert. denied*, 109 S. Ct. 839 (1989); *Shipco 2295, Inc. v. Avondale Shipyards, Inc.*, 825 F.2d 925 (5th Cir. 1987) (admiralty), *cert. denied*, 108 S. Ct. 1472 (1988); *S.A. Empresa v. Walter Kidde & Co.*, 690 F.2d 1235 (9th Cir. 1982) (California law); *Airlift Int'l, Inc. v. McDonnell Douglas Corp.*, 685 F.2d 267 (9th Cir. 1982) (California law); cf. *Continental Airlines, Inc. v. Goodyear Tire & Rubber Co.*, 819 F.2d 1519 (9th Cir. 1987) (California law) (remanded for trial on scope of exculpatory clause). For claims against component manufacturers in the absence of exculpatory clauses, see *James v. Bell Helicopter Co.*, 715 F.2d 166 (5th Cir. 1983) (Illinois law) (component supplier possibly subject to strict liability); *States Steamship Co. v. Stone Manganese Marine, Ltd.*, 371 F. Supp. 500 (D.N.J. 1973) (California and Texas law) (component supplier possibly subject to claims based on negligence and strict liability).

226. 218 Neb. 258, 354 N.W.2d 625 (1984).

227. *Id.* at 259-60, 354 N.W.2d at 628.

228. *Id.* at 270, 354 N.W.2d at 634.

229. *Id.* at 266, 354 N.W.2d at 632; see *Hunter v. Texas Instruments, Inc.*, 798 F.2d 299 (8th Cir. 1986) (Arkansas law) (manufacturer protected by provision in dealer-buyer contract).

230. 639 F.2d 1320 (5th Cir. 1981) (Texas law).

231. *Id.* at 1322.

232. *Id.* at 1321-23.

233. *Id.* at 1323.

234. *Id.* at 1324.

latter's disclaimer on sale to the ultimate purchaser; or by being named in the retailer's contract as a third-party beneficiary of the warranty disclaimer.²³⁵ The *Peterson* and *Clark* cases are significant for their emphasis on bringing home to the ultimate purchaser with the warranty limitations of a manufacturer of a brand-name product.

A particularly troublesome case is *John R. Dudley Construction, Inc. v. Drott Manufacturing Co.*²³⁶ Dudley purchased a used crane, "as is," from Case Credit.²³⁷ Because of defective bolts, the crane collapsed and caused extensive damage to itself but no injury to any person or to other property.²³⁸ The court permitted Dudley to proceed against Drott, the manufacturer of the crane, in strict product liability; the court reasoned that the crane, in its defective condition, posed an unreasonable risk of harm to persons and property.²³⁹ The court refused to permit Drott to rely on the "as is" provision in the Case Credit sales transaction because there was no indication that Drott was an intended beneficiary of that contract²⁴⁰ and there was no showing that the clause was "intended to exclude a claim of physical damage to the product under the strict products liability theory."²⁴¹ It would be difficult to find a case more perverse than *Dudley*.²⁴² By invoking tort law, the buyer of a used product, purporting to assume the risks of the product's deficiencies under an "as is" warranty disclaimer, is permitted to transfer those risks to a remote manufacturer.

Other courts have been more sympathetic to the plight of the

235. *Id.* Manufacturers have been protected by provisions in warranties given to ultimate purchasers in several cases. *Emmons v. Durable Mobile Homes, Inc.*, 521 S.W.2d 153, 154 (Tex. Civ. App. 1974) (manufacturer of a finished product). *Boyd v. Thompson-Hayward Chem. Co.*, 450 S.W.2d 937, 945 (Tex. Civ. App. 1970) (manufacturer of a finished product); see *Groppel Co. v. United States Gypsum Corp.*, 616 S.W.2d 49, 61 n.13 (Mo. Ct. App. 1981) (manufacturer of a finished product must communicate its disclaimer to ultimate consumer). *But cf. Tacoma Boatbuilding Co. v. Delta Fishing Co.*, 28 U.C.C. Rep. Serv. (Callaghan) 26, 46 (W.D. Wash. 1980) (Washington law) (It was unclear whether the warranty limitations of a component supplier were communicated to the ultimate purchaser, but the supplier "had no duty to climb over [the intermediate manufacturer] on the chain of supply and hand out copies of its contract with [the intermediary].").

236. 66 A.D.2d 368, 412 N.Y.S.2d 512 (Sup. Ct. 1979).

237. *Id.* at 370, 412 N.Y.S.2d at 513.

238. *Id.*

239. *Id.* at 375, 412 N.Y.S.2d at 516.

240. *Id.*

241. *Id.*

242. See, e.g., *A.T.S. Laboratories, Inc. v. Cessna Aircraft Co.*, 59 Ohio App. 2d 15, 391 N.E.2d 1041 (1978) (manufacturer held liable to the purchaser of a used product who purchased the product from the initial buyer). *But cf. General Motors Corp. v. Halco Instruments, Inc.*, 124 Ga. App. 630, 635, 185 S.E.2d 619, 622 (Ct. App. 1971) (finding no implied warranty from the original manufacturer to the subsequent purchaser of used goods); *Steckmar Nat'l Realty & Inv. Corp. v. J.I. Case Co.*, 99 Misc. 2d 212, 215, 415 N.Y.S.2d 946, 949 (App. Sup. Ct. 1979) (reaching a result contrary to *ATS* on similar facts).

manufacturer. In *Datamatic, Inc. v. International Business Machines Corp.*,²⁴³ ITEL purchased used IBM computers from various sources, assembled them into systems, and sold them under contracts disclaiming all warranties and assigning to its purchasers any rights under the manufacturer's warranties.²⁴⁴ IBM's original sales contracts included repair-or-replace warranties which excluded consequential damages.²⁴⁵ Datamatic purchased a computer system from ITEL and, claiming a manufacturing defect, sued IBM for breach of implied warranty, seeking a return of the purchase price, lost profits, and other damages.²⁴⁶ IBM relied on its warranty limitations and alleged that the rights of Datamatic were limited to those of the original purchaser.²⁴⁷ The court held that Datamatic was subject to IBM's warranty limitations because Datamatic's contract with ITEL indicated that "there might be limited manufacturer's warranties."²⁴⁸ More broadly, the court ruled that Datamatic

acquired only the limited warranties possessed by its predecessors in title when it signed the purchase agreement with ITEL. . . . To allow Datamatic to pursue unlimited rights against IBM would render limited warranties almost meaningless to a manufacturer Subsequent purchasers . . . should bear the responsibility of checking what rights they are acquiring against the manufacturer rather than requiring manufacturers to track down all subsequent purchasers of their products.²⁴⁹

The outcome was adverse to the manufacturer in *Patty Precision Products Co. v. Browne & Sharpe Manufacturing Co.*,²⁵⁰ but a concur-

243. 613 F. Supp. 715 (W.D. La. 1985) (Louisiana law), *aff'd*, 795 F.2d 458 (5th Cir. 1986).

244. *Id.* at 716-17, 720.

245. *Id.* at 716-17.

246. *Id.* at 717.

247. *Id.* at 716.

248. *Id.* at 721 n.14.

249. *Id.* at 721-22; *accord* *Island Creek Coal Co. v. Lake Shore, Inc.*, 636 F. Supp. 285 (W.D. Va. 1986) (Michigan law) (limitation on liability effective against assignee of partial interest in purchased equipment), *rev'd on other grounds*, 832 F.2d 274 (4th Cir. 1987); *Unifoil Corp. v. Cheque Printers & Encoders Ltd.*, 622 F. Supp. 268 (D.N.J. 1985) (New Jersey law) (remote purchaser limited to rights of immediate purchaser of component); *R & L Grain Co. v. Chicago E. Corp.*, 531 F. Supp. 201 (N.D. Ill. 1981) (same); *Wenner Petroleum Corp. v. Mitsui & Co.*, 748 P.2d 356 (Colo. Ct. App. 1987) (remote purchaser of specialized industrial product limited to rights of immediate purchaser); *Western Equip. Co. v. Sheridan Iron Works*, 605 P.2d 806 (Wyo. 1980) (same); *cf. W.J. Rapp Co. v. Whitlock Equip. Corp.*, 222 Va. 80, 279 S.E.2d 133 (1981) (remote purchaser cannot proceed under UCC against supplier of component). A remote purchaser may obtain greater rights, however, as a result of direct contacts with the manufacturer. *See Wood Prods. Inc. v. CMI Corp.*, 651 F. Supp. 641, 651 (D. Md. 1986) (Maryland law) (otherwise accepting the approach of *Datamatic*); *Abco Metals Corp. v. J.W. Imports Co.*, 560 F. Supp. 125, 128 (N.D. Ill. 1982) (Illinois law) (direct contacts sufficed to avoid absence of privity), *aff'd*, 721 F.2d 583 (7th Cir. 1983).

250. 846 F.2d 1247 (10th Cir. 1988) (Oklahoma law).

ring opinion made a meaningful contribution to the dialogue. Patty Precision purchased machines from Browne & Sharpe,²⁵¹ a manufacturer which had incorporated in its machines a component originating with General Electric.²⁵² The component had been purchased from GE subject to a limited warranty.²⁵³ Patty Precision sued Browne & Sharpe, GE, and others for breach of implied warranty.²⁵⁴ The court refused to permit GE to rely on the warranty limitations in its contract of sale to Browne & Sharpe on the ground that these limitations had never been communicated to Patty Precision.²⁵⁵ A concurring opinion found that GE was estopped from relying on the warranty limitations because, in its direct dealing with Patty Precision (repairing the component), GE had never disclosed the limitations.²⁵⁶ Nonetheless, the concurrence made these points: (1) when "the first buyer adds, assembles or incorporates the manufacturer's product into another item or when the first buyer modifies or uses the manufacturer's product before resale," limitations of liability and disclaimers of warranty are binding on subsequent buyers; and (2) when the intermediary is a dealer, any disclaimers or limitations must be communicated to the ultimate consumer.²⁵⁷ The basis for the distinction is that the "typical component part manufacturer will be selling to a larger entity which it cannot reasonably be expected to control. In contrast, the problem of notice is less severe [with distributors]; the manufacturer frequently can notify the ultimate purchaser simply by affixing a copy of the disclaimer to the product."²⁵⁸

B. *A Proposed Resolution*

There is substantial disarray in warranty law, complicated by the economic loss problem in tort law, concerning the status of the non-privity buyer. In both instances, the impetus for restricting liability appears to be the courts' concern with subjecting the manufacturer to liability that is both excessive in scope and difficult to bound by contract or other means. The judicial responses to date, while generally consistent with the analysis of the preceding Section, have nonetheless

251. *Id.* at 1248.

252. *Id.*

253. *Id.* at 1248-49.

254. *Id.* at 1248.

255. *Id.* at 1252-54.

256. *Id.* at 1256 (Logan, J., concurring). The concurrence found that GE's direct dealings with Patty Precision, without disclosure of the warranty limitations, induced Patty Precision to rely on GE's warranties. *Id.* at 1258. The estoppel argument, however, did not disclose any detriment to Patty Precision as a result of the asserted reliance. *Id.* at 1258.

257. *Id.* at 1257.

258. *Id.*

been erratic and lacking in consistent doctrinal orientation. The resolution proposed here to alleviate these problems has three elements: (1) abolition of tort liability in commercial sales transactions; (2) abolition of privity as a requirement in warranty actions; and (3) creation of different (and more restricted) limitations on actions against remote vendors.

As previously noted,²⁵⁹ tort liability is a redundant and unnecessary complication in commercial sales transactions. The efficiency of warranty limitations, developed in detail in Section IV, is not affected by whether the purchaser is an immediate or remote vendee. Warranty limitations are more likely to be given effect under a regime of contract than under a regime of tort.

The requirement of privity in warranty claims has been substantially eroded, and the trend appears to be continuing.²⁶⁰ The twilight existence of privity is a trap for the unwary and an invitation to continuing litigation and piecemeal legislative reform—all of which make the UCC a less than uniform statute.

With tort liability and privity thus vanquished, the policy issues may be addressed directly. At this juncture, it is necessary to distinguish between two classes of nonprivity cases: (1) cases in which the distribution of products is achieved through middlemen; and (2) cases in which products are assembled from components, or used products are rehabilitated or resold.

1. CHANNELS OF DISTRIBUTION

If a product passes from the manufacturer, through middlemen, and into the hands of the ultimate user, the manufacturer should have the same responsibility to the user as if it had sold the product directly. All warranties, express or implied, should be enforceable by the user against the manufacturer. The justifications are the same as in the privity case: enforcing conformity with general commercial expectations and forcing the manufacturer to make more efficient arrangements if they are appropriate. The problem is that the manufacturer may experience greater difficulty in making effective reallocations of risk in the case of the non-privity buyer. The following are suggested solutions.

First, all advertisements, brochures, or packaging should contain a prominent statement that the manufacturer's warranties are subject to limitations expressed in the manufacturer's warranty statement.

259. See *supra* notes 131-53 & 182-83.

260. See *supra* notes 208 & 214-15; see also 1 J. WHITE & R. SUMMERS, *supra* note 26, at 528-30, 534-41; Speidel, *Warranty Theory*, *supra* note 81, at 26-27, 33-37, 42-43.

While express warranties cannot be contradicted by disclaimers, they can be negated by other statements;²⁶¹ moreover, remedies may be limited in the case of both express and implied warranties.²⁶²

Second, all dealers authorized to handle the manufacturer's product should be required to distribute the manufacturer's warranty statement at or before the time of sale to the ultimate user. In addition, each dealer can be required to execute an indemnification agreement that holds the manufacturer harmless if the manufacturer is exposed to warranty liability as a result of the dealer's failure to make a timely and adequate distribution of the manufacturer's warranty statement.

If these conditions are met, all purchasers should be deemed to have been apprised, as a matter of law, that warranty statements do exist and are available through authorized channels of distribution. These are commercial purchasers, and they should not be allowed to circumvent the manufacturer's carefully implemented warranty policy by purchasing products from unauthorized dealers in close-outs, liquidations, or the like.

In sum, privity would be abolished both for offensive and defensive purposes. No manufacturer in a "chain of distribution" case should be allowed to escape warranty responsibility by arguing a lack of privity; but neither should any purchaser be permitted to escape the manufacturer's warranty statement by pleading ignorance if: (1) all express warranties (advertisements, brochures, and the like) advise that such a statement exists; and (2) all authorized distributors make the statement available at or before the time of sale. Most of these proposals can be effectuated under existing UCC provisions. The only needed supplementation is a provision that a buyer will be deemed to know that warranty limitations exist if the limitations are referred to in all advertising material of the manufacturer and are distributed by the manufacturer's authorized dealers. The proposed change is unlikely to conflict with expectations in the commercial sector, and lack of buyer knowledge under the circumstances described should be treated as willful ignorance.

2. COMPONENTS AND USED PRODUCTS

When a manufacturer sells a newly finished product to a user, whether directly or through intermediaries, it is reasonable to impose warranty obligations in accordance with the terms of the preceding Section. It would be inordinately wasteful, however, to impose such

261. See *supra* note 44.

262. See *supra* notes 32-37.

requirements on the manufacturers of components, and it would be wholly impracticable to impose such requirements on the manufacturers of original equipment that was subsequently rehabilitated or resold after use by the initial purchaser. In such cases, the general rule should be that no warranties are implied and that express warranties must run directly to the user. Some examples may be helpful.

Example 1. A supplier provides components to a manufacturer of a finished product, the supplier engages in no advertising in connection with this finished product, and the supplier's brand name is not prominently displayed on the finished product. The purchaser of the finished product, proximate or remote, must look to the manufacturer of the finished product for warranty protection in accordance with the warranty statement of that manufacturer. The supplier of the components should not be liable, in warranty or in tort, for unrealized expectations or property damage. Under these circumstances, the purchaser has no basis for looking beyond its immediate vendor: the only losses are commercial in nature, and the remote supplier has made no commitments, express or implied, to the ultimate purchaser.

Example 2. A supplier provides a component to the manufacturer of a finished product and engages in advertising with respect to either that component or the finished product, or its brand name is prominently displayed on the finished product. This provides a basis for a warranty, express or implied, running from the supplier of the component to the ultimate user. Liability under this warranty could nonetheless be limited in either of two ways. The component supplier could be named in the warranty statement of the manufacturer, thereby obtaining protection similar to that of the manufacturer as a third-party beneficiary of the manufacturer-user contract. For example, an exclusion of consequential damages could expressly apply to suppliers of components as well as to the selling manufacturer. Alternatively, the component supplier could issue a separate warranty statement to the ultimate user and enter into either direct contractual relations or indirect relations through dealers. The purchaser could then pursue the component supplier for breach of warranty, but such action would be subject to the limitations in the component supplier's warranty statement.

Example 3. A seller of rehabilitated goods, or of assembled goods consisting of components that were not supplied directly by their manufacturers, would be subject to warranty liability to ultimate users in accordance with the UCC. But manufacturers of the original products would be immune except to the extent that they expressly warranted their components by separate representations related to the

rehabilitated or assembled product. For example, a manufacturer of a hydraulic brake system could warrant the performance of that system in a rebuilt truck incorporating the system, but it would have to do so expressly in relation to the rebuilt truck. There would be no implied warranties, and express warranties directed to other applications (such as direct sales of the brake system to others) would not apply to the rebuilt truck.

Example 4. Finally, the buyer of a used product may obtain warranty rights by assignment from the initial purchaser. In the absence of a restriction in the warranty itself, warranty rights are assignable.²⁶³ However, the subsequent purchaser (or assignee) takes subject to all limitations applicable to the original purchaser (or assignor).²⁶⁴ The obligations of the manufacturer are not enlarged by assignment.

These proposals are generally in accord with existing law, but clarification would be useful. The most troublesome situation involves the assembler of new goods, not specifically authorized by manufacturers of components. Here, as in the case of unauthorized dealers, purchasers should be deemed to know that component manufacturers do not warrant their products unless they do so explicitly. This is probably in accord with commercial expectations; if not, the deviation suggested by the proposal is not a dramatic one and it is necessary in order to prevent uncontrolled extensions of warranty liability.

3. DANGEROUS PRODUCTS

The abrogation of tort liability in this context may leave some uneasy about assuring responsibility for product safety. On this, several points deserve emphasis.

First, these proposals are confined to property damage and other commercial loss. Liability for personal injuries is unaffected. Second, these proposals are confined to commercial participants. Warranties

263. See *Collins Co. v. Carboline Co.*, 125 Ill. 2d 498, 532 N.E.2d 834 (1988) (collecting modern cases); Annotation, 17 A.L.R.2d 1196 (1951) (collecting older cases). *Contra* *Kaiser Aluminum & Chem. Corp. v. Ingersoll-Rand Co.*, 519 F. Supp. 60 (S.D. Ga. 1981) (Georgia law). *Carboline* and related cases are concerned with explicit assignments of express warranties and rely on Section 2-210(2) of the UCC. There is no bar to applying the logic of these decisions, and the terms of Section 2-210(2), to implicit assignments of implied warranties of merchantability. Cf. *Aronsohn v. Mandara*, 98 N.J. 92, 484 A.2d 675 (1984) (implied warranty of good workmanship, in a construction contract, assigned by implication to a subsequent owner of the premises); *Gupta v. Ritter Homes*, 646 S.W.2d 168 (Tex. 1983) (implied warranty of habitability and good workmanship, in a construction contract, assigned as a matter of law to a subsequent owner of the premises).

264. See *Datamatic, Inc. v. International Business Machs. Corp.*, 613 F. Supp. 715 (W.D. La. 1985), *aff'd*, 795 F.2d 458 (5th Cir. 1986); see also cases cited *supra* note 249.

involving ordinary consumers are not addressed. Third, these proposals apply only to purchasers of products; they do not bind third parties. If, for example, a farmer purchased a pesticide and assumed the risk of crop damage, that farmer could not sue for crop loss if the pesticide proved to be harmful. A neighboring farmer, however, could sue the manufacturer if his crop was contaminated by the pesticide purchased and used by the first farmer.²⁶⁵ Finally, someone will be responsible for product safety (usually the manufacturer of the finished product); in the absence of a valid limitation, that responsibility extends to all property losses.

In sum, the proposed resolution provides a means of allocating risks between buyers and sellers, largely without regard to privity, but the allocation does not provide immunity for unsafe products or an incentive to produce unsafe products.

VI. PERSONAL INJURIES IN THE CONTEXT OF COMMERCIAL SALES TRANSACTIONS

For the most part, this Article has avoided issues dealing with liability for personal injuries. There are a few instances, however, in which personal injury claims may emerge in a commercial context.

First, it is clear that if a product causes personal injury, the typical victim—whether consumer, employee, or bystander—can bring suit against the manufacturer and recover, in actions based on negligence, strict liability or misrepresentation, if the standards of the pertinent tort theory have been satisfied. Such cases are not affected by any of the proposals made in this Article. The victims are not foreclosed by contractual provisions allocating risks between the manufacturer and its purchaser because the victims are not parties to the manufacturer-purchaser contract.²⁶⁶

Second, the manufacturer and its purchaser may nonetheless allocate ultimate responsibility for personal injuries by contracts of indemnity. In one case, for example, a railroad sold a bridge to a commercial buyer, who agreed to indemnify the railroad for any damages relating to the removal of the bridge, including damages resulting from railroad negligence.²⁶⁷ In an accident connected with the

265. *E.g.*, *Chapman Chem. Co. v. Taylor*, 215 Ark. 630, 222 S.W.2d 820 (1949); *accord* *Greeno v. Clark Equip. Co.*, 237 F. Supp. 427 (N.D. Ind. 1965) (personal injury sustained by buyer's employee); *Ferragamo v. Massachusetts Bay Transp. Auth.*, 395 Mass. 581, 481 N.E.2d 477 (1985) (same); *Velez v. Craine & Clark Lumber Corp.*, 33 N.Y.2d 117, 305 N.E.2d 750, 350 N.Y.S.2d 617 (1973) (same).

266. *See supra* note 265.

267. *Southern Pac. Transp. Co. v. Nielsen*, 448 F.2d 121, 122 (10th Cir. 1971); *accord* *Beloit Power Sys. v. Hess Oil V.I. Corp.*, 757 F.2d 1427 (3d Cir. 1985) (awarding seller

removal of the bridge, a railroad employee was killed;²⁶⁸ his administratrix later recovered damages from the railroad premised on the railroad's negligence.²⁶⁹ The railroad obtained reimbursement from the buyer of the bridge under the indemnity provision of the contract of sale.²⁷⁰

The sole remaining point is a troublesome one, an issue on which pertinent authority is surprisingly sparse. Suppose, for example, that the buyer is not a corporation but a natural person such as a sole proprietor. May the buyer assume the risk of personal injury to himself, notwithstanding breaches of warranty or tortious misconduct on the part of the seller? In *Turner v. International Harvester Co.*,²⁷¹ the buyer of a tractor—a sole proprietor—was killed when the cab collapsed on top of him while he was working on the engine.²⁷² The buyer's widow sued for breach of warranty and also alleged negligence and strict product liability.²⁷³ The seller relied on the fact that the tractor was a used one which had been sold "as is."²⁷⁴ The court held that the disclaimer was effective to defeat the widow's warranty claim, but not sufficiently explicit to preclude jury consideration of whether the buyer had unequivocally waived the seller's responsibility for any safety defects.²⁷⁵ A similar case involved the lessee of a gasoline service station, injured as a result of the negligence of his oil company landlord.²⁷⁶ In striking down an allocation of the risk of injury to the lessee-operator, the court relied heavily on procedural unconscionability—the failure of the oil company to bring the contract provision to the attention of the service station operator.²⁷⁷

indemnification from its buyer on a personal injury claim premised on the seller's negligence and strict liability); *Orville Milk Co. v. Beller*, 486 N.E.2d 555 (Ind. Ct. App. 1985) (same); cf. *University Plaza Shopping Center, Inc. v. Stewart*, 272 So. 2d 507 (Fla. 1973) (holding general language of tenant's agreement to indemnify landlord against any and all claims insufficient to indemnify landlord for his own negligence); *Maxon Corp. v. Tyler Pipe Indus., Inc.*, 497 N.E.2d 570 (Ind. Ct. App. 1986) (denying indemnification because of the insufficiency of evidence of an agreement).

268. *Southern Pacific*, 448 F.2d at 123.

269. *Id.*

270. *Id.* at 124-25.

271. 133 N.J. Super. 277, 336 A.2d 62 (Super. Ct. App. Div. 1975). An implied warranty claim was set for trial, notwithstanding a disclaimer, in *Ferens v. Deere & Co.*, 639 F. Supp. 1484 (W.D. Pa. 1986), *aff'd*, 819 F.2d 423 (3d Cir. 1987), *vacated on other grounds*, 108 S. Ct. 2862 (1988). In *Ferens*, a farmer-purchaser lost his hand while cleaning a combine. *Id.* at 1485. In an action against the manufacturer for breach of warranty, the court held that a triable issue existed as to whether the disclaimer provision was unconscionable. *Id.* at 1489.

272. 133 N.J. Super. at 283, 336 A.2d at 66.

273. *Id.*

274. *Id.* at 284, 336 A.2d at 66.

275. *Id.* at 284-85, 296, 336 A.2d at 66-67, 73.

276. *Weaver v. American Oil Co.*, 257 Ind. 458, 276 N.E.2d 144 (1971).

277. *Id.* at 464-65, 276 N.E.2d at 148.

Both cases are ambivalent on the legality of risk allocation in a context of complete disclosure. The pertinent UCC provision on contractual modification of remedies is also unhelpful. It provides: "Limitation of consequential damages for injury to the person in the case of consumer goods is prima facie unconscionable but limitation of damages where the loss is commercial is not."²⁷⁸ Nothing is said, one way or the other, about a sole proprietor sustaining personal injuries as a result of a defective nonconsumer product (such as a machine, lumber used for scaffolding, or industrial chemicals).

In the context of injuries to sole proprietors, a rule barring exculpatory clauses may assist in resolving uncertainties. Manufacturers of products can obtain insurance against personal injury claims stemming from product defects.²⁷⁹ Moreover, they can shift the risks of personal injury to the buyer if the buyer is an artificial entity. If the logic of risk allocation suggests that the buyer, rather than the seller, should bear the risk of personal injuries, the seller can insist on the following: (1) that the buyer incorporate; (2) that the buying corporation insure against personal injury claims; and (3) that the buying corporation agree to indemnify the seller for any personal injuries caused by the purchased product, including those sustained by the buyer in his individual capacity. Under this arrangement, the buying corporation would obtain the requisite liability insurance and would assume ultimate responsibility for all personal injury claims (including a claim by the buyer in his individual capacity).²⁸⁰

In sum, under the limited circumstances specified, claims for personal injuries can be accommodated within the general structure of risk allocation discussed in this Article. As long as both parties to the sales transaction are commercial entities, the transaction can be structured so as to place responsibility for the risk of personal injury on the party that is in the best position to assume that risk at the lowest cost.²⁸¹

278. U.C.C. § 2-719(3) (1987).

279. See 2 R. LONG, *supra* note 187, 11-1 to 11-9; W. RODDA, *PROPERTY AND LIABILITY INSURANCE* 394-96 (1966).

280. Of course, there are many transactions in which this mode of reallocating risks would be impracticable—for example, the sale of automobiles and pickup trucks to small entrepreneurs. These are cases, however, in which the buyers are likely to be indistinguishable, for all practical purposes, from ordinary consumers. Under the approach here proposed, all such buyers would be protected under normal product liability rules in the event of personal injury.

281. This Article does not address the broader question of whether products liability law is an appropriate means of providing insurance against personal injury. For recent criticisms of this "insurance" approach, see Epstein, *Products Liability as an Insurance Market*, 14 J. LEGAL STUD. 645 (1985); Priest, *The Current Insurance Crisis and Modern Tort Law*, 96 YALE L.J. 1521 (1987); Schwartz, *Proposals for Product Liability Reform: A Theoretical*

VII. CONCLUSION: THE CASE FOR CONTRACT

When parties are strangers to one another, there is no alternative to the law of torts. A motorist might prefer to enter a contract with other motorists, agreeing that each party shall carry his or her own insurance and not seek compensation from others. Such contracts, however, are impracticable. Accordingly, courts are compelled to adopt general rules to govern liability for automobile accidents—rules that may or may not be efficient in the general run of cases, but that are almost certainly inefficient in a significant subset of cases (such as where both parties, *ex ante*, would have preferred to rely on first-party insurance). When contract is available as an alternative, it is possible for parties to reach efficient solutions appropriate to their particular circumstances.

But the availability of contract is not enough. This Article does not attempt to address disclaimers of product liability in consumer cases. Suffice it to say that because of limitations on consumer knowledge and because of disparities in consumer wealth, it cannot be said that contractual reallocations of risk are economically efficient and socially acceptable in the general run of manufacturer-consumer transactions.²⁸²

These limitations, however, do not apply to commercial transactions. As discussed in Section IV, the efficiency of contractual allocations of risk in the commercial context does not depend to any significant extent on the competitive condition of markets or on the market participants' knowledge of risks (although knowledge of contract terms is significant). Similarly, wealth is not a significant variable. The impact of risk reallocations on the wealth of business firms is indistinguishable from any other contract provision—including

Synthesis, 97 YALE L.J. 353 (1988). The discussion in this Section is intended to show the relationship between personal injury liability and the allocation of risks between commercial parties, and to show the practicability of bringing injury to the person of an entrepreneur within the general risk allocation structure if the parties desire to do so.

In some states, a sole proprietor can elect coverage under workers' compensation statutes. See, e.g., N.Y. WORK. COMP. LAW § 54(8) (McKinney 1988); WIS. STAT. ANN. § 102.075 (1988). Such an election would ameliorate the problem of personal injury to the proprietor.

282. For a discussion of the limitations on consumer knowledge, see authorities cited *supra* note 195. For a discussion of the problems associated with consumer wealth, see Jones, *Private Revision of Public Standards: Exculpatory Agreements in Leases*, 63 N.Y.U. L. REV. 717, 746-48 (1988); Kronman, *Paternalism and the Law of Contracts*, 92 YALE L.J. 763, 770-74 (1983). If, for example, first-party insurance were to be substituted for products liability as a means of compensation for product-related accidents, some consideration would have to be given to the affordability of first-party insurance for less affluent members of society—as compared with the implicit insurance provided with purchased products (and reflected in a product's price). Wealth disparities may not prove to be an insuperable obstacle, but they are a factor that must be considered in cases involving compensation for consumers.

price—that distributes benefits and burdens among the parties to commercial contracts. If price is not controlled, intervention with respect to any other contract term is likely to produce inefficient arrangements with adverse effects upon one or both parties. The weaker party is not advantaged by requiring the stronger party to pursue inefficient arrangements for which a higher price will be charged.²⁸³

The role of tort law in commercial product liability cases is redundant and perverse. It is used by litigants and courts to undermine allocations of risks agreed to by the parties and to substitute judicial solutions for contractual arrangements that are almost certainly superior in terms of both fairness and efficiency. Substantial gains can be achieved by excluding tort liability from business disputes concerning the allocation of commercial losses.

283. This point is developed in further detail in Jones, *supra* note 282, at 737-38, 749-50.

VIII. APPENDIX: THE ECONOMIC LOSS DOCTRINE IN
COMMERCIAL SALES TRANSACTIONS

1. Absent an accident-like injury to the product itself, or to the person or other property of the buyer, the overwhelming majority of courts deny recovery, in negligence and in strict liability, to the buyer of a defective product:

Wisconsin Power & Light Co. v. Westinghouse Elec. Corp., 830 F.2d 1405 (7th Cir. 1987) (Wisconsin law) (negligence and strict liability); Shipco 2295, Inc. v. Avondale Shipyards, Inc., 825 F.2d 925 (5th Cir. 1987) (admiralty) (negligence and strict liability), *cert. denied*, 485 U.S. 1007 (1988); Twin Disc, Inc. v. Big Bud Tractor, Inc., 772 F.2d 1329 (7th Cir. 1985) (Wisconsin law) (negligence and strict liability); Sanco, Inc. v. Ford Motor Co., 771 F.2d 1081 (7th Cir. 1985) (Indiana law) (negligence); American Home Assurance Co. v. Major Tool & Mach., Inc., 767 F.2d 446 (8th Cir. 1985) (Minnesota law) (negligence and strict liability); Henry Heide, Inc. v. WRH Prods. Co., 766 F.2d 105 (3d Cir. 1985) (New Jersey law) (negligence and strict liability); Colonial Park Country Club v. Joan of Arc, 746 F.2d 1425 (10th Cir. 1984) (New Mexico law) (strict liability); R.W. Murray Co. v. Shatterproof Glass Corp., 697 F.2d 818 (8th Cir. 1983) (Missouri law) (negligence); Flintkote Co. v. Dravo Corp., 678 F.2d 942 (11th Cir. 1982) (Georgia law) (negligence); Purvis v. Consolidated Energy Prods. Co., 674 F.2d 217 (4th Cir. 1982) (South Carolina law) (strict liability); Mercer v. Long Mfg. N.C., Inc., 665 F.2d 61 (5th Cir. 1982) (Texas law) (strict liability); Pittway Corp. v. Lockheed Aircraft Corp., 641 F.2d 524 (7th Cir. 1981) (Illinois law) (strict liability); Jones & Laughlin Steel Corp. v. Johns-Manville Sales Corp., 626 F.2d 280 (3d Cir. 1980) (Illinois law) (negligence and strict liability); Two Rivers Co. v. Curtiss Breeding Serv., Div. of Searle Agric. Inc., 624 F.2d 1242 (5th Cir. 1980) (Texas law) (strict liability), *cert. denied*, 450 U.S. 920 (1981); Tokio Marine & Fire Ins. Co. v. McDonnell Douglas Corp., 617 F.2d 936 (2d Cir. 1980) (California law) (negligence and strict liability);

Scandinavian Airlines Sys. v. United Aircraft Corp., 601 F.2d 425 (9th Cir. 1979) (California law) (strict liability); S.M. Wilson & Co. v. Smith Int'l, Inc., 587 F.2d 1363 (9th Cir. 1978) (California law) (negligence); Posttape Assocs. v. Eastman Kodak Co., 537 F.2d 751 (3d Cir. 1976) (Pennsylvania law) (strict liability); Southwest Forest Indus., Inc. v. Westinghouse Elec. Corp., 422 F.2d 1013 (9th Cir.) (Pennsylvania law) (strict liability), *cert. denied*, 400 U.S. 902 (1970); PPG Indus., Inc. v. Sundstrand Corp., 681 F. Supp. 287 (W.D. Pa. 1988) (California, Illinois, and North Carolina law) (negligence); Frey

Dairy v. A.O. Smith Harvestore Prods., Inc., 680 F. Supp. 253 (E.D. Mich. 1988) (Michigan law) (negligence and strict liability); Klo-Zik Co. v. General Motors Corp., 677 F. Supp. 499 (E.D. Texas 1987) (Texas law) (strict liability); Richard O'Brien Cos. v. Challenge-Cook Bros., 672 F. Supp. 466 (D. Colo. 1987) (Colorado law) (negligence and strict liability); Mt. Holly Ski Area v. U.S. Elec. Motors, Div. of Emerson Elec. Co., 666 F. Supp. 115 (E.D. Mich. 1987) (Michigan law) (negligence); Mac's Eggs, Inc. v. Rite-Way Agri Distribs., Inc., 656 F. Supp. 720 (N.D. Ind. 1986) (Indiana law) (strict liability); Cincinnati Gas & Elec. Co. v. General Elec. Co., 656 F. Supp. 49 (S.D. Ohio 1986) (Ohio law) (negligence and strict liability); McConnell v. Caterpillar Tractor Co., 646 F. Supp. 1520 (D.N.J. 1986) (admiralty) (negligence and strict liability); Long Island Lighting Co. v. Transamerica Delaval, Inc., 646 F. Supp. 1442 (S.D.N.Y. 1986) (New York law) (negligence and strict liability); Agristor Leasing v. Kramer, 640 F. Supp. 187 (D. Minn. 1986) (Minnesota law) (negligence and strict liability);

Consumers Power Co. v. Mississippi Valley Structural Steel Co., 636 F. Supp. 1100 (E.D. Mich. 1986) (Michigan law) (negligence and strict liability); *In re* James Noel Flying Serv., Inc., 61 Bankr. 335 (W.D. La. 1986) (Louisiana law) (strict liability); Agristor Leasing v. Meuli, 634 F. Supp. 1208 (D. Kan. 1986) (Kansas law) (negligence and strict liability); Sylla v. Massey-Ferguson, Inc., 660 F. Supp. 1044 (E.D. Mich. 1984) (Michigan law) (negligence and strict liability); Sylla v. Massey-Ferguson Inc., 595 F. Supp. 590 (E.D. Mich. 1984) (Michigan law) (negligence and strict liability); Hart Eng'g Co. v. FMC Corp., 593 F. Supp. 1471 (D.R.I. 1984) (Michigan, Pennsylvania, and Rhode Island law) (negligence and strict liability); Eaton Corp. v. Magnavox Co., 581 F. Supp. 1514 (E.D. Mich. 1984) (Michigan law) (negligence and strict liability); Hammermill Paper Co. v. Pipe Sys., 581 F. Supp. 1189 (W.D. Pa. 1984) (Texas law) (strict liability); City of Clayton v. Grumman Emergency Prods., Inc., 576 F. Supp. 1122 (E.D. Mo. 1983) (Missouri law) (negligence and strict liability); Consolidated Edison Co. v. Westinghouse Elec. Corp., 567 F. Supp. 358 (S.D.N.Y. 1983) (New York law) (negligence and strict liability); Jaskey Fin. & Leasing v. Display Data Corp., 564 F. Supp. 160 (E.D. Pa. 1983) (Maryland law) (negligence); County of Westchester v. General Motors Corp., 555 F. Supp. 290 (S.D.N.Y. 1983) (New York law) (negligence and strict liability); General Pub. Utils. Corp. v. Babcock & Wilcox Co., 547 F. Supp. 842 (S.D.N.Y. 1982) (Pennsylvania law) (strict liability); Anglo Eastern Bulkships Ltd. v. Ameron, Inc., 556 F. Supp. 1198 (S.D.N.Y. 1982) (admiralty) (strict liability); Owens-Corning Fiberglas Corp. v. Sonic Dev. Corp.,

546 F. Supp. 533 (D. Kan. 1982) (Kansas law) (negligence); Office Supply Co. v. Basic/Four Corp., 538 F. Supp. 776 (E.D. Wis. 1982) (California law) (negligence); Argo Welded Prods., Inc. v. J.T. Ryerson Steel & Sons, 528 F. Supp. 583 (E.D. Pa. 1981) (New Jersey and Pennsylvania law) (negligence); Baltimore Football Club, Inc. v. Lockheed Corp., 525 F. Supp. 1206 (N.D. Ga. 1981) (Georgia law) (negligence and strict liability); Kaiser Aluminum & Chem. Corp. v. Ingersoll-Rand Co., 519 F. Supp. 60 (S.D. Ga. 1981) (Georgia law) (negligence); Polycon Indus., Inc. v. Hercules Inc., 471 F. Supp. 1316 (E.D. Wis. 1979) (Michigan law) (strict liability);

Sioux City Community School Dist. v. International Tel. & Tel. Corp., 461 F. Supp. 662 (N.D. Iowa 1978) (Iowa law) (strict liability); Plainwell Paper Co. v. Pram, Inc., 430 F. Supp. 1386 (W.D. Pa. 1977) (Pennsylvania law) (strict liability); Midland Forge, Inc. v. Letts Indus., Inc., 395 F. Supp. 506 (N.D. Iowa 1975) (Iowa law) (strict liability); Arizona v. Cook Paint & Varnish Co., 391 F. Supp. 962 (D. Ariz. 1975) (Alaska, Arizona, California, Hawaii, and Texas law) (negligence and strict liability), *aff'd per curiam*, 541 F.2d 226 (9th Cir. 1976), *cert. denied*, 430 U.S. 915 (1977); Cooley v. Salopian Indus., Ltd., 383 F. Supp. 1114 (D.S.C. 1974) (South Carolina law) (strict liability); Iowa Elec. Light & Power Co. v. Allis-Chalmers Mfg. Co., 360 F. Supp. 25 (S.D. Iowa 1973) (Iowa law) (strict liability); Noel Transfer & Package Delivery Serv., Inc. v. General Motors Corp., 341 F. Supp. 968 (D. Minn. 1972) (Minnesota law) (strict liability); Karl's Shoe Stores, Ltd. v. United Shoe Mach. Corp., 145 F. Supp. 376 (D. Mass. 1956) (Massachusetts law) (negligence); Donovan Constr. Co. v. General Elec. Co., 133 F. Supp. 870 (D. Minn. 1955) (Minnesota law) (negligence); State *ex rel* Smith v. Tyonek Timber, Inc., 680 P.2d 1148 (Alaska 1984) (negligence); Northern Power & Eng'g Corp. v. Caterpillar Tractor Co., 623 P.2d 324 (Alaska 1981) (negligence and strict liability); Beauchamp v. Wilson, 21 Ariz. App. 14, 515 P.2d 41 (1973) (strict liability); Berkeley Pump Co. v. Reed-Joseph Land Co., 279 Ark. 384, 653 S.W.2d 128 (1983) (strict liability); Sacramento Regional Transit Dist. v. Grumman Flexible, 158 Cal. App. 3d 289, 204 Cal. Rptr. 736 (1984) (negligence and strict liability); Kaiser Steel Corp. v. Westinghouse Elec. Corp., 55 Cal. App. 3d 737, 127 Cal. Rptr. 838 (Ct. App. 1976) (strict liability); Anthony v. Kelsey-Hayes Co., 25 Cal. App. 3d 442, 102 Cal. Rptr. 113 (1972) (negligence and strict liability); Florida Power & Light Co. v. Westinghouse Elec. Corp., 510 So. 2d 899 (Fla. 1987) (negligence); Affiliates for Evaluation & Therapy, Inc. v. Viasyn Corp., 500 So. 2d 688 (Fla. Dist. Ct. App. 1987) (negligence); GAF

Corp. v. Zack Co., 445 So. 2d 350 (Fla. Dist. Ct. App.) (negligence and strict liability), *review denied*, 453 So. 2d 45 (Fla. 1984);

Cedars of Lebanon Hosp. Corp. v. European X-Ray Distribs., 444 So. 2d 1068 (Fla. Dist. Ct. App. 1984) (strict liability); Monsanto Agric. Prods. Co. v. Edenfield, 426 So. 2d 574 (Fla. Dist. Ct. App. 1982) (negligence); State v. Mitchell Constr. Co., 108 Idaho 335, 699 P.2d 1349 (1984) (negligence and strict liability); Adkinson Corp. v. American Bldg. Co., 107 Idaho 406, 690 P.2d 341 (1984) (negligence and strict liability); Clark v. International Harvester Co., 99 Idaho 326, 581 P.2d 784 (1978) (negligence); Myers v. A.O. Smith Harvester Prods., Inc., 114 Idaho 432, 757 P.2d 695 (Ct. App. 1988) (negligence and strict liability); Anderson Elec., Inc. v. Ledbetter Erection Corp., 115 Ill. 2d 146, 503 N.E.2d 246 (1986) (negligence); Moorman Mfg. Co. v. National Tank Co., 91 Ill. 2d 69, 435 N.E.2d 443 (1982) (negligence and strict liability); Album Graphics, Inc. v. Beatrice Foods Co., 87 Ill. App. 3d 338, 408 N.E.2d 1041 (1980) (negligence); Alfred N. Koplin & Co. v. Chrysler Corp., 49 Ill. App. 3d 194, 364 N.E.2d 100 (1977) (negligence); Dutton v. International Harvester Co., 504 N.E.2d 313 (Ind. Ct. App. 1987) (strict liability); Bay State-Spray & Provincetown S.S., Inc. v. Caterpillar Tractor Co., 404 Mass. 103, 533 N.E.2d 1350 (1989) (negligence and strict liability); Marcil v. John Deere Indus. Equip. Co., 9 Mass. App. Ct. 625, 403 N.E.2d 430 (1980) (negligence); Great Am. Ins. Co. v. Paty's, Inc., 154 Mich. App. 634, 397 N.W.2d 853 (1986) (negligence), *appeal denied*, 428 Mich. 874 (1987); A.C. Hoyle Co. v. Sperry Rand Corp., 128 Mich. App. 557, 340 N.W.2d 326 (1983) (negligence); McGhee v. GMC Truck & Coach Div., 98 Mich. App. 495, 296 N.W.2d 286 (1980) (negligence and strict liability); Valley Farmers' Elevator v. Lindsay Bros., 398 N.W.2d 553 (Minn. 1987) (negligence); S.J. Groves & Sons v. Aerospatiale Helicopter Corp., 374 N.W.2d 431 (Minn. 1985) (negligence and strict liability); Minneapolis Soc'y of Fine Arts v. Parker-Klein Assocs. Architects, Inc., 354 N.W.2d 816 (Minn. 1984) (negligence and strict liability); Superwood Corp. v. Siempelkamp Corp., 311 N.W.2d 159 (Minn. 1981) (negligence and strict liability); Holstad v. Southwestern Porcelain, Inc., 421 N.W.2d 371 (Minn. Ct. App. 1988) (negligence and strict liability);

Tri-State Ins. Co. v. Lindsay Bros., 364 N.W.2d 894 (Minn. Ct. App. 1985) (negligence and strict liability); St. Paul Fire & Marine Ins. Co. v. Steeple Jac, Inc., 352 N.W.2d 107 (Minn. Ct. App. 1984) (negligence and strict liability); Sharp Bros. Contracting Co. v. American Hoist & Derrick Co., 703 S.W.2d 901 (Mo. Ct. App. 1986) (strict liability); Forrest v. Chrysler Corp., 632 S.W.2d 29 (Mo. Ct. App. 1982) (strict liability); Clevenger & Wright Co. v. A.O. Smith Harves-

tore Prods., Inc., 625 S.W.2d 906 (Mo. Ct. App. 1981) (negligence and strict liability); National Crane Corp. v. Ohio Steel Tube Co., 213 Neb. 782, 332 N.W.2d 39 (1983) (negligence and strict liability); Central Bit Supply Inc. v. Waldrop Drilling & Pump, Inc., 102 Nev. 139, 717 P.2d 35 (1986) (negligence and strict liability); Spring Motors Distribs., Inc. v. Ford Motor Co., 98 N.J. 555, 489 A.2d 660 (1985) (negligence and strict liability); Schiavone Constr. Co. v. Elgood Mayo Corp., 56 N.Y.2d 667, 436 N.E.2d 1322, 451 N.Y.S.2d 720 (1982) (strict liability); Utica Observer Dispatch, Inc. v. Booth, 106 A.D.2d 863, 483 N.Y.S.2d 540 (1984) (negligence); Mid-Hudson Mack, Inc. v. Dutchess Quarry & Supply Co., 99 A.D.2d 751, 471 N.Y.S.2d 664 (1984) (negligence and strict liability); Cayuga Harvester, Inc. v. Allis-Chalmers Corp., 95 A.D.2d 5, 465 N.Y.S.2d 606 (1983) (negligence and strict liability); Steckmar Nat'l Realty & Inv. Corp. v. J.I. Case Co., 99 Misc. 2d 212, 415 N.Y.S.2d 946 (Sup. Ct. 1979) (negligence and strict liability); Trans World Airlines, Inc. v. Curtiss-Wright Corp., 1 Misc. 2d 477, 148 N.Y.S.2d 284 (Sup. Ct. 1955) (negligence); Hagert v. Hatton Commodities, Inc., 350 N.W.2d 591 (N.D. 1984) (strict liability); Chemtrol Adhesives, Inc. v. American Mfrs. Mut. Ins. Co., 42 Ohio St. 3d 40, 537 N.E.2d 624 (1989) (negligence and strict liability); Avenell v. Westinghouse Elec. Corp., 41 Ohio App. 2d 150, 324 N.E.2d 583 (1974) (strict liability); Brown v. Western Farmers Ass'n, 268 Or. 470, 521 P.2d 537 (1974) (strict liability); REM Coal Co. v. Clark Equip. Co., 1563 A.2d 128 (Pa. Super. 1989) (negligence and strict liability); Carolina Winds Owners' Ass'n v. Joe Hardin Builder, Inc., 297 S.C. 74, 374 S.E.2d 897 (Ct. App. 1988) (favorable comment on economic loss doctrine in context of construction case involving negligence); Mid Continent Aircraft Corp. v. Curry County Spraying Serv., Inc., 572 S.W.2d 308 (Tex. 1978) (strict liability); Pioneer Hi-Bred Int'l, Inc. v. Talley, 493 S.W.2d 602 (Tex. Civ. App. 1973) (strict liability); Sensenbrenner v. Rust, Orling & Neale, Architects, Inc., 236 Va. 419, 374 S.E.2d 55 (1988) (favorable comment on economic loss doctrine in context of construction case involving negligence); Sunnyscope Grading Inc. v. Miller, Bradford & Risberg, 148 Wis. 2d 910, 437 N.W.2d 213 (1989).

2. There is some authority to the contrary, particularly in cases asserting negligence:

N. Feldman & Son v. Checker Motors Corp., 572 F. Supp. 310 (S.D.N.Y. 1983) (Michigan law) (negligence and strict liability); R & L Grain Co. v. Chicago E. Corp., 531 F. Supp. 201 (N.D. Ill. 1981) (Wisconsin law) (negligence and strict liability); Feeders, Inc. v. Monsanto Co., No. Civ. 4-77-306 (D. Minn. May 15, 1981) (LEXIS,

Genfed library, Dist file) (Minnesota law) (negligence); *Mead Corp. v. Allendale Mut. Ins. Co.*, 465 F. Supp. 355 (N.D. Ohio 1979) (Ohio law) (strict liability); *Continental Oil Co. v. General Am. Transp. Corp.*, 409 F. Supp. 288 (S.D. Tex. 1976) (Ohio law) (negligence and strict liability); *Berkeley Pump Co. v. Reed-Joseph Land Co.*, 279 Ark. 384, 653 S.W.2d 128 (1983) (negligence); *Pisano v. American Leasing*, 146 Cal. App. 3d 194, 194 Cal. Rptr. 77 (1983) (negligence); *Webb v. Dessert Seed Co.*, 718 P.2d 1057 (Colo. 1986) (negligence); *Omni Flying Club, Inc. v. Cessna Aircraft Co.*, 366 Mass. 154, 315 N.E.2d 885 (1974) (negligence); *Spence v. Three Rivers Builders & Masonry Supply, Inc.*, 353 Mich. 120, 90 N.W.2d 873 (1958) (negligence); *Lang v. General Motors Corp.*, 136 N.W.2d 805 (N.D. 1965) (negligence); *State ex rel. W. Seed Prod. Corp. v. Campbell*, 250 Or. 262, 442 P.2d 215 (1968) (negligence), *cert. denied*, 393 U.S. 1093 (1969); *W.R.H., Inc. v. Economy Builders Supply*, 633 P.2d 42 (Utah 1981) (negligence); *Berg v. General Motors Corp.*, 87 Wash. 2d 584, 555 P.2d 818 (1976) (negligence); *Nakanishi v. Foster*, 64 Wash. 2d 647, 393 P.2d 635 (1964) (negligence); *City of La Crosse v. Schubert, Schroeder & Assocs.*, 72 Wis. 2d 38, 240 N.W.2d 124 (1974) (strict liability and negligence); *Air Prods. & Chems., Inc. v. Fairbanks Morse, Inc.*, 58 Wis. 2d 193, 206 N.W.2d 414 (1973) (Pennsylvania law) (strict liability).

The leading case upholding recovery in strict liability for economic loss was *Santor v. A & M. Karagheusian, Inc.*, 44 N.J. 52, 207 A.2d 305 (1965). The ruling was subsequently confined to consumer cases in *Spring Motors Distributors, Inc. v. Ford Motor Co.*, 98 N.J. 555, 489 A.2d 660 (1985). *But cf.* *Cinnaminson Township Bd. of Educ. v. U.S. Gypsum Co.*, 552 F. Supp. 855 (D.N.J. 1982) (upholding the recovery of the cost of replacing asbestos tile in a commercial context).

Many of the cases sustaining liability for economic loss are no longer authoritative or are subject to serious question: (1) the Massachusetts decision in *Omni Flying Club* has been disapproved in subsequent opinions, *see Bay State-Spray & Provincetown S.S. Co. v. Caterpillar Tractor Co.*, 404 Mass. 103, 533 N.E.2d 1350 (1989); (2) the decisions under Michigan law in *Feldman*, *Spence*, and *Southgate* have been superseded, *see Great Am. Ins. Co. v. Paty's, Inc.*, 154 Mich. App. 634, 397 N.W.2d 853 (1986), *appeal denied*, 428 Mich. 874 (1987); (3) the decision under Minnesota law in *Feeders* has been superseded, *see Superwood Corp. v. Siempelkamp*, 311 N.W.2d 159 (Minn. 1981); (4) the decisions under Ohio law in *Mead* and *Continental Oil* have been superseded, *see Chemitrol Adhesives, Inc. v.*

American Mfrs. Mut. Ins. Co., 42 Ohio St. 3d 40, 537 N.E.2d 624 (1989); (5) the Washington decisions in *Berg* and *Nakanishi* have been overturned by statute, see WASH. REV. CODE ANN. § 7.72.010(4), (6) (Supp. 1989); and (6) the decisions under Wisconsin law in *R & L Grain* and *City of La Crosse* are of questionable validity, see Wisconsin Power & Light Co. v. Westinghouse Elec. Corp., 830 F.2d 1405 (7th Cir. 1987); *Sunnyslope Grading Inc. v. Miller, Bradford & Risberg*, 148 Wis. 2d 910, 437 N.W.2d 213 (1989). In addition, there are unresolved conflicts in the California decisions with respect to negligence.

3. For the most part, state product liability statutes refer to "property damage" or the equivalent without further elaboration. See ALA. CODE § 6-5-501(2) (Supp. 1989); ARIZ. REV. STAT. ANN. § 12-681(3) (1982); ARK. STAT. ANN. §§ 4-86-102, 16-116-102(5) (1987) (harm to property); COLO. REV. STAT. § 13-21-401(2) (1987); DEL. CODE ANN. tit. 18, § 7001 (1989); KY. REV. STAT. ANN. § 411.300(1) (Baldwin Supp. 1988); MICH. COMP. LAWS § 600-2945 (1987); NEB. REV. STAT. § 25-21,180 (1985); N.C. GEN. STAT. § 99B-1(3) (1985); OR. REV. STAT. § 30.900 (1988); R.I. GEN. LAWS § 9-1-32(1) (1985); S.D. CODIFIED LAWS ANN. § 20-9-10 (1987); TENN. CODE ANN. § 29-28-102(6) (1980); UTAH CODE ANN. § 78-15-6 (1987). Some states exclude economic loss either expressly or by implication. See CONN. GEN. STAT. § 52-572n (Supp. 1988) (excluding claim for "commercial loss" as between "commercial parties"); IND. CODE ANN. § 33-1-1.5-2 (West Supp. 1988) (excluding claims for "gradually evolving damage to property or economic loss from such damage"); KAN. STAT. ANN. § 60-3302(d) (1983) (excluding claim for "direct or consequential economic loss"); MONT. CODE ANN. § 27-1-719 (1989) (referring to "physical harm to property"); N.J. STAT. ANN. 2A:58C-1(b)(2) (West 1987) (referring to "physical damage to property, other than to the product itself"); OHIO REV. CODE ANN. § 2307.71(B), (G), (M) (Anderson Supp. 1988) (referring to "physical damage to property other than the product in question" and excluding a broadly defined category of "economic loss"); S.C. CODE ANN. § 15-73-10 (Law. Co-op. 1977) (referring to "physical harm [to the user's] property"); WASH. REV. CODE ANN. § 7.72.010(4), (6) (Supp. 1989) (excluding claim for "direct or consequential economic loss" under the UCC). Two formulations are more expansive. See LA. REV. STAT. ANN. § 9-2800.53(5) (West Supp. 1989) (referring to "damage to the product itself and economic loss arising from a deficiency in or loss of use of the product," but only to the extent not covered by warranty law); N.H. REV. STAT. ANN.

§ 507-D:(1)(I) (1983) (referring to "property damage or other damage").

The product liability statutes cover issues of varying scope. They have received scant attention from the courts in resolving issues of economic loss. There are, however, exceptions. *See, e.g.*, *Purvis v. Consolidated Energy Prods. Co.*, 674 F.2d 217 (4th Cir. 1982) (interpreting the South Carolina statute's reference to "physical harm" to exclude the failure of a structure to cure tobacco); *Mac's Eggs, Inc. v. Rite-Way Agric. Distribs.*, 656 F. Supp. 720 (N.D. Ind. 1986) (interpreting the Indiana statute's requirement of "physical injury" to exclude a malfunction in a feed system which led to losses of chickens and a lower yield); *Verdon v. Transamerica Ins. Co.*, 187 Conn. 363, 371, 446 A.2d 3, 8 (1982) (observing that the Connecticut statute permitted recovery for damage to the product sold, but not for economic loss); *Washington Water Power Co. v. Graybar Elec. Co.*, 112 Wash. 2d 847, 774 P.2d 1199 (recognizing that Washington's statute disallowed claims for economic loss but expressing uncertainty about the scope of the economic loss concept), *amended*, 779 P.2d 697 (1989).