

BEYOND *ERIN BROCKOVICH* AND *A CIVIL ACTION*: SHOULD STRICT PRODUCTS LIABILITY BE THE NEXT FRONTIER FOR WATER CONTAMINATION LAWSUITS?

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INTRODUCTION

Erin Brockovich may have actually missed something.¹ Jan Schlichtmann in *A Civil Action* definitely missed it.² While both alleged that big companies contaminated the local groundwater and injured the people who drank the water, neither sued the *sellors* of the water under a *strict products liability* theory. In fact, the strict products liability cause of action has been almost entirely ignored in water contamination lawsuits. That promises to change. As litigants search for potentially easier ways to recover in these lawsuits and additional defendants from whom to recover, strict products liability will likely play an increasingly prominent role in such lawsuits.

For those who have not seen *Erin Brockovich* or *A Civil Action*, both of which are advertised as true stories,³ a brief summary is in order. *Erin*

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1. See ERIN BROCKOVICH (Universal/MCA 2000). *Erin Brockovich* is a major motion picture starring Julia Roberts as the title character.

2. See JONATHAN HARR, *A CIVIL ACTION* (1996). Harr's book was a huge success, see *Bestsellers*, WASH. POST, Apr. 18, 1999, at X11 (listing Harr's book for over seventy weeks as a top-selling paperback), and was later made into a major motion picture starring John Travolta as Jan Schlichtmann, who was lead counsel for the plaintiffs. See *A CIVIL ACTION* (Touchstone Pictures 1999).

3. Many argue that *Erin Brockovich* is more properly viewed as fiction. See, e.g., *20/20: Fact or Fiction* (ABC television broadcast, July 14, 2000) (questioning *Erin Brockovich*'s claim to be based on a true story and the claim that drinking contaminated water caused the illness described in the movie); Michael Fumento, 'Erin Brockovich,' *Exposed*, WALL ST. J., Mar. 28, 2000, at A30 (arguing that the scientific evidence does not support the movie's claims); Gina Kolata, Editorial, *A Hit Movie Is Rated 'F' in Science*, N.Y. TIMES, Apr. 11, 2000, at F7 (claiming that "[i]t should be no surprise to viewers of the hit movie *Erin Brockovich* that the science portrayed in the movie is not really science"). But see Erin Brockovich & Gary A. Praglin, Letter to the Editor, 'Erin Brockovich,' *Affirmed*, WALL ST. J., Apr. 6, 2000, at A23 (claiming that the scientific evidence does prove that exposure to water contaminated with chromium "damaged the health of countless people"). See also Robert W. Welkos, Calendar, *Digging for the Truth with Tensions over Accuracy in Film Running High*, 'Erin Brockovich' Pays Attention to Real Life Detail, L.A. TIMES, Mar. 12, 2000, at 8, available at 2000 WL 2219690 (explaining the controversy over the accuracy and creative license taken in both *A Civil*

Brockovich chronicles a two-year period in the life of a single-mother-turned-paralegal who almost single-handedly researches, develops, and directs a class-action lawsuit on behalf of residents of a small California community against a large corporate utility company.⁴ The lawsuit alleges that hundreds of residents of the community became seriously ill after drinking tap water drawn from groundwater that supplied municipal wells—wells that had been contaminated by the corporate utility’s systematic disposal of waste chromium at its nearby facility.⁵ The utility company that contaminated the groundwater was the sole defendant in the lawsuit.⁶

Similarly, in *A Civil Action*, a group of families in a small Massachusetts town contended that the tap water supplied by the city was contaminated with, *inter alia*, a volatile organic compound called trichloroethylene (TCE), ingestion of which caused their children to contract leukemia.⁷ A contentious issue in the litigation was which of the corporate defendants operating near the river feeding the municipal wells supplying the town’s tap water had actually caused the TCE contamination.⁸ After the first stage of a bitter bifurcated trial, the parties settled for only a fraction of what the plaintiffs had sought,⁹ and the attorneys representing the plaintiffs suffered financial ruin as a result of the litigation.¹⁰

In both cases, the alleged groundwater contaminators were the only

Action and *Erin Brockovich*, but claiming that the *Brockovich* film closely followed real life events). *But cf.* Cathy Booth, *Getting Angry over Erin*, TIME, May 1, 2000, at 70, available at 2000 WL 17633151 (reporting that “some Californians depicted in *Erin Brockovich* say the movie misrepresents their fight with PG&E”). The same has been said concerning *A Civil Action*. *See, e.g.*, Sharon Waxman, *Bad Blood: A Lawsuit’s Bitter Legacy: Disney’s ‘Civil Action’ Revisits an Irretrievably Poisoned Past*, WASH. POST, Dec. 28, 1998, at C1 (stating that in the movie, like the actual lawsuit, “the truth in such cases is often confused.”).

4. The plaintiffs in the class action lawsuit lived in or near Hinkley, California, which is located in San Bernardino County. The defendant was Pacific Gas & Electric (PG&E), a San Francisco-based utility company. *See ‘Brockovich’ Jabs PG&E as New Trial Looms*, GAS DAILY, Apr. 3, 2000, available at 2000 WL 8754026.

5. *See ‘Brockovich’ Jabs PG&E as New Trial Looms*, *supra* note 4; Welkos, *supra* note 3, at 8.

6. I will stop my summary at this point so I do not ruin the movie for those who have yet to catch it on video.

7. *See Anderson v. Cryovac, Inc.*, 96 F.R.D. 431, 431 (D. Mass. 1983) (stating that plaintiffs’ and their decedents’ claimed to have suffered from leukemia and other health problems as a result of ingesting contaminated water). *See also HARR*, *supra* note 2, at 81-82.

8. *See HARR*, *supra* note 2, at 236-38. *See also Litigation: Waste from W.R. Grace Contaminated Wells, Jury Determines in Woburn Leukemia Lawsuits*, 17 ENV’T RPTR. 486 (1986), available at 17 ER 486 (Westlaw citation).

9. *See HARR*, *supra* note 2, at 446-48. *See also Litigation: Parties Announce \$8 Million Settlement in Woburn, Mass., Water Contamination Suit*, 17 ENV’T RPTR. 774 (1986), available at 17 ER 774 (Westlaw citation).

10. *See HARR*, *supra* note 2, at 488-92. *See also* Steve Bailey, *Sobel & Schlichtman*, BOSTON GLOBE, June 7, 2000, at C1, available at 2000 WL 3329524 (stating that even though Schlichtman gained notoriety from the lawsuit, he was left “beaten and bankrupt.”).

defendants. Although there was never a dispute in either case that the municipal wells were, in fact, contaminated, the plaintiffs never sued the municipal owners and operators of the wells that supplied the contaminated water.¹¹ And in both cases, the causes of action alleged were limited to negligence, nuisance, and strict liability for abnormally dangerous activities; strict products liability was never alleged.¹²

This Article explores the yet unexplored—the viability of strict products liability against sellers of contaminated water.¹³ Part I sets the factual context for the Article, briefly describing the nature and scope of this nation’s groundwater contamination problem, and explains why, though historically ignored, strict products liability may figure prominently in current and future water contamination litigation.¹⁴ Part II sets the legal context for the Article, very briefly outlining the evolution of strict products liability from its birth in *Greenman v. Yuba Power Products, Inc.*,¹⁵ through its maturation as urged in the recent *Restatement (Third) of Torts: Products Liability* (hereafter *Restatement Third*).¹⁶ Part III then analyzes whether each of the necessary elements of a strict products liability cause of action is sufficiently satisfied to warrant its application to the sale of contaminated water.¹⁷ Part III concludes that contaminated water is properly characterized as a manufacturing defect and thus subjects the seller of the water to strict liability.¹⁸

Part IV traces the historical public policy foundations for imposing strict liability and explores whether its application to the sale of contaminated water furthers or undermines the interests sought to be advanced or protected by strict products liability.¹⁹ Part V then highlights the critical importance of *quality control* as a pivotal public policy factor in strict products liability. While the absence of quality control as a public policy factor in the design

11. Although it is clear from *Erin Brockovich* that individuals’ private wells were contaminated, it is not entirely clear as to whether the municipal wells were also affected. See ERIN BROCKOVICH, *supra* note 1.

12. See Plaintiff’s Second Amended Complaint, *Anderson v. Cryovac*, 96 F.R.D. 431 (D. Mass. 1983) (No. 82-1672-S), reprinted in LEWIS A. GROSSMAN & ROBERT G. VAUGHN, A DOCUMENTARY COMPANION TO A *Civil Action* (1999).

13. With one possible, minor exception, see *infra* notes 88-92 and accompanying text, there are no reported cases or any secondary authority analyzing whether strict products liability applies to the delivery of contaminated water.

14. See *infra* notes 23-27, 29-39 and accompanying text.

15. 377 P.2d 897 (Cal. 1963) (en banc).

16. RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY (1998) [hereinafter RESTATEMENT THIRD]. See *infra* notes 40-101 and accompanying text.

17. See *infra* notes 102-200 and accompanying text.

18. See *infra* notes 201-04 and accompanying text.

19. See *infra* notes 205-62 and accompanying text.

and warning defect context has allowed a return to a negligence-based liability scheme, quality control remains central to the continued application of strict liability in the manufacturing defect context. Part V then illustrates the importance of quality control through a series of graphs depicting the impact of quality control decisions on the number of expected manufacturing defects and their consequential costs. Part V also explains that the almost uniformly-recognized unfairness of imposing strict liability on manufacturers of products containing *unforeseeable* defects in the design and warning defect contexts also exists in the manufacturing defect context in numerous instances.²⁰ To remedy that unfairness, Part VI proposes a new affirmative defense to manufacturing defect liability applicable when there is an unforeseeable defect in the product that is not reasonably traceable to the quality control levels set by the manufacturer.²¹ Finally, Part VI illustrates the application of the proposed quality control affirmative defense by applying the defense to the facts of *A Civil Action* and *Erin Brockovich*.²²

I. LEGAL HISTORY OF GROUNDWATER LITIGATION

A. *The Scope of the Groundwater Contamination Problem*

There is no dispute in the scientific community that past chemical disposal practices by the industrial community have contaminated much of the nation's groundwater.²³ For example, according to the United States Geological Survey, over forty million Americans live where the groundwater is contaminated by common industrial solvents classified as volatile organic compounds (VOCs).²⁴ Arsenic, chromium, cyanide, and other chemicals

20. See *infra* notes 263-301 and accompanying text.

21. See *infra* notes 302-19 and accompanying text.

22. See *infra* notes 320-69 and accompanying text.

23. Interviews with Roger A. Minear, Civil Engineering Professor and former Director of the Office of Solid Waste Research, University of Illinois at Urbana-Champaign (1996-2001) [hereinafter Interviews with Minear]. See also Todd A. Frampton, *Private Well Owners Pay Price as MTBE Contamination Exposes the Lack of Groundwater Protection in Federal and New York Law*, 18 PACE ENVTL. L. REV. 135, 141-43 (acknowledging the ongoing danger of groundwater pollution from a gas additive known as methyl tertiary butyl ether (MTBE) and other contaminants); OFFICE OF WATER, U.S. EPA, EPA-816-R-99-016, SAFE DRINKING WATER ACT, SECTION 1429 GROUND WATER REPORT TO CONGRESS (Oct. 1999), available at <http://www.epa.gov/safewater/gwr/finalgw.pdf>.

24. THE EPA CHILDREN'S ENVIRONMENTAL HEALTH YEARBOOK 9 (June 1998) [hereinafter EPA YEARBOOK]. Volatile organic compounds are chemicals that may evaporate from cleaning products, adhesives, paint, and wood preservatives. OFFICE OF CHILDREN'S HEALTH PROTECTION, U.S. EPA, EPA 100-R-98-100; PAUL J. SQUILLACE ET AL., UNITED STATES GEOLOGICAL SURVEY, VOLATILE ORGANIC COMPOUNDS IN UNTREATED AMBIENT GROUNDWATER OF THE UNITED STATES, 1985-1995, reprinted in 33 *Envtl. Sci. & Tech.* 4176, 4183 (1999).

further contaminate the nation's drinking water.²⁵ Many toxicologists believe that these "toxic" compounds and other chemical contaminants have caused, are now causing, and will cause in the future a wide variety of serious illnesses in those who drink and bathe in the contaminated water as it flows from their taps.²⁶ Indeed, personal injury and wrongful death individual and class action lawsuits arising out of groundwater contamination are springing up all over the country.²⁷ Given the mass media exposure brought to the issue

25. See EPA YEARBOOK, *supra* note 24, at 105-06. Congress, in response to contaminants in the nation's drinking water, set maximum levels applicable to the public water systems. See Safe Drinking Water Act of 1974, Pub. L. No. 93-523, §433, 88 Stat. 1660 (codified as amended at 42 U.S.C. §§ 300g-300j (1994)).

26. Interviews with Minear, *supra* note 23.

27. See, e.g., Edward Humes, *The Brockovich Bonanza*, CAL. LAW., Sept. 2001, at 30 (reporting that Ed Masry, the lead lawyer in the case upon which *Erin Brockovich* was based, has filed or will file seven new toxic tort cases in the wake of the Hinkley case). See also Alejandro Bustos, *Lawyer Heading E. Coli Lawsuit Moves Quickly on Legal Front*, CAN. PRESS, May 26, 2000, available at 2000 WL 22519615 (reporting that a class action lawsuit will be filed on behalf of residents in Walkerton, Ontario, who were adversely affected by E. coli bacteria that was allegedly caused by the public utility commission's failure to maintain a chlorinating system or warn residents of problems); *California Environmental Group Sues for Water Contamination at School*, MEALEY'S EMERGING TOXIC TORTS, Feb. 19, 1999, at 20, available at 7 No. 22 METT 20 (Westlaw citation) (reporting the filing of a "lawsuit alleging a chrome plating facility has contaminated drinking water serving a local school and nearby homes" and causing individuals to "experience[] a number of symptoms associated with carcinogenic and toxic chemical exposure"); Steve Church, *Lawsuit Blames Cancer Cases on Tainted Water Supply*, SAN BERNARDINO COUNTY SUN, Feb. 19, 1997, at A1, available at 1997 WL 9378903 (reporting a lawsuit that claimed "defense giant Lockheed Martin Corp. contaminated the main drinking water supply for hundreds of thousands of Inland Empire residents [with] TCE or other toxic compounds"); Richard Cockle, *La Grande Residents Sue Railroad over Underground Oil Spill the Plaintiffs Claim Their Ground Water Has Been Saturated with Petroleum by Union Pacific Railroad*, PORTLAND OREGONIAN, Oct. 12, 1999, at D7, available at 1999 WL 28266868 (reporting that a suit was filed for damages even though "the extent of the contamination of deeper ground water, a potential source of drinking water for the city, is uncertain"); Kate Folmar, *2 New Suits Accuse Rocketdyne Lab of Health Woes Cancer*, L.A. TIMES, Oct. 23, 1997, at B1, available at 1997 WL 13992913 (reporting that two class action lawsuits were filed against Rocketdyne, claiming that the defendants contaminated the groundwater near Simi Valley, California, with TCE, which caused various sicknesses and diseases in nearby residents); Eric Gorski, *Couple Sues, Saying Tainted Bathing Water Caused Health Woes*, PORTLAND OREGONIAN, Nov. 5, 1997, at E1, available at 1997 WL 13135193 (reporting that a couple filed a suit alleging that Cascade Corp. contaminated the groundwater and "for years the [couple] drank and bathed with water tainted by trichloroethylene," contracting "multiple myeloma" and "suffer[ing] severe rashes and skin inflammation"); Christine Hanley, *In Real-Life Sequel, Brockovich Faces New Battle*, DAYTON DAILY NEWS, Mar. 30, 2000, at 3C, available at 2000 WL 7587387 (reporting that Brockovich's firm has brought another class action against PG&E for contaminating the groundwater near Kettleman Hills, California with "cancer-causing chromium"); *Homeowners File Suit Against 2 Firms*, MILWAUKEE J. SENTINEL, Mar. 30, 2000, at 2B, available at 2000 WL 3849301 (reporting that private well owners are suing two businesses that contaminated the local groundwater and forced homeowners to tap into the municipal water system); Brent Israelsen, *Neighbors Sue Plant for Polluting: Lawsuit Claims Contaminated Water Affected Their Health*, SALT LAKE TRIB., Apr. 28, 1999, at B1, available at 1999 WL 3358614 (reporting that six residents of Mapleton, Utah filed a federal lawsuit against owners of an explosives plant, alleging that the plant contaminated the groundwater with nitric acid and RDX, an explosive chemical, and caused the plaintiffs' cancer and other serious illnesses); *Lawyers Seek Class-Action*

of such contamination by the recent Hollywood blockbusters *Erin Brockovich* and *A Civil Action*,²⁸ a flood of litigation promises to follow.²⁹

To date, plaintiffs alleging personal injury and wrongful death resulting from contaminated water have met with only limited success; numerous groundwater contamination cases have been dismissed on summary judgment,³⁰ or resulted in trial verdicts in favor of defendants.³¹

Plaintiffs have encountered essentially two difficulties in prevailing in water contamination cases. The first is the inherent difficulty of proving causation in toxic tort cases generally.³² Unless a substance causes a rare

Suit over MTBE Contamination, OXY-FUEL NEWS, Apr. 24, 2000, available at 2000 WL 8994381 (reporting that eleven refiners have been sued by sixteen states, several water districts, and many individuals who are seeking class-action status and “alleging that the petroleum industry was negligent in their use of MTBE as they knew . . . of the oxygenate’s potential to contaminate groundwater”); Andrew D. Russell, *Families Sue Navy over Water Chemicals Damaged Lives and Health in South Berwick, the Suit Claims*, PORTLAND PRESS HERALD, May 13, 1999, at 1A, available at 1999 WL 4471789 (reporting that residents sued the Navy because it “shipped waste oil, industrial solvents and other hazardous substance” to a nearby dump, and “the chemicals seeped into the groundwater . . . causing health problems”); Bernadette Tansey, *Lawsuit Filed over Tainted Waterways*, S.F. CHRON., Jan. 14, 2000, at A20, available at 2000 WL 6472867 (reporting that environmental groups sued the federal government, claiming that regulators have let more than 500 California waterways become contaminated with over 102 different contaminants).

28. Both movies debuted at the top of the box office charts. See, e.g., The Numbers, Box Office Data for *Erin Brockovich*, available at <http://www.the-numbers.com/movies/2000/ERINB.html> [hereinafter The Numbers for *Erin Brockovich*]; Cesar G. Soriano, *Life, ‘Action’ Has Merit, Film Fans Rule*, USA TODAY, Jan. 12, 1999, at 1D, available at 1999 WL 6831346 (reporting that *A Civil Action* “took the top spot at the box office . . . [in] its first weekend of wide release,” grossing \$15.5 million). *Erin Brockovich* ultimately grossed \$125.5 million domestically, see The Numbers for *Erin Brockovich*, *supra*, while *A Civil Action* grossed \$56.7 million domestically. See The Numbers, Box Office Data for *A Civil Action*, available at <http://www.the-numbers.com/movies/1998/CIVIL.html>.

29. See *Slants & Trends*, HAZARDOUS WASTE NEWS, July 17, 2000, available at 2000 WL 2405221 (“[L]awsuits probably will not end soon. Movies like *Erin Brockovich* and *A Civil Action* are giving people the confidence to sue . . .”); Humes, *supra* note 27, at 32 (reporting that “the movie actually managed to inspire litigation” when, previously, “[t]oxic torts were dead”).

30. See, e.g., *In re Burbank Env’tl. Litig.*, 42 F. Supp. 2d 976, 983 (C.D. Cal. 1998) (granting partial summary judgment, finding that use of trichloroethylene, perchloroethylene, and hexavalent chromium “was not an ultrahazardous activity”).

31. See, e.g., *O’Neal v. Dep’t of the Army*, 852 F. Supp. 327, 337 (M.D. Pa. 1994) (granting verdict in favor of defendant who used TCE as a solvent, finding no negligence and that defendant was not “engaged in an ultrahazardous course of conduct”).

32. See, e.g., *In re Bendectin Litig.* 857 F.2d 290, 326 (6th Cir. 1988) (upholding a district court’s jury verdict finding no causation); *DeLuca v. Merrell Dow Pharm., Inc.*, 791 F. Supp. 1042, 1059 (D.N.J. 1992) (granting summary judgment because the plaintiffs would not be able to prove that the claimed birth defects were caused by ingestion of Bendectin during pregnancy); *In re Agent Orange Prod. Liab. Litig.*, 597 F. Supp. 740, 834-35 (E.D.N.Y. 1984), *aff’d*, 818 F.2d 145 (2d Cir. 1987) (finding settlement reasonable in light of the difficulty individual plaintiffs would have in proving causation). Even when proving general causation may be possible, in some courts, there is an added difficulty of proving specific causation in a water contamination toxic tort class action. See *Sterling v. Velsicol Chem. Corp.*, 855 F.2d 1188, 1200 (6th Cir. 1988) (“Although many common issues of fact and law will be capable of resolution on a group basis, individual particularized damages still must be proved on an individual basis.”). For a review of the causation issues in toxic tort cases

disease that is associated only with exposure to that substance, such as asbestos, it is exceedingly difficult to ascertain with any level of confidence the exact cause of various types of illnesses, such as cancer.³³ The second difficulty plaintiffs face is proving that the defendants actually breached a duty of care or were otherwise legally culpable, i.e., acted with the requisite intent or other mental state sufficient to support a finding of liability.³⁴ This has proven more difficult than one might expect.

B. Traditional Theories of Recovery in Water Contamination Cases

Environmental science has made dramatic strides in the past two decades—disposal practices believed to be perfectly acceptable up through the 1970s are now considered gross violations of the law and the public trust.³⁵ The two causes of action on which plaintiffs primarily rely in water

and the difficulty plaintiffs face, see generally Bert Black & David E. Lilienfeld, *Epidemiologic Proof in Toxic Tort Litigation*, 52 *FORDHAM L. REV.* 732 (1984); Christopher L. Callahan, *Establishment of Causation in Toxic Tort Litigation*, 23 *ARIZ. ST. L.J.* 605 (1991); Daniel A. Farber, *Toxic Causation*, 71 *MINN. L. REV.* 1219 (1987).

33. One commentator notes that

some toxic substances produce so-called “signature diseases,” which are rare diseases associated with exposure to a particular substance, that rarely [if ever] occur in the non-exposed population. The incidence of the background risk for signature diseases is virtually zero; for example, asbestosis and mesothelioma are signature diseases of asbestos exposure.

Gerald W. Boston, *A Mass-Exposure Model of Toxic Causation: The Content of Scientific Proof and the Regulatory Experience*, 18 *COLUM. J. ENVTL. L.* 181, 203 (1993). These signature diseases “have been discovered by cluster analysis and their presence enables plaintiffs exposed [to asbestos] to establish causation without the usual controversies” that are typically involved in proving causation in a toxic tort case. *Id.* at 203-04. See generally Sandra A. Geschwind et al., *Risk of Congenital Malformations Associated with Proximity to Hazardous Waste Sites*, 135 *AM. J. EPIDEMIOLOGY* 1197 (1992) (discussing many of the difficulties inherent in determining relationships to disease in humans and exposure to hazardous waste sites). See also *In re Agent Orange Prod. Liab. Litig.*, 597 F. Supp. 740, 834-35 (E.D.N.Y. 1984), *aff’d*, 818 F.2d 145 (2d Cir. 1987) (finding that unlike those who have asbestosis, most people who have developed a disease as the result of exposure to a toxic substance cannot be distinguished from those persons in the general population who developed the disease independent of such exposure); Peter H. Schuck, *Judicial Avoidance of Juries in Mass Tort Litigation*, 48 *DEPAUL L. REV.* 479, 498 (claiming that summary judgment is often granted in mass tort litigation “primarily [when] the plaintiff complains of a ‘non-signature’ disease” and, therefore, has difficulty proving causation).

34. See, e.g., *O’Neal*, 852 F. Supp. at 337 (granting summary judgment in favor of defendant who used TCE as a solvent, finding no negligence and that defendant was not “engaged in an ultrahazardous course of conduct”); *In re Burbank Env’t. Litig.*, 42 F. Supp. 2d at 983 (granting partial summary judgment, finding that use of trichloroethylene, perchloroethylene, and hexavalent chromium “was not an ultrahazardous activity”).

35. Interviews with Minear, *supra* note 23. See also *Smith v. Hughes Aircraft Co.*, 22 F.3d 1432, 1440 (9th Cir. 1993) (finding a genuine issue of material fact regarding whether defendant knew or believed its disposal practices would harm plaintiffs). *Accord* *W. Greenhouses v. United States*, 878 F. Supp. 917, 923 (N.D. Tex. 1995) (“If waste TCE was disposed into the industrial drain line during [the 1940s through the 1970s], the practice would have been consistent with waste disposal practices

contamination cases are negligence and strict liability for abnormally dangerous activities.³⁶ Both causes of action, however, require plaintiffs to prove that those responsible for the contamination voluntarily engaged in activities while actually or constructively aware of known (or at least foreseeable) risks to others.³⁷ Consequently, in cases in which disposal practices comported with the contemporaneous standard of care, or which involved chemicals not believed to be harmful to humans at the time of their disposal, plaintiffs are doomed to lose.³⁸ Those plaintiffs must assert another cause of action—a cause of action that does not necessarily require proof of foreseeability, and that allows plaintiffs to recover from another group of potentially deep-pocketed defendants. That cause of action is strict products liability.³⁹

throughout the military and industry.”).

36. See, e.g., Second Amended Complaint, *Cryovac*, *supra* note 12. Strict liability for abnormally dangerous activities differs from strict products liability in that it evaluates the nature of the activity undertaken by the defendant rather than the nature of the substance or product incidental to the activity at issue. See *Perez v. S. Pac. Trans. Co.*, 883 P.2d 424, 426 (Ariz. Ct. App. 1993) (“[P]roperties of the particular substance involved are not determinative, rather the defendant’s activity as a whole is analyzed.”). See also *Indiana Harbor Belt R.R. Co. v. Am. Cyanamid Co.*, 916 F.2d 1174, 1181 (7th Cir. 1990) (“[U]ltrahazardousness or abnormal dangerousness is, in the contemplation of the law at least, a property not of substances, but of activities . . .”). Most jurisdictions rely on section 520 of the Restatement (Second) of Torts for governing law on strict liability for abnormally dangerous activities. See RESTATEMENT (SECOND) OF TORTS § 520 (1965) [hereinafter RESTATEMENT SECOND]. For an excellent and recent discussion of the current state of strict liability for abnormally dangerous activities, see Gerald W. Boston, *Strict Liability for Abnormally Dangerous Activity: The Negligence Barrier*, 36 SAN DIEGO L. REV. 597 (1999).

37. See, e.g., *Perez*, 883 P.2d at 426-27 (explicitly rejecting the “hindsight” test used in strict products liability cases). See also *Arlington Forest Ass’n v. Exxon Corp.*, 774 F. Supp. 387, 388 (E.D. Va. 1991) (“[O]ne who conducts [an abnormally dangerous activity] should prepare in advance to bear the financial burden of harm proximately caused to others by such activity.”); RESTATEMENT SECOND, *supra* note 36, § 519(2).

38. But see *N.J. Dept. of Env’tl. Prot. v. Ventron*, 468 A.2d 150 (N.J. 1983) (applying hindsight analysis); *Prospect Indus. Corp. v. Singer Co.*, 569 A.2d 908, 911 (N.J. Super. Ct. Law Div. 1989) (“[Under *Ventron*,] the handling of a substance containing toxic wastes is an abnormally dangerous activity even if it is not known by defendant that the substance contains toxic wastes.”). *Ventron* and its progeny have been rejected by most courts and by section 20 of the pending *Restatement Third, Basic Principles*. See RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL HARM (Basic Principles) § 20 cmt. i (Tentative Draft No. 3, 2001).

39. Although the *Restatement Third* drops the label “strict” from products liability, courts still continue to use such a title. See, e.g., *Green v. Smith & Nephew AHP, Inc.*, 629 N.W.2d 727 (Wis. 2001). And in reality, even the *Restatement Third* recognizes that products liability actions can and will be brought under the alternative tort theories of strict liability, negligence, and implied warranty of merchantability, although it urges that only one claim be allowed: “To allow two or more factually identical risk-utility claims to go to a jury under different labels, whether ‘strict liability,’ ‘negligence,’ or ‘implied warranty of merchantability,’ would generate confusion and may well result in inconsistent verdicts.” RESTATEMENT THIRD, *supra* note 16, § 2 cmt. n.

II. THE CREATION AND EVOLUTION OF STRICT PRODUCTS LIABILITY

In analyzing whether strict products liability applies to personal injury and wrongful death suits brought by or on behalf of individuals harmed by ingestion of or exposure to contaminated water, it is first necessary to understand the legal context in which the analysis will occur. What follows is a brief description of the evolution of strict products liability from its warranty beginnings to its current state, as embodied in the *Restatement Third*. Following that introduction is a discussion of the limited application of strict products liability to the water contamination context to date.

A. *The Warranty Years*

Until the early 1960s, strict products liability as it is now known did not exist.⁴⁰ Before then, an injured or damaged purchaser of a product seeking to recover for other than negligence had to resort to a suit for breach of express or implied warranty.⁴¹ Warranty, however, had its limitations. For example, under the warranty doctrine of vertical privity, a plaintiff could only sue the immediately preceding seller of the allegedly defective product, usually the retailer.⁴² Under this regime, the manufacturer of the defective product often escaped liability entirely.⁴³ Furthermore, under warranty rules, the plaintiff was required to give notice within a reasonable amount of time to the seller of the product, or the suit was barred.⁴⁴ As one court put it, the notice requirement was “a booby-trap for the unwary.”⁴⁵

40. See generally W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 98, at 692-93 (5th ed. 1984); MARSHAL S. SHAPO, THE LAW OF PRODUCTS LIABILITY ¶ 1.01[1] (3d ed. 1994).

41. See generally DAN B. DOBBS, THE LAW OF TORTS § 353, at 973-74 (2000).

42. See *id.* at 973 (explaining that under the rules of vertical privity, “a negligent manufacturer was definitely *not* subject to liability for a defective product when the injured victim was not the person who had purchased the product”). See also KEETON ET AL., *supra* note 40, § 96, at 684 (stating that “only those who were privy to the contract of purchase and sale could recover for breach of warranty”). Accord RESTATEMENT THIRD, *supra* note 16, § 19 cmt. a (“Before 1960, American courts had not yet recognized strict liability in tort for harm caused by defective products, particularly if there was no privity of contract between plaintiff and defendant.”).

43. See DOBBS, *supra* note 41, § 353, at 973 (“The privity requirement continued to protect negligent manufacturers until well into the 20th century, with exceptions allowing recovery when the manufacturer was guilty of fraud or misrepresentation or dangerous mislabeling and also when the product itself was inherently or intrinsically dangerous.”); KEETON ET AL., *supra* note 40, § 96, at 684 (“Prior to 1960, a person who was physically harmed or whose property was physically harmed seldom recovered on a contract-warranty theory . . .”).

44. KEETON ET AL., *supra* note 40, § 97, at 691 (stating that the buyer was prevented “from recovering on a warranty unless he gives notice to the seller within a reasonable time after he knows or should know of the breach”).

45. *Greenman v. Yuba Power Prod., Inc.*, 377 P.2d 897, 900 (Cal. 1963) (en banc).

B. *The Creation of Strict Products Liability in Greenman v. Yuba Power*

Though courts had been steadily chipping away at some of the strict warranty rules,⁴⁶ the landmark case of *Greenman v. Yuba Power Products, Inc.*⁴⁷ eliminated these and other roadblocks placed in plaintiffs' road to recovery in their entirety. In *Greenman*, the legendary California Supreme Court Justice Roger Traynor (borrowing heavily from his earlier concurring opinion in *Escola v. Coca-Cola Bottling Co. of Fresno*⁴⁸) fashioned a new cause of action that he called "strict liability in tort."⁴⁹ In the words of Justice Traynor:

Although in these cases strict liability has usually been based on the theory of an express or implied warranty running from the manufacturer to the plaintiff, the abandonment of the requirement of a contract between them, the recognition that the liability is not assumed by agreement but imposed by law, and the refusal to permit the manufacturer to define the scope of its own responsibility for defective products, make clear that the liability is not one governed by the law of contract warranties but by the law of strict liability in tort.⁵⁰

Strict liability in tort eliminated the need for plaintiffs injured by products to escape the inadequacies of warranty claims; the privity and notice requirements were entirely abolished.⁵¹ In the *Greenman* court's words, "The purpose of such liability is to insure that the costs of injuries resulting from defective products are borne by the manufacturers that put such products on the market rather than by the injured persons who are powerless to protect themselves."⁵² The court then explained that

[t]o establish the manufacturer's liability it [is] sufficient that plaintiff prove[] that he was injured while using the [product] in a way it was intended to be used as a result of a defect in design and manufacture of

46. See, e.g., *Henningsen v. Bloomfield Motors, Inc.*, 161 A.2d 69, 83-84 (N.J. 1960) (abolishing privity requirement in implied warranty cases); *MacPherson v. Buick Motor Co.*, 111 N.E. 1050, 1051 (N.Y. 1916) (substantially abolishing privity requirement in negligence cases); *Baxter v. Ford Motor Co.*, 12 P.2d 409, 412-13 (Wash. 1932) (abolishing privity requirement in express warranty cases). See also DOBBS, *supra* note 41, § 353, at 972-74 (chronicling demise of privity requirement); MADDEN & OWEN ON PRODUCTS LIABILITY § 1:4, at 12-13 (3d ed. 2000) (noting that the first cases to abolish privity outright concerned defective food).

47. 377 P.2d 897 (Cal. 1963) (en banc).

48. 150 P.2d 436 (Cal. 1944) (Traynor, J., concurring).

49. 377 P.2d at 901.

50. *Id.* (citations omitted).

51. *Id.*

52. *Id.*

which plaintiff was not aware that made the [product] unsafe for its intended use.⁵³

C. *The Acceptance and Proliferation of Strict Products Liability Under § 402A*

Shortly after *Greenman*, the American Law Institute⁵⁴ (of which Justice Traynor was an influential member),⁵⁵ published the *Restatement (Second) of Torts* (hereafter “*Restatement Second*”).⁵⁶ Section 402A of the *Restatement Second* adopted and refined the strict liability in tort claim articulated in *Greenman*:

§ 402A. Special Liability of Seller of Product for Physical Harm to User or Consumer.

(1) One who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer, or to his property, if

(a) the seller is engaged in the business of selling such a product, and

(b) it is expected to and does reach the user or consumer without substantial change in the condition in which it is sold.

53. *Id.*

54. The American Law Institute, “a group of the United States’s most prestigious judges, law professors, and attorneys, was founded in 1923 to bring coherence, reason, and consistency to state judge-made law.” Victor E. Schwartz, *The Restatement (Third) of Torts: Products Liability—The American Law Institute’s Process of Democracy and Deliberation*, 26 HOFSTRA L. REV. 743, 743 (1998).

55. See 1 LOUIS R. FRUMER & MELVIN I. FRIEDMAN, PRODUCTS LIABILITY § 1.02 (1998). Speaking about Justice Traynor, the authors write, “The dramatic rise of strict liability theory in defective products cases between the 1940s and 1970 furnishes a striking example of the way in which tort law has been shaped by the interactions of influential scholars and visible appellate judges.” *Id.* § 1.02 n.16. See also Steven P. Croley & Jon D. Hanson, *Rescuing the Revolution: The Revived Case for Enterprise Liability*, 91 MICH. L. REV. 683, 701 n.71 (1993) (stating that “as a member of the ALI, Justice Traynor likely had seen drafts of what was to come” and suggesting that he incorporated what became known as section 402A into his *Greenman* opinion).

56. Thus, as described by a well-known treatise,

Justice Traynor in 1963 constructed the new tort law doctrine in *Greenman v. Yuba Power Products, Inc.*, Dean Prosser, Reporter for the Second Restatement, in 1964 incorporated the principle into Restatement Second, Torts §402A, published by the American Law Institute the following year; and, thereafter, a flood of jurisdictions rapidly adopted the new strict tort doctrine.

MADDEN & OWEN, *supra* note 46, § 5:1 at 252.

(2) The rule stated in Subsection (1) applies although

(a) the seller has exercised all possible care in the preparation and sale of his product, and

(b) the user or consumer has not bought the product from or entered into any contractual relation with the seller.⁵⁷

Strict products liability, as it is now known, was thus born. Soon thereafter, virtually every state engrafted section 402A, with little or no modifications, into its common law tort regime.⁵⁸ Over the next thirty years, state courts wrestled with defining the contours of this new tort,⁵⁹ struggling to define, *inter alia*, (i) who is and who is not a “seller,”⁶⁰ (ii) what is and what is not a “product,”⁶¹ (iii) and what characteristics do and do not render a product “defective” within the meaning of section 402A.⁶² Courts were also presented with enumerable issues not explicitly addressed in, or even anticipated by, section 402A.⁶³ Over time, a consensus among courts and commentators developed as to the public policy rationales underlying this new tort, including risk spreading and improved product safety.⁶⁴

57. RESTATEMENT SECOND, *supra* note 36, § 402A.

58. In fact, the Reporter of the *Restatement Second*, Dean William L. Prosser, called the final version of section 402A “the speediest development in the law of torts in his lifetime.” Marshall S. Shapo, *In Search of the Law of Products Liability: The ALI Restatement Project*, 48 VAND. L. REV. 631, 690 (1995) (quoting 41 ALI Proc. 350-51 (1964) (remarks of William L. Prosser)). See also MADDEN & OWEN, *supra* note 46, § 5:3, at 273 (“Tort law has probably never witnessed such a rapid, widespread, and altogether explosive change in the rules and theory of legal responsibility.”). Since its publication, forty-seven states, the District of Columbia, Puerto Rico, and the Virgin Islands have adopted section 402A or some variation thereof. See FRUMER & FRIEDMAN, *supra* note 55, § 8.03[1].

59. Geoffrey C. Hazard, Jr., *Forward to* RESTATEMENT THIRD, *supra* note 16 (“No one can seriously argue that the law of products liability in any jurisdiction has evolved in a straight line from § 402A of the Restatement Second.”).

60. See, e.g., *Griffin Indus., Inc. v. Jones*, 975 S.W.2d 100, 102 (Ky. 1998).

61. See *infra* notes 103-44 and accompanying text.

62. See *infra* notes 145-200 and accompanying text.

63. See RESTATEMENT THIRD, *supra* note 16, at 3.

In restating the law of products liability more than a quarter of a century later, the Institute had before it thousands of judicial decisions that had fine-tuned the law of products liability in a manner hardly imaginable when Restatement Second was written. Issues that had not occurred to those members involved in drafting Restatement Second had become points of serious contention and debate in the courts.

Id.

64. See *infra* notes 205-62 and accompanying text (discussing the various public policy rationales put forth over time for strict products liability).

D. Development of Product Defect Categories

Section 402A of the *Restatement Second* introduced the yet undeveloped doctrine of strict products liability as an undifferentiated whole; there were no categories or different types of defects contemplated.⁶⁵ “At this very early stage in the development of the law, the defect concept was only roughly understood and conceived of quite naively as a unitary concept: products were either too dangerous (defective) or safe enough (nondefective).”⁶⁶ Although the immediate precursor to section 402A, *Greenman v. Yuba Power*,⁶⁷ concerned a challenge to the adequacy of the *design* of a product,⁶⁸ the early focus of the strict products liability tort was in the *manufacturing* defect context.⁶⁹ In fact, it is widely accepted that section 402A was originally drafted specifically to address liability for manufacturing defects.⁷⁰

As states wove section 402A into the fabric of their common law, it became clear that limiting strict products liability to manufacturing defects inadequately served the interests sought to be advanced by strict products liability.⁷¹ Consequently, a general consensus among courts and commentators gradually emerged that three distinct types of product defects existed.⁷² The three categories of product defects are (i) manufacturing or

65. See RESTATEMENT SECOND, *supra* note 36, § 402A; MADDEN & OWEN, *supra* note 46, § 7:1 at 398 (“The language of the *Second Restatement* § 402A defined the basis for strict products liability in a way that did not appear to take into consideration the different types of product defectiveness.”).

66. MADDEN & OWEN, *supra* note 46, § 5:11, at 341.

67. 377 P.2d 897 (Cal. 1963) (en banc).

68. See *id.* at 899. While one could argue that *Greenman* challenged the adequacy of both the design and the manufacture of the product at issue, the plaintiff’s complaint really focused on the choice of set screws by the manufacturer and the design of the fastening mechanisms. See *id.*

69. RESTATEMENT THIRD, *supra* note 16, at 3 (“Section 402A had little to say about liability for design defects or for products sold with inadequate warnings. In the early 1960s these areas of litigation were in their infancy.”).

70. See, e.g., RESTATEMENT THIRD, *supra* note 16, § 1 cmt. a (stating that section 402A was “created to deal with liability for manufacturing defects”); *Id.* at 3 (“The major thrust of § 402A was to eliminate privity so that a user or consumer, without having to establish negligence, could bring an action against a manufacturer, as well as against any other member of a distributive chain that had sold a product containing a manufacturing defect.”).

71. See generally RESTATEMENT THIRD, *supra* note 16, § 1 cmt. a; MADDEN & OWEN, *supra* note 46, § 7:1, at 398.

72. See, e.g., *Shanks v. Upjohn Co.*, 835 P.2d 1189, 1194 (Alaska 1992) (“A product may be defective because of a manufacturing defect, a defective design, or a failure to contain adequate warnings.”); *Dart v. Wiebe Mfg., Inc.*, 709 P.2d 876, 878-79 (Ariz. 1985) (acknowledging different standards for determining defectiveness in manufacturing defect, design defect, and defective warning cases); *Hoffman v. E.W. Bliss Co.*, 448 N.E.2d 277, 281 (Ind. 1983) (stating that a plaintiff can prove a product is defective by showing it was “defectively designed, defectively manufactured, or that the manufacturer failed to supply adequate warnings or instructions as to the dangers associated with its use”); MADDEN & OWEN, *supra* note 46, § 5:11, at 341; DOBBS, *supra* note 40, § 354, at 979. *But see* Frank J. Vandall, *The Restatement (Third) of Torts, Products Liability, Section 2(b): Design Defect*, 68

fabrication flaws, (ii) design inadequacies, and (iii) insufficient warnings or instructions.⁷³ These categories are now generally recognized and accepted by courts,⁷⁴ and viewed by commentators as uncontroversial.⁷⁵ Hence, the recent *Restatement Third* explicitly builds these distinct categories into its structure.⁷⁶

A manufacturing defect occurs when the product fails to conform to its intended design.⁷⁷ In contrast, a design defect occurs when, though the product perfectly conforms to its intended design, the design itself presents unreasonable danger or risks to the user or consumer.⁷⁸ A warning defect arises when, although the product conforms to its intended design and the design itself does not present unreasonable risks to the user or consumer, the labeling or packaging on or accompanying the product fails to adequately warn the user or consumer of the risks inherent in the product itself or its foreseeable uses.⁷⁹

E. Strict Products Liability Refined Under the Restatement Third

More than three decades after publishing the *Restatement Second*, the American Law Institute published the *Restatement Third*,⁸⁰ which the Reporters deemed an “almost total overhaul of Restatement Second as it concerns the liability of commercial sellers of products.”⁸¹ But while the *Restatement Third* overhauled the *Restatement Second*, its primary intent and effect was *not* to overhaul strict products liability *as it had evolved in the*

TEMPLE L. REV. 167, 171-77 (1995) (questioning the *Restatement Third*'s distinction between design and manufacturing defects).

73. See *supra* note 72.

74. See, e.g., *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 454-55 (Cal. 1978); *Banks v. ICI Americas, Inc.*, 450 S.E.2d 671, 672-73 (Ga. 1994).

75. See MADDEN & OWEN, *supra* note 46, § 5:11, at 341 (“Today, most courts and commentators accept as axiomatic the fundamental distinctions between [the] three very different forms of product defect.”).

76. See RESTATEMENT THIRD, *supra* note 16, § 2. See also *infra* notes 80-87 and accompanying text (discussing RESTATEMENT THIRD § 2).

77. See RESTATEMENT THIRD, *supra* note 16, § 2(a). See also DOBBS, *supra* note 41, § 355, at 979 (explaining that manufacturing defect means a “production flaw” or “a random failing or imperfection”). Accord *Wood v. Old Trapper Taxi*, 952 P.2d 1375, 1379-80 (Mont. 1997) (Manufacturing defects are “imperfections that inevitably occur in a typically small percentage of products of a given design as a result of the fallibility of the manufacturing process. A defectively manufactured product does not conform in some significant aspect to the intended design, nor does it conform to the great majority of products manufactured in accordance with that design.”).

78. See, e.g., DOBBS, *supra* note 41, § 355, at 980; RESTATEMENT THIRD, *supra* note 16, § 2(b).

79. See, e.g., DOBBS, *supra* note 41, § 355, at 981; RESTATEMENT THIRD, *supra* note 16, § 2(c).

80. See RESTATEMENT THIRD, *supra* note 16.

81. See RESTATEMENT THIRD, *supra* note 16, at 4.

state courts, but rather to illuminate its transformation.⁸²

While strict products liability under the *Restatement Second* was contained in a single section and ten accompanying pages of commentary,⁸³ strict products liability under the *Restatement Third* occupies an entire volume, consisting of twenty-one sections and over three hundred pages of commentary and citations.⁸⁴

The general principles of the *Restatement Third*'s formulation of strict products liability are contained in the first two sections.⁸⁵

§ 1. Liability of Commercial Seller or Distributor for Harm Caused by Defective Products.

One engaged in the business of selling or otherwise distributing products who sells or distributes a defective product is subject to liability for harm to persons or property caused by the defect.⁸⁶

Appropriately, Section 2 then defines what constitutes a “defective product” under Section 1:

§ 2. Categories of Product Defect.

A product is defective when, at the time of sale or distribution, it contains a manufacturing defect, is defective in design, or is defective because of inadequate instructions or warnings. A product:

(a) contains a manufacturing defect when the product departs from its intended design even though all possible care was exercised in the preparation and marketing of the product;

(b) is defective in design when the foreseeable risks of harm posed by the product could have been reduced or avoided by the adoption of a reasonable alternative design by the seller or other distributor, or a predecessor in the commercial chain of distribution, and the omission of the alternative design renders the product not reasonably safe;

(c) is defective because of inadequate instructions or warnings when the foreseeable risks of harm posed by the product could have been reduced or avoided by the provision of reasonable instructions or

82. See generally HAZARD, *supra* note 59, at XVI.

83. See RESTATEMENT SECOND, *supra* note 36, § 402A.

84. See RESTATEMENT THIRD, *supra* note 16.

85. Tellingly, the *Restatement Third* discontinues use of the term “strict products liability.” For ease of reference and consistency, however, this Article will continue to use that term, as do most courts and commentators.

86. RESTATEMENT THIRD, *supra* note 16, § 1.

warnings by the seller or other distributor, or a predecessor in the commercial chain of distribution, and the omission of the instructions or warnings renders the product not reasonably safe.⁸⁷

Accordingly, under the *Restatement Third*, sellers or distributors of products are liable for harm caused by products only if the products are defective in manufacture, design, or warning.

F. Legal History of Strict Products Liability in Water Contamination Cases

Until very recently, the strict products liability cause of action has been almost entirely ignored in water contamination cases. In all reported case law in federal and state courts throughout the country, there is *exactly one case*, decided in 1975, that has even considered whether strict products liability applies to the sale of contaminated water. And in that case, *Moody v. City of Galveston*,⁸⁸ the plaintiff actually prevailed.

In *Moody*, the plaintiff was seriously burned when a cigarette she was smoking in her kitchen ignited flammable gas that had infiltrated the tap water she was running in her sink.⁸⁹ Plaintiff sued the City of Galveston alleging, *inter alia*, strict products liability for the sale of a defective product that was unreasonably dangerous to the consumer.⁹⁰ The product alleged to be defective was the contaminated water.⁹¹ Although the jury found for the City of Galveston, the court of appeals ruled that the trial court should have directed a verdict in favor of the plaintiff on the strict products liability cause of action.⁹²

Precisely why *Moody* and its holding have been dormant in case law and largely ignored in law reviews and annotations is unclear. It could be a function of the relatively low number of lawsuits based upon contaminated water filed in the two decades immediately following its issuance. It could also be that the prominence of joint and several liability provided little incentive for plaintiffs to sue anyone other than the parties responsible for causing the contamination itself, who, unlike in *Moody*, are virtually always corporations who used and disposed of the particular chemicals at issue,

87. *Id.* § 2.

88. 524 S.W.2d 583 (Tex. Civ. App. 1975).

89. *Id.* at 585.

90. *Id.*

91. *Id.* at 586.

92. *Id.* at 589 (“The presence of this gas in the plaintiffs’ water lines created an unreasonable risk of injury to the plaintiffs.”).

rather than the entity who (perhaps unknowingly) sold the contaminated water to the consumer.⁹³ And because (as will be discussed) strict products liability applies only to *sellers* of products, a strict products liability cause of action cannot be brought against one who has merely used, but not sold, the product in the stream of commerce.⁹⁴ Therefore, the primary defendant in a strict products liability cause of action in a water contamination case would thus be the seller of the water, which is usually (but not always) a municipality.⁹⁵

A quarter of a century after *Moody*, the issue of whether strict products liability applies to the provision of contaminated water by a municipality is resurfacing, and its importance is swelling rapidly, promising to stir up quite a storm.⁹⁶ Indeed, the importance of strict products liability in water contamination cases is not limited to a theory of recovery by *plaintiffs*; those responsible for the contamination who find themselves as defendants have looked and will continue to look elsewhere to spread or deflect the blame, as was done recently in groundwater contamination lawsuits in Tucson, Arizona.⁹⁷ Following the Tucson cases, a number of plaintiffs' lawyers have

93. Under joint and several liability, of course, the plaintiffs are entitled to recover all of their damages against any defendant even partially responsible for causing their injuries. *See generally* DOBBS, *supra* note 41, §385, at 1078. Beginning in the mid-1980s and continuing into the 1990s, states have sharply curtailed the scope of joint and several liability, *see id.* § 389, at 1085-87, causing plaintiffs to rethink the strategy of pursuing only the deep-pocket defendant, *see id.* § 390, at 1088.

94. *See* RESTATEMENT THIRD, *supra* note 16, §1, Reporters' Note cmt. c ("American courts universally hold that only sellers who are in the business of selling products are strictly liable.")

95. While it is conceivable that the original seller of the chemical or other constituent that ultimately contaminates the groundwater could be sued under strict products liability, the plaintiff would have to prove that the chemical or other constituent was itself defective in manufacture, design, or warning at the time of the original sale. Because the vast majority of chemicals that have been found in groundwater have extremely beneficial uses, there is little chance of a plaintiff ever proving that the chemical was defectively designed. Furthermore, because plaintiffs' complaints rarely (if ever) concern whether the chemical compound discovered in the water conforms to its intended design, the manufacturing defect theory is not viable. And, as will be discussed, because the warning defect theory has devolved into a negligence test, this theory also adds little to the plaintiffs' arsenal against the initial seller of the ultimate water contaminants.

96. *See, e.g., supra* note 29 and accompanying text.

97. An important and illustrative example of this came in some recent cases filed in Tucson, Arizona, in which I was heavily involved in as counsel for one of the parties. This litigation arose from groundwater contaminated with TCE, the same chemical at issue in *A Civil Action*. In the early 1990s, attorneys for nearly one thousand residents of Tucson, Arizona, filed two lawsuits alleging that the industrial operations during the 1940s, 1950s, 1960s, and 1970s of three corporations ("corporate defendants") contaminated Tucson's aquifer, which is the sole source of Tucson's drinking water. Plaintiffs contended that their ingestion of trace amounts of TCE over several years caused a wide variety of cancers and autoimmune diseases. Plaintiffs asserted causes of action for negligence and strict liability for abnormally dangerous activities against the corporate defendants, whom they believed were responsible for the contamination. The plaintiffs did not allege strict products liability against the City of Tucson, however, who sold the water to the plaintiffs. These causes of action required plaintiffs to prove that the defendants knew that, at the time of their use and disposal of TCE,

inserted strict products liability actions against sellers of contaminated water into complaints in recently-filed cases.⁹⁸

Accordingly, courts and juries will soon face the difficult questions associated with applying strict products liability in the contaminated water context. Unfortunately, *Moody* will provide little or no help, as its analysis is borderline nonexistent—*Moody* summarily concluded that contaminated water necessarily qualifies as a defective product.⁹⁹ In addition, the court's conclusion in the Tucson cases—that strict products liability applies against municipalities who sell contaminated water—is unpublished and thus inaccessible to most courts and litigants.¹⁰⁰ Moreover, the only secondary authority that even purports to consider strict products liability in water contamination cases merely cites to *Moody*, with no analysis whatsoever of

such practices could contaminate the groundwater and cause injury to Tucson residents. Given the scientific and medical knowledge available at the time of the use and disposal of TCE at issue in these cases, plaintiffs faced an uphill battle. That battle, however, was never fought; the corporate defendants prevailed on their motion for summary judgment on the ground that plaintiffs failed to prove causation. A different battle was fought, however, the consequences of which are potentially much more far-reaching. That battle involved whether or not the seller of the contaminated water was subject to strict products liability for the sale of defective water.

As in most cities, the citizens of Tucson received their tap water from pipes owned and operated by the City, which dug the wells, laid the pipe, and sold the water to Tucson residents. The undisputed evidence in the Tucson cases was that the water pumped into the houses of many Tucson residents became contaminated with trace amounts of TCE, possibly as early as the late 1950s or early 1960s. In May of 1981, TCE was discovered in several city wells. Those wells were immediately shut down. Nevertheless, plaintiffs neglected to sue the City of Tucson under either negligence or strict products liability theories. The corporate defendants, on the other hand, filed third-party complaints for indemnity against the City of Tucson alleging, *inter alia*, strict products liability for the sale of a defective product—the contaminated water.

In an attempt to cut off the indemnity rights of the corporate defendants, the City entered into a relatively small settlement with the plaintiffs, contingent upon the court determining that the settlement was entered into in good faith. The corporate defendants opposed the petition for good-faith determination, contending that the City's potential liability was vast under strict products liability and, thus, that the settlement amount inadequately protected the corporate defendants' indemnity rights. Consequently, the purely legal question of whether a municipality or other provider of water can be strictly liable in tort for the sale of contaminated water was squarely presented to the Court. Ultimately, as in *Moody v. City of Galveston*, 524 S.W.2d 583 (Tex. Civ. App. 1975), the Arizona state trial judge concluded that strict products liability applied to the sale of contaminated water and that the City of Tucson could be as much as fifty percent liable for causing plaintiffs' alleged illnesses. See *Cordova v. Hughes Aircraft Co.*, No. 284158 (Ariz. Sup. Ct. Mar. 20, 1997) (order granting motion to strike portions of plaintiff's response to defendant's objection to the proposed settlement).

98. Interview with M. David Karnas, lead attorney for plaintiffs in Tucson case discussed *supra* note 97 (Sept., 1998).

99. *Moody v. City of Galveston*, 524 S.W.2d 583, 589 (Tex. Civ. App. 1975) (“The fact that the injury occurred not as a result of drinking or washing with the water but from an ignition of the gas which had accumulated in plaintiffs’ water lines and storage tank when she was attempting to use water in the preparation of food for cooking, should not insulate the City from liability. Plaintiffs purchased water. They received water and a flammable gas. We consider that the product was defective.”).

100. *Cordova*, No. 284158.

that case or the significance of its holding.¹⁰¹ Much more is necessary for courts and juries to effectively consider and analyze this issue.

III. THE APPLICABILITY OF STRICT PRODUCTS LIABILITY TO THE SALE OF CONTAMINATED WATER

Whether or not contaminated water is subject to strict products liability devolves into two discrete questions. The first question is whether the delivery of water into someone's home is properly classified as the sale of a *product* and thus subject to strict products liability. The second (and much more complex) question is whether contaminated water can properly be deemed *defective* as that term is used in the strict products liability context.¹⁰² Each is discussed below.

A. Contaminated Water as a Product

From its inception, strict products liability has concerned itself only with the sale of products; transactions involving the provision of services have always fallen outside the ambit of strict products liability.¹⁰³ Consequently, the first question to be addressed in any strict products liability analysis is whether the controversy concerns the sale of a product.¹⁰⁴ This explanation,

101. Linda Berg Othman, Comment, *Implied Warranties for Sales of Water: Have the Courts Applied the Wrong Test?*, 30 U.C. DAVIS L. REV. 543, 552 n.69 (1997).

102. Because deliverers of water, usually municipalities, do so in the normal course of their business and charge for the water, the issue of whether or not they are "sellers" for strict products liability is easily satisfied. See, e.g., RESTATEMENT THIRD, *supra* note 16, §1 cmt. c ("It is not necessary that a commercial seller or distributor be engaged exclusively or even primarily in selling or otherwise distributing the type of product that injured the plaintiff, so long as the sale of the product is other than occasional or casual.").

103. See, e.g., RESTATEMENT THIRD, *supra* note 16, § 19 cmt. a ("Once the era of strict products liability in tort arrived in the early 1960s, liability turned primarily on whether what the defendant distributed was, or was not, a product."); *id.* § 19, Reporters' Note cmt. a ("[O]nly when the complained-of injury was allegedly caused by a defect in something within this Section's definition of 'product' should the defendant manufacturer or seller be strictly liable for the harm caused."). Accord Greenman, 377 P.2d at 901 ("The purpose of such liability is to insure that the costs of injuries resulting from defective *products* are borne by the manufacturers that put such *products* on the market rather than by the injured persons who are powerless to protect themselves.") (emphasis added). See also David W. Lannetti, *Toward a Revised Definition of 'Product' Under the Restatement (Third) of Torts: Products Liability*, 55 BUS. LAW. 799, 800 (2000) ("[T]he line of demarcation between traditional products and services [is] one of the hallmark boundaries of products liability jurisprudence.").

104. See, e.g., Kaneko v. Hilo Coast Processing, 654 P.2d 343, 347 (Haw. 1982) ("In examining the applicability of the doctrine of strict products liability, our analysis must necessarily begin with a determination of whether a product is involved in this case."); Lannetti, *supra* note 103, at 806-07 ("[A]ny decision to impose strict products liability first requires an inquiry into whether the transaction involves a product.").

of course, begs the question of what is and what is not a product, which is a question of law for the court to decide in the first instance.¹⁰⁵ While comment d to section 402A provides a list of examples of products, such as “an automobile, a tire, an airplane, a grinding wheel, a water heater, a gas stove, a power tool, a riveting machine, a chair, and an insecticide,”¹⁰⁶ neither the black letter nor the comments to section 402A define “product.”¹⁰⁷ That task thus inevitably fell to the various courts and commentators as they interpreted section 402A.¹⁰⁸

1. “Product” Defined

In an effort to provide some uniformity among the states in the strict products liability context, the Department of Commerce commissioned an Interagency Task Force on Product Liability in 1976 to draft proposed comprehensive products liability legislation.¹⁰⁹ The Task Force’s final product was the *Model Uniform Product Liability Act* (hereafter *Model Act*), under which “product” is defined as “any object possessing intrinsic value, capable of delivery either as an assembled whole or as a component part or parts, and produced for introduction into trade or commerce.”¹¹⁰ Unfortunately, the *Model Act* was unsuccessful in achieving its desired uniformity; only two states adopted the *Model Act*’s definition of “product.”¹¹¹

In the absence of clear guidance from the *Restatement Second* and

105. See, e.g., *Johnson v. Murph Metals, Inc.*, 562 F. Supp. 246, 249 (N.D. Tex. 1983); *Kaneko*, 654 P.2d at 347-48. *Accord* RESTATEMENT THIRD, *supra* note 16, § 19 cmt. a (“Apart from statutes that define ‘product’ for purposes of determining products liability, in every instance it is for the court to determine as a matter of law whether something is, or is not, a product.”).

106. RESTATEMENT SECOND, *supra* note 36, § 402A cmt. d.

107. The list is not, of course, intended to be exhaustive. *But see* *Lowrie v. City of Evanston*, 365 N.E.2d 923, 929 (Ill. App. Ct. 1977) (concluding that a building is not a product, in part because “although comment d lists a number of products within the purview of §402A, it does not include buildings”).

108. Lannetti, *supra* note 103, at 812-13 (“By providing a vague, but inclusive, definition of ‘product,’ the Second Restatement of Torts relied on the courts to add new items to the commentary’s list of products, and to methodically expand the dynamic boundaries of strict products liability over time.”).

109. Lannetti, *supra* note 103, at 808-09. See generally *Wefco, Inc. v. Monsanto Co.*, 720 P.2d 643, 647 (Idaho Ct. App. 1986), *rev’d on other grounds*, 733 P.2d 643 (Idaho 1987).

110. Model Uniform Product Liability Act, 44 Fed. Reg. 62,714, 62,717 (Oct. 31, 1979).

111. See Michael R. Maule, Comment, *Applying Strict Products Liability to Computer Software*, 27 TULSA L.J. 735, 749 (1992). Professor Twerski, one of the two Reporters for the *Restatement Third*, attributes the *Model Act*’s lack of broad appeal to the fact that it “managed to come down in a totally unprincipled manner on both sides of almost every important question.” Aaron D. Twerski & Alvin S. Weinstein, *A Critique of the Uniform Product Law—A Rush to Judgement*, 28 DRAKE L. REV. 221, 222 (1978-79).

declining to adopt the *Model Act's* definition of “product,” courts turned to other sources for a workable definition. Some courts looked to various dictionaries for guidance. Most courts, however, ultimately rejected as too rigid such an approach.¹¹² Consequently, a plethora of definitions emerged from courts and legislatures, including: (1) “anything made by human industry or art”;¹¹³ (2) “a physical article which results from a manufacturing process and is ultimately delivered to a consumer”;¹¹⁴ (3) “all things . . . which are movable at time of identification”;¹¹⁵ (4) “goods which are processed or assembled in the ordinary channels of commerce”;¹¹⁶ (5) “any item or good that is personalty at the time it is conveyed by the seller to another party”;¹¹⁷ (6) “any object, substance, mixture, or raw material that constitutes tangible personal property and that satisfies all of the following: (a) . . . capable of delivery itself . . . ; (b) produced, manufactured, or supplied for introduction into trade or commerce; (c) . . . intended for sale or lease to persons for commercial or personal use”;¹¹⁸ and (7) “any tangible object or goods produced.”¹¹⁹

Ultimately, the *Restatement Third* synthesized the various proffered definitions into its own:

§ 19. Definition of “Product”

For purposes of this Restatement:

(a) A product is a tangible personal property distributed commercially for use or consumption. Other items, such as real property and electricity, are products when the context of their distribution and use is sufficiently analogous to the distribution and use of tangible personal property that it is appropriate to apply the rules stated in this Restatement.

112. See Charles E. Cantu, *The Illusive Meaning of the Term “Product” Under Section 402A of the Restatement (Second) of Torts*, 44 OKLA. L. REV. 635, 638 n.12 (1991) (citing cases in which judges rejected a dictionary definition of “product,” opting instead for the policy reasons underlying strict liability).

113. *Wyrulec Co. v. Schutt*, 866 P.2d 756, 760 (Wyo. 1993).

114. *Pierson v. Sharp Mem’l Hosp., Inc.*, 264 Cal. Rptr. 673, 676 (Cal. Ct. App. 1989).

115. *Hines v. JMJ Constr. Co.*, No. CV 92-506329, 1993 WL 7269, at *4 (Conn. Super. Ct. 1993) (adopting the Uniform Commercial Code definition of “goods” in section 2-105(1)). See also *Snyder v. ISC Alloys, Ltd.*, 772 F. Supp. 244, 253 (W.D. Pa. 1991) (“[G]oods covered by the U.C.C. are synonymous with the products covered by section 402A.”).

116. *Olympic S.S. Co. v. Centennial Ins. Co.*, 789 P.2d 309, 313 (Wash. Ct. App. 1990).

117. *Alexander v. Beech Aircraft Corp.*, 952 F.2d 1215, 1220 (10th Cir. 1991) (quoting IND. CODE ANN. § 34-4-20A-2A-2 (West 1986)).

118. OHIO REV. CODE ANN. § 2307.71(L)(1) (West 1994).

119. TENN. CODE ANN. § 29-28-102 (2000).

(b) Services, even when provided commercially, are not products.

(c) Human blood and human tissue, even when provided commercially, are not subject to the rules of this Restatement.¹²⁰

a. Water Falls Within “Product” Definition

At first blush, whether water meets the threshold requirement of being properly classified as a product appears to depend upon which definition of “product” one employs. For example, water drawn from the ground and piped into homes does not seem to qualify as either “anything made by human industry or art” or “a physical article *which results from a manufacturing process* and is ultimately delivered to a consumer.”¹²¹ Upon closer inspection, however, the clear weight of authority points toward water being properly classified as a product.

While the *Restatement Second* offered no definition of “product,” the accompanying comments seemingly took a broad view of that term,¹²² explaining that while section 402A normally “applie[s] to articles which already have undergone some processing before sale . . . [t]he rule is not, however, so limited.”¹²³ Of particular significance is the example then provided: “[T]he supplier of poisonous mushrooms which are neither cooked, canned, packaged, nor otherwise treated is subject to the liability here stated.”¹²⁴ The import of this comment is unmistakable—to qualify as a product, the substance at issue *need not* be made by human industry or created or assembled by a manufacturing process. Consequently, water seems to easily fit the description of what constitutes a product under the *Restatement Second*.

As noted earlier, the one court that has directly addressed this issue considered water to be a product.¹²⁵ Two other courts have assumed, albeit in *dicta*, that water qualifies as a product.¹²⁶ Likewise, in cases involving

120. RESTATEMENT THIRD, *supra* note 16, § 19.

121. See cases cited *supra* notes 113-14 (emphasis added).

122. RESTATEMENT SECOND, *supra* note 36, §402A cmt. d (explaining that section 402A “extends to *any product* sold in the condition . . . in which it is expected to reach the ultimate user or consumer”) (emphasis added).

123. *Id.* § 402A cmt. e.

124. *Id.*

125. See *Moody v. City of Galveston*, 524 S.W.2d 583, 589 (Tex. Civ. App. 1975).

126. See *Smith v. Home Light & Power Co.*, 734 P.2d 1051, 1055 (Colo. 1987) (declaring, by analogy, in a case concerning electricity, that “water is the utility’s ‘product’ when it reaches the consumer.”) (citing Comment, *Torts of Electric Utilities: Can Strict Liability be Plugged In?*, 11 LOY. L.A. L. REV. 775, 792 (1978)). See also *Hammond v. N. Am. Asbestos Corp.*, 454 N.E.2d 210, 215 (Ill. 1983). The court, by analogizing to section 402A’s comment e concerning poisonous mushrooms,

another utility closely analogous to water, the vast majority of courts have determined that electricity is a product¹²⁷ In fact, the *Restatement Third* expressly includes electricity in its definition of “product” when the context so requires.¹²⁸ Courts have similarly deemed other raw materials such as lumber¹²⁹ and natural gas¹³⁰ as products.¹³¹

Further buttressing this conclusion is the *Restatement Third*’s definition of product—water certainly qualifies as a “tangible personal property distributed commercially for use or consumption,”¹³² and, moreover, comment b to section 19 states that “raw materials are products, whether manufactured, such as a sheet metal, processed such as lumber; *or gathered and sold or distributed in raw condition*, such as unwashed gravel and farm produce.”¹³³ Accordingly, the vast weight of authority establishes that water is a product.

b. Analogizing to “Goods” Under the UCC

Because strict products liability was the offspring of warranty law,¹³⁴ reference to the definition of “goods” under the Uniform Commercial Code

concluded that raw asbestos fibers are properly classified as products. *Id.* “Both the appellate court and the Restatement have recognized that the term ‘product’ includes items which have not been processed or manufactured before they are sold. Otherwise, substances such as water, wood, anything in the natural state, and all living things, including human blood, would be excluded.” *Id.* (citations omitted).

127. See, e.g., *Smith*, 734 P.2d at 1054 (“Courts that have addressed the issue have almost uniformly rejected the argument that electricity by its intrinsic nature cannot be a product within the meaning of § 402A”); *Pierce v. Pac. Gas & Elec. Co.*, 212 Cal. Rptr. 283, 290-91 (Cal. App. 1985) (finding electricity a product under § 402A). Law review commentaries discussing whether electricity should be considered a product are legion. See, e.g., Allen L. Rutz, Comment, *After the Meter: Energy Products Liability in a Deregulated Environment*, 26 CAP. U. L. REV. 421 (1997).

128. See RESTATEMENT THIRD, *supra* note 16, § 19(a) (defining electricity as a “product” when the context of its distribution and use is “sufficiently analogous to the distribution and use of tangible personal property”).

129. See, e.g., *Housman v. C.A. Dawson & Co.*, 245 N.E.2d 886, 888 (Ill. App. 1969) (“For purposes of a products-liability case, lumber is a product.”).

130. See, e.g., *Van Hoose v. Blueflame Gas, Inc.*, 642 P.2d 36, 37 (Colo. Ct. App. 1981) (evaluating claim that improperly odorized, uncombusted natural gas was a defective product), *aff’d*, 679 P.2d 579 (Colo. 1984); *Evans v. Thomas*, 450 A.2d 710, 711-12 (Pa. Super. Ct. 1982) (applying § 402A to propane gas).

131. Prior to statutes specifically excepting blood from strict products liability, see, e.g., ALA. CODE § 7-2-314(4) (1997); LA. REV. STAT. ANN. § 9:2800.53(3) (West 1997), blood, too, was deemed to be a product. See, e.g., *Belle Bonfils Mem’l Blood Bank v. Hansen*, 579 P.2d 1158, 1159 (Colo. 1978) (holding that “blood is a ‘product’ for purposes of § 402A”). In recognition of these statutes, the *Restatement Third* explicitly excludes blood from its definition of “product.” See RESTATEMENT THIRD, *supra* note 16, § 19(c) & cmt. c (“Although human blood and human tissue meet the formal requisites of Subsection (a), they are specifically excluded from the coverage of this Restatement.”).

132. RESTATEMENT THIRD, *supra* note 16, § 19(a).

133. *Id.* § 19(a) cmt. b (emphasis added).

134. See *supra* notes 40-45 and accompanying text.

(UCC) provides an instructive analogy, and further confirms that water is properly classified as a product. Section 2-105 of the UCC defines “goods” as “all things . . . which are movable at the time of identification to the contract.”¹³⁵ Courts uniformly construe the UCC to conclude that water is a “good.”¹³⁶ Other similar items are also considered “goods” under the UCC, such as timber,¹³⁷ oil and gas,¹³⁸ and sand and gravel.¹³⁹ Likewise, other consumable liquids are considered goods under the UCC, such as milk,¹⁴⁰ beer,¹⁴¹ and wine.¹⁴² The fact that items which are goods under the UCC are also considered products by many courts for purposes of strict products liability¹⁴³ is further evidence that water is a product for purposes of strict products liability.¹⁴⁴

2. Conclusion

In the final analysis, the overwhelming weight of authority holds that water meets the threshold requirement of being a product. This determination, however, only begins, rather than concludes, the analysis.

135. U.C.C. §2-105(1) (1997).

136. *See, e.g.,* Zepp v. Mayor & Council of Athens, 348 S.E.2d 673, 678 (Ga. Ct. App. 1986) (concluding that “the sale of water by a municipality is the sale of goods and a transaction which is governed by Article 2 of the UCC”); Sternberg v. N.Y. Water Serv. Corp., 548 N.Y.S.2d 247, 248 (N.Y. App. Div. 1989) (furnishing of water constitutes the sale of goods under the UCC) (citing *Canavan v. City of Mechanicville*, 128 N.E. 882, 883 (N.Y. 1920)); *Mulberry-Fairplains Water Ass’n, Inc. v. Town of N. Wilkesboro*, 412 S.E.2d 910, 915 (N.C. Ct. App. 1992) (same); *Gall v. Allegheny County Health Dep’t.*, 555 A.2d 786, 789 (Pa. 1989) (rejecting County’s contention that water is not a good).

137. *See, e.g.,* Syrovoy v. Alpine Res., Inc., 841 P.2d 1279, 1282 (Wash. Ct. App. 1992), *aff’d*, 859 P.2d 51 (Wash. 1993) (en banc).

138. *See, e.g.,* Amoco Pipeline Co. v. Admiral Crude Oil Corp., 490 F.2d 114, 116-17 (10th Cir. 1974); *Gasmark, Ltd. v. Kimball Energy Corp.*, 868 S.W.2d 925, 928 (Tex. Ct. App. 1994).

139. *See, e.g.,* Salt Lake City Corp. v. Kasler Corp., 855 F. Supp. 1560, 1564 (D. Utah 1994).

140. *See, e.g.,* Spiering v. Fairmont Foods Co., 424 F.2d 337, 339 (7th Cir. 1970).

141. *See, e.g.,* Warrick Beverage Corp. v. Miller Brewing Co., 352 N.E.2d 496, 499 (Ind. Ct. App. 1976).

142. *See, e.g.,* Delano Growers’ Co-op. Winery v. Supreme Wine Co., Inc., 473 N.E.2d 1066, 1071 (Mass. 1985).

143. *See, e.g.,* Snyder v. ISC Alloys, Ltd., 772 F. Supp. 244, 253 (W.D. Pa. 1991) (“[G]oods covered by the U.C.C. are synonymous with the products covered by section 402A.”); *Hines v. JMJ Constr. Co.*, No. CV92-506329, 1993 WL 7269, at *4 (Conn. Super. Ct. 1993) (same). *But see* Lannetti, *supra* note 103, at 811-12 (arguing that the definition of “goods” under the UCC can be either less or more expansive than the definition of “products” under strict products liability).

144. While some courts allow public policy considerations to play a role in determining whether something is a product in otherwise close cases, *see* RESTATEMENT THIRD, *supra* note 16, §19, Reporters’ Note cmt. a, those considerations should have no impact on whether or not an item is classified as a product in the first instance. It would be nonsensical to classify something as a product when sold by one entity and not as a product when sold by another.

B. Contaminated Water as “Defective”

Assuming the delivery of water by a municipality qualifies as the sale of a product,¹⁴⁵ the critical question becomes whether or not the contaminated water can be properly classified as “defective.”¹⁴⁶ Indeed, what has historically separated strict products liability from negligence is the notion that the condition of the product itself (i.e., defectiveness) is the focus, rather than the conduct of the manufacturer or other seller of the product.¹⁴⁷ Merely attaching the pejorative label “defective” to contaminated water without any further thought or analysis, as the court did in *Moody*,¹⁴⁸ ignores the body of law that has evolved around that term. Legitimate analysis of contaminated water must, therefore, include an inquiry into what *type* of defect—manufacturing, design, or warning—if any, applies to contaminated water.

1. Application to Contaminated Water

As with other products existing independently of human fabrication, water does not fit neatly into one of the three defect categories.¹⁴⁹ The seller of water has not *manufactured* its product in the traditional sense. There has been no fabrication or assembly of raw materials into a finished product that can be compared to a blueprint for conformity. Water itself is a raw material and, apart from some cleaning and filtering, is sold as a raw material in its natural state.

Likewise, the seller of water has not *designed* its product, at least not in the traditional sense. Water exists organically in nature as the chemical combination of hydrogen and oxygen. To be sure, water existing in nature, both above ground and underground, is not pure H₂O and contains numerous other constituents and contaminants, both man-made and natural.¹⁵⁰ When sold to consumers, however, the product is sold as natural water, rather than

145. In the context of the sale of water to individuals for use and consumption, there is little support for an argument that such a transaction involves merely the provision of a service rather than the sale of a product. *See id.* § 20 cmt. d. *But cf.* Othman, *supra* note 101, at 563-66 (arguing that while courts treat the sale of water as a sale of goods under the UCC, “courts should treat water sales by municipalities as the provision of services”).

146. *See* RESTATEMENT SECOND, *supra* note 16, § 402A cmt. g (“The burden of proof that the product was in a defective condition at the time that it left the hands of the particular seller is upon the injured plaintiff; and unless evidence can be produced which will support the conclusion that it was then defective, the burden is not sustained.”). *See also* DOBBS, *supra* note 41, § 354, at 977-78.

147. *See generally* DOBBS, *supra* note 41, § 354, at 978; MADDEN & OWEN, *supra* note 46, § 7:10, at 424.

148. *See supra* note 99.

149. *See supra* note 72.

150. *See* Interviews with Roger Minear, *supra* note 23.

some chemical concoction that has water as its main ingredient.¹⁵¹ Furthermore, when water becomes contaminated with toxic chemicals prior to its sale,¹⁵² the *design* of the product does not form the basis for the consumer's complaint.¹⁵³

Moreover, water flowing from a tap is manifestly incapable of carrying on its surface any warning or instructions for use.¹⁵⁴ Granted, the seller of water could conceivably include warning leaflets in the monthly bills, but what would the warnings say? In the typical water contamination case, there is little or no evidence that the seller of the water subjectively knew of the contamination prior to the delivery of the water. Consequently, there would be no ability to warn about the contamination.

Superficially, therefore, the sale of contaminated water does not seem to fit (at least comfortably) into any of the three defect categories. This conceptual difficulty may be at least partially responsible for water-contamination plaintiffs' historic disregard of strict products liability as a theory of recovery. A closer consideration of the *Restatement Second* and *Restatement Third* and the historical roots of strict products liability reveals that contaminated water is properly subject to strict products liability and appropriately analyzed under the manufacturing defect category.

a. Contaminated Water as a Manufacturing Defect

Although water is not manufactured in the conventional sense, section 402A strongly suggests that it should be treated as defective if sold in a contaminated condition. Comment e to section 402A demonstrates that conventional manufacturing, or even some sort of assembly or processing, is *not* a necessary prerequisite for section 402A to apply.

151. For example, water is the main ingredient in soft drinks. Soft drinks, however, are not purchased for their water content, but rather, for the combination of ingredients that make the water something different.

152. The seller usually passes the water through a treatment center or through another type of cleaning process prior to delivery. Any inadequacies in the design of the treatment center or the cleaning process, however, are more logically analyzed under a negligence theory. The focus of such analysis would be the conduct of the seller rather than the condition of the product.

153. The one possible exception to the general inapplicability of design-based liability would be if the seller of the water injected chemical cleaners into the water, such as chlorine, set at levels that later proved to be too high and caused injury. In such a situation, it could be plausibly argued that the water formulation as delivered had been designed by the seller and that such design was defective. Conversely, if the level of chlorine inadvertently exceeded the seller's intent, then one could plausibly argue that because the water formulation did not meet the seller's intended design, it was defectively manufactured.

154. This could possibly explain why the use of strict products liability in the water contamination context has been so infrequently raised by plaintiffs.

Normally, the rule stated in section 402A will be applied to items that already have undergone some processing before sale, because today there is little in the way of consumer products that will reach the consumer without such processing. *“The rule is not, however, so limited, and the supplier of poisonous mushrooms which are neither cooked, canned, packaged, nor otherwise treated is subject to the liability here stated.”*¹⁵⁵

It is thus apparent that from its inception, strict products liability under section 402A included the sale of naturally-existing products that are neither manufactured nor designed in the conventional sense. With a full view of history, however, this recognition is entirely uncontroversial. The common law has a long history of imposing what amounts to strict liability for the sale of contaminated food and drink intended for human consumption.¹⁵⁶ Indeed, since at least the thirteenth century, criminal statutes punished vintners, brewers, butchers, cooks, and others who sold contaminated food and drink.¹⁵⁷ In the early 1900s, courts began to find ways to hold such sellers liable even when the seller was neither negligent nor in privity of contract with the plaintiff.¹⁵⁸ This history, of course, begs the question of whether tap water is properly considered a food or drink. While the distinction is discussed below,¹⁵⁹ the question is somewhat moot because pre-section 402A cases extended the special rules for food to products intended for external, intimate bodily use (such as water for bathing),¹⁶⁰ and section 402A itself imposes no such requirement.¹⁶¹ Likewise, although the *Restatement Third* separately addresses liability for defective food in the black letter, it ultimately analyzes contaminated food as a manufacturing defect.¹⁶²

*(1) Contaminated Water Is Defective Under Section 402A Because
It Fails the Consumer Expectations Test.*

As previously discussed, section 402A appears to have been designed with manufacturing defects specifically in mind.¹⁶³ Under section 402A, a seller is subject to liability for selling “any product in a defective condition unreasonably dangerous to the user or consumer.”¹⁶⁴ Having established that

155. RESTATEMENT SECOND, *supra* note 36, § 402A cmt. e (emphasis added).

156. *See id.* § 402A cmt. b. *See also* MADDEN & OWEN, *supra* note 46, § 5:2, at 255.

157. *See* RESTATEMENT THIRD, *supra* note 16, § 1 cmt. a.

158. *See* RESTATEMENT SECOND, *supra* note 36, § 402A cmt. b.

159. *See infra* notes 184-200 and accompanying text.

160. *See* RESTATEMENT SECOND, *supra* note 36, § 402A cmt. b. *See also infra* note 186.

161. *See* RESTATEMENT SECOND, *supra* note 36, § 402A.

162. *See infra* notes 196-200 and accompanying text.

163. *See supra* note 68.

164. *See* RESTATEMENT SECOND, *supra* note 36, § 402A.

water is a product subject to section 402A,¹⁶⁵ the pertinent question becomes: Is contaminated water “in a defective condition unreasonably dangerous?”¹⁶⁶

Under section 402A, a product is defective when “it leaves the seller’s hands . . . in a condition not contemplated by the ultimate consumer, which will be unreasonably dangerous to him.”¹⁶⁷ The product is, in turn, unreasonably dangerous if it is “dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it, with the ordinary knowledge common to the community as to its characteristics.”¹⁶⁸ This test has come to be commonly called the *consumer expectations test*¹⁶⁹ and is an objective test, based upon the expectations of the average, reasonable consumer.¹⁷⁰ This test was a natural outgrowth of strict products liability’s warranty roots in contract law, which has as its foundational goal the protection of the contracting parties’ reasonable expectations as to performance.¹⁷¹

Therefore, the critical question to be answered is whether water contaminants such as excessively-high levels of chrome (as in *Erin Brockovich*) or trace levels of TCE (as in *A Civil Action*) render drinking water dangerous to an extent beyond that which would be contemplated by an average reasonable consumer of the water. To ask the question is to answer it. While the average reasonable consumer would not likely expect pure, distilled water from the tap, it is quite clear that the average reasonable consumer would not expect drinking water that could cause deadly or serious illnesses.¹⁷² Accordingly, the analysis under a manufacturing defect theory of strict products liability under section 402A is fairly straightforward for the sale of contaminated water.¹⁷³ Simply put, water contaminated with harmful

165. See *supra* notes 103-44 and accompanying text.

166. Although section 402A seems to suggest a two-part inquiry, i.e., whether a product is defective and whether it is unreasonably dangerous, the vast majority of courts now recognize that only a single question is presented—whether the product is defective. See, e.g., *Cronin v. J.B.E. Olson Corp.*, 501 P.2d 1153, 1162-63 (Cal. 1972).

167. RESTATEMENT SECOND, *supra* note 36, § 402A cmt. g.

168. *Id.* § 402A cmt. i.

169. See generally MADDEN & OWEN, *supra* note 46, § 5:6, at 296-98.

170. See, e.g., *Vincer v. Esther Williams All-Aluminum Swimming Pool Co.*, 230 N.W.2d 794, 798 (Wisc. 1975) (“This is an objective test and is not dependent upon the knowledge of the particular injured consumer . . .”).

171. See generally MADDEN & OWEN, *supra* note 46, § 5:6, at 296.

172. I am not suggesting that the levels of chrome and TCE to which the plaintiffs were exposed in either *Erin Brockovich* or *A Civil Action* were or were not sufficient to cause their alleged illnesses. That, of course, is a jury determination to be reached after evaluation of expert scientific and medical testimony about the causal relationship between the chemicals and the illnesses and is well beyond the scope of this Article. See *supra* notes 1-3 and accompanying text.

173. The argument’s simplicity may be why the *Moody* court summarily decided in favor of the plaintiff, though the court’s failure to even mention the type of defect it was considering leaves the

toxins fails the consumer expectations test.

*(2) Contaminated Water Is Defective Under the Restatement Third
Because It Departs from Its Intended Design.*

In 1997, the ALI published the *Restatement Third of Torts: Products Liability*.¹⁷⁴ Unlike section 402A of the *Restatement Second*, the *Restatement Third* actually sought to restate the law as it then existed.¹⁷⁵ Accordingly, the *Restatement Third* identifies the three categories of defect that had emerged in case law since section 402A was promulgated,¹⁷⁶ and it describes the tests applied to each category. With respect to manufacturing defects, section 2(a) of the *Restatement Third* declares that a product contains a manufacturing defect “when the product departs from its intended design even though all possible care was exercised in the preparation and marketing of the product.”¹⁷⁷ The black-letter test is thus whether the product as sold conforms to its intended design. If the product does not so conform, it contains a manufacturing defect. At first blush, this test seems to differ from (and to disregard) the consumer expectations test so clearly stated in section 402A and almost uniformly applied by courts.¹⁷⁸ Closer examination, however, reveals little, if any, difference between the *Restatement Second* and *Restatement Third* in this regard.

In the comments elaborating on section 2(a) of the *Restatement Third*, the Reporters strongly suggest that section 2(a) does *not* abandon the consumer expectations test, but merely restates it (or at least produces the same results as that test). For example, comment a states, that “[p]roducts that malfunction due to manufacturing defects disappoint reasonable expectations of product performance,”¹⁷⁹ and that “[c]onsumer expectations as to proper product design or warning are typically more difficult to discern than in the case of a

question open. *See Moody*, 524 S.W.2d at 589.

174. RESTATEMENTTHIRD, *supra* note 16.

175. The *Restatement Second* has been heavily criticized for its failure to actually restate the law. *See, e.g.*, David G. Owen, *Defectiveness Restated: Exploding the “Strict” Products Liability Myth*, 1996 U. Ill. L. Rev. 743, 749. Somewhat remarkably, given the contentious nature of the internal debates, the ALI’s final vote to adopt the *Restatement Third* was unanimous. *See MADDEN & OWEN, supra* note 46, § 5:10, at 336.

176. *See* RESTATEMENTTHIRD, *supra* note 16, § 2.

177. *Id.* § 2(a).

178. *See* W. PAGE KEETON ET AL., PRODUCTS LIABILITY AND SAFETY: CASES AND MATERIALS 245 n.2 (1989) (collecting cases).

179. RESTATEMENTTHIRD, *supra* note 16, § 2(a) cmt. a. This statement assumes, of course, that there would be an occasion for discerning such consumers’ expectations in the case of manufacturing defects, thus suggesting that the consumer expectations test still has force in the manufacturing defect context.

manufacturing defect.”¹⁸⁰ In other words, products that fail to conform to their intended design, by definition, fail the consumer expectations test.¹⁸¹

Consequently, the *Restatement Third*'s formulation of the manufacturing defect test is not really a departure from that of the *Restatement Second* and is actually consistent with it. This point is definitively demonstrated in comment c to section 2(a): “As stated in Subsection (a), a manufacturing defect is a departure from a product unit’s design specification. More distinctly than any other type of defect, manufacturing defects disappoint consumer expectations.”¹⁸² The Reporters simply mean that because consumers expect products to conform to the intended design of the seller, products that do not so conform are properly characterized as defectively manufactured. Consequently, whatever linguistic formulation one adopts (and most courts continue to prefer section 402A’s consumer expectations test),¹⁸³ the principle is the same. The analysis is the same when applied to contaminated water.

The seller of water most assuredly does not intend that the water contain dangerous levels of contaminants. Accordingly, water that does contain dangerous levels of contaminants fails to conform to the intended design of the seller and, consequently, also disappoints consumer expectations. Therefore, the sale of contaminated water gives rise to strict liability for a manufacturing defect under the *Restatement Third* as well as the *Restatement Second*.

180. *Id.*

181. This is usually, though not necessarily, true. For example, a product that fails to conform to its intended design in a way that does not render the product more dangerous (e.g., slightly different color of wrapper due to bad mixture of ink) would be defectively manufactured under the black letter rule of the *Restatement Third*, even though the manufacturing defect would not render the product less safe than a reasonable consumer would expect. As a practical matter, however, only in the very rare instance would a consumer ever sue a manufacturer for selling a product that fails the *Restatement Third* test, but not the *Restatement Second* test because it is unlikely that a product that fails to conform to its intended design but is no less safe than a reasonable consumer would expect would actually injure the consumer. *Accord* MADDEN & OWEN, *supra* note 46, § 7:1, at 400 (“In negligence and strict liability actions alike, for there to be manufacturer liability, the manufacturing defect must be such as to pose an unreasonable risk of harm to the user or consumer.”). Simply failing to conform to the intended design, absent posing an unreasonable danger, is not enough.

182. RESTATEMENTTHIRD, *supra* note 16, § 2(a) cmt. c.

183. *See, e.g.,* Merrill v. Navegar, Inc., 28 P.3d 116, 120 (Cal. 2001) (maintaining consumer expectations test to prove manufacturing defect in strict products liability); Delaney v. Deere & Co., 999 P.2d 930, 945 (Kan. 2000) (adhering to consumer expectations test for defectiveness in strict products liability); McCathern v. Toyota Motor Corp., 23 P.3d 320, 330 (Or. 2000) (retaining consumer expectations test as the controlling standard of strict products liability under Oregon law); Green v. Smith & Nephew AHP, Inc., 629 N.W.2d 727, 731 (Wis. 2001) (holding a product can be deemed defective based “solely on consumer expectations about that product”).

b. Contaminated Water as a Food Item

(1) Historical Treatment of Defective Food

Long before the birth of strict products liability as embodied in section 402A of the *Restatement Second* and sections 1 and 2 of the *Restatement Third*, sellers of defective food and drink items were usually subject to strict liability.¹⁸⁴ Because there was no general, all-encompassing law of strict products liability at that time, courts were very creative in imposing strict liability.

In the food products cases the courts have resorted to various fictions to rationalize the extension of the manufacturer's warranty to the consumer: that a warranty runs with the chattel; that the cause of action of the dealer is assigned to the consumer; that the consumer is a third party beneficiary of the manufacturer's contract with the dealer.¹⁸⁵

Indeed, the early drafts of section 402A were restricted to food and other items associated with intimate bodily use.¹⁸⁶ Because the final draft of section 402A certainly did not in any way suggest that food fell outside section 402A's purview, it is thus axiomatic that section 402A did not *sub silentio* extinguish the application of strict liability to the sale of food and drink. This conclusion is confirmed in comment e, which uses the sale of raw and untreated mushrooms as an example of the type of transaction governed

184. See *supra* note 157 and accompanying text.

185. *Escola v. Coca Cola Bottling Co.*, 150 P.2d 436, 442 (Cal. 1944). For a lengthier discussion of the evolution of strict liability in the food context, see William J. Prosser, *The Assault on the Citadel, (Strict Liability to the Consumer)*, 69 YALE L.J. 1099, 1103-10 (1960); *id.* at 1124-25 & n.153 (listing no less than twenty-nine ways courts have circumvented privity limitations to impose strict liability). By 1960, a clear majority of jurisdictions that had decided the issue were imposing strict liability in food cases. *Id.* at 1110.

186. In 1964, Judge John Minor Wisdom of the Fifth Circuit described the drafting history of section 402A as follows:

The original Restatement of Torts had no provision for strict liability based on a seller's implied warranty. In April 1961, Tentative Draft No. 6 of the Restatement, Second, recommended adoption of a new section, Section 402A. This section recognized the seller's strict liability but limited liability to claims for "food for human consumption." By April 1962 it had become apparent that "food for human consumption" was too narrow a category. Tentative Draft No. 7 expanded the coverage of the section to include "products intended for intimate bodily use," "whether or not (they) have any nutritional value." A comment explained that "intimate bodily use" also included "products intended for external application or contact" where it was "of an intimate character." In two years even this greatly broadened version was obsolete. In May 1964, the Institute approved the final draft of Section 402A making the rule applicable to all products.

Putnam v. Erie City Mfg. Co., 338 F.2d 911, 918-19 (5th Cir. 1964) (alteration in original) (quoting respective drafts of *Restatement Second*).

by section 402A.¹⁸⁷

In determining whether the item of food at issue was defective, most courts initially utilized what came to be known as the foreign-natural test.¹⁸⁸ The outcome of that test depended upon a determination as to whether the alleged defect in the food was a foreign substance or was natural to the food.¹⁸⁹ In other words, the focus of the inquiry was whether the problem with the food was an inherent aspect of the food or rather, a contaminant. This approach, however, presents analytical difficulties for situations involving derivatives of the food product, such as a chicken bone in a chicken pot pie or a fish bone in a bowl of chowder. Although the bones are not intended to be present in either situation, are they properly classified as foreign objects, or should they be considered natural nuisances?

Because protection of reasonable consumer expectations formed the foundation for the foreign-natural test,¹⁹⁰ dissatisfaction with a strict application of that test ultimately led courts to apply the consumer expectations test outright.¹⁹¹ The consumer expectations test now represents the majority view.¹⁹² This consumer expectations test used in the food context is, of course, the very same test used in manufacturing defect cases.¹⁹³ Therefore, an item of food or drink is defective (and thus gives rise to strict liability) if it fails to meet an average, reasonable consumer's expectations. The similarity between the manufacturing defect test and that of food items is neither coincidental nor unnoticed by the *Restatement Third* Reporters.

187. RESTATEMENT SECOND, *supra* note 36, § 402A cmt. e.

188. *See, e.g.,* *Mix v. Ingersoll Candy Co.*, 59 P.2d 144, 148 (Cal. 1936) (finding no liability for chicken bone in chicken pie because bone was natural to chicken and therefore not foreign to a chicken pie).

189. *See* RESTATEMENT THIRD, *supra* note 16, §7 cmt. b. *See also* AM. L. PROD. LIAB. 3D § 80.20 (Timothy E. Travers et al. eds., 1987).

190. *See, e.g.,* *Mexicali Rose v. Superior Court*, 822 P.2d 1292, 1297-98 (Cal. 1992) (citing *Brown v. Nebiker*, 296 N.W. 366, 371 (Iowa 1941)); MADDEN & OWEN, *supra* note 46, § 7:4, at 411-13.

191. *See, e.g.,* *Mexicali Rose*, 822 P.2d at 1297-98.

192. RESTATEMENT THIRD, *supra* note 16, § 7 cmt. b. To be more precise, the majority view is that when a plaintiff suffers an injury from a foreign substance in food, liability is imposed. When, however, the injury is caused by an arguably natural component in the food, the consumer expectations test is applied. *See id. Accord* *Morrison's Cafeteria of Montgomery, Inc. v. Haddox*, 431 So. 2d 975, 978 (Ala. 1983) ("Under that [consumer expectations] test, the pivotal issue is what is reasonably expected by the consumer in the food as served, not what might be natural to the ingredients of that food prior to preparation.").

193. *See supra* notes 167-73 and accompanying text.

(2) *Defective Food Under the Restatement Third*

The Reporters for the *Restatement Third* apparently recognized the lack of perfect congruity between products that are manufactured in the traditional sense (i.e., fabricated and assembled) and food items that are sold, especially those sold with little or no preparation or modification. Accordingly, rather than trying to shoehorn food and drink into the manufacturing defect category, the Reporters created a separate section for food products that clarified how food products should be analyzed.¹⁹⁴

§ 7. Liability of Commercial Seller or Distributor for Harm Caused by Defective Food Products

One engaged in the business of selling or otherwise distributing food products who sells or distributes a food product that is defective under § 2, § 3, or § 4 is subject to liability for harm to persons or property caused by the defect. Under § 2(a), a harm-causing ingredient of the food product constitutes a defect if a reasonable consumer would not expect the food product to contain that ingredient.¹⁹⁵

While comment a to section 7 recognizes that food products can conceivably fall under any one of the three categories of defect,¹⁹⁶ the language of section 7 explicitly refers to section 2(a), which pertains to manufacturing defects.¹⁹⁷ This specific reference strongly suggests that food items are generally to be analyzed under the manufacturing defect category. Comment b to section 7 confirms this:

When a plaintiff suffers harm due to the presence in food of foreign matter clearly not intended by the product seller, such as a pebble in a can of peas or the pre-sale spoilage of a jar of mayonnaise, the claim is readily treated under § 2(a), which deals with harm caused by manufacturing defects.¹⁹⁸

194. RESTATEMENTTHIRD, *supra* note 16, § 7.

195. *Id.*

196. The *Restatement Third* provides that

A food product may contain a manufacturing defect under §2(a), as when a can of peas contains a pebble; may be defectively designed under §2(b), as when the recipe for potato chips contains a dangerous chemical preservative; or may be sold without adequate warnings under § 2(c), as when the seller fails to inform consumers that the dye applied to the skins of oranges contains a well-known allergen.

Id. § 7 cmt. a.

197. *Id.* § 7 cmt. b.

198. *Id.*

Section 7, therefore, mandates the application of the consumer expectations test.¹⁹⁹ Thus, according to section 7, harm-causing constituents in food are treated under section 2(a) as manufacturing defects and the applicable test is one of consumer expectations.²⁰⁰

The analogy between the presence of a pebble in a can of peas and the presence of toxic chemicals in a glass of water is readily apparent. As with a pebble in a can of peas, the presence of potentially toxic chemical contaminants in tap water is obviously not intended by the seller of water, and quite clearly fails to live up to consumer expectations. Likewise, that section 7 includes water as a food item seems uncontroversial. Water is the basic ingredient in most liquid items we consume, as well as many foods.

2. Conclusion

Whether one analyzes water simply as a manufactured product or instead as a food item, the consumer expectations test applies in all cases. Applying the consumer expectations test to contaminated water leads to the inescapable conclusion that it fails the test and is thus properly deemed to be defective.

Why the use of this theory of recovery against a whole new set of potentially deep-pocketed defendants, most of whom undoubtedly carry liability insurance, has not gained prominence is puzzling. It cannot be that these claims are raised yet summarily defeated by water sellers. There would be evidence of such claims in reported decisions, or at least in news reports. Besides, there are no readily-available defenses that would summarily defeat such claims. For example, the state-of-the-art defense does not apply to manufacturing defect cases.²⁰¹ Likewise, claims of governmental immunity have been generally unsuccessful in similar actions.²⁰² And just recently, the California Supreme Court unanimously ruled that a groundwater

199. *Id.* § 7.

200. Consequently, comment b to section 7 implicitly confirms that the *Restatement Third*'s test for manufacturing defects is, in fact, the consumer expectations test.

201. *See, e.g.,* *Reeves v. AcroMed Corp.*, 44 F.3d 300, 307 (5th Cir. 1995); *Miller v. Yazoo Mfg. Co.*, 26 F.3d 81, 83-84 (8th Cir. 1994); *Menne v. Celotex Corp.*, 861 F.2d 1453, 1471-73 (10th Cir. 1988) (limiting the state-of-the-art defense to defective design and failure to warn); *In re Asbestos Litig.*, 829 F.2d 1233, 1235-36 (3d Cir. 1987) (urging that, in the context of manufacturing defects, "a rule excluding the state-of-the-art defense would be consistent with the underlying policies of strict liability and would further its goals of risk spreading, accident avoidance, and simplification of the fact-finding process"); *Kisor v. Johns-Mansville Corp.*, 783 F.2d 1337, 1341 (9th Cir. 1986). Some jurisdictions have changed this rule statutorily. *See, e.g.,* ARIZ. REV. STAT. § 12-683(1) (1992) (recognizing a state-of-the-art defense to manufacturing defect strict liability).

202. *See* Joseph T. Brockrath, Annotation, *Liability of Water Supplier for Damages Resulting from Furnishing Impure Water*, 54 A.L.R.3d 936, § 3 (1974).

contamination lawsuit for personal injury and property damage against, *inter alia*, municipal sellers of water was not preempted by water safety regulations.²⁰³ Consequently, there seem to be no legal impediments to plaintiffs successfully pursuing strict products liability claims against sellers of contaminated water. This begs the question, however, of whether there *should* be any impediments.²⁰⁴

The *permissibility* of strict products liability imposed upon sellers of water for manufacturing defects under current legal standards does not address the *advisability* of such liability. Just because a court can hold a seller of contaminated water strictly liable does not necessarily mean that it should. For the reasons discussed below, there are many cases in which courts should not hold sellers of contaminated water strictly liable.

IV. PUBLIC POLICY CONCERNS WITH HOLDING SELLERS OF WATER STRICTLY LIABLE IN TORT

In analyzing whether strict liability *ought* to apply without exception to the sale of contaminated water, it is important to evaluate why we have strict products liability in the first place. Thus, the public policy foundations for strict liability can and should be examined to ascertain whether imposing strict liability in such situations would further or undermine those foundations. As discussed below, in most instances imposing strict liability on sellers of contaminated water would further the goals of strict products liability, and thus, a compelling case can be made for imposing such liability. But in some instances, imposing strict liability in water contamination cases fails to further such goals (and even arguably undermines them); therefore, strict liability should *not* be imposed. Finding a principled and workable distinction between the two scenarios is the task at hand. What follows is a brief history of the policy considerations underlying the inception of strict products liability, their influence over its development, and a discussion of the current status of strict products liability in light of those policy considerations.

Strict products liability under section 402A was the product of the combined efforts of Dean William Prosser of Hastings College of Law and Justice Roger Traynor of the California Supreme Court.²⁰⁵ Each man, in his

203. See *Hartwell Corp. v. Superior Court*, 27 Cal. 4th 256, 277 (Cal. 2002).

204. See *infra* notes 302-07 and accompanying text.

205. I recognize that, as are all summaries, this is somewhat of an oversimplification. Nevertheless, the influence that these individuals have had on the development of strict products liability cannot be understated. See, e.g., MADDEN & OWEN, *supra* note 46, §5:1, at 252 (“Justice Traynor in 1963 constructed the new tort law doctrine in *Greenman v. Yuba Power Products, Inc.*;

respective position of power and respect, drew strength and ammunition from the other. In 1941, Dean Prosser argued that manufacturers of defective products should be strictly liable in tort for the harm caused by such products, even in the absence of privity with the injured party.²⁰⁶ Dean Prosser articulated several public policy grounds upon which such strict liability ought to be based.²⁰⁷ According to Prosser, “[S]ocial policy demands that the burden of accidental injuries caused by defective chattels be placed upon the producer, since he is best able to distribute the risk to the general public by means of prices and insurance.”²⁰⁸ Prosser further justified his proposal by pointing out “the difficulty of proving negligence in many cases where it exists, even with the aid of *res ipsa loquitur*.”²⁰⁹

Three years later, Justice Traynor wrote a concurring opinion in *Escola v. Coca Cola Bottling Co.*,²¹⁰ in which he elaborated on Dean Prosser’s strict liability theory.²¹¹ In *Escola*, Justice Traynor emphatically stated that a manufacturer should incur “absolute liability” when a consumer is injured by a product that “proves to have a defect that causes injury to human

Dean Prosser, Reporter for the Restatement Second, in 1964 incorporated the principle into Restatement Second, Torts §402A, published by the American Law Institute the following year; and, thereafter, a flood of jurisdictions rapidly adopted the new strict tort doctrine.”)

206. See WILLIAM J. PROSSER, HANDBOOK OF THE LAW OF TORTS 688-93 (1941).

207. *Id.* at 689.

208. *Id.* This “risk-spreading” policy rationale had earlier been urged by other commentators. See, e.g., Karl Llewellyn, *On Warranty of Quality, and Society*, 36 COLUM. L. REV. 699, 704 n.14 (1936) (suggesting that strict liability could be imposed on large product manufacturers who are shown to be “equipped to spread, and indeed to reduce” risks to consumers); Edwin W. Patterson, *The Apportionment of Business Risks Through Legal Devices*, 24 COLUM. L. REV. 335, 358 (1924) (characterizing the rationale for allowing a consumer injured by a defective product to collect against a retailer as “risk-bearing”). This loss spreading policy rationale was later echoed by other commentators. See, e.g., Fleming James, Jr., *General Products—Should Manufacturers Be Liable Without Negligence?*, 24 TENN. L. REV. 923, 923-24 (1957). See also Gary T. Schwartz, *The Beginning and the Possible End of the Rise of Modern American Tort Law*, 26 GA. L. REV. 601, 634-35 (1992) (chronicling the leading tort scholars who favored strict liability based upon a risk-spreading (loss distribution) theory).

209. PROSSER, *supra* note 205, at 689. *Accord* Phipps v. Gen. Motors Corp., 363 A.2d 955, 958 (Md. 1976) (explaining that “the requirement of proof of a defect rendering a product unreasonably dangerous is a sufficient showing of fault on the part of the seller to impose liability without placing an often impossible burden on the plaintiff of proving specific acts of negligence.”); Thomas A. Cowan, *Some Policy Bases of Products Liability*, 17 STAN. L. REV. 1077, 1087 (1965) (“[T]he courts not only realize the great expense that plaintiffs would have to undergo to prove negligent manufacture of one out of a million products of the defendant. They may also realize that if plaintiff were sufficiently well-heeled he would probably succeed in a surprisingly large number of cases in proving that the manufacturer was indeed negligent in the ordinary sense of the word.”).

210. 150 P.2d 436, 440 (Traynor, J., concurring). No other justice joined the concurrence.

211. *Escola*, 150 P.2d at 440 (Traynor, J., concurring). Unsurprisingly, Justice Traynor’s concurrence twice cites to the pages in Prosser’s Handbook of the Law of Torts discussed above. See *id.* at 441 (citing WILLIAM J. PROSSER, HANDBOOK OF THE LAW OF TORTS 693 (1941)); *id.* at 442 (citing WILLIAM J. PROSSER, HANDBOOK OF THE LAW OF TORTS 692 (1941)).

beings.’²¹² Justice Traynor grounded his belief, as did Prosser, in notions of “public policy,” arguing that public policy demands that “responsibility be fixed wherever it will most effectively reduce the hazards to life and health inherent in defective products that reach the market.”²¹³ According to Justice Traynor, accident prevention was most effectively accomplished by fixing liability on the manufacturers.²¹⁴ Justice Traynor also echoed Prosser’s arguments that manufacturers can best insure against and distribute among the public risks of injury,²¹⁵ and that the injured party lacks sufficient familiarity with the manufacturing process to identify and prove the cause of the defect.²¹⁶

Then, in 1960, Dean Prosser predicted that warranty limitations would be abolished within fifty years and strict products liability would emerge.²¹⁷ Prosser openly questioned whether the accident prevention goal asserted by Justice Traynor was a legitimate public policy basis for imposing strict liability,²¹⁸ but reaffirmed his allegiance to “risk-spreading” as a worthy basis for strict liability.²¹⁹ Furthermore, Prosser quoted Justice Traynor’s concurrence in *Escola* as his primary authority for the risk-spreading argument.²²⁰ Ultimately, however, Prosser rested his case for strict liability on three grounds.²²¹ He first argued that the public interest in safety demands that consumers be granted the maximum legal protections in order to protect

212. *Id.* at 440.

213. *Id.* This policy of accident prevention through safer products was later echoed by courts and commentators. *See, e.g., Larsen v. Pacesetter Sys., Inc.*, 837 P.2d 1273, 1287 (Haw. 1992) (concluding that “imposing liability on [the manufacturer] will promote product safety by encouraging manufacturers to anticipate and test for foreseeable defects likely to cause severe injury”); James, *supra* note 207, at 923; Gerald F. Tietz, *Strict Products Liability, Design Defects and Corporate Decision-Making: Greater Deterrence Through Stricter Process*, 38 VILL. L. REV. 1361, 1365 (1993) (“Courts and commentators generally agree that strict products liability creates incentives for manufacturers to ensure greater product safety.”).

214. *Escola*, 150 P.2d at 440-41.

215. *Id.* at 441.

216. *Id.* at 441. Many leading commentators warmly received the *Escola* concurrence. *See, e.g., Roscoe Pound, The Problem of the Exploding Bottle*, 40 B.U. L. REV. 167, 180-81 (1960).

217. Prosser, *supra* note 185, at 1120.

218. *Id.* at 1119.

219. *Id.* at 1120.

220. *Id.* Interestingly, however, Prosser disavows any allegiance to the availability of insurance for sellers as a public policy basis for strict liability and explicitly distances himself from Traynor on that point. *Id.* at 1121.

What insurance can do, of course, is to distribute losses proportionately among a group who are to bear them. What it cannot and should not do is to determine whether the group shall bear them in the first instance—and whether, for example, consumers shall be compelled to accept substantial price increases on everything they buy in order to compensate others for their misfortunes.

Id. Prosser also adds that “liability insurance is obviously not to be ignored; but it is a makeweight, and not the heart and soul of the problem.” *Id.* at 1121-22.

221. *Id.* at 1122.

consumers who are “helpless to protect themselves.”²²² Next, he contended that because sellers induce the public to believe that the products are safe by selling them on the market, the sellers should not be permitted to hide behind the veil of privity if the product proves to cause injury.²²³ Finally, Prosser asserted that requiring the injured party to sue the retailer, who, in turn, must sue the manufacturer, is inefficient and wastes both judicial and private resources.²²⁴

Justice Traynor made sure that Dean Prosser did not have to wait the half century before strict liability would arrive. Three years later, in 1963, Justice Traynor authored the majority opinion in the seminal case, *Greenman v. Yuba Power Products, Inc.*,²²⁵ which signaled the birth of what became modern strict products liability.²²⁶ In *Greenman*, Justice Traynor felt no compulsion to “reconvene the reasons for imposing strict liability on the manufacturer.”²²⁷ Instead, Traynor directed the reader to Prosser’s 1960 article²²⁸ and to his own concurrence in *Escola*.²²⁹

Not to be outdone, Dean Prosser, as the Reporter for the *Restatement Second*, published section 402A in 1964.²³⁰ Virtually every state adopted section 402A or some variation thereof over the next two decades.²³¹

Dean Prosser summarized his rationale for imposing strict liability in comment c to section 402A thus:

[T]he justification for the strict liability has been said to be that the seller, by marketing his product for use and consumption, has undertaken and assumed a special responsibility toward any member of the consuming public who may be injured by it; that the public has the right to and does expect, in the case of products which it needs and for which it is forced to rely upon the seller, that reputable sellers will stand behind their goods; that public policy demands that the burden

222. *Id.* at 1122-23. Prosser then conceded that this first basis for his argument is nothing more than acknowledging and protecting “public sentiment.” *Id.*

223. *Id.* at 1123.

224. *Id.* at 1123-24. *Accord* *Escola v. Coca Cola Bottling Co.*, 150 P.2d 436, 442 (Cal. 1944).

225. 377 P.2d 897 (Cal. 1963) (en banc).

226. *See, e.g.,* *Carrao v. Heitler*, 502 N.Y.S.2d 424, 427 (N.Y. App. Div. 1986) (“It is commonly agreed that the case that gave birth to the doctrine of strict products liability of manufacturers was *Greenman . . .*”).

227. *Greenman*, 377 P.2d at 901.

228. Curiously, Justice Traynor refers to Prosser’s article by using the parenthetical subtitle “Strict Liability to the Consumer,” rather than the actual title, “The Assault upon the Citadel.” *See id.*

229. *Id.*

230. As discussed above, Dean Prosser had been working on drafts of section 402A for a number of years. *See supra* note 186. It was only after *Greenman*, however, that section 402A, which was approved by the ALI in 1964 and published in 1965, was expanded to include all products.

231. *See* MADDEN & OWEN, *supra* note 46, § 5:1, at 252.

of accidental injuries caused by products intended for consumption be placed upon those who market them, and be treated as a cost of production against which liability insurance can be obtained; and that the consumer of such products is entitled to the maximum of protection at the hands of someone, and the proper persons to afford it are those who market the products.²³²

Over the next few decades, Dean Prosser's rationale for strict liability has been expanded and refined by various commentators and courts.²³³ For present purposes, it is unnecessary to analyze and critique each proffered basis individually; the reader need understand only that these public policy foundations individually and collectively formed the basis for strict products liability in the wake of *Greenman* and the *Restatement Second*.

Initially, the public policy goals underlying strict liability were effectuated through the consumer expectations test advocated by section 402A.²³⁴ If a product failed to perform as safely as a reasonable consumer would expect, then the product was deemed defective, regardless of whether the unsafe element was traceable to the product's manufacture, design, or warnings—all three types of defects were measured against the same consumer expectations test.²³⁵ Conceptual and practical difficulties with the application of the consumer expectations test with respect to design and warning defects led to dissatisfaction with that test, or at least with its exclusive use.²³⁶

During the 1960s, as the development of modern products liability theory was still in its fledgling stages, Dean Page Keeton of the University of Texas and Dean John Wade of Vanderbilt University, both advisors to the *Restatement Second*, sought a uniform standard that would clearly separate

232. RESTATEMENT SECOND, *supra* note 36, § 402A cmt. c.

233. *See generally* Brandenburger v. Toyota Motor Sales, U.S.A., Inc., 513 P.2d 268, 273 (Mont. 1973) (listing eight policy justifications with citations to the origins of each); MADDEN & OWEN, *supra* note 46, § 5:4, at 283-91 (detailing the various bases upon which courts and commentators have relied over the years and concluding that risk spreading and accident prevention have predominated); DOBBS, *supra* note 41, § 353, at 975-76 (discussing rationales for imposing strict liability in tort); John E. Montgomery & David G. Owen, *Reflections on the Theory and Administration of Strict Tort Liability for Defective Products*, 27 S.C. L. REV. 803, 809-10 (listing seven policy justifications for strict liability).

234. *See supra* notes 167-70 and accompanying text.

235. *See supra* notes 167-71 and accompanying text.

236. *See generally* MADDEN & OWEN, *supra* note 46, § 5:6, at 303-05 (discussing the shortcomings of the consumer expectations test as the sole or primary test for ascertaining the defectiveness of a product). *See also* Soule v. General Motors Corp., 882 P.2d 298, 308 (Cal. 1994) (explaining that "the consumer expectations test is reserved for cases in which the everyday experience of the product's users permits a conclusion that the product's design violated minimum safety assumptions, and is thus defective regardless of expert opinion about the merits of the design").

negligence from truly “strict” liability.²³⁷ In short, the test Deans Wade and Keeton independently formulated (later dubbed the “Wade-Keeton test”) was negligence stripped of its scienter.²³⁸ Under this formulation “it [was] irrelevant that the defendant did not know or had no reason to know of the danger” *at the time of sale*.²³⁹ More important was ascertaining whether the product was proved defective *at the time of trial*.²⁴⁰ Accordingly, Dean Wade’s recommended jury instruction read: “It is not necessary to find that this defendant had knowledge of the harmful character of the [product] in order to determine that it was not duly safe.”²⁴¹ Based on this instruction, a typical court’s application of the test “is whether the seller would be negligent if he sold the article *knowing of the risk involved*. Strict liability imposes what amounts to constructive knowledge of the condition of the product.”²⁴²

Realizing the lack of fairness and flawed logic in imputing such constructive knowledge upon manufacturers who had no actual knowledge of defects in their products, Deans Wade and Keeton both later repudiated the test that bore their names.²⁴³ So did virtually all courts.²⁴⁴ Accordingly, the *Restatement Third* explicitly rejects the Wade-Keeton test, noting that it “has not worn well with time,”²⁴⁵ and adopting instead, a negligence-type risk-utility standard of liability based on risks that are *foreseeable* at the time of sale.²⁴⁶

237. MADDEN & OWEN, *supra* note 46, § 8:7, at 494.

238. See Sheila L. Birnbaum, *Unmasking the Test for Design Defect: From Negligence [to Warranty] to Strict Liability to Negligence*, 33 VAND. L. REV. 593, 619 n.125 (1980).

239. W. Page Keeton, *Products Liability—Design Hazards and the Meaning of Defect*, 10 CUMB. L. REV. 294, 315 n.87 (1979).

240. *Id.* at 313.

241. John W. Wade, *On the Nature of Strict Tort Liability for Products*, 44 MISS. L.J. 825, 840 (1973).

242. Phillips v. Kimwood Mach. Co., 525 P.2d 1033, 1036 (Or. 1974) (en banc).

243. See John W. Wade, *On the Effect in Product Liability of Knowledge Unavailable Prior to Marketing*, 58 N.Y.U. L. REV. 734, 761 (1983). See also W. PAGE KEETON, ET AL., PROSSER AND KEETON ON THE LAW OF TORTS 697-98 n.21 (5th ed. 1984).

244. See, e.g., Feldman v. Lederle Labs., 479 A.2d 374, 387-88 (N.J. 1984) (limiting earlier case imposing constructive knowledge of unknown scientific facts to the facts of that case); Brown v. Superior Court, 751 P.2d 470, 482-83 (Cal. 1988) (“[I]n accord with almost all our sister states that have considered the issue, we hold that a manufacturer is not strictly liable for injuries caused by a prescription drug so long as the drug was properly prepared and accompanied by warnings of its dangerous propensities *that were either known or reasonably scientifically knowable at the time of distribution*.”) (emphasis added); Anderson v. Owens-Corning Fiberglas Corp., 810 P.2d 549, 559 (Cal. 1991) (allowing state of the art evidence in warning defect case and limiting manufacturer’s liability only to cases where “it failed to give warning of dangers *that were known to the scientific community at the time it manufactured or distributed the product*”) (emphasis added).

245. See RESTATEMENT THIRD, *supra* note 16, § 2, Reporters’ Note cmt. m(l).

246. See *id.* § 2(c).

Not only did they reject the Wade-Keeton test, but courts, slowly but inexorably, began to abandon strict liability in the design and warning defect context altogether. Most courts continue to pay lip service to strict liability by steadfastly maintaining that it differs from negligence in measurable ways,²⁴⁷ but some courts are beginning to admit that there is no practical difference between the risk-utility analysis in strict products liability and traditional negligence analysis,²⁴⁸ which is what many commentators have been saying for quite some time now.²⁴⁹ Though careful not to say so explicitly in the black letter, the *Restatement Third* confirms that strict liability in the context of design and warning defects is all but dead.²⁵⁰

Recapping the products liability jurisprudence thus far, we see that design and warning defects have gone full circle from pre-section 402A negligence, to strict liability under the consumer expectations test, to strict liability under the Wade-Keeton (constructive knowledge risk-utility) test, and finally back to negligence under a standard risk-utility test.²⁵¹ All the while, the law on manufacturing defects has remained stagnant. Manufacturing defects, from their inception, have been subject to strict liability through the consumer expectations test and remain that way, albeit, according to the *Restatement Third*, under a different nomenclature.²⁵² But why?

In comment a to section 2 of the *Restatement Third*, the Reporters detail their justification for retaining strict liability for manufacturing defects.²⁵³ All but one of the rationales offered, however, apply with equal or nearly equal force to design and warning defects. The Reporters first argue that “imposing strict liability on manufacturers for harm caused by manufacturing defects encourages greater investment in product safety than does a regime of fault-based liability under which, as a practical matter, sellers may escape their

247. See, e.g., *Owens-Corning Fiberglass Corp.*, 810 P.2d at 558 (claiming that “despite its roots in negligence, failure to warn in strict liability differs markedly from failure to warn in the negligence context”).

248. See, e.g., *Prentis v. Yale Mfg. Co.*, 365 N.W.2d 176, 184 (Mich. 1984) (“Although many courts have insisted that the risk-utility tests they are applying are not negligence tests because their focus is on the *product* rather than the manufacturer’s *conduct*, the distinction on closer examination appears to be nothing more than semantic.”) (citations omitted).

249. See DOBBS, *supra* note 41, § 353, at 977 n.22 (collecting citations).

250. In fact, the *Restatement Third* advocates abolishing doctrinal distinctions between the separate products liability categories of negligence, warranty, and strict liability and combining them into a single cause of action for products liability. See RESTATEMENTTHIRD, *supra* note 16, § 2 cmt. n. At least one well-known treatise does not think courts will adopt such a combination. See MADDEN & OWEN, *supra* note 46, § 1:5, at 16.

251. RESTATEMENTTHIRD, *supra* note 16, § 2(b).

252. *Id.* § 2(a).

253. *Id.* § 2 cmt. a.

appropriate share of responsibility.”²⁵⁴ Though a fair point, promotion of product safety is and has been a policy concern that supports imposing strict liability for design and warning defect cases as well.²⁵⁵

The Reporters next argue that “strict liability discourages the consumption of defective products by causing the purchase price of products to reflect, more than would a rule of negligence, the costs of defects.”²⁵⁶ Once again, the same could be said (and has been said) about design and warning defects.

The next policy basis the Reporters proffer for retaining strict liability for manufacturing defect cases is the savings of “transaction costs” attributable to eliminating the plaintiffs’ burden of proving the manufacturer was negligent.²⁵⁷ However, the same savings in “transaction costs” would be realized if the burden of proving negligence in design and warning defect cases were likewise eliminated.²⁵⁸ In addition, the Reporters argue that strict liability eliminates the difficulty plaintiffs often face in proving that the defect was actually caused by the manufacturer’s lack of due care, rather than from some other cause unrelated to the manufacturer.²⁵⁹ Once again, this line of reasoning applies with equal force to the design and warning contexts as well, as courts and commentators have noted in the past.²⁶⁰

Finally, the Reporters turn to the familiar loss-allocation or risk-spreading rationale to justify strict liability for manufacturing defects: “Finally, many believe that consumers who benefit from products without suffering harm should share, through increases in the prices charged for those products, the burden of unavoidable injury costs that result from manufacturing defects.”²⁶¹ As with the other rationales, this one has been a mainstay in strict liability apologetics for all three types of defects since its inception.²⁶²

If these foundational public policy considerations for strict liability are no longer substantial enough to justify imposing strict liability in the design and warning contexts, why then should these same foundational public policy

254. *Id.*

255. *See supra* notes 213-14, 222 and accompanying text.

256. RESTATEMENT THIRD, *supra* note 16, § 2 cmt. a.

257. *Id.* § 2 cmt. a (“And by eliminating the issue of manufacturer fault from plaintiff’s case, strict liability reduces the transaction costs involved in litigating that issue.”).

258. *See supra* note 224 and accompanying text.

259. RESTATEMENT THIRD, *supra* note 16, § 2 cmt. a (“In many cases manufacturing defects are in fact caused by manufacturer negligence but plaintiffs have difficulty proving it. Strict liability therefore performs a function similar to the concept of *res ipsa loquitur*, allowing deserving plaintiffs to succeed notwithstanding what would otherwise be difficult or insuperable problems of proof.”).

260. *See supra* note 209 and accompanying text.

261. RESTATEMENT THIRD, *supra* note 16, § 2 cmt. a.

262. *See supra* notes 208, 215, 219-20 and accompanying text.

considerations justify imposing strict liability in the manufacturing defect context? The short answer is that they (abne) do not.

V. THE ROLE OF QUALITY CONTROL IN STRICT LIABILITY FOR MANUFACTURING DEFECTS

Having already established that the traditional public policy bases for strict products liability (e.g., risk spreading, accident prevention, and proof problems) do *not* justify imposing strict liability in *design* and *warning* defect cases,²⁶³ one cannot credibly argue that those same bases are sufficient to justify imposing strict liability in *manufacturing* defect cases. In my view, the basis for the disparate treatment of design and warnings defects on the one hand (no strict liability) and manufacturing defects on the other hand (strict liability) is primarily, if not exclusively, traceable to a single distinguishing factor—quality control. This factor is actually *inapplicable* to a subset of manufacturing defect cases. Accordingly, in *some* manufacturing defect cases, strict liability is unjustified and should be abolished.

That the *Restatement Third* Reporters clearly recognized that the role of quality control represents a fundamental (and in my view dispositive) difference between the rationale for imposing strict liability in the manufacturing defect versus the design defect context is evidenced by the following discussion in comment a to section 2:

[T]he element of deliberation in setting appropriate levels of design safety is not directly analogous to the setting of levels of quality control by the manufacturer. When a manufacturer sets its quality control at a certain level, it is aware that a given number of products may leave the assembly line in a defective condition and cause injury to innocent victims who can generally do nothing to avoid injury.²⁶⁴

Before proceeding further with this discussion, it is necessary to define what “quality control” means and to explain how and why the quality control level selected by the manufacturer plays such an integral role in legitimizing strict liability for manufacturing defects.

263. See *supra* notes 253-62 and accompanying text.

264. RESTATEMENTTHIRD, *supra* note 16, § 2 cmt. a. The quality control argument is implausible in the design defect context: “The implications of deliberately drawing lines with respect to product design safety are different. A reasonably designed product still carries with it elements of risk that must be protected against by the user or consumer since some risks cannot be designed out of the product at reasonable cost.” *Id.*

A. *The Impact of Front-End Quality-Control Expenditures and Consequential Cost Forecasting on the Nature and Extent of Manufacturing Defects*

What justifies strict liability for manufacturing defect cases (in conjunction with the traditional public policy bases discussed above) is the belief that manufacturing defects are almost entirely preventable through quality-control measures. If manufacturers so desired, they could almost entirely eliminate manufacturing defects by simply spending large quantities of money to ensure that the products leaving the manufacturing facility are in exact conformity with their intended design.²⁶⁵

1. *Front-End-Quality-Control Expenditures*

Manufacturers of products for sale in the stream of commerce typically go through a number of steps and incur a variety of costs in transforming an idea for a product into a tangible item for sale. In the usual instance, a manufacturer and its consultants draw up blue prints for the product the manufacturer wants to produce. Design specifications on the blue prints or a prototype must be evaluated for function, efficiency, and safety. Once the design is approved, the manufacturer acquires equipment, raw materials, and labor to enable mass production.

In setting up the mass production process, the manufacturer is forced to make important decisions regarding the production process and the importance of the mass-produced product conforming exactly to the intended design. The relative importance of such exact conformity dictates what lengths the manufacturer will go to in order to achieve the desired level of conformity with the intended design. This directly manifests itself through the amount of money the manufacturer will spend achieving its desired level of conformity. For example, the manufacturer must decide whether to invest heavily in machinery that would facilitate micro-precision and perfect consistency, or whether less expensive equipment that would allow minor or occasional deviations from design could be used.²⁶⁶ The manufacturer must also determine whether the raw materials used in production must be perfectly homogenous and meet precise specifications (more expensive), or

265. I say “almost” because absolute perfection is likely a technical impossibility. *Accord* MADDEN & OWEN, *supra* note 46, §5:5, at 292 (“Modern tort law understands the simple fact that absolute safety is generally an impossible technological goal . . .”).

266. For example, a manufacturer of computer chips would need machinery that could ensure significantly more precision than would a manufacturer of curtain rods.

whether some variations are permissible (less expensive). In addition, the manufacturer must ascertain what level of skill, training, and education its workers must possess in order to ensure that the production process achieves the desired level of conformity with the intended design. The more skill, training, and education among the workers that is necessary, the more the manufacturer will have to pay to hire and retain the workers. Finally, the manufacturer must determine how much money to spend inspecting or testing the products to ensure that they are meeting the design specifications. The more money spent on equipment and labor to inspect and test the products, the fewer number of products there will be that fail to meet the intended design.²⁶⁷

The expenditures on machinery, raw materials, labor, and inspection or testing that flow from the manufacturer's decisions are collectively what I will refer to as "front-end-quality-control costs." To clarify, the level of front-end-quality-control costs represents the amount of money the manufacturer has consciously decided to spend in an effort to have the mass-produced items conform to their intended design. As will be discussed, however, the level of front-end-quality-control costs selected by the manufacturer will be dictated by the forecasted direct and indirect consequential costs expected to be incurred as a result of the sale of defectively-manufactured products.

2. *Back-End Consequential Costs*

A critical (if not decisive) factor that the manufacturer must consider in determining the level of front-end-quality-control costs is the assessment of the consequences that will likely result from the inevitable failures that occur in the production process.²⁶⁸ Defectively-manufactured products, by definition, are not as functional, efficient, or safe as they were designed to be. When such products are purchased and used by the public, they usually fail to meet the consumer's expectations and thus cause direct and indirect costs to the manufacturer.²⁶⁹

267. For example, every item the manufacturer produces could be manually inspected or tested by highly-trained and highly-paid experts on the particular product being sold. This process would almost completely eliminate the possibility that a product that fails to conform to its intended design will ever reach the consuming public. Expending the time and resources necessary to almost completely eliminate manufacturing defects through quality-control spending would, however, be incredibly (and prohibitively) costly and inefficient. *Accord* MADDEN & OWEN, *supra* note 46, §5:5, at 292 (noting that "even when perfect safety is possible, it is often too expensive").

268. As discussed above, under the *Restatement Third*, defectively manufactured products are those that fail to conform to their intended design. See *RESTATEMENT THIRD*, *supra* note 16, §2(a).

269. As discussed above, most courts apply the consumer expectations test to manufacturing

For example, a defectively-manufactured product that injures a consumer often provokes the injured person to seek recompense through the legal system. The manufacturer then incurs a number of direct costs, such as litigation costs (including attorneys' fees and other litigation expenses²⁷⁰) and settlement outlays. The manufacturer also incurs a number of indirect costs, such as loss of productive time from employees involved in the litigation and loss of goodwill in the community, which may lead to a decline in demand for the product. Defectively-manufactured products can and do lead to a host of other direct and indirect costs (depending upon the nature and extent of the defect) as well.²⁷¹ I will collectively refer to these direct and indirect costs that predictably result from defectively manufactured products as "back-end consequential costs."

3. *Quality Control Illustrations*

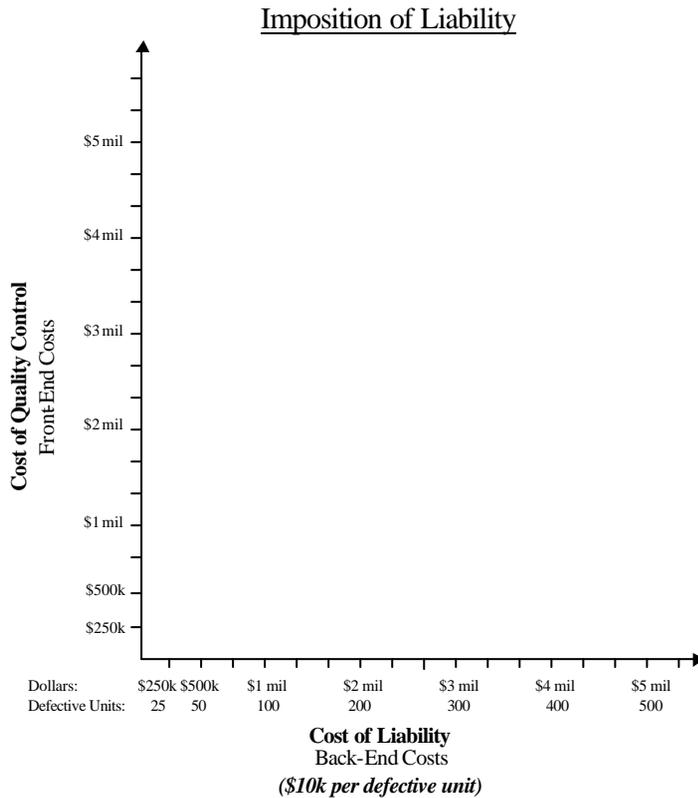
The primary goal of the manufacturer's decision-making and level-setting process is to achieve economic efficiency—maximizing profit from the sale of the product. Accordingly, an economically rational manufacturer will attempt to set the front-end-quality-control expenditures at a level that will achieve the lowest total sum of front-end-quality-control costs plus back-end consequential costs. This calculus can be illustrated on a simple graph where the Y-axis represents the level of front-end-quality-control spending selected by the manufacturer, and the X-axis represents the amount of back-end consequential costs incurred by the manufacturer as a result of the chosen level of quality control spending.

defects. *See supra* note 183.

270. Other litigation expenses include court filing fees, deposition and hearing transcript costs, expert witness fees, to name a few.

271. Additional costs might include the psychological impact of knowing that a product defectively manufactured by one's company caused serious injury or death.

Graph 1



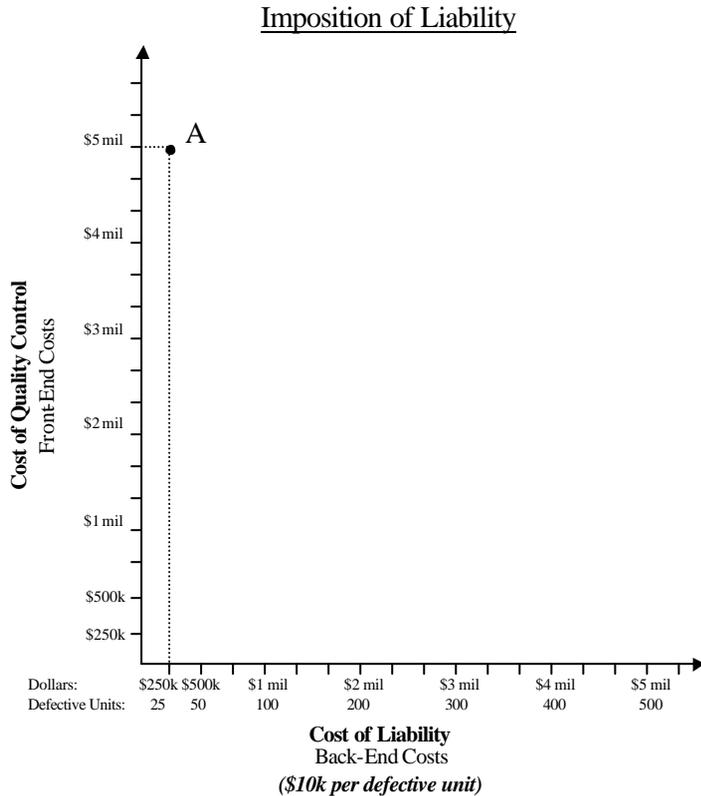
What follows are five hypothetical scenarios in which the levels of front-end-quality-control expenditures are varied. As illustrated on the graph accompanying each scenario, the higher the level of front-end-quality-control expenditures, the lower the back-end consequential costs incurred. Thus, as the level of front-end-quality-control spending decreases, the amount of back-end consequential costs predictably increases.

Scenario A:

For scenario A, assume Company X manufactures Product Y and it sells one million units per year at the price of \$100 per unit. Assume also that X spends \$5 million per year on quality control measures in an effort to minimize the number of defective units of Y that leave the manufacturing plant. Assume also that this level of quality control will predictably lead to twenty-five units of Y leaving X's plant with manufacturing defects per year,

which will result in \$250,000 of consequential costs for X due to the defects.²⁷² The total expenditure under scenario A is thus \$5,250,000.²⁷³

Graph 2



Front-End-Quality-Control Costs =	\$5,000,000
Back-End Consequential Costs =	<u>\$250,000</u>
Total Costs =	\$5,250,000

272. This calculation is based upon an assumption that each defective unit of Y will predictably result in \$10,000 in net cost to X. Clearly not all manufacturing defects are the same, and even those that recur inevitably lead to varying levels of consequential costs depending upon, for example, the skill or tenacity of the plaintiff's lawyer. The \$10,000 figure is merely intended to be an estimated average cost per defect.

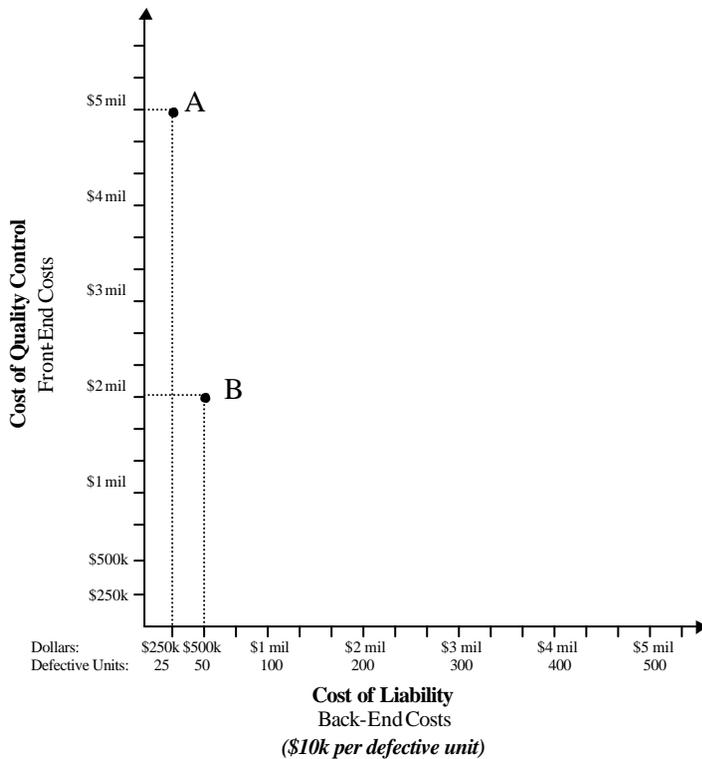
273. See *infra* Graph 2. At point A, X can predict that 25 products will be defectively manufactured and that each will lead to \$10,000 in back-end consequential costs.

Scenario B:

For scenario B, assume that if X lowers its quality-control expenditures to \$2 million per year, the number of defective units of Y leaving the plant would increase to fifty, which will result in \$500,000 of consequential costs for X due to the defects. The total expenditure would thus be \$2.5 million under scenario B.²⁷⁴

Graph 3

Imposition of Liability



Front-End-Quality-Control Costs =	\$2,000,000
Back-End Consequential Costs =	<u>\$500,000</u>
Total Costs =	<u>\$2,500,000</u>

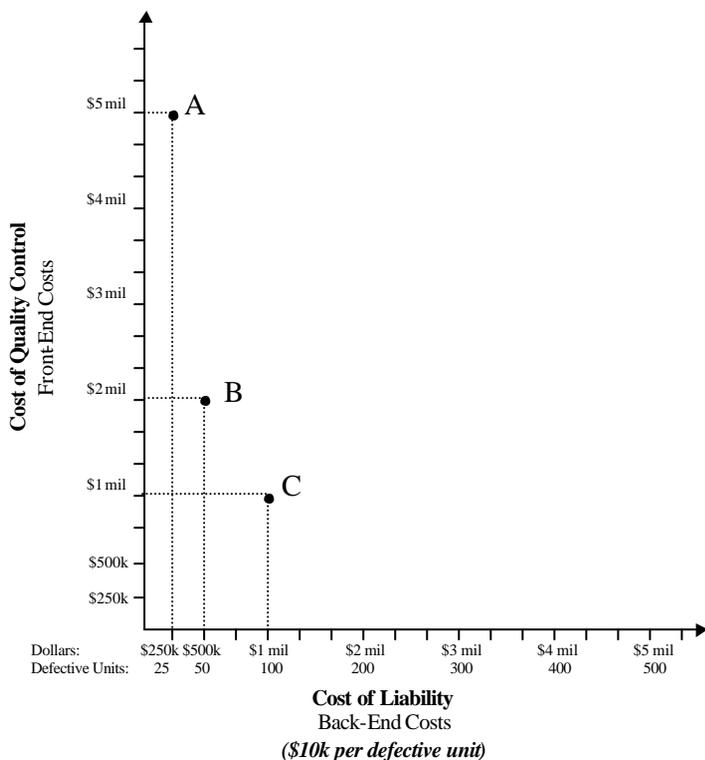
274. See *infra* Graph 3. At point B, X can predict that 50 products will be defectively manufactured and that each will lead to \$10,000 in back-end consequential costs.

Scenario C:

For scenario C, assume that if X lowers its quality control expenditures to \$1 million per year, the number of defective units of Y leaving the plant would increase to 100, which will result in \$1 million of consequential costs for X due to the defects. The total expenditure would thus be \$2 million under scenario C.²⁷⁵

Graph 4

Imposition of Liability



Front-End-Quality-Control Costs =	\$1,000,000
Back-End Consequential Costs =	<u>\$1,000,000</u>
Total Costs =	<u>\$2,000,000</u>

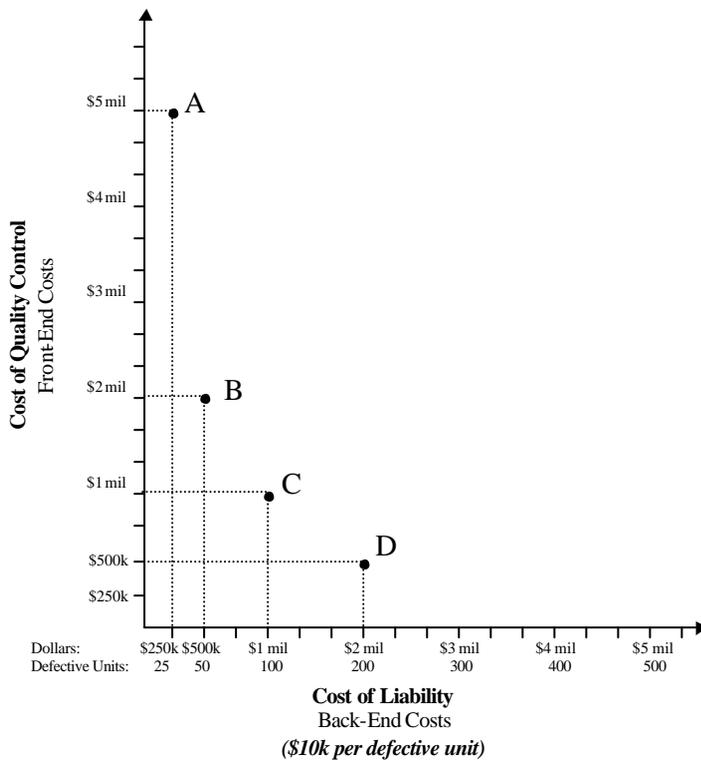
275. See *infra* Graph 4. At point C, X can predict that 100 products will be defectively manufactured and that each will lead to \$10,000 in back-end consequential costs.

Scenario D:

For scenario D, assume that if *X* further lowers its quality control expenditures to \$500,000 per year, the number of defective units of *Y* leaving the plant would increase to 200, which will result in \$2 million of consequential costs for *X* due to the defects. The total expenditure would thus be \$2.5 million under scenario D.²⁷⁶

Graph 5

Imposition of Liability



Front-End-Quality-Control Costs =	\$500,000
Back-End Consequential Costs =	<u>\$2,000,000</u>
Total Costs =	<u>\$2,500,000</u>

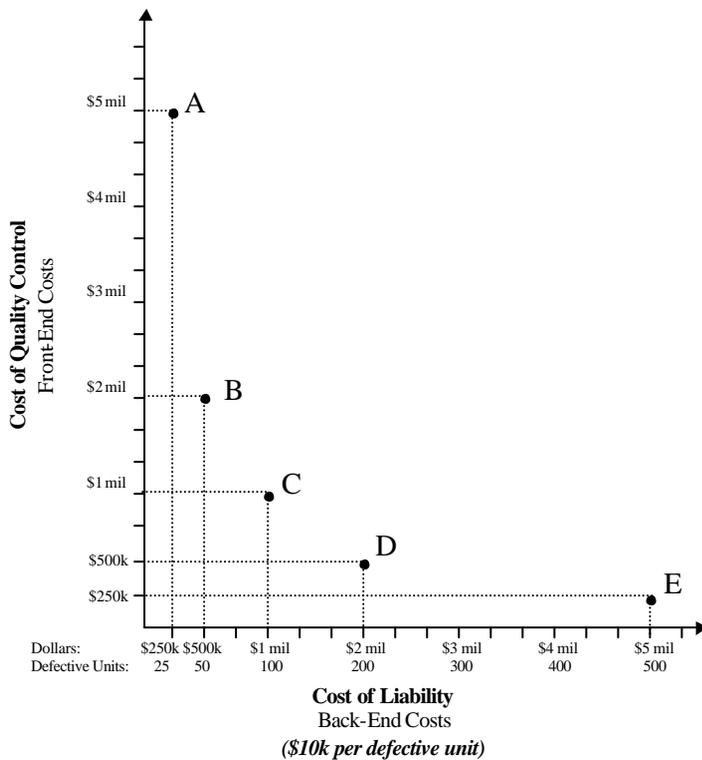
276. See *infra* Graph 5. At point D, *X* can predict that 200 products will be defectively manufactured and that each will lead to \$10,000 in back-end consequential costs.

Scenario E:

Finally, for scenario E, assume that if X further lowers its quality control expenditures to \$250,000 per year, the number of defective units of Y leaving the plant would increase to 500, which will result in \$5 million of consequential costs for X due to the defects. The total expenditure would thus be \$5.25 million under scenario E.²⁷⁷

Graph 6

Imposition of Liability



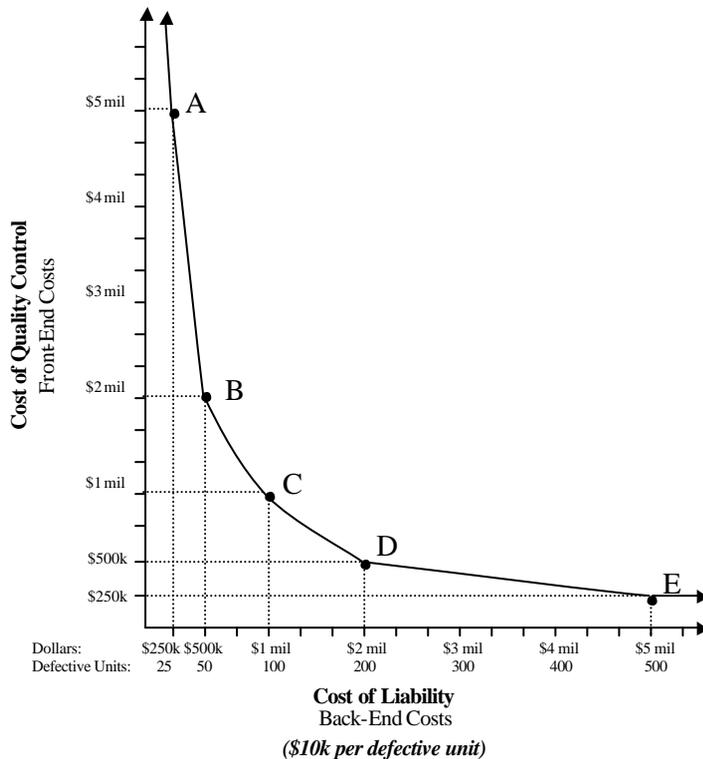
Front-End-Quality-Control Costs =	\$250,000
Back-End Consequential Costs =	<u>\$5,000,000</u>
Total Costs =	\$5,250,000

277. See *infra* Graph 6. At point E, X can predict that 500 products will be defectively manufactured and that each will lead to \$10,000 in back-end consequential costs.

These five points can then be connected by a curve that allows Company X to predict what level of front-end-quality-control expenditures would lead to a given number of expected defective units and thus back-end consequential costs associated with those defects.²⁷⁸

Graph 7

Imposition of Liability



The curve can then be used to ascertain the expected back-end consequential costs given any level of front-end-quality-control costs the manufacturer selects. For example, if X were to spend \$1.5 million on quality control (between points B and C), X could expect about 75 defective units, which would result in about \$750,000 in back-end consequential costs.²⁷⁹

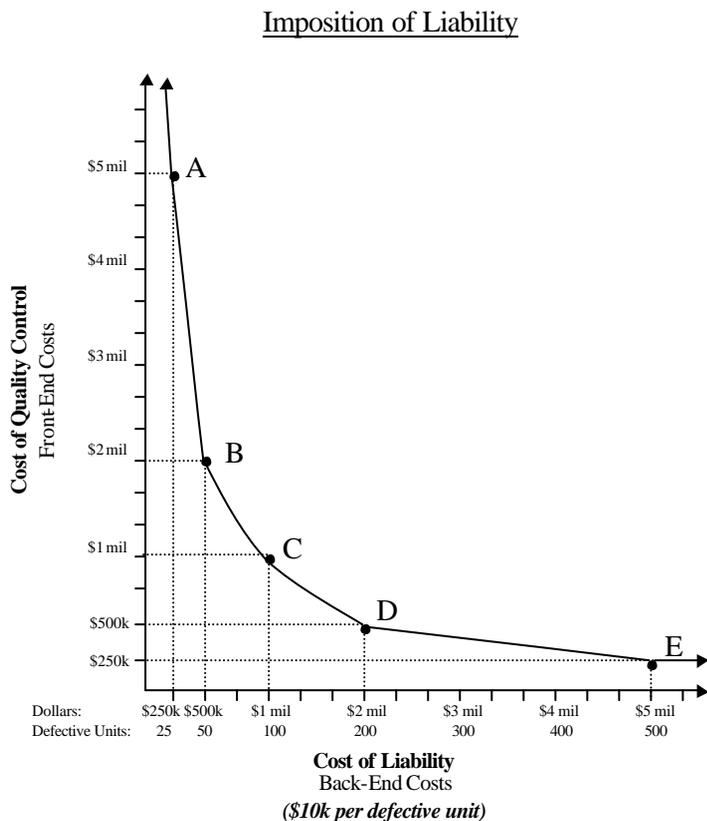
278. See *infra* Graph 7.

279. See *supra* Graph 7.

4. *Efficiency and Reasonableness of Quality Control Levels*

Even a cursory analysis of the graph reveals that scenario C is the most efficient choice for Company X. At point C, the front-end-quality-control costs plus the back-end consequential costs result in the lowest total expenditures to Company X. At this level of quality control, X could maximize its profit from the sale of product Y. Accordingly, a rational manufacturer in X's position would choose to expend \$1 million in quality control per year.

Graph 7



One could also credibly argue that given the uncertainties inherent in forecasting, a manufacturer in X's position might rationally choose either scenario B or scenario D (or some point along the curve in between those two points). For example, a manufacturer in a short-term cash crunch may

prefer to save money on up-front costs, hoping that its cash position will improve when the back-end consequential costs arrive. That manufacturer would likely select a point on the curve closer to point D. In the alternative, a manufacturer may opt for a point on the curve closer to point B than point D for psychological or moral (rather than economic) reasons, valuing consumer safety over economic efficiency. In any event, manufacturers choosing points B, C, or D (any point in between) would be acting reasonably, and thus not negligently.²⁸⁰

A manufacturer who chooses scenario E, on the other hand, is likely not acting reasonably in legal terms, or rationally in economic terms. At point E, the manufacturer not only operates at an economically inefficient level,²⁸¹ but also consciously places more defective units into the stream of commerce than it would with a relatively minimal increase in quality-control expenditures.²⁸² Consequently, a manufacturer who chose point E would likely be negligent.²⁸³

Likewise, at point A, the manufacturer is not acting rationally in the economic sense, although it is acting reasonably in the legal sense. At point A, the manufacturer is not operating at an economically efficient level,²⁸⁴ but the manufacturer would *not* be negligent (at least in the classic sense) vis-à-vis the injured consumer because the manufacturer values product safety more than an average, reasonable manufacturer would.²⁸⁵

280. Judge Learned Hand's familiar $B < PL$ negligence formula considers the increased financial cost of producing a product (and thus its price in the marketplace) in ascertaining whether a product seller is negligent. *See United States v. Carroll Towing*, 159 F.2d 169, 173 (2d Cir. 1947).

281. The manufacturer incurs \$5.25 million in total costs at point E, while it may incur substantially less costs at points B, C, or D.

282. At point E, the manufacturer expects 500 defectively manufactured units to reach consumers, while a modest increase in quality control spending would dramatically reduce the number of defective units sold (and people injured). *See supra* Graph 7.

283. The manufacturer would be acting below the standard of care of a reasonably prudent manufacturer in the same or similar circumstances. In other words, the burden of increasing expenditures is outweighed by the probability of harm multiplied by the gravity of harm risked by the conduct. *See generally Carroll Towing Co.*, 159 F.2d at 173.

284. At point A, as compared to point B, the manufacturer spends three million additional dollars on quality control with only a modest decrease (25) in defectively manufactured units sold. *See supra* Graph 7.

285. Whether or not the manufacturer could be liable to shareholders for corporate waste for choosing to operate at point A is well beyond the scope of this Article.

Therefore, a manufacturer who chooses any point on the curve at or between points B and D would likely not be acting unreasonably and thus would not be subject to negligence liability. At point C, a manufacturer operates at economic efficiency. A manufacturer choosing to operate at point A would likely not be negligent, although it would be economically inefficient. Finally, a manufacturer operating at point E would be both inefficient and negligent. For the reasons discussed below, however, a manufacturer operating at *any point along the curve* would be subject to strict liability for any defectively manufactured unit.²⁸⁶ Therefore, no matter what level of quality control the manufacturer selects, the manufacturer is strictly liable in tort for all manufacturing defects. But why?

It is understandable that a manufacturer who selects scenario E should be strictly liable because that manufacturer has knowingly subjected consumers to a higher likelihood of injury from a defectively manufactured product than was reasonable, or even rational. But why should a manufacturer who is overly cautious, even to the point of economic irrationality (scenario A), be strictly liable in tort for inevitable manufacturing defects? The answer is actually quite simple, and even more compelling.

As illustrated in the graphs, the manufacturer must consciously decide what level of quality control it will choose for its product line. That choice manifests itself in how much money the manufacturer will spend minimizing the number of product units leaving the facility that fail to conform to the product's intended design.²⁸⁷ An economically efficient and responsible manufacturer will set the quality control level near point C (or at least between points B and D). An economically inefficient, but overly-cautious manufacturer, will set its quality control level at or about point A, while an economically inefficient and legally unreasonable manufacturer may set its quality control level at or about point E. In all cases, however, regardless of the operating level of front-end-quality-control spending, the manufacturer has consciously chosen how much money it will pay up front in quality control costs while at the same time recognizing (or at least forecasting) how much it will have to pay at the back end in consequential costs as the result of injuries to consumers.

The rationale behind imposing strict liability for manufacturing defects is

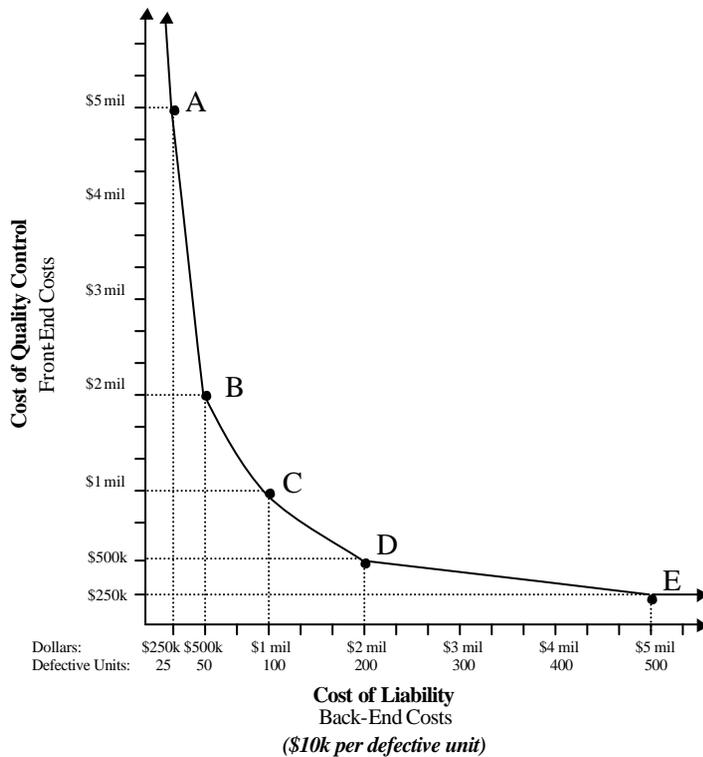
286. "The rule for manufacturing defects . . . imposes liability whether or not the manufacturer's quality control efforts satisfy the standards of reasonableness." RESTATEMENT THIRD, *supra* note 16, § 2(a) cmt. a.

287. *Accord* RESTATEMENT THIRD, *supra* note 16, §2 cmt. a ("Because manufacturers invest in quality control at consciously chosen levels, their knowledge that a predictable number of flawed products will enter the marketplace entails an element of deliberation about the amount of injury that will result from their activity.").

that the consumer should get the benefit of the manufacturer's bargain. In other words, because the manufacturer has chosen its level of front-end expenditures, it is only fair to require the manufacturer to pay the back-end costs that have been dictated by the manufacturer's choice. Looking at the graph, a manufacturer choosing to spend only \$250,000 at the front-end on quality control (point E) does so with the expectation of \$5 million in back-end liability costs.²⁸⁸

Graph 7

Imposition of Liability



Therefore, holding the manufacturer to its bargain is perfectly fair and reasonable, regardless of the fact that the manufacturer at point E has also acted negligently. Likewise, a manufacturer who chooses to spend \$5 million

288. See *supra* Graph 7.

at the front end (point A) does so realizing that there will invariably still be back-end costs that could have been eliminated (or virtually so) by some *even higher level of spending* at the front end.²⁸⁹ It is, thus, fair and reasonable to hold the manufacturer to its bargain even though the manufacturer has not acted negligently.²⁹⁰

If strict liability were not imposed and the sole liability test were negligence (as has essentially happened for design and warning defect cases), then a rational manufacturer would attempt to set its level of front-end-quality-control expenditures at or near point D on the curve. This is true because, as discussed above, a manufacturer would not be negligent if it set its front-end-quality-control-expenditures at \$500,000 (point D) or higher.²⁹¹

Consequently, if there were no strict liability for manufacturing defects and negligence was the only cause of action available, then point D (rather than point C) would be the point of greatest efficiency. This is true because under a negligence-only scheme, the back-end consequential costs per defectively-manufactured product would diminish because the number of successful lawsuits would be reduced,²⁹² which would be attributable to the higher level of proof required of the plaintiff.²⁹³ Less successful lawsuits against a manufacturer would mean, of course, that less money would be paid in adverse judgments. Less money paid in adverse judgments would, in turn, lead to fewer lawsuits brought by later plaintiffs seeking compensation, which then results in lower litigation costs. And because litigation costs represent a substantial component of the back-end consequential costs,²⁹⁴ the amount of predicted back-end consequential costs per defectively manufactured product would markedly decline. There would be back-end consequential costs incurred in a negligence-only liability scheme, such as loss of goodwill and litigation costs (albeit less than a strict liability scheme), but the point of economic efficiency would shift.

Returning to the hypothetical situation traced earlier, assume that the back-end consequential costs are \$4,000 per defectively-manufactured product under a negligence-only scheme, rather than \$10,000 per defectively-manufactured product under a strict liability scheme. As illustrated below, this would move the point of efficiency from point C to point D as the entire

289. *See id.* 7.

290. This is true at least most of the time. *See infra* notes 302-19 and accompanying text.

291. *See supra* text accompanying note 280.

292. Recall that we have been assuming that each defectively manufactured product would predictably lead to \$10,000 in consequential costs. *See supra* note 272.

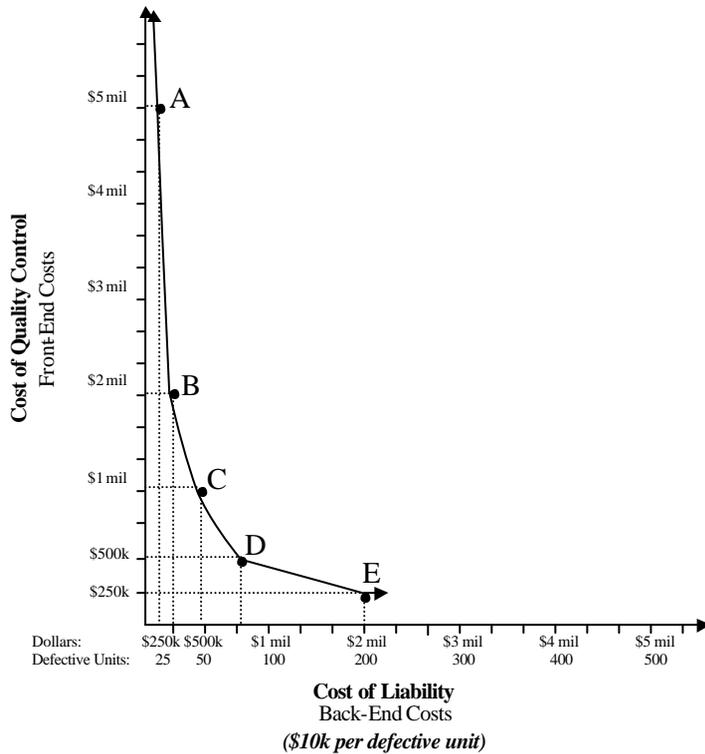
293. Merely having to prove that a product failed to conform to its intended design is obviously much easier than tracing its failure to a lack of care by the manufacturer.

294. *See supra* notes 268-71 and accompanying text.

curve shifts down and to the left to reflect the lower back-end consequential cost per defectively-manufactured product.²⁹⁵

Graph 8

Imposition of Liability



As shown in the graph, the level of front-end-quality-control costs remains the same as in the above-described scenarios A-E, but the level of forecasted back-end consequential costs predictably drops for all scenarios. Once again, this drop in back-end consequential costs reflects lower litigation costs because fewer lawsuits will be brought and less settlement money will be paid to resolve the lawsuits that are brought, even though the number of products that fail to conform to their intended design remains unchanged.

295. See *infra* Graph 8.

The following are the remaining revised scenarios:

Scenario A

Front-End-Quality-Control Costs =	\$5,000,000
Back-End Consequential Costs =	<u>\$100,000</u> ²⁹⁶
Total Costs =	\$5,100,000

Scenario B

Front-End-Quality-Control Costs =	\$2,000,000
Back-End Consequential Costs =	<u>\$200,000</u> ²⁹⁷
Total Costs =	\$2,200,000

Scenario C

Front-End-Quality-Control Costs =	\$1,000,000
Back-End Consequential Costs =	<u>\$400,000</u> ²⁹⁸
Total Costs =	\$1,400,000

Scenario D

Front-End-Quality-Control Costs =	\$500,000
Back-End Consequential Costs =	<u>\$800,000</u> ²⁹⁹
Total Costs =	\$1,300,000

Scenario E

Front-End-Quality-Control Costs =	\$250,000
Back-End Consequential Costs =	<u>\$2,000,000</u> ³⁰⁰
Total Costs =	\$2,250,000

Accordingly, an economically-efficient manufacturer will set its front-end-quality-control levels at point D, which maximizes profit. This new point of economic efficiency is, however, manifestly undesirable because it results

296. This figure is calculated by multiplying the predicted cost of each defect (\$4,000) by the number of predicted defects (25) at this level of front-end-quality-control expenditure (\$5,000,000).

297. This figure is calculated by multiplying the predicted cost of each defect (\$4,000) by the number of predicted defects (50) at this level of front-end-quality-control expenditure (\$2,000,000).

298. This figure is calculated by multiplying the predicted cost of each defect (\$4,000) by the number of predicted defects (100) at this level of front-end-quality-control expenditure (\$1,000,000).

299. This figure is calculated by multiplying the predicted cost of each defect (\$4,000) by the number of predicted defects (200) at this level of front-end-quality-control expenditure (\$500,000).

300. This figure is calculated by multiplying the predicted cost of each defect (\$4,000) by the number of predicted defects (500) at this level of front-end-quality-control expenditure (\$250,000).

in more defectively-manufactured products (200 at Point D as opposed to 100 at Point C) entering the stream of commerce and causing injuries to consumers, half of which could have been avoided by higher levels of quality control expenditures by the manufacturer.³⁰¹ Because product manufacturers consciously set their level of front-end-quality-control expenditures recognizing that a predictable number of defectively-manufactured products will result from that level, strict liability is justifiably imposed on manufacturers for damages resulting from defectively-manufactured products no matter where the quality control levels are set.

However, the above analysis only addresses situations in which the level of front-end-quality-control expenditures predictably affect the back-end consequential costs. The graphs illustrate only situations in which the manufacturer eliminates or minimizes the number of defective units leaving the plant by spending more at the front end. But what about situations in which the manufacturer's selected front-end-quality-control level has *no bearing* on the back-end consequential costs? Stated differently, should strict liability be imposed for products that fail to conform to the manufacturer's intended design *for reasons that are not reasonably traceable to the manufacturer's selected level of quality control*? In my view, the answer is no.

VI. COURTS SHOULD RECOGNIZE AN AFFIRMATIVE DEFENSE RELIEVING MANUFACTURERS OF LIABILITY WHEN THE MANUFACTURING DEFECT AT ISSUE IS NOT REASONABLY TRACEABLE TO THE LEVEL OF QUALITY CONTROL SELECTED BY THE MANUFACTURER

As explained in Part IV, the traditional public policy foundations for strict liability were ultimately insufficient to retain strict liability in the design and warning defect context.³⁰² As demonstrated in Part V, strict liability has been retained and is justified for manufacturing defects only because those defects are reasonably traceable to the quality control levels set by manufacturers.³⁰³ Therefore, in the limited situations where the manufacturing defects are *not* reasonably traceable to the quality control levels set by the manufacturers, strict liability should *not* be imposed. In those situations, there should be a mechanism to relieve the manufacturer of strict liability.³⁰⁴

301. This graphically illustrates the foundational policy of accident prevention served by imposing strict products liability. *See supra* notes 213-14, 222 and accompanying text.

302. *See supra* notes 205-50 and accompanying text.

303. *See supra* notes 263-301 and accompanying text.

304. I fully recognize that relieving manufacturers of strict liability would virtually always result in no liability imposed at all. As explained in Part VI, however, I believe that result is justified.

Strict liability should not be imposed when the manufacturing defect is not reasonably traceable to the quality control levels set by the manufacturer because it is fundamentally unfair to impose liability for defects that are *unforeseeable* at the time of sale. This notion of fairness is precisely why many courts and the ALI have rejected strict liability in favor of a functional negligence test for design and warning defect cases. According to the *Restatement Third*:

[F]or the liability system to be fair and efficient, the balancing of risks and benefits in judging product design and marketing must be done in light of the knowledge of risks and risk-avoidance techniques reasonably attainable at the time of distribution. . . . Manufacturers may persuasively ask to be judged by a normative behavior standard to which it is reasonably possible for manufacturers to conform. For these reasons, Subsections (b) and (c) speak of products being defective only when risks are reasonably foreseeable.³⁰⁵

Thus, fairness and efficiency dictate that manufacturers are liable for design and warning defects only when the risk that caused the injury (i.e., the type of defect at issue) was *reasonably foreseeable* in light of the knowledge at the time of distribution. So why is it that manufacturers are shielded from design and warning defect liability based upon unknowable or unforeseeable risks, yet they are left unprotected against those *same types of risks* in the manufacturing defect context?³⁰⁶ If Wade and Keeton (and nearly everyone else) have concluded that it is unfair in the design and warning context to impute to sellers knowledge (at the time of sale) of the risks they later learned about by the time of trial, why is it not *equally unfair* in the manufacturing defect context?³⁰⁷ The short answer is that it is equally unfair, and that something should be done to correct this unfairness.

305. RESTATEMENTTHIRD, *supra* note 16, § 2 cmt. a.

306. Comment a to section 2 is careful to include only subsections (b) and (c)—design and warning defects—in its contention that fairness and efficiency dictate a lower standard for those types of defects. *See id.*

307. Professor Owen persuasively argues that moral accountability for selling products with unknown and undiscoverable defects is substantially less than if the defects are knowable, even if innocently undisclosed. *See* David G. Owen, *The Moral Foundations of Products Liability Law: Toward First Principles*, 68 NOTRE DAME L. REV. 427, 465-66 (1993) [hereinafter Owen, *Moral Foundations*].

A. Proposed Affirmative Defense to Strict Liability for Manufacturing Defects

My proposal is quite simple—recognize an affirmative defense to strict liability for manufacturing defect claims that allows the manufacturer to prevail if it pleads and proves that the manufacturing defect about which the plaintiff complains is not reasonably traceable to the level of quality control selected by the manufacturer.³⁰⁸ As with other affirmative defenses for design and warning defect cases, the defendant would have the burden of proof, and the court could grant summary judgment or direct a verdict in favor of either party if the evidence was such that reasonable minds could not differ.³⁰⁹

While the number of cases to which this defense would apply would likely be fairly limited, that is no reason not to recognize such a defense. Nor is it a legitimate excuse that adding a modicum of complexity to a very simple consumer expectations test would add too much confusion. If we are willing to demand that juries weigh numerous complex risk-utility factors³¹⁰ in the design and warning defect cases,³¹¹ then certainly the jury can be trusted to answer one relatively straightforward question about quality control in conjunction with ascertaining whether a particular product fails to conform to its intended design and thus frustrates consumer expectations about the product.

As noted above, the number of cases in which this affirmative defense could be successfully raised is small. One context where this quality control defense may be particularly applicable is in water contamination cases brought against municipal sellers of water. In many such cases, the contaminant was not detectable in the water at the time it was ingested by the plaintiffs; scientific methods of detection had simply not developed to allow the detection of many chemicals at the trace levels at which they existed in the water at the time of ingestion. Equally important, in many cases, is that

308. As it now stands, evidence of quality-control levels is not admissible in favor of the manufacturer. *See generally* MADDEN & OWEN, *supra* note 46, § 7:10, at 425.

309. *Accord* Feldman v. Lederle Labs., 479 A.2d 374, 388 (N.J. 1984) (“In strict liability warning cases, unlike negligence cases, however, the defendant should properly bear the burden of proving that the information was not reasonably available or obtainable and that it therefore lacked actual or constructive knowledge of the defect.”). *See also id.* (“As a matter of policy the burden of proving the status of knowledge in the field at the time of distribution is properly placed on the defendant.”).

310. *See* O’Brien v. Muskin Corp., 463 A.2d 298, 304-05 (N.J. 1983) (listing Wade-Keeton factors).

311. Juries are routinely asked to determine, for example, whether the risks inherent in the design of a complex piece of equipment outweigh its utilities. Most jurisdictions assign the risk-utility analysis in design defect cases to the jury. *See id.*

the contaminants at issue were not believed to be harmful to humans if ingested at trace levels in water at the time the plaintiffs drank the contaminated water.³¹²

In summary, because the contaminated water is a product that was sold in the stream of commerce that fails to conform to its intended design and fails to meet consumer expectations, it qualifies as a defectively-manufactured product regardless of whether or not the water is treated as a food product³¹³ and regardless of whether or not one analyzes the case under the *Restatement Second* or *Restatement Third*.³¹⁴ In such cases, however, the *defendant* should prevail if it affirmatively pleads and proves that the defect (contamination) is not reasonably traceable to the level of quality control set by the defendant. If the defendant can prove that the contaminants were not reasonably discoverable in the water or that the contaminants were not reasonably believed to be harmful to humans at the levels reasonably believed to be present in the water, then the defendant should not be strictly liable for the contamination. To hold otherwise is to make the seller the guarantor of the safety of the product—a notion long since rejected by the vast majority of courts and commentators. As Professor Owen persuasively argues, that notion is not morally compelled:

That the chemistry of the world contains vast numbers of unknown dangers is a fact well known to consumers who seek the benefits of products of modern science and technology. . . . [C]onsumers well understand—even if only in a subconscious, “background” kind of way—that unknowable risks may well accompany the benefits expected to result from manipulating the atoms of the universe.³¹⁵

Simply put, there is no bargain to enforce against the defendant. In fact, there exists no relation between the level of front-end-quality-control expenditures by the defendant and the back-end consequential costs. One cannot credibly argue that if the defendant had just spent a little more money on quality control measures, the alleged injury would have been avoided. This scenario does not fall anywhere on the foreseeable defect curve. Instead, this situation is best illustrated in graph below.³¹⁶

312. Because many illnesses plaintiffs trace to water contamination have long latency periods, advances in scientific technology may not result in immediate elimination of public health risks caused by the earlier contamination.

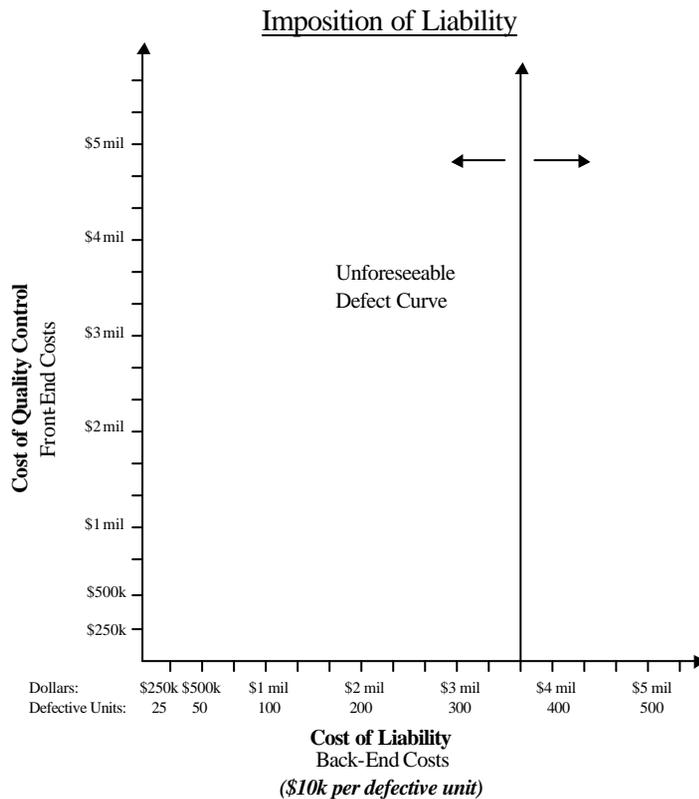
313. See *supra* notes 184-200 and accompanying text.

314. See *supra* notes 163-83 and accompanying text.

315. Owen, *supra* note 307, at 466 (footnotes omitted).

316. See *infra* Graph 9.

Graph 9



As shown, the curve for cases in which the quality control defense would apply is perfectly vertical because the cost of liability remains constant regardless of the level of quality control expenditures. Indeed, the very nature of this second curve is such that its location on the X-axis is *unknowable and unforeseeable* at the time of sale, which is reflected by the small arrows next to the curve. In such cases, there is no justification for holding the manufacturer strictly liable for the defect in the product, even though traditional analysis results in a finding of a manufacturing defect.³¹⁷ To

317. Professor Owen is right to say that if an undiscoverable danger lurking in the product causes injury to a user, the maker cannot fairly be held responsible for the harm. The maker did not choose to put, nor did he unreasonably put, the danger in the product or the world, nor did the maker affirmatively mislead users into surrendering their own responsibility for self-protection.

Owen, *Moral Foundations*, *supra* note 307, at 466-67.

impose such liability is to breathe new life back into the Wade-Keeton test, which has been almost uniformly rejected because it is simply unfair.³¹⁸ To be sure, in the ordinary case, this second unforeseeable defect curve is located directly on the Y-axis. This is true because most injuries caused by defectively-manufactured products can be readily traced to the types of defects that are reasonably foreseeable to the manufacturer.³¹⁹ In such cases, because the types of defects are foreseeable, the instances of defects can be eliminated (or at least substantially reduced) by raising the level of front-end expenditures on quality control. What follows is an application of the proposed affirmative defense to the two well-known water contamination cases discussed earlier in this Article. In one case, the affirmative defense would apply and relieve the water seller from the liability. In the other case, the defense is wholly inapplicable because the defect in the water was reasonably traceable to quality control levels selected by the seller.

B. Application of Quality Control Affirmative Defense to A Civil Action

The case that was the subject of *A Civil Action*³²⁰ can serve as an illustration of the quality control defense as it should be applied. In that case, the plaintiffs were children who allegedly contracted leukemia as a result of drinking water supplied by the City of Woburn, Massachusetts³²¹ that was contaminated with trichloroethylene (TCE). Plaintiffs' counsel sued the two corporations believed to be responsible for contaminating the water with TCE,³²² but neglected to sue the City even though it was undisputed that the City sold the plaintiffs the contaminated water. As is not unusual in such cases, the plaintiffs encountered substantial difficulties and incurred enormous expenses in trying to prove their case against the corporations that the plaintiffs believed had contaminated the water.³²³ But if the plaintiffs had simply sued the City of Woburn and alleged that the sale of the contaminated water subjected the City to strict products liability, a case could have easily and relatively inexpensively been made. It was undisputed that the City sold the water, and, as previously discussed, it was easily provable that the water

To be fair, Professor Owen's conclusion that victims of unknowable product defects should not be able to recover from the maker, *id.* at 467, is limited to the design defect context, *id.* at 467 n.153. Nevertheless, in my view, the reasoning should apply with full force to the manufacturing defect context.

318. *See supra* notes 243-46.

319. For example, a sharp edge on a can is reasonably foreseeable to the manufacturer.

320. *Anderson v. Cryovac, Inc.*, 96 F.R.D. 431 (D. Mass. 1983).

321. *See supra* text accompanying note 7.

322. *See id.*

323. *See supra* text accompanying note 10.

is properly classified as a product.³²⁴ Because it was also undisputed that the water the City sold the plaintiffs contained trace levels of TCE, the plaintiffs could easily have demonstrated that the water was defective because it failed to meet a reasonable consumer's expectations about its safety. Therefore, assuming the plaintiffs could have established that TCE caused their illnesses, the plaintiffs could have prevailed against the City of Woburn under a strict products liability theory.³²⁵

But as explained below, given the level of knowledge about TCE at the time the water was sold and ingested, imposing such liability against the City of Woburn would not have furthered the goals of strict liability and would thus have been unjustified. The contamination in the water quite simply was not reasonably traceable to the level of quality control selected by the City of Woburn.

1. History and Background of TCE

TCE is a chlorinated organic solvent, commonly used for vapor degreasing³²⁶ and "cold cleaning of fabricated metal parts."³²⁷ While the first chlorinated organic solvents were developed and used in Germany in the late Nineteenth Century, the production of chlorinated solvents in the United States began in 1906 with the introduction of carbon tetrachloride.³²⁸ TCE production in the United States began in 1923, following World War I.³²⁹ Over the next several decades, TCE became increasingly popular in a variety of industrial and commercial settings and for an even wider variety of purposes. TCE was used in drycleaning operations; as a solvent for waxes, fats, resins and oils; as a method for extracting caffeine from coffee; as an

324. See *supra* notes 103-44 and accompanying text.

325. As discussed above, traditional defenses to such cases (such as sovereign immunity, preemption and state-of-the-art) are largely unavailable in these situations. See *supra* notes 201-02 and accompanying text.

326. To accomplish vapor degreasing, TCE (or other solvent) is placed in a vessel where it is heated to its boiling point to produce solvent vapor. Cooling coils placed near the top of the vessel cause the vapor to condense, producing a vapor zone. Parts are then cleaned by placing them in the vapor zone such that clean solvent vapor condenses, bonds with the grease or dirt on the part, and then drips back into the well at the bottom of the vessel. At the end of the process, the part, now free of grease and dirt, is removed with only some quickly-evaporating residual solvent clinging to its surface. This process is repeated with new parts until the TCE in the vessel becomes so diluted with grease and dirt that its boiling point rises and its cleaning efficiency falls. At that time, the used TCE is removed from the degreaser and replaced with new TCE, allowing the degreasing process to resume. Minear Interviews, *supra* note 23.

327. NAT'L TOXICOLOGY PROGRAM, U.S. DEP'T HHS, PUB. NO. 90-1779, NTP TECH. REP. ON THE CARCINOGENESIS STUDIES OF TRICHLOROETHYLENE 16 (1990) [hereinafter NTP TECH. REP.].

328. See JAMES F. PANKOW & JOHN A. CHERRY, DENSE CHLORINATED SOLVENTS at 3 (1996).

329. See *id.* at 7.

extract for spice oleoresins; and as an ingredient in cosmetic cleansers until the late 1970s.³³⁰ In fact, TCE was even used as an anesthetic by dentists and physicians until 1977.³³¹ TCE could be found in printing inks, varnishes, adhesives, paints, spot removers, rug cleaners, disinfectants, and septic tank cleaners.³³² A study conducted in England in the mid-1970s even revealed the existence of TCE in such ordinary household items as packet tea, butter, and fresh bread.³³³

From the 1930s to the early 1970s, TCE was the industrial degreasing solvent of choice because its physical and chemical properties mirrored industrial process needs. TCE cleaned efficiently, was relatively chemically stable, had low flammability characteristics, and demonstrated a lack of vapor explosion potential and a low boiling point.³³⁴ For these reasons, TCE was generally referred to as a “safety solvent.”³³⁵ By the 1960s, TCE had become one of the most commonly used solvents in the manufacturing economy.³³⁶

2. Knowledge of the Scientific Community

TCE was generally considered to be a safe chemical and the “hazards” associated with its use were limited to a small number of known dangers that were deemed controllable. Most significantly, TCE was known to be an intoxicant to workers if they inhaled a sufficiently high concentration of the vapor.³³⁷ Consequently, in industrial settings, vapor degreasers were generally placed in areas designed with ventilation systems to meet ambient work-place threshold limit requirements.³³⁸ Because of its defatting characteristics, TCE was also known to cause dermal irritation when high concentrations came into direct contact with the skin for a sufficient period of time. Consequently, workers often wore gloves or other protective clothing to minimize direct contact with the solvent.³³⁹

It was not until the late 1970s and early 1980s that the scientific

330. NTP TECH. REP., *supra* note 327, at 16.

331. *Id.*

332. *Id.* See also PANKOW & CHERRY, *supra* note 328, at 40.

333. See NTP TECH. REP., *supra* note 327, at 16.

334. Minear Interviews, *supra* note 23.

335. *Id.*

336. See PANKOW & CHERRY, *supra* note 328, at 7.

337. Minear Interviews, *supra* note 23. Indeed, this side-effect of the TCE explains its common use by the medical profession as an anesthetic for many years. See NTP TECH. REP., *supra* note 327, at 16.

338. Minear Interviews, *supra* note 23.

339. *Id.*

community began to suspect that the use of TCE and its disposal might pose a threat to public health or safety.³⁴⁰ This was true for at least four reasons.

a. TCE Was Believed to Evaporate Harmlessly into the Air

Until the mid to late 1970s, scientists never suspected, based on the known physical characteristics of TCE, that they would find TCE in groundwater; nothing they knew about TCE suggested that it would be there. According to a respected treatise, “[T]here was as yet little indication that volatile organic compounds (VOCs) might be a problem in drinking waters obtained from surface water supplies, and certainly no indication to the hydrogeology, industrial, or regulatory communities that chlorinated solvent VOCs might be prevalent groundwater contaminants.”³⁴¹ Because TCE is a highly volatile chemical, the scientific community believed that it could be disposed of safely by placing it on the ground and allowing it to evaporate.³⁴² And because scientists believed that TCE evaporated entirely, the only environmental concern raised by the use and disposal of TCE was the possibility of contributing to the formation of smog in densely populated areas.³⁴³ Consequently, in the late 1960s, California began to regulate the air emissions of TCE.³⁴⁴ Because TCE was not expected to be found in groundwater, however, there were no public health or safety concerns regarding the disposal of TCE until the late 1970s, nor were there statutes governing the disposal of TCE until the early 1980s.³⁴⁵

b. Because Trace Levels of TCE Cannot Be Tasted, Smelled, or Seen in Water, There Was Nothing to Indicate Its Presence in Groundwater Supplies

In the earliest years of drinking water regulation, scientists were concerned with the sources of consumer complaints based on appearance, taste, smell, and obvious health concerns: scientists focused on biological oxygen demand, bacteria, and other aesthetic issues with respect to surface water pollution.³⁴⁶ Because TCE (like other chlorinated solvents) at trace levels cannot be identified in water by taste, by odor, or by any visible

340. *Id.*

341. See PANKOW & CHERRY, *supra* note 328, at 19.

342. See *id.* at 30.

343. Minear Interviews, *supra* note 23.

344. *Id.*

345. See PANKOW & CHERRY, *supra* note 328, at 27.

346. Minear Interviews, *supra* note 23.

characteristics, there was no indication that it might be present, and nothing prompting scientists to look for it.³⁴⁷

*c. Because TCE Was Not Believed to Be Toxic at Trace Levels,
There Was No Reason to Look for It at Those Levels*

Until the mid to late 1980s, at the earliest, those in the medical and scientific communities uniformly agreed that ingestion of TCE in minute quantities presented no risk of bodily injuries, such as cancer, in humans. The Chemical Safety Data Sheet (CSDS) (later changed to Material Safety Data Sheet (MSDS))³⁴⁸ for TCE issued in 1947 does not mention carcinogenicity.³⁴⁹ That CSDS was revised in 1948, but in no material respects.³⁵⁰ The Second Revision was issued in 1956 and it, too, failed to mention carcinogenicity, but added the following noteworthy information: “In contrast to chloroform and carbon tetrachloride, injuries to the liver and kidneys are rare, if indeed they ever occur from industrial exposure.”³⁵¹

The 1971 MSDS also does not, in any way, suggest that TCE may be a carcinogen.³⁵² Neither the 1973 nor the 1975 revision to the TCE MSDS mentions carcinogenicity.³⁵³ The 1977 version makes the first mention of laboratory studies: “Ingestion: Low acute oral toxicity in rats; LD50 > 4g/Kg. May be moderately toxic in humans.”³⁵⁴

Although the 1980 MSDS finally does mention carcinogenicity, it specifically states that TCE is *not* believed to be a carcinogen: “Studies with toxic doses given by stomach tube indicated a carcinogenic response in one

347. See PANKOW & CHERRY, *supra* note 328, at 3.

348. Courts routinely rely upon these data sheets as authoritative indicators of the state of the scientific and industrial knowledge of chemicals. See, e.g., *McCullock v. H.B. Fuller Co.*, 61 F.3d 1038, 1043-45 (2d Cir. 1995) (rejecting *Daubert* challenge against expert who based his opinion in part on an MSDS); *Billiar v. Minnesota Mining & Mfg. Co.*, 623 F.2d 240, 245 (2d Cir. 1980) (defendant’s failure to provide an MSDS to plaintiff was inadequate warning); *Midwest Specialties, Inc. v. Crown Indus. Prods. Co.*, 940 F. Supp. 1160, 1163 & n.1 (N.D. Ohio 1996) (explaining that it is “customary” for chemical users to “rely on the information contained” in MSDS’s); *Davis v. Ins. Co. of N. Am.*, 652 So.2d 531, 542-43 (La. Ct. App. 1995) (permitting chemistry and safety experts to rely on an MSDS).

349. Minear Interviews, *supra* note 23.

350. *Id.*

351. See *Mfg. Chemists’ Ass’n, Chem. Safety Data Sheet SD-14 (Trichloroethylene)*, at §10.1.2 (2d Rev. 1956). The Manufacturing Chemists Association is now known as the Chemical Manufacturers Association. This organization “represents the interests of the chemical industry and researches ways to minimize risks to employees and to the environment.” <http://www.healthy.net/pan/cso/cioi/CMA.HTM>.

352. See *Dow Chem. U.S.A., Material Safety Data Sheet* (July 15, 1971).

353. See *Dow Chem. U.S.A., Material Safety Data Sheet* (Aug. 17, 1973); *Dow Chemical U.S.A., Material Safety Data Sheet* (Jan. 30, 1975).

354. See *Dow Chemical U.S.A., Material Safety Data Sheet*, § 5 (Dec. 5, 1977).

strain of laboratory mice, but not in other laboratory animals exposed by ingestion or inhalation. *The preponderance of information indicates Trichloroethylene is not likely to be a carcinogen in man.*³⁵⁵

A 1981 MSDS confirms that TCE was *not* considered to be a carcinogen at the time:

Trichloroethylene has been extensively studied for cancer both in the U.S. and Europe by government, industry and academia in multiple species and biological test specimens. Recent reviews of these data by the Science Advisory Board to EPA's carcinogen assessment group concluded that there was no evidence to support the carcinogenicity of Trichloroethylene. There is no documented evidence that Trichloroethylene causes an increased cancer incidence in humans.³⁵⁶

This was still the case in 1985:

Trichloroethylene has been shown to increase the rate of spontaneously occurring malignant tumors in one strain of laboratory mouse given large doses. Data suggest non-mutagenic mechanism for tumor formation implying that non-toxic doses of trichloroethylene should pose little or no carcinogenic hazard for man. Birth defects are unlikely. Exposures having no effect on the mother should have no effect on the fetus. Did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother.³⁵⁷

This was *still* the belief as late as 1989, as reflected in the MSDS from that year: "Data suggest a nonmutagenic mechanism for tumor formation implying that nontoxic doses of trichloroethylene should pose little or no carcinogenic hazard for man."³⁵⁸

Physicians' use of TCE as an anesthetic through the late 1970s is further confirmation that the scientific and medical communities did not believe that TCE was toxic at trace levels until the mid to late 1980s, at the very earliest.³⁵⁹ In fact, TCE is still an approved food additive today.³⁶⁰ And so,

355. See Dow Chem. U.S.A., *Material Safety Data Sheet*, § 5 (Oct. 3, 1980) (emphasis added).

356. See PPG Indus., Inc., *Material Safety Data Sheet*, § 4 (Jan., 1981).

357. See Dow Chem. U.S.A., *Material Safety Data Sheet*, § 6 (Oct. 5, 1985).

358. See Dow Chem. U.S.A., *Material Safety Data Sheet*, § 6 (Feb. 2, 1989).

359. See NTP TECH. REP., *supra* note 327, at 16.

360. The FDA proposed prohibiting the use of TCE as a food additive in 1977. See Trichloroethylene in Human Drug and Cosmetic Products, 42 Fed. Reg. 49,467 (Sept. 27, 1977). That proposed regulation was never enacted, and was officially withdrawn in 1991. See Withdrawal of Certain pre-1986 Proposed Rules, 56 Fed. Reg. 67,440, 67,446 (Dec. 30, 1991). Consequently, TCE is currently allowed as a "secondary direct food additive" in such goods as decaffeinated coffee and spice

the status of TCE as a carcinogen remains unresolved.³⁶¹

d. Analytical Techniques Allowing Scientists to Detect TCE at the Part Per Billion Level Had Not Yet Evolved

Until the late 1970s, analytical techniques and methodologies were not yet available or in use to detect trace levels of TCE in water. Before the mid to late 1970s, when analytical groundwater testing methods evolved to the point at which scientists could detect the presence of volatile organic compounds at the parts per billion (ppb) level, industries, municipalities, and consumers could not detect the presence of chlorinated solvents in their drinking water.³⁶² As late as 1974, the methods generally being used to evaluate groundwater would not have identified chlorinated solvents, giving scientists no indication that volatile organic compounds such as TCE might be present in the water.³⁶³ Because there were no noticeable indications of chlorinated solvents in water, the scientific and regulatory communities did not concern themselves with their possible presence.³⁶⁴ As a result, because the physical properties and characteristics of TCE suggested that it would evaporate into the air rather than seep into the ground; because it could not be tasted, smelled, or seen at the trace levels at which it was present; because it was not believed to present health risks (even if it were thought to be present at trace levels); and because technology had not sufficiently developed to enable scientists to detect its presence at trace levels, the industrial and scientific communities were unaware that trace levels of TCE were contaminating the groundwater, much less potentially increasing the risks of certain illnesses.

As stated earlier, the plaintiffs in *A Civil Action* would likely have prevailed against the City of Woburn under a manufacturing defect strict liability theory. But as just demonstrated, the City of Woburn would have had no indication that the water it was selling to its residents in the 1960s and early 1970s was either contaminated with TCE or that such contamination would have been thought to pose a cancer risk to those who ingested the water. Therefore, the City of Woburn would have had no occasion to include TCE testing in its quality control protocol, and also would have had no ability to test for TCE at trace levels even if the City suspected TCE might be

oleoresins. See 21 C.F.R. § 173.290 (1997).

361. Minear Interviews, *supra* note 23.

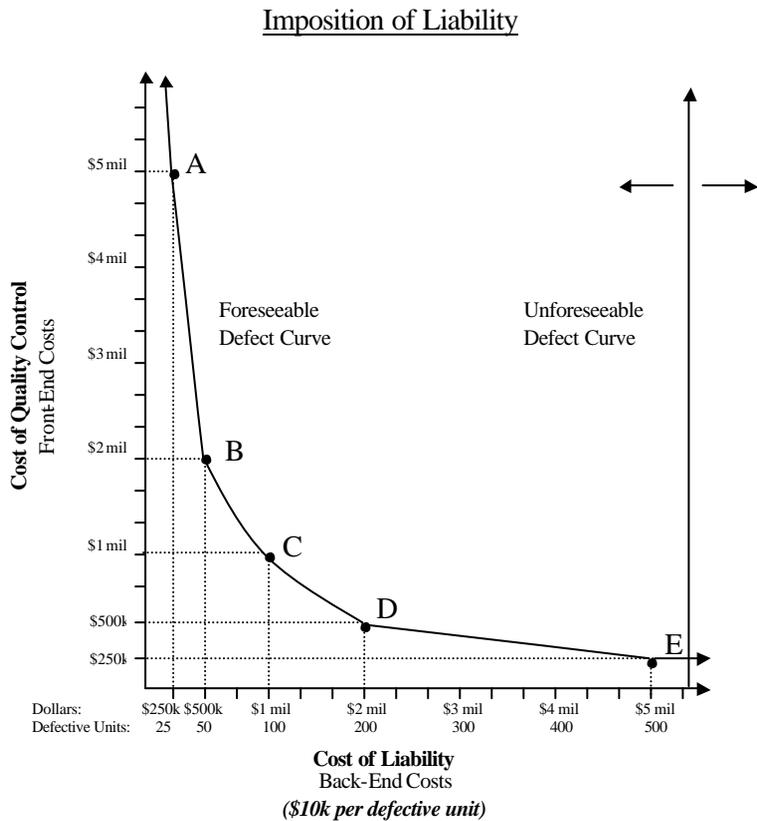
362. *Id.*

363. *Id.*

364. See PANKOW & CHERRY, *supra* note 328, at 18.

present. Accordingly, assuming that the plaintiffs had sufficiently established that the contaminated water caused their cancer,³⁶⁵ the City of Woburn should have been given the opportunity to prove that the defect in the water (TCE contamination) was not reasonably traceable to the level of quality control set by the City. The policy basis for imposing strict liability on sellers of defectively manufactured products simply is not present in this type of situation. Because the manufacturing defect at issue was unforeseeable, it does not fall at any point on the “foreseeable defect curve.”³⁶⁶ Instead, the contaminated water falls on the “unforeseeable defect curve.”³⁶⁷

Graph 10



365. This element was contentiously disputed in the case.

366. See *supra* Graph 10.

367. See *id.*

But by no means does this assertion suggest that *all* municipal sellers in water contamination cases should be permitted to raise the quality control defense. To the contrary, many of the cases involve contaminants known (or at least believed) to cause illnesses at the levels present in the water when sold, and the levels at which they existed were readily ascertainable. Therefore, the defectiveness is reasonably traceable to quality control levels.

C. Application of Quality Control Affirmative Defense to Erin Brockovich

In contrast to *A Civil Action*, the plaintiffs in *Erin Brockovich* were allegedly injured after ingesting harmful levels of a chemical long believed to be dangerous if ingested in contaminated water. Levels of hexavalent chromium in water have been subject to governmental regulation since the 1940s,³⁶⁸ and the methods of detecting chrome in water at trace levels (gas chromatography) have been widely used since the 1950s.³⁶⁹

Accordingly, to the extent that municipal wells were involved in the *Erin Brockovich* case, the City of Hinkley must have either made a conscious choice not to test for chromium in the water as part of its quality control measures or failed to execute its quality control protocols effectively. In either case, the City of Hinkley would be subject to strict liability for the sale of defectively manufactured water because the contamination in the water as delivered was reasonably traceable to the quality control levels set by the City.³⁷⁰

CONCLUSION

Use and disposal of chemical waste have contaminated our nation's drinking water. The impact on public health of such contamination is unclear and hotly debated. Movies like *A Civil Action* and *Erin Brockovich*, chronicling tort litigation concerning water contamination, have dramatically increased both public awareness and the number of lawsuits arising out of the contamination to the current unprecedented levels. Although the strict products liability tort has played an astonishingly minor role in this type of litigation, that promises to change. The almost singular focus on the

368. See Water Standards for Conveyances in Interstate Traffic, 11 Fed. Reg. 1406, 1406-09 (Feb. 6, 1946). See also U.S. EPA, SAFE DRINKING WATER ACT—HISTORY, available at <http://www.epa.gov/region4/water/drinkingwater/sdwahistory.htm>.

369. Minear Interviews, *supra* note 23.

370. This does not, however, address any causation issues that the plaintiffs would certainly have to prove.

contaminators has led to mixed results for the plaintiffs, while the sellers of the water have been virtually ignored. A simple and straightforward application of the manufacturing defect theory of strict products liability clearly leads to a finding of liability against the sellers of the water. Whether such liability ought to be imposed is not nearly as clear.

The underlying public policy rationales that have undergirded strict products liability since its birth in *Greenman v. Yuba Power* and its proliferation under section 402A of the *Restatement Second* have ultimately failed to support strict liability in the design and warning defect contexts, as evidenced by the *Restatement Third*. The additional policy rationale that legitimizes maintaining strict liability in the manufacturing defect context is the role that quality control decisions play in predicting the number of defectively-manufactured products produced by the manufacturer. That a manufacturer can prove that a manufacturing defect is not reasonably traceable to the level of quality-control expenditures selected by the manufacturer negates any justification for imposing strict liability. In such cases, manufacturers should have the protection of an affirmative defense to override strict liability.

