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# TOXIC TORT REMEDIES: THE CASE AGAINST THE "SUPERDUPER FUND" AND OTHER REFORM PROPOSALS

J.B. Ruhl\*

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## INTRODUCTION

As reported in the United States Senate by the Committee on  
Environment and Public Works, the Superfund Improvement

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Act of 1985 would have established a five-year hazardous substance exposure victim assistance demonstration program.<sup>1</sup> Under the Committee's proposal, in five to ten areas of the country, each to be chosen after state nomination and review by the United States Environmental Protection Agency (EPA),<sup>2</sup> persons exposed to hazardous substances released into the environment after disposal would have qualified for assistance. Grants would have been made to states out of the general revenue contribution to the federal "Superfund."<sup>3</sup> Benefits made available by the participating states to such persons would have included medical screening to identify injuries and diseases,<sup>4</sup>

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<sup>1</sup>S. 51, 99th Cong., 1st Sess. (1985), reported as amended in S. REP. NO. 99, 99th Cong., 1st Sess. (1985) [hereinafter cited as S.51]. Pursuant to the Comprehensive Environmental Recovery, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9601-9657 (Supp. V 1981) [hereinafter cited as CERCLA], a "Superfund" was established from a combination of general revenue contributions and industry taxes to finance cleanups of closed hazardous substance facilities. Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), defines hazardous substance to include chemicals designated as subject to regulation under the Clean Water Act, 33 U.S.C. §§ 1251-1376, 1331(b)(2)(A)(1976), the Clean Air Act, 42 U.S.C. §§ 7401-7642, 7412(Supp. V 1981), the Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6987 (1976), 6921, the Toxic Substances Control Act, 15 U.S.C. §§ 2601-2629, 2606 (1976), and other provisions of CERCLA itself, 42 U.S.C. § 9602 (Supp. V 1981). Under section 101(22) of CERCLA, 42 U.S.C. § 9601(22) (Supp. V 1981), a release for purposes of coverage by the Superfund includes virtually any movement of a hazardous substance into the nonoccupational environment. A hazardous substance facility is any site or structure at which hazardous substances are present. *Id.* § 9601(a). Facilities at which hazardous substances have been released may be subject to the response and liability provisions of CERCLA. *Id.* §§ 9604, 9607. Section 129(b) of S. 51 would have amended section 111 of CERCLA, 42 U.S.C. § 9611 (Supp. V 1981), to add a new section (m) to provide for victim compensation. *See* S. REP. NO. 99 at 110-12.

<sup>2</sup>S. REP. NO. 99, *supra* note 1, at 110-11. The nomination process would have employed "health assessments" conducted by the Agency for Toxic Substances and Disease Registry to compile a list of eligible geographic areas. Those reports, authorized by section 104(i) of CERCLA, 42 U.S.C. 9604(i) (Supp. V 1981), would identify areas in which the population is placed at significantly increased risk as a result of a release of and public exposure to a hazardous substance. A state in which an eligible area was identified could apply to the EPA to operate an experimental demonstration victim assistance program. During fiscal years 1986 and 1987, the President was to have selected no less than five or more than ten such areas, taking into account the severity of the problem at the area and the experience of the state in administering remedies for hazardous substance exposure injuries.

<sup>3</sup>S. REP. NO. 99, *supra* note 1, at 111. A total of \$30 million dollars per fiscal year was to have been appropriated from the general revenue. A demonstration area could be granted between \$1,000,000 and \$10,000,000 per fiscal year for administration of the program.

<sup>4</sup>*Id.* The program would have provided "appropriate medical screening, examination and testing (in accordance with sound medical practice) as necessary to

group medical insurance benefits for injured persons<sup>5</sup> and other persons placed in risk of injury,<sup>6</sup> and reimbursement of past medical expenses incurred to diagnose and treat injuries sustained as a result of exposure.<sup>7</sup>

By a narrow margin, however, the Senate voted to delete the pilot victim assistance program before passing a final bill that would greatly expand the Superfund established in 1980 to clean up hazardous waste sites.<sup>8</sup> The victim assistance provisions had encountered the vociferous opposition of the chemical and petroleum industries and the Reagan administration.<sup>9</sup> The leading victim assistance proponent in the Senate described the pilot program as a "cautious, limited effort;"<sup>10</sup> however, the perception that the program would inevitably have established the precedent for a costly "entitlement program" or "national health program"<sup>11</sup> for hazardous substance exposure victims ultimately prevailed. With no prospect of alternative federal victim assistance legislation being passed by the Ninety-ninth Congress, the battle was carried over to future sessions.

The prospect of a hazardous substance exposure victim assistance program being considered by future Congresses raises important questions regarding the need for such a remedy in the first place. S.51 was not the first defeat for federal victim assistance legislation of this sort,<sup>12</sup> but it was perhaps

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determine the presence in individuals of the disease or injury for which the population of the geographic area is at significantly increased risk."

<sup>5</sup>*Id.* at 111-12. For individuals with present symptoms of the disease or who later developed them, the program would have provided "a group medical benefits insurance policy providing the reasonable costs of sound medical and surgical treatment and hospitalization resulting from such disease or injury."

<sup>6</sup>*Id.* at 111. For individuals with no present symptoms of the disease or injury, the group medical benefits policy would have provided continued medical screening "as necessary to determine the presence of such symptoms."

<sup>7</sup>*Id.* Reimbursement would have been limited to "out-of-pocket costs of related medical expenses in connection with such disease or injury previously incurred and not recovered from any other public or private source."

<sup>8</sup>On September 26, 1985, the Senate struck the demonstration program provisions from S. 51 by a vote of 49 to 45. 131 CONG. REC. S11998-12004 (daily ed. Sept. 24, 1985).

<sup>9</sup>*Id.* at S12159 (daily ed. Sept. 26, 1985) (statement of Sen. Kennedy); S11940-41 (daily ed. Sept. 23, 1985) (reprinting letter from EPA).

<sup>10</sup>*Id.* at S12003 (daily ed. Sept. 24, 1985) (statement of Sen. Mitchell).

<sup>11</sup>*Id.* at S11998 (daily ed. Sept. 24, 1985) (statements of Sens. Roth and Simpson).

<sup>12</sup>For example, in the 98th Congress, some form of victim compensation for exposure to hazardous substances was contained and defeated in the following legislative proposals: S. 917, 98th Cong., 1st Sess., summarized in 129 CONG. REC.

the most significant to date. Section 301(e) of the 1980 Superfund legislation included, as a compromise for not enacting a victim assistance program at the time, a requirement that a study be conducted by representatives from major legal organizations to determine the adequacy of existing common law and statutory remedies to compensate persons injured by exposure to released hazardous substances.<sup>13</sup> The 301(e) study group submitted a report to Congress on July 1, 1982, concluding that existing common law and statutory tort remedies are indeed inadequate for providing such compensation.<sup>14</sup> To close the holes it perceived in the compensatory scheme, the 301(e) study group recommended as its reform cornerstone that a federal administrative compensation remedy be established and given preference over tort remedies.<sup>15</sup> This administrative remedy would be operated largely by the states pursuant to federal law and with federal funding drawn out of a broad-based industry tax.<sup>16</sup> Its most significant feature is the proposal that relief be granted to claimants based on a series of

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S3927-29 (daily ed. Mar. 24, 1983); S. 945, 98th Cong., 1st Sess., summarized in 129 CONG. REC. S3985 (daily ed. Mar. 24, 1983); S. 946, 98th Cong., 1st Sess., summarized in 129 CONG. REC. S3985 (daily ed. Mar. 24, 1983); H.R. 2330, 98th Cong., 1st Sess., summarized in 129 CONG. REC. H1713 (daily ed. Mar. 24, 1983); H.R. 2582, 98th Cong., 1st Sess., summarized in 129 CONG. REC. H2114 (daily ed. Apr. 18, 1983). For discussions of these proposals and their defeats see AMERICAN ENTER. INT., TOXIC TORTS: PROPOSALS FOR COMPENSATING VICTIMS OF HAZARDOUS SUBSTANCES (1984) [hereinafter cited as *Proposals*]; Garrett, *Compensating Victims of Toxic Substances: Issues Concerning Proposed Federal Legislation*, 13 ENVTL. L. REP. (ENVTL. L. INST.) 10172, 10176-77 (1983); Note, *Developments in Victim Compensation Legislation: A Look Beyond the Superfund Act of 1980*, 10 COLUM. J. ENVTL. L. 271, 291-93 (1985) [hereinafter cited as *Developments in Victim Compensation Legislation*].

<sup>13</sup>42 U.S.C. § 9651(e) (1982).

<sup>14</sup>*Senate Comm. on Env't and Pub. Workers, Injuries and Damages from Hazardous Wastes—Analysis and Improvement of Legal Remedies, A Report to Congress in Compliance with Section 301(e) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (P.L. 96-510) by the "Superfund Section 301(e) Study Group"*, 97th Cong., 2d Sess. (1982), reprinted in STAFF OF SENATE COMM. ON ENV'T & PUB. WORKS, 97TH CONG., 2D SESS., (Comm. Print 1982) [hereinafter cited as *301(e) Study Group Report*] (page cites to original report, as noted in Committee print). The report was issued in two parts, the first providing a summary of legal issues and the Study Group's proposals, the second collecting legal memorandums prepared by the Study Group on various issues central to its inquiry.

<sup>15</sup>*Id.* at 191-93. See *infra* notes 89-91, 111-15.

<sup>16</sup>*301(e) Study Group Report, supra* note 14, at 225-29. See *infra* notes 98-100, 105-108.

presumptions establishing that exposure to the hazardous substance caused the injury.<sup>17</sup>

Initial attempts to implement the full panoply of the 301(e) study group's recommendations were decisive failures.<sup>18</sup> The pilot victim assistance program contained in S. 51 was purposely more restrictive in scope than the study group's proposal;<sup>19</sup> yet, it also failed to be enacted. Hence, more than three years after it received the report it originally commissioned in 1980, Congress has yet to establish any form of hazardous substance exposure victim assistance. But this failure is not due to lack of attention to the issue nor of tangible steps to bring about a resolution. Rather, Congress has repeatedly found victim assistance proposals ill-conceived, which suggests the necessity of reexamining the rationales offered in support of the proposed pilot program and similar federal and state proposals for statutory and judicial reform of common law toxic tort remedies.

This Article joins the enormous and growing body of literature examining the need for reform of toxic tort remedies for cases of exposure to hazardous substances released into the environment.<sup>20</sup> It is different from most other treatments of the

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<sup>17</sup>301(e) Study Group Report, *supra* note 14, at 194-218. See *infra* notes 69-71, 92-94, 116-19.

<sup>18</sup>See *supra* note 12.

<sup>19</sup>See S. REP. NO. 99, *supra* note 1, at 50-51.

<sup>20</sup>See Ginsberg & Weiss, *Common Law Liability for Toxic Torts: A Phantom Remedy*, 9 HOFSTRA L. REV. 859 (1981) [hereinafter cited as *Phantom Remedy*]; Honabach, *Toxic Torts—Is Strict Liability Really the "Fair and Just" Way to Compensate the Victims?*, 16 U. RICH. L. REV. 305 (1982) [hereinafter cited as *The "Fair and Just" Way*]; Rosenberg, *The Causal Connection in Mass Exposure Cases: A "Public Law" Vision of the Tort System*, 97 HARV. L. REV. 849 (1984) [hereinafter cited as *A "Public Law" Vision*]; Seltzer, *Personal Injury Hazardous Waste Litigation: A Proposal For Tort Reform*, 10 ENVTL. AFF. L. REV. 197 (1982-83); Sobel, *A Proposal for the Administrative Compensation of Victims of Toxic Substances Pollution: A Model Act*, 14 HARV. J. ON LEGIS. 683 (1977) [hereinafter cited as *A Model Act*]; Trauberman, *Compensating Victims of Toxic Substances Pollution: An Analysis of Existing Federal Statutes*, 5 HARV. ENVTL. L. REV. 1 (1981) [hereinafter cited as *An Analysis of Existing Federal Statutes*]; Trauberman, *Statutory Reform of "Toxic Torts": Relieving Legal, Scientific, and Economic Burdens on the Chemical Victim*, 7 HARV. ENVTL. L. REV. 177 (1983) [hereinafter cited as *Statutory Reform of "Toxic Torts"*]; Zazzali & Grad, *Hazardous Wastes: New Rights and Remedies?*, 13 SETON HALL L. REV. 446 (1983) [hereinafter cited as *New Rights and Remedies?*]; Note, *Pursuing a Cause of Action in Hazardous Waste Pollution Cases*, 29 BUFFALO L. REV. 533 (1980) [hereinafter cited as *Pursuing a Cause of Action*]; Note, *Hazardous Waste Liability and Compensation: Old Solutions, New Solutions, No Solutions*, 14 CONN. L. REV. 307 (1982) [hereinafter cited as *No Solutions*]; Note, *Developments in the Law—Toxic Waste Litigation*, 99 HARV. L. REV. 1458 (1986) [hereinafter cited as *Toxic Waste Litigation*]; Note, *Proving Causation In Toxic Torts Litigation*, 11 HOFSTRA L. REV. 1299 (1983) [hereinafter cited as *Proving Causation*]; Note, *The Devel-*

issue in one important respect—it does not advocate reform of the present tort law system in any fundamental way. Indeed, it is argued that the central feature of the present system—the requirement that the plaintiff alleging injury resulting from defendant's release of hazardous substances establish proof of causation by a preponderance of the evidence—is essential for maintaining a rational public policy toward compensation of hazardous substance exposure injuries. That requirement is best implemented through a tort law system requiring victims to identify and sue alleged bad actors, and defendants proven to have caused injury to compensate their victims *fully*.

Part one of this Article provides an overview of the law of toxic torts, that is, common law remedies for injury caused by exposure to hazardous substances released into the environment. The four principal theories of toxic tort liability—trespass, nuisance, negligence, and strict liability—are reviewed. Case law applying these bases of liability is well established, with negligence and strict liability being the theories applied most often in personal injury causes of action. Certain characteristic features of tort law pervade these theories of toxic tort liability. They are (1) finding a defendant; (2) bringing suit

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*opment of a Strict Liability Cause of Action for Personal Injuries Resulting From Hazardous Waste*, 16 NEW ENG. L.J. 543 (1981) [hereinafter cited as *Development of a Strict Liability Cause of Action*]; Note, An Analysis of Common Law and Statutory Remedies for Hazardous Waste Injuries, 12 RUTGERS L.J. 117 (1980) [hereinafter cited as *Common Law and Statutory Remedies*]; Note, *The Inapplicability of Traditional Tort Analysis to Environmental Risks: The Example of Toxic Waste Pollution Victim Compensation*, 35 STAN. L. REV. 575 (1983) [hereinafter cited as *Traditional Tort Analysis*]; Note, *Tort Actions for Cancer: Deterrence, Compensation, and Environmental Carcinogenesis*, 90 YALE L.J. 840 (1981) [hereinafter cited as *Tort Actions for Cancer*]. This representative list of commentaries shows the breadth of the debate concerning the reform of remedies for hazardous substance exposure injuries.

Some of these articles have a wider or different focus than this one, based upon the differing circumstances of exposure covered thereby. This Article's principal focus is on the exposure of members of the general public to hazardous substances disposed of or otherwise released into the environment. Contamination of a public drinking water supply by leachate from a hazardous waste disposal site is an example. Occupational exposures to hazardous substances used in the workplace (for example, shipyard workers' exposure to asbestos products) and service-men's exposure to hazardous substances used in the line of duty (as in exposure to the defoliant Agent Orange in Southeast Asia) present similar issues, but in a more specialized context. These special contexts can lead to different policy analyses than those which are directed at the general public exposure scenario; however, the continued vitality of the causation requirement is a central policy issue for all three scenarios. Hence, although this article does not evaluate proposals for reform of specialized remedies for occupational or military exposures to hazardous substances, much of the discussion herein bears upon proposals for reform of those remedies. See *Proposals*, *supra* note 12.



within the time prescribed by law; (3) proving causation under the standard of proof prescribed by law; and (4) dealing with the complications of litigation. Each of these features works to make the basic toxic tort case complex.

It is around these features of the toxic tort action that reform proposals congregate. Most proposals posit that these features operate to make toxic torts unique in tort law, a uniqueness which, it is argued, leads to unfairly dim recovery prospects. For example, reform advocates contend that: (1) locating a solvent, extant defendant can be unusually difficult in hazardous substance exposure cases; (2) the latency period of many diseases associated with hazardous substance exposure often is long, leading to special problems under statutes of limitations; (3) proof of causation is unduly difficult in toxic torts due to the relatively primitive state of scientific knowledge; and (4) even when liability and causation are provable, the complications of litigation often make recovery insufficient to compensate fully for the injury. Part one of this Article examines these contentions and concludes that toxic tort cases in fact do not raise unique problems requiring the kind of special treatment proposed by reform advocates. These alleged "defects" in toxic tort remedies therefore do not provide adequate basis for reform.

Part two of this Article shows reform is proposed under two basic models. The first model relies on substantial modification, either by statute or by judicial rule, of tort law rules as they are applied in the toxic tort context. The second model relies on the statutory creation of administrative compensation mechanisms as an alternative or supplement to the toxic tort system. Both models advocate as their central reform measure a relaxation of tort law's causation requirement in some degree.

Part three of this Article goes on to test the unproven articles of faith upon which both reform models are based. These central premises typically are presented under such broad labels as economic efficiency, goals-oriented utilitarianism, and individual justice. One such presumption advanced by reform advocates is that regulation of hazardous waste through administrative agencies will never yield sufficient levels of deterrence and safety without reform of toxic tort remedies. Another is that tort law will not develop to a point of sophistication necessary to assure adequate recoveries for haz-

ardous substance exposure victims. A third critical assumption made by reform proponents is that, although the present state of scientific knowledge cannot support the causation analysis demanded by tort law, we know enough to be able to decide upon whom to affix social and economic blame for hazardous substance exposure injuries. Yet another central precept of the reform models is that complete internalization in the industrial sector of all the risks and costs associated with hazardous substance exposure injuries will yield optimum resource utilization. The reform models promise that they are superior in that respect to either direct regulation or the common law toxic tort remedies, which allocate some degree of responsibility for the risks and costs posed by hazardous substances to the general public. Finally, under proposals relying on administrative remedies, it is assumed that the administrative system is superior to the judicial system for determining when and how much compensation is due.

It is shown in Part three that each of these fundamental precepts of the reform models is flawed and that the effects of the tort law approach, and especially the causation requirement, are not represented accurately by reform advocates. At bottom, the reform models ignore large holes in their empirical bases and place heavy emphasis on imposing risk spreading and cost internalization exclusively on industry. The reform models tout the marketplace as the unassailable mechanism for implementing deterrence, safety, and compensation goals; yet no concrete evidence is offered for concluding that either reform model will perform better in those respects than the present toxic tort system. Indeed, there is serious doubt as to whether an approach relying heavily on market economics to the exclusion of tort law and direct regulation can bring about the deterrence and safety levels that the reform models promise. In the first place, much of our environmental policy is based on objectives that are directly contrary to the result that would be expected in the marketplace. Direct regulation has the advantage of being able to force results that the market otherwise might not produce, such as the protection of endangered species or absolute prohibition of certain otherwise economically beneficial activities involving hazardous substances.

For that matter, strictly speaking, one cost of hazardous substance exposure injuries is created by victims who do not guard against exposure and its effects or who fail to mitigate their

damages—for example, by smoking and by failing to consult a doctor at the first sign of an injury capable of being arrested. Such costs represent an unnecessary drain on society's medical resources, but it would not make sense under a market economics approach to internalize such costs in industry instead of in the demand sector—i.e., the general public. Hence, that cost should be allocated to the general public so as to provide incentives for citizens to take precautionary measures, to make rational demand decisions, and to use medical resources efficiently. The tort law system makes that optimum allocation through such doctrines as comparative or contributory negligence and statutes of limitations. Overall, then, the reform models appear too quick to abandon regulatory programs and the tort law system and too quick to embrace the abstract mechanics of the marketplace as the save-all for hazardous substance exposure injuries.

This Article eschews the extreme market economics approach found in many reform proposals, for that approach often proceeds on the false presumptions that tort law must satisfy all functions of social policy—deterrence, safety, and compensation—and that environmental policy must at all times remain consistent with the market. Rather, like it is in many other contexts, tort law applied in the context of hazardous substance exposure injuries is best suited only to one of these objectives—compensation. Even in that respect tort law does not provide the perfect answer; however, the problem is extremely complex, and simple solutions are not going to be found in the reform proposals we have seen so far. Increased scientific research and regulatory commitment may make the tort system a more effective source of remedy, or the evolution of scientific knowledge may, some day, point us in another direction. For now, however, the compass still points toward the tort law system as the primary source of compensation remedies. All that has been offered by reform proponents as a reason for deviating from that path is the desire to transfer wealth from industry to the public.

Accordingly, this Article concludes that the existing three-pronged response to the problems of hazardous substance exposure injuries is the most reasonable policy for the present time. Providing adequate levels of deterrence and safety should be primarily the responsibility of regulatory agencies. Vastly increased political and budget commitments to these

functions will be necessary to achieve these goals. Compensation must be dealt with through the tort law system and, to the extent necessary, through private insurance and existing public assistance programs.

## I. THE STATE OF THE TOXIC TORT

Litigation involving hazardous substance exposure injury claims has developed over the past ten years into an area of highly specialized evidentiary and procedural practice. That is not surprising. The problem is technically complex; one should not expect the litigation involving it to be simple. Yet, while toxic tort litigation has tested the legal system in many respects, the causes of action upon which claims are based remain relatively elementary. This too is not surprising. The root problems in response to which these causes of action developed are in essence what also lay behind hazardous substance exposure injuries. The difficult job has been in adapting the causes of action to their modern context.

Ten years ago or more, it may have been true that the legal system had not completed that job. But today, if that job is not complete, it is nearly so. Courts have become sophisticated administrators of the legal system's response to the growing public awareness of hazardous substance exposure risks. It would be incorrect to say that the courts have fallen behind the legislatures in that respect. On the contrary, the state of the toxic tort remedy in the courts evidences the leading role courts have played and will continue to play in shaping remedies for hazardous substance exposure injuries.

### A. *Causes of Action*

Federal and state statutory causes of action historically have proven nonexistent or ineffective as remedies for hazardous substance exposure injuries.<sup>21</sup> In the absence of effective statutory remedies, property damage and personal injury claims

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<sup>21</sup>No federal environmental statute has been held to provide a direct or implied private cause of action for personal injury. See *Middlesex County Sewerage Authority v. National Sea Clammers*, 453 U.S. 1 (1981); *New Rights and Remedies*, *supra* note 20, at 458-60. Federal common law remedies, though normally restrictive in scope, apply in the environmental area unless preempted by federal statute. See *Illinois v. City of Milwaukee*, 406 U.S. 91 (1972). However, the federal environmental statutes have uniformly been construed as preempting federal common law remedies. See *City of Milwaukee v. Illinois*, 451 U.S. 304 (1981); *United States v. Hooker Chems. & Plastics*, 749 F.2d 968, 971 n.3 (2d Cir. 1984). See generally

have been brought principally under four state common law tort theories—trespass, nuisance, negligence, and strict liability.<sup>22</sup> Two of these causes of action—negligence and strict lia-

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Glicksman, *Federal Preemption and Private Legal Remedies For Pollution*, 134 U. PA. L. REV. 121 (1985) [hereinafter cited as *Federal Preemption*].

Only a handful of state statutory causes of action exist for property damage and personal injury caused by exposure to hazardous substances. Most state statutes merely codify preexisting common law remedies. See, e.g., ALASKA STAT. § 46.03.828 (1982); HAWAII REV. STAT. § 342-16 (1976); IDAHO CODE § 39-108(8) (1985); ILL. ANN. STAT. ch. 111½ § 1022.3 (Smith-Hurd supp. 1985); KY. REV. STAT. § 224.995(3) (1982); LA. REV. STAT. ANN. § 30:1074(4) (West Supp. 1985); ME. REV. STAT. ANN. tit. 38, § 1306-C-5 (Supp. 1984); MD. NAT. RES. CODE ANN. § 8-1403 (1983); MO. ANN. STAT. § 260.425.7 (Vernon Supp. 1985); NEV. REV. STAT. § 445.321 (1979); N.M. STAT. ANN. § 74-6-13 (1983); N.D. CENT. CODE § 32-40-04 (1976); PA. STAT. ANN. tit. 35, § 6018.607 (Purdon Supp. 1981). Some, however, incorporate more expansive liability and compensation schemes. See, e.g., CAL. HEALTH & SAFETY CODE, §§ 25300-25395 (West 1984); FLA. STAT. ANN. § 403.725 (Harrison Supp. 1984); MINN. STAT. ANN. § 115B.05 (Supp. 1985); N.C. GEN. STAT. § 143-215.93 (1983); N.D. CENT. CODE § 32-40-06 (1976); R.I. GEN. LAWS § 23-19.1-22 (1984); N.J. STAT. ANN. § 58:10-23.11g(a) (West 1982); PA. STAT. ANN. tit. 35, § 6018.611 (Purdon Supp. 1982); S.C. CODE ANN. § 61-79.5(2)(e)(iii) (Law. Co-op 1976). Overall, however, there is little potential for effective use of existing state statutory causes of action. See 301(e) Study Group Report, *supra* note 14, at 60-68; *Developments in Victim Compensation Legislation*, *supra* note 12, at 283-91; *New Rights and Remedies*, *supra* note 20, at 459-60.

<sup>22</sup>State common law remedies have been held to survive the preemptive effects of federal environmental statutes. See *United States v. Hooker Chems. & Plastics*, 749 F.2d 968, 971 n.4 (2d Cir. 1984); *United States v. Allied Chem. Corp.*, 587 F. Supp. 1205, 1208-09 (N.D. Cal. 1984); *Carriker Ford, Inc. v. Clow Corp.*, 21 ENV'T REP. CAS. (BNA) 1419, 1422 (S.D. Iowa 1984); *Birchwood Lakes Colony Club, Inc. v. Borough of Meford Lakes*, 90 N.J. 582, 591-96, 449 A.2d 472, 477-79 (1982). This result seems contrary to the principle that in areas where federal common law remedies may apply, "state statutes or decisions are not conclusive." *Illinois v. Milwaukee*, 406 U.S. 91, 105 (1972). But to the extent that the federal statutes specifically preserve state common law remedies, as in section 114(a) of CERCLA, 42 U.S.C. § 9614(a) (Supp. V 1981), that principle would appear to have been expressly reversed by Congress. See also Clean Air Act section 304(e), 42 U.S.C. § 7604(e) (Supp. III 1979) (same); Federal Water Pollution Control Act section 505(e), 33 U.S.C. § 1365(e) (1976) (federal law does not restrict any personal common law right); Solid Waste Disposal Act section 7002(f), 42 U.S.C. § 6972(f) (1976) (same); See generally, *Federal Preemption*, *supra* note 21, at 171-223.

For comprehensive discussions of the ineffectiveness of existing statutory remedies and the consequential reliance on the four principal common law causes of action as applied in the pollution and hazardous substance exposure context, see Di Benedetto, *Generator Liability Under the Common Law and Federal and State Statutes*, 39 BUS. LAW. 611 (1984) [hereinafter cited as *Generator Liability*]; Sobel, *The Impact of Common-Law Pollution Claims Upon Real Estate Transactions*, 4 CORP. L. REV. 195 (1981) [hereinafter cited as *Real Estate Transactions*]; *An Analysis of Common Law and Statutory Remedies*, *supra* note 20; Note, *Liability for Generators of Hazardous Waste: The Failure of Existing Enforcement Mechanisms*, 69 GEO. L.J. 1047 (1981) [hereinafter cited as *Failure of Existing Enforcement Mechanisms*]; Note, *Strict Liability for Generators, Transporters, and Disposers of Hazardous Waste*, 64 MINN. L. REV. 949 (1980) [hereinafter cited as *Strict Liability for Generators*]; 301(e) Study Group Report, *supra* note 14, at 81-109.

bility—evolved slowly at first but more rapidly in the past decade to provide the primary source of legal relief for personal injuries resulting from hazardous substance exposures.

The trespass<sup>23</sup> and nuisance<sup>24</sup> remedies respond principally to property damage resulting from releases of hazardous sub-

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<sup>23</sup>Trespass involves intentional, negligent, or abnormally dangerous conduct leading to the invasion of a person's interest in the exclusive possession of property. See *Pentagon Enters. v. Southwestern Bell Tel. Co.*, 540 S.W.2d 477 (Tex. Civ. App.—Houston [14th Dist.] 1976, writ ref'd n.r.e.); W. PROSSER, *LAW OF TORTS* § 13 (1971); RESTATEMENT (SECOND) OF TORTS § 158 (1977); Last, *Tort Law Implications of Hazardous Waste Facilities*, 27 NAT. RESOURCES J. 491 (1984) [hereinafter cited as *Tort Law*]. A direct invasion of property by hazardous substances can constitute a trespass. See *Miller v. Cudahy Co.*, 592 F. Supp. 976, (D. Kan. 1984) (salt company polluted underground aquifer and surface water); *Stacy v. VEPCO*, 7 ENV'T REP. CAS. (BNA) 1443 (E.D. Va. 1975) (air pollutants); *Gulf Coast Sailboats, Inc. v. McGuire*, 616 S.W.2d 385 (Tex. Civ. App.—Houston [14th Dist.] 1981, writ ref'd n.r.e.) (air pollutants resulting in personal health damage); *Borland v. Sanders Lead Co.*, 369 So. 2d 523 (Ala. 1979) (lead smelting plant emissions settled onto farmer's land); *Reter v. Talent*, 258 Or. 140, 482 P.2d 170 (1971) (water seepage onto orchard); *Kornoff v. Kingsberg Cotton Oil Company*, 45 Cal. 2d 265, 288 P.2d 507 (1975) (air pollution); *Blue Ridge Poultry & Egg Co. v. Clark*, 211 Va. 139, 176 S.E.2d 323 (1970); *Enos Coal Mining Co. v. Schuchurt*, 243 Ind. 692, 188 N.E.2d 406 (1963); *Roberts v. Permanente Corp.*, 188 Cal. App. 2d 526, 10 Cal. Rptr. 519 (1961) (air emissions); *Martin v. Reynolds Metals Co.*, 221 Or. 86, 342 P.2d 790 (1959), *cert. denied*, 363 U.S. 918 (1960) (operation of aluminum reduction plant caused flouride compound in form of gases to settle on Plaintiff's property, making it unfit to raise livestock). The perception that "[p]laintiffs bringing trespass actions have had limited success in pollution cases," *Strict Liability for Generators*, *supra* note 22, at 960, thus remains largely unsubstantiated.

<sup>24</sup>Nuisance, in both its "private" and its "public" forms, can provide relief from polluting activities. A private nuisance action may be brought by an individual for relief from an activity that significantly interferes with the person's use and enjoyment of property. See *Meat Producers, Inc. v. McFarland*, 476 S.W.2d 406 (Tex. Civ. App.—Dallas 1972, writ ref'd n.r.e.); W. PROSSER, *LAW OF TORTS* § 89 (1971); W. RODGERS, *ENVIRONMENTAL LAW* § 2.3 (1977). A private nuisance claim can form the basis of a cause of action for injury resulting from pollution. See *Oullette v. Int'l Paper Co.*, 23 ENV'T REP. CAS. (BNA) 1703 (2d Cir. 1985) (effluent from paper plant polluted interstate lake); *East Troy v. Soo Line R. Co.*, 653 F.2d 1123 (7th Cir. 1980) (ground water pollution caused public health hazard), *cert. denied*, 450 U.S. 922 (1981); *Cabrera v. Bayamon*, 562 F.2d 91 (1st Cir. 1977) (leachate from municipal sanitary landfill caused creek to become odorous and useless); *Reynolds Metal Co. v. Martin*, 337 F.2d 780 (9th Cir. 1964) (fumes from aluminum plant contaminated cattle ranch); *E. Rauh and Sons Fertilizer Co. v. Shreffler*, 139 F.2d 38 (6th Cir. 1943) (noxious gases); *Miller v. Cudahy Co.*, 592 F. Supp. 976, (D. Kan. 1984) (salt company polluted underground aquifer); *Carriker Ford, Inc. v. Clow Corp.*, 21 ENV'T REP. CAS. (BNA) 1145 (S.D. Iowa 1984) (iron oxide dust emissions damages cars); *Pruitt v. Allied Chem. Corp.*, 523 F. Supp. 975 (E.D. Va. 1981) (pollution of river caused injury to commercial and sport fishing); *O'Leary v. Moyer's Landfill, Inc.*, 523 F. Supp. 642 (E.D. Pa. 1981) (landfill leachate migrated into stream; damages not proven); *Cook Indus. v. Carlson*, 334 F. Supp. 809 (N.D. Miss. 1971) (water pollution); *Galaxy Carpet Mills, Inc. v. Massengill*, 24 ENV'T REP. CAS. (BNA) 1108 (Ga. 1986); *Bradley v. Am. Smelting*

stances, but both are useful in certain respects for personal injury actions as well. Although the two claims are distinct, they offer essentially the same substantive rights and in most instances can be used to combat the same conduct. The remedies commonly associated with nuisance and trespass illustrate the connection these causes of action have to property rights. The traditional remedy for common law nuisance is abatement, an equitable remedy whereby the defendant is ordered to cease

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and Ref. Co., 23 ENV'T REP. CAS. (BNA) 1851 (Wash. 1985) (copper smelter emitted particulates); *McCastle v. Rollins Envtl. Servs.*, 456 So. 2d 612 (La. 1984) (air emissions from hazardous waste disposal site); *Miotke v. City of Spokane*, 101 Wash. 2d 307, 678 P.2d 803 (Wash. 1984) (raw sewage); *State v. Schenectady Chems., Inc.*, 13 ENVTL. L. REP. (ENVTL. L. INST.) 20550 (N.Y. Sup. Ct. 1983) (chemical wastes caused water pollution); *Branch v. Western Petroleum*, 657 P.2d 267 (Utah 1982) (nuisance per se where state hazardous waste statute violated); *Wood v. Picille*, 443 A.2d 1244 (R.I. 1982) (leachate from hazardous waste landfill); *Kelly v. John A. Biewer Co.*, 12 ENVTL. L. REP. (ENVTL. L. INST.) 20515 (Mich. Cir. Ct. 1981) (groundwater pollution); *Village of Wilsonville v. S.C.A. Servs., Inc.*, 86 Ill. 2d 1, 55 Ill. Dec. 499, 426 N.E.2d 824 (Ill. 1979) (hazardous waste); *Bicknell v. City of Boston*, 8 ENV'T REP. CAS. (BNA) 1241 (Mass Super. Ct. 1975) (municipal waste incineration); *Gulf Oil Corp. v. Vestal*, 231 S.W.2d 523 (Tex. Civ. App.—Fort Worth 1950) (gasoline vapors), *aff'd*, 149 Tex. 487, 235 S.W.2d 440 (1951). Hence, there is no basis for reform proponents' assertions that "[p]rivate nuisance theory offers limited aid to hazardous waste victims." *Strict Liability for Generators*, *supra* note 22, at 961.

A public nuisance action may be brought by a representative of the public against an activity that threatens the general public welfare, or by a private person in his private capacity provided the person suffers a particular special injury from the activity, i.e., injury that is different in kind from that suffered by the public at large. See Prosser, *Private Action for Public Nuisance*, 52 VA. L. REV. 997 (1966); W. PROSSER, LAW OF TORTS § 88 (1971); W. RODGERS, ENVIRONMENTAL LAW § 2.2 (1977). A landowner near a polluting activity would generally be able to demonstrate special injury. See *Soap Corp. of Am. v. Reynolds*, 178 F.2d 503 (5th Cir. 1950) (nearby neighbors to soap factory suffered "special" injury, even though odors from the factory annoyed people throughout the entire city); *Soap Corp. of Am. v. Balis*, 223 S.W.2d 957 (Tex. Civ. App.—Fort Worth 1949, writ ref'd n.r.e.) (same); W. PROSSER, LAW OF TORTS § 88 at 589 (1971); W. RODGERS, ENVIRONMENTAL LAW § 2.2, at 104 (1977). Thus the belief that public nuisance is not a viable cause of action for hazardous substance exposure injury cases is based on the mistaken premise that "it is largely unavailable as a theory of recovery for private citizens." *Strict Liability for Generators*, *supra* note 22, at 960 n.63.

Unlike trespass, either form of nuisance claim generally can be sustained without a showing of defendant's fault. See, *Galaxy Carpet Mills, Inc. v. Massengill*, 24 ENV'T REP. CAS. (BNA) 1108 (Ga. 1986); *Knoff v. Am. Crystal Sugar Co.*, 23 ENV'T REP. CAS. (BNA) 1971 (N.D. 1986); *Hill v. Villarreal*, 362 S.W.2d 348 (Tex. Civ. App.—Waco 1962, writ ref'd n.r.e.); *Stanolind Oil & Gas Co. v. Smith*, 290 S.W.2d 696 (Tex. Civ. App.—Beaumont 1956, writ ref'd n.r.e.); Prosser, *Nuisance Without Fault*, 20 TEX. L. REV. 399 (1942). Rather, the central feature of a nuisance claim is the allegation of unreasonable interference with plaintiff's use and enjoyment of land. RESTATEMENT (SECOND) OF TORTS § 821B (1977); W. PROSSER, LAW OF TORTS, § 87 (1971); *Sans v. Ramsey Golf & Country Club*, 29 N.J. 438, 448, 149 A.2d 599, 605 (1959).

the offensive intrusion on the property user's enjoyment of the property.<sup>25</sup> In the alternative, however, the nuisance sometimes will be allowed to continue and the defendant ordered to pay plaintiff damages to compensate for the injured property rights.<sup>26</sup> A trespass action may also lead to an injunction, bringing the invasion of property to a halt, or an award of money damages, or both.<sup>27</sup>

Since they are predicated on an invasion of property or property rights, nuisance and trespass are associated mainly with property damage claims. However, many instances of personal injury resulting from hazardous substance exposure are associated with invasion of a property-based interest. For example, contamination of underground or surface drinking water supplies could lead to personal injury and certainly could be challenged as a trespass or nuisance. Air contaminants causing personal injury may also invade the air space of or physically land on the injured person's property, thereby giving rise to trespass and private nuisance claims. Personal injury might also serve as the special injury necessary for maintenance of a public nuisance action. Trespass and nuisance claims therefore can be useful in stopping the conduct causing the plaintiff's personal injury. By and large, however, these theories in most cases are ancillary to the negligence and strict liability causes of action.<sup>28</sup>

The traditional negligence action protects against conduct which falls below the standard established by law for the protection of others against unreasonable, foreseeable risk of harm.<sup>29</sup> In some jurisdictions, negligence *per se*—i.e., a presumption of unreasonableness and foreseeability—is established by violation of a statutory standard of conduct.<sup>30</sup>

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<sup>25</sup>W. RODGERS, ENVIRONMENTAL LAW § 2.11 (1977).

<sup>26</sup>Boomer v. Atl. Cement Co., 26 N.Y.2d 219, 309 N.Y.S.2d 312 (1970).

<sup>27</sup>W. PROSSER, LAW OF TORTS § 13, at 74-75 (1971).

<sup>28</sup>But see Vestal v. Gulf Oil Corp., 149 Tex. 487, 235 S.W.2d 440 (1951). Indeed, the Texas courts have held that personal injury is always a "special injury" for purposes of public nuisance actions. See George v. City of Houston, 465 S.W.2d 387 (Tex. Civ. App. 1971), *rev'd on other grounds*, 479 S.W.2d 257 (Tex. 1972) (nuisance action for death of child by drowning at City of Houston sanitary landfill); Fort Worth & Rio Grande Ry Co. v. Glenn, 97 Tex. 586, 80 S.W. 992 (1904); see generally, W. PROSSER, LAW OF TORTS § 88, at 588 (1971). See also Mevrak v. City of Niagra Falls, 101 Misc. 2d 68, 420 N.Y.S.2d 687 (1979) (ordering that 900 separate claims should be filed for public pollution nuisance).

<sup>29</sup>RESTATEMENT (SECOND) OF TORTS § 288 (1977).

<sup>30</sup>Negligence *per se* is "[c]onduct, whether of action or omission, which may be declared and treated as negligence without any argument or proof as to the partic-



Negligence and negligence *per se* are easily adapted to personal injury claims involving hazardous substance exposure and have the advantage of eliminating the requirement that either the tortfeasor or the plaintiff be exercising property rights.<sup>31</sup>

ular surrounding circumstances . . . because it is in violation of a statute or valid municipal ordinance. . . ." BLACK'S LAW DICTIONARY 933 (5th ed. 1979). Negligence *per se* has been used to challenge pollution activities. See *Springer v. Schlitz Brewing Co.*, 510 F.2d 468, 472 (4th Cir. 1975) (discharge of toxic pollutants that interferes with city waste treatment process is prohibited by city ordinance and would constitute negligence *per se*); *Bagley v. Controlled Env't Corp.*, 23 ENV'T REP. CAS. (BNA) (N.H. 1986) (disposal of hazardous waste which violated statutory standards could be challenged by injured landowner as negligence *per se*). Most states apply this rule so that the unexcused violation of a statute constitutes negligence *per se* if the statute was designed to protect the class of which the plaintiff is a member from the harm which has in fact occurred, leaving it to the jury to decide only the question of causation. See generally 301(e) *Study Group Report*, *supra* note 14, at 76-79.

Negligence and negligence *per se* actually lie on a continuum of negligence-based causes of action, over which various presumptions and shifting burdens of proof alter the elements which each party must prove. See W. PROSSER, *LAW OF TORTS* § 36, at 200-01, § 38, at 209-10 (1971).

<sup>31</sup>In many cases damages for personal injury or property damage resulting from the release of hazardous substances have been recovered through a negligence claim. See *Knabe v. Nat'l Supply Div.*, 592 F.2d 841 (5th Cir. 1979) (applying Texas law); *Springer*, 510 F.2d 468 (sewage); *Bandura v. Orkin Exterminating Co.*, No. 83-C-9049 (N.D. Ill. May 6, 1986) (\$625,000 awarded for injury caused by chlordane chemicals); *Pruitt v. Allied Chem. Corp.*, 523 F. Supp. 975 (E.D. Va. 1981) (kepone discharged into bay); *Town of East Troy v. Soo Line R. Co.*, 476 F. Supp. 252 (E.D. Wis. 1979) (acid spill), *aff'd* 653 F.2d 1123 (7th Cir. 1980), *cert. denied*, 450 U.S. 922 (1981); *Ayers v. Township of Jackson*, 189 N.J. Super. 561, 461 A.2d 184 (N.J. Super., Law Div. 1983), *argued*, No. A-2103-83T3 (N.J. Feb. 18, 1986); *Atlas Chem. Indus., Inc. v. Anderson*, 524 S.W.2d 681 (Tex. 1975); *Ewell v. Petro Processors*, 364 So. 2d 604 (La. App. 1978), *cert. denied*, 366 So. 2d 575 (La. 1979); *Gragg v. Allen*, 481 S.W.2d 452 (Tex. Civ. App.—Waco 1972, writ dismissed w.o.j.); *Pickens v. Harrison*, 246 S.W.2d 316 (Tex. Civ. App.—Galveston 1952), *aff'd*, 151 Tex. 562, 252 S.W.2d 575 (1952); *Cities Service Gas Co. v. Eggers*, 186 Okla. 466, 468, 98 P.2d 1114, 1117 (1940) (discharge of oil-well-wastes into creek polluted subterranean waters). See generally 301(e) *Study Group Report*, *supra* note 14, at 82-85.

Two cases now in progress have received much attention as testing the viability of a well-organized plaintiff's case alleging a negligence cause of action to recover for hazardous substance exposure injuries. *Anderson v. W.R. Grace Co.*, No. 82-1423 (D. Mass.), involves eight Woburn, Massachusetts families' claims that contaminated drinking water caused childhood leukemia deaths. The defendants are alleged to have polluted municipal wells with chemical solvent seepage from their properties. The plaintiffs allege that the chemicals—trichloroethylene, perchloride, and 1, 2, transdichloroethylene—are shown to have caused the childhood leukemia based on a statistically significant epidemiological "cluster" of such cases in the Woburn area between 1965 and 1980. The judge trifurcated the proceedings into an initial trial on fault, a second-stage proceeding on causation, and a final-stage hearing on damages. On July 28, 1986, one of the remaining defendants was found by the jury to be at fault for the pollution of the wells, and the other was found not at fault. It is expected that the causation stage of the trial, scheduled to have begun on September 15, 1986, will last several months and

The fourth common law theory of recovery—strict liability—actually is not a single discrete cause of action but rather encompasses a group of remedial theories<sup>32</sup> having one common feature: the elimination of any requirement that the plaintiff show fault in the defendant's conduct. Thus, strict liability is imposed on "lawful, not reprehensible activities. The activities that qualify are those which entail extraordinary risk to others, either in the seriousness or the frequency of the harm threatened."<sup>33</sup> Regardless of the level of care exercised to prevent harm, anyone engaging in activity subject to strict liability "is subject to liability for harm to the person, land, or chattels of another resulting from the activity."<sup>34</sup>

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involve testimony from more than 30 medical and scientific experts. Observers report that the plaintiffs' experts claim they have identified a direct, causal link which they will establish with detailed medical histories, blood tests of surviving family members, and evidence that the waterborne chemicals damaged the plaintiffs' immune systems. See 1 TOXIC L. REP. (BNA) 3 (June 11, 1986); Washington Post, July 29, 1986 at A7, col. 1; *id.*, Apr. 3, 1986, at A3, col. 1; Legal Times, Mar. 17, 1986, at 1, col. 4; The New Republic, Mar. 17, 1986, at 18-20. However, at the time this Article went to press, it was reported that the remaining defendant prevailed on a motion for new trial, after which the plaintiffs agreed to an \$8 million settlement, and that plaintiffs are expected to appeal the verdict in favor of the other defendant. See 17 Env't Rep. (BNA) 774 (Sept. 26, 1986).

The other proceeding, *Kemmer v. Monsanto Co.*, No. 80L970 (St. Clair County Ct., Ill.), involves a suit by sixty-five plaintiffs against the manufacturers of a tank car and the manufacturer of the chemicals which were released when the tank car derailed and spilled its contents near Sturgeon, Missouri. The spill involved a 19,000 gallon delivery of orthochlorophenol-crude which allegedly contained one-half teaspoon of dioxin. None of the plaintiffs alleges acute illness as a result of exposure to the dioxin; rather, they allege such ailments as fatigue, listlessness, muscle spasms, low sperm count, immune system deficiencies, and porphyria, a blood disease. The defendants have challenged plaintiffs' choice of venue and, on the question of causation, have pointed to the lack of any instances of chloracne—a skin condition associated with dioxin exposure—among the plaintiffs. One defendant settled before trial for \$5 million, another settled after ten months of trial for \$4 million, and a third defendant has lasted through almost two years of trial. See National Law Journal, Mar. 3, 1986, at 1. See also *Lowe v. Norfolk & Western R.*, 124 Ill. App. 3d 80, 463 N.E.2d 792 (1984) (overturning \$58 million award by Illinois jury to forty-seven railroad workers who had cleaned up the Sturgeon spill).

<sup>32</sup>One of these variants on strict liability theory is products liability, which attaches liability to the manufacturer (and in some instances the seller) of a product if it is shown that the product was defective and unreasonably dangerous and that it caused the plaintiff's injury. See Restatement (Second) of Torts § 402A (1965). Products liability has not played an important role in toxic tort law, see *Strict Liability for Generators*, *supra* note 22, at 977-87, and therefore is not included in this article's discussion of strict liability theory.

<sup>33</sup>J. FLEMING, LAW OF TORTS 273 (1971).

<sup>34</sup>RESTATEMENT (SECOND) OF TORTS § 519 (1977).

For purposes of toxic tort remedies, strict liability causes of action come under three broad labels. The first is the seminal strict liability theory espoused in *Rylands v. Fletcher*,<sup>35</sup> which applied strict liability for "nonnatural" uses of land.<sup>36</sup> Several modern judicial decisions have predicated application of strict liability in hazardous substance exposure cases on the use of *Rylands'* formulation.<sup>37</sup> However, serious limitations on the use of *Rylands* in the context of hazardous substance exposure injuries result from the requirements that the tortfeasor act on "his land" and that such activity be "nonnatural."<sup>38</sup>

In part as a response to the limitations placed on strict liability in *Rylands*, the second theory labeled "ultrahazardous activity" evolved to free strict liability from its location-based restrictions and focus instead on the dangerous nature of the activity.<sup>39</sup> This theory was adopted by the first *Restatement of Torts*,<sup>40</sup> and has also been referred to as common law nuisance *per se*.<sup>41</sup> Its critical determinant for imposing strict liability is the *absolute* inability to render the activity harmless, i.e., regard-

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<sup>35</sup>L.R. 3 H.L. 330 (1868) (construction of reservoir caused water to enter abandoned mine shaft and flood plaintiff's adjacent mine).

<sup>36</sup>*Id.* at 338. The court in *Rylands* posited that

[t]he person who for his own purpose brings on his land and collects and keeps there anything likely to do mischief if it escapes, must keep it at his peril, and if he does not do so, is *prima facie* answerable for all damage which is the natural consequence of its escape.

*Id.* at 334.

<sup>37</sup>See New Jersey Dep't of Envtl. Protection v. Ventron Corp., 94 N.J. 473, 488, 468 A.2d 150, 157 (1983); Cities Service Co. v. State, 312 So. 2d 799 (Fla. Dist. Ct. App. 1975); McLane v. Northwest Natural Gas Co., 255 Or. 324, 467 P.2d 635 (1970); Caldwell v. American Cyanamid Co., 32 Fla. Supp. 163 (Cir. Ct. Hillsborough County 1969); Catholic Welfare Guild, Inc. v. Brodney Corp., 58 Del. 246, 208 A.2d 301 (1964); see also *Strict Liability for Generators*, *supra* note 22, at 970-73.

<sup>38</sup>Indeed, courts from many states have repudiated or rendered ineffective the *Rylands* approach. See, e.g., Sun Pipe Line Co. v. Kirkpatrick, 514 S.W.2d 789 (Tex. Civ. App.—Beaumont 1974, writ ref'd n.r.e.) (crop dusting not subject to *Rylands*); Fritz v. E.I. DuPont de Nemours & Co., 45 Del 427, 75 A.2d 256 (1950) (storage of chlorine gas on chemical manufacturer's premises not nonnatural use of land); Turner v. Big Lake Oil Co., 128 Tex. 155, 96 S.W.2d 221 (1936) (oil drilling is not a nonnatural use of land); see also *Strict Liability for Generators*, *supra* note 22, at 970-73; *Failure of Existing Enforcement Mechanisms*, *supra* note 20, at 1062; *Tort Law*, *supra* note 23, at 500; 301(e) *Study Group Report*, *supra* note 14, at 99-101. But see Atlas Chem. Indus., Inc. v. Anderson, 514 S.W.2d 309 (Tex. Civ. App.—1974), *aff'd on other grounds*, 524 S.W.2d 681 (Tex. 1975) (court of appeals indicates acceptance of *Rylands* in certain pollution circumstances); *Toxic Waste Litigation*, *supra* note 20, at 1614-15.

<sup>39</sup>See *Strict Liability for Generators*, *supra* note 22, at 973-74; 301(e) *Study Group Report*, *supra* note 14, at 101-03.

<sup>40</sup>RESTATEMENT OF TORTS §§ 519, 520 (1938).

<sup>41</sup>See *Common Law and Statutory Remedies*, *supra* note 20, at 131-36.

less of its location and regardless of the degree of care exercised by defendant.<sup>42</sup> This formulation, while technically faithful to the concept of strict liability, has proven narrow in application due to its limitation to truly incurable hazards. That limitation naturally would restrict the use of the ultrahazardous activity test in cases of hazardous substance exposure injury, as many of the risks posed by the handling of hazardous substances are avoidable.<sup>43</sup>

The third major strict liability theory, and the one most widely accepted, is that advocated by the *Restatement (Second) of Torts*.<sup>44</sup> The *Restatement (Second)* subjects all "abnormally dangerous" activity to strict liability.<sup>45</sup> Unlike the *Rylands* test, this standard does not depend on location. Unlike the ultrahazardous liability test, the *Restatement (Second)* does not limit strict liability to activities which pose an unavoidable hazard. Unlike both of the other tests, moreover, the *Restatement (Second)* attempts to establish meaningful criteria for determining which activities qualify as abnormally dangerous.<sup>46</sup> The criteria

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<sup>42</sup>RESTATEMENT OF TORTS § 520 (1938) states:

An activity is ultrahazardous if it (a) necessarily involves a risk of serious harm to the person, land or chattels of others which cannot be eliminated by the exercise of utmost care, and (b) is not a matter of common usage.

<sup>43</sup>But see *Strict Liability for Generators*, *supra* note 22, at 974. The argument presented in the referenced Note, that hazardous waste disposal should be considered an ultrahazardous activity because "[v]ictims of improper hazardous waste disposal are usually as helpless to protect themselves from injuries as are victims of crashing airplanes or exploding dynamite," *id.* mistakes the focus of the *Restatement* test. It matters not whether the plaintiff could have avoided injury through the exercise of utmost care but rather whether the defendant could have. Exercise of utmost care by persons handling hazardous substances may in many circumstances prevent injury. Hazardous waste disposal and the handling of hazardous substances therefore cannot generically be subjected to the "ultrahazardous activity" standard of strict liability. The application of this criterion would have to be left for case-by-case determination. See *Common Law and Statutory Remedies*, *supra* note 20, at 136 (requirement that "plaintiff must demonstrate that the risk of harm cannot be eliminated through the exercise of the utmost care . . . creates a potentially troublesome element").

<sup>44</sup>RESTATEMENT (SECOND) OF TORTS §§ 519, 520 (1977).

<sup>45</sup>RESTATEMENT (SECOND) OF TORTS § 519 (1977) states:

(1) One who carries on an abnormally dangerous activity is subject to liability for harm to the person, land or chattels of another resulting from the activity, although he has exercised the utmost care to prevent the harm.

(2) This strict liability is limited to the kind of harm, the possibility of which makes the activity abnormally dangerous.

<sup>46</sup>RESTATEMENT (SECOND) OF TORTS § 520 (1977) lists the six factors:

(a) existence of a high degree of risk of some harm to the person, land or chattels of others; (b) likelihood that the harm that results from it will be great; (c) inability to eliminate the risk by the exercise of reasonable care;

proposed by the *Restatement (Second)* for strict liability cases can, in theory, be adapted to hazardous substance exposure cases.<sup>47</sup>

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- (d) extent to which the activity is not a matter of common usage;
  - (e) inappropriateness of the activity to the place where it is carried on;
  - and (f) extent to which its value to the community it outweighed by its dangerous attributes.

The first and second factors require the existence of a high degree of risk of great harm. The generation, storage, transportation, or disposal of hazardous substances often entails such risks. See *Strict Liability for Generators*, *supra* note 22, at 975. The fact that extensive regulations exist covering many such activities would support application of this criterion.

The third factor demands that the risk be incapable of elimination by the exercise of *reasonable* care. This standard, the most obvious modification of the "utmost care" standard of the first *Restatement*, could be applied to handling of hazardous substances. Indeed, this factor would allow strict liability notwithstanding the presence of and compliance with regulatory standards. The object of most regulatory programs covering hazardous substances is to *control* risk through standards which reasonably may be complied with. But very few regulatory programs purport to *eliminate* risk altogether, even with full compliance. Elimination of risk probably would require that regulated entities go far beyond what has been deemed reasonable by regulatory bodies. See *Strict Liability for Generators*, *supra* note 22, at 975. This is why the first *Restatement* would apply strict liability to a much narrower class of cases than would the *Restatement (Second)*. Arguments that defendants would be favored under the *Restatement (Second)* standard, *see, e.g., Failure of Existing Enforcement Mechanisms*, *supra* note 22, at 1063, are based on the premise that compliance with existing regulations "can ensure safe waste disposal." The test, however, requires *elimination* of risk, which is not always a necessary result of compliance with existing regulations. See *Common Law and Statutory Remedies*, *supra* note 20, at 137.

The fourth and fifth factors require that the activity be assessed for the extent of its commonness of usage and appropriateness to the place where it occurs. These standards represent an improvement over the vague, restrictive *Rylands* test for "nonnatural" uses. Many activities involving hazardous substances are uncommon and hazardous substances can be handled inappropriately. See *Strict Liability for Generators*, *supra* note 22, at 975; *Common Law and Statutory Remedies*, *supra* note 20, at 137-38.

The final *Restatement (Second)* factor embraces the essential feature of strict liability—the extent to which the activity's "value to the community is outweighed by its dangerous attributes." RESTATEMENT (SECOND) OF CONTRACTS § 520 (1977). This balancing test will be highly relevant in the context of many activities involving hazardous substances, for many such activities are of some or even great value to the community. The disposal of hazardous industrial substances, for example, is a necessity in developed economies. Many generators of hazardous substances produce such substances only as a byproduct of valuable industrial processes. Careful consideration must be given to the value of that service when deciding the scope of liability that will attach to it. Conceivably, the balance could tilt either way given the circumstances of each case.

<sup>47</sup>Whether the *Restatement (Second)* criteria for strict liability, or any theory of strict liability for that matter, should be applied in hazardous substance exposure cases is a different question than whether those standards are capable of being meaningfully applied. Adoption of the *Restatement (Second)* criteria probably would result in strict liability being applied to some, possibly many, activities involving hazardous substances. Several courts have so found. See *Ashland Oil, Inc. v. Miller Oil Purchasing Co.*, 678 F.2d 1293 (5th Cir. 1982); *Branch v. Western Pe-*

### B. *Characteristic Features of Tort Remedies*

Each of the four common law toxic tort causes of action has its own peculiar limitations. Tort law in general is characterized by pervasive features found in any hazardous substance exposure case predicated on one or more of the common law remedies. Broadly speaking, these features flow from the structure of tort law as a private law system. The private law system poses hurdles for each potential plaintiff, including (1) requiring a plaintiff—usually by hiring an attorney—to identify and sue a defendant allegedly responsible for the plaintiff's injury; (2) the requirement that suits be brought within a period prescribed by law in statutes of limitations; (3) the requirement that the plaintiff prove the defendant's wrongful conduct caused the injury in both the medical and legal senses; and (4) the inevitable complications of litigation, such as the existence of multiple plaintiffs and defendants, the delay from time of injury to the time of recovery, the recovery of awarded damages from insolvent or financially weak defendants, and the availability of settlement as an alternative to final resolution by litigation. Some opponents of common law toxic tort remedies as they are presently developed argue that these hurdles are higher in toxic tort cases than they are in other tort

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troleum, Inc., 657 P.2d 267 (Utah 1982); *New Jersey Dep't of Transp. v. PSC Resources, Inc.*, 15 ENV'T REP. CAS. (BNA) 1053 (N.J. Super. Ct. Law Div. 1980); *Langan v. Valicopters*, 88 Wash. 2d 855, 567 P.2d 218 (1977); *Doundoulakis v. Town of Hempstead*, 42 N.Y.2d 440, 368 N.E.2d 24 (1977); *Cities Service Co. v. State*, 312 So. 2d 799 (Fla. Dist. Ct. App. 1975); *Siegler v. Kuhlman*, 81 Wash. 2d 448, 502 P.2d 1181 (1972), *cert. denied*, 411 U.S. 983 (1973); *McClane v. Northwest Natural Gas Co.*, 255 Or. 324, 467 P.2d 635 (1970); *Yommer v. McKenzie*, 255 Md. 220, 257 A.2d 138 (1969); *Bumbarger v. Walker*, 193 Pa. Super. 301, 164 A.2d 144 (1960). But the decision in the first instance to allow strict liability to apply to such activities has broad economic and regulatory consequences; this undoubtedly is the more important and more difficult question. Since it usually cannot be determined ahead of time whether a particular activity would be subject to strict liability, the decision to make strict liability available would greatly increase the liability risk exposure, and therefore the cost of doing business, of all entities handling hazardous substances. Imposition of strict liability might also have the negative effect of reducing incentives to comply with stringent regulatory standards, since compliance would have no relevance as a mitigating defense in the case where strict liability is deemed appropriate. Conversely, allowing strict liability in private lawsuits could reduce society's emphasis on developing and enforcing sound regulatory standards. It is not clear that the additional advantage gained by allowing strict liability claims justifies these potential adverse effects. Such concerns have led some commentators to suggest—against the tide of scholarly opinion—that restraint be used in developing strict liability causes of action for hazardous substance exposure injuries. See *The "Fair and Just" Way*, *supra* note 20; *Proposals*, *supra* note 12, at 24.

actions, so high in fact that they pose virtually insurmountable barriers to recovery.<sup>48</sup> Thus, it is argued, toxic torts are unique and should not be treated as falling within the tort law system at all. If toxic torts are indeed different from other torts in this respect, there would be a good basis for advocating reform of the hazardous substance exposure remedies. But an examination of the characteristic features of tort remedies indicates that toxic torts, while complex, are not unique and that this policy basis for reform is very weak.

### (1) Finding Defendants

Besides the hazardous substance itself, the greatest enemy of hazardous substance exposure victims is time. For example, it can take years for hazardous substances to leak from containers or landfills and contaminate drinking water sources or other places where contact with people is possible.<sup>49</sup> Then, once contact is possible, exposure to the hazardous substances can involve small concentrations over prolonged periods of time. Even when contact is immediate and in isolable high level doses, many injuries associated with exposure to chemicals do not manifest themselves immediately. Diseases such as asbestosis and cancer can have long latency periods.<sup>50</sup> Once an injury develops, moreover, the potential link between it and the exposure of the past is not always immediately apparent. When that link ultimately is made, many years may have passed since the time of the potential defendant's conduct.

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<sup>48</sup>See 301(e) Study Group Report, *supra* note 14, at 28-57; *Phantom Remedy*, *supra* note 20, at 920-28; *Pursuing a Cause of Action*, *supra* note 20, at 538-50; *No Solutions*, *supra* note 20, at 321-25; *Development of a Strict Liability Cause of Action*, *supra* note 20, at 566-70; *Common Law and Statutory Remedies*, *supra* note 20, at 138-46; Note, *Unearthing Defendants in Toxic Waste Litigation: Problems of Liability and Identification*, 19 SAN DIEGO L. REV. 891, 900-04 (1982) [hereinafter *Unearthing Defendants*]; Note, *Hazardous Waste: Third Party Compensation for Contingencies Arising from Inactive and Abandoned Hazardous Waste Disposal Sites*, 33 S.C.L. REV. 543, 558-74 (1985); *Traditional Tort Analysis*, *supra* note 20, at 579-88.

<sup>49</sup>The incidents of hazardous substance exposures at the Love Canal area of Niagara Falls, New York, which precipitated increased public awareness of and response to the problems of hazardous waste disposal, are an example of the potential time lag between disposal and detectable release, in that case over twenty years. See *Hazardous and Toxic Waste Disposal: Joint Hearings Before the Subcomm. on Envtl. Pollution and Resource Protection of the Comm. on Env't and Pub. Works*, pt. 1, 96th Cong., 1st Sess. (1979); *Phantom Remedy*, *supra* note 20, at 868-74.

<sup>50</sup>See *Environmental Causes of Cancer: Hearings Before the Subcomm. on Oversight and Investigations of the House Comm. on Interstate and Foreign Commerce*, 94th Cong., 2d Sess. 180 (1976) (statement of Dr. Irving J. Selikoff, Professor of Medicine); 301(e) Study Group Report, *supra* note 14, at 43.

The time lag between defendant's conduct and plaintiff's injury can make identifying potential defendants difficult. Individuals may have died; corporations may have dissolved without a trace; either could be insolvent. Moreover, the injury might be traced back to several different types of exposures caused by several potential defendants. Finally, even when the exposure is identified, whoever caused the exposure may have concealed his identity at the time.

Thus, opponents of common law toxic tort remedies argue that the potential time lags associated with hazardous substance exposure injuries make finding potential defendants unduly difficult—much more so than for the garden variety tort. But as a general proposition this is not so obvious. Certainly it is easy to point to the person who has just punched you in the nose. It is much more difficult, perhaps impossible, to identify an anonymous vandal. Clearly, many tort scenarios can be thought of in which identifying the defendant is either easy, difficult, or impossible. Toxic tort defendants fall at different points along this same spectrum.<sup>51</sup> There may be hazardous substance exposure cases, however, in which no solvent, extant defendant can be identified. A better way to pose the question is whether, as a matter of policy, this limited class of cases warrants major overhauls of common law toxic tort remedies specifically but not of tort remedies generally.

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<sup>51</sup> For example, locating the manufacturer of a product you just had installed in your house and which you believe is causing your recently-manifested eye and skin irritations probably will be easy. When injury is believed to have been caused by industrial emissions from a certain facility, identification of the responsible entity is by no means impossible. And when a community believes that its water supply has been contaminated by a nearby hazardous waste landfill, the generators, transporters, and disposers of the hazardous substances and the owners and operators of the landfill often can be identified even years after any offensive conduct, as has often been the experience with Superfund landfill sites. *See* discovery papers filed by the government in *United States v. Stringfellow*, No. CV 83-2501 (MML) (Mcx) (C.D. Cal.) (identifying over two hundred alleged generators and transporters of wastes disposed of at the Stringfellow acid pits). Regulatory record keeping requirements also increase the chances of identifying toxic tort defendants. For example, sections 3002-3004 of the Solid Waste Disposal Act, 42 U.S.C. §§ 6922-6924 (Supp. V 1981), establish recordkeeping requirements for generators, transporters, and disposers of hazardous waste. In these cases, then, the burden of finding the defendant does not seem so greatly exacerbated in the context of hazardous substance exposure injuries as to set toxic tort remedies apart from tort remedies generally.



## (2) Statutes of Limitations

Statutes of limitations prescribe the lifetimes of claims. That a claim should have a limited lifetime at all reflects the policy of repose, i.e., that a potential defendant should not indefinitely be subject to threat of suit. The passage of time clouds memories and increases the chance of lost or destroyed evidence; fraudulent claimants might be able to take advantage of these problems. Limitations periods represent the legislative determination of when those problems might loom so large as to warrant termination of the defendant's liability against anyone for the conduct in question.

Here again, time is the plaintiff's enemy. As discussed above, the time lag between the defendant's conduct and the plaintiff's injury, and between the plaintiff's injury and identification of the defendant, can be substantial in hazardous substance exposure cases. But no special limitations period applies to hazardous substance exposure remedies; rather, the period for personal injury actions, which varies in length from state to state, usually is applied.<sup>52</sup> In their most basic form, such limitations periods begin to run at the time of the defendant's conduct and continue to run without interruption until the limitation is reached.<sup>53</sup> In many cases, rigid adherence to that model would be patently unfair—for example, where the defendant fraudulently conceals the offensive conduct. Thus, many rules have been developed to delay, toll, or renew limitations periods in circumstances where uninterrupted running of the period from the moment of defendant's conduct would be unfair. For personal injury actions, the most notable of these modifications is the "discovery rule," which delays the commencement of the limitations periods until the time the plaintiff

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<sup>52</sup> See 301(e) Study Group Report, *supra* note 14, at Appendix B, B-59 to B-64. The periods range in length of time from one year to six years. *Id.*

<sup>53</sup> *Id.* at 28.

discovers or reasonably should have discovered the injury.<sup>54</sup> Most, but not all, states follow this rule.<sup>55</sup>

Whether and in what circumstances rules modifying personal injury limitations periods should apply in hazardous substance exposure cases has been a subject of controversy.<sup>56</sup> Although the central policy concern of repose exists undiminished in the context of hazardous substance exposure cases, the time lag problems facing toxic tort plaintiffs can produce grossly inequitable results if no accommodation is made.<sup>57</sup> There is no doubt, then, that the application of statutes of limitations in hazardous substance exposure cases can be difficult in extreme

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<sup>54</sup>The discovery rule originated in cases where foreign objects were left in a person's body after surgery. The rule developed to permit such persons to delay accrual of their cause of action until the date of discovery of the foreign object, and since has been expanded to encompass most forms of personal injury. Various formulations of the rule differ based on when the plaintiff is imputed to have discovered the injury. Some states reject such imputation and begin the running of the period only when the plaintiff actually discovers the injury; whereas, at the opposite end of the spectrum, other states place the plaintiff on constructive notice of any injury which should reasonably have been discovered. See *301(e) Study Group Report*, *supra* note 14, at Appendix B, B-3 to B-4; *Traditional Tort Analysis*, *supra* note 20, at 581 n.23.

<sup>55</sup>The 301 (e) study group found that of 53 jurisdictions, 37 have adopted some formulation of the discovery rule, 8 hold to the minority rule of accrual upon the commission of the tort, and 8 have not clearly committed. See *301(e) Study Group Report*, *supra* note 14, at Appendix B, B-6. For a summary of each jurisdiction's rule as it existed at the time of the *301(e) Study Group Report*, see *id.* at Appendix B, B-6 to B-58.

<sup>56</sup>However, virtually every commentator has called for uniform application of the discovery rule in cases of hazardous substance exposure injuries. See note 20 *supra*. Interestingly, some of these commentators appear to downplay the already wide acceptance the discovery rule receives, implying that the discovery rule is applied by the minority of jurisdictions rather than the vast majority as determined by the 301(e) study group. See, e.g., *Statutory Reform of "Toxic Torts"*, *supra* note 20, at 192 (discovery rule applied by "several states"); *Traditional Tort Analysis*, *supra* note 20, at 581 n.23 ("some states" apply discovery rule).

<sup>57</sup>Consider for example a manufacturing facility that openly disposes of drums containing radioactive wastes on its land. Years later the drums leak into a public drinking water supply, and still more years later several members of the public contract cancer. Perhaps more years pass before it is determined that the drinking water contains radioactive isotopes in dangerous quantities and that the source of the radiation is the manufacturing facility's drums. In this situation, the relatively short limitations periods applied by most states to personal injuries would probably bar suit if rigidly applied. On the one hand, that result seems unfair, because the plaintiffs cannot reasonably be accused of having delayed suit through lack of due diligence or for strategic advantage. Application of a discovery rule thus seems appropriate. On the other hand, we could be talking of an action brought many years after the defendant's disposal of the drums, which makes the concern for repose seem eminently legitimate. Application of the discovery rule also is not susceptible to precision, which means that it can become a major focus of the litigation.

cases. For cases involving long time lags, careful balancing of the policies behind limitations periods with the desire to afford causes of action is necessary to ensure fair results.

Whether by development of additional general rules of application or through case-by-case determination, the need for this balancing process in hazardous substance exposure cases does not set toxic torts apart from the rest of tort law. After all, limitations rules and modifications thereof developed and evolved in response to similar difficulties encountered throughout tort law. Further evolution of limitations principles in response to hazardous substance exposure injuries should not require complete devolution of existing common law toxic tort remedies.

### (3) Causation

Finding defendants and avoiding limitations periods can be thorny problems for toxic tort plaintiffs; but neither problem seems as overwhelmingly insurmountable as opponents of common law toxic tort remedies suggest. Indeed, the reform proponents mount their greatest offensive against the causation requirement of tort law.

Under all of the common law liability standards, even strict liability, the causation requirement demands that the plaintiff prove by a preponderance of the evidence that the specific injury for which relief is sought was caused by the defendant's conduct.<sup>58</sup> In other words, the plaintiff must satisfy a "but-for" test of causation: but for the defendant's conduct, the injury would not have occurred.<sup>59</sup> The standard of evidence applied to this test in the context of personal injury is one of medical *probability*, not *possibility*.<sup>60</sup> The mere statistical or theoretical

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<sup>58</sup> See RESTATEMENT (SECOND) OF TORTS §§ 431-41 (1965); W. PROSSER, LAW OF TORTS § 43, at 263-64 (1971); Calabresi, *Concerning Cause and the Law of Torts: An Essay for Harvey Kalven Jr.*, 43 U. CHI. L. REV. 69, 73-91 (1975); Malone, *Ruminations on Cause in Fact*, 9 STAN. L. REV. 60, 66-68 (1956).

<sup>59</sup> See A "Public Law" Vision, *supra* note 20, at 855-59; *Toxic Waste Litigation*, *supra* note 20, at 1618-19.

<sup>60</sup> See *Ins. Co. of North Am. v. Myers*, 411 S.W.2d 710 (Tex. 1966). The *Myers* court drew a sharp distinction between evidence of causal probability and of mere correlations. It explained the difference as follows:

Causal connection . . . must rest in reasonable probabilities; otherwise, the inference that such actually did occur can be no more than speculation and conjecture . . . Reasonable probability, in turn, is determined by consideration of the substance of the testimony of the expert witness and does not turn on semantics or on the use by the witness of any particular term or phrase. . . . Expert medical testimony predictive of what

possibility of a cause-in-fact relation therefore is not enough; there must be particularized proof of a greater than fifty percent medical probability that the plaintiff's specific injury was in fact caused by the defendant's conduct for plaintiff to satisfy the legal causation burden. Proof of causation also can be complicated by the possibility of multiple causative forces or persons responsible for those forces.

Like any tort case, the ease with which this "but-for" test can be satisfied by the toxic tort plaintiff depends in large measure on the circumstances of each case. The nature of the injury and exposure will be the critical determinants in this respect. For example, simple injuries such as skin and eye irritations associated with exposure to certain chemicals often can easily be linked to identifiable industrial emissions in the community. Even some complex ailments—*asbestosis* and *berylliosis*, for example—are known to be caused only by exposure to certain

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will happen in the future from a present injury is confined to reasonable medical probabilities, i.e., results reasonably to be anticipated.

411 S.W.2d at 713. The Texas Supreme Court later explained that "the fact that a determination of causation is difficult cannot provide a plaintiff with an excuse to dispense with the introduction of some evidence proving causation." *Parker v. Employers Mut. Liab. Ins. Co.*, 440 S.W.2d 43, 46 (Tex. 1969). The *Parker* court summarized the distinction between probability and possibility even more succinctly than the *Myers* court had:

Plaintiff . . . raises the question of whether there can be a logical distinction made between a reasonable medical "probability" and a medical "possibility." We think that such a distinction can be made. There can be many possible "causes," indeed an infinite number of circumstances can cause an injury. But a possible cause only becomes "probable" when in the absence of other reasonable causal explanations it becomes more likely than not that the injury was a result of its action. This is the outer limit of inference upon which an issue can be submitted to the jury.

440 S.W.2d at 47. In sum, "once the theory of causation leaves the realm of lay knowledge for esoteric scientific theories, the scientific theory must be more than a possibility to the scientists who created it." *Id.* at 48.

Another feature of the cause-in-fact test is the requirement that evidence of medical causation be based on techniques and theories which have gained general acceptance in the scientific community. See *Frye v. United States*, 54 App. D.C. 46, 293 F. 1013 (D.C. Cir. 1923); *People v. Shirley*, 31 Cal. 3d 18, 181 Cal. Rptr. 243, 641 P.2d 775, cert. denied, 459 U.S. 860 (1982); Faulk, *Strategic and Scientific Considerations in Toxic Tort Defense*, 26 S. TEX. L.J. 513, 536-41 (1985); *Frye, Standard of "General Acceptance" For Admissibility of Scientific Evidence Rejected in Favor of Balancing Test*, 64 CORNELL L. REV. 875, 877-78 n.14, 884-85 (1979); Note, *Expert Testimony Based on Novel Scientific Techniques: Admissibility Under the Federal Rules of Evidence*, 48 GEO. WASH. L. REV. 774, 785-88 (1980). If scientists sufficient either in number or expertise publicly oppose the theory or technique, the evidence will not be admitted. Indeed, in some jurisdictions the burden is on the plaintiff to establish affirmative approval by the scientific community.

chemicals. If the injury and exposure can be identified in such cases, proof of causation will not be unduly burdensome.

Of course, the reform proponents do not have the simple cases in mind. They are concerned more with the most hideous and least understood disease associated with exposure to hazardous substances—cancer. The problem identified by the reform proponents is that, while a particular form of cancer often can be statistically associated with exposure to hazardous substances, conclusive proof that such exposure causes the cancer in any particular case is much more elusive. Not only does the body of scientific evidence usually not reach the level required by the tort law causation requirement, what evidence there is often makes proof of causation in most cases hopelessly difficult. That is because the scientific evidence often points to a host of causative factors, many of which are present in virtually every person's environment. This greatly complicates the plaintiff's job of linking a cancer injury to a discrete chemical exposure.

But how does this problem set apart the common law toxic tort remedies from the mainstream of tort law? The strict principles of the causation requirement act to cut off exotic causation claims in many personal injury cases. A medical malpractice claim is not won simply by identifying the injury and the defendant doctor's conduct. The possibility of other causative forces or parties could enter into any personal injury case. What seems to be of concern, then, is that the vast body of statistical evidence amassed in connection with cancer research has not translated into more numerous and greater personal injury awards in toxic tort litigation. This failure by no means evidences a deficiency on the part of the scientific community; on the contrary, great strides have been made. It is simply that these great strides still have not enabled injured persons to pinpoint the causes of their cancers.

This concern, however, should not be presented as exposing a defect in common law toxic tort remedies that does not exist for tort remedies generally. Rather, this concern raises a more basic policy question: should we deviate from the fundamental notion that a person should not have to compensate another for injuries which the former is not proven to have caused? We have, of course, deviated from that notion in other limited

cases.<sup>61</sup> The question is whether we should make that policy choice in the case of hazardous substance exposure injuries.

#### (4) Litigation Complications

For the plaintiff who has found his defendant, brought suit within the applicable limitations period, and amassed a convincing body of causation proof, recovery day may still be many dollars and many years away. And there is no guarantee that recovery will be sufficient to compensate the plaintiff for all the losses that may be associated with the injury. The complications of tort litigation—and there are many of them<sup>62</sup>—can drag down any tort plaintiff. Indeed, these complications add an extra layer of cost and delay for all parties involved,<sup>63</sup> in-

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<sup>61</sup>For example, the Federal Coal Mine Health and Safety Act of 1969, 30 U.S.C. §§ 901-941, 951, 958 (1976), as amended by Black Lung Benefits Reform Act of 1977, Pub. L. No. 95-239, 92 Stat. 95 (1977), provides a claim by coal mine workers for compensation against their employer and establishes five presumptions of varying degree, *id.* §§ 921(c)(1)-(5), which relieve the plaintiff of the burden of proving causation where certain conditions of exposure to coal dust and injury in the form of lung disease are shown.

<sup>62</sup>For example, there is the time it will take to prosecute the claim. Many preliminary matters will be raised prior to reaching the jury. The jury trial itself can be extensive, and subsequent appeals can enter the picture. Then there is the problem of financing this potentially expensive process. Few plaintiffs are able to afford litigation; recovery of litigation costs seldom is available for those who can. For plaintiffs who engage a contingent fee representation, moreover, any damage award obviously is reduced in its compensatory effect by the amount of the fee and other litigation expenses. In jurisdictions where punitive damages are available to help defray these costs, a host of additional litigation issues arise. There also is the possibility of multiple plaintiffs or defendants. Joinder of parties or certification of a class of plaintiffs or defendants might be required, thus adding to the complexity of the lawsuit. Finally, settlement often is necessitated by the reality of litigation costs and delay; yet settlement usually precludes the possibility of either vindication for the defendant or full compensation for the plaintiff.

<sup>63</sup>Some features of complex tort practice are burdens both to plaintiffs and defendants. For example, the possibility of multiple punitive damages awards for the same course of conduct by defendant is detrimental not only to defendants but also to plaintiffs, giving reason for liberal use of class action and joinder rules. It has been widely recognized that if mass toxic tort litigation is prosecuted as separate actions by individuals or groups of individuals, recovery of punitive damages, if any, in early actions would jeopardize the ability of plaintiffs in later actions to obtain similar recoveries. One effect of early awards of punitive damages would be to raise a concern that further awards would result in overkill and be contrary to the underlying policy of punitive damages, i.e., to punish the defendant and to provide a general deterrence against similar conduct. Theoretically, "when a plaintiff recovers punitive damages against a defendant, that represents a finding by the jury that the defendant was sufficiently punished for the wrongful conduct." *In re Agent Orange Prod. Liab. Litig.*, 100 F.R.D. 718, 728 (E.D.N.Y. 1983), *mandamus denied*, 725 F.2d 858 (2d Cir. 1984). Thus, "since each jury in a mass tort litigation situation will award punitive damages for wrongful conduct

cluding society through its allocation of increasingly scarce judicial resources.

However, there is no reason to believe that the complications of toxic tort litigation are fundamentally different from or greater than those of tort law generally. Complex toxic tort litigation, like all forms of complex tort litigation, is just that—complex. A mass disaster case or products liability case can present issues of settlement, joinder, class certification, punitive damages, joint tortfeasor liability, comparative or contributory negligence, and many other complicating factors also found in some toxic tort cases. Other toxic tort cases, like the garden variety tort, can be relatively simple to litigate. There simply has been no empirical evidence presented to show that hazardous substance exposure injury cases are uniquely weighed down by litigation complications so much so that they require special treatment not given other complex forms of tort litigation. The question really is whether we wish to exempt persons injured by hazardous substance exposures from the complications of the litigation process.

This conclusion is similar to those reached for the problems associated with locating defendants, statutes of limitations, and the causation requirement; namely, that the real issue is not whether toxic tort remedies lead to results contrary to the experience of tort law generally, but rather whether we wish to continue the experience of tort law as we now know it in the context of hazardous substance exposures. Toxic torts are not unique in the sense of presenting a profoundly different experi-

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that affected an entire class of injured parties, a series of separate actions may result in windfall awards to individual plaintiffs at the expense of a disproportionately punished defendant." *In re No. Dist. of Cal. "Dalkon Shield" IUD Prods. Litig.*, 526 F. Supp. 887, 899 (N.D. Cal. 1981), *vacated on other grounds*, 693 F.2d 847 (9th Cir. 1982). And if that punishment becomes too disproportionate, the defendant could go bankrupt, leaving later plaintiffs with no opportunity to prosecute any claim, much less a punitive damages claim. Overall, then, the issue of punitive damages in a mass toxic tort context should be tried only once, on a class-wide basis. See *In re Diamond Shamrock Chem. Co.*, 725 F.2d 858, 862 (2d Cir. 1984); *In re Federal Skywalk Cases*, 680 F.2d 1175, 1188 (8th Cir.) (Heaney, J., dissenting), *cert. denied*, 459 U.S. 988 (1982); *In re Asbestos School Litig.*, 40 FED. R. SERV. 2D (Callaghan) 8, 21 (E.D. Pa. 1984), *rev'd No. 84-1642* (3d Cir. May 1, 1986). Owen, *Problems in Assessing Punitive Damages Against Manufacturers of Defective Products*, 49 U. CHI. L. REV. 1, 48-49 n.227 (1982); Putz & Astiz, *Punitive Damage Claims of Class Members Who Opt Out: Should They Survive?*, 16 U. SAN. FRAN. L. REV. 1, 23-24 (1981); Williams, *Mass Tort Class Actions: Going, Going, Gone?*, 98 F.R.D. 323, 333 (1983); Note, *Class Actions for Punitive Damages*, 81 MICH. L. REV. 1787, 1789 (1983).

ence under tort law than other torts. Whether hazardous substance exposure injuries as a matter of policy require a response entirely different from tort law as we now know it is a different question.

## II. REFORM MODELS

Toxic tort reform advocates who are truly serious about their mission do not stake much of their case on the depiction of toxic torts as anomalies in the tort law system. Most appear simply unhappy with the application of the tort law system to hazardous substance exposure injuries; hence, even if it were absolutely clear that the experience under tort law was no different for hazardous substance exposure injuries than for any other personal injury, there would still be a substantial body of critical reform proponents. Indeed, when the alternatives offered in place of the tort system as it now stands are examined, it is clear that fine tuning of the common law toxic tort remedies is not what it is all about. Rather, the reform proposals, which can broadly be grouped into two categories, evidence an underlying policy objective of getting greater compensation to a greater number of persons suffering from injuries believed to be associated with exposure to hazardous substances. In other words, the principal basis put forth for reform is not merely that the common law toxic tort remedies do not yield recoveries that would reasonably be expected under tort law generally, but that reliance on tort law remedies as we know them will not yield recoveries in sufficient number and amount to meet certain policy objectives.

Two reform models have been proposed as methods to increase recoveries. They represent major changes in the way we deal with hazardous substance exposure injuries. The first model purports to use the tort system as a vehicle for achieving the objective of greater recovery. Although nominally presented as a tort remedy—perhaps its proponents believe that reform will be less controversial that way—and in application still a private remedy, the proposed modifications would so strip this remedy of essential tort law features as to deny its proponents the use of a tort remedy label. By contrast, the second model abandons all pretenses of remaining within the tort law system. It calls for creation of an administrative remedy that would take priority over, or, under some proposals, entirely supplant, the tort law remedy. This public remedy model



also makes more explicit what all reform proponents apparently believe: that industry bears the lion's share of responsibility for hazardous substance exposure injuries and therefore should be the sole source of the funds required to provide larger and more recoveries. Whereas the first model implements that policy indirectly by ensuring easier recoveries against defendants, the administrative remedy model simply imposes a direct wealth transfer through taxes on industry and creation of a victims' claims fund. Closer examination of the two principal reform models reveals that the objective of maximizing recoveries is their basic underlying purpose.

#### A. *Changing the Toxic Tort System*

Because tort law's causation requirement is seen by most reform proponents as the root of problems with the toxic tort system, many reform proposals focus on modifying the causation requirement as a way of making recovery easier.<sup>64</sup> Of course, other substantial modifications have been proposed. Strict liability is often put forth as the appropriate standard of proof on the question of fault.<sup>65</sup> Relaxation of statutes of limitations is sought through adoption of the discovery rule.<sup>66</sup> Finally, relaxation of restrictive class action and joinder rules has been advanced as a means of making suit less expensive for the individual plaintiff<sup>67</sup> and, so as not to let defendants think they are completely neglected, of preventing ruinous punitive damages awards.<sup>68</sup>

But most reform proposals that purport to stay with the tort system eventually focus on the causation requirement as the central object of change. The proposed changes have come in three categories: (1) outright shifting of the burden of proof of causation to the defendant; (2) relaxation of the plaintiff's burden of proof of causation; and (3) use of liability apportionment theories when multiple defendants are involved. These

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<sup>64</sup> See A "Public Law" Vision, *supra* note 20, at 925; Pursuing a Cause of Action, *supra* note 20, at 542; Note, Increased Risk of Cancer As An Actionable Injury, 18 GA. L. REV. 563, 591-92 (1984); Unearthing Defendants, *supra* note 48, at 905; Tort Actions for Cancer, *supra* note 20, at 855-62.

<sup>65</sup> See Generator Liability, *supra* note 22; Failure of Existing Enforcement Mechanisms, *supra* note 22; Strict Liability for Generators, *supra* note 22. But see The "Fair and Just" Way, *supra* note 20.

<sup>66</sup> See *supra* note 48.

<sup>67</sup> See A "Public Law" Vision, *supra* note 20, at 905-24.

<sup>68</sup> See *supra* note 63.

three categories translate roughly into a range of approaches: shifting the burden of proof to defendants is drastic medicine; whereas, some liability apportionment theories are fully accepted in other areas of tort law as reasonable responses to complex liability scenarios.

### (1) Shifting the Burden of Proof

Proposals for shifting the burden of proof of causation in toxic tort cases from plaintiffs to defendants are a picture of simplicity. After all, if the biggest problem for toxic tort plaintiffs is proof of causation, putting the burden of proving a lack of causal connection on the defendant is bound to lead to recoveries greater in number and in amount. Some reflection on this approach shows that it is simple to execute but has complicated, potentially undesirable results.

The vehicle most often put forth as the method of shifting the burden of proof is the use of rebuttable presumptions.<sup>69</sup> Normally, in cases where the plaintiff alleges that exposure to a hazardous substance has caused a disease such as cancer, proof of causation must come in two stages. First, it must be shown that the substance to which the plaintiff was exposed is capable of causing cancer in circumstances like those of the plaintiff's exposure. If that is shown, the plaintiff next must prove that his or her cancer was in fact caused by the exposure. Presumptions reversing this process could be injected at either stage, or at both.

For example, some commentators have suggested that certain chemicals—a list could be determined by some government agency or toxicology research center—be designated as presumptively cancer-causing at specified exposure intensities and durations.<sup>70</sup> Such a presumption could eliminate an expensive and time-consuming portion of many toxic tort cases. In essence, it could be thought of as a form of statutorily enforced judicial notice. Of course, one result undoubtedly would be a shifting of focus from toxic tort litigation to the body responsible for designating which chemicals at what exposure durations and intensities qualify for the presumption. Untold complications and administrative litigation could arise out of that process. Moreover, the toxic tort plaintiff would

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<sup>69</sup> See *Tort Actions for Cancer*, *supra* note 20, at 855-59.

<sup>70</sup> See *id.* at 855-57.

still have to prove at trial that his or her exposure was experienced at the intensity and duration necessary to qualify for the presumption. This proof could become a major focus of toxic tort litigation. Nevertheless, the creation of such a presumption would substantially reallocate the costs and burdens inherent in toxic tort litigation in plaintiffs' favor.

A further step in plaintiffs' favor would be the creation of a second presumption which, following proof of exposure to a designated chemical at a specified intensity and duration, would classify certain cancers as presumptively caused by such exposures.<sup>71</sup> This sort of proof normally is the most esoteric, and thus the most difficult, for the plaintiff to present. This second presumption would therefore be a large step beyond the advantage provided by the initial presumption concerning the generic designation of cancer-causing chemicals. Indeed, to extend the first presumption without extending this one might not tilt the balance so much in plaintiffs' favor; defendants could devote more resources to the individualized questions of proof than they do under the present system, requiring plaintiffs to do the same. Affording plaintiffs both presumptions thus would dramatically change the toxic tort litigation scenario.

The problem with shifting the burden of proof through either or both of these rebuttable presumptions is that the burden becomes no easier when placed on defendant. That is, differences in financial resources aside, toxic tort defendants generally are in no better position to prove the negative causation case than plaintiffs are in to prove the affirmative case. This exposes the real purpose and effect of this mode of reform. Tort law in particular is built on the assumption that the party claiming the truth of a fact must bear the burden of proof unless good reasons dictate otherwise. But neither party in the toxic tort suit is in a better position to bear the burden of proof; therefore, the decision as to which party should bear the burden must be based on considerations other than the efficiency of the legal system. For reform proponents, then, that overriding consideration is one of policy, i.e., the maximization of recovery for plaintiffs, which is something shifting the burden of proof will go a long way toward bringing about. The only consideration which could be used to justify this approach

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<sup>71</sup> See *id.* at 857.

is the perceived disparity in wealth between plaintiffs and defendants. But the rather blunt policy statement this approach makes has led to doubts as to its acceptability among even avid reform proponents.<sup>72</sup>

## (2) Changing the Burden of Proof

Because outright shifting of the burden of proof of causation is heavy-handed and contrary to basic tort law doctrine, several reform proposals rely instead on relaxing the plaintiff's burden of proof while keeping it ultimately with the plaintiff.<sup>73</sup> Their basic objective is to bring the standard of proof required by the law in line with the standard of proof permitted by the current state of scientific knowledge. This could be done by replacing the requirement of proving "medical probability" with a requirement that the plaintiff's proof show only substantial likelihood or possibility of causation. Statistical, toxicological, and epidemiological evidence thus could be admitted to establish such proof.

This approach is not so innocuous as it may at first seem, however. In the first place, the major complaint most reform proponents have with the present toxic tort system is the difficulty of proving causation. The reason for this difficulty is the absence of sufficient scientific evidence of causal links. Hence, if the plaintiff's burden is relaxed so as to coincide with the level of proof permitted by modern science, can we say that we are dealing with a tort remedy at all? In any event, regardless of the theoretical category in which such a remedy would fit—tort or something else—this approach and the concept of shifting the burden of proof share a similar unpredictability of effect. The universe of successful plaintiffs undoubtedly would expand under either proposal, but by how much? Industry would face greater exposure to damage awards, and thus greater costs when handling hazardous substances, but how much greater? Most reform proposals do not explore these questions. They either do not seem to care what the answers are, which is a reckless way of instituting such sweeping policy decisions, or they think they know the answers and desire the result. In either case, it is apparent that a great deal more

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<sup>72</sup> See 301(e) Study Group Report, *supra* note 14, at 248-50; *infra* text accompanying notes 116-19.

<sup>73</sup> See A "Public Law" Vision, *supra* note 20, at 925; *Pursuing a Cause of Action*, *supra* note 20, at 542.

study and thought should go into the process before such reforms are instituted. Changing the rules of the tort law system will have profound economic consequences, consequences which might not withstand even a generous benefit/cost analysis and which may simply be politically unacceptable. We should attempt to understand what those consequences might entail in the way of economic impacts, numbers of claims, and increase in litigation before we force ourselves to live with them.

### (3) Apportionment Theories

Proposals for shifting or relaxing the burden of proof of causation in toxic tort cases go right to the heart of tort law doctrine. If they were instituted, then remedies for hazardous substance exposure injuries would have only a tenuous connection with the tort law system. By contrast, apportioning responsibility for causation among multiple defendants can be done consistently with basic tort law precepts, but it must be done carefully.

Apportionment theories respond to problems that can arise when the "but for" causation test is applied in a multi-defendant context where a number of defendants can be considered to have been a substantial factor in bringing about the injury. For example, if a plaintiff has shown that he has contracted cancer as a result of exposure to a certain chemical, what is the plaintiff to do when he or she might have suffered numerous exposures to the chemical at the hands of different defendants? A similar problem is posed when the plaintiff has been exposed to different chemicals, any one of which acting alone would have caused the plaintiff's cancer, as, for example, when leakage from a landfill contains different cancer-causing chemicals put in the landfill by different persons. To establish liability against an individual defendant, tort law normally would require the plaintiff in such circumstances to trace causation from the injury back to that individual defendant. That tracing process is difficult when the link could be traced to any number of defendants, each of whom is pointing fingers at the others.

This is where apportionment theories come in. It would be foolish to deny recovery where all physical elements of causation are shown but the final step of identifying the responsible party is not a direct line to one defendant but rather a tangle of many lines. For example, in the landfill scenario, if it is shown

that the various cancer-causing chemicals were put in the land-fill by the defendants, that the chemicals leaked from the land-fill in mixture, that plaintiff was exposed to the mixture, and finally, that such exposure caused plaintiff's cancer but would not have had any of the chemicals been missing from the mixture, it would be harsh to deny recovery simply because the proof cannot segregate the causal link according to each defendant. If the confluence of factors is shown to have caused the plaintiff's injury, and if only those factors which were necessary for that causation to have occurred are included in the liability analysis, then the plaintiff ought to recover. In the rather limited context of this scenario, then, apportionment of causation liability may be an appropriate toxic tort reform.<sup>74</sup>

Accordingly, one apportionment method deals with situations in which the plaintiff's condition is the result of multiple exposures over time, with some exposures harming the plaintiff separately as well as adding to the cumulative harm. The problem in this scenario is that it is virtually impossible to recreate this causation process by segregating the plaintiff's present medical condition into discrete injuries from the distant and recent past. This was the case in *Borel v. Fibreboard Paper Products Corp.*<sup>75</sup> and several other asbestosis cases.<sup>76</sup> In *Borel*, it was undisputed that the plaintiff's asbestosis disease was caused by numerous exposures to asbestos dust, that each of a number of defendants was responsible for one or more such exposures, and that the plaintiff's present condition reflected the cumulative effect of separate instances of tissue damage. Nevertheless, it was not possible to determine what portion of the cumulative injury was attributable to a particular exposure incident. The court held that any defendant who had exposed plaintiff to asbestos and who had been a "substantial factor" in bringing about the plaintiff's injury would be liable.<sup>77</sup>

*Borel's* "substantial factor" apportionment test does not violate the critical element of the toxic tort causation requirement—that the injury be proven under a standard of "medical probability" to have been caused by exposure to hazardous

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<sup>74</sup>See *Proving Causation*, *supra* note 20.

<sup>75</sup>493 F.2d 1076 (5th Cir. 1973), *cert. denied*, 419 U.S. 869 (1974).

<sup>76</sup>See *Crump v. Hartford Accident & Indem. Co.*, 367 So. 2d 300 (La. 1979); *Yocum v. Gentry*, 535 S.W.2d 850 (Ky. 1976); *Self v. Starr-Davis Co.*, 13 N.C. App. 694, 187 S.E.2d 466 (1972).

<sup>77</sup>493 F.2d at 1094.

substances. That feature of the "but for" test is retained. Once medical proof meeting that standard is established, the logistical problems posed by multiple exposure and multiple defendant scenarios should not stand in the way of recovery. Moreover, *Borel* still leaves with the plaintiff the burden of proving that a particular defendant was responsible for a portion of the total exposure and in that respect was also a "substantial factor." Overall, then, the "substantial factor" test does not represent so much a relaxation of the causation requirement as a way of implementing it in difficult multi-defendant scenarios.

By contrast, another apportionment theory has been used in cases where a particular chemical is proven conclusively to have caused the plaintiff's injury, but only one of several defendants could have been the source of the specific chemical doses to which the plaintiff was exposed. This possibility was brought into focus in several drug and asbestos cases. For example, if asbestosis is proven to have been caused by exposure to a particular asbestos product, only one of three producers of the product produced the sample to which the plaintiff was exposed, and the identity of that defendant is unknown, proof of causation is complicated by the inability to match any defendant with the exposure. In that and similar situations, several courts have adopted a "market share" test for determining which defendants can be held liable.<sup>78</sup> Under this apportionment theory, the plaintiff must prove exposure to the product and medical causation, leaving it to the defendants to prove that the exposure could not have been to their respective products. Any defendant who cannot meet this burden is held liable for a portion of the judgment according to the proportionate market shares of it and the other liable defendants.

Unlike the "substantial factor" test applied in cumulative injury cases, the market share test has been applied so as to hold liable some defendants who could not possibly have caused the plaintiff's injury.<sup>79</sup> Although medical causation still must be shown by the plaintiff using a "but for" standard of proof, elim-

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<sup>78</sup> See *Collins v. Eli Lilly*, 116 Wis. 2d 166, 342 N.W.2d 37, cert. denied, 105 S. Ct. 107 (1984); *Martin v. Abbott Laboratories*, 689 P.2d 368 (Wash. 1984); *Sindell v. Abbott Laboratories*, 26 Cal. 3d 588, 607 P.2d 924, 163 Cal. Rptr. 132, cert. denied, 449 U.S. 912 (1980); see also *Proving Causation*, *supra* note 20, at 1307-08, 1316-18.

<sup>79</sup> See *Proving Causation*, *supra* note 20, at 1307-08 (Market share apportionment "relieve[s] the plaintiff of the burden of proving causation").

inating the plaintiff's burden of proving that a defendant was responsible at least for part of the total exposure is a dramatic reformulation of tort law principles. It could have unsettling effects in hazardous substance exposure cases. For example, it may be possible to determine which lot of a chemical disposed at and leaking from a landfill caused plaintiff's injury, but not possible to determine which of several generators of that chemical using the landfill is responsible for that lot. To make each of the defendants liable unless they rebut the "market share" test's presumption would greatly ease the plaintiff's burden, yet it would also make each defendant an insurer of the others' disposal procedures. Such a forced sharing of responsibility does not seem fair or sensible. On the one hand, it would allow the least careful disposer to spread its risk with more careful disposers, thus reducing all disposers' incentives to institute precautions against leakage. On the other hand, given that each defendant in this hypothetical case concededly disposed of hazardous substances, it could be argued that "market share" liability would provide incentives for such persons to monitor the distribution or disposal of their own products carefully, so that rebuttal of the market share presumption would be made easier. Whether the "market share" test is a better means of providing such an incentive than direct regulation should be examined; in any event, the "market share" test is a radical departure from tort law that goes far beyond the "substantial factor" test in relaxing the plaintiff's causation burden.

The distinctions between the "substantial factor" and "market share" apportionment tests illustrate the limits within which toxic tort remedies can be reshaped and still be called tort remedies. First, to be considered a tort remedy, the plaintiff's burden of proving exposure, injury, and medical causation must be retained. Indeed, the problems which apportionment is intended to address—multiple exposure and multiple defendant scenarios—have nothing to do with the physical phase of proof of causation. But apportionment strays from fundamental tort law precepts if it deals with the multiple exposure and multiple defendant problems by acting as if they didn't exist. That is, the "market share" test allows a plaintiff to proceed against a defendant without proving that the defendant had anything at all to do with the exposure or injury; whereas, the "substantial factor" test retains the causation connection between each defendant and the plaintiff's injury. This aspect of the "market



share" test means that it cannot be considered a tort-based remedy.<sup>80</sup>

### B. *Abandoning the Toxic Tort System*

Proposals for changing the causation requirement while working within the tort system are modest when compared to the alternative reform model. Proponents of the administrative compensation remedy find the tort system unacceptable as a policy for hazardous substance exposure injuries. In its stead, a direct wealth transfer would be accomplished by creating out of industry taxes a compensation fund which, in the reform proponents' view, would be unencumbered by the limitations and complications that plague tort law.

Administrative compensation remedies for hazardous substance exposure injuries have been established elsewhere in the tort law system in extremely limited circumstances.<sup>81</sup> Some, like the remedy established for coal mine workers suffering from "black lung" disease, were ushered in with great expectations but now are regarded by many as dismal failures.<sup>82</sup> Perhaps learning from these lessons, or perhaps not, a general administrative remedy for hazardous substance exposure injuries came into vision in the 1970's. The crystalization of this vision came with the publication of the 301(e) study group's

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<sup>80</sup>Indeed, some courts recently have rejected the "market share" test for the reasons discussed herein. See *Mulcahy v. Eli Lilly & Co.*, No. 85-685 (Iowa Apr. 16, 1986). See also *Nat'l Law Journal*, June 23, 1986, at 15 (commentary advises caution in use of market share theory). Few commentators have advocated widespread adoption of the "market share" test in toxic tort litigation. E.g., *Toxic Waste Litigation*, *supra* note 20, at 1620-22.

<sup>81</sup>The most notable federal program is the remedy established under the Federal Black Lung Program, see note 73 *supra*, for coal mine workers and their families for injuries from diseases associated with exposure to coal mine dust. A smattering of other federal statutes exists which, whether intended or not, may provide assistance to hazardous substance exposure victims in the form of administrative remedies. See *An Analysis of Existing Federal Statutes*, *supra* note 20. By and large, however, there presently exists no administrative remedy of broad application to hazardous substance exposure injuries.

<sup>82</sup>The Black Lung Program is considered a disappointment by many not because there is any problem in providing a source of money for the beneficiaries. Quite the opposite, the program has taken on a proportion far in excess of that which was intended, both in terms of the number of beneficiaries and the total expenditure, and for that reason has been labeled a failure. See *Proposals*, *supra* note 12, at 16 (roughly twelve times the expected number of claims and twenty times the anticipated cost); O'Connell, *Foreclosing Claims for Personal Injury From Toxic Substances by Defendants' Tender of Claimants' Net Economic Losses*, 2 VA. J. NAT. RESOURCES L. 203, 204 n.9 (1982). See also *infra* note 147.

report, which recommended ten steps for the creation of a two-tiered compensation remedy.<sup>83</sup> The first tier would provide state administered, federally supervised and supported no-fault compensation for hazardous waste exposure injuries.<sup>84</sup> The funding for such remedies would be obtained from a combination of federal contributions, industry-based taxes, and subrogation claim collections.<sup>85</sup> Because this administrative phase of the remedy would provide recovery only of medical expenses, loss of earnings, and death benefits,<sup>86</sup> personal injury claims would still be allowed under a second tier of recovery, to be implemented through reformed toxic tort remedies.<sup>87</sup> So as to avoid double recoveries, however, any compensation under the first tier would have to be paid back out of second tier or other collateral recoveries.

Several variations on the 301(e) study group's proposal have been suggested.<sup>88</sup> The ways in which the administrative fund is

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<sup>83</sup> See 301(e) Study Group Report, *supra* note 14, at 178-257.

<sup>84</sup> *Id.* at 225-29.

<sup>85</sup> *Id.* at 230-36.

<sup>86</sup> *Id.* at 219-24.

<sup>87</sup> *Id.* at 240-53.

<sup>88</sup> For a discussion of how various legislative proposals have differed from the 301(e) study group proposal, see *Proposals*, *supra* note 12. Besides the pilot program proposed in S. 51, the most comprehensive proposals endorsing an administrative remedy are those by Professors Sobel, see *A Model Act*, *supra* note 20, at Trauberman, see *Statutory Reform of "Toxic Torts," supra* note 20. Professor Sobel bases his proposal largely on the experience in Japan under the Japanese law for Compensation of Pollution-related Health Damage, Kogai kenko higai hoshō hō, Law No. 111 of 1973. The Japanese law codified the traditional practice of *mimaikin*, whereby polluters since the 19th century had made extrajudicial payments to hazardous substance exposure victims in order to maintain social harmony. That system broke down in the 1960's and then was codified into a law allowing residents of officially designated pollution zones to seek administrative compensation awards. The awards are financed through levies on polluters. Professor Sobel's plan for the establishment of an Administrative Board for Compensation to administer "pollution charges" and make "compensation awards" is based upon many of the principles underlying the Japanese law. See *A Model Act*, *supra* note 20, at 709-12, 737-56. Professor Trauberman's proposal would establish an administrative claims tribunal which would operate under principles resembling those of tort law, albeit in substantially modified form. Professor Trauberman's proposal relies on implementation of a relaxed statute of limitations, expansive evidentiary rules, relaxed causation principles including causation presumptions, and a polluter-financed compensation fund. See *Statutory Reform of "Toxic Torts," supra* note 20, at 217-49. For other administrative remedy proposals focusing on relaxation of causation principles as the cornerstone of reform, see *Phantom Remedy*, *supra* note 20, at 928-40; *Traditional Tort Analysis*, *supra* note 20, at 612-19; *Toxic Waste Litigation*, *supra* note 20, at 1633-59.

For a proposal that is difficult to categorize, see O'Connell *Foreclosing Claims for Personal Injury From Toxic Substances by Defendants' Tender of Claimants' Net Economic Losses*, 2 VA. J. NAT. RESOURCES L. 203 (1982). Professor O'Connell proposes a

established and distributed have been the subject of differing suggestions. Additionally, some proposals come out differently on the question of a two-tiered approach. The differences in the various administrative remedy proposals largely reflect differing emphases on two contrasting objectives—public health protection and individualized compensation. It is worth examining these three basic features of the administrative models more closely.

### (1) Providing the Administrative Remedy

The 301(e) study group's proposal would establish an administrative structure much like workers' compensation insurance systems, though directed at nonoccupational exposures to hazardous waste.<sup>89</sup> Compensation may be obtained without showing fault. A claim must be filed within three years of the claimant's discovery of an injury.<sup>90</sup> Proof of exposure to hazardous waste, an injury, and some causal connection between the exposure and the injury must be established.<sup>91</sup> However, the causation burden would be relaxed by use of rebuttable presumptions.<sup>92</sup> These rebuttable presumptions would include both the generic and the claimant-specific varieties. "Toxic Substances Documents" would be compiled by the supervisory federal agency to provide evidentiary data showing that specific hazardous substances or wastes presumptively cause specific diseases or illnesses.<sup>93</sup> Proven exposure to such a designated disease-causing agent would raise the rebuttable presumption that such exposure proximately caused the injury in question.<sup>94</sup> Unless that presumption were rebutted, such proof would entitle the claimant to reasonable medical expenses and lost earnings, to be offset by collateral receipts from other public

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statute under which a toxic tort suit defendant could foreclose the claim by offering within six months of the claim to pay all of the plaintiff's economic losses not covered by collateral sources. Failure to offer such payment would subject the defendant to expedited trial, strict liability fault standards, and liability for plaintiff's costs and attorneys fees should plaintiff prevail. Defendants would have incentive to make such offers whenever the cost of the offer would be less than the predicted costs of litigation, which in themselves can be quite substantial.

<sup>89</sup> See 301(e) Study Group Report, *supra* note 14, at 235.

<sup>90</sup> *Id.* at 194.

<sup>91</sup> *Id.*

<sup>92</sup> *Id.* at 198-218.

<sup>93</sup> *Id.* at 199-202.

<sup>94</sup> *Id.* at 198-99.

assistance programs.<sup>95</sup> Genetic damage may be included in a claim, but not pain and suffering.<sup>96</sup> So as to encourage continued use of private insurance by those who can afford it, claimants with after-tax incomes over a specified ceiling would not receive full loss-of-earnings compensation from the administrative remedy.<sup>97</sup> Finally, the administrative remedy would be provided by states participating in a federal grant-in-aid program.<sup>98</sup> A state would be subrogated to the rights of successful claimants;<sup>99</sup> for unsuccessful claimants, state court judicial review would be provided and made subject to federal supervision.<sup>100</sup>

In contrast, the Superfund amendment that was contained in S. 51 differed from the 301(e) study group's proposal in two fundamental respects. First, pursuant to the designation of five experimental communities, S. 51 would have extended an administrative remedy "in specific areas which contain individuals who are at statistically significant increased risk of illness from exposure to hazardous substances."<sup>101</sup> The amendment thus aligned the administrative remedy with the present status of scientific proof, which represents a lesser standard of proof even than that required by the study group's proposal. However, S. 51 would not have provided any direct economic compensation such as the damages provided by the study group's proposal. Rather, S. 51 relied almost entirely on an insurance-providing mechanism as a means of addressing "the immediate public health needs of potentially affected individuals."<sup>102</sup> Group medical benefits policies would be extended to all individuals in the designated area, providing periodic medical screening for persons without symptoms and covering costs of treatment for persons who have symptoms.<sup>103</sup> Reimbursement for past medical expenses would be provided by the administrative remedy only if not provided by other sources.<sup>104</sup> Clearly, S. 51 emphasized public health protection whereas the study group emphasized private compensation.

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<sup>95</sup> *Id.* at 219-24.

<sup>96</sup> *Id.* at 220.

<sup>97</sup> *Id.* at 222.

<sup>98</sup> *Id.* at 225-29.

<sup>99</sup> *Id.* at 231.

<sup>100</sup> *Id.* at 237-39.

<sup>101</sup> See S. Rep. No. 99-11, *supra* note 1, at 53.

<sup>102</sup> *Id.* at 53.

<sup>103</sup> *Id.*

<sup>104</sup> *Id.*

Overall, then, due to a difference in emphasis the S. 51 approach is broader than the 301(e) study group's proposal in one respect and narrower in another respect. Lesser compensation would have been provided to a greater number of people. This difference illustrates how other proposals for an administrative remedy may principally differ in scope from the 301(e) study group's proposal. First the class of beneficiaries must be determined. An emphasis on public health protection leads to a greater concern with risk and less concern over proof of causation, which naturally will result in a broader class of beneficiaries—far broader than the tort system and broader even than an administrative remedy with a compensation-based emphasis. Then the scope of the remedy must be determined. Here an emphasis on public health protection focuses on risk management, providing each beneficiary with something less than that provided by a compensation-based remedy, and certainly with far less than that provided under the tort system. Ultimately, however, the public health protection approach actually might provide total class-wide benefits equalling or exceeding those provided by compensation-based remedies.

## (2) Funding the Administrative Remedy

The 301(e) study group recommended creation of a compensation fund roughly parallel in funding mechanisms to Superfund itself. Federal taxes and contribution requirements would be imposed on producers and disposers of hazardous substances.<sup>105</sup> The class of industries so burdened might be expanded beyond that covered by the Superfund.<sup>106</sup> State subrogation recoveries would also be funneled back into the compensation fund.<sup>107</sup> Drawing on general revenues would be a last resort.<sup>108</sup>

S. 51 differed from the study group's proposal in this respect as well. The federal grants to have been used under S. 51 for establishment of the state insurance programs were to have been made available *only* from the general revenue contribution to the Superfund.<sup>109</sup> This difference again reflects the contrasting emphases of the two proposals. Whereas the 301(e)

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<sup>105</sup> See 301(e) Study Group Report, *supra* note 14, at 230.

<sup>106</sup> *Id.*

<sup>107</sup> *Id.* at 232.

<sup>108</sup> *Id.*

<sup>109</sup> See S. Rep. No. 99-11, *supra* note 1, at 51.

study group sought to provide individualized compensation, S. 51 was concerned with delivery of *care* on a group basis, through such insurance mechanisms as group health organizations and risk retention plans.<sup>110</sup> Its objective was to manage public health risks, not to assign blame or bring about a wealth transfer between industry and disease sufferers. Reliance on the Superfund's industry tax mechanism therefore would have been inconsistent with the overall approach of S. 51. Rather, a public risk was to be dealt with through public funding. To the extent that other administrative remedies place different emphasis on the objectives of public health protection and individualized compensation, the proposal funding mechanisms should be expected to vary accordingly between general revenues and specific taxes.

(3) Two Tier or Not Two Tier, That is the Main Question

The 301(e) study group did not cut the cord with the tort law system entirely. Common law toxic tort remedies, though subordinate to the "Tier One" administrative compensation, would still be made available even to those who had pursued and obtained Tier One remedies.<sup>111</sup> Certain reforms of these "Tier Two" tort-based remedies were recommended, however. The 301(e) study group suggests adoption of the discovery rule by all jurisdictions.<sup>112</sup> Liberal joinder is suggested as a way of streamlining complex causation and liability stages of trial, leaving individualized issues such as damages to separate trials.<sup>113</sup> Strict liability would be used as the standard of fault, thus further reducing the complexity of liability proof.<sup>114</sup> Subject to a *de minimis* exception, a rule of joint and several liability would apply, with defendants bearing the burden of apportioning damages.<sup>115</sup>

Most significantly, however, the 301(e) study group concluded that the rebuttable causation presumptions recommended for the Tier One administrative compensation should

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<sup>110</sup>*Id.* at 53-54. It was stated that, "[w]hile there are other possible goals or objectives . . . such as encouraging conduct to prevent such exposures, it was decided that the immediate public health needs of potentially affected individuals should be the principal objective in the system." *Id.* at 53.

<sup>111</sup>See 301(e) Study Group Report, *supra* note 14, at 255-66.

<sup>112</sup>*Id.* at 240-41, 246.

<sup>113</sup>*Id.* at 241-42, 246.

<sup>114</sup>*Id.* at 245, 246-47.

<sup>115</sup>*Id.* at 243-44, 247-48.

not be extended to the reconstituted Tier Two toxic tort remedies.<sup>116</sup> Indeed, even use of the Toxic Substance Documents in toxic tort cases was specifically cautioned against.<sup>117</sup> The study group's principal concern was that relaxing the causation requirement substantially for Tier Two would increase reliance on that mode of recovery at the expense of Tier One.<sup>118</sup> Thus, consistent with its vision of the two tiers as noncompeting, albeit with Tier One being the remedy of first resort, the study group committed itself to the fundamental principle of tort law "that it [is] appropriate in what are likely to be very substantial tort actions for the plaintiff to meet the full burden of proof including the necessary scientific and medical evidence necessary to establish causation."<sup>119</sup>

The 301(e) study group's two-tiered remedy approach has been the subject of wide disagreement. For example, the insurance benefits which would have been made available by S. 51 were to be secondary to and nonduplicative of benefits available under other insurance policies and public assistance benefits running in favor of an individual.<sup>120</sup> Presumably, moreover, the S. 51 remedy was to have been entirely separate from the toxic tort remedies, unaffected by them and leaving them unaffected. S. 51 thus represented a "single-tiered" approach, allowing compensation to fall strictly within the domain of tort law and making public health protection the principal concern of the supplemental administrative remedy.

Similar to S. 51, some proposals for an administrative remedy see it primarily as a safety net for persons who fall through the cracks of the tort law system. Under these proposals, the tort and administrative remedies would be available at the injured person's option.<sup>121</sup> But administrative remedy purists are intolerant of the tort system and would like to see a clean break from it. Proposals in this category would direct all injured persons to a broad-based administrative remedy which would preempt the common law toxic tort remedies.<sup>122</sup>

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<sup>116</sup> *Id.* at 245, 248-50.

<sup>117</sup> *Id.* at 250.

<sup>118</sup> *Id.* at 249.

<sup>119</sup> *Id.*

<sup>120</sup> See S. Rep. No. 90-11, *supra* note 1, at 49-50.

<sup>121</sup> See *Statutory Reform of "Toxic Torts," supra* note 20, at 245.

<sup>122</sup> See *Proposals, supra* note 12, at 23. Presumably, those elements of damages not provided by the administrative remedy under the two-tiered approach, such as pain and suffering, would be provided in a "pure" administrative remedy.

This range of proposals again reflects the contrasting emphases on public health protection and individualized compensation. S. 51 was unconcerned with individualized damages compensation, and thus made no connection whatsoever with the tort system. Safety net proposals which formally place the administrative remedy in line with but secondary to toxic tort remedies reflect a greater concern with individualized compensation. These proposals do not place substantial emphasis on management of public health risks, however. Then there are the 301(e) study group's proposal and the administrative remedy purist approach, neither of which purports to be concerned with public health risk management and which differ from each other only in the extent to which they abandon the present toxic tort remedies.

### III. ANALYSIS

Whether a particular reform model emphasizes public health protection, risk management, or individual compensation, all reform models share a common premise: that the proposed reform will achieve its goals better than the combination of administrative regulation (for public health protection and risk management) and common law toxic tort remedies (for individualized compensation). Since no empirical proof yet exists to support this premise, most reform models attempt to present theoretical proof under one of three broad labels: (1) economic efficiency; (2) goals-oriented utilitarianism; and (3) individual justice. For many proposals, moreover, administrative processes are portrayed as superior to judicial processes in implementing these theoretical bases. Yet much of the theoretical analysis that is presented leaves much to the imagination. The huge gaps in empirical support are not adequately filled by the theory, and much of the theory proceeds on the basis of sheer faith in what appear to be the reform proponent's basic precepts of the way in which the world works. Close scrutiny of these basic precepts and their theoretical settings is necessary before any of the reform proposals can be fully evaluated.

#### A. *Economic Efficiency*

There is a tendency nowadays to reduce virtually every legal issue to an economic efficiency analysis. Problems arise, however, in trying to explain modern environmental law strictly in these terms. On the one hand, cost-benefit analysis has been



impressed upon environmental regulators as a method of bringing about economically efficient regulatory decisions in certain areas.<sup>123</sup> On the other hand, as one commentator points out, statutes such as the Endangered Species Act could not possibly be understood as reflecting rational economic decision.<sup>124</sup> The attempt to fit such policy decisions into an economic analysis often requires assigning arbitrary values to items which cannot meaningfully be valued, such as endangered plant species. In a very real sense, then, much of environmental law actually creates rather than corrects market deficiencies. That is because market economics in its purest, most Posnerian form, would in many instances lead to environmentally disastrous results contrary to our most basic policy objectives. In short, for environmental law, "efficiency is one value among many and is not a meta-value that comprehends all others."<sup>125</sup>

Nevertheless, many toxic tort reform proponents find economic efficiency analysis to be the principal justification for altering the present remedial and regulatory structure.<sup>126</sup> Never

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<sup>123</sup> See, e.g., 33 U.S.C. § 1314(h)(2)(B) (1976) (allowing EPA to take economic costs and benefits into account when assessing best available water pollution control technologies).

<sup>124</sup> See Sagoff, *Economic Theory and Environmental Law*, 79 MICH. L. REV. 1393, 1398-99 (1981) [hereinafter *Economic Theory*]. See also Latin, *Environmental Deregulation and Consumer Decisionmaking Under Uncertainty*, 6 HARV. ENVTL. L.J. 187 (1982) [hereinafter *Environmental Deregulation*].

<sup>125</sup> *Economic Theory*, *supra* note 124, at 1417. Dr. Sagoff notes other examples of economically "inefficient" environmental policies, such as regulations designed to prevent deterioration of air quality through restrictions on development, 40 C.F.R. §§ 51.24 and 52.21 (1985). For such programs, Dr. Sagoff challenges the practice of "shadow" pricing "soft" externalities (e.g., the value of clean air or endangered species) as at best "an attempt to save free-market economic theory from the objection that it leads to polluted rivers, congested highways, stinking air, and commercial blight." *Economic Theory*, *supra* note 124, at 1404 n.51; see also *id.* at 1409 n.75. By contrast, the 15th Annual Report of the Council on Environmental Quality noted an historical movement of environmental regulation toward a "planned" economy and cited as a result the enormous costs of removing marginal amounts of pollution from the environment. The report called for movement back towards market-oriented approaches. See 15 ENV'T REPORT (BNA) 2006-07 (Feb. 28, 1986).

<sup>126</sup> See, e.g., *Statutory Reform of "Toxic Torts," supra* note 20, at 206-15. Professor Trauberman's three maxims for formulating an economically efficient remedy are "1. optimize the relationship between avoidance costs and administrative costs in searching for the cheapest cost avoider; 2. avoid externalization of costs . . . ; 3. seek out . . . the party who can enter into a transaction most readily to rectify an allocation of costs that is less than optimal, in that it places costs on the person who is not the cheapest cost avoider." *Id.* at 210. In less elaborate terms, this is the "polluter pays" principle. See *Phantom Remedy, supra* note 20, at 929; *A Model Act, supra* note 20, at 759; *No Solutions, supra* note 20, at 329; *Traditional Tort Analy-*

mind that the reasons for allowing or disallowing pollution often do not and should not reflect economic efficiency; these reform proponents would have us look at hazardous substance exposure remedies purely from an economic efficiency viewpoint. The *modus operandi* of this approach is to identify an "externality"<sup>127</sup>—a cost of pollution that is not allocated to the person responsible for causing it—and to "internalize"<sup>128</sup> it in someone in the most economically efficient manner. In the toxic tort context, the theory goes that the difference between the dollar amount of hazardous substance exposure injury believed to be caused by industry and the dollar amount of actual compensation provided by the common law toxic tort remedies directly to injured persons is an industry-caused externality that is not being properly allocated. This externality should be internalized wholly in industry, the reform advocates posit, because it would not be economically efficient to allocate any of it to the general public.<sup>129</sup>

Changing the tort law causation requirement is a handy way of bringing about the reallocation of these perceived externalities. The economic justification for this reform is based on the concept of "transactions costs"—i.e., the costs of recovering the externality from industry through toxic tort remedies. If consumers are portrayed as virtually unresponsive to market forces, regulators as ineffective, and businesses as capable of precise microeconomic decision making, this approach has some validity and might work. Thus, reform proponents would have us believe that consumers are incapable of understanding

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sis, *supra* note 20, at 593. Under this approach, the risk created by causal indeterminacy will almost always be internalized in the "deep pocket." See *The "Fair and Just" Way*, *supra* note 20, at 315.

<sup>127</sup> Externalities are the social costs, such as pollution, involved in the production of a good or service which do not accrue to the producer of the good or service. See Dahlman, *The Problem of Externality*, 22 J.L. & ECON. 141 (1979); *Environmental Deregulation*, *supra* note 124, at 212.

<sup>128</sup> Internalization of externalities requires that the price of a particular commodity or service reflect all costs, including the social "externality" costs. See *id.* Cost internalization is a favorite topic among environmental law commentators. See *Statutory Reform of "Toxic Torts," supra* note 20, at 211 nn.178-184; *A Model Act*, *supra* note 20, at 761; *No Solutions*, *supra* note 20, at 329. According to this theory, the most efficient method of cost internalization is to assess costs of externalities on the person who is the "cheapest cost avoider," i.e., the person who can bear the cost in the least costly manner. See *infra* note 136.

<sup>129</sup> Predictably, toxic tort reform proponents conclude that those engaged in manufacturing, handling, and disposing of hazardous substances are the cheapest cost avoiders. See *Statutory Reform of "Toxic Torts," supra* note 20, at 209.

the risks of harm so as to avoid harm in the first place,<sup>130</sup> and are unable efficiently to bear the transactions costs of recovering fully for the harm they do incur.<sup>131</sup> Regulators are portrayed as incapable of controlling the levels of risk and harm.<sup>132</sup> Industry, however, apparently is the only sector having some omniscient sixth sense in this regard.<sup>133</sup> Industry, so goes the theory, will respond to the cost "internalization" effort with economically precise decisions that will bring about just the right amounts of pollution, risk avoidance, and compensation awards to injured persons. Armed with these premises, the reform proponents conclude that it is economically efficient to modify or abandon toxic tort remedies in the manner proposed by the various reform models.

One problem with applying the economic efficiency analysis in the toxic tort context is that it can lead to results contrary to basic policy objectives. It assumes that there is an optimum level of hazardous substance exposure injuries which can be determined through economic analysis alone. However, there may be instances in which we don't want to accept *any* occurrences of a particular injury, even though economic efficiency

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<sup>130</sup> See *id.* at 185-86. Professor Trauberman portrays the general public as lacking the background to evaluate the factors that together determine risks. He goes so far as to suggest that smoking is an involuntarily assumed risk which should be internalized in cigarette manufacturers. *Id.* at 185-86 and n.45. See also *Environmental Deregulation*, *supra* note 134, at 198. Claims that cigarette manufacturers are liable for smokers' injuries under a "failure to warn" theory have recently been rejected by the courts. See *Cippollone v. Liggett Group, Inc.*, No. 85-5073 (3d Cir. Apr. 9, 1986).

<sup>131</sup> The principal transaction cost faced by hazardous substance exposure victims is the cost of litigation. Plaintiffs cannot bear this cost as efficiently as defendants, Professor Trauberman claims, because defendants usually are more wealthy and can hire larger law firms. *Id.* at 214.

<sup>132</sup> Indeed, one of the key ingredients of toxic tort reform proposals is the depiction of regulatory agencies as utter failures capable of producing only imprecise, underfunded, and highly politicized responses. See *id.* at 203-06.

<sup>133</sup> Professor Trauberman portrays industry as "better informed, more likely to know of the potential effects of hazardous substances, and better able to identify those who might have been exposed to such substances." *Id.* at 214. He posits that, under an administrative remedy like that which he proposes, by replacing individualized liability with shared liability "firms can obtain an accurate estimate of both the true costs of their activities and how these costs will be assigned to them, thus allowing them to determine whether it is cheaper to incur the costs or to avoid them." *Id.* at 213. See also *A Model Act*, *supra* note 20, at 765 (describing how manufacturers will conduct cost-benefit analyses incorporating the costs of the administrative "pollution charges"). It has yet to be demonstrated how such precise microeconomic decisionmaking will take place on a firm-by-firm basis when firms still will not know the full extent of their individual liability for awards from the proposed administrative funds.

alone would tell us to allow several or even hundreds of occurrences. Reform of toxic tort remedies will not bring about such nonmarket results; direct regulation is more likely to control such outcomes. Similarly, is there an optimum level of public health risk? If so, is economic efficiency the only criterion for determining that optimum level? For example, we could achieve the same "optimum" level of risk at two hazardous waste landfills—one located in a downtown metropolitan area and one located in an unpopulated area—simply by imposing different technological safeguards. And it may prove more economically efficient to locate a safe landfill in a downtown area. But could we live with *any* level of risk in such circumstances? Is it not better simply to allow regulators to impose flat prohibitions against certain activities, in effect determining that, regardless of the economically efficient result, the optimum level of risk is no risk?

Moreover, advocates of the economic efficiency approach make the assumption that the present state of scientific knowledge, although insufficient for proving causation, allows us to determine that externalities exist in the form of uncompensated hazardous substance exposure injuries. Yet how can we know that such externalities exist if we cannot be sure how the underlying injuries are caused?<sup>134</sup> In essence, then, the reform proposals are attempting to deal with allocating the costs of uncertainty, not of quantifiable risk, in an economically efficient manner. But, then, by what economic principle do we internalize the external costs of this uncertainty? Indeed, by what principles, economic or otherwise, do reform proponents conclude that there should be a right to recover for the externality costs of this uncertainty? In general, reform proponents fail properly to take into account this uncertainty factor in their economic analyses.

Lastly, another problem with reform proposals based on the economic efficiency approach is that they are not faithful to their own standards. There has been virtually no acknowledgment of the role consumer demand plays in bringing about the pollution externalities which are believed to lead to uncompensated injury. This issue typically is avoided by characterizing

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<sup>134</sup>Professor Trauberman acknowledges that "[t]he nascent and evolving scientific discipline that assesses the risk of hazardous substances merely allows scientists to make rough predictions about the effects of chemicals." *Id.* at 186 n.46. No toxic tort reform proponent has contended otherwise.

consumers as wholly unresponsive to the market forces that reform proponents claim will shape industry's responses.<sup>135</sup> Surely, reform proponents say, the public cannot be held responsible for the offensive consequences of its demand choices. One commentator has called this the theory of the "self-fueling and irreversible consumer economy."<sup>136</sup> It allows us, as consumers, to make demand choices which would disappoint us as citizens. We purchase products and yet object to and blame someone else for the pollution consequences of the industrial processes necessary for creation of those products. Thus, to correct the ill effects of unrestrained consumerism, environmental law often must act contrary to the market's belief in consumer sovereignty.

Toxic tort reform proposals, however, play right into the hands of our unacceptable consumer decisions, for they are directed strictly at supply-side effects rather than at both supply and demand-side effects. Reform proponents tell us that if industry must internalize greater (or complete) responsibility for compensation of alleged hazardous substance exposure injuries, and thus bear greater costs, the supply of offensive products will decrease. On the other hand, if the consumer sector must internalize some of the costs of uncompensated injuries, will not the demand for offensive products decrease? No, say reform proponents, because consumers are too ignorant to know that they are being required to internalize those costs and therefore will not respond to them. But this answer is both insufficient and irresponsible. There is no justification for relieving society as a whole of the burden of educating itself

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<sup>135</sup> See *infra* note 140. Only one other commentator has recognized that "[i]f the victims of externalities are awarded full compensation for their losses, they would have no incentive to minimize the damage themselves. That would lead to inefficient resource allocations in cases where the victim of externalities could avoid losses at a lower cost than the creators of externalities." *Environmental Deregulation*, *supra* note 124, at 215 n.109.

<sup>136</sup> See *Economic Theory*, *supra* note 134, at 1404 n.50. A similar problem emerges when what we perceive as our "rights" get in the way of reason. An example is the growing controversy surrounding corporate "fetal protection" policies, in which certain jobs are forbidden to pregnant women and, indeed, to anyone whose exposure to the particular job's environment may risk damage to his or her offspring. See McElveen, *Reproductive Hazards in the Workplace*, 20 THE FORUM 547 (1985). Some fetal protection policies have been challenged as constituting illegal sex discrimination. *Id.* at 567-72. It would seem, however, that careful application of such a policy to high-risk jobs would serve legitimate purposes and should withstand any such attack. Any person who would resist or ignore reasonable application of such a policy certainly should be presumed to have "internalized" the risk regardless of who is the "cheapest cost avoider."

about the risks associated with an industrial society. Indeed, we can and do engage in such education through publicly funded research projects and regulatory responses, and we can and do restrict certain consumer choices by direct regulation.

Consumers, and society in general, therefore are not too unresponsive to bear the burden of internalizing the extent of their responsibility for the risks and costs of uncompensated hazardous substance exposure injuries. And consumers should be required to shoulder this burden. Indeed, to require the consumer sector to do so is economically efficient, to use the reform proponents' own hobbyhorse. Such internalization not only will encourage more rational demand decisions but also will promote the public's response to health care protection. To relieve the public of these responsibilities is neither economically efficient nor good public policy.

The economic efficiency analysis presented in reform proposals thus does not provide all the answers for the toxic tort reform proponents. Generally it brings about a rigid basis for guiding environmental policy that is incapable of addressing the practical requirements. With respect to toxic tort remedies specifically, it wholly ignores the role of regulators in controlling public health risks and discounts the role of consumer demand in creating a portion of those risks. If toxic tort reform is justified as a policy goal, then, it must be because of some other theoretical basis and not the zealous application of economic efficiency theory.

#### B. *A Goals-Oriented Approach*

Several toxic tort reform advocates argue that present toxic tort remedies do not realize what they call the traditional tort goals—compensation, deterrence, and retribution—and that reform proposals would do a better job of that.<sup>137</sup> Some commentators even suggest that the traditional tort goals are wrong in the context of hazardous substance exposure injuries; rather, the goals should be minimization and control of environmental risks posed by toxic pollution through modified compensation schemes and increased research efforts.<sup>138</sup> In either case, however, the premise of these reform proposals is

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<sup>137</sup> See *A Model Act*, *supra* note 20, at 759-65.

<sup>138</sup> See *Traditional Tort Analysis*, *supra* note 20.

that present toxic tort remedies are not helping us realize the goals of our hazardous substance exposure policy.

To the extent that that policy is defined by the three "traditional" tort goals of compensation, deterrence, and retribution, the wealth transfer brought about by relaxing the causation requirement undoubtedly will yield greater compensation, deter more activities, and mete out more retribution than the present remedies. But that does not answer the question whether such reforms will achieve the right levels of compensation, deterrence or retribution, or whether such reforms are the best way of doing so. First, if tort law ever was the principal means of realizing these goals, that no longer is the case. We do not attempt to deter even the most simple of tortious conduct exclusively by tort remedies. Rather, statutory and regulatory proscriptions have become commonplace as means of regulating conduct as mundane as driving or as potentially dangerous as hazardous waste disposal. It would be absurd, for example, to rely on tort remedies alone to provide the deterrence of reckless driving. It would be even more absurd to rely on tort remedies alone to provide the deterrence of negligent hazardous waste disposal. Thus it is inappropriate to charge that toxic tort remedies do not provide all the deterrence that is needed. We should first examine possible deficiencies in regulatory programs, and then determine how the gap between the amounts of deterrence needed and obtained is best closed.

Similarly, retribution for negligent handling of hazardous substances cannot be expected to be the exclusive domain of toxic tort remedies. Civil penalties,<sup>139</sup> criminal fines and imprisonment,<sup>140</sup> and other enforcement mechanisms<sup>141</sup> for vio-

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<sup>139</sup> A number of federal environmental statutes contain civil penalty provisions covering violations of regulations and orders. *See, e.g.*, Clean Air Act, 42 U.S.C. § 7420 (Supp. V 1981); Toxic Substances and Control Act, 15 U.S.C. § 2615(a) (1976); Solid Waste Disposal Act, 42 U.S.C. § 6928(a) (1976); CERCLA, 42 U.S.C. § 9609 (Supp. V 1981); Clean Water Act, 33 U.S.C. § 1319(d) (1976); Safe Drinking Water Act, 42 U.S.C. § 300h-4(c) (1976).

<sup>140</sup> Several federal environmental statutes contain criminal penalty provisions. *See, e.g.*, Clean Air Act, 42 U.S.C. § 7413(c) (Supp. V 1981); Toxic Substances Control Act, 15 U.S.C. § 2615(b) (1976); Clean Water Act, 33 U.S.C. § 1319(c) (1976).

<sup>141</sup> A number of federal environmental statutes permit EPA to take action against public health threats under "imminent hazard" provisions. *See, e.g.*, CERCLA, 42 U.S.C. § 9606 (Supp. V 1981); Solid Waste Disposal Act, 42 U.S.C. § 6973 (1976); Safe Drinking Water Act, 42 U.S.C. § 3001 (1976); Toxic Substances Control Act, 15 U.S.C. § 2606 (1976); Clean Water Act, 33 U.S.C. § 1364 (1976). Other statutes establish liability for cleaning up hazardous substance re-

lations of regulatory standards, if pursued effectively, are potentially more effective both as a deterrent and a retributive force than are tort recoveries. Violations of regulatory standards might not result in injuries; how would tort remedies operate as a deterrent or retributive force in such circumstances? Thus, reform proposals based on a traditional tort goals approach proceed on a false premise: that tort law is the only appropriate means of realizing these goals for hazardous substance exposure injuries. Rather, for toxic torts just as for garden variety torts, the vast network of regulatory standards and enforcement has stepped in to provide more effective and direct realization of deterrence, safety, and retribution goals.

The goal of compensation, on the other hand, is best suited to the toxic tort remedies. In truth this depends upon what we mean by compensation. What is meant by compensation in tort law is tied closely to the concept of causation. Relax the causation requirement and you alter the concept of compensation fundamentally. Relaxing the causation requirement in effect provides a form of industry-financed insurance against risk and uncertainty as a party of the compensation package. It is premature to say that present toxic tort remedies do a bad job of providing such "insurance" before establishing that such industry-financed insurance is a necessary part of our hazardous substance exposure policy objectives.

The pertinent question, then, is whether present toxic tort remedies are providing adequate compensation for injuries which can be and are in fact proven to be caused by exposure to hazardous substances. Empirical assessments on this point are, unfortunately, inadequate.<sup>142</sup> Empirical, not merely theo-

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leases. See, e.g., CERCLA, 42 U.S.C. § 9607 (Supp. V 1981); Clean Water Act, 33 U.S.C. § 1321 (1976); see also *Analysis of Existing Federal Statutes*, *supra* note 20, at 18-21, 26-28. One commentator posits that the use and development of toxic tort remedies by the courts during the first half of the century helped spur the legislatures into enacting statutes such as these, lest they be perceived as the obstacle to environmental policy. See Zacharias, *The Politics of Torts*, 95 YALE L.J. 698, 722-24 (1986).

<sup>142</sup> A study conducted by the Congressional Research Service often is cited as providing conclusive proof of the inadequacy of the recoveries available under toxic tort remedies. See *Six Case Studies of Compensation For Toxic Substances Pollution: Alabama, California, Michigan, Missouri, New Jersey, and Texas, A Report Prepared Under The Supervision of the Congressional Research Service of the Library of Congress for the Comm. on Env't and Pub. Works*, 96th Cong., 2d Sess. (1980). The report focuses on twelve incidents from a list of 3,600. *Id.* at 13. Of those twelve, acute medical injuries were claimed in six, and the authors of the report appear simply to presume that those injuries were caused by exposure to the hazardous substances in



retical, studies must be conducted to assess the tort system's performance in this regard, with careful attention given to the difference between injuries suspected to have been caused by exposure and injuries proven to have been caused by exposure but left uncompensated. And even if a substantial population of uncompensated injuries for which proof of causation is available is identified, it is not clear how best to eliminate the problem. Relaxing the causation requirement of tort law would not be the appropriate solution, since, presumably, proof of causation would be available for these cases.

As for additional policy goals beyond those traditionally associated with tort law, it is not clear why relaxation of the causation requirement is a necessary condition for their realization. Modifying toxic tort remedies is at best an indirect way of bringing about an increased understanding of causation effects. Indeed, relaxing the causation requirement presumably would reduce the need for this additional knowledge. Publicly financed research efforts, on the other hand, would not be tied to the remedial structure but would be of benefit to it. Nor is risk management a goal that is related to the remedial structure. Risk management should be grounded in preventing injury, not in responding to injury. Direct regulation thus is the appropriate means of controlling public health risks associated with hazardous substances.

Overall, then, a broad goals-oriented approach gets reform advocates off to a false start. Our policy for dealing with hazardous substance exposure injuries encompasses many goals; all cannot be expected to be realized through the toxic tort remedies to the exclusion of other mechanisms.<sup>143</sup> Reform proponents who predicate their position on the alleged inade-

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question. There was no evidence of probable, versus possible, latent medical problems caused by such exposures. *Id.* at 7-8. Clearly, more work needs to be done in this area.

<sup>143</sup> See Pierce, *Encouraging Safety: The Limits of Tort Law and Government Regulation*, 33 VAND. L. REV. 1281 (1980). Professor Pierce notes that "[e]very society has found it necessary to supplement contract law [i.e., the market] with tort law and direct safety regulation." *Id.* at 1283. He lists compensation as the principal goal of tort law and risk spreading and encouragement of safety measures as secondary goals, *id.* at 1288-89; however, he suggests that the effects of cost externalities make tort law and existing regulatory approaches bad ways of achieving these goals. *Id.* at 1291-1319. His proposal, which he admits is not politically attractive, is for the establishment of a large new federal agency with the power to impose safety standards for all sorts of activities and to make compensation awards for all sorts of injuries. See also Abraham, *Cost Internalization, Insurance, and Toxic Tort Compensation Funds*, 2 VA. J. NAT. RESOURCES L. 123 (1982).

quacy of the toxic tort system thus must ignore regulatory mechanisms as a complimentary and supplementary means of achieving those goals. Either that or they must overstate the intended role of toxic tort remedies in achieving our policy goals. When confined to the goal to which they are best suited—compensation—assessing the toxic tort remedies' performance is difficult without a greater body of empirical evidence than now exists. We also first must define what it is we expect when we designate compensation as one of our goals. Should compensation be tied to the concept of causation, or should it also encompass an insurance quotient for risk and uncertainty? Until we frame the question in this manner and until we have a more complete assessment of the toxic tort remedies' performance within that framework, enactment of toxic tort reform proposals would be premature.

### C. *Individual Justice*

Reform proposals predicated on vindicating individual justice resemble a goals-oriented approach, except that only one goal is important to their cause—compensation.<sup>144</sup> This approach at least focuses on the right goal for the tort law system. What these proposals fail to take into account, however, is that individual justice works both ways. Up until now, justice under the tort law system has meant fulfillment of two conditions: (1) holding liable only those persons proven to have caused the plaintiff's injury, and (2) holding such persons liable for the full amount (more if punitive damages are recoverable) of that injury. Judge Posner has observed that "the duty to rectify loss is based not on the fact of injury alone, but also on the conjunction of wrong and harm."<sup>145</sup> For toxic tort reform advocates, however, the second of these has become the single necessary condition of justice. In other words, reform advocates are concerned only with one set of individuals—those suffering from injuries associated with hazardous substance exposure.

Reform advocates complain that this goal of full compensation cannot be met in every case so long as causal indeterminacy exists. They are correct. With causal indeterminacy, the causation "rule's undeniable effect is to shield some wrongdo-

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<sup>144</sup> See A "Public Law" Vision, *supra* note 20.

<sup>145</sup> See *id.* at 877 n.108.

ers from liability and force victims to bear their losses fully."<sup>146</sup> That effect is unjust, but no more unjust than would be the effect of relaxing the causation requirement to correspond with the level of available scientific proof of causation. If that were done, some persons would recover awards when in fact their injuries were *not* caused by the defendant's conduct. That effect would violate the first condition of tort law justice—the one reform advocates have forgotten about.

The causation requirement therefore serves to balance one of the fundamental conditions of tort law justice with the other. Causal indeterminacy prevents the toxic tort remedies from meting out full compensation; however, the problem is with causal indeterminacy, not with the causation requirement. Relaxing the causation requirement will not help bring us one step closer to a greater understanding of causation in cases of hazardous substance exposure injuries and may even impede our work in that direction. We should focus our efforts on correcting the real problem—an insufficient body of evidence addressing such causal links.

#### D. *The Myth of Administrative Superiority*

A dominant theme in many reform proposals is that the goals of hazardous substance exposure injury compensation policy will best be realized through administrative rather than judicial processes. This contention is truly ironic given the extreme dissatisfaction most reform advocates exhibit with the job administrative processes have done in regulating activities involving hazardous substances. Putting that inconsistency aside, there still is cause for skepticism over what the reform proponents promise to deliver.

What possibly sounded the death knell for the victim assistance demonstration program of S. 51 was the perception that administrative programs of this sort have had a way of getting out of hand. The classic, perhaps overused, example is the Black Lung Program established to compensate coal miners disabled by pneumoconiosis.<sup>147</sup> In the debates on S. 51, Sena-

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<sup>146</sup>*Id.* at 879. On the other hand, "to hold a defendant firm accountable not only for disease losses caused by its own tortious conduct, but also for those attributable to background risk, might inflict a 'crushing liability'." *Id.* at 858-59. See also Garrett, *Compensating Victims of Toxic Substances: Issues Concerning Proposed Federal Legislation*, 13 ENVTL. L. REP. (ENVTL. L. INST.) 10172, 10175 (1983).

<sup>147</sup>See notes 61 and 82 *supra*.

tor Helms drew analogy to the experience of the Black Lung Program:

The Black Lung Program was supposed to be a one-time program, terminating in 1976 with an estimated cost of \$350 million. Contrary to this intent and these projections, the Black Lung Program has ballooned to a program that in 1981 compensated some 460,000 individuals, more than twice the number of coal miners employed at that time, with a cost to the American taxpayer of \$11.5 billion, a cost more than 30 times the initial cost projection.

The American public cannot bear the financial burden of the cost of additional programs such as the Victims' Assistance Program in S. 51.<sup>148</sup>

Although Senator Helms fell in the camp of extreme opposition to the S. 51 program, his use of the Black Lung Program as an example apparently did not fall on deaf ears.

And, history aside, it is difficult to share the vision of a national hazardous substance exposure remedy administered by federal or state agencies. Indeed, few reform proponents have gone very far in describing the details of this administrative process. But some of the details are not hard to imagine. An army of administrators would replace an army of lawyers to handle a greatly expanded docket of claims. Regulations and hearings would replace rules of procedure and evidence now used in judicial proceedings. The administrative body would itself be subject to legal challenges from dissatisfied claimants and a disgruntled industry. More significantly, however, the relaxation of causation principles, which is a central feature of the administrative remedy model, would result in a claimant pool vastly increased in size over that which presently exists under toxic tort remedies. Moreover, many of the additional claimants would have marginal cases which would be difficult to decide and thus would tax the administrative system's claim assessment capacity even further. Once this great locomotive got started, keeping it in check would become the business of Congress and, alas, the courts.

Nevertheless, one of the selling points of the administrative remedy approach and its relaxation of the causation requirement has been the promise that the extensive transactions costs

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<sup>148</sup> 131 Cong. Rec. S11931 (daily ed. Sept. 23, 1985) (statement of Sen. Helms).

of the toxic tort law system would be substantially reduced under administrative processes. Few would seriously contend that the transactions costs now associated with the toxic tort remedies are not excessive. Plaintiffs' lawyers' contingency fees, defense lawyers' billings, excessive discovery practice, expensive expert witnesses, and the overall demands placed on judicial resources by a multitude of suits combine to divert a substantial amount of compensation away from the central objective of remedying hazardous substance exposure injuries.<sup>149</sup> Although some commentators believe that administrative solutions would not necessarily improve upon the tort system's excessive transactions costs,<sup>150</sup> no one challenges the contention that improvement is needed.

The problem with proposals for administrative hazardous substance exposure remedies, however, is that they focus on the wrong transactions costs. It is true that given our present state of scientific knowledge the burden of proving causation can be difficult and thus can contribute to increased transaction costs in toxic tort litigation. But the desire to reduce transactions costs generally should not override the rationale behind the causation requirement. That is, to use the objective of reducing transactions costs as a policy justification for relaxing the causation requirement puts the cart before the horse. We should first decide whether the causation requirement is a sound principle within which the hazardous substance exposure remedial scheme should operate. If it is, then whatever transactions costs are associated with that requirement are justified and will have to be borne in whichever remedial scheme we choose, judicial or administrative. If we determine that the causation requirement is not appropriate, as we have for welfare programs such as Social Security, Medicare and Medicaid,<sup>151</sup> then of course there would be no reason for bearing

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<sup>149</sup> See *A "Public Law" Vision*, *supra* note 20, at 852 nn.4-5.

<sup>150</sup> See Elliott, *Goal Analysis versus Institutional Analysis of Toxic Compensation Systems*, 73 GEO. L. REV. 1357, 1373 (1985) ("no persuasive data is yet available demonstrating conclusively that the administrative costs of alternatives to the tort system are substantially lower"); *Proposals*, *supra* note 12, at 26 ("no one knows the full extent of the problem in terms of the number of claims that would be made under the various proposals or their aggregate cost"); *A "Public Law" Vision*, *supra* note 20, at 926-27 ("we should not uncritically assume that administrative solutions would be superior to any that the courts might devise").

<sup>151</sup> See *An Analysis of Existing Federal Statutes*, *supra* note 20, at 4-8. There is no doubt that these programs yield a higher compensation percentage than does the tort system. Much of that increased efficiency has to do with the elimination of the

the transactions costs associated with the requirement. Either way, however, the judicial and administrative remedies would be burdened with roughly the same amount of transactions costs attributable to proof of causation. Hence, long before we reach the questions of transactions costs and the superiority of administrative remedies in reducing them, the essential policy inquiry into the propriety of the causation requirement must be faced and resolved.<sup>152</sup>

#### IV. CONCLUSION

Common law toxic tort remedies have developed to provide a means of compensating hazardous substance exposure victims whose injuries are proven to have been caused by the chemical exposure. Negligence and strict liability causes of action are the principal theories of recovery for personal injury; trespass and nuisance actions are related more to property damage recovery but can assist in the prevention of personal injury. These common law remedies have been employed successfully to recover damages for personal injury caused by exposure to hazardous substances.

Deficiencies in the toxic tort remedies are similar to those characteristic of tort law generally. The objective of full compensation is impeded principally by problems in locating defendants, by burdensome statutes of limitations, by the

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causation requirement and the transactions costs it carries with it. However, as is suggested in this article, a policy decision was made to eliminate causation requirements from these programs given their specialized purposes. These are, in essence, general social welfare programs, and there seems little justification for requiring the recipients of the benefits of such programs to prove causation. Indeed, the question of causation is entirely inapposite in the case of a social welfare program designed to assist the elderly or disabled. By contrast, the administrative hazardous substance exposure remedies envisioned by reform proponents, by and large have as their principal purpose compensation through an industry-to-claimant wealth transfer, a purpose which does not square with the elimination of the causation requirement. Only the proposal contained in S.51 was directed more at health management than at compensation. Significantly, funding under S.51 was to be derived only from general revenues, *see* note 109 *supra*, and therefore would not have constituted the kind of overt wealth transfer envisioned by the Study Group and Professors Trauberman and Sobel in their respective proposals.

<sup>152</sup> There also is serious doubt that the expertise quotient usually cited as the justification for administrative processes necessarily weighs in favor of an administrative remedy for hazardous substance exposure injuries. Judges and juries routinely handle matters involving determination of fault, causation and assessment of damages. Existing environmental agencies, on the other hand, routinely handle questions of risk management but have had little experience in the area of compensating personal injury.

difficulties of the litigation process, and, the focus of virtually every reform proposal, by tort law's causation requirement. But these hurdles are intended to serve an objective which checks that of full compensation so as to prevent excessive over-compensation—the objective of holding liable only those defendants who are shown to have caused the plaintiff's injury.

Toxic tort reform proposals have put little or no dent in this basic guiding principle. Nor have they established a reasonable basis for departing from the existing three-pronged response to hazardous substance exposure injury. That response needs improvement, but not through deconstruction. Rather, the emphasis should be on promoting each facet of this response to its fullest potential and with respect to its appropriate goals.

First, deterrence and safety goals should be met through expanded regulatory and enforcement powers for administrative agencies. Rather than serving as remedial forums, agencies are best equipped to develop regulatory standards and enforce them. Deterrence and retribution can most forcefully be meted out by principled use of criminal sanctions and civil penalties. If agencies such as EPA have been lacking in this regard, the solution more likely lies in increased budgets and political commitment to their purpose, not in a relaxation of tort law principles. Moreover, along with an increased commitment to the regulatory and enforcement roles of agencies must come an increased commitment to scientific research in the fields of causation and risk analysis. That scientific research in turn will lead to regulations promoting safety and will assist the courts and juries in their function as the triers of fact in toxic tort cases. Relaxation of the causation requirement would promote none of these objectives and may in fact move us further from their realization.

Second, compensation for hazardous substance exposure injuries should remain within the realm of tort law. Specifically, the central requirement of proof of medical and legal causation should be retained. The causation requirement is not offensive to economic or utilitarian principles; indeed, its positive effects are underestimated by the reform models. On the other hand, unfair burdens felt by plaintiffs and defendants resulting from the procedural niceties of tort litigation should be addressed. Modifications might include the relaxation of any unjustly restrictive statutes of limitations rules so as to accommodate the reality of long latency periods, and the liberal use of class ac-

tion and joinder procedures so as to reduce plaintiffs' costs of litigation and prevent multiple punitive damages awards against the same defendant for the same offense. These and other modifications, if cautiously implemented, pose no threat to the integrity of the tort law system but will both prevent inequitable obstacles to recovery and help alleviate some of the heavy transactions costs of the tort system.<sup>153</sup>

Finally, protection against injury not compensated in fact or compensable in law through the tort system must be obtained through private health insurance and existing general public assistance programs.<sup>154</sup> The tort system allocates some risk of uncompensated injury to plaintiffs, as in the case where hazardous substance exposure is shown to have caused injury but no defendant is available. Tort law thus in effect distributes the cost of such risk to the general public, which is where it belongs. This allocation of limited risks to society will encourage use of private insurance and existing public assistance programs. It will also provide incentives for the general public to take precautionary measures against exposure, to reach optimum demand decisions, and to mitigate damages.

A cautious approach to reform of toxic tort remedies is necessary. Indeed, where reform is most needed is not with the remedy but with society's regulatory, enforcement, and research commitments. Environmental control legislation at federal and state levels is a step in the right direction; so-called victims assistance legislation that advocates wholesale restructuring of toxic tort law is not. It is possible, indeed probable,

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<sup>153</sup>One factor that has fueled the calls for reform of tort remedies generally is the growing unavailability of affordable liability insurance, which has affected persons handling hazardous substances with devastating force. See 50 Fed. Reg. 33902 (Aug. 21, 1985) (EPA proposal of alternatives being considered to revise liability coverage requirements for owners and operators of hazardous waste facilities); 51 Fed. Reg. 25350 (July 11, 1986) (EPA final rule on liability coverage). In an effort to alleviate this situation, the Reagan administration has proposed an eight-point plan conceived by the Tort Policy Working Group for general tort law reform: (1) retain fault as the basis for liability; (2) maintain the causation requirement; (3) eliminate joint and several liability except in cases of concerted action; (4) limit nonpecuniary damages; (5) provide for periodic rather than lump-sum payments of damages; (6) reduce awards by the amount of collateral source recovery; (7) impose sliding-scale attorneys' contingency fees; and (8) encourage alternative dispute resolution mechanisms. See *Nat'l Law Journal*, June 23, 1986, at 15 (also discussing similar state legislation); 1 *TOXIC L. REP.* (BNA) 30-31 (June 11, 1986); 16 *ENV'T REP.* (BNA) 2089-90 (Mar. 21, 1986). As this proposal suggests, relaxing the causation requirement in toxic tort cases would only exacerbate the growing crisis of liability insurance unavailability.

<sup>154</sup>See *Analysis of Existing Federal Statutes*, *supra* note 20, at 4-8.



that not every injury actually caused by exposure to hazardous substances will be fully compensated through the network of toxic tort remedies, private insurance, and existing public assistance programs. But in that respect hazardous substance exposure injuries are not unique; full compensation is not guaranteed in other areas of tort law such as products liability, mass disasters, and even a simple automobile accident. We live with that risk because the cost of eliminating it completely is prohibitive. Likewise, we make industry live with the risk of exposure to large tort awards because of the belief that full compensation is due from the person in fact responsible for causing an injury. Ultimately, however, the enormous public expenditure and creation of the new wealth transfer bureaucracy it would take to guarantee full compensation in every case could not prevent more than full compensation from being provided in many cases and therefore is unjustified.<sup>155</sup>

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<sup>155</sup> On October 16, 1986, President Reagan signed into law the Superfund Extension Amendments of 1986. The amendments truly live up to their name as they greatly enhance the regulatory scope of the federal hazardous waste cleanup program. Among the amendments, several are of concern for the purposes of this Article. First, section 203 of the amendments act adds new section 909 to CERCLA, imposing the discovery rule for all state personal injury lawsuits alleging exposure to hazardous substances. *See supra* notes 54-57. Second, section 110 of the amendments greatly enhances the authority of the Agency for Toxic Substances and Disease Registry under CERCLA section 104(i) to conduct, finance and direct research on the toxicity to humans of hazardous chemicals. *See supra* note 2. Either directly through relaxed limitations rules, or indirectly through increased scientific knowledge of causation, these provisions should assist hazardous substance exposure victims in recovering for their injuries. Neither provision, however, approaches the radical departure from common law toxic tort remedies that is contemplated by many of the reform proposals discussed in this Article.

