The Paradox of Statutes of Limitations in Toxic Substances Litigation

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This Article evaluates the use of statutes of limitations in toxic substances litigation. Professor Green begins by analyzing the function of statutes of limitations in traditional tort cases. He concludes that in these traditional settings statutes of limitations may improve the accuracy of fact-finding and provide some measure of repose for defendants. He demonstrates, however, that toxic substances cases differ markedly from traditional tort claims: The causes of the injury are more difficult to trace; the period from exposure to cognizable harm is much longer and varies significantly; the harms are more susceptible to misdiagnosis; and the number of victims is likely to be much greater. Because of these differences, he contends, statutes of limitations have precisely the opposite of their intended effect in toxic substances litigation. Rather than improving the accuracy of fact-finding, they require that claims be resolved before adequate scientific evidence of causation has been developed. These statutes also require plaintiffs to bring suit prematurely—before they have suffered any significant loss and at a time when assessing the future course of their condition is impossible. Finally, he argues, that providing a significant measure of repose through statutes of limitations to defendants is neither possible, because of the lengthy latency periods, nor particularly desired by those defendants.

Professor Green recommends that statutes of limitations be abolished entirely in toxic tort litigation, thereby leaving the decision when to file a suit to the discretion of the plaintiff. He concludes that abolishing statutes

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of limitations offers a means for improving the accuracy of outcomes in toxic substances litigation and for relieving the burden of unmeritorious toxic tort claims in the courts.

INTRODUCTION

Toxic substances litigation has moved front and center on the contemporary civil litigation stage. Its scope is massive, its influence on doctrine substantial, its challenges for the administration of the civil justice system unique. Toxic substances litigation and the compensation questions it spawns present political, social, technological, and economic challenges with which we have just begun to grapple and which we will continue to face for decades to come.¹

The most compelling problems posed by toxic substances litigation are its voracious appetite for the civil justice system’s resources and the difficulty of resolving factual issues of causation given the limited state of scientific understanding.² Since the first reported asbestos decision in 1973,³ tens of thousands of suits have been filed, and in some jurisdictions they continue to be filed at twice the rate at which they are being resolved.⁴ The phenomenon has not gone unnoticed; judges, lawyers, and academicians have decried court dockets bloated with toxic substances...

¹. This Article focuses primarily on private products liability actions brought against an entity in the distribution chain, although I suspect that many of its observations also apply to private hazardous waste litigation. See, e.g., Anderson v. W.R. Grace & Co., 628 F. Supp. 1219 (D. Mass. 1986) (suit on behalf of leukemia victims who allegedly contracted their disease due to contaminated groundwater); Note, The Inapplicability of Traditional Tort Analysis to Environmental Risks: The Example of Toxic Waste Pollution Victim Compensation, 35 STAN. L. REV. 575, 575 (1983) (authored by Palma Strand). I will use the term “insidious disease” litigation to describe the class of cases with which this Article is concerned. That term identifies those illnesses with a long latency period, and accrue development for which the current statute of limitations is ill-suited.


⁴. See, e.g., GAO, REPORT TO THE CHAIRMAN, SUBCOMMITTEE ON LABOR STANDARDS, COMMITTEE ON EDUCATION AND LABOR, HOUSE OF REPRESENTATIVES, ASBESTOS: GROWTH OF FEDERAL CLAIMS, COURT CASES AND LITIGATION COSTS 20 (1988); R. Klein, Year End Report on the 1986 Asbestos Litigation in Philadelphia County (undated), reprinted in Asbestos Litig. Rep. (Andrews) 14,299, 14,299 (March 6, 1987); see also Bruck, The Armies of Asbestos, AM. LAW., Nov. 1979, at 19; Chen, Asbestos Litigation is a Growth Industry, ATLANTIC, July 1984, at 24; Pa Supreme Court is Asked to Void Emergency Trial Rules in Philadelphia, Asbestos Litig. Rep. (Andrews) 15,716, 15,717 (Sept. 18, 1987) (more asbestos cases were filed in one month than were terminated the previous year and the backlog at current rates of processing cases is 21 years);
cases. Judge Edward Becker of the Third Circuit Court of Appeals, for instance, characterized asbestos litigation, with some hyperbole, as "the most serious crisis the federal court system has faced in its history." Much of the data relied on by contemporary advocates of tort reform to demonstrate overlitigiousness is skewed heavily by the recent emergence of toxic substances litigation.

Reform proposals, both at the macro- and micro-level have been preferred. Some believe it is time to move toward no-fault compensation. These compensation fund proposals would displace the current regime and create a distinct system that would both compensate toxic-tort victims and satisfy the deterrence-regulatory needs of society. Others have engaged in more pragmatic tinkering with the existing system, attempting to make it more efficient and responsive to the current


7. A frequently cited statistic is that the number of products liability cases filed between 1974 and 1985 increased over 700%. See 3 P. HUBER, J. O'CONNELL, V. SCHWARTZ, R. SELSOR & R. WILLARD, THE LEGAL SYSTEM ASSAULT ON THE ECONOMY 2 (1986); Report of the Tort Policy Working Group on the Causes, Extent, and Policy Implications of the Current Crisis in Insurance Availability and Affordability 45 (Feb. 1986). Professor Galanter recently pointed out that by 1985, nearly a third of all products liability filings in federal court involved asbestos claims. Galanter, The Day After the Litigation Explosion, 46 MD. L. REV. 3, 21-25 (1986). The General Accounting Office also published a study which concluded that for the decade from 1976-1986, nontoxic products liability filings grew by only 104%. Toxic litigation involving asbestos, and to a much lesser extent the Dalkon Shield and Bendectine, accounted for over 60% of the total growth in filings during that decade. Moreover, the GAO estimates underestimate the role of toxics in the growth of products claims; the GAO limited its toxic category to asbestos, Dalkon Shield and Bendectine cases, which excludes DES, chemical, and other assorted toxic cases. GAO, BRIEFING REPORT TO THE CHAIRMAN, SUBCOMMITTEE ON COMMERCE, CONSUMER PROTECTION AND COMPETITIVENESS, COMMITTEE ON ENERGY AND COMMERC, HOUSE OF REPRESENTATIVES: PRODUCTS LIABILITY, EXTENT OF "LITIGATION EXPLOSION" IN FEDERAL COURTS QUESTIONED 2-3, 20-28 (1988).


generation of demands without altering the basic framework.10 Defenders of the current regime also exist, although many of them concede the need for modification of the substantive or procedural rules currently employed.11

This Article falls into the tinkerer category. Practical considerations suggest that massive changes in the contemporary tort apparatus are not likely to occur during this lifetime.12 Despite that pessimistic prediction, improvements can be made to help the current system adapt to the demands of mass toxic substances litigation. Moreover, the challenges posed by toxic substances litigation have a silver lining: The vast quantity of cases, particularly asbestos cases, casts new light on the flaws of the entire tort system. Identifying those flaws and their solutions may serve a broader class of litigation than the mass toxic substances sphere.

Quite simply, this Article proposes the abolition of all statutes of limitations in toxic substances litigation in which the plaintiff suffers from insidious disease. This proposal would vest the plaintiff with unconstrained discretion in deciding when to bring a lawsuit. Although it would operate within the existing civil justice system boundaries, the proposition is, I recognize, quite revolutionary. For example, Professor Richard Epstein expresses the conventional wisdom in his recent observation:

The length of the interval between cause and effect—or more generally the length of the interval between the constellation of facts that generate tort liability and the liability itself—is critical to the operation of the system. With the passage of time, the evidence available regarding a given

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12. A measure of the controversy over federal legislation in the asbestos area can be gleaned from the debate between Representative George Miller and former Senator Gary Hart. Both had introduced legislation, but disagreed vehemently about the propriety of the United States contributing to a compensation fund. Compare Miller, Don't Let Industry Shirk Its Duty, N.Y. Times, Sept. 5, 1982, § 3, at 2, col. 3 with Hart, Let Government Bear Its Share, id. col. 5; see also Brownstein, Asbestos Litigation a Legal Nightmare that Congress Is Being Asked to End, 15 Nat'l J. 1942 (1983).

The hegemony of the status quo has its limits. For example, the adoption of the worker's compensation system at the turn of the century was as drastic as some of the contemporary proposals in the toxic substances area. On a less dramatic scale, the Black Lung Act, adopted in 1969, provided compensation for coal miners suffering from pneumoconiosis. Federal Coal Mine Health and Safety Act of 1969, Pub. L. No. 91-173, 83 Stat. 742 (1969). See generally Knight, Compensation for Black Lung at the Federal Level: A Precedent for Nationalized Workmen's Compensation, 57 Va. L. Rev. 97 (1971).
legal issue necessarily becomes stale. The reliability of any determination thus decreases, and with it the effectiveness of the system no matter its objectives . . . .

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Similar arguments can be made about the expenses of litigation. If rules were costless, it would always pay to use the ideal rule. But rules have costs, and there is little reason to adopt a rule that costs $100 to resolve a $50 dispute—at least where the moneys are invested in deciding whether the facts of a particular case conform to the rule . . . .

The passage of time is positively correlated with both of the costs just identified: the expense of litigation and the error rate. The longer the period between operative fact and legal judgment, the more likely it is that error will creep in: memories will fade, evidence will disappear or become unreliable. Uncertain outcomes are costly in that they necessarily make risk-averse persons—that is, most of us—worse off. Uncertain outcomes also increase the stakes in litigation, so that more will have to be expended before judgment or settlement is reached. 13

This Article acknowledges the value of the objectives cited by Professor Epstein, but asserts that a better means of achieving those goals would be to eliminate statutes of limitation. Specifically, the Article makes three claims in support of eliminating statutes of limitations in toxic substances litigation: 1) accuracy of the outcomes will be improved; 2) efficiency in the resolution of toxic substances cases will be enhanced; and 3) the legitimacy of the outcomes, from society's perspective, will be promoted. Thus, paradoxically, the policies underlying statutes of limitations would be better served by abolishing them for this class of cases.

It is easy to underestimate the impact of statutes of limitations on the outcome and life cycle of toxic substances cases. The statute of limitations is not a curious anachronism that plays an insignificant role in determining which toxic victims receive compensation and which do not. A study of asbestos insulation workers by the premier research scientist on asbestotic disease, Dr. Irving Selikoff, found that statutes of limitations were the most successful defense. 14 The reporters confirm that


Professor Epstein advocates a ten- to twelve-year statute of repose for DES and Agent Orange victims, Epstein, supra, at 1213, and a twenty-year statute of repose for even deliberate harm in asbestos and other latent injury cases. Id. at 1216. These cut-off periods would bar the vast majority of such cases because the latency periods for associated diseases are longer than Professor Epstein's repose statute. See infra notes 31-33 and accompanying text.

plaintiffs frequently run afoul of the statute of limitations, and even when they do not, the parties and the courts expend substantial energy litigating the question.

Part I of this Article begins by reviewing the evolution of statutes of limitations for personal injury lawsuits. Part II outlines the parameters of contemporary toxic substances litigation, and reveals how very different the modern toxic substances case is from the traditional conception of a tort case. Part III reviews the contemporary response to the demands of the time dimension of toxic substances litigation—adoption of "discovery rules" that toll the running of the statute of limitations clock.

Part IV demonstrates that the policies underlying statutes of limitations will be enhanced by their abolition under the model of toxic substance litigation sketched out in Part II. Removing time limitations on the filing of toxic substances cases will prune from the civil dockets a substantial body of cases that are either premature or needless. Moreover, abolishing statutes of limitations will reduce the current perverse incentives for plaintiffs to delay in trying or settling their cases.

The case for abolishing statutes of limitations does not rest on efficiency grounds alone. First, outcomes will be more accurate. Leaving the timing to plaintiffs would improve the overall quality of evidence, most significantly by delaying litigation until scientific understanding of causation can be more fully developed. Second, defendants' legitimate need for notice will not be impaired. In the mass exposure context, notice to defendants of these potential claims will occur no later than

(lawyers representing Manville characterize the statute of limitations defense as "most successful in asbestos litigation"); Shaw, Cihon & Myers, The Discovery Rule: Fairness in Toxic Tort Statutes of Limitations, 33 CLEV. ST. L. REV. 491, 494 (1984-85) ("The most serious obstacle faced by [hazardous waste] toxic tort victims is the barring of their claims because of the running of the applicable statute of limitations.").

For a discussion of the more liberal views in Great Britain toward statutes of limitations and their relative insignificance in asbestos cases, see W. Felstiner & R. Dingwall, Asbestos Litigation in the United Kingdom 14-16 (July 1, 1987) (unpublished manuscript) (on file with author). From 1968 until 1975 Great Britain had such a liberal discovery rule that there was effectively no statute of limitations for personal injury actions. Even after the 1975 Limitations Act, Limitations Act, 1975, c.54, which modestly tightened the discovery rule, judges have been vested with the authority to excuse plaintiffs who file suit after the statute has run. See Kelley, The Discovery Rule for Personal Injury Statutes of Limitations: Reflections on the British Experience, 24 WAYNE L. REV. 1641, 1658-82 (1978).

15. See, e.g., Hicks v. Hines, Inc., 826 F.2d 1543 (6th Cir. 1987) (plaintiff alleged his exposure to toxic chemicals decades earlier caused bladder cancer; suit was barred because plaintiff had suffered temporary blindness four years earlier which began running of statute of limitations); Abram v. Occidental Chem. Corp., 14 Env't Rep. (BNA) 385, 386 (July 8, 1983) (summarizing unreported decision in case brought by residents of Love Canal, 54 of which had their personal injury lawsuits dismissed based on the statute of limitations); see also infra note 165.

16. See infra notes 81-87 and accompanying text.

17. See infra notes 101-03 and accompanying text.
when the first victims bring suit. Because plaintiffs have strong incentives to assert their claims promptly once they become ripe, notice of individual claims should be provided in time to satisfy any of defendants’ legitimate needs as well. By contrast, providing repose for corporate entities for whom managing ongoing litigation is part of the ordinary course of business is neither a compelling nor attainable goal. Part IV concludes with a discussion of several unfortunate consequences of utilizing statutes of limitations in insidious disease litigation.

I

THE DEVELOPMENT OF STATUTES OF LIMITATIONS IN PERSONAL INJURY ACTIONS

The common law survived for centuries without a statute providing a limitations period for personal actions. Statutes of limitations were not unknown; limitations periods had long existed for criminal prosecutions and real property claims when the Limitations Act of 1623 first provided a limitations period of four years for trespass, assault, and battery and six years for actions on the case. The structure of the Limitations Act was largely followed in subsequent English limitations statutes and later in the United States. History is murky with regard to the precise evil that the Limitations Act of 1623 and its progeny were intended to redress, but personal injury suits apparently were not a pressing concern. In any case, statutes of limitations played an incon-

18. One surrogate for a statute of limitations was the common law's refusal to permit the survival of a claim for personal injury after death. See W. KEETON, D. DOBBS, R. KEETON & D. OWEN, PROSSER AND KEETON ON TORTS 940-41 (5th ed. 1984).
22. One early 19th century writer attributes the Limitations Act of 1623 to the decision in Slade's Case, 4 Co. Rep. 92b., 76 Eng. Rep. 1074 (1602), which permitted creditors to choose assumpsit rather than debt. In debt, a defendant prevailed if she could produce 11 neighbors to corroborate her testimony that she owed no debt. Slade's Case effectively eliminated this defense. See J. WILKINSON, A TREATISE ON THE LIMITATION OF ACTIONS, AS AFFECTING MERCANTILE AND OTHER CONTRACTS 2-3, 6-7 (London 1829). Another historian has suggested that the Act was meant to screen out inconsequential claims and protect impecunious defendants, see T. PLUCKNETT, A CONCISE HISTORY OF THE COMMON LAW 157 (2d ed. 1936); see also Developments in the Law—Statutes of Limitations, supra note 20, at 1178, although it is unclear how general statutes of limitations would serve that function in any but the loosest of ways. Professor Kelley suggests that seeking a purpose for the Act is ultimately futile. Kelley, Statutes of Limitations in the Era of Compensation Systems: Workmen's Compensation Limitations Provisions for Accidental Injury Claims, 1974 WASH. U.L.Q. 541, 547 n.23.
23. See W. FERGUSON, supra note 19, at 10.
sequential role in the limited number of personal injury actions of the time.

The limitations treatises of the nineteenth century are virtually devoid of reports of personal injury cases; the bulk of the reports concern real property or commercial disputes. Those tort cases that did implicate the statute of limitations involved property damage, commercial loss, conversion of property, and occasionally slander or false imprisonment. Not until the early twentieth century did the personal injury claims of the industrial revolution appear in the statute of limitations treatises, and those cases tended to be of the “snapshot” variety, involving shootings, and streetcar and occupational accidents, in which the plaintiff’s injury occurred within a short time period. The primary form of proof in those cases—witness recollection of previous perceptions unaided by documentary evidence—was consistent with the major functions of the statute of limitations: ensuring early notice to defendants and resolving factual disputes before witnesses disappeared and memories faded irreparably.

The ease of determining the time of plaintiff’s traumatic injury in these snapshot cases made the application of limitations statutes straightforward. The facts relevant to a statute of limitations defense were rarely controversial or in dispute, and the occasional tort victim who brought suit too late could be identified on a motion for summary judgment, without expending a great deal of resources. Indeed, the prospect of certain defeat likely deterred most out-of-time claimants from even pursuing a lawsuit.

II

A DESCRIPTIVE MODEL OF INSIDIOUS DISEASE LITIGATION

Insidious disease cases are fundamentally different from the snap-


25. Professor Ackerman first used the snapshot concept in describing a view of legal discourse and thinking. See B. Ackerman, Reconstructing American Law (1984).

26. See 2 H. Wood, A Treatise on the Limitation of Actions at Law and in Equity 865-68 (4th ed. 1916). To be sure, complications occasionally arose where the full extent of the plaintiff’s injuries were not revealed within the chronological boundary permitted by the statute of limitations and the time to resolve the suit. See infra note 153.

27. See, e.g., Griffin v. Seaboard Coast Line R.R., 307 F. Supp. 741, 742-43 (S.D. Fla. 1969) (summary judgment granted against plaintiff asserting personal injury action based on statute of limitations; only real issue was the applicability of the forum’s borrowing statute); Wade v. Lynn, 181 F. Supp. 361 (N.D. Ohio 1960) (similar to Griffin; only real issue was the applicability of statute tolling the time in which to file against a nonresident).

shot torts described above. In sketching out a model, based largely on asbestos litigation, one must keep in mind that toxic agents are not homogeneous; any realistic proposal for change must recognize this full range of variations. Nevertheless, providing an insidious disease taxonomy at the opposite end of the spectrum from snapshot torts is helpful in illustrating the operation of statutes of limitations.

The first, and most significant, parameter that defines (and distinguishes) toxic substances torts is lengthy latency periods from exposure to clinical manifestation of disease. The latency periods for asbestotic diseases vary from fifteen to fifty years; the latency periods for other toxic substances victims range from a number of years to a generation or more.

The second characteristic is widespread uncertainty about the causal relationship between the toxic agent and plaintiff's disease, although that uncertainty is neither universal nor static. As the toxicological and epi-

29. Asbestos is the dominant influence in the model for three reasons: asbestos litigation is mature compared to other toxic agent litigation, the medical and scientific understanding of its health effects is relatively advanced compared to other toxic substances, and its characteristics best expose the infirmities of statutes of limitations. See U.S. Dep't of Labor, supra note 14, at 459; Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite, 51 Fed. Reg. 22,612, 22,647 (1986).

30. See Farber, Toxic Causation, 71 Minn. L. Rev. 1219, 1251-59 (1987) (identifying differences in causation evidence available in various types of toxic cases). The term "mass tort" is often employed to describe an even broader class of cases—ones that have as their only common characteristic large numbers of claimants. See, e.g., Abraham, supra note 9, at 849-50.

31. The latency period represents the period from the onset of exposure to the toxic agent to the point when insidious disease symptoms are clinically diagnosable. See generally N. Sax, Cancer Causing Chemicals 23 (1981).

Some scientists and lawyers have characterized the cellular and tissue changes that may occur from the beginning of exposure as "disease" or "injury." Although these subclinical physiological processes are important in leading scientists toward a better understanding of the causes of insidious disease and in assisting the courts in the interpretation of insurance liability policies for asbestos manufacturers, they have little value in fashioning a sensible point at which insidious disease lawsuits should be required to be brought into court. For a summary of the current understanding of the physiological process from exposure to clinical diagnosability, see Asbestos Insurance Coverage Cases, Asbestos Litig. Rep. (Andrews) 14,960, 14,978-83 (Cal. Super. Ct. June 1, 1987). For a discussion of the insurance coverage litigation issues, see Note, Adjudicating Asbestos Insurance Liability: Alternatives to Contract Analysis, 97 Harv. L. Rev. 739 (1984).

32. The latency period for asbestos-induced lung cancer is 15 to 40 years or more; for mesothelioma, 18 to 50 years. U.S. Dep't of Labor, supra note 14, at 4, 22, 30.


demioleological evidence accumulates, our understanding of the causal relationships between a toxic agent, other causal factors, and a disease improves, albeit accretively and irregularly.\(^3\)

The contemporary experience with benzene is illustrative. In 1960, a suit on behalf of a leukemia victim against the employer based on occupational exposure to benzene was dismissed by the New York Court of Appeals because “the causes of leukemia or its aggravation are unknown.”\(^3\)\(^5\) By the late 1970s, however, benzene was widely recognized as leukemogenic,\(^3\)\(^6\) although lack of understanding of the dose-response curve\(^3\)\(^7\) at low levels of exposure bedeviled regulatory efforts to reduce benzene exposure in the workplace.\(^3\)\(^8\) A decade later, scientists have begun to unravel the low-level exposure risks of benzene.\(^3\)\(^9\) But even as better scientific understanding of the relationship between benzene and leukemia is attained, questions are being raised about the role of benzene in causing multiple myeloma and cancer of the bone marrow.\(^4\)\(^0\)

Benzene, as an example of contemporary toxic tort litigation, points out the third distinguishing feature of such litigation: Multiple diseases develop from exposure to the same agent. Because of differing latency periods, the diseases manifest themselves in the toxic victim serially, often separated by many years. Those diseases and concomitant adverse health effects vary in prognosis and progression.

For purposes of examining the impact of statutes of limitations, multiple diseases that result from a single toxic source can be roughly divided into three categories. The first class includes benign diseases that rarely result in significant dysfunction or other health problems. Examples include the pleural plaques of those exposed to asbestos\(^4\)\(^1\) and the


\(^{36}\) See White, Infante & Walker, Occupational Exposure to Benzene, 1 AM. J. INDUS. MED. 233, 234-35 (1980).

\(^{37}\) The term “dose-response curve” refers to the relationship between the dose (intensity of exposure multiplied by time) and the extent of risk. With limited epidemiological data available, extrapolating the risk for different doses requires an assumption about the shape of the dose-response curve. See generally Peto, Dose-Response Relationships for Asbestos-Related Disease: Implications for Hygiene Standards, 330 ANNALS N.Y. ACAD. SCI. 195 (1979).


\(^{40}\) Id. at 1049.

\(^{41}\) Churg, Nonneoplastic Asbestos-Induced Disease, 53 MT. SINAI J. MED. 409, 411 (1986); see Hillerdal, Non-malignant Asbestos Pleural Disease, 36 THORAX 669 (1981). Pleural plaque refers to the thickening of the membrane surrounding the lung; it has no symptomology and is diagnosed radiologically.
adenosis of DES daughters. The second category includes more serious diseases like asbestosis. Although asbestosis initially causes little disability or dysfunction, it proceeds at a gradual, albeit unpredictable, pace. Neurotoxic effects, although less well understood, exhibit similar characteristics in some cases. The mortality rate for these intermediate diseases tends to be low or moderate. Finally, toxic agents may be carcinogens or teratogens: lung cancer, mesothelioma and gastrointestinal cancer for asbestos; adenocarcinoma for DES; lung cancer for tobacco; leukemia and other cancers from atomic radiation. Many of these diseases have a very high degree of mortality. At the very least, substantial medical treatment and temporary disability will result.

The fourth characteristic that distinguishes toxic cases from snapshot torts is that diagnosis of toxic related disease is almost always an uncertain enterprise, particularly in the early stages of the disease. Lack of understanding of biological and physiological mechanisms, absence of serious dysfunction, and the slowly progressive nature of some

42. See Herbst, Kurman & Scully, Vaginal and Cervical Abnormalities after Exposure to stilbestrol in Utero, 40 OB. GYN. 287 (1972). Vaginal adenosis involves lesions of varying severity in the vagina and is characterized by abnormal cells. Unlike asbestosis, adenosis frequently remits itself as the woman gets older. See Ng, Reagan, Nadji & Greening, Natural History of Vaginal Adenosis in Women Exposed to Diethylstilbestrol in Utero, 18 J. Reprod. Med. 1 (1977); Noller, Townsend, Kaufman, Barnes, Robboy, Fish, Jeffries, Bergstralh, O'Brien, McGorray & Scully, Maturation of Vaginal and Cervical Epithelium in Women Exposed in Utero to Diethylstilbestrol (DESAD Project), 146 Am. J. OB. GYN. 279, 281-82 (1983);

43. See Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite, 51 Fed. Reg. 22,612, 22,645-66 (1986) (asbestosis is a slowly progressive disorder that may continue to progress after exposure to asbestos has ceased); Warnock & Isenberg, Asbestos Burden and the Pathology of Lung Cancer, 89 CHEST 20, 25 (1986) (host factors more significant than level of asbestos exposure in progress of asbestosis).

44. See Neurotoxins at Home and in the Workplace: Hearings Before the Subcomm. on Investigation and Oversight of the House Comm. on Science and Technology, 99th Cong., 1st Sess. 120-22 (1985) (statement of Dr. Edward L. Baker, Asst Director, National Institute of Occupational Safety and Health, Centers for Disease Control, Public Health Service, Dep't of Health and Human Services).


46. A teratogen is an agent that interferes with the normal development of the fetus. Thalidomide is the best known teratogen.

47. Persons exposed to radium follow this pattern also. Some suffer relatively mild reactions, which include anemia and bone lesions. More serious diseases include leukemia and bone cancer. As with asbestos exposure, individual characteristics play a significant role in onset and progression of the disease. See Martland, The Occurrence of Malignancy in Radio-active Persons, 15 Am. J. Cancer 2435 (1931); Martland, Occupational Poisoning in Manufacture of Luminous Watch Dials, 92 J. A.M.A. 466 (1929); see also Allen v. United States, 588 F. Supp. 247, 311-23 (D. Utah. 1984) (citing sources), rev'd on other grounds, 816 F.2d 1417 (10th Cir. 1987), cert. denied, 108 S. Ct. 694 (1988).

diseases contribute to the difficulties of diagnosis. Moreover, unfamiliarity by many health-care practitioners with uncommon toxic diseases results in misdiagnoses.\(^49\)

The combination of lengthy latency periods and diagnostic difficulties is a unique feature of toxic substances cases for purposes of statutes of limitations analysis: No temporally discrete event exists that encompasses the defendant’s breach and the plaintiff’s injury. Instead, insidious disease litigation involves an extended chronology of causation unlike traditional snapshot torts.

Fifth and finally, many toxic agents are sufficiently pervasive that large numbers of individuals are exposed, posing the potential for massive litigation. Asbestos is the largest and most prominent type of current mass toxic litigation, but DES and Agent Orange also involve many potential plaintiffs. Indeed, if smoking victims can overcome the federal preemption barrier,\(^50\) litigation against tobacco manufacturers could make asbestos litigation look trifling in magnitude.\(^51\)

III

DELAYING ACCRUAL: THE DISCOVERY RULE

To date, the predominant legal response to the statute of limitations problem in insidious disease litigation has been to fashion some form of "discovery rule," which delays the accrual of a plaintiff’s claim until she discovers or should have discovered her injury. Since the statute of limitations begins to run upon accrual of plaintiff’s claim,\(^52\) use of a discovery rule expands the time for plaintiff to bring her claim.

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Although the *Cipollone* decision does not bar all claims against tobacco manufacturers, it does bar failure-to-warn claims, which are the most obvious and most easily proved cause of action against cigarette manufacturers. See *Cipollone* v. Liggett Group, 644 F. Supp. 283 (D.N.J. 1986), *mandamus denied*, 822 F.2d 335 (3d Cir.), *cert. denied*, 108 S. Ct. 487 (1987).

51. The first verdict against the tobacco industry after decades of litigation occurred this year, when a jury awarded $400,000 to the widower of a smoker who died from lung cancer. N.Y. Times, June 14, 1988, at 1, col. 5.

The Supreme Court’s acceptance in *Urie v. Thompson* of a discovery rule for Federal Employers’ Liability Act cases was the genesis for its widespread acceptance in state-based tort claims. The reform has not been wildly controversial; beginning the statute of limitations clock at some other point, such as defendant’s breach, plaintiff’s initial exposure to the toxic agent, or the occurrence of some metaphysical “injury” that is neither detectable nor determinable, offends deep-seated notions of elemental fairness and justice.

Unless one is willing (or desires) to deprive plaintiffs of their common law remedy in order to protect defendants, there is little to be said against adoption of a discovery rule. Virtually all commentators and the vast majority of courts are in

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53. 337 U.S. 163 (1949). Plaintiff in *Urie* suffered from silicosis, caused by long-term exposure to silica dust.


Initially, the discovery rule was adopted in medical malpractice actions, particularly ones involving a foreign object left in a patient. See, e.g., *Ayers v. Morgan*, 397 Pa. 282, 294, 154 A.2d 788, 794 (1959).


57. Professors Epstein and Danzon have advocated short statutes of repose for toxic substances cases. Professor Epstein justifies this proposal because the “ravages of time degrade the evidence on every element of a complex case” and because of his preference that workers’ compensation be the exclusive remedy for occupational disease. Epstein, supra note 13, at 481 & n.24; see infra note 171.


Professor Epstein apparently recognizes the necessity of a discovery rule for latent disease cases, but also advocates use of statutes of repose for those cases. See Epstein, supra note 13, at 1183 & n.19; Epstein, supra note 9, at 481 & n.24.

Some have criticized the discovery rule for its tendency to require additional difficult fact-finding that is indeterminate and therefore increases the costs of adjudication, see Comment, Accrual of Statutes of Limitations: California’s Discovery Exceptions Swallow the Rule, 68 Calif. L. Rev. 106, 116 (1980) (authored by Stephen O’Neal), and the increase in manufacturers’ insurance costs as a result of the increased number of plaintiffs who are permitted to pursue their claims as a result of the discovery rule. Comment, Limiting Liability: Products Liability and a Statute of Repose, 32 Baylor L. Rev. 137, 143-44 (1980) (authored by Glenn Waldrip).

The former concern is a significant one, but does not address the fairness of a discovery rule, only its adjudicatory inefficiencies. Those inefficiencies could as easily be alleviated by abolishing statutes of limitations as by adhering to a strict time-of-the-negligent-act or injury-accrual rule. The latter objection is only incidentally concerned with statutes of limitations. The real concern is the extent of personal injury costs imposed on defendants.
agreement; the few ossified judges who have demurred on the adoption of a discovery rule have argued institutional function grounds—preferring to leave the matter to the legislature—rather than the merits.

The most prominent holdout, New York, 60 came into the fold in 1986. The New York legislature enacted a discovery provision, and Governor Mario Cuomo's comments as he signed the bill reflect the ineluctability of the discovery rule: "Today we correct a serious injustice in our law that barred many people from seeking restitution for injuries caused by exposure to toxic substances because the statute of limitations had run out before they discovered their illness." 61

Despite agreement on the need for a discovery rule, wide variation remains in the discovery rules that have been adopted. 62 At least three different formulations exist, including versions requiring discovery of simply the injury; the injury and its cause; and the injury, its cause, and the availability of a legal remedy. 63 Even within these categories there is

62. For example, the courts have split on whether discovery rules apply to suits based on wrongful death and survival statutes. Compare Davis v. Dow Chemical Corp., 819 F.2d 231 (9th Cir. 1987) (discovery rule constitutionally required in wrongful death action filed nine years after decedent's death) and Maughan v. SW Servicing, Inc., 758 F.2d 1381 (10th Cir. 1985) (discovery rule utilized in case based on deaths from leukemia seven years before suit filed) with Ayo v. Johns-Manville Sales Corp., 771 F.2d 902 (5th Cir. 1985) (discovery rule unavailable in survival action) and Trimper v. Porter-Hayden, 305 Md. 31, 501 A.2d 446 (1985) (discovery rule unavailable in wrongful death and survival action) and Symbula v. Johns-Manville Corp., 514 Pa. 527, 526 A.2d 328 (1987) (discovery rule may not be employed to extend the time for filing wrongful death and survival actions).
63. See, e.g., Rose v. A.C. & S., Inc., 796 F.2d 294 (9th Cir. 1986) (requiring knowledge of injury, cause, and existence of cause of action); Woodruff v. A.H. Robins Co., Inc., 742 F.2d 228 (5th Cir. 1984) (statute of limitations did not begin to run until plaintiff discovered that Dalkon Shield caused pelvic injury; the discovery occurred eight years after injury); Keith-Popp v. Eli Lilly & Co., 639 F. Supp. 1479 (W.D. Wis. 1986) (discovery of injury sufficient to trigger statute of limitations); Daugherty v. Farmers Coop. Ass'n, 689 F.2d 947 (Okla. 1984) (discovery rule that accrues at time of injury, provided a causal connection has been scientifically determined). Rose held that the plaintiff's claim did not accrue until she knew she had a legal remedy for her husband's death. When courts adopt such a liberal version of the discovery rule, the statute of limitations rarely poses any danger to the plaintiff's claim. See Kelley, supra note 14, at 1658-63.

discrepancy in interpretation and enforcement. 64

My purpose is not to argue the merits of the discovery rule. That debate has already taken place, and the overwhelming adoption of some form of a discovery rule and the acceptance of the concept by law reformers is persuasive evidence of its value. 65 Rather, the existing discovery rules form the backdrop for developing the thesis of this Article.

The second potential procedural barrier for toxic substance plaintiffs is a statute of repose. By contrast with limitations statutes, repose periods are measured from the time a product is manufactured or first sold, thus ignoring the latency period in setting limits on the time of suit. Approximately twenty states have enacted some version of a statute of repose.

For several reasons, repose statutes have not had a major impact on toxic substances lawsuits. 67 Courts have refused to give effect to a variety of repose formulations, most notably those that completely barred a claim before it had accrued, as violating state constitutional guarantees of

at time injury "manifests" itself, regardless of whether symptoms were sufficient to cause investigation); Locke v. Johns-Manville Corp., 221 Va. 951, 275 S.E.2d 900 (1981) (claim accrues at time the plaintiff suffers "injury" as determined by medical testimony).

Significantly, these decisions also serve to make the inquiry factual, albeit by relying on medical evidence and experts to provide a scientific answer to a question that is fundamentally a legal-policy matter. The tendency of the legal system to defer to science for answers that simply do not exist has been labelled "trans-science" by Alvin Weinberg. Weinberg, Science and Trans-Science, 10 MINERVA 209, 209 (1972).


open access to the courts or equal protection. Other statutes of repose do not absolutely bar actions brought outside the time provided, but make it harder for plaintiffs to recover by limiting the legal theories available or imposing presumptions favorable to defendants. Finally, exceptions for insidious disease victims that permit them sufficient time to bring their claims have been enacted by some legislatures or found by courts in interpreting a particular statute of repose.

IV
THE EFFECT OF STATUTES OF LIMITATIONS IN TOXIC SUBSTANCES LITIGATION

A. Why Statutes of Limitations?

The policies that support statutes of limitations are inveterate and familiar to most. One such policy relates to efficiency and accuracy. Providing the defendant prompt notice of a claim permits the defendant to preserve evidence that may otherwise deteriorate or disappear over time. Moreover, since memories and the quality of other evidence inevitably deteriorate over time, requiring litigation to begin promptly enables the fact finder to rely on evidence that is fresher and more specific in resolving the disputed facts. Often asserted, albeit tentatively, is that promptly filed claims are more likely to be meritorious than those filed later. Thus, evidence deterioration aside, statutes of limitations are touted as enhancing accurate outcomes by screening out less meritorious claims. Additionally, the ease with which statutes of limitations

71. There are two problems with this rationale, which I suspect explain why it is rarely proffered vigorously. First, the assumption that the passage of time before filing and the meritoriousness of the claim are negatively correlated is questionable at best. It is almost surely false
PARADOX OF STATUTES OF LIMITATIONS

defenses can be resolved ensures early and uncomplicated determinations. Finally, statutes of limitations also serve a substantive function; after a specified period has passed without a lawsuit being filed, an individual is entitled to the psychological repose and comfort of knowing that she no longer has the threat of a legal action looming over her. Corporate targets are afforded the opportunity to engage in planning with some assurance about what legal claims they may face in the future and without the threat of long dormant claims arising.

Occasionally one sees the statement that statutes of limitations are intended to encourage diligent or deserving plaintiffs; or, stated in slightly different terms, statutes of limitations protect defendants from nondiligent plaintiffs. This explanation for statutes of limitations can only be justified as an instrument for furthering one or more of the purposes set forth above. Unless the indolence of the plaintiff has somehow threatened the quality of the evidence available at trial or intruded on a potential defendant's repose, no purpose, other than generally punishing the slothful, is served by barring the claim. It would be curious indeed for a defendant to defend a contract action by conceding that he had breached the contract, but asserting that the plaintiff should not recover because she was a lazy slob.

Thus, the purposes of statutes of limitations are congruent with the desirable characteristics of any procedural system: reducing the public and private resources required to resolve disputes—that is, "efficiency"—

for toxic tort victims who are unaware of their diagnosis or rights in the tort system, whose disease is in its early stage, which makes its diagnosis and etiology more difficult to determine, or who have no or only modest disability. Second, and more importantly, although statutes of limitation may screen out false positives, they also produce false negatives. See infra notes 163-66 and accompanying text.

76. See, e.g., Daughtery v. Farmers Coop. Ass'n, 689 P.2d 947, 951 (Okla. 1984). Perhaps the most extreme statement of this rationale is the conclusion of one commentator: "In a word, statutes of limitations are today viewed as punitive, as opposed to protective. Their primary purpose is considered to be punishment for the slumbering plaintiff and not protection for yesterday's wrongdoer." Kahan, Statutes of Limitations Problems in Cases of Insidious Diseases: The Development of the Discovery Rule, 2 J. PROD. LIAB. 127, 136 (1978).


I recognize that for the sake of administrative convenience we might choose not to make an individualized inquiry into whether the plaintiff's delay in filing suit has had an adverse impact on one of the statute's purposes. Nevertheless, there must be some intuitive or empirical sense that the plaintiff's inaction has this adverse impact with sufficient frequency to justify a rule that, when invoked, denies some plaintiffs a remedy to which they are otherwise legally entitled.

78. Statutes of limitations might also be justified on a political compromise theory: As substantive rights are expanded, procedural limitations are put in place to make the expansion politically tolerable. Given the historical discontinuity in the development of statutes of limitations and modern expanded tort theories, this explanation seems unlikely. More fundamentally, as the remainder of this Article demonstrates, statutes of limitations are an arbitrary and irrational method of softening the impact of expanded theories of liability.
and enhancing accurate outcomes.\footnote{See, e.g., Fed. R. Civ. P. 1 (rules to be construed "to secure the just, speedy, and inexpensive determination of every action"); F. James & G. Hazard, Civil Procedure § 1.1 (3d ed. 1985); R. Posner, Economic Analysis of Law 429-33 (2d ed. 1977).} In addition to the procedural aspects, statutes of limitations also serve the substantive function of repose described above.

\section*{B. Exogenous Efficiency Considerations}

Within the policy framework just set forth, statutes of limitations may contribute to efficiency in two distinct ways. First, in providing an incentive to claimants to bring suit promptly, statutes of limitations enhance the quality of evidence available at the time of trial for resolving disputed facts. The next section of this Article demonstrates that, counterintuitively, statutes of limitations as currently formulated inhibit presentation of the best evidence with regard to a wide range of substantive issues in toxic substances cases.\footnote{I recognize that removing all time limitations may affect the status quo and provide incentives for false or weak claims or other undesirable consequences. These concerns are addressed infra text accompanying notes 167-78.} Second, by precluding plaintiffs from pursuing out-of-time claims that are less likely meritorious than timely claims, the civil justice system is spared the effort required to resolve those cases. Section C also attempts to deflate any subconscious sense that later filed toxic claims are less meritorious than timely ones. Before discussing the merits of these intrinsic efficiency claims, however, I will address several concerns that are exogenous to the efficiency-enhancing policies behind statutes of limitations. Several unfortunate consequences result from the application of statutes of limitations to the modern generation of toxic substances litigation. These include draining party and judicial resources, encouraging a substantial number of premature or needless cases, and distorting incentives to settle disputes. In sum, these are costs imposed by the existence of statutes of limitations for which, as the following section demonstrates, there are no countervailing benefits.

\subsection*{1. Creating a New Disputed Issue: The Impact of Discovery Rules}

With snapshot torts, application of the statute of limitations is a routine, easily performed task. Ascertaining the time of plaintiff's injury can be accomplished with little effort, a high degree of confidence in the accuracy of the determination, and concomitantly, little legitimate dispute. Early resolution through summary judgment or even dismissal of the complaint ensures prompt and efficient resolution of the statute of limitations issue. Given the clarity of the rule and its application, most out-of-time claimants probably never even bother submitting their claims
Employing a discovery rule statute of limitations, by contrast, expands the scope of legitimate disagreement. Thus, proportionally more statute of limitations issues exist that require judicial resolution and demand a broader and more lengthy inquiry. The discovery rule yields substantial uncertainty and wide latitude in its resolution for three reasons. First, the diagnosis of insidious disease and the determination of its etiology are fraught with difficulty, uncertainty, and error. Second, although the discovery rule standards are couched in terms of knowledge of the requisite elements, certainty is not required. Thus, a plaintiff need possess only some degree of belief or suspicion, and this determination requires selecting a point on a continuum, rather than making a clear, dichotomous choice. Third, discovery rules contain an alternative objective standard: Even if the plaintiff did not “know” of the element, should she have known? That evaluative inquiry, similar to a finding of negligence, creates another layer of indeterminacy. Thus, the trier of fact must determine not only whether the plaintiff’s subjective knowledge of her injury constitutes discovery, but at what point she should have discovered the injury had she been acting reasonably. Resolution of issues concerning the plaintiff’s knowledge unavoidably depends on largely circumstantial evidence. Extensive discovery proceedings, contested factual hearings, and ultimate submission of this issue to the jury become necessary conditions for resolution. No longer can the statute of limitations issue be decided at an early stage, thus obvi-

81. See supra note 27 and accompanying text.

82. Perhaps the best illustration of this point is found in Bendectin litigation. At the same time that some plaintiffs are being barred from suing based on the statute of limitations because they “knew” that Bendectin was the operative cause of their child’s birth defect, see Urland v. Merrell-Dow Pharmaceuticals, Inc., 822 F.2d 1268, 1275 (3d Cir. 1987), other plaintiffs are having judgment entered against them because of the inadequacy of the evidence with regard to causation, see Lynch v. Merrell-National Laboratories, 830 F.2d 1190, 1193-97 (1st Cir. 1987); see also Copeland v. Armstrong Cork Co., 447 So. 2d 922, 925 (Fla. Dist. Ct. App. 1984) (summary judgment is appropriate given physicians’ initial failure to diagnose plaintiff’s asbestosis), aff’d in relevant part sub nom. Celotex Corp. v. Copeland, 471 So. 2d 533 (Fla. 1985).

83. See supra text accompanying notes 63-64.


85. See, e.g., Cowgill v. Raymark Indus., 832 F.2d 798, 801 (3d Cir. 1987) (seven-day jury trial required to resolve issue of whether decedent should have known of pleural thickening more than two years before suit was filed). But see Lopez v. Sywer, 62 N.J. 267, 275, 300 A.2d 563, 567 (1973) (discovery rule determination to be made by judge in preliminary hearing).
ating the need for the parties to prepare for and litigate the merits as well. Not only does the statute of limitations fail to reduce the resources poured into litigating the merits, but the judicial and party resources expended to resolve the protracted disputes over its application, like all procedural wrangling, in no way contribute to the resolution of the merits of the case.

2. The Prematurity Phenomenon

As litigation over a toxic substance grows out of infancy and the potential for vast numbers of claims and claimants increases, a specialized plaintiffs' bar tends to develop that acquires a great deal of sophistication about the toxic agent, the industry in which it is produced, the available legal theories, and relevant scientific and medical literature. These lawyers are willing to make large investments in acquiring information in a given case because of its payoff in later cases. Contacts are made and pursued with specialists in relevant medical and scientific fields as well as with those influential with potential clients, such as union officials in the case of occupational diseases. This specialization has been most prominent in the asbestos litigation arena, but exists to some extent in many other mass toxic tort litigation areas.

One consequence of a sophisticated bar that represents substantial numbers of victims in discovery rule jurisdictions is that lawyers run—rather than walk—directly to the courthouse with any client who manifests the slightest indication of insidious disease. Regardless of whether the client has suffered any disability or pecuniary loss, the attor-

86. See, e.g., McKenna v. Ortho Pharmaceutical Corp., 622 F.2d 657, 659 (3d Cir.) (directed verdict based on statute of limitations granted at the conclusion of trial), cert. denied, 449 U.S. 976 (1980).

87. Of course, we might tolerate some degree of procedural inefficiency to further other concerns such as accuracy or fairness. But, if the procedural issue does not contribute to any other value or is counterproductive, as I contend in later sections of this Article, then incurring the costs of resolving procedural issues is irrational.


ney knows that the safest course of action is filing a suit as promptly as possible.91

Adams v. Johns-Manville Sales Corp.92 illustrates well the prematurity effect of statutes of limitations in toxic substances litigation. The plaintiff, a commercial insulator for sixteen years, sued the asbestos producers who had supplied the insulation to which he had been exposed. Plaintiff's expert testified that, while plaintiff exhibited none of the symptoms associated with asbestosis, lie did have "abnormal breathing sounds . . . some pleural calcification, and a 'minimal obstructive ventilatory defect.'"93 Plaintiff apparently suffered no disability as a result of his condition and testified that he had lost no wages and incurred no medical expenses to treat his asbestos-induced condition. The trial judge refused to give an instruction permitting the jury to award damages for the increased risk of future cancer. Although the jury found that some of defendants' products were defective, it awarded the plaintiff no damages. Plaintiff pursued post-trial motions and an appeal, all to no avail.94

Unfortunately, Adams is not an isolated phenomenon. In several jurisdictions with a large burden of asbestos cases, between one-third and two-fifths of the pending cases involve plaintiffs with mild or no impairment.95 Removing the perverse incentives of the statute of limitations is
likely to decrease the number of these cases that are actually filed. Logic, self-interest, and risk-aversion suggest that most plaintiffs and their attorneys would prefer to wait and see whether the client will develop serious symptoms, disability, and consequent damages before filing suit and submitting the case for final resolution.

The husband-plaintiff in Doe v. Johns-Manville Corp. is a prominent example of a toxic victim who would have preferred to wait until his minimal asbestotic disease had run its course before filing suit. The husband had been exposed to asbestos over a long period of time and had been diagnosed as having pleural thickening. Like the plaintiff in Adams, however, he had no pain, disability, or difficulty in breathing. He and his wife sued, seeking a declaratory judgment that their claims would not accrue until he became disabled as a result of his asbestotic disease. The court refused to provide declaratory relief, although ironically the plaintiffs had been forced to file a protective action before the court's decision because of the impending running of the statute of limitations.

The bulk of nonimpairment cases in the courts may also obscure the
scope of the mass toxic substance problem and impede attempts to
develop more efficient mechanisms for resolving the most pressing cases.
Because of the differences in evidence and motivations for plaintiffs in
nonimpairment cases, these cases may provide a skewed view of a partic-
ular class of toxic substances litigation.\textsuperscript{100}

3. Perverting the Paradigm of the Persevering Plaintiff

In the typical lawsuit, the plaintiff, who desires a change in the sta-
tus quo, pushes for a resolution of the case, while the defendant is the
foot-dragger.\textsuperscript{101} Moreover, prompt resolution may be essential to the
seriously injured plaintiff, for whom income replacement, rehabilitation,
and related financial needs are pressing.

Insidious disease litigation stands this model on its head. The lack
of physical impairment and concomitant pecuniary loss, in combination
with the prospect of substantial future damages, warp the traditional
incentives for plaintiffs and encourage them to delay once their case has
been filed.\textsuperscript{102} Meanwhile, no reciprocal force encourages defendants to
push for disposition of these premature cases.\textsuperscript{103} Instead, both sides are
content with languishing litigation. To be sure, delay may be preferable
for both parties given existing statute of limitations constraints. Remov-

of those toxic agents for which insufficient information about causation is available at the time of
disability.

Another solution to the prematurity concern is to create an administrative mechanism to place
premature cases on an inactive docket, permitting the case to be reactivated if plaintiff’s disease
progresses sufficiently. Both the Eastern District of Texas and the District of Massachusetts have
adopted such a procedure. T. Willging, \textit{supra} note 90, at 23; \textit{see also} Talley v. Johns-Manville
claimants).

Unfortunately, even this partial solution is difficult to put in place because it runs afield of
contemporary concerns for docket control and prompt dispositions. \textit{Cf.} Resnik, \textit{Failing Faith:
concern with docket control and movement among judges toward speeding the resolution of cases).
\textsuperscript{100} See T. Willging, \textit{supra} note 90, at 52 n.122 (explaining inflation of statistics regarding
asbestos litigation due to duplicate filings in state and federal courts to maneuver around statute of
limitations); \textit{Lawyers Expect Increase in Settlements Because of Judges’ Plan to Expedite Cases}, Prod.
Safety & Liab. Rep. (BNA) 633 (Sept. 5, 1986) (“Judges want to separate . . . cases of potential
rather than actual injuries in order to get a better understanding of the workload looming
immediately ahead.”).

101. That posture has been modified somewhat in recent years with the adoption of liberal
provisions for prejudgment interest and other mechanisms designed to alter the traditional incentive
for defendants to delay the progress of a case.

thickening but no impairment refused defendants’ offer to toll the statute of limitations until
impairment developed and insisted on going to trial at which he lost because the jury found no
asbestotic disease) (cited in Toxics L. Rep. (BNA) 223 (Aug. 6, 1986)).

103. Indeed, defendants have been active in attempting to hold in abeyance all premature
claims, preferring to avoid prematurity in exchange for sacrificing potential statute of limitations
defenses. \textit{See infra} notes 183-85 and accompanying text.
ing those constraints, however, and thus severing the connection between these cases and the civil justice system, would surely be preferable.

4. The Impact on Settlement

The prematurity phenomenon creates incentives that may also delay settlements and require the expenditure of greater resources before settlements can be reached. Although many factors affect whether a settlement will be reached in any given case, commentators agree that the most significant are the parties' assessment of the outcome of the case at trial and the divergence of the competing parties' assessments. Legal or factual indeterminacy provides the opportunity for greater disagreement in the parties' assessments.

In the context of toxic substances litigation, uncertainty about the progress and future severity of plaintiff's disease and the development of a second disease, combined with the previously discussed advantages to plaintiffs in delaying resolution of their case, should result in later settlement of toxic substances cases as a class. Some evidence suggests that this predicted effect is actually occurring in jurisdictions with a heavy burden of toxic cases. Given the current strain on civil justice resources, eliminating cases that do not need to be in the system, do not need resolution, and ultimately demand more resources to induce settle-

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104. Cf. Eckhoff, The Mediator, the Judge and the Administrator in Conflict-resolution, 10 ACTA SOCIOLOGICA 148 (1966) (discussing the conditions for achieving positive results in conflict resolution via third party intervention).


107. See infra note 153 and accompanying text.

108. See supra text accompanying notes 41-47.

109. Klein, Year End Report on the 1986 Asbestos Litigation in Philadelphia County (undated), reprinted in Asbestos Litig. Rep. (Andrews) 14,299, 14,300 (Mar. 6, 1987) ("very few cases settle until there has been significant judicial involvement and often cases do not settle until jury selection and a day or two of trial").

Theoretically, indeterminacy should also result in fewer settlements. However, the empirical information available suggests that asbestos settlements occur with about the same frequency as other personal injury litigation. Id.; see also J. KAKALIK, P. EBENER, W. FELSTINER & M. SHANLEY, COSTS OF ASBESTOS LITIGATION 14 (1983) (78% of asbestos claims resulted in settlement nationwide). The higher than expected settlement rate in asbestos cases may be explained by a higher ratio of litigation costs to recovery costs, although significant litigation costs are not incurred until trial begins due to the routinization by attorneys in handling the preliminary aspects of these cases.

Other factors that may impede or delay settlement in asbestos litigation are the potential for punitive damages and the dozen or more defendants typically joined in a case. See T. WILLGING, supra note 90, at 9, 12.
ment, can only be a benefit to the administration of toxic substances litigation.

C. The Quality of Evidence: Implications for Accuracy and Efficiency

All of the inefficiencies engendered by statutes of limitations may be tolerable if they further some justifiable goal. The law is, after all, a trade-off among competing values. Thus, presumably efforts required to resolve discovery rule disputes in toxic cases are "worth it" when balanced against the unfairness that results from a statute of limitations that begins running at the time of exposure. The latter choice, despite its obvious efficiencies, has the unfortunate characteristic of eradicating any remedy the substantive law would otherwise provide for many toxic victims.

One competing value is accuracy. Additional resources might be expended to improve the accuracy of the outcomes. Thus, the current discovery rule might be justified if it enhanced the quality of evidence. As this section will show, however, accuracy is not enhanced. On the contrary, removing all limitations on when a plaintiff must file suit would improve the overall accuracy of toxic substances litigation outcomes. Moreover, in addition to enhancing accuracy, the availability of more specific and reliable evidence should reduce the range of disagreement, thereby promoting efficiency.

Statutes of limitations may affect the accuracy of adjudication in two distinct ways. First, by providing a powerful incentive for early filing, the statute may influence the quality of the evidence available to the parties to resolve the dispute. Any assessment of this influence's effect on accuracy requires examination of the function that time from accrual plays in the ability of the legal system to reach correct outcomes. Second, by barring those claims for which time has run, the statute of limitations may screen out unmeritorious cases that might have been wrongly decided if submitted for adjudication on the merits. Again, appraisal of this accuracy function requires consideration of the role that time from accrual plays in the proportion of meritorious cases that are brought to

110. See supra text accompanying notes 82-87.
111. As Professor Epstein has trenchantly observed: "[A] statute of limitation of a single day is virtually tantamount to abolishing the entire substantive law." Epstein, Past and Future: The Temporal Dimension in the Law of Property, 64 Wash. U.L.Q. 667, 681 (1986).
112. In measuring this effect, the influence on settlements should not be ignored. The backdrop of trial—and the likely outcome there—is a significant influence on the negotiation-settlement process. See Galanter, Reading the Landscape of Disputes: What We Know and Don't Know (and Think We Know) About our Allegedly Contentious and Litigious Society, 31 UCLA L. Rev. 4, 32-34 (1983); Mookin & Kornhauser, Bargaining in the Shadow of the Law: The Case of Divorce, 88 Yale L.J. 950, 968-69 (1979); see also sources cited supra note 105.
court. The traditional conception of these functions is illustrated in Figure 1.

![Figure 1](image)

*Curve “*i*” represents the inaccuracy function.*
*Curve “*m*” represents the meritoriousness function.*

If the model is correct with regard to the effect that passage of time has upon the accuracy of litigation, then logic requires that at some point where gains in accuracy due to the efforts of litigation diminish sufficiently (without defining precisely the point), the statute of limitations should be invoked. Further, if the meritoriousness function is correct, utilizing the statute of limitations (as opposed to permitting litigation) may be a better choice for minimizing the aggregate number of errors by summarily awarding judgment to defendants, as depicted in Figure 2.
Inaccuracy is measured on a scale from -1 to 1. A mechanism that resolved every case incorrectly would receive a -1. Similarly, a mechanism that got as many cases right as it got wrong would be graded at 0. The curve $I(t)$ represents the inaccuracy due to litigation and assumes that the error rate due to litigation is relatively low and increases as time passes. Note that even at the far reaches of the time axis, if litigation accuracy is better than random, the curve will remain positive. Indeed, to the extent that lack of evidence causes inaccuracy, litigation error moves in the direction of the meritoriousness curve, because plaintiffs will be unable to meet their burden of proof. The curve $I(s)$ represents inaccuracy due to the sanctioning effect of the statute of limitations.\footnote{This can be stated algebraically as $I(s) = 1 - 2M$, where "M" represents the percentage of meritorious cases at that point in time. The $I(s)$ curve is drawn assuming that at $T = 0$ more than 50\% of all cases are meritorious, but that with the passage of time that percentage falls below 50\%.}

Because Figure 2 does not depict the costs of litigation, we would rationally pick a point to invoke the statute of limitations well before the point at which the two curves intersect. To assure that resources devoted to litigation provide at least an equal increment of accuracy, that point would be set where the difference between $I(s)$ and $I(t)$ equals the cost of litigation.

Regardless of the norm, however, there is strong reason to believe that in insidious disease litigation both of the curves drawn in Figure 1 are reversed: That is, as time passes after accrual of the claim, litigation accuracy actually improves for a substantial period of time. The rela-
tionship between inaccuracy induced by statutes of limitations and litigation in insidious disease litigation is depicted in Figure 3.

FIGURE 3

[Graph showing the relationship between inaccuracy and time, labeled with I_00 and I_90]

As a result of this improved accuracy, the incentive effects of statutes of limitations in insidious disease litigation actually increase error.\(^{114}\) In addition, there is little reason to believe (and some contrary indications)\(^ {115}\) that insidious disease plaintiffs who file their cases later have less meritorious claims than those who file earlier. Thus, the sanctioning effect of statutes of limitations—barring late claims—also contributes to inaccuracy.

1. Incentive Effects: The Impact of Time on the Quality of Evidence

In order to evaluate the effect of time upon the availability and quality of evidence in a toxic substances case, we must first assess the contested elements of a claim and the evidence that is likely to be relevant to those elements. In a toxic substances case, the elements relevant to a substantive resolution of the case, broadly speaking, include the basis for defendant’s liability, causation, and plaintiff’s damages.\(^ {116}\)

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114. But see Epstein, supra note 9, at 481 ("In short, the ravages of time degrade the evidence on every element of a complex [toxic substance] case."). Professor Epstein reaches this conclusion by taking a very limited view of the issues in such cases and the evidence generated with regard to them. Compare id. at 481-84 with infra text accompanying notes 118-62.

115. See infra notes 164-66 and accompanying text.

116. See, e.g., Special Project, An Analysis of the Legal, Social, and Political Issues Raised by...
a. Liability of Defendant

The primary theories of liability available to any toxic substance plaintiff include strict products liability, negligence, and breach of implied warranty. Although strict liability is the plaintiff's preferred theory, it may not be available in a number of instances. Regardless, for all three theories the significant factual issues for which proof may be affected by the time dimension include the dangerous aspects of the toxic substance and the defendant's ability to foresee the harm caused by the substance.

For reasons developed below, society's knowledge of the dangerous aspects of a toxic substance only improves over time. Moreover, the knowledge accumulated from toxicological and epidemiological research does not deteriorate over time; results can easily be retrieved even decades later from the library shelves.

To the extent that a plaintiff must prove that the defendant appreciated the dangers inherent in the toxic agent, the evidence similarly improves over time, although for radically different reasons. Obviously, the optimum time to assess the defendant's knowledge is during the relevant period—when the defendant either sells the agent or otherwise exposes the plaintiff to it. Even at that optimum time, extracting information from a defendant about her knowledge of the risks is problematic; indeed, it is a significant reason for the very existence of strict liability. To the extent this evidence is still required, however, the latency period of the disease will unavoidably delay inquiry into the state of the defendant's knowledge.


117. For example, those exposed to hazardous waste or nuclear weapons testing typically cannot assert a strict products liability claim because there has been no sale of a product by the defendant.

118. Other significant issues relating to liability that may arise in a toxic substance case include the existence of any warnings, their content and adequacy, the benefits of the toxic agent or defendant's behavior that led to the plaintiff's exposure, and the existence and scope of any express warranties. Evidence with regard to these issues is not likely to be affected by the passage of time: The existence and content of warnings, for example, will be sufficiently well documented that no factual dispute is likely to develop. Determining the adequacy of those warnings does not involve a search for historical fact, but requires an evaluation of the warning in light of the applicable legal standards. See also infra text accompanying notes 122-23.

119. See infra text accompanying notes 125-29.

Given that the inquiry into the defendant's knowledge will be delayed at least a decade past the optimum point, the relevant question becomes what impact additional delay beyond the latency period has on evidence of defendant's knowledge. The answer to that question depends substantially on the stakes involved in litigation over the particular agent. In the case of mass toxic substances, the vast number of victims and concomitant stakes involved make investments in acquiring information about the defendant's knowledge worthwhile. The history of asbestos litigation demonstrates that as time passes, more and better evidence is uncovered about the industry's and particular defendant's knowledge concerning the dangers of asbestos products to the variety of circumstances in which people were exposed.121

No doubt there lurk toxic agents about which little has been or will be uncovered regarding defendants' knowledge because of the lack of incentives to develop such information. However, to the extent deterioration in the evidence due to the passage of time affects our ability to gauge the defendant's knowledge, the error more likely will occur in the same direction that the statute of limitations would direct: The plaintiff, who has the burden of proof on this aspect of the case, will be the party adversely affected if insufficient evidence of the defendant's knowledge can be obtained.

The passage of time also affects a defendant's attempts to avoid liability by raising affirmative defenses based on plaintiff's conduct. Some of those defenses may simply be variations on the individual causation question,122 such as an asbestos defendant's claims that plaintiff's smoking constituted contributory negligence.123 The only historical factual issue involved in that inquiry is causation, which is addressed below.

121. See, e.g., P. BRODEUR, OUTRAGEOUS MISCONDUCT: THE ASBESTOS INDUSTRY ON TRIAL 216 (1985); Page, Asbestos and the Dalkon Shield: Corporate America on Trial, 85 Mich. L. Rev. 1324, 1336-37 (1987); 12 Suits Alleging Misrepresentation Conspiracy Settled in South Carolina, Asbestos Litig. Rep. (Andrews) 16,001 (Nov. 6, 1987) (plaintiff's attorney prepared to introduce over 2,000 documents obtained in 1987 that were alleged to demonstrate a conspiracy to repress research data among asbestos manufacturers); Owens-Corning VP Says 600 Pages of Medical Literature Were Known in 1938, id. at 16,014 (asbestos company executive admitted that company officials were aware of literature detailing hazards of asbestos in 1943). The discovery in 1977 of the Sumner Simpson papers, which suggested a concerted effort by the industry to suppress knowledge of the risks of asbestos exposure is another example of the improvement of evidence over time. See Surrick, Punitive Damages and Asbestos Litigation in Pennsylvania: Punishment or Annihilation?, 87 Dick. L. Rev. 265, 275 n.63 (1983). Similarly, in the MER/29 litigation, information improved over time about the manufacturer's knowledge of the hazards of the drug. See Pierce, Encouraging Safety: The Limits of Tort Law and Government Regulation, 33 Vand. L. Rev. 1281, 1297 (1980).

A parallel phenomenon is taking place in the current round of cigarette liability cases, in which attorneys are uncovering evidence of defendants' knowledge of cigarette hazards that was completely missed during the first round of cigarette cases in the 1950s and early 1960s. See Blum, Smoking Documents: Are They 'Smoking Guns'?, Nat'l L.J., Apr. 11, 1988, at 17, col. 1.

122. See infra text accompanying notes 137-42.

The other significant affirmative defense likely to be affected by the passage of time is assumption of risk. The difficulties of ascertaining which risks the plaintiff adequately knew about are similar to the problems addressed in the previous discussion regarding defendant's knowledge of the risk. Significantly, given the passage of time due to prolonged latency periods, the marginal impact on the quality of the evidence resulting from removing statute of limitations constraints is likely to be quite small.

b. Causation

Because of our lack of understanding of the biological and physiological mechanisms by which toxic agents work, causation is frequently the critical issue in toxic substances cases. Causation may involve as many as three distinct subissues: 1) whether the toxic agent can cause the disease from which plaintiff suffers; 2) whether the toxic agent actually caused the plaintiff's disease; and 3) whether the defendant is responsible for the agent to which plaintiff was exposed. Each of these matters may be contested and may require resolution in order to decide a toxic substance case.

The best evidence to demonstrate an agent's capacity to cause a particular disease is epidemiological. However, proving (or disproving a hypothesis about) a toxic agent's ability to cause insidious disease is a lengthy, complex, and often tortuous process that frequently takes several decades. Impediments include ethical concerns that prevent investigators from introducing toxic agents in controlled prospective studies. As a result, researchers must rely upon retrospective studies with all their attendant shortcomings: these include difficulties in determining exposure and measuring dosage in a retrospective study, errors in determining causes of deaths on death certificates, and competing disease that, because of premature death, may obscure the existence of dis-

124. See generally P. Keeton, D. Owen, J. Montgomery & M. Green, Products Liability and Safety (2d ed. forthcoming 1989); Abraham, supra note 9, at 860; Farber, supra note 30, at 1225-28.
ease with a longer latency period.\textsuperscript{128} Finally, because of the lengthy latency periods of many insidious diseases, these studies may result in premature conclusions of no causation. Unlike scientists, the courts do not have the option of holding in abeyance any given causation question when in doubt; the courts must decide the issue, or at least determine that a party has failed to meet its burden of production. The passage of time increases the knowledge that exists with respect to the capacity issue. Providing plaintiffs with additional time by removing the constraints of the statute of limitations therefore could only improve the accuracy of fact-finding.\textsuperscript{129}

One consequence of the need to resolve the causation capacity issue before adequate epidemiological evidence is available is that some courts have permitted proof of causation through clinical assessments.\textsuperscript{130} Although this evidence may be better than none at all, it is less reliable and less specific than epidemiological evidence in addressing and resolving the causation question.\textsuperscript{131}

Another consequence of premature litigation of causation has been the admission of less specific and less directed forms of proof. Plaintiffs attempt to use toxicological (animal studies) proof, and to use analogies to biologically or chemically similar substances to satisfy their burden of proof. As a result, disputes about the legitimacy of drawing inferences

\textsuperscript{128} Thus, it was not until the mid-1960s that asbestos was confidently established as a cause of mesothelioma. Asbestosis, with its shorter latency period, claimed the lives of many who would have later developed mesothelioma. Only after concerns about asbestosis resulted in reduced exposure levels to asbestos did sufficient evidence emerge to establish a causal link between mesothelioma and asbestos. Green, supra note 34, at 158 & n.92.

\textsuperscript{129} Some are predicting that the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1613 (to be codified as amended in scattered sections of 42 U.S.C) with its provisions for developing evidence of causation due to exposure to toxic substances will substantially increase knowledge in the future. E.g., Frank, Superfund Changes, TRIAL, Oct. 1987, at 63.

\textsuperscript{130} The Court of Appeals for the District of Columbia Circuit recognized the conundrum:
Thus, a cause-effect relationship need not be clearly established by animal or epidemiological studies before a doctor can testify that, in his opinion, such a relationship exists. As long as the basic methodology employed to reach such a conclusion is sound, such as use of tissue samples, standard tests, and patient examination, products liability law does not preclude recovery until a "statistically significant" number of people have been injured or until science has had the time and resources to complete sophisticated laboratory studies of the chemical. In a courtroom, the test for allowing a plaintiff to recover in a tort suit of this type is not scientific certainty but legal sufficiency .... Ferebee v. Chevron Chem. Co., 736 F.2d 1529, 1535-36 (D.C. Cir.), cert denied, 469 U.S. 1062 (1984).

\textsuperscript{131} In Wells v. Ortho Pharmaceutical Corp., 788 F.2d 741, 743-45 (11th Cir.), cert. denied, 107 S. Ct. 437 (1986), the court affirmed a trial judge who relied on clinical evidence and rejected weak contrary epidemiological evidence in finding for the plaintiff. The New York Times responded with a scathing editorial: "In their different ways, both law and science seek after truth. That [the trial] and the appellate judges ignored the best scientific evidence is an intellectual embarrassment." N.Y. Times, Dec. 27, 1986, at 22, col. 1; see also Farber, supra note 20, at 1257-58 (discussing clinical proof cases).
from these types of evidence are presented to the jury. Defendants rely on preliminary studies that find no causation, and the dispute expands to an assessment of the methodology and generalizability of a study with too few subjects or other potential flaws.

An alternative but less than satisfying option in dealing with inadequate evidence of causation is to employ the burden of proof to resolve cases. Chief Judge Weinstein's opinion in In re Agent Orange Product Liability Litigation, one of the individual opt-out actions in the Agent Orange class action litigation, fairly cries out for postponing resolution of the case until better evidence of causation is available. In granting summary judgment to defendants based on insufficient evidence of causation, Judge Weinstein wrote:

A long latency period may ultimately reveal some causal relationship between exposure to Agent Orange and adverse health effects in those exposed and in their children. If and when such a connection is shown the issue of compensation should be addressed by the government. This court must decide the case on the evidence presently available.

To be sure, time may not develop the evidence to demonstrate a causal connection between exposure to Agent Orange and the lymphosarcoma that killed the plaintiff's decedent in In re Agent Orange. Indeed, there may be no such connection, in which case the absence of evidence over time will tend to support that conclusion. On the other hand, the well-established causal connections between benzene, asbestos, and tobacco smoking and various forms of cancer, all of which required decades or longer to develop, stand out in contrast.

Equally problematic is determining whether exposure to defendant's toxic agent caused the disease from which the plaintiff suffers. With few exceptions, the vast bulk of toxic diseases are "nonsignature diseases,"—those in which a background incidence of the disease is present in the general population due to factors other than the toxic agent.

132. See, e.g., Ferebee, 736 F.2d at 1533 (plaintiff's experts relied on clinical examination and other anecdotal observations in rendering opinion on causation); Oxendine v. Merrell Dow Pharmaceuticals, Inc., 506 A.2d 1100, 1105-08 (D.C. 1986) (plaintiff relied on animal studies and a reanalysis of a previous study that found no causation).


134. 611 F. Supp. at 1269.


137. There are some "signature" diseases, such as mesothelioma, that have no or a negligible background rate. Abraham & Merrill, Scientific Uncertainty in the Courts, Issues Sci. & Tech., Winter 1986, at 93, 101. Thus, the existence of the signature disease is sufficient to prove the causal connection between exposure and the afflicted plaintiff's disease.
The background rate results from a myriad of factors, some understood—most not—including naturally occurring environmental factors, as well as individual characteristics such as diet and genetic makeup. Because epidemiological evidence only provides group data that identifies a statistically increased risk for nonsignature diseases, there is rarely a definitive way to establish which factor caused plaintiff’s disease. Professor Richard Delgado coined the phrase the “indeterminate plaintiff” to describe this uncertainty. The predominant response by the courts has been to rely on the preponderance of the evidence standard to determine recovery: If plaintiff can persuade the fact finder that there is a better than fifty percent chance that defendant’s agent caused plaintiff’s disease, she can recover; otherwise, the defendant prevails.

Proof in this regard requires two forms of information. First, it requires information relevant to determining the causes of the plaintiff’s disease—both the toxic agent involved in the case and other causes, such as environmental factors, for which the defendant would not be liable. Second, the inquiry requires information about the individual plaintiff relevant to causation (established by the first category of information), such as length and intensity of exposure. The combination of these types of information permits a refined assessment of the likelihood that the toxic agent caused plaintiff’s disease. Thus, for an asbestos plaintiff suffering from lung cancer, research findings demonstrating that certain kinds of asbestos fibers are more likely to cause lung cancer than others would be significant in assessing the probability that plaintiff’s lung can-

138. See Doll & Peto, supra note 136, at 1202-05.

An increasingly large group of academics have urged adoption of a proportional recovery scheme: Plaintiff should recover the percentage of damages equivalent to the probability that it was defendant’s agent that caused her disease. See Delgado, supra note 139, at 899-902; Landes & Posner, Tort Law as a Regulatory Regime for Catastrophic Personal Injuries, 13 J. LEGAL STUD. 417, 425-31 (1984); Robinson, Multiple Causation in Tort Law: Reflections on the DES Cases, 68 VA. L. REV. 713, 759-60 (1982); see also King, Causation, Valuation, and Chance in Personal Injury Torts Involving Preexisting Conditions and Future Consequences, 90 Yale L.J. 1353 (1981); Robinson, Probabilistic Causation and Compensation for Tortious Risk, 14 J. LEGAL STUD. 779 (1985).

Professor Farber recently proposed a different approach in which toxic victims would be divided into groups according to the relative risk of those in the group, with full compensation paid to the most likely victims until the defendant had paid the statistically appropriate amount of damages; the least likely victim/plaintiffs would receive nothing. Farber, supra note 30.
141. See, e.g., Lagakos & Mosteller, Assigned Shares in Compensation for Radiation-Related Cancers, 6 RISK ANALYSIS 345, 348, 353-54 (1986).
cer was the result of exposure to asbestos, rather than some other etiology. Of course, that epidemiological finding is only useful if we also have information specific to the plaintiff that enables us to determine its implications: Specifically, to what kind and what dosage of asbestos fiber was the plaintiff exposed?

In general, it seems fair to conclude that information of the first type will improve as time passes and that information of the second type will deteriorate with the passage of time. The one qualification to the latter conclusion is with regard to the diagnosis of the plaintiff’s disease. At least in the early stages of progressive diseases, and even in the case of cancer, for which more refined diagnostic tools are developed over time, the passage of time improves the accuracy of the diagnosis. To be sure, the victim’s death is probably the outer limit of this diagnostic improvement—at that point the disease has progressed as far as it can. But even death and a subsequent autopsy frequently provide evidence crucial to sorting out the plaintiff’s particular disease and its cause. Thus time seems to have both a positive and a negative effect on the quality of the evidence regarding the plaintiff’s individual characteristics, including diagnosis. Overall, however, the effect is positive: For toxic cases, causation evidence improves over time.

Connecting the defendant with the toxic agent is the third element necessary to demonstrate causation. Some agents, because of brand identification—for example, Rely Tampons and the Dalkon Shield—generally will not present any serious proof problems with regard to exposure. Generic agents, by contrast, may present significant proof problems, particularly where they are incorporated into finished products that do not have strong brand identification. Thus, in some asbestos cases, identifying the defendant whose asbestos products came into contact with the plaintiff may present proof problems.

Once again, however, abolishing the statute of limitations is not likely to have any significant impact on the quality of evidence. First, any deterioration of identification evidence due to the absence of statutes

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143. The incentive for strategic behavior by victims in manipulating the time of suit is most problematic in this regard. See infra text accompanying notes 168-73. Factors specific to plaintiff may exist, such as exposure to other identified causal agents or a family health history indicating increased individual susceptibility. Removing the time constraints on when plaintiff must file suit may provide the opportunity for strategic delay until such evidence is less available to the defendant. Cf. Hataye v. Raymark, Asbestos Litig. Rep. (Andrews) 15,719 (Sept. 18, 1987) (dispute over date on which decedent stopped smoking; only evidence that had been uncovered to date was depositions of family members of decedent).

144. See supra notes 48-49 and accompanying text.

of limitations incentives must be measured against the delay inherent in latency periods which last for decades. Second, because plaintiffs bear the burden of proving exposure to the defendant's agent they have an incentive to avoid delay: The deterioration of evidence results in an outcome identical to that which the statute of limitations would have otherwise commanded.146 Finally, developments in technology may provide improved evidence of exposure despite the passage of time.147

Some courts have fashioned special rules when plaintiffs are unable to prove which defendant provided the generic agent that caused their disease.148 The market share theory of liability constructed by the California Supreme Court in *Sindell v. Abbott Laboratories*,149 for example, permits DES daughters who cannot prove which manufacturer provided the DES taken by her mother to recover proportionally from each manufacturer based on its share of the relevant DES market. The absence of statute of limitations incentives in this class of cases may create incentives for strategic delay:150 For example, plaintiffs might intentionally wait for evidence of actual causation to dissipate, if they currently pos-

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146. See, e.g., Goldman v. Johns-Manville Sales Corp., 33 Ohio St. 3d 40, 514 N.E.2d 691 (1987) (summary judgment upheld against plaintiff who was unable to prove which asbestos products her decedent had been exposed to decades earlier); cf. *Tisco Intermountain v. Industrial Comm'n of Utah*, 744 P.2d 1340 (Utah 1987) (worker failed to prove exposure to asbestos while employed by defendant-employer; barred by statute of limitations from asserting claim against previous employer).


148. See, e.g., *Sindell v. Abbott Laboratories*, 26 Cal. 3d 588, 607 P.2d 924, 163 Cal. Rptr. 132 (apportioning liability by market share), cert. denied, 449 U.S. 912 (1980); *Collins v. Eli Lilly Co.*, 116 Wis. 2d 166, 342 N.W. 2d 37, cert. denied, 469 U.S. 826 (1984). These "proof-bridging" devices have been largely limited to DES litigation, in which each defendant's product creates the same risk. With very few exceptions, the courts have been unwilling to extend the same advantage to those toxic victims who are not exposed to uniform risks. See, e.g., Celotex Corp. v. Copeland, 471 So. 2d 533 (Fla. 1985) (holding market share theory of liability inappropriate because asbestos products, unlike DES, vary in toxicity). *But cf.* Nicolet, Inc. v. Nutt, 525 A.2d 146 (Del. 1987) (approving use of conspiracy theory against asbestos defendants who plaintiffs could not prove had provided the asbestos to which they were exposed).


150. With regard to the danger of strategic delay generally, see infra text accompanying notes 168-73.
sess unfavorable evidence of exposure, such as knowledge that the manufacturer that provided the agent is now defunct. Of course, any plaintiff willing to engage in strategic delay could just as easily conceal the unfavorable evidence. A possible solution to this problem, were it to turn out to be significant, would be to use equitable notions similar to laches to permit the defendant to demonstrate that the plaintiff’s delay has harmed the defendant’s ability to demonstrate a lack of causation. If the defendant were successful, then the plaintiff would be denied the use of any special rules excusing actual proof of exposure.

c. Damages

Predicting the future course of a plaintiff’s medical condition is an age-old challenge for the civil justice system. Statutes of limitations, in conjunction with the single judgment rule, nevertheless require such predictions to be made in a wide range of personal injury cases. The difficulties encountered in toxic substances litigation, while not different in kind, are magnified by the nature of such litigation.

Statutes of limitations result in a disproportionately large number of toxic tort plaintiffs filing suit prematurely, forcing the fact finder to predict the future course of plaintiff’s disease. That prediction, moreover, must be made in a context in which wide individual variations exist in the disease’s progression and in which there is little or no ability to make individualized distinctions in the prognosis. Thus, even if the overall payment required of defendants is reasonably accurate based upon actuarializing the payments over a large number of cases, many plaintiffs will be either over- or under-compensated.

151. See Berentson, Integrity Test, 15 AM. LAW., May 1980 (discussing investigation revealing some personal injury lawyers’ apparent willingness to help clients commit perjury to improve their case).

152. See infra text accompanying note 174.

153. This problem has bedeviled the legal system for centuries. In Fetter v. Beale, 1 Ld. Raym 339, 91 Eng. Rep. 1122 (1697) a plaintiff, who had already sued and recovered for a battery and a resultant bruise, brought a subsequent suit asserting that “part of his skull by reason of the said battery came out of his head.” Reproaching the plaintiff for his lack of patience in bringing suit, the court held the second action was barred by res judicata. The court’s opinion does not reveal the time frame in which the second injury arose and whether the plaintiff would have had the luxury, in the face of the statute of limitations, of following the court’s advice. See generally P. ATIYAH, ACCIDENTS, COMPENSATION AND THE LAW 176-90 (3d ed. 1980); 51 AM. JUR. 2D Limitations of Actions § 136 (1970).

154. See supra text accompanying notes 88-100.


Multiple diseases exacerbate this problem. With varying and differential latency periods, a toxic victim is at risk of developing other diseases, which to a large extent cannot be isolated. The single judgment rule is the primary villain here. Relaxing the rule to permit a second suit if the victim develops a second disease could largely ameliorate this concern,\textsuperscript{157} indeed, a number of courts have opted for this approach.\textsuperscript{158} However, in other courts, plaintiffs must attempt to recover for the risk of contracting those diseases with little more than generalized probabilities and accommodating experts.\textsuperscript{159} When the courts award full damages to plaintiffs who meet the more-likely-than-not burden with probabilistic proof, but deny damages to others whose proof falls short, over- and under-compensation are once again guaranteed.\textsuperscript{160}

\textsuperscript{157} Adopting such a gloss on the single judgment rule runs counter to contemporary developments in preclusion law, which have focused on the "transaction" as the key for determining the scope of a claim for preclusion purposes. \textit{Restatement (Second) of Judgments} § 24 (1982). \textit{But see id.} § 26(1)(c), (f); case cited infra note 158. Aside from the efficiency and administrative convenience of a single suit, making a final award of damages reduces the incidence of ex post moral hazard in personal injury actions.

A number of courts that have adopted an exception to permit separate suits for later developing disease have emphasized that the diseases are distinct or independent, although it is difficult to understand why that is significant. \textit{See, e.g.}, Pierce v. Johns-Manville Sales Corp., 296 Md. 656, 464 A.2d 1020 (1983).

\textsuperscript{158} \textit{See, e.g.}, Eagle-Picher Indus., 481 So. 2d at 521; Smith v. Bethlehem Steel Corp., 303 Md. 213, 232-34, 492 A.2d 1286, 1295-96 (1985).

\textsuperscript{159} The Fifth Circuit, which has a disproportionate amount of asbestos litigation, has been the leading proponent of allowing plaintiff to recover for future injuries. \textit{See} Jackson v. Johns-Manville Sales Corp., 781 F.2d 394, 411-13 (5th Cir.) (Mississippi law; holding plaintiff may assert a claim for future developing disease without resolving whether a second suit would be barred), \textit{cert. denied}, 106 S. Ct. 3339 (1986); Gideon v. Johns-Manville Sales Corp., 761 F.2d 1129, 1136-37 (5th Cir. 1985) (Texas law); \textit{see also} Roush v. GAF Corp., 15 Prod. Safety & Liab. Rep. (BNA) 780 (W.D. Pa. Oct. 21, 1987) (plaintiff's claim time-barred based on single cause of action theory); Joyce v. A.C. & S., Inc., 785 F.2d 1200, 1203-05 (4th Cir. 1986) (plaintiff's claim against the manufacturer time-barred based on theory of one indivisible cause of action for personal injury). Thus, in \textit{Gideon}, 761 F.2d at 1138, plaintiff, suffering from asbestosis, relied on an expert who testified, "I said in reasonable medical probability he will die of an asbestos-related malignancy. He will die with asbestos disease. There is no doubt about it."

A recent summary of several studies of cancer in those exposed to asbestos under a variety of circumstances shows a range of deaths attributable to asbestos-induced neoplasms ranging from 0 to 25%, with a mode in the 10 to 12% range. \textit{Nat'l Research Council}, supra note 45, at 126-27, 268-92; \textit{see also} Jackson v. Johns-Manville Sales Corp., 727 F.2d 506, 516 (5th Cir. 1984) (three experts testified plaintiff would more likely than not contract asbestos-induced cancer in the future), \textit{cert. denied}, 106 S. Ct. 3339 (1986).

There is no adequate evidence to permit differentiation of the risk of cancer for those who have developed nonmalignant asbestotic disease, such as asbestosis, and those who have not. \textit{Weill, Asbestos-Associated Diseases: Science, Public Policy and Litigation}, 84 \textit{Chest} 601, 604-605 (1983); \textit{National Research Council}, supra, at 114.

\textsuperscript{160} Professor Farber and other commentators have pointed out that ex ante \textit{proportional} payments based on the probabilistic risk of contracting future diseases, arc, in theory, no different than simply providing an insurance policy to each of those with enhanced risk. Farber, \textit{supra} note 20, at 1241 n.98; Robinson, \textit{supra} note 140, at 787; \textit{see also Developments, supra} note 12, at 1651-54 (discussing an administrative compensation scheme that compensates for risk rather than actual
Professor Leubsdorf has described the speculation and unrealities frequently required by the law of remedies. As he presciently observed, courts may circumvent fact-finding uncertainty in a limited class of cases by awaiting the passage of time. As the previous section has demonstrated, with the exception of evidence regarding plaintiff's exposure, evidence relevant to the major issues in toxic substances litigation improves significantly for a period well beyond that mandated by a discovery rule statute of limitations. Even with the deterioration of exposure evidence, the overall balance appears firmly on the side of expanding the time to bring suit. Moreover, since plaintiffs have the burden of proof on the issue of exposure, evidence lost because of expanded time should not significantly disadvantage toxic defendants.

2. The Sanctioning Effect: Generating False Negatives

As noted, contrary to conventional wisdom, the passage of time is likely to improve the quality of evidence and the accuracy of outcomes for toxic torts. Aside from its effect of reducing the quality of available evidence, statutes of limitations generate inaccuracy by creating false negatives (barring otherwise valid claims). These false negatives explain the unpopularity of statutes of limitations; they not only offend utilitarian principles but also strike squarely in the unfairness gut. Nevertheless, in circumstances in which the incentive effect truly and substantially contributes to accuracy, the unfortunate product of barring a number of otherwise meritorious claims may be judged acceptable.

A claim sometimes tentatively asserted in support of statutes of limitations is that they may improve accuracy by screening dilatorily filed cases. If those later filed cases are less meritorious than promptly filed

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162. Id. at 141-45.
163. “So viewed, protection of the guilty is not an end in itself, but the inevitable and necessary price paid in discharging the primary function . . . .” Epstein, supra note 111, at 678.
164. The assumption underlying this claim is that those with meritorious claims will be anxious to pursue them and will therefore file suit promptly. See, e.g., Developments in the Law—Statutes of Limitations, 63 HARV. L. REV. 1177, 1185-86 (1950).
cases, statutes of limitations might contribute to accuracy by reducing the risk of litigation error. However, it is difficult to justify the assumption that insidious disease plaintiffs who file their cases outside discovery rule time limits have less meritorious claims. The predominant explanation for insidious disease plaintiffs running afoul of statutes of limitations is ignorance or naivete about their disease, its source, or their legal remedies. The current crop of insidious disease cases in which statutes of limitations are involved, along with the existing data on the incidence of victims seeking legal relief, reveal that the overwhelming reason why plaintiffs failed to file timely actions is that they simply did not appreciate the significance of a relatively minor malady, its source, or the availability of legal relief. Furthermore, unless the meritoriousness of this class of cases diminishes over time, limitations statutes decrease accuracy by generating false negatives. Indeed, the tentativeness with which this justification is asserted suggests that it not be taken too seriously.

Another reason to believe that the meritoriousness curve rises over time, at least beyond the point dictated by the discovery rule, is the improvement in evidence relating to plaintiff's disease and its etiology. As information about claimants' disease improves—particularly with regard to the class of premature claims described above—previously uncertain cases will be screened out by claimants or their attorneys who recognize from the additional information that the claim is unlikely to be successful.

3. The Danger of Strategic Delay

Conceding the inadequacies of the current statute of limitations regime, a skeptic might nevertheless inquire whether abolishing the statute would create incentives with adverse consequences. Might not claimants shop chronologically, biding their time until a more favorable rule of law develops or until unfavorable facts are no longer available to the defendant? This concern deserves serious consideration. See U.S. DEP'T OF LABOR, supra note 14, at 460 (most important reason for asbestos victims or their survivors not seeking benefits is ignorance of cause of victim's disease or availability of legal rights); Boden, Comment on Epstein, 13 J. LEGAL STUD. 507, 515-16 (1984) (ignorance is one of the primary reasons for low filing rates by insidious disease victims); see also, e.g., Love v. Johns-Manville Canada, Inc., 609 F. Supp 1457, 1458 (D.N.J. 1985) (plaintiff diagnosed with asbestosis did not sue earlier because "he felt he could still earn a living").

And unlike litigation error in which mistakes are distributed randomly between plaintiffs and defendants, errors generated by statutes of limitations fall unilaterally on plaintiffs. By "shop chronologically" I mean plaintiff selecting the time to bring her suit based on strategic concerns.

Another concern is the retroactivity of any rule abolishing statutes of limitations. If abolition were adopted retroactively, might not plaintiffs drag a multitude of cases out of the grave and into the courts?

New York's experience provides some indication. As part of the 1986 legislation adopting a
Before addressing the dangers of generating chronological litigation shopping, it is important to note that there are powerful incentives for plaintiffs to avoid unnecessary delay. It must be conceded that delay for the sake of delay is not an advantage and that there is a point (well beyond the one identified by current limitations rules) at which accuracy may be detrimentally affected by further delay. However, plaintiffs cannot recover anything until they assert their claims. This point may be particularly compelling once the plaintiff's disease has caused impairment. At this point, the need for compensation will be a significant incentive to assert the claim promptly. Tactically, there are substantial advantages to having the seriously injured plaintiff available for the jury to observe and hear. Even after death, grieving family members or those who have suffered tangibly from the death make far more sympathetic plaintiffs than the victim's grandchildren. Concerns about insolvency or the bankruptcy of potential defendants, given the recent experience in the asbestos industry and with A.H. Robins, also encourage prompt, perhaps even premature, filing. Thus, substantial incentives already exist for plaintiffs with mature, meritorious claims to file them promptly.

 discovery rule for victims of five toxic substances, any plaintiff whose claim had previously been barred by the statute of limitations had one year in which to file a claim. Prior to this one year window, relatively few toxic substances cases had been filed in New York. J. KAKALIK, P. EBENER, W. FELSTINER & M. SHANLEY, COSTS OF ASBESTOS LITIGATION 5 (1983). The paucity of asbestos cases in New York is likely attributable to the use of an exposure test for accrual of the claim, see supra note 60, which barred most New York asbestos victims' suits. See U.S. DEP'T OF LABOR, supra note 14, at 390 (New York second only to California in number of insulation workers killed by asbestos).

Estimates are that during the one-year grace period, plaintiffs filed 10,000 toxic substances cases in state courts and another 1500 to 2000 asbestos suits in federal court. Adams, Courthouse Doors Are Reopened, Nat'l L.J., Sept. 14, 1987, at 1 col. 2, 34, col. 1. The federal court filings are not out of line with asbestos filings in other federal district courts with a high concentration of asbestos cases; the districts of Massachusetts, Eastern Texas, and Southern Mississippi had from 2,480 to 3,090 asbestos cases filed in the period from July 1, 1977 to June 30, 1986. T. WILLGING, supra note 90, at 14-15. Of course, many New York victims likely filed suit in other jurisdictions during the period when New York used an exposure rule to determine when a cause of action accrued. See Adams, supra, at 34 (describing Virginia victims who sued in Texas, Ohio, or Mississippi); Phila. Judge Vacates Dismissals Based on Old NY Statute of Limitations, Asbestos Litig. Rep. (Andrews) 15,575 (Aug. 21, 1987).

Thus, reviving all barred claims would generate a significant crop of new cases. Since claimants in those cases have settled expectations, and although contrary arguments might be made, on balance I would not advocate retroactive statute of limitations reform. Retroactivity would raise further questions about those who either settled at a discount or litigated and lost on statute of limitations grounds.

169. Indeed, a legitimate concern might be that the incentives for early filing are so great that a threshold injury or impairment should be set before a victim would be permitted to go to court. That raises a number of concerns sufficiently controversial and collateral that I will leave the issue for another day.

170. See Bendix Autolite Corp. v. Midwestco Enter., Inc., 108 S. Ct. 2218, 2223 (1988) (Scalia, J., dissenting). Some sketchy empirical evidence supports the proposition that incentives other than the statutes of limitations are sufficient to induce prompt filing of personal injury claims. A British
Nonetheless, some inevitable percentage of plaintiffs will delay. For those claimants with marginal or unmeritorious claims, delay may occur simply because of ennui—the prospects for recovery are insufficient to justify the efforts required for suit. More perniciously, some claimants may conclude that deliberate footdragging is advantageous because of the hope of a favorable development in the law applicable to their claim.\footnote{171} A favorable turn might result in plaintiffs filing newly viable cases far beyond those cases’ optimal point.

The more significant concern implicated in this scenario is the application of contemporary law to cases in which defendants’ conduct occurred when different substantive law existed. This is already a familiar situation in the products liability context, because of the lengthy life of industrial machinery and other durable goods, and the latency periods for insidious disease.\footnote{172} A solution to this concern, if one is necessary, would be to judge defendants’ conduct or their products’ safety by the law applicable at the time of design or manufacture. Statutes of limitations are but a partial and poor fix for this concern.\footnote{173}

It is more difficult to assess the extent to which strategic delays will be employed to allow the dissipation of unfavorable evidence or to obstruct its discovery. For example, a plaintiff aware that her own behavior would subject her to a successful affirmative defense might delay in bringing suit, hoping that time will diminish the defendant’s ability to discover and gather evidence of her behavior. However, with the burden of proof on the plaintiff, evidence about the most vexing aspect of the claim—causation—safely preserved in print, and defendants in control of their records, it is difficult to imagine how plaintiffs could systematically utilize delay to their advantage. Nevertheless, given the

\footnote{Royal Committee investigating statutes of limitations found that 90% of claims against a Scottish motor company were filed within two years and 99% within three years despite the fact that the only limitations statute in Scotland is a 20-year prescription period. \textit{Committee on the Limitations of Actions Report}, Cmd. No. 7740, at 8 (1949).}


\footnote{173. For an argument that short statutes of repose should be applied to insidious disease cases because of the potential for shifting legal standards in the future, see Danzon, \textit{supra} note 13, at 534-43. Utilizing statutes of repose to, in effect, create immunity from liability is an extremely radical excision for this comparatively minor irritant. Professor Rubinfeld provides a critique in Rubinfeld, \textit{On Determining the Optimal Magnitude and Length of Liability in Torts}, 13 J. Legal Stud. 551, 558-60 (1984).}
financial incentives involved, the possibility always exists that clever attorneys will devise means to exploit the rules to their clients' advantage.

Two possible solutions to strategic delay exist, although they are not without their own difficulties. First, defendants could be permitted an equitable laches-like defense if they could demonstrate either that plaintiff's delay prejudiced the defense of that action or that plaintiff's delay was so unreasonably long as to justify an inference that it was for strategic reasons. The obvious difficulty with this proposal is that although it is intended to be a limited, infrequently asserted defense, it may become routinely invoked, thereby wiping out the efficiency gained by abolishing statutes of limitations. Thus, unless strategic delay turns out to be a substantial problem, laches is probably undesirable.

In any case, a cutoff of 20 years after the death of the injured victim would provide an outside limit that could ameliorate some of the residual concerns. Unlike the discovery rule, it could be easily applied; the date of death is an event about which there is unlikely to be much uncertainty or disagreement. Although such a limit might bar claims before adequate evidence of causation is developed, the concern for compensating heirs who have survived for a generation without it is diminished. Nor should a 20 year cutoff significantly affect tort law's deterrent effect. Given lengthy latency periods, the large numbers of exposed individuals, and the agency-cost problems of the modern publicly held corporation, deterrence in the mass toxic substances context is already problematic. Attempting to optimize deterrence by using a precise statute of limitations to fine-tune defendants' liability is a bit like trying to regulate the flow of water at Niagara Falls with a water pistol. Even using current limitations periods, but accruing claims at death, would be preferable to the current discovery rule regime, although it has the additional disadvantage of barring claims that were not brought because the parties

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174. Thus, defendants' claim that the passage of time affected their ability to defend all similar claims would not be cognizable. If toxic substances defendants were required to defend delayed claims without the benefit of the statute of limitations, one would expect them to preserve evidence within their control, such as the warnings used on their products over time. Moreover, plaintiff's use of strategic delay to her advantage is an individualized issue and not a general one.

175. See generally Sher, Ancient Wrongs and Modern Rights, 10 Phil. & Pub. Aff. 3 (1981) (addressing the question whether there should be time limits on compensating modern generations for historical injustices such as slavery).


177. Professor Siliciano has pointed out many of the impediments to inducing appropriate safety levels by corporate producers through the tort liability system. Siliciano, Corporate Behavior and the Social Efficiency of Tort Law, 85 Mich. L. Rev. 1820 (1987); see also Barth, supra note 9, at 573 (detailing underutilization of the tort system by asbestos victims); Pierce, supra note 121, at 1290-1307 (difficulties in valuing human life and tort system's failure in a variety of ways to internalize costs limit the system's effectiveness in encouraging safety).
did not know the cause of their decedents' diseases or its implications.178

D. The Emptiness of Repose

"[C]ertainty generally is illusion, and repose is not the destiny of man."179

Regardless of the overall truth of Justice Holmes' dictum, lengthy latency periods for insidious disease, both directly and indirectly, thwart the provision of any significant degree of repose for defendants. Defendants are directly affected because any judicial activity must await development of the victim's disease, which necessarily entails a delay equivalent to the latency period. Defendants are indirectly affected because the latency period makes discovery of the causal connection between agent and disease a lengthy process. This results in a longer period during which victims are exposed to the agent and afflicted by disease, thereby expanding the time-span of lawsuits.180

Moreover, the traditional concerns for providing repose to defendants are attenuated in the toxic substances arena. An uninsured individual at risk of being sued because of an identifiable event surely deserves some protection from the psychological trauma induced by the combination of substantial risk, uncertainty, and lack of control over one's destiny. But insidious disease cases hardly fall within this paradigm. Defendants in toxic substances litigation invariably are corporations, not individuals. Moreover, most are corporations for whom the management of litigation has become an aspect of doing business.181 Although this function may not be among the most desirable in corporate management, it has become regularized, routine, and a necessary aspect of business

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178. See, e.g., Pastierik v. Duquesne Light Co., 514 Pa. 517, 526 A.2d 323 (1987) (claim accrued at death, but cause of death not determined for another three years); see also White v. Johns-Manville Corp., 103 Wash. 2d 344, 345, 355, 693 P.2d 687, 689, 694 (1985) (plaintiff did not know cause of decedent's illness until over four years after his death; court held that it was unreasonable to expect plaintiff to conduct the massive research necessary to establish the causal relationship between his death and his exposure to asbestos).


181. Most defendants in the contemporary mass toxics context, e.g., manufacturers of asbestos or DES, fit this description. Others, particularly producers of as yet undiscovered toxics, may genuinely be litigation-innocent until the first crop of cases is filed. After that, however, litigation management will become a significant corporate function. Furthermore, latency periods and their variability in individuals virtually ensure that defending lawsuits will become a long-term proposition.

Some small entities may exist, particularly in the hazardous substances arena, for whom repose would be significant. Once again, however, given the existence of the discovery rule, abolishing statutes of limitations would have only a marginal impact on the chronology of litigation. In the final analysis, any legitimate repose concerns do not justify the benefits previously identified in abolishing statutes of limitations.
operations. 182

Statutes of limitations have been defended on the grounds that insurers need some certainty about the length of time they will be at risk on their policies. However, with the expanded period of exposure and delay in manifestation due to latency periods, even the discovery rule cannot provide fixed limits on the period of liability. The liability insurance industry’s recent move toward claims-made policies, despite the formidable changeover and continuing coverage problems, should provide some greater certainty in underwriting these risks. 183

Perhaps the most telling evidence of the unimportance of repose within the current framework is the defendants’ response to premature claims in asbestos litigation. The Asbestos Claims Facility, a consortium of the major asbestos defendants, has a standing offer to provide a “green card” to plaintiffs who have a history of asbestos exposure but no current physical impairment. The green card tolls the statute of limitations indefinitely, permitting plaintiffs to wait until disability or impairment occurs before filing claims. Asbestos defendants have demonstrated that they are willing to sacrifice the incentive effect of statutes of limitations and the repose they afford in order to avoid prematurity. 184 The time value of money and cash flow concerns also motivate defendants to spurn the incentive effect of statutes of limitations: Slowing down the stream of claims reduces the real cost of settlements and judgments. 185 Thus if, as defendants’ actions demonstrate, there is no benefit to prompt submission


183. A claims-made policy provides coverage to the insured only for claims made during the policy period. The traditional “occurrence” policy covers claims filed after the policy expires, provided the event from which liability arises occurred during the covered period. Hilder, Changes in Liability Insurance Spur Confusion Among Business Clients, Wall St. J., Nov. 20, 1985, § 2, at 33, col. 4; see also Abraham, Making Sense of the Liability Insurance Crisis, 48 OHIO ST. L.J. 399, 405-06 (1987) (claims-made policies respond to uncertainties created by long latency insidious disease litigation); Finlayson, Insurers Restricting Use of Claims-Made CGL Form, Bus. Ins., Feb, 9, 1987, at 1, col. 2 (only insureds with “high-hazard” or “long-tail” exposure claims will be required to use claims-made policies); Kittrell, Risk Managers Accept Claims-Made Reluctantly, Bus. Ins., Oct. 13, 1986, at 1, col. 2. (survey showed over 50% of respondents had to accept claims-made policies for at least some types of exposure); cf. Abraham, Environmental Liability and the Limits of Insurance, 88 COLUM. L. REV. 701, 714-17 (1988) (identifying characteristics of hazardous waste liability that create uncertainty, thereby impeding the availability of liability insurance for such risks).

184. See T. WILLGING, supra note 90, at 53 (defendants created green card procedure); Asbestos Claims Facility Releases Alternative Dispute Resolution Plan, Asbestos Litig. Rep. (Andrews) 14,329, 14,330 (March 12, 1987) (releases in settlement with Asbestos Claims Facility preserve claimant’s right to make future claim if other diseases develop); Stipulation, supra note 95, at 11,116 (defendants agreed to procedure that put cases without serious disease on hold indefinitely until plaintiff suffered further impairment).

185. What defendants have not been willing to sacrifice is the benefit of the sanctioning effect; defendants will only agree to waive a statute of limitations defense that did not exist at the time the claimant first comes forward.
and resolution of claims, barring potentially meritorious claims because of the passage of time cannot be justified on repose grounds.

E. Creating Chinks in the Integrity of the System: Beyond the Utilitarianism of Statutes of Limitations

This Article has focused primarily on a utilitarian analysis of the impact of statutes of limitations in insidious disease litigation. That analysis has addressed the variables of efficiency and accuracy in dispute resolution. In many respects, fairness and legitimacy\(^1\) concerns, however loosely defined, are consistent with this utility calculus: The false negatives generated by the sanctioning effect of statutes of limitations not only result in inaccuracy, but also they violate basic principles of equality—treating like cases alike—and equity—resolving cases on the merits rather than as a result of a procedural default. The remainder of this section addresses several legitimate concerns that do not fit neatly within the utilitarian framework.

1. The Lack of Verifiability: Encouraging Plaintiff Mendacity

The discovery rule’s reliance on the plaintiff’s subjective knowledge to begin the running of the statute of limitations provides unfortunate incentives for mendacity by claimants. In the absence of documentation, there will rarely be even circumstantial evidence that bears on the claimant’s awareness of his condition and its source. As Professor Henderson observed, process constraints suggest that the law be structured in a fashion that allows verification of relevant matters.\(^2\) The discovery rule violates this prescription.

Moreover, the inclination to preserve one’s claim by conveniently forgetting about one’s prior knowledge is enhanced by the perceived unfairness and arbitrariness of statutes of limitations, which provide a convenient rationalization for those who need one. This phenomenon can only breed cynicism and lack of respect for the judicial process. While the extent to which this distortion occurs is unclear, the comment of two attorneys who represent a leading asbestos defendant suggests it is

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1. I recognize that concerns about the legitimacy of the civil justice system could be shoehorned into a broader utilitarian analysis than I have employed. For the sake of first addressing statutes of limitations on their own terms—efficiency and accuracy—I have chosen to treat the items in this section separately.

2. Henderson, *Process Constraints in Tort*, 67 CORNELL L. REV. 901, 913-14 (1982). In Professor Henderson’s view, the law must be fashioned so as to guide effectively both primary and adjudicative behavior. *Id.* at 901. To achieve those objectives, the law must recognize four process constraints. *Id.* at 901-02. Other constraints, beyond verifiability of facts upon which liability is based, include comprehensibility, or the degree to which a person can understand the law; conformability, or a person's ability to conform to the law; and manageability, or the ability of the legal system to reach decisions consistent with the legal standard. *Id.* at 911-13, 914-16.
far from rare: "Only an ill-prepared or benevolent plaintiff would con-
sciously bar his own cause of action by readily admitting that he knew
that he had been injured by a toxic substance at some time prior to the
applicable limitations period." 188

2. Fostering Conditions for Expert Witness Abuse

Plaintiffs are not the only ones who may fabricate testimony or mis-
lead the court. Expert witnesses who have little or no basis for their
opinion and who simply lend their credentials as oath-takers for the
party paying them create a similar problem for the legal system. 189
Other experts use large leaps of faith to draw inferences and render firm
opinions on matters that most in their field would label as nothing more
than hypotheses. 190 In the toxic tort context, the combination of insuffi-
cient information about causation, 191 the time constraints imposed by
the statute of limitations, and the allocation of the burden of proof has
allowed this abuse to proliferate. As several commentators have noted,
this problem transcends toxic substances litigation. 192 Nevertheless, the
problem is particularly acute in toxic substances cases because time con-
straints imposed by statutes of limitations virtually require plaintiffs to
build their case on hastily assembled expert witness opinions. Allowing

188. Goggin & Brophy, supra note 14, at 1223. In addition, there are cases in which the
circumstances suggest that the plaintiff's testimony about her awareness of her illness and its timing
was conveniently molded by the statute of limitations. See, e.g., Cowgill v. Raymark Indus., 780
F.2d 324 (3d Cir. 1985) (victim who attended employer's seminars on asbestos-related disease and
had been examined and met with doctor who found pleural thickening testified that his doctor had
not informed him of his diagnosis and that he had no recollection of what took place at the
seminars).

189. Black & Lilienfeld, supra note 125, at 738 & n.16; see also, e.g., Viterbo v. Dow Chemical
Co., 826 F.2d. 420 (5th Cir. 1987) (expert witness predicted a course of plaintiff's illness favorable to
plaintiff's claim without adequate evidence to support opinion); In re Agent Orange Prod. Liab.
Litig., 611 F. Supp. 1267, 1278-83 (E.D.N.Y. 1985) (plaintiff's expert gave contradictory testimony
in previous similar case and based his opinion on hearsay evidence with no basis in fact), aff'd, 818
found that expert's opinion had no scientific basis).

190. E.g., In re Agent Orange Prod. Liab. Litig., 611 F. Supp. at 1282.

191. See supra text accompanying notes 124-34.

Adequate Assurance of Trustworthiness, 1986 U. ILL. L. REV. 43, 89-90; Twerski, Weinstein,
Donaher & Pichler, The Use and Abuse of Warnings in Products Liability—Design Defect Litigation
Comes of Age, 61 CORNELL L. REV. 495, 532-36 (1976) (discussing problems with relying upon
expert witness testimony in product liability cases); N.Y. Times, supra note 131 (criticizing courts
for imposing liability based on expert testimony, while ignoring substantial scientific evidence to the
contrary); N.Y. Times, March 4, 1988, at A1, col. 1 (medical professor indicted for perjury and
obstruction of justice in connection with his testimony as an expert witness in Dalkon Shield
litigation). While this criticism has become louder since the liberalization of expert testimony in the
Federal Rules of Evidence and the development of an expert witness industry, it is not new.
Professor Wigmore observed, "It [the rule permitting expert testimony] has done more than any one
rule of procedure to reduce our litigation towards a state of legalized gambling." 7 J. WIGMORE,
claimants to wait and bring their case when better evidence of causation is available cannot provide a comprehensive solution, but may make a contribution in the right direction.

3. Forum Shopping and Lack of Consistency

Two identically situated asbestos victims with the same domicile will have diametrically different outcomes depending upon which side of the Delaware River they file their suit. Because Pennsylvania's statute of limitations for all consequences accrues upon discovery of the first disease, while New Jersey's does not, the outcome of a case may depend on whether suit is filed in Pennsylvania or New Jersey.193 Similarly, a Virginia resident who had the sagacity to forum shop in Texas, Mississippi, or Ohio will have the opportunity to pursue a claim that her neighbor who remained at home sacrificed.194 The stream of out-of-time claimants to jurisdictions with more favorable statutes of limitations is discomfiting and results in wildly inconvenient forums or skirmishes over forum non conveniens. Of course, this result is directly attributable to interjurisdictional variations in statutes of limitations, but aside from uniformity, liberalization of time requirements could reduce this flow substantially.

CONCLUSION

This Article has attempted to demonstrate that molding statutes of limitations to fit the constraints of insidious disease litigation results in a paradox: Rather than enhancing accurate outcomes and efficiency, statutes of limitations produce exactly the opposite effect. Beyond such utilitarian concerns, statutes of limitations in insidious disease litigation have several other troubling effects. The errors they generate are not randomly distributed, but fall exclusively on the class of victim-claimants. By requiring premature determination of causation questions, they provide a breeding ground for the abuse of the expert witness system that has become epidemic in modern litigation. The lack of uniformity in statutes of limitations among the states has encouraged forum shopping of the most blatant kind and resulted in inconsistent outcomes between similarly situated claimants.

I hope the reader will not misunderstand me. I do not contend that later is always better than sooner. Society has a legitimate interest in putting ancient history to rest. At some point, the evidence in a toxic substances case will mature, and further delay will not promote—indeed

193. See Ross v. Johns-Manville Corp., 766 F.2d 823 (3d Cir. 1985) (court in diversity action applied Pennsylvania statute of limitation to time-bar New Jersey plaintiff's claim; if plaintiff had filed in federal court in New Jersey, the case would not have been barred).

194. See Adams, supra note 167, at 34, col. 1 (Virginia plaintiffs successfully brought suit in Texas, Ohio, and Mississippi).
PARADOX OF STATUTES OF LIMITATIONS

will detract from—an accurate outcome. Given agency cost concerns in the publicly held corporation and the time value of money, the tort system's deterrent effect dissipates as time passes. Yet, lengthy latency periods make substantial delay inevitable, and statutes of limitations as currently formulated are a terrible, expensive, and unfair mechanism for ascertaining the appropriate time for a toxic substances lawsuit.

A resolution of the current quagmire is neither theoretically nor practically obvious. Although this Article began with a proposal to abolish all statutes of limitations in insidious disease litigation, potential strategic responses by claimants constitute a significant, albeit difficult to assess, concern. Political constraints also loom large. While there is abundant evidence that asbestos defendants do not desire the benefit of the incentive effects or the repose of statutes of limitations, they are unlikely to agree to give up the benefits of its sanctioning effect, which provides one of the most effective arrows in their defense quiver. Unfortunately, that sanctioning effect is the undesirable byproduct of providing just those incentives spurned by defendants.

A scaled-down solution might abolish all statutes of limitations during the lifetime of the victim and provide a set amount of years thereafter for the family to bring suit. An outside limit of twenty years would not impinge seriously on tort policies, even though advantages exist to providing a longer period because of agents for which evidence of toxicity is undeveloped and because some individuals may remain unaware of the cause of death of a relative or its legal implications.195

Ideally, any reform should be universalized—an unlikely event in the diversity and vagaries of state legislatures. However, preempting state statutes of limitations and providing a uniform federal provision is not as radical as it might initially appear. A virtually unnoticed provision of the Superfund Amendments and Reauthorization Act of 1986196 imposes a discovery rule for accrual of all state tort claims for personal injury or property damage resulting from exposure to hazardous substances.197 Although this provision does not appear to apply to products liability actions, and in any case does not address the concerns raised in this Article, it does set a precedent for a uniform federal statute of limitation, even for state-based tort claims.

The political unreality cloud still remains, but with a potential silver

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195. See, e.g., DiMedio v. Consolidated Rail Corp., 649 F. Supp. 1340, 1341 & n.3 (D. Del. 1986) (plaintiff argued that she did not know until 1984 when medical researchers made the connection between lymphosarcoma and asbestos exposure that decedent's death in 1982 resulted from his exposure to asbestos).


197. Id. at tit. 2, § 203, 100 Stat. 1695 (to be codified at 42 U.S.C. § 9658).
lining. Many players in the products liability game and the current Administration have renewed their efforts to enact a federal products liability statute. These parties claim that such a statute would provide uniformity and certainty in an area with significant interstate implications.\textsuperscript{198} Much negotiation has taken place in the process of trying to fashion a bill that will be politically feasible. If those advocating a federal statute are committed to providing uniformity and certainty—not to mention the additional benefits in efficiently and fairly adjudicating these claims—a provision eliminating or substantially extending the statute of limitations in insidious disease cases may yet see the light of day.

Professor Ken Abraham has convincingly pointed out the difficulties of a universal mass tort compensation scheme.\textsuperscript{199} Nevertheless, individualized compensation schemes for specific mass toxic agents about which substantial scientific evidence of causation exists are an attractive, but politically unlikely, solution to the challenge. In the absence of such wholesale reform, I hope this Article will contribute to the recognition that toxic substances torts are different in important ways from the traditional snapshot tort and that those differences may require rethinking fundamental assumptions about the existing tort system and its relationship to the statute of limitations.


\textsuperscript{199} See Abraham, supra note 9.