The Relation Between Civil Liability and Environmental Regulation: An Analytical Overview

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With the change of administrations brought about by the election of 2000 has come the prospect that environmental regulation and enforcement will decline. Can private civil liability fill this gap? Should it? If so, in what respects?

It is worth noting at the outset that merely raising these questions is a bit ironic. One of the fundamental arguments for federal environmental regulation has always been that state regulation and common law civil liability are inadequate means of ensuring an optimal level of environmental safety.[1] The externalities resulting from barriers to the imposition of liability on those who create environmental risk were the principal justifications for the development of what we now call environmental law, and especially for the enactment of the major federal regulatory statutes of the 1970's.[2]

On the other hand, civil liability has now co-existed with the modern era of environmental regulation for over three decades. Tort liability for environmental harms not only has persisted during this era, but expanded. The federal Superfund Act of 1980, for example, clearly reflects the view that civil liability is a necessary complement to the environmental laws addressing the disposal of hazardous waste.[3] And as I will discuss below, the precise interaction of civil liability and environmental regulation in different contexts has become the subject of a growing body of intricate rules.

This paper provides an overview of the issues associated with the relation between civil liability and environmental regulation. It addresses the common characteristics of cases involving environmental injury or damage; analyzes the various theories of liability for these harms and the remedies available if liability is imposed; develops a typology of the different relationships between civil liability and environmental regulation; and concludes with some thoughts about the

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1. *See* ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 104-11 (2d ed. 1996).

2. *See, e.g.*, Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. § 136 (2000); Toxic Substances Control Act, 15 U.S.C. § 2601 (2000); Endangered Species Act, 16 U.S.C. § 1531 (2000); Federal Water Pollution Control Act, 33 U.S.C. § 1251 (1994 & Supp. 1999); Clean Air Act, 42 U.S.C. § 7401 (1994).

3. *See* Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767 (codified as amended in scattered sections of 26 U.S.C., 33 U.S.C., and 49 U.S.C.).

values that are served by preserving a dual system of legal regimes to govern environmental risk.

I. The Common Characteristics of Environmental Torts

The very notion of an "environmental tort" is somewhat indeterminate, since the category has no particular doctrinal significance. Nonetheless, four characteristics of what might be called "environmental torts" are worth noting. Taken together, these characteristics tend to render environmental torts at least arguably distinctive. These characteristics are 1) the long-latency of many environmental harms; 2) the frequent difficulty of pinpointing the party or parties responsible for causing these harms; 3) the corresponding difficulty of pinpointing the particular individuals who have suffered injury caused by harmful environmental exposure; and 4) the fact that a public regulatory regime typically has already also addressed the activity that is the subject of the private suit.

A. *Long Latency of Harm*

Although some environmental harms are open and obvious from the moment they occur, many occur slowly and out of sight, only to manifest themselves many years after the event that set the harm in motion. For example, certain diseases have long latency periods – i.e., periods between the time of exposure to a pollutant or contaminant and the time when a disease resulting from that exposure either occurs or becomes detectable.[4] In contrast, some environmental harms may begin to occur immediately or soon after the release of a substance into the environment. Many of these harms are not detected or detectable, however, until many years have passed. For instance, hazardous waste may seep into groundwater and begin to migrate offsite shortly after it is deposited, but the resulting contamination of drinking water may not be discovered until much later.

The long-latent character of many environmental harms has far-reaching factual and legal implications for lawsuits seeking damages for these harms. As a factual matter, reconstructing a chain of events that occurred decades ago is likely to be far more difficult and time consuming than proving what occurred more recently. Therefore, the burden of evidentiary production shouldered by plaintiffs in environmental tort actions typically is far more onerous than in conventional cases. In addition, because the facts developed are likely to be more sparse the more distantly in the past an event occurred, decisions by the trier of fact are likely to be less well informed in such cases. Since

4. Gerald W. Boston & M. Stuart Madden, Law of Environmental and Toxic Torts: Cases, Materials, and Problems 7 (1994).

ordinarily the burden of persuasion rests on the plaintiff, the sparsity of the factual record may also work against plaintiffs.

The legal rules governing tort actions are in effect constitutive of these factual considerations. Traditionally the plaintiff bears the burdens of production and persuasion on each element of a tort claim. Proof by a preponderance of the evidence of negligence (or in appropriate cases the requisites of strict liability), causation, and both past and future damages is therefore required. Yet because of the long latency of most of the harms at issue in environmental tort cases, evidence of exactly what the defendant or defendants did may be uncertain; scientific and medical proof of a causal connection between the defendant's conduct, whatever it was, and the plaintiff's injury may make it difficult to adduce; and because the harm at issue is often still in process, proof of future damages is likely to be necessary. Yet that is always a somewhat speculative venture.

In fact, the other common characteristics of environmental torts are each at least partly related to the uncertainties that result from the long latency of many environmental harms. Modification of the legal rules governing environmental torts — both actual and proposed — are in effect a reaction to these uncertainties.

B. *The Indeterminate Defendant*

As in any tort action, to prevail in an environmental tort action the plaintiff must prove, among other things, that the defendant is responsible for the harm at issue. But the source of a substance that is an environmental pollutant or contaminant is not always readily identifiable, especially if the substance was released into the environment in the distant past. Moreover, sometimes there are multiple sources. Even when all potential sources can be identified, it may be difficult or impossible to determine the proportion of each source's responsibility for the total harm that has occurred.[5]

The cluster of issues associated with source identification is often termed the problem of the indeterminate defendant.[6] As I will explain below, several legal doctrines have developed in response to this problem, and there have been a number of proposals for additional – and sometimes quite fundamental – changes in legal doctrine to deal with the problem of the indeterminate defendant.

5. *See* Kenneth S. Abraham, *Individual Action and Collective Responsibility: The Dilemma of Mass Tort Reform*, 73 VA. L. REV. 845 (1987); Glen O. Robinson, *Multiple Causation in Tort Law: Reflections on the DES Cases*, 68 VA. L. REV. 713 (1982); David Rosenberg, *The Causal Connection in Mass Exposure Cases: A "Public Law" Vision of the Tort System*, 97 HARV. L. REV. 849 (1984).

6. *See* KENNETH S. ABRAHAM, THE FORMS AND FUNCTIONS OF TORT LAW 108 (1997) [hereinafter ABRAHAM].

C. *The Indeterminate Plaintiff*

Just as it is sometimes difficult to identify the party responsible for environmental injury, it may also be difficult to determine the party or parties who have been harmed by exposure to environmental pollutants or contaminants. This is the problem of the indeterminate plaintiff.[7]

The genesis of this problem is the fact that many diseases have multiple possible causes.[8] For most diseases there is a "background rate" at which the population contracts the disease. For example, even if exposure to a substance is known to cause a particular form of cancer in a given percentage of those exposed, some portion of the exposed population that contracts this form of cancer would have contracted the disease even absent exposure – i.e., these individuals would have figured in the background rate. Thus, an affirmative answer to the question whether exposure to a substance could have caused a particular disease in a particular plaintiff does not answer whether exposure did in fact cause the disease in that plaintiff.

This problem of the indeterminate plaintiff is often exacerbated by two factors. First, even when there is medical and scientific data on the disease-causing properties of certain substances, that data may not be sufficient to permit inferences as to the precise probability of a causal connection between exposure and harm. Yet the conventional rules governing proof of causation require at least enough precision to support a factual finding that an exposure for which the defendant is responsible was more probably than not the cause of harm suffered by the plaintiff. Second, even when data is sufficient to permit an inference as to causal probability, the only permissible inference may be that the probability that the defendant is responsible for any given plaintiff's harm is less than fifty percent.[9] Yet under conventional rules governing proof of causation, a defendant cannot be held liable, despite the fact that it very probably caused the harm suffered by a discrete subset of all plaintiffs, absent proof regarding the particular plaintiffs whose harm was more probably than not caused by that defendant.[10]

7. *See id.*

8. *See* Mark Geistfeld, *Scientific Uncertainty and Causation in Tort Law*, 54 VAND. L. REV. 1011, 1034 (2001) (discussing proof of causation of diseases such as cancer with unknown etiology).

9. *Id*. at 1025.

10. For discussion of the cluster of issues associated with this problem, see Saul Levmore, *Probabilistic Recoveries, Restitution, and Recurring Wrongs*, 19 J. LEGAL STUD. 691 (1990).

D. *The Intersection of Public Law and Civil Liability*

Public law potentially plays a role in any tort action. Statutes and regulations governing health and safety abound. These sources of public law sometimes specify the role that proof of compliance or violation is to play in tort actions; common law rules governing these issues have long dictated the role to be played by such proof in the absence of statutory specification regarding this issue.

Statutes and regulations governing activities that pose the risk of environmental harm, however, are particularly dense. At the federal level, extraordinarily detailed statutes and implementing regulations address a wide variety of environmental risks. Less visible but often equally detailed and important environmental health and safety standards exist at the state level as well. For this reason, the intersection between public law and civil liability is of particular significance in tort actions involving environmental harm. Far from being the exception, the pre-existing applicability of a public law regime to the activity that is the subject of an environmental tort action is likely to be the norm.

II. Theories of Liability and Remedial Alternatives

A rich array of causes of action is potentially available in cases involving environmental harm. In addition, the field has spawned a series of innovative remedial alternatives, actual and proposed, to deal with the problems of the indeterminate defendant and indeterminate plaintiff.

A. *Theories of Liability*

Virtually the full arsenal of tort law causes of action for physical harm is potentially available in environmental tort actions. In addition, statutory causes of action for the cost of environmental remediation are often available under federal and state law.

1. *Trespass and Nuisance*

These torts protect the rights of possession and peaceful enjoyment of land, respectively.[11] Recovery in trespass is available for actual physical invasions of property. In contrast, nuisance actions traditionally remedy the kinds of non-possessory interferences typical of pollution.[12] Nuisances are usually actionable for both personal injury and property damage.

11. W. Page Keeton et al., Prosser and Keeton on Torts § 13 at 69-70 (5th ed. 1984) [hereinafter Prosser and Keeton].

12. *Id*.

The touchstone of liability in nuisance is the existence of an "unreasonable" interference with the interest of the plaintiff or plaintiffs. This should not be confused, however, with unreasonable conduct. A nuisance may be actionable on the ground that it is intentional, negligent, or satisfies the requirement of a strict liability cause of action. Rather, a nuisance constitutes an unreasonable interference when, under all the circumstances, the interference is substantial.[13] Traditionally the courts "balance the equities" – taking into account the locational setting, the burden on the plaintiff, and the history of land uses in the area, among other things – in making the unreasonableness determination.[14] Thus, air pollution in an industrialized neighborhood is less likely to constitute a nuisance than in a rural area where there has never before been any manufacturing.

2. *Negligence*

A cause of action for negligence – unreasonably risking foreseeable injury or damage – is of course potentially available in cases involving environmental harm. The principal hurdle that plaintiffs in such cases must overcome is the requirement that foreseeability be proved. When long-latent harm materializes many years after allegedly negligent conduct has occurred, the plaintiff must prove that, at the time the conduct occurred, the defendant knew or should have known of the risk that its conduct could cause harm. In some cases this is feasible; in others, however, it is only after the harm in question has materialized that the causal connection between that harm and the defendant's conduct becomes understood. For example, the potential for certain hazardous substances to migrate through dense soil and into groundwater is much better understood today than it was fifty years ago. Similarly, the connection between exposure to comparatively small doses of toxic substances and certain diseases may become recognized only after a sufficient number of people have been exposed over a long enough period of time to afford a statistically significant sample on which to base epidemiological studies.

Whereas the foreseeability requirement is a disadvantage for plaintiffs in a negligence case, the negligence *per se* doctrine is an advantage to plaintiffs. In most jurisdictions, the unexcused violation of an applicable statute or administrative regulation is negligence as a matter of law.[15] When violation results in the same kind of harm to the same class of persons whom the statute or regulation is designed to protect, then the cause of action is complete. Foreseeability (or

13. *Id*. § 87, at 623.
14. *Id.* § 88, at 629.
15. *See* ABRAHAM, *supra* note 6, at 79.

unforeseeability) may still play a role under the rubric of proximate cause, however, when the harm that occurs does not satisfy these requirements.[16] Violation of a statute designed to protect against the risk of poisoning, for example, does necessarily mean that a party is liable when the substance unforeseeably causes a different kind of harm, such as a chronic disease. Moreover, as I will discuss below in Part III, some statutes are not silent about their role in tort litigation, but actually specify that role.

3. *Strict Liability*

In addition to negligence, strict liability may be imposed for injury or damage caused by "abnormally dangerous" activities.[17] Although the requirements of this cause of action vary a bit across jurisdictions, in general the activity must pose significant foreseeable risk that cannot be eliminated even when reasonable care is exercised in the conduct of the activity. In many jurisdictions the activity must also not be a matter of common usage; in other jurisdictions a kind of sliding scale takes the degree to which the activity is a matter of common usage into account, but does not require absolutely that the activity not be a matter of common usage.[18]

The seminal English case on this issue, *Rylands v. Fletcher*,[19] involved the escape of water from a reservoir. In this country the paradigm example of an abnormally dangerous activity has been blasting. Many other activities resulting in environmental injury or damage, however, have also been the subject of strict liability litigation.[20]

4. *CERCLA Cost Recovery*

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"),[21] sometimes known as the "Superfund" Act, creates a regime designed to accomplish the remediation of sites containing hazardous waste that pose a threat to health or the environment. Many states have enacted their own very

16. *Id.* at 80-82.

17. *See* RESTATEMENT (SECOND) OF TORTS § 520 (1977).

18. *See, e.g.*, Cities Serv. Co. v. Florida, 312 So. 2d 799 (Fla. Dist. Ct. App. 1975) (imposing strict liability for damage resulting from "slime reservoir," despite fact that such reservoirs appeared to be common in Florida).

19. L.R. 3 H.L. 330 (1868).

20. *See, e.g.*, Ashland Oil, Inc. v. Miller Oil Purchasing Co., 678 F.2d 1293 (5th Cir. 1982) (disposal of waste by introducing it into oil pipeline is abnormally dangerous under Louisiana law); Albahary v. City & Town of Bristol, 963 F. Supp. 150 (D. Conn. 1997) (city landfill contamination); Valentine v. Pioneer Chlor Alkali Co., 864 P.2d 295 (Nev. 1995) (release of liquified chlorine into the environment).

21. *See* Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767 (codified as amended in scattered sections of 26 U.S.C., 33 U.S.C., and 49 U.S.C.).

similar "mini-Superfund" statutes applying to sites that fall outside the scope of the federal regime.

CERCLA imposes retroactive, strict, and joint and several liability for the cost of cleanup at sites to which the statute applies, on past and present owners of such a site, on parties who transported material to a site, and on parties who generated material deposited at a site.[22] Since it is generally the federal government or a state government that has incurred these costs, these entities are the typical plaintiffs in a CERCLA or state-based cost recovery action against these "responsible parties." On occasion, however, other parties have incurred such costs and are entitled to private cost recovery. The joint-and-several liability provisions of the statutes also may result in private contribution actions brought by parties claiming that have been held liable for a disproportionate share of the cost of cleanup. Finally, CERCLA also provides for the imposition of liability on responsible parties for damage to natural resources resulting from exposure to hazardous substances at a site.

Although these statutory regimes do not impose liability for personal injury, it is common for private tort actions to parallel CERCLA and state cleanup actions, and to base their claims at least in part on the same core facts as these actions. Indeed, frequently it is the discovery of offsite drinking water contamination or personal injury that prompts the initiation of federal or state cleanup action.[23]

5. *Dealing with the Indeterminate Defendant*

Cutting across the available causes of action is the problem of the indeterminate defendant. Whether a claim is based on nuisance, negligence, or strict liability, a separate element of each cause of action traditionally is that the defendant be proved by a preponderance of the evidence to have caused harm to the plaintiff. But because many environmental harms are the result of contributions by multiple parties, there often can be no recovery under traditional rules because of the difficulty of proving which party caused what damage.

Certain alternatives to this hard-edged rule developed mainly in products liability law, however, may find application in the environmental field as well. First, the doctrine of "alternative liability" may apply when two defendants have each breached a duty to the plaintiff but the particular defendant whose actions caused the harm in ques-

22. *See* Comprehensive Environmental Response, Compensation, and Liability Act § 107(a), 42 U.S.C. § 9607(a) (1995); United States v. Northeastern Pharm. & Chem. Co., 810 F.2d 726, 733-37, 740-41 (8th Cir. 1986).

23. *See, e.g.*, THOMAS W. CHURCH & ROBERT T. NAKAMURA, CLEANING UP THE MESS: IMPLEMENTATION STRATEGIES IN SUPERFUND 73 (1993); JONATHAN HARR, A CIVIL ACTION (1995); ADELINE GORDON LEVINE, LOVE CANAL: SCIENCE, POLITICS AND PEOPLE (1982).

tion cannot be identified.[24] Second, when there was concert of action by a universe of defendants, each whose actions caused harm to one or more of the plaintiffs, the burden of disproving causation may be shifted to the defendants.[25] Third, when each defendant marketed a product identical in relevant respects, but each plaintiff harmed cannot be matched up with any particular defendant's product, market-share liability may be imposed.[26] Fourth, if a reliable proxy for causal contribution is available, then liability for damages in proportion to the amount of each defendant's contribution to the total harm suffered may be imposed. For example, where responsibility for the cost of environmental cleanup is at issue and the different pollutants pose roughly the same dangers and involve similar degrees of difficulty in remediation, then CERCLA liability can be imposed in proportion to the volume of pollutants for which each individual defendant was responsible.[27]

This last general approach holds out the most hope for plaintiffs seeking damages for personal injuries resulting from environmental exposure. Imposing proportional liability could enable plaintiffs to circumvent the otherwise often-insurmountable hurdle of proving causation by a preponderance of the evidence. But there is considerable distance between a theoretically plausible avenue of recovery and a practical rule of law. First, if proportional recovery is available in cases where the preponderance-of-the-evidence rule cannot be satisfied, consistency would seem to require that there also be proportional recovery – i.e., less than full compensation – even in cases where the rule is satisfied. That would of course work a fundamental change in the conduct of tort suits and in tort law, since it would mean that most plaintiffs would recover less than their full amount of damages.[28] Second, even setting the consistency objection aside, we are probably a long way from being systematically able to quantify causal probabilities with the degree of precision that would be necessary to make a system of proportional liability feasible.

B. *Remedial Alternatives*

The imposition of civil liability is generally understood to serve two main functions: corrective justice and deterrence. Although liability for monetary damages is the remedy most frequently used to

24. *See, e.g.*, Summers v. Tice, 199 P.2d 1 (Cal. 1948).
25. *See, e.g.*, Michie v. Great Lakes Steel Div., 495 F.2d 213, 218, (6th Cir. 1974).
26. *See, e.g.*, Sindell v. Abbott Labs., 607 P.2d 924 (Cal. 1980).
27. *See, e.g.*, Tosco Corp. v. Koch Indus., 216 F.3d 886 (10th Cir. 2000) (upholding a finding of proportional damages for environmental contamination); United States v. Cantrell, 92 F. Supp. 2d 718 (D. Ohio 2000) (approving the proportional allocation of liability among several defendants in a consent agreement).
28. *See* ABRAHAM, *supra* note 6, at 110-11.

serve these functions, occasionally injunctive relief is also employed to do so. Nowhere have the characteristics of environmental torts produced more innovative and radical proposals for, as well as actual, doctrinal change than in the area of remedies.

1. *Injunctive Relief*

The principal common law setting in which injunctions are regularly issued involves nuisance. The traditional rule was that a successful nuisance plaintiff is entitled to damages for past losses and an injunction directing the defendant to abate the nuisance to prevent any future losses.[29] That rule has eroded somewhat in recent times, at least in part because of judicial recognition of the role that environmental regulation plays in controlling activities that create large-scale nuisances. As a consequence, plaintiffs are sometimes limited to the damages remedy for future losses.[30]

CERCLA also contains an injunctive remedy that operates in tandem with its cost-recovery provisions. Instead of undertaking cleanup itself and seeking subsequent cost recovery, the Environmental Protection Agency ("EPA") is entitled under the statute to issue administrative orders directing responsible parties to conduct cleanup; alternatively, the EPA may seek a judicially-issued injunction ordering cleanup.[31] In contrast to the injunctive relief that is available in nuisance – which is the only means of obtaining nuisance abatement – the injunctive remedies under CERCLA are simply substitutes for government-conducted cleanup. Injunctions in effect order responsible parties to fund cleanups at the front end, whereas government-conducted cleanups followed by cost recovery result in responsible party funding at the back end.

Many of the other federal environmental-protection statutes also make provision for the issuance of injunctions in cases where there is imminent and substantial danger to health or the environment.[32] But these provisions more closely resemble targeted regulation than the imposition of civil liability, and are therefore appropriately understood as part of the regulatory arsenal.

2. *Conventional Damages and the Problem of Inchoate Loss*

Liability for damages is the only remedy available in the overwhelming majority of environmental tort actions. Under traditional rules, the plaintiff is entitled to both out-of-pocket, or "special" dam-

29. *See* PROSSER AND KEETON, *supra* note 11, § 88B, at 631-33.
30. *See, e.g.*, Boomer v. Atlantic Cement Co., 257 N.E.2d 870 (N.Y. 1970).
31. *See* CERCLA § 106, 42 U.S.C. § 9606 (1995).
32. *See, e.g.*, Federal Water Pollution Control Act § 504, 33 U.S.C. § 1364 (2000); Clean Air Act § 303, 42 U.S.C. § 7603 (1995).

ages, and pain-and-suffering, or "general" damages. A single recovery is awarded for both past and future special and general damages that the plaintiff proves by a preponderance of the evidence he or she has suffered, or will suffer in the future.

This is utterly familiar and unremarkable. Although predicting long-term future loss may sometimes be a more speculative enterprise than is acknowledged, recovery for such loss is available only if the plaintiff has suffered some past or present compensable personal injury or property damage. In this situation the plaintiff will already be recovering an award; the future-loss issue merely involves the magnitude of the award, not recovery *vel non*.

The discovery that potentially harmful environmental exposures have occurred, however, sometimes is made a considerable period of time before any physical harm whatsoever resulting from exposure will manifest itself. Individuals may learn that they have been exposed to carcinogenic substances, for example, decades before any cancer caused by the exposure develops and is manifested. And as noted above, even at that time identifying the responsible defendant and proving causation is sometimes difficult.

As a consequence, significant aspects of both corrective justice and deterrence may sometimes be sacrificed. From the standpoint of corrective justice, fear of suffering injury or disease in the future, while not a tangible physical loss, is of course a real loss that has been imposed on the victim by the party responsible for creating this fear. Similarly, medical monitoring necessitated by a hazardous exposure involves real costs, even if the monitoring never reveals any injury or disease. In part for this reason, some courts have relaxed the traditional restrictions on recovery for these forms of loss in the absence of tangible physical harm, and permitted such recovery under limited circumstances.[33]

From the standpoint of deterrence there also is potential concern. A party whose conduct imposes the risk of harm on others but who does not bear full liability for the harm ultimately caused by that conduct is suboptimally deterred. Yet it is in the environmental tort setting that problems involving long-latency disease, indeterminate plaintiffs, and indeterminate defendants create the greatest obstacles to the imposition of full liability for harm caused. Potential defend-

33. *See, e.g.*, Hagerty v. L & L Marine Servs., 788 F.2d 315 (5th Cir. 1986) (fear of future injury), *modified*, 797 F.2d 256 (5th Cir. 1986); Sterling v. Velsicol Chem. Corp., 647 F. Supp. 303 (W.D. Tenn. 1986) (same), *aff'd in part and rev'd in part on other grounds*, 855 F.2d 1188 (6th Cir. 1988); Potter v. Firestone Tire & Rubber Co., 863 P.2d 795 (Cal. 1993) (same); Mauro v. Raymark Indus., Inc., 561 A.2d 257 (N.J. 1989) (same); Redland Soccer Club, Inc. v. Dep't of the Army, 696 A.2d 137(Pa. 1997) (medical monitoring); Bower v. Westinghouse Elec. Corp., 522 S.E.2d 424 (W. Va. 1999).

ants are therefore inadequately deterred, and an excessive level of risk is created.

This kind of predicament is of course precisely what gives rise to the public regulation of environmental risk. But in the face of what they consider the inadequacies of regulation, some scholars have proposed recognition of a cause of action for tortious creation of risk.[34] A number of these proposals leave the contours of such a cause of action to be worked out, while others are richly detailed. Their overall common purpose, however, is to promote internalization of the costs of risky activity, and thereby to achieve more nearly optimal deterrence.

Such a cause of action would of course be concerned exclusively with future loss. Therefore, it would of necessity involve some form of proportional liability linked to the probability that the risk in question would materialize in harm. Some of the difficulties that would be associated with this approach parallel those discussed above in connection with proportional liability for actual harm. In most cases, sufficiently precise data on causal probabilities is unlikely to be available; and to the extent that such data is available, imposing proportional liability is inconsistent with awarding full recovery in cases where a causal connection is proved by a preponderance of the evidence but not to a moral certainty.

Other difficulties would arise from the fact that compensation would be paid in advance, and ordinarily far in advance, of the actual occurrence of harm. The result would be that comparatively large numbers of claimants would receive compensation, but probably for a comparatively small percentage of the damages that could be recoverable for actually-occuring harm. Such payments could be understood in two ways: 1) as largely unnecessary for the vast majority of claimants but insufficient for the unfortunate minority; or 2) as a way of funding premiums for insurance purchased by all potential claimants. The trouble with the first conception is obvious; and the trouble with the second conception is that the insurance in question is only partially available, at best. A solution to this problem would be to impose liability for risk at the time of its creation, but to award compensation only at the time when harm actually occurred. David Rosenberg, one of the leading proponents of the approach has thus called for what amount to "insurance fund judgments" in connection

34. *See, e.g.*, Glen O. Robinson, *Probabilistic Causation and Compensation for Tortious Risk*, 14 J. LEGAL STUD. 779 (1985); David Rosenberg, *Individual Justice and Collectivizing Risk-Based Claims in Mass-Exposure Cases*, 71 N.Y.U. L. REV. 210 (1996); Christopher H. Schroeder, *Corrective Justice and Liability for Increasing Risks*, 37 UCLA L. REV. 439 (1990); Note, *Latent Harms and Risk-Based Damages*, 111 HARV. L. REV. 1505 (1998); Barton C. Legum, Note, *Increased Risk of Cancer as an Actionable Injury*, 18 GA. L. REV. 563 (1984).

with liability for risk-creation.[35] But this proposal entails its own not inconsiderable difficulties.

In short, the imposition of liability for risk alone is both politically implausible and subject to serious challenge on pragmatic grounds. In my view the proposals for doing so are most usefully viewed as heuristic devices. By taking these proposals seriously as an intellectual matter, we can better understand both how the tort system can be reformed to deal more effectively with environmental torts, and the points at which even a reformed system would run up against its own limits in attempting to solve problems in this field.

III. The Intersections of Civil Liability and Regulation

The intersection of liability and regulation takes place in both domains. Civil liability plays a role in regulation, and regulation plays a role – in fact, a variety of quite different roles – in civil liability. We thus have a mixed system in two senses: we address environmental risk through both liability and regulation, and each approach plays a role in the other.

A. *Civil Liability in the Regulatory Process*

Civil liability plays no formal role in the promulgation or enforcement of environmental statutes and regulations. But this is far from saying that civil liability is irrelevant to these processes. In fact, developments in the civil liability arena sometimes trigger regulation. The investigatory incentives of attorneys representing plaintiffs in civil litigation may lead them to produce data and uncover facts that legislatures and administrative agencies would be very unlikely to develop on their own. Armed with this information, legislatures and agencies may then be prompted to conduct their own independent investigations and promulgate regulatory standards applicable to the activity that is the subject of the prior civil litigation.

Moreover, despite the extensiveness of environmental health and safety regulation at both the federal and state levels, newly-recognized risks may materialize in harm that does not fall within any pre-defined regulatory jurisdiction. As Robert Rabin has pointed out, at important points in their history there was no regulatory agency charged with responsibility for monitoring the health effects of asbestos or tobacco.[36] So the availability of civil liability may in fact sometimes be a catalyst for regulation.

35. *See generally* Rosenberg, *supra* note 5.

36. *See* Robert L. Rabin, *Reassessing Regulatory Compliance*, 88 Geo. L. J. 2049, 2069 (2000).

B. *The Role of Regulation in Civil Liability*

In contrast to the non-formal role played by civil liability in regulation, regulation often plays a prominent and formal role in civil liability. In fact, there are four different roles that are played by regulation, depending on the legal setting and the statutory framework that applies: 1) regulation may pre-empt liability; 2) compliance with regulatory standards may be a defense to liability; 3) violation of regulatory standards may constitute negligence *per se*; or 4) violation or compliance may be merely evidentiary on the issue of liability.

1. *Pre-emption*

Under the Supremacy Clause of the U.S. Constitution,[37] Congress has the power to pre-empt state tort actions pertaining to any activity that the Congress may regulate. Similarly, state legislatures have virtually unlimited authority, subject only to each state's own constitution, to overturn the common law. This authority undoubtedly comprehends pre-empting tort liability. Consequently, whether regulation of an activity by statute pre-empts civil liability for injury or damage caused by that activity is predominantly a question of statutory interpretation.

It turns out that at both the federal and state levels, however, the courts have developed rules of interpretation holding that there is in effect a presumption against pre-emption. As the U.S. Supreme Court described its approach in one of the more recent cases addressing the issue, "because the States are independent sovereigns in our federal system, we have long presumed that Congress does not cavalierly pre-empt state-law causes of action."[38] This is a presumption against what might be called *vertical pre-emption* – whether a federal regulatory scheme pre-empts state tort law.[39] A similar rule regarding *horizontal pre-emption* – whether a state's regulatory scheme pre-empts state common law – also pertains.[40] Thus, in the absence of something approaching express language evidencing legislative intent

37. U.S. CONST. art. VI, cl. 2.

38. Medtronic, Inc. v. Lohr, 518 U.S. 470 (1996).

39. *See, e.g.*, Hunnings v. Texaco, Inc., 29 F.3d 1480 (11th Cir. 1994) (state law strict liability and negligence claims for defective labeling of a hazardous substance not pre-empted by the Federal Hazardous Substances Act and the Poison Prevention Packaging Act); Gilberg v. Stepan Co., 24 F. Supp.2d 325 (D.N.J. 1998) (state law strict liability and negligence claims for contamination of well water by a nearby manufacturer of products using radioactive materials not pre-empted by the Price-Anderson Act); Sleath v. West Mont Home Health Servs., 16 P.3d 1042 (Mont. 2000) (negligence claim for pesticide exposure from building extermination not pre-empted by Federal Insecticide, Fungicide, and Rodenticide Act); Gorton v. Am. Cyanamid Co., 533 N.W.2d 746 (Wis. 1995) (negligent misrepresentation claim for injuries from pesticide exposure from farm use not pre-empted by Federal Insecticide, Fungicide, and Rodenticide Act).

40. *See, e.g.*, Biddix v. Henredon Furniture Indus., 331 S.E.2d 717 (N.C. Ct. App. 1985); State of Missouri *ex rel.* Dresser Indus. v. Ruddy, 592 S.W.2d 789 (Mo. 1980); Boston & Madden, *supra* note 4, at 246.

to pre-empt, civil liability operates in tandem with environmental regulation.

Nevertheless, certain federal and state environmental regulatory regimes have been interpreted to pre-empt civil liability.[41] Significantly, such rulings apply not only to civil liability for violation of these statutes, but also to causes of action alleging that there is liability notwithstanding compliance with the statutory requirements. Thus, pre-emption simply takes civil liability out of play. Penalties or sanctions for violation are to be found within the regulatory regime only; there are no externally available penalties or sanctions, whether or not there is compliance.

2. *Regulatory Compliance as a Defense*

The regulatory compliance defense contrasts with pre-emption in two respects. First, whereas pre-emption is by definition a product of statutory purpose, a regulatory compliance defense may arise by virtue of statutory purpose or common law decision. Second, the regulatory compliance defense obviously does not preclude the imposition of liability for injury or damage resulting from violation of a statute or regulation. The defense applies only when there has been compliance. When liability has been pre-empted by statute, however, even claims for injury or damage resulting from violation of the statute are precluded. The operative difference between pre-emption and the regulatory compliance defense, then, involves the difference between remedies for violation of a statute or regulation. The regulatory compliance defense permits imposition of civil liability for harm caused by a statutory or regulatory violation, but pre-emption does not. The former creates a safe harbor only; but the latter wholly occupies the field and completely displaces civil liability.

Although there has been considerable academic and policy debate about the regulatory compliance defense, the defense has been

41. *See, e.g.*, Milwaukee v. Illinois, 451 U.S. 304 (1981) (federal "common law" claims for abatement of nuisance causing interstate water pollution pre-empted by the Federal Water Pollution Control Act Amendments of 1972); Shaw v. Dow Brands, Inc., 994 F.2d 364 (7th Cir. 1993) (state law strict liability and negligence claim for defective labeling of a mildew remover pre-empted by the Federal Insecticide, Fungicide, and Rodenticide Act); New England Legal Found. v. Costle, 666 F.2d 30 (2d Cir. 1981) (common law action for nuisance abatement pre-empted by Clean Air Act); Twitty v. North Carolina, 527 F. Supp. 778 (E.D.N.C. 1981) (common law nuisance action for damages and injunctive relief pre-empted Toxic Substances Control Act); Etcheverry v. Tri-Ag Serv., Inc., 993 P.2d 366 (Cal. 2000) (common law failure-to-warn claim pre-empted by Federal Insecticide, Fungicide, and Rodenticide Act); Ackles v. Luttrell, 561 N.W.2d 573 (Neb. 1997) (negligence and strict liability claims for pesticide exposure from crop dusting pre-empted by the Federal Insecticide, Fungicide, and Rodenticide Act); In re Detroit Diesel Corp. v. Attorney Gen. of New York, 709 N.Y.S.2d 1 (N.Y. App. Div. 2000) (common law claims for damage caused by emissions from motor vehicles pre-empted by the Clean Air Act); All-Pure Chem. Co. v. White, 896 P.2d 697 (Wash. 1995) (failure-to-warn claim for third-party contribution to tort liability found due to pool chemical exposure pre-empted by the Federal Insecticide, Fungicide, and Rodenticide Act).

infrequently prescribed by statute and rarely invoked by the courts.[42] The inference that probably should be drawn from this state of affairs is that the middle ground between full pre-emption and unconstrained civil liability that is potentially occupied by a regulatory compliance defense is in fact almost always empty. Either regulation of a particular matter or activity is sufficiently definitive to pre-empt the simultaneous operation of civil liability altogether, or regulatory requirements are considered minimum standards of conduct only, leaving full room for the parallel operation of civil liability when more than the regulatory minimum amount of safety is expected.

3. *Regulatory Violation as Negligence* Per Se

The conventional and majority rule is that the unexcused violation of a health or safety statute or regulation is negligent "*per se*" – that is, negligent as a matter of law.[43] This is a matter of common law doctrine, not statutory interpretation. Statutes sometimes expressly specify that violation gives rise to civil liability for resulting harm. But the negligence *per se* doctrine does not hold that there is an implied statutory cause of action even when a statute is silent on the issue. Rather, violation of statutory and regulatory standards constitutes negligence as a matter of law because it is negligent to violate a statute or regulation. Absent a legally cognizable excuse that for practical purposes renders a statutory or regulatory standard inapplicable, reasonable prudence requires compliance with these standards. Therefore, the trier of fact in a negligence case is not free to weigh the violation as part of an assessment of the conduct in question. As the classic case on the issue puts it, unexcused violation "is negligence itself."[44]

This is the rule that pertains in the ordinary case constituting the vast majority of civil actions in which a statutory or regulatory violation plays a part. Except in the unusual instance of a statute that preempts civil liability, and the minority of jurisdictions where violation is merely evidence of negligence, proof of violation satisfies the element of a civil action requiring breach of the applicable standard of care. When the proof is undisputed, the party seeking to take advantage of the doctrine is entitled to a judgment as a matter of law on this issue. When the question of violation is in dispute, the jury is instructed that a finding that the statute or regulation has been violated means that the violation is negligent.

42. *See generally* Rabin, *supra* note 36.
43. *See* ABRAHAM, *supra* note 6, at 79.
44. Martin v. Herzog, 126 N.E. 814, 815 (N.Y. 1920).

Interestingly, however, plaintiffs have had only mixed success in attempting to invoke the negligence *per se* doctrine for violation of federal and state environmental statutes and regulations. A number of courts have held squarely that such violations of these standards constitute negligence *per se* under the traditional rule.[45] But there are surprisingly few such decisions, and they are counterbalanced by a nearly equal number of cases declining to apply the doctrine, on various grounds.[46] Probably plaintiffs' attorneys generally prefer to proceed on the basis of common law negligence so as to avoid litigating complicated statutory and regulatory compliance issues.

4. *Compliance and Violation as Evidence Only*

In the absence of pre-emption or a regulatory compliance defense, all jurisdictions hold that evidence of compliance with a statute or regulation is admissible, but not dispositive on the negligence issue. A party whose conduct has complied with an applicable statute or regulation is entitled to have this fact considered by the trier of fact assessing that conduct. But the trier of fact is free to conclude that it was negligent to fail to take more care than was required by the statute or regulation. This rule is simply the logical corollary of statutes that do not pre-empt common law actions or create a regulatory compliance defense. What is not pre-empted or made a defense is the potential for liability notwithstanding compliance.

On the other hand, in cases where there has been violation, a minority of jurisdictions reject the negligence *per se* doctrine, and hold that violation is treated the same way as compliance.[47] The jury may consider violation of a statute or regulation in making its negligence determination, but is free to find that the conduct at issue was reasonable notwithstanding violation.

45. *See, e.g.*, Springer v. Joseph Schlitz Brewing Co., 510 F.2d 468 (4th Cir. 1975) (municipal sewage ordinance); Newhall Land & Farming Co. v. Superior Court, 23 Cal. Rptr.2d 377 (Cal. Ct. App. 1993) (water pollution in violation of California Health & Safety Code); Blackburn v. Miller-Stephenson Chem. Co., No. 31 40 89, 1995 Conn. Super. LEXIS 123 (Jan. 12, 1995) (discharge of pollutants into the waters of the state in violation of Connecticut pollution control statute); Bagley v. Controlled Env't Corp., 503 A.2d 823 (N.H. 1986) (violation of New Hampshire statute governing oil spills); Farrell v. Statia Terminal Virgin Islands Corp., 23 V.I. 414 (1988) (Virgin Islands oil spill statute).

46. *See, e.g.*, Rudd v. Electrolux Corp., 982 F. Supp. 355 (M.D.N.C. 1997) (no violation of regulation proved, even assuming that violation of regulation as distinguished from statute constitutes negligence under North Carolina law); 325-343 E. 56th Street Corp. v. Mobil Oil Corp., 906 F. Supp. 669, 687-88 (D.D.C. 1995) (neither District of Columbia Underground Storage Tank Act nor federal Resource Conservation and Recovery Act were intended to protect individuals from harm except as members of the general public); Connecticut Water Co. v. Town of Thomaston, No. CV94-0535590S, 1996 Conn. Super. LEXIS 596 (Mar. 4, 1996) (negligence *per se* doctrine does not apply to violation of a broad scheme of administrative regulations, as distinguished from a discrete requirement concerning a particular activity).

47. *See, e.g.*, Paramount Dev. Corp. v. Hunter, 238 A.2d 869 (Md. 1968); Braitman v. Overlook Terrace Corp., 346 A.2d 76 (N.J. 1975); Dixon v. Stewart, 658 P.2d 591 (Utah, 1982); Hansen v. Friend, 824 P.2d 483 (Wash. 1992).

IV. The Virtues and Vices of a Mixed System

It should be obvious from the foregoing discussion that we have a mixed system of civil liability and environmental regulation. We actually employ a number of different combinations of these two regimes, depending on the setting. In a few settings, environmental statutes wholly pre-empt civil liability. Occasionally, in a few other settings, civil liability is only partially displaced, through a regulatory compliance defense. But in the vast majority of settings, we quite literally mix regimes, by preserving potential civil liability not only when there has been violation of an environmental statute or regulation, but even when there has been compliance.

Some of the virtues and vices of this approach have long been recognized, while others have not. By retaining the possibility of full pre-emption or of employing a regulatory compliance defense, the system provides for those rare endeavors that require an extraordinary degree of predictability to their liability exposure. Without such predictability, desirable investment in the endeavor may be undermined. The needs of the nuclear energy industry several decades ago are perhaps a prime example of this phenomenon, although the problem was solved at that time with a partial rather than full pre-emption of civil liability. One weakness of this rationale is that it may prove too much. If in fact an endeavor requires this degree of insulation from the threat of civil liability to be workable, the risks the endeavor poses may not be worth taking. Another weakness is that, even if the rationale is tenable when immunity is provided to an endeavor, that immunity is likely to have a tendency to become politically difficult to modify even after the conditions warranting it have changed.

In addition, the regulatory compliance defense may be appropriate where a regulatory regime is so pervasive and exacting that threatening actors with civil liability for harm that occurs even in the face of compliance with regulatory standards is unduly harsh. The principal focus of proponents of this rationale has been the federal regulation of pharmaceuticals by the Food and Drug Administration, whose standards are widely recognized as being among the most stringent in the world of health and safety regulation.[48] Here the two downsides are political influence and the unknown. The greater the impartiality and degree of expertise of a regulatory agency, the stronger the justification for a regulatory compliance defense in the domain of its jurisdiction. Impartiality, however, is not only an ideal; it is a dynamic phenomenon to which legal doctrine is unsuited to make quick reactions. An agency whose impartiality warrants deference from the civil

48. For discussion, see Rabin, *supra* note 36, at 2074-84.

liability system at one point in time may not remain immune to political influence over time. Equally to the point, even an impartial agency can act only on the basis of what is known when it acts. In contrast, the threat of civil liability notwithstanding compliance with an agency's dictates can create the incentive for discovery of information by both regulated actors and injured parties that would not exist in the absence of this threat.

The result is that although pre-emption and the regulatory compliance defense remain as theoretically available approaches, in point of fact the dominant approach is a mix of regulation and civil liability in which regulatory compliance is not an automatic defense. Regulatory standards are for the most part only minimums. Compliance does not insulate an actor from liability for harm suffered by those a standard seeks to protect, though violation almost automatically results in the imposition of liability for such harm. The system has in effect hedged its bets.

Like all hedges, this one protects against downside risk: if regulation fails to control a risk that should be controlled, civil liability is potentially available to do so. Thus, risks that slip through the regulatory net for reasons of politics, inexpertise, chance, or lack of jurisdiction may be picked up nonetheless in the civil liability system. Conversely, as I noted at the outset, regulation is much better equipped to deal with certain types of risks than is civil liability, and environmental risks are foremost among these. When it is difficult to pinpoint causation yet harm may be significant if it occurs, the great strength of regulation is that it can address risk *ex ante* and require a margin of safety that the threat of civil liability over the long term is much less likely to achieve.

The protection against downside risk that is accomplished by our mixed system, however, comes at the cost of potential overkill.[49] What amounts to double regulation may take place, with a dual set of requirements that, while not inconsistent, nevertheless may seem to send two messages. Instead of hearing what our mixed system nominally says, "Be at least as safe as the regulations require, but consider whether you ought to do more," regulated actors may actually hear the system say, "The government tells you one thing, but juries are free to second-guess the government and tell you something else." To the extent that there is an element of randomness in this arrangement, the threat of liability under these circumstances acts as a kind of "uncertainty tax" that is simply a cost of doing business in a mixed system of liability and regulation.

49. *See* Richard B. Stewart, *Regulatory Compliance Preclusion of Tort Liability: Limiting the Dual-Track System*, 88 GEO. L. J. 2167, 2169-70 (2000).

There is a good deal to criticize about this arrangement, since its disadvantages are obvious. But one infrequently-noticed advantage is worth underscoring. The great strength of our mixed system is that it leaves room for the economically venturesome. Actors in a system of regulation so pervasive that it required no civil liability to back it up would tend to resemble a public utility, with a guaranteed rate of return but a ceiling on profitability. Many of the risks such actors would be permitted to take or be prohibited from taking would be uniform; the returns on investment in the businesses of these actors would therefore tend to converge. In contrast, under regimes with less *ex ante* regulation and a greater but uncertain threat of *ex post* civil liability, there will be more room for divergence in risk taking, and in all probability more actual divergence. Returns on investment will vary, depending on the degree of historical risk taking by an enterprise and its success in predicting which risks will materialize in harm. Different businesses will show different rates of profitability, in part based on their fortunes in the civil liability system. The availability of civil liability will have enabled us to avoid the uniformity that would result from highly rigorous regulation. Ironically, then, our system of economic liberties may thus depend to a greater extent than might be thought on a thriving system of civil liability.

Therefore, when we look at what the tort system has done to asbestos defendants and others similarly situated, we ought to recognize that this is only half the story. The same legal system that made it possible to impose these liabilities also has made it possible for other enterprises to take risks that did not materialize in harm. These enterprises have instead made significant contributions to the productivity of our economy and the well-being of their employees and shareholders. It may be that particular features of the civil liability system are in need of reform — perhaps even radical reform. I am on record as favoring a number of these reforms.[50] An argument for preserving a mixed system of civil liability and environmental regulation is not an argument for preserving the excesses of the civil liability system. But neither is it an argument for a pure system of one or the other. Without the downside of civil liability, it would not have an upside.

50. *See* Kenneth S. Abraham & Paul C. Weiler, *Enterprise Medical Liability and the Evolution of the American Health-Care System*, 108 HARV. L. REV. 381 (1994); Kenneth S. Abraham & Lance Liebman, *Private Insurance, Social Insurance, and Tort Reform: Toward a New Vision of Compensation for Illness and Injury*, 93 COLUM. L. REV. 75 (1993).