THE PRINCIPLES OF ENVIRONMENTAL PROTECTION: THE CASE OF SUPERFUND

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Introduction

This paper addresses the important question: What is the proper role of the state in the general area of environmental regulation? The subject itself poses certain major difficulties for political theories which, whatever their differences, at least call for both a "minimal state" and a sharp limitation upon the scope and the level of government activity. This insistence upon limited government, especially in the area of economic regulation, has greater intellectual and popular acceptance today than at any time in the recent past. Even so, there remains a constant public demand for government intervention in environmental matters, even by those who see themselves as hostile to big government.

The Reagan administration has implemented a major shift in environmental policy.[1] Yet it has not denounced all forms of environmental regulation *in principle* as could well be done, for example, with government regulation of wages and prices in the open market. Instead, the change in policy has focused on questions of direction and degree: Should delays be allowed in the installation of scrubbers? In the level of EPA enforcement? The elimination of all government controls seems quite unthinkable. If anything, the bulk

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[1] A note of caution must be injected, as the question of environmental policy has two very different aspects. One involves the development and exploitation of public lands; these issues (including that of public ownership) are very different from those involving the rights and duties between private individuals, where the state acts only as umpire and not as owner. Only this second case is considered here.

of protest comes from those who believe we have moved too fast to deregulation, not too slowly.

It could be argued that popular sentiment has nothing to do with the merits of any given position. But ethics, including legal ethics, is not a wholly logical activity to be undertaken by pure reason alone. Instead, it requires, regardless of the substantive position that is advanced, a careful interplay between individual examples and general principles. General principles are suggested by some individual examples only to be qualified by others. Better approximation and further refinement are always in order. Rawls's "reflective equilibrium" is a salutary practice regardless of whether his "difference principle" is sound on substantive grounds.[2] Moreover, any acceptance of these practical modes of reasoning does not bode well for a system which cannot account for the strongest sentiments shared by thoughtful individuals of different political persuasions and outlooks. Popular sentiment therefore should provide some kind of brake against the claims of a pure theory. Pollution is a different matter from wages and prices. So too their social regulation. A political theory that has no place for any environmental policy would be subject to reproach for its failure to make these distinctions.

Fortunately, on environmental matters, popular sentiment is not at war with pure theory. Thus I hope to demonstrate the validity of several propositions, which taken together, show the strengths and limitations of modern normative theory. First, the principles of justice that protect liberty and property often require government action for the protection of the environment against the actions of some individuals. But, second, these principles do not of themselves determine in precise form the remedial measures, nor who in the public or private sector should initiate them. Third, the selection of the proper remedy requires resolution of some knotty empirical questions by what is some form of utilitarian calculus. And fourth, the major and lasting criticism to be made of government environmental policy is not that the state has moved in areas unworthy of governmental intervention, but that its chosen modes of intervention are ill-calculated to achieve their objectives.

This paper will mainly examine the strengths and limitations of a corrective justice theory in its application to concrete legal and social problems. Dwelling on the weakness of the theory does not, however, condemn it as against any of its rivals. The particular

[2]Both conceptions are associated with the work of John Rawls, *A Theory of Justice* (Cambridge: Harvard University Press, 1971), pp. 48-51, 76-78.

problems of proof, of uncertainty, and of large numbers are inherent in the delineation of the issues involved, and are not unique to any single theory of entitlements that is brought to bear on the general matter. A political activist concerned with environmental issues must face exactly the same choices, as it will be necessary to define those forms of conduct that are wrongful and to select the remedial tools best able to control the wrongs defined. Anyone who is interested in the control of pollution as a wrong will be required to make an analysis of the problem quite similar to the one conducted here. In order to lend focus to the general discussion, the paper is divided into two parts. The first is concerned with the general issues of environmental policy and its relationship to other questions of individual rights and social control. The second part is a detailed examination of one important piece of environmental legislation, the Superfund bill,[3] which was passed in the closing weeks of the Carter administration.

Basic Theory

It has been said — by Wittgenstein, I believe — that any philosophical system will be malnourished if fed an unbalanced diet of examples. This charge can be made with real force about modern libertarian theory. The cases seized upon to illustrate the principles of corrective justice typically feature simple facts and sharp contours, with few parties involved. One person strikes another, perhaps in self-defense; or spills grease on the kitchen floor on which a houseguest falls; or takes the property of another, which he refuses to return except upon payment of ransom. We are also given a number of examples about how individual contracts may be used successfully in order to reassign individual rights, of which perhaps the most famous is Robert Nozick's explanation of why, by historical principles of justice, Wilt Chamberlain is entitled to be rich.[4]

The central theme of all these examples is the identification of right and wrong conduct. By abstracting all questions of evidence, uncertainty, and choice of remedy, they focus solely upon the moral aspects of individual actions. From those, they then fashion the appropriate principles of right conduct, which can be extended to more complicated factual patterns. Once we understand how

[3] Comprehensive Environmental Response, Compensation and Liability (Superfund) Act of 1980, 42 U.S.C. §§9601-56 (Supp. 1981).

[4] Robert Nozick, *Anarchy, State, and Utopia* (New York: Basic Books, 1974), pp. 161-62.

two individuals are entitled to pool their capital and form X corporation (setting aside limited liability) we understand why, without restriction, N individuals are entitled to pool their capital (or why M small corporations are permitted to pool their capital) and form General Motors without violating the rights of other individuals.[5] The repeated application of simple principles generates unique decision rules for situations with many actors and transactions. There is no sharp dichotomy between the principles of private dispute and the so-called principles of social policy. In answer to populist reformers like Justice Brandeis, the principles of justice applicable to two traders bargaining at a state fair *do* extend to the massive dealings of multinational corporations.

The elegance of this system cannot easily be denied. Yet there are clear pitfalls in this simple mode of progression. A legal system must do more than articulate substantive rules of individual conduct. In particular, it must answer three other persistent types of questions, which are especially relevant to environmental regulation. The first question concerns the proper response to factual uncertainty in individual cases; the second, the choice of remedy once the original violation of right is established; the third, application of legal theory crafted to "large number" situations. My central point should now be clear. The corrective justice theory is excellent on the articulation of basic rights and wrongs, but its power — like that of any rival theory — is blunted when it reaches the second-order questions of factual uncertainty, remedial choice, and large numbers. Let us examine each of these difficulties.

Factual Uncertainty

A legal dispute does not arise from a hypothetical case, only from a real one. In some areas of law gathering facts is no particular problem. In many tax matters, for example, all the relevant evidence is available from the documentation supplied by the taxpayer, so that the legal issues of the case are argued upon stipulations by the parties. But most litigation does not assume these simple contours. While the legal principles themselves are not in dispute, the outcome of a case will depend upon its individual facts. In determining the facts there is a constant and unavoidable tension between the twin principles of *validity* and *reliability*. In this context I do not use these terms in a novel way.[6] Validity refers to the ex-

[5] A theory of this sort is found in Robert Hessen, *In Defense of the Corporation* (Stanford: Hoover Institution Press, 1979); Roger Pilon, "Corporations and Rights: On Treating Corporate People Justly," *Georgia Law Review* 13 (1979): 1245-1370.

tent to which a legal rule embodies the correct normative principles. It is fully satisfied when the parties are put to their proofs upon the very issues that normative theory regards as decisive. Reliability refers to the percentage of cases in which the determination of that ultimate fact is made correctly by the legal system. Ideally, there would be perfect correlation between these two measures, such that valid substantive rules would, when subjected to proof, have the highest degree of reliability. Yet all too often just rules place in issue facts that are inaccessible to the ordinary modes of proof. Across all subject areas, there is a persistent tension between these two measures, as the valid substantive rule depends upon unreliable evidence. Think of the difficulty of getting evidence about the mental state relevant to both criminal and contractual intention, and of the dependence upon overt actions or written documents to establish them.[7]

The trade-off between validity and reliability allows us to generate an infinite number of formulas to determine their combined value. Indeed, most of the intellectual energy of lawyers in private disputes has gone towards harmonizing these separate constraints. In truth, the "easy" part of legal analysis is determining the soundness of the propositions of just conduct — that individuals own their own bodies; that promises between responsible parties should be kept; that individuals should not use force or fraud against the person or property of another. The difficult task is moving between validity and reliability. The preoccupation with their integration may lead some to believe that the law itself is basically utilitarian in its concerns, so great is the emphasis upon error

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[6]See, e.g., Duncan, "Contingencies in Constructing Causal Models," *Sociological Methodology*, 1969, Edgar Borgatta, ed. (validity and reliability as the two sources of error in sociological measurement). (San Francisco: Jossey-Bass, 1968), pp. 86-87.

[7]Two major illustrations of the problem are the statute of frauds and the parole evidence rule, both of which in different ways are designed to prevent fraud. The statute of frauds says generally that certain classes of contracts may be enforced only if in writing. The parole evidence rule refuses to allow evidence to either contradict or supplement a complete written expression of argument between the parties. Both of these rules have very high error costs and have spawned enormous litigation on the margin. While they cannot be condemned out of hand — a written contract for a sale of real estate is, for example, most welcome — there is an increasing tendency to accept the judgment of a great contract scholar, Arthur Corbin, who said: "Under the statute and the rule, this purpose [of preventing perjury and fraud] is only haltingly attained; and if attained at all, it is at the expense and to the injury of many honest contractors." Arthur Corbin, "The Parole Evidence Rule," *Yale Law Journal* 53 (1944): 609. For an elaboration of the role of error prevention in the law of contracts, see Richard Epstein, "Unconscionability: A Critical Reappraisal," *Journal of Law and Economics* 18 (1975): 293.

minimization. But this conclusion is both hasty and incorrect, for we speak here only of a utilitarianism of means, and not of ends. More properly, rights questions have a certain permanence and conceptual certainty that obviates the need for constant relitigation. First- and second-order questions are both essential to the basic enterprise. The elegant solution of the matter of right does not permit us to escape the messy questions of remedies.

Choice of Remedy

I turn next to the second major complication for any legal theory: What is the appropriate choice of remedy for a violation of rights as defined by the system? It is useful to consider the point on two levels. The first concerns the choice of remedies for an admitted past violation of rights. The second adds a temporal dimension to the problem: When should remedies be granted ex ante, that is, to prevent the occurrence of a wrong? And when should they be granted ex post, to rectify a wrong that has already taken place?

1. Remedies Ex Post

We begin with the simplest situation. One individual is found to have violated the rights of another. What now is to be done? The ideal captured in the notion of "corrective justice" is to undo the wrong and to set matters as they would have been if all rights had been respected by all parties at all relevant times. With the tort of conversion, for example, this ideal translates into a desire to restore the chattels taken by the wrongdoer. In a contract to convey real property, it translates into a desire to insist, albeit on a delayed basis, on a specific performance, i.e., court-ordered conveyance of the property in question.[8] The strong moral theme is evident. The wrongdoer should not be enriched at the expense of the victim. The victim should not suffer at the hands of the wrongdoer. By this standard, damages are not acceptable because they permit the defendant to unilaterally "license his own wrong" by buying his way out of legal obligations — as set by the general law in this conversion case and by his own contract in the specific performance case.

Yet matters can get more complicated. What is to be done if the property in question is not taken but destroyed, so that restitution becomes impossible? Here our natural sense says that for want of a better solution damages should be awarded. But what is the ap-

[8]Note that the wrongdoer can still *purchase* his way out of specific performance or restoration if he chooses.

propriate measure of the damages? Does one use market value, even when there are no organized markets, or take into account sentimental value, even when this cannot be reasonably ascertained? And how does one make the calculations in a personal injury or, worse, in a wrongful death case? Problems do not stop here. What should be done if the principal wrongdoer is not available, either through insolvency or death, to respond to the wrong that has been committed? Is it possible or principled to find a second defendant — a parent, an employer, a retailer — who can be held responsible? Another problem arises if the wrong is not quickly discovered. A may take chattel from B, yet before B learns of the error, the thing is sold to C for its fair value. C divides it into two parts, one of which is incorporated into C's building and the other is consumed to produce goods for sale to other parties. Do we have damages, partial restitution, or recovery of lost profits?[9]

2. Ex Ante or Ex Post?

The second aspect of the remedial problem is equally important and may be more difficult. At first, one might insist that the prevention of harm is always better than its cure — for only prevention eliminates the forced exchange instead of completing it. And in some limited cases — i.e., an injunction for a deliberate, imminent, and serious harm — this is indeed a workable solution.

All cases, however, are not so easy, for again one must confront the question of uncertainty of future outcomes. Assume for the moment that it is accepted as an ethical proposition that forced exchanges are inappropriate. How does this help in the case of uncertainty just given? Suppose, for example, one wants to prevent *all* tortious automobile accidents on grounds that compensation ex post is inadequate. The only possible solution is a prohibition

[9]The same type of complications can arise in contract situations. A does not perform a promise he owes to B. What are the remedies open to B? In some cases — typically of "major breach" — he can refuse to perform and sue for damages at the same time. In other cases, he must perform and sue for damages, or sue for damages only after mitigating losses, or claim some set-off against full performance. No general theory that tells us that promises should be performed will develop a necessary connection between the theory of breach and the unique choice of remedy; even specific performance can be waived in advance of breach. One must know something about the nature of the promise, the options open to the parties, and the general commercial setting before any informed judgment can be made. For a statement of some of the relevant circumstances for making judgment, see Judge Cardozo's opinion in *Helgar Corp. v. Warner's Features*, 222 N.Y. 449, 119 N.E. 113 (1918) on remedies for breach of installment contracts.

against *all* driving. This will make all individuals safe, but only in their role as possible plaintiffs. It will not, however, permit them to exercise their basic liberties (as drivers) in their role as possible defendants. The prohibition sweeps too wide, as it prevents lawful as well as unlawful acts.

The comprehensive injunction will not do, because it mandates a restriction on protected liberties. But there is no escape from the basic problem by opting for no injunctive relief at all. In this situation there is no risk of prohibiting those from driving who should be entitled to drive, but there may be insufficient protection for those hurt by the driving of others. The point is that personal injury, and especially death, cannot be undone by any payment of money. Even if the defendant is solvent and the injury repairable, there is still the element of the forced exchange. When the two aspects of the transaction are viewed together, the payment of damages must be viewed as the completion of a transaction that originated in the wrong of the defendant. But that is the less troublesome case, for the injustice will be all the greater if the defendant is insolvent, or beyond the jurisdiction.

It follows, therefore, that unless we can plot the future course of events with complete certainty, there must be of *necessity* some violation of individual rights. It follows as well that the choice between remedies ex ante and remedies ex post will depend at least in part upon the desire to minimize the sum of errors from the different sorts of remedial strategies.

Large Number Cases

The problem of remedial choice is further exacerbated in practice by the special demands imposed by the large number case. Here I do not refer to any bare assertion of individual rights that necessarily imposes correlative duties upon many individuals. Any individual claim of ownership must be good against the rest of the world. Ownership, far from being a creature of private contract, is the institution that private contract itself presupposes.[10] Instead, the question of large numbers is vital only where there are actual or threatened violations of individual rights, whether or not defined as rights in the person or in private property. In principle, these violations are amenable to a rule of decision that — putting aside the

[10]Note that the right *to* contract cannot be explained by contracts themselves. Instead, it is a property right good against the rest of the world, which is protected by its appropriate set of tort actions — those directed against the interference with prospective advantage.

questions of factual uncertainty and remedial choice — poses no threat to the integrity of the basic system of rights. Each of the claims should be resolved on its individual merits. The system, therefore, operates by a kind of brute intellectual force. The rules to solve one individual case can, by repeated application, solve all similar cases. Every nuisance, for example, may be remedied by damages or injunction, no matter how trivial or widespread. Large cases simply decompose into smaller ones.

The argument from principle, however, is deeply flawed because it ignores the massive costs of legal enforcement. There are simply not enough resources to resolve all individual cases on their individual merits. Consider the problem of highway accidents and the possibility of private injunctive relief. Can each individual seek to enjoin all other individuals whom he regards as high-risk drivers? Not if the process itself is to survive degeneration. The number of suits would be unworkable, and their merits obscure. Some centralization of the injunctive relief is desirable and appropriate; hence, licensing as a public measure complements private damage actions.[11] To be sure, licensing can be turned to illicit ends, e.g., the suppression of entry into certain markets, and its operation for legitimate purposes may be clumsy and awkward. But even with these important objections, there is no clear-cut argument for putting all remedies in private hands.[12] A remedial system, incorporating individual rights to liberty and property, must consider the full mix of ex ante and ex post, private and public, in its operation.

The corrective justice theory sets out clearly what paths are permissible for individuals to travel, but does not determine what should be done to prevent people from straying from the road in the first place, or for taking them out of the ditch along its side. I now

[11] On the continuum between public and private remedies for various wrongs, see Guido Calabresi, *Costs of Accidents* (New Haven: Yale University Press, 1970), pp. 113-29; Richard Epstein, "Automobile No Fault Plans: A Second Look at First Principles," *Creighton Law Review* 13 (1980): 778.

[12] The question of public control could be avoided entirely by adopting a system of private roads, even in major urban centers. But even under ideal conditions, it is difficult to believe that this system would continue to command popular support; today the problems of converting from a public to a private system are quite insuperable. Nor would a successful conversion eliminate the objection raised here, for it is still possible that those *off* the highway could seek to enjoin activities *on* the highway on the ground that their homes, shops, and persons are placed in peril by the activities of certain drivers. That such actions would be inappropriate testifies to the difficulty of having only private causes of action, even under an ideal system of property rights.

will consider the interaction of first order questions of the delineation of rights and second order remedy questions in environmental issues. In principle these are no different from the problems that arise in other substantive areas regulated by law. In practice, however, the second order problems are acute, not because of any weakness of substantive theory, but because of their own inherent nature.

Theory of Environmental Losses

Turning to the area of environmental law, the first question is whether pollution is a type of wrong that justifies the application of the coercive power of the state. The easiest approach is to move by degrees from the most paradigmatic of wrongs, the taking of another individual's private property. Limiting ourselves to cases dealing with actual or threatened destruction, the key assumption of the entire law of torts is that the destruction of private property is to be treated as though it were the taking of private property.[13] There is, to be sure, distinction between destroying a thing and transferring its possession from its rightful owner to another party. Yet that distinction does not, and should not, remove the owner's mantle of legal protection in cases of destruction. It only means that one remedy — restoration — is made unavailable. It doesn't mean that a second remedy of damages should be denied as well, or that injunctive relief is uniformly inappropriate.

The second question to consider is whether pollution in one form or another be regarded as a destruction of property, or harm to the person. Within the traditional language of tort law, the question is whether the harm visited is sufficiently close to the defendants action so that the action can be regarded as a cause of the harm. Here, of course, the simplest cases of harm are those that involve the direct application of force by one person to the person or property of another — *corpore corpori* as it was termed by the Romans.[14] Yet no legal system has ever said that the strongest instance of causation limits the full range of the concept. Instead, the question is

[13]This particular move has been made in connection with the eminent domain clause, which provides: "nor shall private property be taken for public use without just compensation." See, e.g., *Pumpelly* v. *Green Bay Co.*, 80 U.S. (13 Wall.) 166 (1872); *Richards* v. *Washington Terminal Co.*, 223 U.S. 546 (1914).

[14]Thus the classification that is developed in the Lex Aquilia, *D.* IX. 2. For an exploration of the principle and its limitation, see Frederick Lawson, *Negligence in the Civil Law* (Oxford: Clarendon Press, 1950), pp. 14, 22-27; W. Buckland, *A Textbook of Roman Law*, (Cambridge: Cambridge University Press, 1963), p. 589.

what type of intervening acts and events can be added to the chain of causation in ways that extend, but do not break it.[15] One obvious example of a successful extension of the chain is a case in which one person sets a concealed trap that is triggered by the step of an injured party.[16] One obvious example of a connection too "remote" is where one individual gives a kitchen knife to another individual who (having no personal disability) uses it to cause harm to himself or to some third party.[17]

The question in the nuisance and pollution context is, on which side of the line do the cases fall? And here, while there may be some idiosyncratic cases at the margin, there is no question in any lawyer's mind that ordinary cases like discharge of pollutants into rivers and underground waters constitute infliction of harm or the destruction of another individual's property. The entire tort of nuisance is ancient, and it does not depend in the least upon any modern impulse of wealth redistribution.[18] Even the Supreme Court, which on too many occasions has taken an unduly restrictive interpretation of the eminent domain clause, recognizes that the creation of a nuisance is tantamount to the taking of private property.[19] There is no reason why one should dispute this sensible conclusion, although there is no logical contradiction in asserting that taking private property is wrongful while polluting it is not. Actually, the phrase "environmental protection" is misleading because it suggests that the environment itself, far from being some vast and impersonal force, enjoys a recognized status as a holder of rights.[20] But few are misled by the metaphor. Most environmental claims can be translated into claims of individuals protecting person and property against the wrongful acts of other individuals. With that much understood, it is then indefensible to treat pollution as the exercise of a natural right, which deserves the same hands-off attitude

[15] See for the classical statement, Herbert Hart and A. Honore, *Causation in the Law* (Oxford: Clarendon Press, 1959). For my views on the subject, see Richard Epstein, "A Theory of Strict Liability," *Journal of Legal Studies* 2 (1973): 151.

[16] See, e.g., *Bird* v. Holbrook, 4 Bing. 628, 130 Eng. Rep. 911 (1825).

[17] Many more difficult issues arise with the so-called problem of negligent entrustment, like when a loaded gun is given to a child or left standing in a place to which the child has general access. See, e.g., *Reida* v. *Lund*, 18 Cal. App. 3d 698, 96 Cal. Rptr. 102 (1971).

[18] For a collection of the older materials, see C. Fifoot, *History and Sources of the Common Law* (London: Stevens & Sons, Ltd., 1949), pp. 3-24.

[19] See, e.g., *United States* v. *Causby*, 328 U.S. 256 (1946); *Richards* v. *Washington Terminal Co.*, 233 U.S. 546 (1914).

[20] Cf. Christopher Stone, "Should Trees Have Standing? — Toward Legal Rights for Natural Objects," *S. Calif. Law Review* 45 (1972): 450.

as competition, and even monopoly.[21] Some environmental protection is required by a strong theory of rights. The real debate must be over how that theory should be implemented.

The practical difficulties that must be overcome by a sensible theory of environmental protection include enormous questions of evidence. A farmer complains that his crops have been destroyed because of a miner's contamination of the ground water. One must still find the facts to establish each link in the chain of causation. The first important question is to determine which *substances,* alone or in combination, have caused the harm. That inquiry is by no means trivial, as many different pollutants can enter a given water system at different times and in different quantities. Some of these may prove stable and others not. The re-creation of past conditions often poses enormous challenges when the evidence is available, and insuperable obstacles when it is not. To add to the difficulty, causation in the legal setting requires proof not only of what substance did what harm, but also of matters of *attribution,* of which individual or individuals were the source of the substance that did the harm.[22] Again, the trail of evidence is apt to come to a dead end when it is needed most. When one party is implicated it may escape detection, and when many are responsible it may be impossible to apportion the damages among them in a rational and fair manner.[23]

There is also the problem of estimating monetary damages. At a minimum, that task requires some assessment of the profits that were lost through the pollution (both for the current and for future growing seasons) and some assessment of the possibility for the aggrieved party to mitigate the loss in question upon its discovery — both formidable tasks indeed. By adopting a strict liability posi-

[21] On the question of monopoly, see my *Private Property and the Public Domain* (forthcoming in NOMOS series) where I advance the argument that monopolization cannot be considered a private wrong on a par with the use of force and fraud.

[22] On the importance and uniqueness of the attribution question, see Hart and Honore, pp. 58-64. For its acute presentation, including cases, *Sindell* v. *Abbott Laboratories,* 26 Cal 3d 588, 607 P.2d 924, 163 Cal. Reptr. 132 (1980).

[23] The question of comparative responsibility is one for which no clear solution has emerged. The simplest answer is equal proration among parties, but this ignores the possibility that differential inputs can be identified and weighed. Yet the individual weighing itself leads to high administrative costs and great uncertainty. The case law dealing with this question has not been illuminating. On apportionment between a plaintiff and a defendant, see, e.g., *Li* v. *Yellow Cab Co. of Cal.,* 13 Cal. 3d 804, 532 P.2d 1226, 119 Cal. Reptr. 858 (1975). On apportionment among defendants, see, e.g., *American Motorcycle Assn.* v. *Superior Court,* 20 Cal. 3d 578, 578 P.2d 899, 146 Cal. Reptr. 182 (1978).

tion,[24] we can eliminate the need to take evidence on the distraction of whether the defendant has taken reasonable precautions to prevent the harm. But even with this desired simplification, pollution cases, after the fact, can easily turn into extensive brawls that will test the capabilities and patience of any court.

The simple case of farmer against miner also illustrates the recurrent tension between damages and injunctive relief. Is there any reason why the farmer should have to establish all elements of the damage claim when it is possible to enjoin the discharge of pollutants in the first place? However attractive this might sound in principle, there still are problems. If it is difficult to identify the source of pollution after it has caused harm, it is even more difficult beforehand. And even if that problem can be overcome, there is still the issue of how deeply the injunction should cut into the activity of the defendant. Shutting down his mining operations may be one, albeit extreme, alternative, but portions of those operations may pose no threat at all to the protected interests of the plaintiffs. As for the potentially harmful operations, less restrictive alternatives might provide nearly complete protection against all actual physical harms. Given the constant dangers of error and overbreadth, a strong moral preference for injunctive relief cannot be decisive in every case, especially as the prospect of damage awards still functions as an imperfect deterrent.

Moreover, there is still the question of what should be done with the large number cases. Contaminants are very mobile. Many individuals may combine to pollute certain water supplies that are used by large numbers of other individuals. Indeed, it is very easy to imagine cases, such as air pollution, in which some individuals both create and suffer from the very pollution that is sought to be regulated. In this environment the private action, be it for damages or injunctive relief, may prove to be inadequate for the task at hand, and may require some collective remedial response. There is no doubt that the errors in such an approach could be serious and the costs of its administration high, but the risks of government inaction also are great. The conditions of environmental cases therefore call for a specific examination of private liability rules and

[24] See Richard Epstein, "Nuisance Law: Corrective Justice and Its Utilitarian Constraints," *Journal of Legal Studies* 8 (1979): 49, 58-60, 66-68. The matter has become more confused. Compare the relatively straightforward rule for ultrahazardous activities developed in the Restatement (First) of Torts, §§519-20 (1934), with those which have been adopted in the Restatement (Second), §§519-20 (1965). The long list of factors relevant to liability introduces an enormous amount of uncertainty into any individual case.

government regulation as direct substitutes for each other. Consider how the Superfund legislation handles the remedial problem.

Superfund

The Superfund legislation is best understood as a comprehensive attack on the release of toxic substances into the general environment. The statute covers all situations in which an owner-occupier of a facility or vessel discharges a hazardous substance into the environment. As defined by the statute, the term "hazardous substance" includes all substances *designated* as such, either under this statute or others now enforced by the E.P.A.[25] "Release" covers spilling, leaking, pumping, discharging, etc. — virtually any way one could devise to move a hazardous substance from the possession of an owner or occupier into the general environment.[26] "Environment" includes everything within the United States and its navigable waters, whether or not subject to private ownership.[27] Perhaps most important a "facility" includes:

> . . . (A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel[.][28]

To analyze these definitions in the abstract can serve no useful purpose. The central inquiry is the way in which they tie into the three remedial programs of the Act: Its *notice, liability,* and *taxation* provisions. The notice provisions apply to both the ownership of certain toxic substances and their release into the environment. The liability rules contemplate both public and private actions against any person involved in the distribution or release of toxic substances. The tax rules create a special fund — Superfund — to compensate the victims of improper release of toxic substances.[29] These revenues are derived from three sources: Excise taxes upon the sale of toxic substances, moneys recovered from the violators of the other statutory provisions, and direct congressional appropriations.[30]

[25] Superfund Act of 1980, §9601(14).
[26] Ibid., §9601(22).
[27] Ibid., §9601(8).
[28] Ibid., §9601(9).
[29] Ibid., §9601, 9631.

The objections to the statute lie not in its insistence that pollution is a tort, but in its choice of remedies and its unwarranted expansion of governmental power. To demonstrate the point, it is necessary to examine individual provisions in some detail.

Notice

One type of notice provision in the statute requires persons in charge of a covered vessel or facility to notify the E.P.A. of any known release of a hazardous substance.[31] To be sure, the central collection of release information is desirable, but the information will cost a good deal to collect. Consider the compliance costs of a large organization. The provisions of the Act must be made to all employees who have, or may acquire, information relevant to its enforcement. A central source within the firm must collect the information, verify its content, and evaluate its relevance. The direct costs of each of these operations — all repeated countless times — is evident enough, and so too the indirect costs incurred since firms must alter their ways of doing business, not so much to avoid environmental harm, but to comply with the statute. And to what benefit? The mass of information generated from all sources cannot be assimilated by public officials or used to direct government initiatives.

Here, modesty is a virtue, and the statute should have targeted its notice provisions to those occasions where the information collected will do the most good. The broad definition of a "facility" is clearly counterproductive because it does not even attempt to distinguish between a major spill of a dangerous chemical from a tank car that imperils a nearby town and the leakage of a couple of ounces of cleaning solution on a small farm that may discolor the farmer's furniture.[32] Indeed, to use a term like "facility" in this context is wholly inappropriate. Instead, those types of mainline facilities — rail cars, grain silos, etc. — which present the greatest peril should be identified within the statute, leaving all other cases to private action, if damages reach the level where such action is appropriate.

If the notice requirement of actual spills seems too broad, the second type of notice provision is even more so. It requires the owner

[30] Ibid., §9631(b).
[31] Ibid., §9603(a).
[32] The exclusion of consumer products is a thoroughly inadequate barrier to the extension of the act for even the most trivial releases, which can also occur in an industrial or commercial setting.

or operator of all facilities to file with the E.P.A. a notice that identifies the facility, the hazardous substances that it contains, and possible releases that might have occurred. Again, the point is not that it is improper to have remedies in advance of harmful release, but that these notice provisions will increase paperwork without pinpointing those areas in which active intervention is appropriate. A better approach makes a more sensible use of scarce resources: Collect data that will permit identification of places for which first inspection, and then intervention, might be appropriate. "Orphan" dumpsites are major sources of pollution, for which private forms of injunctive relief are difficult to coordinate and control.[33]

Liability

The liability provisions under the Act[34] are somewhat more difficult to analyze. I will consider (1) the nature of the interests to be protected, (2) the parties against whom liability can be imposed, and (3) the nature of the remedies that should be made available.

1. Protected Interests

The scope of the protected interests under the Act includes quite simply all aspects of the environment.[35] Here the definition is somewhat broader than the class of protected interests at common law, which included only those things in the environment that had been reduced to private ownership and control. The expansion of the government power in this connection is, however, fully defensible. There is a well-documented body of literature that indicates that a system of common law rights and remedies fails most completely in the protection of unowned things.[36] The great danger is that such things will be either destroyed or captured so rapidly as to not take into account the long-term consequences of individual actions. To remedy this premature exhaustion of the common pool, it is necessary to put someone in the position of an owner. Leaving the question of federal or state government aside, the state, as repre-

[33]The Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. §§6901-87 (1977), adopted a modified form of this position, requiring a listing of current generators, transporters, and storers of defined categories of hazardous wastes. (§§6921-25). The chief problem remaining after RCRA was "orphan dumpsites" — those dumps for which no responsible party could be found.

[34]Superfund Act of 1980, §9607.

[35]Ibid., §9601(16).

[36]See, e.g., Sweeney, Tollison, and Willett, "Market Failure, the Common Pool Problem, and Ocean Resource Exploitation," *Journal of Law and Economics* 17 (1974): 179 (and papers cited therein at notes 2-3).

sentative of all individuals, is better able to fulfill that function than any other single individual or group of private individuals. Moreover, the introduction of the state as a possible plaintiff does not require the introduction of any extensive administrative apparatus, the levying of any additional taxes, or the invention of any new substantive rules. Instead, unowned things are placed on a par with those that are owned in their protection against destruction by pollution. The ease of fit of the newfound public remedy into the set of available private remedies makes this one of the simpler and more attractive features of the Act.

2. Parties Liable

The statute is badly flawed, however, in setting the rules choosing the proper defendants in pollution cases. Here, the basic principle of the statute seems to be *joint strict* liability. Of these two elements there is little reason to question the strict liability of the party responsible for the release of hazardous substances. The general common law, and a strong normative theory, both suggest that an individual should be held responsible for the harmful consequences of his own actions, even if he attempted with all reasonable care not to inflict harm upon his neighbor.[37] The real question is not whether liability should be strict, but on which parties the strict liability should be imposed, i.e., joint liability.

In dealing with joint liability, it is important to distinguish two situations. The first involves the release of pollutants from two separate sources. The second involves a single release of hazardous substances, which has at one time or another been in the possession of several different parties. In the first situation, rules of joint liability are inescapable. Some effort should be made to isolate the damages attributable to each of the parties, but there is no set of abstract rules that will eliminate an enormous amount of messiness in litigation. The statute left this question unresolved, and there is little to criticize it on this score, given the inability in the general literature of identifying a unique set of workable rules.

The second question is the important one. The statute, in a mistaken extension of the salutary principle of strict liability, contains a long list of individuals who can be held strictly liable for a release. The list includes, as best as can be determined, everyone who has ever possessed the substance and every person, whether

[37] See note 15 for my views, which are far from universally held. See, e.g., Richard Posner, "A Theory of Negligence," *Journal of Legal Studies* 1 (1972): 29; Oliver Holmes, *The Common Law* (Boston: Little, Brown & Co., 1881), pp. 77-84, 88-96.

or not a possessor, who aided in any way its movement in the stream of commerce.[38] The liability imposed includes not only the damages to those parties who have suffered harm from the release, but also for all the various remedial and "response" actions undertaken by the government, and in some instances by private parties, to prevent threatened releases or to mitigate losses when they occur.[39]

The major assumption behind the liability provisions seems to be that the more parties who are held strictly responsible, the greater the degree of compliance.[40] But this argument misses the simple but important point that the positive incentives generated by the statute are necessarily limited by the total amount of damages that can be recovered from all interested parties.[41] Insisting that defendant B can be joined to defendant A only serves to *reduce* the costs of A of noncompliance with the Act. Instead of knowing that he alone will be required to bear the full brunt of the liability rules, A now knows that some other party may be required, either by direct action or by suit for contribution and indemnity, to be responsible in part for the losses. As the party in possession of the hazardous substance just

[38] Superfund Act of 1980, §9607(a)(1)-(4), which provides:

> (1) the owner and operator of a vessel (otherwise subject to the jurisdiction of the United States) or a facility,
>
> (2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
>
> (3) any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility owned or operated by another party or entity and containing such hazardous substances, and
>
> (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities or sites selected by such person, from which there is a release, or threatened release which cause the incurrence of response costs, of a hazardous substance, shall be liable[.]

In particular, no one is quite sure who is covered by (3).

[39] Ibid., §9607(a)(A)-(C).

[40] The basic point is missed in Note, "Allocating the Cost of Hazardous Waste Disposal," *Harvard Law Review* 94 (1981): 584, 588:

> Deterrence can be achieved by bringing economic pressure to bear on any or all of the various firms associated in some way with hazardous wastes: waste disposers, transporters, firms that generate the wastes, and even firms that supply the waste generators with their raw materials. The waste generator is the firm that first acquires the information and control necessary to direct effectively the disposition of its wastes. Subsequent firms handling the wastes should also be able to ensure proper disposal. A rule of joint and several liability of waste generators, transporters, and disposers is thus desirable.

before its release is normally in the best position to avoid the harm, it follows that the joint liability provisions of the act may transfer incentives from the parties against whom they are likely to be most effective to others who can do little, if any, good at all. The dissipation of incentives also brings in its wake a major increase in administrative costs since every release case will require courts to sort out the rights and wrongs of many different parties, without any good method for apportioning liability among codefendants.

The mischief created by the liability provisions is compounded further by a provision that says that no contract for indemnity or contribution among the codefendants should be respected.[42] One reason for this provision is to spare small operators an enormous liability they would otherwise assume by agreement in order to obtain the business of the giant corporations. Yet this argument assumes, as do all arguments against freedom of contract, that small firms will as a matter of course enter into arrangements under which they expect to lose money. In truth, the great advantage of these side contracts is that they reduce the scope of regulation, and correct its errors, without really reducing those benefits that the liability rules could secure.

Whether these arrangements would make the party in possession at discharge solely responsible for losses under all circumstances, or whether they would permit an action over under the contract after liability is fixed, or even after suit is brought is not clear a priori. In most circumstances, it seems probable the parties would ban all forms of contribution or indemnification. Suppose that a suit under the act is brought against the operator of a dumpsite. He may well have received his raw materials from many independent parties, and it will be difficult, if not impossible (especially in the case of threatened releases) to determine *which* supplier generated the hazardous materials for which it is now exposed to liability. Instead of risking a large number of pointless actions over, the dumpsite

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[41] This argument is made in somewhat different form by William Landes and Richard Posner, "Joint Multiple Tortfeasors: An Economic Analysis," *Journal of Legal Studies* 9 (1980): 517. They favor a rule that prohibits contribution among tortfeasors, notwithstanding any apparent unfairness about having one defendant shoulder the entire loss at the whim of the plaintiff. In their view, if defendants are risk averse, a rule which subjected them to uncertainty is apt to have superior deterrent effects. It if is possible to identify certain parties who are unlikely to control loss, the best way to get the proper deterrent effects is to exclude them from the system of liability altogether by channeling liability through a single defendant instead of spreading it over all possible defendants.

[42] Superfund Act of 1980, §9607(e)(1).

operator, for an additional charge, could accept the full costs of the liability himself, obtaining his needed protection against other individuals by setting the terms (prior inspection, certain types of containers, etc.) by which he will accept the hazardous substances. The effect of the contracts, therefore, is to induce the proper conduct of all individuals within the chain of distribution. And even where some indemnity is allowed it can be structured and defined through choice of forum, damage, or liability rules — to correct any errors that are created by the basic liability provisions. The statute, however, forestalls such corrections, guaranteeing that its mistakes in assigning liability for loss are preserved.

The weakness of the statutory system suggests a superior alternative. Liability under the Act should be limited to the party in possession who, in turn, should be entitled to adjust his rights and duties by contract with other persons in the chain of control. One advantage of this rule is that it makes relatively clear who is caught by the Act and who is outside its provisions. Another advantage is that it would reduce the number of parties in litigation and thus channel enforcement resources where they are apt to do the most good. In addition, the system would reduce the strains on the insurance mechanism. It is quite clear that a party that deals with hazardous substances must prove his financial responsibility. The elimination of joint liability within a single chain of distribution makes it easier to insure defendants, at high limits, for a limited and well-defined class of occurrences. There is little sense to a system that requires the operator of a railroad car to insure its cargo long after it has left the railroad's possession. How does an underwriter determine the premium needed to cover the risk if materials are shipped to 100 different dumpsites? Instead of thinly spending the dollars available for insurance coverage, we need a system that focuses risk. Should insurers desire diversification, they can get it by expanding their book of business, by reinsurance, and other contractual mechanisms.

The system that ties liability to possession must be modified to prevent any party in possession from escaping liability by delivering hazardous substances to insolvent parties. Yet joint liability is an excessive response to this danger, since the problem is better handled by some form of a permit system (which, in fact, is now required by the Resource Conservation and Recovery Act).[43] The permit system requires that a hazardous substance be identified in some way. For most manufactured substances, a list of the sort con-

[43] RCRA, §6922(5).

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templated by the Act is probably required. For waste materials some type of comprehensive permit can be easily devised.[44] The regulation does not handle the liability questions, but only identifies proper defendants. Such intervention is minimal, and it is structured in ways to limit its impact upon freedom of contract. In contrast, liability under Superfund suffers from a massive case of overambition in its primary liability rules.

3. Remedies

The remedial provisions of the liability section are also suspect in a number of ways. Provisions that require compensation for the actual harms inflicted are sound enough, and are (at least for the party in possession) incorporated into any sensible system of nuisance law. Under the Act, the key question concerns the liability of private parties for the various types of remedial and response actions by the government *in advance* of the particular harm. In essence, the statute takes the position that the government has broad discretion in the types of actions it can take to prevent threatened harms,[45] while the individual defendants must, within broad dollar limits, reimburse the government for all its expenses.[46] The provision allows — but by no means guarantees — effective government action against major spills and the like. Yet it also poses the risk that the government will overestimate the dangers involved, spend enormous amounts of money on prevention, and charge those sums to private parties who were better able to control the danger in the first place. The statute itself allows the government to relocate individuals, condemn properties, and redo the landscape with dikes, ditches, etc.[47] Clearly, some control on its excesses is required.

It is never exactly clear how to balance the two dangers, but at

[44] See 40 C.F.R. §264 (198) for a sample permit under the RCRA.

[45] Superfund Act of 1980, §9606(a).

[46] Ibid., §9607(a)(A). The dollar limits are given in §9607(c)(1):

> (A) for any vessel which carries any hazardous substances as cargo or residue, $300 per gross ton, or $5,000,000, whichever is greater;
>
> (B) for any other vessel, $300 per gross ton, or $500,000, whichever is greater;
>
> (C) for any motor vehicle, aircraft, pipeline . . . or rolling stock, $50,000,000 or such lesser amount as the President shall establish by regulation, but in no event less than $5,000.000 (or, for releases . . . into the navigable waters, $8,000,000) . . .
>
> (D) for any facility other than those specified in subparagraph (c) of this paragraph, the total of all cost of response plus $50,000,000 for any damages under the title.

[47] Ibid., §9601(24).

least it might be possible to subject government intervention to at least two conditions: (1) Wherever practicable the government must consult with known defendants, and (2) defendants after the fact may litigate the reasonableness of government actions. These provisions may forestall some needed government action, but they also might restrain government intervention when private defendants are able to make the basic clean-up effort.

From what has been said, it is clear that the liability provisions are unnecessarily complicated. The truly confusing feature of the statute, however, is in the provisions for *direct actions* by and against the government.[48] The legislation explicitly allows individual parties who claim environmental injury to pursue two avenues of relief: An action against the asserted wrongdoer,[49] or one against the government itself.[50] Suits against the private defendant must be filed before an action against the government can be commenced. But the only precondition for that second suit (at least for releases of hazardous substances covered by the Act) is that the private claim be unresolved 60 days after that suit is filed.[51] It should be noted that the government has extensive rights to mediate the private disputes.[52] But mediation is not coercion, and if mediation fails, the government is authorized to pay damages for harms covered under the statute, obtaining in exchange a right of subrogation to recover from the private wrongdoer the money already paid out, plus all of its own additional expenses in processing the claim and in procuring the recovery.[53] The injured party may continue to press the private defendants for his compensation. His state law actions are not preempted by the statute,[54] nor is he prevented by the doctrine of collateral estoppel from relitigating issues that he has lost in his own claims against the government.[55] A successful suit against the fund only requires the plaintiff to reduce his private damage claim by the amounts already recovered from the government.[56]

[48] Ibid., §9611(b).
[49] Ibid., §9607(a).
[50] Ibid., §9611(b).
[51] Ibid., §9612(a).
[52] Ibid., §9612(b)(4).
[53] Ibid., §9612(c).
[54] Ibid., §9612(e).
[55] Ibid. Collateral estoppel (or "issue preclusion") is "[w]hen an issue of fact or law is actually litigated and determined by a valid final judgment, and the determination is essential to the judgment, the determination is conclusive in a subsequent action between the parties whether on the same or a different claim," *Restatement (Second) of Judgments*, §689 Tent. Draft No. 4, 1977.
[56] Superfund Act of 1980, §9614(b).

The injection of the government as an interested party into virtually all environmental litigation is the most novel and the worst feature of the Act. To illustrate how unsound the idea is, I will consider first those suits in which the plaintiff claims to have identified the proper private defendants and then those in which he insists he cannot.

In the first class of suits, actions by and against the government should be barred. The case for government intervention rests upon the inability of the private parties to overcome the many factual and remedial obstacles of the private cause of action. Yet government suits contemplated by Superfund do not obviate these difficulties in the slightest, for the government must rely upon the techniques used by the supplanted private plaintiffs. It may be that individual actions will founder upon proof of identification, proof of causation, or proof of damages. So too will government suits, which are heir to all the weaknesses of private actions — not to mention the problems caused by bringing a third party into ordinary civil litigation. The government will be further removed from the relevant evidence than any of the interested parties, and it will not have any information that will better enable it to answer the questions at hand. In essence, there is an enormous cost — not to mention the manifest possibility of political abuse — of making the government a party to a set of suits in which it is an inferior litigator to the private party it supplements or replaces. These suits, with all their unneeded procedural complications, are wholly unwarranted.

The second class of cases — those in which no proper defendant can be found — are also inappropriate for government involvement. Here the apparent rationale is that every person who suffers a wrong should be entitled to some sort of remedy. This proposition, however, misstates its ethical premise. The proper rule is that each injured party should have a remedy *against his wrongdoer.* If that wrongdoer (if any) is insolvent, or cannot be identified, there is no reason to allow a remedy against an unrelated third party. The additional suit is clearly inferior to private insurance, which is available against some (but not all) of these hazards. It also dulls whatever incentive a potential victim might have to mitigate his loss. The losses of environmental harms are not different in principle from any other types of losses. There is no warrant for singling them out by statute for special treatment in the name of a government benevolence that must be funded by taxes exacted from the population at large.

Taxation

The extensive set of taxes imposed by Superfund also should be examined. As an initial point, no objection per se is decisive against all forms of taxation of current or potential polluters. The tax in question can be justified in principle as a police power measure, where it functions as a substitute for private damage actions, which are too difficult and too costly. But to state the case for some taxation in the abstract is not to make the case for the forms of taxation imposed in this Act. It should be noted that the statute provides for tax revenues from at least three separate sources — general revenues, funds collected from shipping certain goods, and funds collected when waste materials are shipped to dumpsites for collection and storage.[57] All these taxes are supplemented by whatever revenues the government can collect from specific parties who have violated provisions in the Act.[58]

As an effort to control or influence the levels of pollution, there is no merit whatsoever to a general revenue tax, which in no way can mirror the incentives of any private set of damage actions. With the pressing problem of orphan dumpsites, however, this is not the case. If the responsible parties have, for whatever reason, escaped apprehension and detection, it does not mean that nothing should be done to clean up the abandoned, but festering, sites. Rather than being an exercise in finding individual responsibility, the problem is now how the public protects itself against sickness and disease brought on by acts of God or by insolvent third parties. In some cases individual responses may be best, but free-rider and hold-out problems could block any intelligent response. Where some collective clean-up campaign is needed, general revenues are normally the best source of revenue, at least if it can be shown that the dangers are roughly uniform over the whole population. Totaling up the net benefits of cleaning certain point sites of pollution, likely to be themselves spread across the United States, is a useless exercise. Special assessments that accurately match the costs and the benefits of clearing out the site are too impractical. The general tax does not create an obvious source of injustice, and it is simple to collect.

Taxes imposed upon goods as they are placed in the stream of commerce are, however, difficult to justify. They are inferior to general revenue taxes as a means to provide funds to clear out the orphan dumpsites, since there is no evidence whatever the parties

[57] Ibid., 26 U.S.C. §§4611-82.
[58] Ibid., 42 U.S.C. §9631(b)(1)(B)-(E).

taxed are responsible for the designated harms. By the same token, the tax is not a good method for controlling potential sources of pollution. The tax itself is levied at the outset of the production system, while the greatest danger of release comes from the parties further down the chain of distribution, over whom the manufacturer has little or no control. Also, the tax is not even an approximate measure of the loss attributable to the products. Thus, there is no allowance made for goods that are shipped outside the United States and that cannot be expected to cause any local environmental damages. Nor is there any possible way to tie the tax level to damages via some crude product classification scheme. Care in designing the product, or in handling or disposing of it, is not considered. Far from deterring dangerous activities, these taxes, being tied to production levels, will only coerce parties who safely and efficiently handle dangerous substances to subsidize those who do not. Uniform excise taxes work best with the least interference in the primary conduct of the parties subject to the taxes. Yet some control over primary conduct is an important component of the tax system in question, making it wholly inappropriate.

Finally, there are the taxes imposed upon hazardous waste materials as they reach the dumpsite. Here, too, the case for taxing these wastes for the harms caused by the orphan sites is weak. There is little reason why one firm, which must deal with permits, insurance, inspections, and regulations, should be required to foot the bill for the cleanup of another, when the first firm is not accountable for the other's acts. The taxes might be appropriate as a substitute for future damages, but inputs are at best a crude measure of outputs. Far superior controls seem to be available from fines, which are keyed to the amounts of materials that escape the sites, either as a supplement to, or a substitute for, private damage actions.

Conclusion

The Superfund legislation, it seems clear, suffers from overambition, which blocks the way to a more modest, but more effective, government policy. Three elements are central to a sound policy.

1. The government should be allowed to maintain an action for the destruction or damage to unowned natural resources. This is designed to prevent destruction of the common pool, but requires no special powers of taxation. The returns from the successful

suits are more than sufficient to fund the entire operation.

2. The government should operate a permit system that allows it to identify the individual defendant responsible for the release of a chemical substance into the environment. The costs of the program should be modest, since identifying the type of waste materials should not be difficult as long as it is known that something in the waste could cause damage. The fees for administering the permit system could be collected from a tax used to administer the permits.

3. The government should be given broad and immediate powers to clean up and regulate existing dumps. They present the greatest threats of large-scale pollution and the greatest obstacles to private relief, given the weaknesses of private damage actions after the fact, and the near impossibility of organizing a coalition of plaintiffs to obtain injunctive relief beforehand. Concentration on these sites makes it inappropriate to worry about the tax on inputs; it would be better to devise a system of fines and charges that could be levied against the owners or managers of the plants in question, or the parties who have abandoned them. There will be some instances in which these parties cannot be identified, and to fund those necessary cleanup operations it may be necessary to draw upon general revenues.

Back of this three-pronged system, there is still a panoply of private actions for injunctive and damage relief. With these already in place, it is best to proceed in a cautious and responsible fashion lest the proliferation of new remedial forms unduly hamper the cause of environmental protection. Private remedial actions have their theoretical weaknesses, but they are dwarfed by the weaknesses of a set of public remedies crafted by those with an unbounded faith in the wisdom of government-initiated intervention. Thus, we have been able to turn a near-complete circle. It is possible first to show that government action should not be ruled out, per se, and then show that the very arguments that justify government intervention are also sufficient to limit its scope and nature. The door for direct government control is left open as a matter of legal theory. Yet when all the returns are in, that door is not open very wide at all.

Postscript

I want to clarify my position on some of the points made by Professors Hamowy and O'Driscoll in their separate comments upon

my paper. To do so I will organize the discussion around two separate issues: The use of government ownership as a response to the common pool problem with certain unowned resources, and the use of public licensing, either as an alternative to or supplement for the private remedies of damages and injunctions.

The Common Pool

I have argued that government ownership of common pool resources is often desirable as a means to prevent their premature consumption or destruction. Professor O'Driscoll acknowledges the problem, but then chides me for dismissing too quickly the ordinary forms of private ownership as a response to the problem. Where the principle of first possession (as the root of original title) does not lead to the dissipation of the common pool resource, as in the case of land, I agree with him completely, and did not mean to suggest otherwise. The problem is that for certain common pool resources, such as fish and game, this same principle of first possession often leads to the premature destruction of the stock, which is the source of the problem in the first place. It is impossible, for example, to capture an entire school of migratory fish and still provide them with a habitat in which they can survive and reproduce.

If first possession rules will not solve the problem, what about other private arrangements? A complex network of contracts or informal understandings surely will not do. They are difficult and cumbersome to enforce and some individuals will ignore those restrictions and step up their activities in exhaustion of the pool now that their competition has agreed to restrain itself. Professor Hamowy suggests that a set of private tort remedies be provided to the aggrieved parties, but here too, there are objections. First, within the traditional corrective justice framework, it is hard to allow a remedy to a person who cannot show the loss or destruction of his own property. The case is one of *damnum absque iniuria,* similar to competition. Second, to give fishermen actions against polluters is to solve the problem of pollution by creating a second one — overfishing. And third, it is impossible to identify which individuals count as proper plaintiffs in a tort action, none of whom are owners. Here the theoretical concerns are accurately reflected in recent litigation, *Union Oil* v. *Oppen,*[59] which allowed all fishermen who claimed commercial loss to sue Union Oil for the damage caused by its discharge of oil into the Santa Barbara channel. But

[59] 501 F.2d 588 (9th Cir. 1974).

how can the class of proper plaintiffs be confined when, as in *Pruitt* v. *Allied Chemical Corporation,*[60] sportsfishermen, seafood wholesalers, retailers, processors, distributors, and restaurant owners sue on the same theory? One great advantage of government ownership is that it reduces the number of possible plaintiffs, sharpens litigation, and makes more credible the deterrent effect against polluters.

The question remains of the proper role of the state as owner. In my paper I noted that state ownership placed certain resources "on a par" with private ones, but (here the caveat O'Driscoll downplays is crucial) only "for the protection against their destruction by pollution," or I might have added from premature capture, as well. State ownership of certain resources does not solve the problem of how the state should exploit its resources. The evils of state power, illustrated by O'Driscoll, point very powerfully in the direction of the smallest possible role for the state. A system that transfers the rights to exploit these resources to private parties is best able to turn the resources to useful and productive ends. To argue in this way, however, is not to consign the state to a negligible role. There is still the premarket decision of how to package the rights to fish and game for transfer. Care must be taken to define the rights in terms which vary with the conditions at the time of the harvest, lest there be under- or over-utilization of the resource. There is also the question of whether some form of compensation should be made to those individuals who have previously exploited the common resource before the system of state ownership, i.e., whether a straight action or preferential grant system is desirable. And last, there is the question of whether the function of protection against outside harm should be undertaken by the state, by the licensee, or both.

The questions of implementation are difficult, and O'Driscoll is right to remind us that in some instances the cure of government management may be worse than the original disease. But that judgment can be made only after a dispassionate analysis of the benefits and costs of alternative institutional arrangements. While he is correct to condemn state ownership of western lands, some government role in the management of fisheries is required. The issue, therefore, is not how we can keep government out of the matter, but how we can design institutional arrangements that will allow it to function efficiently in a restricted area.

Licensing

Another point I made was that state licensing can in some in-

[60] 85 F.R.D. 100 (E.D. Va. 1981).

stances be a useful supplement to private actions for damages or injunctions. Professor Hamowy, keenly aware of the enormous abuses of licensing in the past, takes a contrary position, arguing that licensing should be used "only when the harm that ensues is of such magnitude that it clearly outweighs the social damage that follows upon the enlargement of state activity." It is possible to quarrel with his precise formulation, since he does not explain why licensing is inappropriate where the social benefits simply "outweigh" the social damage. But Hamowy's more stringent test is sufficiently acceptable to make my general point. So long as one admits that some remedial balancing is required under conditions of uncertainty, it is impossible to reach a priori the conclusion that licensing is an illegitimate function of the state. The range of activities increases enormously when measured by the extent of the anticipated peril and the ability to control it by social pressures and private actions. By these tests, noise pollution between neighbors and widespread chemical pollution present very different cases. To control the former, a licensing system would have to be all-inclusive and would do little to eliminate individual disputes. Informal social pressures, combined with personal actions against major and repetitive offenders and certain types of prohibitions, e.g., against radios in public parks, seems preferable. This remedial mix, however, seems to be inappropriate to those forms of pollution damage where the harms are more serious and widespread and informal pressures less successful. Here Hamowy is correct to note that the permit system outlined in the paper is not a cure-all. It does not determine whether X chemical causes Y harm. But it does help identify the source of a chemical release, thereby making it easier to find the proper defendant with whom to litigate the causation questions, and it offers extensive *protections* to various parties by providing them a safe harbor. A party in possession knows that if he transfers them to a permitted party he is free from all further litigation, except by contract. He no longer runs the risk of a tort suit, which is otherwise possible on several grounds: Has he improperly packaged goods for further shipment; is the insolvent transferee in reality the implied agent of the transferor, or perhaps his joint venture?

The analysis of licensing in environmental cases should make us cautious of any general condemnation of its other uses. Route licenses for trucks and airlines may be unwise because of their anticompetitive effects. This should not preclude, however, licensing of vehicles for identification, or drivers for competence, notwith-

standing Professor Hamowy's hypothetical fears.

Professor Hamowy is correct to say that anyone who wants to establish a system of licensing must set rules to govern issuance. But to say there is a problem does not mean that it is impossible to resolve it. Minimum age restrictions, basic tests for knowledge of the rules of the road, eye examinations, and even revocations for reckless or drunken driving, are easily enough administered, even if there is occasional corruption. Does anyone think all comers would be allowed on private roads? In some instances, licenses are superior to both damages and injunctions. We should not try to eliminate all licensing from the arsenal of legal controls on a priori grounds. As with common pools, we should instead work to develop theories and institutions that maximize its benefits while curbing its abuses.

EPSTEIN'S THEORY OF ENVIRONMENTAL PROTECTION

Ronald Hamowy

Professor Epstein's paper makes much of the difficulty of collecting reliable evidence in suits involving environmental damages. This difficulty, he appears to conclude, is of such magnitude that solutions that one might not sanction in other areas of the law are necessary if one once concedes that the protection of one's environment from despoliation is as much a right of each individual in a free society as is the protection of one's property from theft. However, the premise that the evidentiary problem in environmental law is somehow *qualitatively* different than it is in other areas of law is, I think, faulty.

The level of reliability of evidence, such that it constitutes legal proof that a tort or crime has been committed, is no less difficult to establish in one area of litigation than in another. All areas of the law have struggled with this problem. In reality, it is the *predictability* of what the courts will view as reliable evidence that determines whether litigation will take place, and not whether a wrong has in fact been committed. If two people are alone in a room out of earshot of anyone else and one physically threatens the other, an assault has occurred, but it is unlikely that a criminal charge will ensue or that a civil suit will avail. The existence of this evidentiary problem does not, however, warrant recourse to substantial government intervention so that suits in tort, where harm has in fact occurred, are more likely to prove successful.

With particular respect to environmental law, Epstein wishes to minimize the evidentiary problem by sanctioning the issuing of permits to those who possess hazardous substances. He does this in order to permit the ready identification (and insure the solvency) of potential offenders — releasers of hazardous substances into the

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environment. But if the implications of this argument were carried to their logical conclusion, there is no reason why the government should not issue permits to engage in all potentially criminal or tortious activities where the offender cannot readily be recognized. Under this argument, not only should automobile drivers and gun owners be licensed — Professor Epstein explicitly defends the former — but so, for example, should building contractors using dynamite and, at the extreme, all possessors of poisons and knives. It is not self-evident that facilitating access to reliable evidence by licensing warrants these intrusions into private life.

The licensing provision does not solve the problem of attribution of the source of the harm. As Epstein notes, "many different pollutants can enter a given water system at different times and in different quantities. Some of these may prove stable and others not. The re-creation of past conditions often poses enormous challenges when the evidence is available, and insuperable obstacles when it is not." (p. 20) I cannot see how issuing licenses that permit the disposal of hazardous substances will help in tracing the level of harm contributed by any specific pollutant or in determining what harm issued from which polluter unless the licensing arrangements were so elaborate and extensive that they begin to resemble the very provisions of the Superfund bill that Epstein argues against.

It is possible that without a permit system, some individuals might suffer without being able to identify the source of the wrong or, having identified it, find that the tortfeasor is insolvent. But I would suggest that this possibility alone does not warrant the sorts of intrusions Epstein would allow by sanctioning a permit system. We would tolerate such situations when the alternative is a significant level of government intervention into social and economic life, as there doubtless would be were the possessors of all potentially hazardous substances subject to government license. It might, for example, facilitate the identification of a certain class of noise polluters to license all owners of radios and phonographs and to require them to carry sufficient insurance to cover the cost of damages should they be successfully sued by irate neighbors. It is possible that without some licensing scheme, noise pollution has increased substantially and large numbers of prospective plaintiffs have been denied access to reliable evidence with which they could successfully prosecute a suit. Admittedly, the harm that could result from the release of chemical pollutants into the environment appears to have the potential of being far more serious than the noise emanating from a neighbor's radio, but it cannot be argued that this

kind of noise pollution is always less harmful. The noise generated in one's immediate neighborhood by powerful sound reproducing equipment can be as extensive as is that generated by factories, airplanes, building construction, street repairs, and so on. I assume that Epstein does not support the imposition of a permit system here as well. Yet the reasons for sanctioning a licensing arrangement are not dissimilar. If the law is to be consistent, the principles governing noise pollution should be the same as those operating with respect to chemical pollution.

Of course, Epstein has not argued for a comprehensive system of permits for all possible polluters. Government licensing presumably will extend only to holders of those waste materials that are known to have the potential of causing "real difficulty." Here I am at a loss. Most chemicals, in sufficient quantity, carry such a potential. Some, in minute quantities, are hazardous, but only when in contact with other, otherwise harmless, chemicals. I would question Epstein's statement that "identifying the type of waste materials [subject to permit] should not be difficult." (p. 34) The number of potentially hazardous effluents alone is staggeringly large and encompasses suspended solids, dissolved organic and inorganic compounds, plant nutrients, bacteria, and viruses. The sources of these pollutants are omnipresent in any industrial society and the harm they cause may vary from noxious odors to speeding up the corrosive process on electrical equipment to substantially shortening one's life. How extensive is this permit system to be? And, having established it, would it in fact make it simpler to identify tortfeasors? Liberal political doctrine does not sanction recourse to government intervention except in certain limited instances where no voluntary alternatives are available and then only when the harm that ensues is of such magnitude that it clearly outweighs the social damage that follows upon the enlargement of state activity. I cannot see how a government permit such as Epstein envisions contributes sufficiently to solving the problem of identifying polluters, given the mischief such a system would allow.

I also have difficulty with Professor Epstein's conclusion that the government's jurisdiction should extend to the common pool of unowned natural resources. The solution to this problem appears to lie not in surrendering control over unowned things to the government — whose primary interest does not lie in either protecting these resources or in using them most economically — but, if possible, in bringing the common pool into something approximating

private ownership for the purposes of tort law. Epstein's argument here relies heavily on the conclusions of Sweeney, Tollison, and Willett with respect to resources having common-pool properties. However, the Sweeny-Tollison-Willett analysis does not address the question of pollution of unowned resources, but rather the problems involved in defining property rights over certain common-pool resources and in conserving these resources in the face of multiple exploiters. There is no reason why the law could not recognize any exploiter of such resources as custodian of the resources, that is, as plaintiff in a suit for damages in instances where the resources are polluted. Indeed, it would be to the advantage of all exploiters to enter into a joint action for damages if injury is provable.

The outcome of such an arrangement would clearly be more efficient than that which would obtain if the government were recognized as the exclusive trustee of common-pool resources. This is especially true since the state, in fact, cannot show damages, but can only be deemed to have suffered damage by legislation to that effect.

I assume that a solution along these lines is legally possible and that there is no inherent theoretical obstacle to allocating to individuals the right to sue in tort in such common-pool situations. If such difficulties do exist, it is unfortunate that Professor Epstein has not examined them. I cannot foresee any insurmountable theoretical difficulty arising out of solving the common-pool problem in this way, although, admittedly, tort law would have to be altered to accommodate the category of private trustee without power to sue in certain areas of trespass.

One of the major thrusts of Epstein's essay, which emerges in both his theoretical discussion and his recommendations for a workable environmental statute, concerns the best method of providing ex ante relief where large numbers of possible litigants are involved. His position is summarized in his discussion of automobile drivers. Epstein argues here that government intervention via licensing is a more efficient means of administering injunctive relief than is the court system responding to many individuals acting independently.

The benefits of this solution to the problem of large numbers appear self-evident to Epstein. He sketches out the criteria of who ought to grant injunctive relief but he offers no evidence to substantiate his claim that the benefits of granting wholesale injunctive relief through a licensing system clearly outweigh the

problems that follow upon the creation and operation of a licensing authority. There is no acknowledgement that a licensing system requires a massive and intrusive government apparatus and that the licensing authority itself must face the question of what criteria to employ in granting or withholding licenses. What evidence is germane to determining who is to be licensed, and what correlation do the criteria for the withholding of a license have to the criteria that would lead a court to enjoin a particular driver?

Epstein's argument here suffers from a conceptual confusion. Strictly speaking, there is no permanent ex ante relief in tort. There *is, at best, an increased ad hoc penalty attached to engaging in a* certain activity that is, in its own right, tortious. Injunctive relief is relief only so long as the behavior is not engaged in; it does not stop the activity, but only punishes it more severely, should an enjoined defendant engage in it. More importantly, it must first be proven to the court's satisfaction that the activity would be tortious before it will issue. The remedy is available only to those complainants who can prove that the action to be enjoined is injurious.

An injunction is not a form of preventive detention, which thwarts a defendant from violating the law by restricting his movements, generally by physical confinement. Nothing prevents a person against whom a permanent injunction has issued from engaging in any act that is not tortious. He is as free to go about his daily business and to engage in all noninjurious acts as is anyone else. The denial of a license, on the other hand, *is* as blunt an instrument as is preventive detention, since, by its nature, it prohibits a large area of harmless activity to someone in order to prevent an injurious act from being committed; it thus punishes *before* a wrong has been committed, while injunctive relief does not.

The denial of a license prohibits a person from engaging in certain conduct, whether or not that conduct is tortious. The withholding of a license, unlike the granting of a permanent injunction, does not occur only in instances where it can be proved that a harm would result from a specific action of the prospective licensee; indeed, the denial of a license does not even require a complainant. Refusing to issue a license amounts to prohibiting certain individuals from engaging in a whole area of activity, tortious or not, without any evidence that its issuance would result in a specific injury. In gist, a licensing system, unlike a system of injunctive relief, limits the freedom of all those who are refused licenses not only to engage in harmful activities, but to engage in any activities falling under the purview of the particular licensing board. Even more pernicious, a

licensing system restricts the freedom even of those awarded licenses, since in any licensing scheme, the burden of proof falls on the applicant to prove his competence, and away from the licensing authority to prove that the applicant should be denied a license. The reverse-onus provisions of licensing laws are perhaps their most offensive feature and are incompatible with any system of law that punishes only the guilty.

There is a clear legal distinction between injunctive relief and licensing, and I cannot imagine why Epstein has opted for the truncheon when the law provides something akin to a surgical knife. I cannot agree that the problem of large numbers warrants recourse to as noxious a device as licensing, either to solve the problem of highway accidents — assuming that it *has* lowered accident rates — or to provide a system by which environmental polluters can more easily be identified. Nor is it self-evident that the transaction costs generated by a licensing system are far lower than those that would be incurred under a system limited to private relief in law. Licensing is a cumbersome instrument at best and a powerful weapon for repression at worst; it deserves short shrift from legal theorists like Epstein, who are concerned with the delineation of rights in a free society or the delineation of remedies consistent with those rights.

POLLUTION, LIBERTARIANISM, AND THE LAW

Gerald P. O'Driscoll, Jr.

Introduction

In his paper, Professor Epstein sets himself two main tasks. First, he seeks to inform libertarians of the complexities involved in applying their ethically-based legal theories. Second, he critically analyzes the Superfund legislation from the perspective of a liberal system of rights, as well as with regard to the legislative purpose of the act.

In analyzing Epstein's paper, I will first consider certain arguments in detail. I will focus in particular on certain questions raised by Epstein or implicit in his analysis. At the end of this paper, I consider more general issues. Accordingly, I begin with Epstein's section on the Superfund.

Superfund

Professor Epstein describes the Superfund legislation "as a comprehensive attack on the release of toxic substances into the general environment." (p. 22) In the preceding section he argues for treating pollution as a nuisance, and thus a tort. Accordingly, he then examines the Act and its remedies for efficaciousness in protecting the environment, as well as its consistency with a system of substantive rights. His objections to the Act are to its remedies and to government's role under the Act. His criticisms are trenchant and to the point. I will review some of them briefly.

The first major problem with the Act is its sheer breadth. This

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breadth, together with the requirement of notice to the E.P.A. of all "spills," yields a particularly obnoxious piece of legislation. As Epstein observes, the Act would require notice to the E.P.A. of a "spill" of cleaning solution on a small farm whose only effect is to damage the farmer's furniture. (p. 23) In fact, under the notice provision, the farm itself is a "facility" that must be registered with the E.P.A. as a potential pollution source.

Though Epstein is a leading advocate of strict liability, he criticizes making defendants in a pollution case jointly and strictly liable. It now is accepted in tort law that defendants are jointly liable for damages to a plaintiff, each tortfeasor or any subset of tortfeasors being liable to the full extent of assessed damages.[1] Epstein's objection is to the unwarranted extension of strict liability, which was originally a causal theory, to situations in which dozens or even hundreds of otherwise innocent parties are joined as defendants. These are individuals or firms whose only relation to each other, much less to the plaintiff, is that they occupy the same "line of commerce" as is involved in the hypothetical suit. Their causal connection to a hypothetical spill is nonexistent in any commonsense usage of "cause," and would not be recognized as causal at common law. Thus strict liability is an inappropriate rule.

At common law, joint liability of tortfeasors insures that innocent victims can recover at low cost from guilty parties, and that guilty parties do not benefit at the victims' expense (since joint tortfeasors can sue each other to apportion damage among themselves). In the Superfund legislation, the joint liability provision's ostensible purpose is to provide incentives. All parties who have control over hazardous substances at any stage of production are to have the maximum incentive to take safety precautions and otherwise to comply with the Act. As Epstein demonstrates, the joint liability provision dissipates incentives by reducing the expected cost to a polluter of his tortious acts.

At this point, one must ask of Superfund, *Cui bono?* Why Superfund? The bill cries out for the kind of dissection performed by Epstein. It is rife with evident problems. Is Superfund another case of inept legislation to solve a pressing social problem?

I think not. Superfund not only spreads the cost of polluting across parties, thus dissipating incentive effects of fines, but it also

[1]Charles Gregory, Harry Kalven, Jr., and Richard Epstein, *Cases and Materials on Torts*, 3d ed. (Boston: Little, Brown & Co., 1977) pp. 441-445; William L. Prosser, *Handbook of the Law of Torts*, 4th ed. (St. Paul, Minn.: West Publishing Co., 1971), pp. 291-323.

effectively socializes those costs. The tax provisions for funding expenditures to clean up environmental damage quite obviously socialize the costs of that damage. Epstein finds a tax solution to be relatively innocuous. I think his attitude may stem from a failure to consider what may be the larger purpose of the Act. The tax provision may be the most obvious piece of evidence for my thesis, but it is probably not the most important one.

In essence if not in contemplation of law, the government has been made a joint tortfeasor to every private suit under Superfund. Thus the taxpayers of the U.S. are jointly and severally liable for every tort actionable under Superfund (certain conditions having been met, as explained in Epstein. Acting, in effect, as agents of taxpayers, relevant government officials can sue private defendants to recover all damages and costs assessed against or incurred by the government. Taxpayers would be wise to derive little comfort from this prospect, for the incentive structure is all wrong. Private parties protect their interests because they personally stand to lose from their inaction or ineptitude. The relevant government officials have little or nothing to lose directly from less than vigorous enforcement of judgments against polluters for whose actions taxpayers have borne the damages. Evidence for this property rights thesis abounds at all layers of government for a wide variety of cases. Some of these are explained below.

The analytic point is that because of the property rights structure, government officials are notoriously deficient as "agents" of taxpayers. This deficiency in the agency relationship (which is at best an analogy) means that the ability of plaintiffs to sue the government for damages inflicted by other private parties makes Superfund a mechanism for distributing harm over the taxpaying population.

The role of government in the Act goes to the heart of the pollution question, because it brings the property rights issue to the fore. Epstein has surprisingly little to say concerning the property rights issue, and what he does say is misleadingly incomplete.

The Property Rights Issue

In several instances, Epstein asserts the necessity of some government regulation or public policy toward the environment. In the introduction, he suggests that there is a distinction between regulation of prices and wages and environmental regulation. He avers that, "The elimination of all government controls [of the environ-

ment] seems quite unthinkable." (p. 9) He argues that there are complexities involved in applying simple legal principles to complex situations like highway accidents. At the end of this argument, he concludes: "There is no clear-cut argument for putting all remedies in private hands." (p. 17) In a footnote to that conclusion, Epstein briefly considers adopting a system of private highways and urban roads. He states, "It is difficult to believe that this system would continue to command popular support; today the problems of converting from a public to a private system are quite insuperable." After very quickly touching on remedies with a purely private system of roads, he concludes that "even under an ideal system of property rights" it would not be feasible to rely only on private causes of action. (n. 12)

These scattered references aside, Epstein basically avoids any property rights analyses of the environment. When he takes cognizance of the property rights approach, he seemingly misses the point. First he argues (correctly) as follows:

> There is a well-documented body of literature that indicates that a system of common law rights and remedies fails most completely in the protection of unowned things. The great danger is that such things will be either destroyed or captured so rapidly as to not take into account the long-term consequences of individual actions. (p. 24)

At this point Epstein advocates the following solution to the common-pool problem:

> To remedy this premature exhaustion of the common pool, it is necessary to put someone in the position of an owner . . . . the state, as representative of all individuals, is better able to fulfill that function than any other single individual or group of private individuals. . . . unowned things are placed on a par with those that are owned in their protection against destruction by pollution. (pp. 24-5)

Epstein's analyses is faulty in several respects. First, his argument proves too much. If one accepted it, one would conclude that all resources ought to be owned by the state. Second, the most straightforward resolution of the common-pool problem is to turn the commons into privately owned resources. Having eliminated the most obvious (and best) option, Epstein is left with the state. It is simply not true, however, that state control puts "unowned" or commonly held resources "on a par" with privately-owned resources. Governmentally controlled resources are generally depleted at a *different* rate than either resources privately owned or

those held in common.[2] The depletion rate for resources under government control depends on a host of political factors. Consider the following three cases.

First, a governent official (perhaps a ranger in a national park) is free to maximize his *utility* in the use of a resource. The official will want to maximize the *average product* or average return in using the resource (however output is defined). Some use by the public may be permitted,[3] but the public will *not* have free access to "its" resources. In this case, the common-pool problem — the problem of overutilized resources — is "solved" by underutilizing resources.[4] The reason the resource will be underutilized is that the (honest) official cannot appropriate payments from others for further exploitation of the resource. The official cannot then take account of market "signals," sent by the public, revealing the urgency of their preferences for resource utilization. In economists' terminology, the official will not internalize the benefits to others of using the resource.

In the second and third cases, the official faces additional constraints in the form of interest-group pressure. In one case, we have the developer who wants a quick "rape of the land." The alternative case is the extreme environmentalist who wants no use of the resource (unless "use" encompasses passive contemplation of perpetually untouched virgin resources). At one extreme, there would be the most rapid feasible depletion or capture of the resource. At the other extreme, no resource use whatever. The real-world political situation typically is an outcome of the balancing of such forces. If the developer has his druthers politically, resources may be used up *faster* than in the common-pool case. This can be shown once we recognize a glaring omission in most economic analyses of the common-pool problem.

Economic analysis traditionally ignores nonmarket private institutions. Recent interest in common law is belated recognition of the importance of one type of private nonmarket institution. Family, neighbors, clubs, and social organizations of all types exist to restrain individuals from unbridled pursuit of their interests at

[2]Charles Baird, *Prices and Markets: Microeconomics* (St. Paul, Minn.: West Publishing Co., 1975), pp. 63-66.

[3]The official will permit some use by others only if there is a range of increasing returns to scale. In this range, more use by others leads to *more* of the resources being available to the official.

[4]Optimum use of a resource requires that it be exploited up to the point where *marginal* benefits and *marginal* costs are equal. Maximization of *average* product will result in underutilization.

the expense of others. The absence of markets complicates marginal adjustments to changing circumstances.[5] But the absence of organized markets is less significant than state power being brought to bear on behalf of private interests. State coercion is often (though not always) capable of overcoming moral restraints of family, clan, and church.[6] The "holdout" can spurn the monetary blandishments of the wealthy developer, but cannot resist the same developer armed with state power in the guise of eminent domain.

We can easily see the results of government stewardship over natural resources. Upwards of 90 percent or more Western land is held back from virtually any economic use by federal authorities. At the same time, the Agriculture Department has permitted logging companies to "clear cut" groves in national forests. This seeming inconsistency in policy is irrational only if one persists in thinking that government control of national resources is intended to put them "on a par" with privately owned resources.

There is no government solution to pollution or to the common-pool problem because government is the problem. I will consider three cases adduced by Epstein to illustrate this contention.

First, there is the complex problem of "dumping." Many of the complexities, however, involve the multifaceted ways in which the state intervenes and affects markets and property rights. The first point to note about "phantom dumpers" is that they prefer public land (including rivers and streams) because their expected cost is lower than for dumping on private land. By the same property rights argument outlined above, we expect private landowners to be more protective of their rights. Public authorities are comparatively lax in protection of the public's land. Thus, the federal government has never acted, under authority going back to an 1899 act, to protect rivers and streams from pollution.

"Orphan dumpsites" are often on private land. Their existence, with contaminant toxic spills and leaks, is testimony of the failure of another governmental institution — zoning. At minimum, zoning, if it is to be justified at all, should protect us against nuisances generated by illegal uses of land sites. Could a system of private covenants and common-law nuisance remedies work any worse than zoning to protect us? It must also be emphasized that corrup-

[5] Markets are not, however, the only private mechanism for controlling behavior at the margin. As Thomas Sowell has pointed out, "informal relationships" of all kinds are important social organisms accomplishing this purpose. Thomas Sowell, *Knowledge and Decisions* (New York: Basic Books, 1980), pp. 23-30; 91-92.

[6] Robert Nisbet, *Twilight of Authority* (New York: Oxford University Press, 1975).

tion plays a key role in the dumping problem. The link between organized crime and the state is an essential element of the orphan dumpsite issue. Storage and dumping of toxic chemicals has become a lucrative economic speciality of organized crime. Already existing regulations and laws make it too costly for honest firms to dispose legally of these wastes. This leaves the business open only to illegal and quasi-legal devices. (The analogy to the cases of gambling and high-risk loans is clear.) Government officials, by setting unreasonable rules, produce the corruption and results they and the public deplore.

Second, there is the common pool problem. Epstein is certainly accurate in observing that common law fails in dealing with unowned goods. This is no accident, for common law is preeminently the law governing and protecting private rights and interests. It is thus imperative in a free society built on common law foundations that resources held in common be converted to private use. From mining claims[7] to radio waves,[8] the Anglo-American common law has been adept at absorbing and recognizing new ownership forms. Markets have arisen rapidly in the wake of legal recognition and sanction of private rights. Unless inhibited or prevented, individuals will establish private property claims to valuable but heretofore unowned resources. The common pool exists because the state prevents individuals from privatizing the commons. To seek remedy in further state regulation is to confuse the solution with the problem.

The third issue is that of roads. As to private highways, there can be no serious contention. The widespread existence of public toll roads negates any serious allocational argument against private toll roads. The economic problems of developing an extensive private highway system could be no greater than they were for developing an extensive private railroad system. And, of course, today we have a public highway system in place. Urban roads present somewhat greater conceptual and practical problems, but those difficulties are not really those raised by Epstein. Any rational urban road system would involve neighborhood covenants. It is not clear that traffic restrictions under these covenants would necessarily differ from what exist to some extent today. For example, one could envision restrictions on commercial traffic passing through residential

[7] Gary Libecap, "Economic Variables and the Development of the Law: The Case of Western Mineral Rights," *Journal of Economic History* 38 (1978): 338-62.
[8] Ronald Coase, "The Federal Communications Commission," *Journal of Law and Economics* 2 (1959): 1-40.

neighborhoods unless the traffic involved delivery of goods to that neighborhood. (This particular restriction is in widespread use today.) In general, developers and neighborhood organizations would internalize benefits and costs to others of alternative uses of neighborhood roads. The obstacle to a private road system is municipal ownership and zoning, not a hypothetical inability of individuals to respond to market signals.

In each of these three cases, a statutory or regulatory remedy would appear to be a viable solution to a social or economic problem only if one were to start with the situation as it exists now, unmindful of the causes and origins of that problem. In each case, prior state action was a significant contributor to, if not creator of, the problem in the first place. This insight naturally leads us to Epstein's initial argument.

The Libertarians

Epstein appeals to libertarians to consider both the complexities of legal issues and "popular sentiment." His task is to "examine the strengths and limitations of a corrective justice [i.e., libertarian] theory in its application to concrete legal and social problems." (p. 10) Epstein's stated endeavor is an extremely important one. I sympathized and generally agreed with his gentle chiding of libertarians for overlooking the practical problems involved in implementing libertarian legal principles. Questions of evidence, uncertainty, and remedy have been slighted by libertarian legal theorists. No one is more qualified or better suited to bring these points home to libertarians than Richard Epstein. One would hope that such an effort by him would begin a dialogue, which would sharpen libertarians' awareness of legal issues and legal problems. This process would be inestimably helpful in their bringing their insights to bear on law.

My problem with Epstein's goal lies not in its conception but in its execution. I think Epstein has really written two papers, or rather, one fairly complete paper on Superfund and one incomplete paper on libertarianism and law. My suggestions, criticisms and emendations aside, I found Epstein's dissection of the Superfund legislation to be very good indeed. His "general theme" seems, however, to have been lost somewhere between the middle and the end of his paper. The Superfund legislation does not illustrate some failure of libertarian analysis to come to grips with environmental issues. Superfund is a statutory nightmare, designed to deal with difficult

problems rendered intractable by prior government intervention. What Epstein details is not a failure of libertarianism but of statute, not a weakness in common law so much as the impotency of statutory solutions. In fact, Epstein all but says this in his final paragraph.

If I could identify one theoretical point on which I think Epstein goes wrong it is the "large numbers" case. In that discussion, he essentially rediscovers the high transactions-cost problem in the Coase theorem. Epstein's high transactions-cost examples are either caused by or exacerbated by state action. Some problems (e.g., urban noise pollution) really are more or less insoluble under present technological conditions.[9] But transactions-cost arguments must be examined in light of relevant market alternatives. Political reality certainty ought not to intrude into analysis in the first round.[10] In examining the large-numbers issue, one must keep in mind that a system of well-specified private property rights is the preeminent way to solve the problem. Consider the externality problems that would exist were food grown on land held in common (to cite a concrete rather than a hypothetical possibility). Recognition of private claims to resources diminishes if it does not eliminate the externality or large-numbers problem. Common law in a liberal system of rights not only provides the legal framework for, but also "fills in the gaps" in a market system. We do not need to bore wider holes in the social system through which activist governments can intrude into private matters.

Environmental policy is a complex issue, made more so by government failure. Libertarians have much to learn about the law. But environmental policy has been heavily mined by economists, and well thought out by some libertarians. As Professor Epstein demonstrates, libertarians are capable of addressing the issue without resorting to unpalatable tools.

[9] I stress the proviso about technology. Technological innovations have a habit of rendering obsolete economists' examples of externalities. This runs counter to environmental thinking, which sees technology as the source of environmental damage.

[10] For instance, Epstein worries about public acceptance of private roads. It is surely not the scholar's task to worry about public acceptance today of a reform proposal for the future. Good reform proposals help make their acceptance possible by changing public opinion. In this sense, public opinion is an endogenous, not an exogenous variable. Ten years ago, who would have been sanguine about deregulation of surface and air transport, or elimination of resale price maintenance law? Five years ago, who would have expected a return to a gold standard to be seriously entertained?