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Takings, Private Property and Public Rights

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Few legal problems have proved as resistant to analytical efforts as that posed by the Constitution's requirement that private property not be taken for public use without payment of just compensation.[1] Despite the intensive efforts of commentators and judges,[2] our ability to distinguish satisfactorily between "takings" in the constitutional sense, for which compensation is compelled, and exercises of the police power, for which compensation is not compelled, has advanced only slightly since the Supreme Court began to struggle with the problem some eighty years ago.[3]

Contemporary interest in environmental quality has spawned various attempts at property regulation, many of which actually or potentially collide with the takings provision.[4] Nearly every attempt to regu-

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1. U.S. CONST. amend. V: "[N]or shall private property be taken for public use, without just compensation." This requirement has been deemed incorporated into the Fourteenth Amendment. Chicago, B. & Q. R.R. v. Chicago, 166 U.S. 226, 235-41 (1897); United States *ex rel.* TVA v. Powelson, 319 U.S. 266, 279 (1943). It is this language of the Fifth Amendment that is referred to throughout the article as the "takings provision" or the "compensation provision" of the Constitution.

2. Ambitious recent articles include Dunham, *Griggs v. Allegheny County in Perspective: Thirty Years of Supreme Court Expropriation Law*, 1962 SUP. CT. REV. 63 (1962); Michelman, *Property, Utility and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law*, 80 HARV. L. REV. 1165 (1967). *See also* Sax, *Takings and the Police Power*, 74 YALE L.J. 36 (1964).

3. Justice Harlan's opinion in Mugler v. Kansas, 123 U.S. 623 (1887), is generally treated as the beginning of modern compensation law.

4. MacGibbon v. Board of Appeals, 356 Mass. 635, 255 N.E.2d 347 (1970); Maine v. Johnson, 265 A.2d 711 (Maine 1970); Wilkes, *Constitutional Dilemmas Posed by State Policies Against Marine Pollution—The Maine Example*, 23 MAINE L. REV. 143 (1971); Waite, *Ransoming the Maine Environment*, 23 MAINE L. REV. 103 (1971); Bartlett v. Zoning Comm'n, 161 Conn. 24, 282 A.2d 907 (1971). *See also* Zabel v. Pinellas Co. W. & N.A., 171 So.2d 376 (Fla. 1965). A leading case, upon which the wetlands decisions rely heavily, is Dooley v. Town Plan & Zoning Comm'n, 151 Conn. 304, 197 A.2d 770 (1964) (flood plain regulation). *See also* Arverne Bay Constr. Co. v. Thatcher, 278 N.Y. 222, 232, 15 N.E.2d 587, 591 (1938) and Morris County Land Improvement Co. v. Township of Parsipanny-Troy Hills, 40 N.J. 539, 556-57, 193 A.2d 232, 241 (1963). *Compare* Candlestick Properties, Inc. v. San Francisco B.C. & D. Comm'n, 11 Cal. App. 3d 557, 89 Cal. Rptr. 897 (1970).

Principal bills now pending in the Congress which would ban strip mining are H.R.

late the private use of land, water, and air resources may be claimed to violate the takings clause. This conflict, along with other aspects of the campaign for environmental quality, suggests the need for a reconsideration of the notion of property rights. The abandon with which private resource users have been permitted to degrade our natural resources may be attributable in large measure to our limited conception of property rights. Not surprisingly, an amended notion of property rights suggests a reformulation of the law of takings. Perhaps more importantly, a new view of property rights suggests that current takings law stands as an obstacle to rational resource allocation.

This article will contrast the traditional view of property rights, which focuses solely on activities occurring within the physical boundaries of the user's property, with a view founded on a recognition of the interconnectedness between various uses of seemingly unrelated pieces of property. Once property is seen as an interdependent network of competing uses, rather than as a number of independent and isolated entities, property rights and the law of takings are open for modification. This modification will include a change in the position I took in an earlier article,[5] where I suggested that government activities with respect to private property could be divided into two categories. When the government acted as a participant in the competition for use of various resources it was to be seen as an enterprise, and when it functioned to settle conflicts between private claimants it was to be seen as a mediator. The basis for distinguishing between takings (compensation compelled) and exercises of the police power (compensation not compelled) was the nature of the government activity. Where private parties incur economic loss as a result of government

6484, 92d Cong., 1st Sess. (1971), introduced by Rep. Ken Hechler of West Virginia and S. 1498, 92d Cong., 1st Sess. (1971), introduced by Senators Gaylord Nelson and George McGovern. A far-reaching state bill has been passed in West Virginia; 1 BNA ENV. REP. CURRENT DEV. 1366 (1971).

See generally Bosselman, *The Control of Surface Mining: An Exercise in Creative Federalism*, 9 NAT. RES. J. 137, 155 (1969); Schneider, *Strip Mining in Kentucky*, 59 KY. L.J. 652 (1971); Note, *Reclamation of Strip Mine Spoils*, 50 KY. L.J. 524, 538 (1962); Comment, *Constitutional Law—Governmental Regulation of Surface Mining Activities*, 46 N.C.L. REV. 103 (1967). *Hearings on Surface Mining Reclamation Before the Senate Committee on Interior & Insular Affairs*, 90th Cong., 2d Sess. (1968).

5. *See* Sax, *supra* note 2. The following pages should make clear the respects in which my present thoughts depart from those expressed in my earlier article. In general, I am still persuaded that neither the traditional diminution-of-value theory nor the noxious use theory is acceptable. Also unchanged is my view that neither history nor reason require us to protect a property owner against total economic loss when the regulatory authority of government is exercised for a legitimate purpose. I am compelled, however, to disown the view that whenever government can be said to be acquiring resources for its own account, compensation must be paid. I now view the problem as considerably more complex. The pages that follow are an extended commentary on why and how my views have changed on this point.

enterprise activity, it was argued that the activity be classified as a taking. Where losses are incurred as a result of competition among various nongovernmental property owners, the government having acted as a mediator between those claims, it was argued that the losses should not be compensable as a constitutional right.

The modification which follows from a new notion of property rights is substantial. Much of what was formerly deemed a taking is better seen as an exercise of the police power in vindication of what shall be called "public rights." Having explored the concept of "public rights" and having delineated a new view of takings, this article will briefly explore the consequences of a new notion of property rights for the broader questions of resource regulation and allocation of the costs of conflict between would-be resource users.

I. Takings Law and Property Rights

According to the dominant doctrinal model of takings law,[6] the diminution of value theory, the criterion for recognizing a particular economic injury which follows from government action as a taking is the extent of economic loss. A court asks whether, and to what extent, the owner's ability to profit from the piece of property in question, *considered by itself,* has been impaired. If the profit-making capacity has been very severely reduced, the government is said to have "taken" and the owner is constitutionally entitled to compensation.[7]

6. The other three principal approaches are: (1) the invasion theory, that makes compensation depend on whether the government has formally taken possession and title, (2) the noxious use test, which defines certain activities as socially undesirable, and therefore as non-property, and (3) the cause of the harm test, which assumes that in the case of conflicting activities between neighboring owners, one activity can be identified as causing harm to the other. These theories are discussed in Sax, *supra* note 2, at 46-50.

7. The wetlands cases, cited in note 4 *supra,* exemplify this approach. To be sure, one finds the seeds of contextual analysis in the cases occasionally, as in Village of Euclid v. Ambler Realty Co., 272 U.S. 365, 387-88 (1926), or in Justice Holmes' famous opinion in Pennsylvania Coal Co. v. Mahon, 260 U.S. 393 (1922). Holmes notes, for example, that "some values are enjoyed under an implied limitation and must yield to the police power." *Id.* at 413. He also indicates that in some circumstances there might be found "a public interest sufficient to warrant . . . a destruction . . ." of the owner's opportunity to profit from his property. *Id.* at 414. Holmes' observations are, however, only suggestive and tantalizingly vague. He never explored the question of context systematically nor did he treat it as more than an inevitable practical exception to the obvious rule that for government to make it "commercially impracticable" to profit from one's property is, constitutionally, to take it. *See* note 18 *infra.* Subsequent judicial authority has focused on the rule and rarely explores the implications of the "exception" Holmes observed. Courts do some balancing of interests to avoid the extreme implications of the dominant rule, but there is a hierarchy in which the right to profit stands first, with a grudging exception for exigent public need. The pages that follow are a challenge to this way of looking at the problem.

Notice that this takings doctrine is tied to an assumption that the right to compensation, and the amount to be paid, can be determined by examining the economic effects that occur solely within the physical boundaries of one's property.[8] Surely it is naive, however, to suppose that one who profits from a piece of property necessarily uses only those resources within his boundaries, and equally naive to think the consequences of one property user's activities are confined to his property. Property does not exist in isolation. Particular parcels are tied to one another in complex ways, and property is more accurately described as being inextricably part of a network of relationships that is neither limited to, nor usefully defined by, the property boundaries with which the legal system is accustomed to dealing. Frequently, use of any given parcel of property is at the same time effectively a use of, or a demand upon, property beyond the border of the user.[9]

The inadequacy of the view of property rights embodied in takings law can be demonstrated by reference to governmental regulation of strip mining. Assume that the government has prohibited all strip mining on land having a slope of more than twenty degrees, because it has been determined that, given present technology, mining on such lands exposes lower lying land, owned by others, to ruinous erosion. Under present practice, the question posed by a court would be whether the governmental regulation, however justified, so reduced the value of the restricted owner's land as to deprive it of all present economic productivity.[10] If the effect of prohibiting strip mining were to make the mining land utterly worthless to the holder, who might own only coal mining rights, most courts today would award compensation to him. From the limited perspective of the mineral owner claimant, who asks that the general public bear the cost of thus advancing the social welfare, such a result might seem appropriate.

It is more accurate, however, to identify the problem in quite another

8. The present takings standard is deficient in other ways as well. It is internally inconsistent, for while the criterion of total economic loss is the touchstone in current compensation law, many instances of total loss are in fact left uncompensated by redefining those interests as non-property. Sax, *supra* note 2, at 50-60. Thus, lotteries, the manufacture of liquor, and debt adjustment are prohibited without compensation since these uses are said not to constitute property. Similarly, heavy losses resulting from government regulation of industry may be described as the prevention of waste or the elimination of a nuisance, in neither of which anyone holds a property interest. *Id.* at 52.

The present system is also inconsistent in its determination of when a "total loss" has occurred. *Id.* at 60. Compensation may be required for the total loss of one tract held separately by an individual who owns twenty other nearby tracts, but not for a five per cent loss to the same tract held as a single property.

9. See Coase, *The Problem of Social Cost,* 3 J. LAW & ECON. 1 (1960); Michelman, *supra* note 2, at 1167.

10. *See* cases cited in note 4 *supra.*

way. The mineral owner demands that the lower land serve to carry mining wastes while the lower owner demands that the upper lands be preserved in such a way as to protect his desired uses. Neither owner is merely using his own property, nor is either entitled a priori to have his demand met, for neither of the conflicting uses is, in some theoretical sense, superior to the other. Traditional legal analysis has looked only to the effects of government action on the complainant's land, and has thus attended to only one fraction of the problem, for the property interest in controversy is not simply the land circumscribed within the boundaries of the mine owner's tract, but the totality of property the mine owner is using, which includes the land owned by those lower down.[11] Is there any reason in theory why the lower owner ought not to be equally entitled to recover from the government for failing to protect his property right to use his land for residential purposes by prohibiting mining above him? Surely there is no theory of property rights that suggests that property owners should have an advantage in conflict resolution merely because of superior physical position, *e.g.*, being located at the top of a hill.

Under present theories of takings, if it is recognized that both the miner and the lower landowner are equally property owners, each using both his own tract and the tract of his neighbor, an anomaly results. To prohibit strip mining would be a taking of the miner's property, while a failure to prohibit the mining would be a taking of the lower owner's land.[12] Requiring the public to pay for the costs generated by every situation of conflicting uses between property owners would wildly expand the reach of the compensation provision of the Constitution, which is addressed to situations in which the government takes away from a property owner some extant right.[13] Tradi-

11. Notably, the law's perspective is not usually so limited when such problems arise as private nuisance cases. There, both competing interests are examined and balanced. W. PROSSER, TORTS § 89 (4th ed. 1971). *But see* note 7 *supra*. As the subsequent pages will suggest in more detail, the broader perspective (in this respect) of nuisance law can be instructive in seeking to understand the constitutional compensation problem.

12. In theory, the mere passivity of government in the latter case ought to make no difference. The problem can arise in a practical fashion, as where the lower owner sues the miner for an injunction in a nuisance action and asserts a constitutional right to prevail, or claims that the government's refusal to regulate the miner is itself a taking. Such claims have been made on behalf of lower riparians on a stream when there has been an alleged failure to constrain upstream polluters. New Hampshire v. AEC, 406 F.2d 170, 176 (1st Cir.), *cert. denied*, 395 U.S. 962 (1969); Board of Public Works v. Larmer Corp., 262 Md. 24, 277 A.2d 427 (1971); Connecticut Action Now v. Roberts Plating Co., 2 BNA ENV. REP. CASES 1731, 1733 (1971).

13. Plainly the history of the compensation provision cannot be read to require compensation whenever there is a loss incurred by a conflict in uses. "What seemed to concern the early writers was not the fact of loss but the imposition of loss by unjust means." Sax, *supra* note 2, at 57.

tional compensation law has dealt with this anomaly by limiting its attention to one party, unrealistically assuming that the government's action affects only the property owner who loses because of the regulation imposed.

A more accurate picture of property use is suggested by an example in which a number of owners each claims a right of use in a common resource such as a lake or a common grazing field. The rights of each user can only be defined with reference to the claims of other users, and there may be incompatibilities not subject to solution by simply parcelling out the resource in equal shares.[14]

To be sure, the effects of an activity like strip mining ordinarily range far more broadly than the simple upland-lowland example would imply. Not only is there likely to be erosion affecting neighboring tracts, but the exposure of stripped land may contaminate nearby water bodies, impairing uses of a quite diffuse class of interests spread far beyond the immediate area. The strip miner, in short, is likely to be a user of a tremendous range of natural resources extending dozens or even hundreds of miles distant from his own tract.[15]

This phenomenon of inextricable relationships among property uses appears quite frequently. In the cases of the smoke-emitting factory located next to residential property, the noise-making airport located near private homes, the water-polluting factory located upstream from users requiring clean water, and other instances where spillover or third party effects are generated by a particular property use, we find that conflicting demands are being made on a common resource base. It is important to note that the demands arise from both sides—the homeowner demanding quiet imposes on the noise-making airport just as much as the airport users' demand to conduct noise-producing activity impinges on the homeowner.

It hardly seems appropriate, when the government intercedes to settle the conflict, to find that a "taking" has occurred simply because

14. Commercial fishermen may not be able to make a living unless they are permitted sufficient uses that the lake is destroyed for sports fishermen. Surely the commercial fishermen cannot assert a constitutional right to stay in business as against the sportsmen, or vice versa. The problem can be resolved only by considering the claims of both classes of users simultaneously. This analogy does not require one to assume that a fisherman's right in a lake is historically the same kind of interest as fee simple ownership of a tract of land. It assumes only that each class of user has an interest in the lake equal at the outset to that of his competitors. As to the posture of each vis-a-vis the other, the conflict between sport and commercial fishermen is identical to that between the miner and the lower landowner.

15. If this seems a dramatic way of describing the facts, one need only consider the sensational data revealed by students of pesticides, who find DDT in the remotest regions of the earth. N.Y. Times, Oct. 19, 1969, at 71, col. 6.

the uses one owner was formerly able to make within *his* boundaries have been curtailed. The restriction may instead represent a resolution of conflicting demands so as to protect and maintain the uses of other parcels of property within *their* boundaries. The point is that the ecological facts of life demonstrate a powerful inextricability in the utilization of natural resources. If we wish to cope intelligently with the use of resources, we must focus attention on the nature and degree to which the consequences of any use are disseminated across property, state, and even national boundaries. The law relating to property rights and takings of property ought to begin to reflect this knowledge.

II. Public Rights and a New Law of Takings

It remains to determine the consequences for the law of takings of recognizing the interconnectedness of property uses. It was noted above that in many circumstances a particular private property use generates far-reaching effects for other property users. When these effects fall on discrete property-users in substantial degree, the law has responded to the conflict somewhat by recognizing private rights of action such as nuisance. One characteristic of external effects as they have been illustrated above, however, is that they often fall quite broadly, affecting a large number of potential claimants, each in relatively small amounts. While these effects might be cognizable if they reached one or a few property owners, the effects of strip mining may, for example, be too broadly felt for any particular litigant to come forward. An important question is whether these costs should be allowed to remain where they fall, or whether instead the interests which are diffusely held should be recognized and advanced in the form of "public rights."

At present the idea that public rights can prevail over private property rights appears in the law only sporadically, as in navigation servitude, public nuisance and the public trust doctrines.[16] Perhaps

16. To be sure, certain public rights, such as the navigation servitude, have been long and openly recognized. United States v. Chandler Dunbar Co., 229 U.S. 53, 62 (1913). Public nuisance and zoning laws, too, incorporate some conception of public rights. *See* note 7 *supra;* W. PROSSER, *supra* note 11, § 88. But the idea is certainly a limited and underdeveloped one in our legal system, as compared with the concept strength of private property rights. *See* Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention,* 68 MICH. L. REV. 471 (1970) [hereinafter cited as *The Public Trust Doctrine*]; Wilkes, *supra* note 4, at 153-54. In referring to public rights, I mean something much broader than mere title-holding by a public body. *See* Note, *The Sovereign's Duty to Compensate for the Appropriation of Public Property,* 67

the closest the courts have come to an explicit recognition of public rights of the kind and magnitude suggested here is a statement by Justice Holmes in *Erie R.R. v. Board of Public Utility Commissioners.* Though Holmes may be criticized for resolving the conflict between private and public rights without sufficient evaluation, his recognition that there exist public rights which may prevail over private interests is notable:

> Grade crossings call for a necessary adjustment of two conflicting interests—that of the public using the streets and that of the railroads and the public using them. Generically the streets represent the more important interest of the two . . . . Being places to which the public is invited and that it necessarily frequents, the State . . . has a constitutional right to insist that they shall not be made dangerous to the public, whatever may be the cost to the parties introducing the danger . . . It is said that if the same requirement were made for the other grade crossings of the road [the railroad] would soon be bankrupt. That the states might be so foolish as to kill a goose that lays golden eggs for them, has no bearing on their constitutional rights. If it reasonably can be said that safety requires the change it is for them to say whether they will insist upon it, and neither prospective bankruptcy nor engagement in interstate commerce can take away this fundamental right of the sovereign of the soil.[17]

The notion that public rights may be vindicated without compulsory compensation, however, has not been widely held. Far more prevalent is the conventional view that any governmental regulation that makes a private right essentially worthless is a taking of property for which compensation must be paid.[18] With the exception of the

COLUM. L. REV. 1083 (1967); Note, *Just Compensation and the Public Condemnee*, 75 YALE L.J. 1053 (1966).

In general, we do not conceive of the public as a property owner competing with private owners for an accommodation of equal, conflicting claims. The wetlands cases, cited note 4 *supra*, illustrate the general attitude.

One finds an insensitivity to diffuse claims, or public rights, even in articles as thoughtful as Professor Michelman's, *supra* note 2, at 1181, 1203, 1219-20, 1244. What is the "distribution" as to which "permanence," *id.* at 1203, is considered desirable, or what are the "outstanding expectations," *id.* at 1244, in the wetlands cases? I think Professor Michelman and I join issue on the question of how my conception of diffuse claims of right—as equal in status to conventional private property—are to be treated under the theory set out in his article, *see id.* at 1236-44.

17. 254 U.S. 394, 410-11 (1921). Except for the notion that the railroad "introduced" the danger, Holmes' statement is quite consistent with the theory advanced in this article.

18. *See* cases cited in note 4 *supra*. It is not easy to square what Holmes said in the *Erie R.R.* case with what he said in Pennsylvania Coal v. Mahon, 260 U.S. 393 (1922). Though perhaps he simply found the conflicting claim insufficiently important to prevail in the latter case, the opinion hardly makes this clear, and that decision seems properly remembered for its emphasis on the idea that the right to profit is inherent in the very existence of a property right.

navigation servitude doctrine,[19] public rights are usually recognized only insofar as it is "economically feasible" for private owners who come into conflict with them to conform. This, for example, has been the general experience with the public right to clean air and water.[20]

An example is provided by the situation in which one owns low lying land which serves, in its natural state, as a flood control reservoir. Under conventional property law, the owner would have a property right to drain, fill and develop this land even if that activity created serious flood control problems for a large number of persons below him. If the public wishes to retain his land as a natural reservoir, that right must be purchased from him, for it is not thought that there is any public right in protection against flooding.[21] Under the view proposed here, the lower owners cumulatively should be treated no differently than the individual lower owner, though they speak as members of the diffuse public rather than as conventional property owners.[22] If two

19. *See, e.g.,* Colberg, Inc. v. California, 67 Cal.2d 408, 432 P.2d 3, 62 Cal. Rptr. 401 (1967).

20. The situation is not completely clear. Factories are occasionally closed down, but in circumstances where the owner probably could have complied with the restriction and still stayed in business. *See, e.g.,* United States v. Bishop Processing Co., 423 F.2d 469 (4th Cir. 1970); City of Miami v. City of Coral Gables, 240 So.2d 499 (Fla. Dist. Ct. App. 1970); Maryland v. Galaxy Chemical, 2 BNA ENV. REP. CASES 1199, No. 1921-13 (Cecil County Cir. Ct. Jan. 26, 1971); City of New Orleans v. Degelos Bros. Grain Corp., 248 La. 363, 175 So.2d 351 (La. Ct. App.), *writ of review refused,* 248 La. 363, 178 So.2d 655 (1965), *cert. denied,* 384 U.S. 905 (1966). Air and water pollution laws are almost always administered as if they incorporated a requirement of economic feasibility. The language of statutes varies widely, but some such provision is usually included. *Compare* Federal Water Pollution Control Act, 33 U.S.C. § 1160(h) (1970) ("economic feasibility"); Federal Clean Air Amendments of 1970, 42 U.S.C. § 1857 c-6(a)(1) (1970) ("best system of emissions reduction which [taking into account the cost of achieving such reduction] . . . has been adequately demonstrated."); 42 U.S.C. § 1857 c-7(c)(2) (1970) ("technology . . . available" for control of hazardous air pollutants). Mich. Air Pollution Act, MICH. COMP. LAWS ANN. § 336.31 (1967) (". . . shall grant a variance . . . [if] compliance would constitute an undue hardship and would be out of proportion to the benefits to be obtained thereby." However, "[a] variance shall not be granted . . . where the person . . . is causing air pollution which is injurious to the public health.")

The common law analogy is illustrated by Folmar v. Elliot Coal Mining Co., 441 Pa. 592, 596, 272 A.2d 910, 912-13 (1971): "An actor's conduct is unreasonable . . . unless the utility of his conduct outweighs the gravity of the harm . . . . [T]he actor's conduct lacks utility if it is economically and technically possible to correct the harm and such steps are not taken." *But see* Mitchell v. Hines, 305 Mich. 296, 302, 9 N.W.2d 547, 550 (1943); W. PROSSER, *supra* note 11, at 583-86.

21. *E.g.,* Dooley v. Town Plan & Zoning Comm'n, 151 Conn. 304, 197 A.2d 770 (1964).

22. The change of view between this and my former article, Sax, *supra* note 2, is illustrated by Morris County Land Improvement Co. v. Township of Parsippany-Troy Hills, 40 N.J. 539, 193 A.2d 232 (1963).

Owners of undeveloped land, valuable as a wildlife sanctuary and as a water retention area, controlling drainage in the neighborhood, desired to develop their land for industrial use. Zoning laws were passed that required the land to be retained in its original condition, and the owners sought compensation on the ground that their land had been taken. I previously took the view that compensation ought to be paid, asserting that the restriction was in effect an acquisition by the township of an addition to its

property owners have adjoining tracts, one of which has traditionally absorbed drainage water, the upper owner is not necessarily entitled to drain that water to the lower land. Analogously, one should be prepared to recognize a public interest in flood control equal in stature to the private property owner's interests. In this way, the conflict can be resolved so as to maximize net benefits from the resource network in question, and either claimant might constitutionally be required to yield without receiving compensation.

The same argument can be made on behalf of less conventional interests. Thus, prohibition of the owner of forested lands from cutting his trees for commercial lumbering or from cutting them except under certain restraints could be asserted as a public right, equal in competitive stature to the landowner's interest in marketing his trees. In 1949 the Supreme Court of Washington vindicated just such a right by upholding a statute requiring those engaged in commercial logging operations to leave a certain number of trees standing for reseeding and restocking purposes.[23] "Cut and run" lumbering practices, the court noted, denuded hillsides, thereby increasing the dangers from floods and contributing to costly soil erosion,[24] in addition to endangering the economic standing of the state by destroying forest lands that could serve as a permanent source of employment for the state's citizens.

Noting that the state can "use reasonable means to safeguard the economic structure upon which the good of all depends,"[25] the court

park and water supply system, indistinguishable from a situation in which the township had purchased title to the land. I now see the error of that analysis.

The case was one of conflict between the land company and a rather diverse group of users and owners dependent upon the land sought to be developed. The conflict is identical to that discussed here in respect to the strip miner and the lower landowner. Each class of users is making demands upon the other as to use of the other party's land for the protection or development of his own. The land company in the *Parsippany-Troy Hills* case ought to have no more right, as such, to fill and develop its marshy land than any private landowner has to collect the water draining over his land in a diffuse fashion, and to dump it in concentrated form on the owner below. The regulation should not be viewed as a governmental acquisition. To be sure, the public benefits from the restriction imposed, but the beneficiary class threatened by the proposed development need not be viewed as "taking" something they did not previously have by right. Rather, whether the competing owners are a small concentrated group of landowners or a diffuse public, they too should be viewed as having rights entitled to compete equally in a benefit analysis of the resource network at issue.

This is not to say that one should have an absolute right against upper drainage though that may be the law in some places. Rather there should be subjection of both parties to a neutral benefit analysis. *See* Keys v. Romley, 64 Cal.2d 396, 412 P.2d 529, 50 Cal. Rptr. 273 (1966).

23. State v. Dexter, 32 Wash.2d 551, 202 P.2d 906 (1949), *aff'd per curiam*, 338 U.S. 863 (1949). *Compare* Allen v. McClellan, 75 N.M. 400, 405 P.2d 405 (1965) (restriction of hunting on private land).

24. 32 Wash.2d at 555-56, 202 P.2d at 908 (1949).

25. *Id.* at 556-57, 202 P.2d 908 (1949). By adding "and biological" to the last passage quoted, the decision could serve perfectly as a statement of environmental principle today.

held that these public interests were entitled to be weighed against the landowner's interest. The concept of public rights set out in the Washington case was not limited to some defined physical entity, but included more widespread interests in flooding, erosion, and the maintenance of those resources found necessary to sustain the well-being of the community. No less a public right might be asserted in the maintenance of a scenic amenity, or in the preservation of historically and scientifically valuable areas.[26]

The view proposed here would recognize diffusely-held claims as public rights, entitled to equal consideration in legislative or judicial resolution of conflicting claims to the common resource base, without regard to the manner in which they are held. Thus, if the strip miner can be required to yield to a single lower landowner without compensation under a relative benefit analysis—as in the model of private nuisance law[27]—he ought equally to be required to yield to more diffusely-held interests in the affected river without compulsory compensation.

The same observation may be applied to the wetlands cases.[28] A pristine example of the inextricability of property interests is marine life that breeds along the shallow wetlands shorelines, depending upon maintenance of the shoreline habitat. The wetlands owner thus does not use only his own tract, but demands, as a condition of developing his property, that the ocean users tolerate a change in their use of the ocean. Similarly, the ocean users demand that the wetlands owner restrict his use. Most courts view the prohibition imposed upon the wetlands owner as a taking of property by the public, necessitating public purchase of those lands if they are to be preserved. The ques-

26. This problem has been recognized even in the context of conventional compensation law, where issues such as loss of view have been raised. Note, *Eminent Domain —Loss of View as an Element of Damages in Eminent Domain Proceedings,* 19 ALA. L. REV. 202 (1966); Spies & McCoid, *Recovery of Consequential Damages in Eminent Domain,* 48 VA. L. REV. 437 (1962). *See* Defenders of Florissant v. Park Land Co., No. C-1539 (D. Colo. July 9, 1969), *rev'd,* No. 340-69 (10th Cir. Aug. 10, 1969). Suit was brought to enjoin the private owner of land containing unique ancient fossil beds from bulldozing them as a prelude to residential development.

27. *E.g.,* Mitchell v. Hines, 305 Mich. 296, 302, 9 N.W.2d 547, 550 (1943). *See generally* W. PROSSER, *supra* note 11, § 90.

28. The cases are cited at note 4 *supra.* In essence the laws prohibit those owning low lying land along the shore of the ocean from filling and developing their lands without obtaining governmental permission, and they allow "approval [to] be withheld when . . . the proposal would . . . be damaging to the conservation of public or private water supplies or of wildlife or freshwater, estuarine or marine fisheries." ME. REV. STAT. ANN. tit. 12, § 4702 (Supp. 1970). *See also* FLA. STAT. ANN., § 253.123(2)(d) (Supp. 1970); MASS. GEN. LAWS ch. 130, § 27A (Supp. 1970) and Old Lyme Zoning Regulations, § 3.17, Sept. 28, 1968 (held unconstitutional in Bartlett v. Zoning Commission, 161 Conn. 24, 282 A.2d 907 (1971)). Similar statutory provisions in other states include CONN. GEN. STAT. ANN. § 22-7m (Supp. 1971); MD. ANN. CODE art. 66C, §§ 721, 727 (1970).

tion raised here is why, if he wishes to impose a restriction on the use of the oceans to promote his activities on his own land, the wetlands owner ought not be compelled to buy *that* right?

The cases have not been viewed in this way, it appears, only because the ocean is not owned as conventional private property, but is in essence owned by the public at large. Though cumulatively the public's interest may be very great, the interest of each member of the public is typically small. By ignoring the cumulative right, each person having an interest in the use of the ocean is treated not as a legitimate interest-holder but as an interloper, and is forced to pay for the protection of his interest. This result is the consequence of our traditional inability to recognize public rights, *i.e.*, to see that claims of right to use resources ought not to be discriminated against simply because they are held in one, rather than another, conventional form of ownership.

Current takings law assumes that when the government restricts the use of private property, the public has acquired something to which it did not previously have a right. While scrupulously preventing total loss to the particular owner, it often imposes that loss upon diffusely-held interests, such as those affected by drainage and erosion from a mining operation or those dependent upon the marine resources impaired by a wetlands filling and development project. The constitutional takings provision, it is assumed, assures compensation when government thus restrains the profit-making capacity of private property owners in favor of a more general public claim. To the extent that the courts adopt this perspective, they deny recognition of extant public rights.

The prevailing view of compensation law has a considerable practical effect on resource allocation, since the prospect of having to pay compensation is a constraint on government regulation of private property. Though it may be desirable, in terms of maximizing the net product of the aggregate resource base, to undertake a particular restriction on the use of private property, compelled compensation may deter a legislature from enacting the restriction. Notice that under current law, a failure to undertake restrictions may generate costs for diffuse interest-holders for which no compensation must be paid. Requiring compensation when a conflict among competing users is resolved in favor of diffuse interest-holders, and not when it is resolved against them, inevitably skews the political resolution of conflicts over resource use and discriminates against public rights.

Furthermore, a system which compels compensation in the event

of severe diminution in value ignores the possible incentive function of leaving costs on private resource users. The question of allocating costs of conflict among competing resource users will be discussed below; for now it is sufficient to note that an important criterion in resource allocation is minimizing the costs of future conflict, and this goal is best served by a policy free to allocate costs on the party best equipped to avoid such conflict. To bring under the takings clause governmental restrictions designed to mediate between conflicting interests is to introduce a doctrinal rigidity inconsistent with the kind of planning essential to optimal resource allocation.

III. What Remains of Private Property?

An important observation to be made about the analysis set out thus far is that it does *not* obliterate the distinction between mine and thine that lies at the heart of a system of private property. Rather, it notes that the simplistic way in which that distinction has been made under existing property law, attending solely to the physical boundaries of property, is insufficient. It does not make less valid a demand for compensation when government restricts uses that do not have spillover effects.

The purpose of the analysis stated above is not to permit a redistribution of land to achieve the most socially beneficial use, but only to put competing resource-users in a position of equality when each of them seeks to make a use that involves some imposition (spillover) on his neighbors, and those demands are in conflict. In such cases, and such cases only, there is a conflict in which neither is a priori entitled to prevail, because neither claimant has any more right to impose on his neighbor than his neighbor does on him. Only in such situations may one use be curtailed by the government without triggering the takings clause.

It thus becomes necessary to explain what is meant by a use of property that has a spillover or inextricable effect on other property. The first and most obvious example of this situation is that in which my use of my land results in a physical restriction of the uses that may be made of other land, such as the mining of coal which results in drainage on lower-lying land.

A second type of spillover effect is the use of a common to which another landowner has an equal right, such as the dumping of water from industrial use into a stream upon which a landowner downstream depends for water supply. While a stream is the most obvious example

of a common, it is by no means the only one. The ambient air is also a common of sorts. Thus putting smoke or noise or light into the air is the use of a common, and no use of land that has the effect of burdening this common can be claimed as a constitutionally insulated property right. Conversely, to use land in a way that demands silence, darkness or the absence of smoke on one's land is similarly to burden the common in air that belongs equally to one's neighbor and cannot be a matter of constitutional right. The water overlying wetlands that serves as a breeding ground for the adjacent ocean should also be viewed as a common as to conflicting demands of ocean users and the owner of the wetlands.

In a somewhat less conventional sense, a visual prospect is also a common. Thus, if the landscape as a visual prospect is not confinable to any single tract of land, no single landowner is entitled to dominate it. The effects of a vast tower built on a single tract spill over visually onto other lands just as smoke or noise does. Conversely, a majestic mountain or a forest generates positive spillover effects on nearby lands, and no owner has an unqualified constitutional right to destroy the mountain.

There is yet a third, less physical, kind of spillover effect. It is a use of property that affects the health or well-being of others, such as the treatment of land with toxic substances that results in the death of wildlife, or a use of property that imposes an affirmative obligation on the community, such as residential development in a remote area that would require the furnishing of police protection.

Any demand of a right to use property that has spillover effects in any of the three senses described above may constitutionally be restrained, however severe the economic loss on the property owner, without any compensation being required; for each of the competing interests that would be adversely affected by such uses has, a priori, an equal right to be free of such burdens.

Having thus defined spillover uses, it is essential to observe that any uses of property that do not involve such spillover effects *are* constitutionally entitled to protection, and may not be restricted without the payment of compensation. Notably, this distinction prevents a use of property from being restricted without compensation simply because a neighboring demand would provide a greater net benefit to the society.

The distinction may be illustrated by referring again to the strip mining-lower residence example. A legislature could, without compensation, prohibit mining resulting in drainage to protect the lower

residences or it could prohibit residential uses that required freedom from drainage, since each of these uses imposes a spillover demand on the neighboring land. Assuming that mining were prohibited, however, the legislature could not require the mine land to be used as a parking lot for the cars of the lower residents, without compensation, regardless of the need for additional parking space. For to require the miner to submit to parking on his land without compensation would require him to forego profit from a use—such as farming, forestry or, indeed, operation of a private parking lot—that could be carried out by him without imposing spillover demands on uses the lower owners could make on their land. Assuming that uses can be made of the upper land which do not physically restrict a neighbor, burden a common, impose on the community an affirmative burden of providing public services, or adversely affect some interest in health or well-being (though of course they may adversely affect the usefulness of the lower land which badly needs additional parking space), the landowner has a constitutional right to make those uses. If he is restricted from doing so, he is entitled to receive as compensation the value of the highest and best use that could be made *without producing spillover effects.* If the legislature has restricted mining to prevent erosion, the landowner is not entitled to any special value the land may have as a coal mining site.

While the land described above would be physically invaded by a parking lot, note that the right to compensation does not arise simply because of that invasion. One's land may be invaded, as by a governmentally tolerated influx of noise or smoke, without triggering the takings clause, because both of the competing uses in question (*e.g.*, residential as against industrial) put inconsistent demands on the other, and both are a priori equal in status. Either use may be restricted by the government without compensation.

Nor is a landowner better situated to receive compensation simply because the *surface* of his land, rather than the common in air above it, is invaded, for one may be required to tolerate a physical invasion of the surface without being constitutionally entitled to compensation (as where strip mining is permitted and water drainage over the lower lying land occurs). Similarly, one could constitutionally be prohibited from fencing his land, if that restriction were required to permit the free passage of wildlife, which could be viewed as a common resource not unlike a flowing river.

These examples are suggested only to emphasize that the traditional indicia of property right violation do not determine the question of

compensation under the theory proposed here. The only appropriate question in determining whether or not compensation is due is whether an owner is being prohibited from making a use of his land that has no conflict-creating spillover effects. If the answer is affirmative, compensation is due for the value of land for that use.

The case of an airport next to residential housing exemplifies at least three variants of competing use problems that may help to clarify the analysis.

(1) A landowner may be in conflict with the airport over the desire to build a tall structure that interferes with flights to and from the airport; (2) he may wish to maintain a residence that will be disturbed by noise from the airport; (3) he may wish to farm his land while the airport desires an extra runway on his tract.

The first situation involves conflicting claims to the use of a common, the ambient air, to which both air travellers and landowners below a priori have an equal right of use. A resolution of that conflict should be possible in favor of either party without compelling payment of compensation to the losing party. The competing claimants here are in a situation identical to that of conflicting claimants competing for uses of the ocean. Whether a common exists ought to be a descriptive question—that is, it ought to be decided by a determination of whether a resource such as the ambient air is inextricably intertwined with the use of various properties. On this basis, visual prospects and the water overlying wetlands ought to be identified as commons. Nonetheless, it must be recognized that the proper identification may be impeded to some extent by historical definitions. For example, historically the ambient air above land was defined as private property under the *ad coelum* rule.[29] Fortunately, in this instance the traditional definition has already given way to changing historical facts (the invention of the airplane), and the definition has been revised to recognize a common.[30] In the same way, recently recognized ecological knowledge should permit redefinition in other situations, such as that of the wetlands.

The noise problem in the airport-residence example presents a different version of the spillover-inextricability situation. Here each of the conflicting uses, residence and airport, demands the imposition of

29. "It is ancient doctrine that at common law ownership of the land extended to the periphery of the universe—*Cujus est solum ejus est usque ad coelum.*" United States v. Causby, 328 U.S. 256, 260-61 (1946) (citations omitted).

30. "But that doctrine has no place in the modern world. The air is a public highway, as Congress has declared." *Id.* at 261.

a form of servitude on the other. The airport requires the adjacent land to serve as a receptacle for noise, and the resident requires the airport to be held as a zone of quiet. Neither desired use can be effectuated without burdening the other. Because of this conflict between the uses each owner desires to make upon his tract, the conflict would be amenable to resolution in favor of either without the loser being entitled to compensation, even though the loser's land may be rendered worthless.

This brings us to the limiting case in which the airport wishes to expand by placing a runway on its neighbor's land, and the neighbor wishes to use that land for farming. Here the question is whether the desire to use one's land for farming would necessarily infringe uses of the airport land, or whether it involves conflict over the use of some common. It seems clear that in the ordinary case it does neither. Farming on adjacent land may be perfectly compatible with any activity carried on by the airport on its land, since ordinarily farming does not require quietude, nor does it burden any common area. Neither does it affect the health of others or impose any demand for public services that is not generally being made available. In short, restricting the farmer from farming goes beyond merely terminating a use with spillover effects, and therefore the farmer should be constitutionally entitled to farm, or to be paid for the losses incurred if farming is prohibited.

Note that nothing in what has just been said suggests that farming is, of itself, constitutionally protected. The famous case of *Miller v. Schoene*,[31] where neighboring landowners grew apple and cedar trees, the cedar trees giving rise to a pest that destroyed the apple trees, is a perfect example of an agricultural use that has spillover effects, and was properly restrained without the payment of compensation. Thus, in the example above, if farming resulted in erosion problems for neighboring land, impairing the maintenance of the airfield, or if it attracted birds that then congregated near the airfield and created an impediment to flying (a version of use of the common), farming could constitutionally be prohibited without compensation.

Why, one might ask, is the runway case, where I have said compensation is due, different from the other examples given? Might it be said that farming imposes a burden on the operation of the airport

31. 276 U.S. 272 (1928). For a discussion of this case from a perspective similar to that proposed here, see Samuels, *Interrelations Between Legal and Economic Processes*, 14 J. LAW & ECON. 435 (1971).

in that the airport cannot properly function without additional runways? I think not. In the no-compensation examples, the use of one owner's property within his domain in and of itself restricts desired uses of another owner's property within that owner's domain—there is a conflict grounded in inextricable demands. In the runway example, the farmer's use within his domain adversely affects only the airport's ability to undertake a particular use beyond its domain.

This is no trivial distinction. Nothing that has been said in this article suggests that a property owner should be subject to restrictions merely because another owner would benefit from use of the resources within his neighbor's ownership, or because the society would be advantaged by such a redistribution. The problem to which the previous analysis addressed itself was the case in which constitutional protection of the right of one owner to make certain uses of his own property was unfair, because such protection in and of itself denied another the right to make uses of equal stature on his property or a common—that is, a situation of inextricability.[32] The purpose of the analysis is thus to reorient constitutional law to a position of fairness as between such equally-situated parties, each of whom makes similar demands upon the other in the form of mutually exclusive spillover uses of their domain. It is in this respect that the runway case significantly differs from the noise or overflight cases cited above. From a constitutional perspective, it is essential to recognize this distinction

32. Perhaps the one situation that cannot verbally be fitted into the test of a spillover use as one affecting another owner's uses "on" his land, is the demand for an easement of access. In such a case the owner seeking access is not asserting a right of use on his land, but rather the opportunity to reach his land. I would recognize a claim to an easement of necessity, even against an owner other than the grantor of the land, *see* 3 R. POWELL, REAL PROPERTY § 410 (1970), and grant it without requiring compensation, because it is necessary in order to put the claimant into a position to compete with his neighbors to make uses of the same order as theirs. Such a demand is consistent with the theory presented here that the law of takings should be revised in order to put differing property owners into relative positions of equality. Access might be viewed as a prior right that must be recognized in order to get one into a posture from which he can compete. *But see* Bolsa Land Co. v. Burdick, 151 Cal. 254, 259, 90 P. 532, 534 (1907).

As indicated below, such a right should only be recognized where the claim of access must be made against a particular owner, rather than against any one of a number of owners who could equally provide access through their land. P. 169 *infra*. This limitation is necessary to maintain the equal protection element of taking law, preventing discriminatory restriction of any one of a number of identically situated owners. Thus, in the ordinary case, a landowner abutting the shore of the ocean could not be required to provide access across his land, without receiving compensation, because there is no reason to choose his land for an easement rather than the land of any one of a number of similarly situated abutting landowners. However, access could, without compensation, be required of one owner who holds all the abutting land, or of all shoreland owners. It is interesting to note that in 1648 Massachusetts gave the right to the public to pass over uncultivated private property in order to reach, and use, Great Ponds. Smith, *The Great Pond Ordinance—Collectivism in Northern New England*, 30 B.U.L. REV. 178, 183 (1950).

as one designed to promote equality of treatment among competing resource-users, and not as an attempt to wipe out the distinction between mine and thine that is the essence of a system of private property.

Having discussed these examples in the context of disputes between "neighbors," it might be helpful to illustrate the application of the theory in a case where the contending parties are a private property owner and a more general public. Assume a situation in which there is, on a long coastline, only a single bay suitable for naval purposes, and the navy wishes to have the use of the bay for its ships. Assume, furthermore, that the bay cannot be used for both naval and civilian ships. May a law be constitutionally enacted providing, without compensation, that the bay is closed to all civilian ships? It may, for the bay, being a common, may be allocated to one, rather than another, competing interest. Indeed, such a law would be similar to a requirement that a certain body of water be used for sport fishing only, excluding all commercial fishermen.

May the navy, having ships in the bay, store supplies on the shoreland, held in private ownership, without payment of compensation? It may not, for the storage of supplies, however necessary and desirable it may be to enhance the usefulness of the bay to the navy, is not itself a use of the common bay. The landowner who wishes to have a residence or farm on his land adjacent to the bay is not making any use of *his* land that impinges upon use of the common, the bay. Here we must focus on the use the landowner wishes to make of his land, and ask whether that use itself imposes a burden on those uses the navy wishes to make of the bay. In the ordinary case, it does not.

Should the navy wish to use the bay as a gunnery range, rather than a harbor, they could constitutionally do so, even though the result would be to make the shoreland uninhabitable. Such a situation would be identical in theory to that of the resident near the airport who is required to tolerate noise from airplanes.

Note that in the gunnery range example, farming on the shoreland *might* be a spillover use because it might require a servitude upon an a priori legitimate use of the common by the navy. To carry the analysis a step farther, let us assume that the navy wishes both to make use of the bay as a gunnery range and to store supplies on the shoreland. In such a case, if it is determined that the gunnery use is preferred to the shore owner's uses, the shore owner must submit without compensation. The next question is whether the landowner can make use of the land in a manner consistent with the gunnery range restriction.

If the land could be farmed or used as a junkyard without impinging on the gunnery range, the owner is entitled to make that use or recover its value. Of course the fact that the navy could make use of the land for storage suggests there will be some market for the land as a storage site, and this would be the value to which the owner is entitled.

Let us assume, once the gunnery program is established, that the land has no use for agriculture or storage, even for the navy. Its only value is as a scientific study site of the effects of bombardment. If there is a market value to land used in this way, the landowner is entitled to it, and is entitled to exclude[33] the navy from study on his land

33. Exclusive possession, as indicated earlier, is not the key to compensability. It is simply that in some cases, as with farming, protecting the owner's *use* is sufficient to protect his right, since his use necessarily excludes all others. In other situations, as where land is a scientific site and can simultaneously be studied by many others, the only way to protect the owner's property interest, as defined above, is to assert a right to exclude others from entry for the protected purpose, *e.g.*, for study.

This approach suggests a solution to the well known case of Vernon Park Realty, Inc. v. City of Mount Vernon, 307 N.Y. 493, 121 N.E.2d 517 (1954). The landowner wished to develop his land, presently a parking lot, as a shopping center, for which it would have great value. The land was then zoned for uses which limited it to continuation as a parking lot. The zoning decision could presumably be justified as resolution of a conflict between the interest in avoiding increased congestion and the interest of the owner in developing his land. Development of the land would produce spillover in the form of congestion elsewhere. Thus the owner is entitled to no compensation for the reduction in value resulting from the zoning.

He could under this hypothesis, however, use the land for parking without producing spillover effects on other land users. He is thus entitled to exclude anyone from interfering with his use of the land for this purpose. Should the city want the land as a public parking lot or storage site, they must pay the owner for the value it has for non-spillover uses, in this case its value as a parking lot or as open space.

If a city zones the land to prohibit buildings and then occupies it as a public parking lot, paying its value only as undeveloped land, but once in possession builds a public office building on the site, the owner would be entitled to recover the land's full value as an office building, for this sequence of events would demonstrate that the congestion issue was fraudulent, and that use of the land for building was not inconsistent with competing uses. To avoid such government disingenuity, one might permit the compensation proceeding to be reopened for a reasonable period, perhaps five years, during which the landowner could recover for the value of the land for uses he could have made consistent with competing claims, as indicated by the uses to which it is actually put.

A sufficiently long reopening period should deter almost all such manipulation. It must be noted, however, that over the long run this is a problem faced even under conventional compensation law, for government, when it condemns land now, pays compensation predicated upon present zoning restrictions with an exception only for those changes in zoning that are shown to be reasonably probable within the near future. Long Beach H.S. Dist. v. Stewart, 30 Cal.2d 763, 185 P.2d 585 (1947); Annot., 9 A.L.R.3d 291 (1966). It is always possible at some subsequent date that zoning will be changed to permit more intensive use by the condemnor than was the case at the time the land was taken.

A variant situation arises where government restricts certain activity to obtain the owner's equipment for which there is no private market. In such a situation, compensation would be due for the full value of the equipment, undiscounted by the fact of the government being the only purchaser. Assuming the restraint itself were legitimate, the owner could not recover for the lost opportunity to profit. *See* United States v. Central Eureka Mining Co., 357 U.S. 155 (1958); United States v. Cors, 337 U.S. 325 (1949).

Similarly, despite the navigation servitude tradition, where government denies a

unless they pay that price. If there is no established market, an effort will have to be made to find an analogy, as is often the case in condemnation law with respect to unique properties.

No doubt these distinctions will seem shocking to some readers, and mechanical to others. But if one can put aside both the idea that ownership of property necessarily implies a government guarantee to profit from it when and as the owner in his sole discretion wishes, and also the idea that the rights of property can be identified merely by looking to effects within the boundary lines of a single owner, the results suggested above may appear less troublesome. While it must seem odd that one can constitutionally be required, in effect, to evacuate his land in order to accommodate a neighbor's use, is it less odd to think that a neighbor must maintain silence to accommodate an adjoining landowner who maintains a residence, where silence destroys most economically practical present uses for the land adjoining the residence? Indeed, how can we say that constitutionally a bombing range is necessarily a less legitimate use of land than a residence? If the alternative is to require the navy to buy the adjacent land as a noise sink, it is not less reasonable to demand that the resident purchase a buffer area of quiet. This, however, brings us full circle, to the implications of the inextricability analysis with which this article began.[34]

Beyond the limits of the inextricability analysis, there remains one additional category of situations in which compensation must continue to be constitutionally required: the protection of property owners against governmental discrimination. The rule against discrimination, discussed in my previous article,[35] operates to prevent the government, when accommodation of conflicting interests could be achieved by restraining any one of a number of similarly situated parties, from selecting the owner upon whom the loss is to fall. This might be deemed the equal protection dimension of compensation law.

Let us assume, for example, that the legislature decides there should

riparian owner the opportunity to develop his land as a power site and then builds a public power facility on the land, recovery of the land's value as a power site should be permitted—though no compensation should be given if government simply decides that the land cannot be developed as a power site. *See* United States v. Rands, 389 U.S. 121 (1967); United States v. Virginia Electric & Power Co., 365 U.S. 624 (1961); United States v. Grand River Dam Authority, 363 U.S. 229, 236 (1960).

34. This would also constitute a return to the noxious use approach, dealt with in an earlier article. Sax, *supra* note 2, at 48-50. Under this theory, the uses which can be destroyed without compensation are those that are noxious, or wrongful, or harmful in some sense.

35. *Id.* at 64-65.

be a one-quarter acre vest pocket park on every ten acres of center-city land. Assume further that there is no observable reason to impose the open space obligations on any one, rather than another, owner of indistinguishable quarter-acres within the area. Because it is a requirement of the compulsory accommodation process that government always be able to justify the imposition of a burden on the particular property owner, compensation in this case would be required. On the other hand, where the government is regulating general classes of property users such as strip miners and nearby landowners, or ocean users and wetlands owners, or where the scope of regulation is defensibly distinct, as in the identification of the strip mining problem as a function of the slope of the lands, compensation is not required.[36]

The practical problem to be anticipated would arise when the government refuses to pay compensation, claiming certain uses to be distinguishable from other uses left unrestrained, while the affected landowners demand compensation, arguing that their uses are indistinguishable from those of other similarly situated users.[37] The problem is quite similar to that faced in the ordinary zoning process[38] where one who is left on one side of a limited commercial zone, rather than the other, may find his property values considerably diminished. At some point judicial rules must be devised to protect against arbitrary and discriminatory line drawing, as in rules against spot zoning.[39] The scope of judicial intervention in this process is likely to

36. *E.g.*, the Wild and Scenic Rivers Act, 16 U.S.C. § 1271 (1970), which designates eight rivers as "Wild and Scenic" rivers, and empowers the Departments of Agriculture and Interior to prevent nearby development inconsistent with the designation. *See* Asmussen & Bouchard, *Wild and Scenic Rivers: Private Rights and Public Goods*, in CONGRESS AND THE ENVIRONMENT 163 (R. Cooley & G. Wandesforde-Smith eds. 1970). *See also* 16 U.S.C. §§ 1243 *et seq.* (1970) which designates the initial units of a national trails system protected from development. Similarly, if within a particular area, half the identical plots of land were to be developed and half maintained as open space, those asked to refrain from development clearly ought to be paid. The degree of development that has already taken place on the land has usually been thought a rational basis for distinction. *E.g.*, Knight v. Grimes, 80 S.D. 517, 127 N.W.2d 708 (1964); Southwest Engineering Co. v. Ernst, 79 Ariz. 403, 291 P.2d 764 (1955).

37. This was dramatically demonstrated in the debate over the creation of a Redwoods National Park several years ago. While distinctions could be made as to the location, age, and size of timber on the lands, there remained considerable disagreement as to the size of the park. Within broad outlines, fairly clear distinctions could no doubt be made. In the inevitable twilight zone, the potential of judicial inquiry can create useful pressures to draw boundary lines with respect to observable natural boundaries, such as topological features, water courses, transportation corridors and population features. Wohlenberg, *Economics, Aesthetics and the Saving of the Redwoods*, in CONGRESS AND THE ENVIRONMENT, *supra* note 36, at 83.

38. Berman v. Parker, 348 U.S. 26, 34-35 (1954); Village of Euclid v. Ambler Realty Co., 272 U.S. 365, 388-89 (1926).

39. *See, e.g.*, Cassel v. Mayor and City Council of Baltimore, 195 Md. 348, 73 A.2d 486 (1950); Pierce v. King County, 62 Wash.2d 324, 382 P.2d 628 (1963). *See generally* 1 R. ANDERSON, AMERICAN LAW OF ZONING §§ 5.04, 5.05 (1968).

be modest, and the ambit of opportunity for dubious governmental activity necessarily large. It is in this area, therefore, that the most difficult cases in compensation law will be found.

Another problem raised by government action affecting property rights, stressed in my former article, is the risk of excessive zeal.[40] Simply stated, this is the problem of controlling the government's economic self-interest in resolving problems with the smallest possible outlay of tax funds. To the extent that government is vindicating extant public rights, as described above, its desire in general to avoid compensation is not problematic. The essence of a public rights, or public trust,[41] approach to the question of takings, should make clear that the government *should* vindicate the rights of taxpayers as a group as well as the rights of individual property owners. The issue of excessive zeal thus becomes the question of how well a balance is struck between diffusely-held claims and traditional property interests. While the role of courts in scrutinizing that balance will be minor,[42] the judiciary may intervene at the extremes to hold a resolution of competing claims to be so misguided as to be beyond the bounds of the police power.[43]

As a practical matter, the problem is less troublesome than might at first appear. The "public interest," even if abstractly viewed as somehow being superior to "private interests," will not routinely prevail over traditional private rights. There will be political checks on the decision-making process employed to resolve conflicting claims on the common resource base. In many cases there will be substantial numbers on both sides of an issue, demanding a principled determination from the decision-making body. An industrial interest which stands to lose from a particular property restriction will doubtless make its views known at least as clearly as those asserting diffuse claims. Given that diffuse claims are likely to be the novel and formerly unrepresented ones, and that those with a concentrated interest at stake can be expected to make their views known, it is not unreasonable to leave conflict resolution to the legislature.

If the legislative decision-making process is rational, the question will be resolved by a comparison of the relative benefits and detriments

A similar problem is raised in the context of political districting as a question of gerrymandering. *See* Gomillion v. Lightfoot, 364 U.S. 339 (1960).

40. Sax, *supra* note 2, at 65.
41. *See* Sax, *The Public Trust Doctrine*, *supra* note 16.
42. *See* note 53 *infra*.
43. *Id.*

which arise from various possible solutions, without regard to the identity of the parties or the manner in which the interests on either side of the controversy are structured. The assumption that the legislative decision-making process is rational in the sense of maximizing net benefits is a substantial one, and will be discussed further below. The question here, however, need not be whether the process is purely rational, but only whether the compulsory payment or nonpayment of compensation will make the process more rational. As was noted earlier, the current takings scheme introduces an irrationality by requiring compensation when the conflict resolution system imposes extreme economic harm on discrete users but not when analogous harm is placed on diffuse users.[44] The proposed scheme has the advantage of making competing interests doctrinally equal, leaving their accommodation to be decided as a matter of public policy rather than of inflexible legal rules.

IV. Conflict Accommodation

Underlying the foregoing discussion of takings and public rights is the idea that there exists some mechanism or set of mechanisms for resolving conflicting claims of resource users, and that this process of conflict accommodation is in some sense rational. Therefore, governmental regulations of the sort which champion the rights of diffuse interest-holders were said to represent not a "taking" of something the "public" never before had, but rather a resolution of conflicting claims of right.

The problem of how a legal system should resolve conflicting claims is, of course, enormous, but it may help to lay out some guidelines which follow from the earlier discussion of the nature of property and takings law. It is the main view of this article that the goal of a system which regulates property rights should be the maximization of the output of the entire resource base upon which competing claims of right are dependent, rather than maintenance of the profitability of individual parcels of property. As a rule of thumb, it may be said that the proper decision as to competing property uses which involve spillover effects is that which a rational single owner would make if he were responsible for the entire network of resources affected, and if the distribution of gains and losses among the parcels of his total holding were a matter of indifference to him.

44. *See* p. 157 *supra.*

To return to the example of strip mining, if one could earn $500 by building residences on the lower land while leaving the coal land as a natural area, and only $100 by mining the coal on the higher land while making the lower land useless, one would obviously forego coal mining. The fact that the land is held in separate ownerships ought to make no difference in determining appropriate use patterns, when desired uses with spillover effects are in conflict. Obviously, very few problems are this simple. Nor are the interests likely to be susceptible to any such exacting quantification. In the strip mining case, for example, one would want to look not only at the market value of the coal that could be produced, but also at the dependence of the community upon the mine for jobs and other benefits. Similarly, competing interests would include not only the immediate lower lands, but also the interests of other more distant landowners and water users. Not only are these values difficult to identify fully, but many of them must be impressionistically evaluated. The potential hazards to human health, adverse effects upon recreation, the value of amenities, and the effects of disruption and dislocation are not easily quantified.

On first reflection, the prospect of government undertaking such a net benefit analysis for all the property interests in conflict must seem horrifying in its potential complexity and cumbersomeness. It should be noted, however, that a good deal of such accommodation is presently carried out both by legislatures, in the case of zoning ordinances, and by courts, in the application of nuisance laws.

There are basically three ways in which conflicts among competing users of a common resource network can be resolved: (1) by private negotiation among the competitors themselves, in which money transfers are used to balance the losses and benefits to the satisfaction of the parties; (2) by legislative or administrative decision, as in the case of zoning laws which are subject to judicial review; and (3) by courts in cases of direct legal conflict.

A. *Private Negotiation*

The private negotiation model has influential supporters[45] and is very attractive in that it leaves to the parties, rather than any governmental entity, the extraordinarily difficult task of evaluating the numerous, complex and frequently unquantifiable values at stake in any conflict situation. Thus, where a coal mining operation is pro-

45. *See, e.g.*, Coase, *supra* note 9.

ducing only $100 of value and is destroying $500 of value in lower residential opportunities, the lower owners should perceive their interest in buying the right to close the coal mine, assuming that transaction costs are minimal. Moreover, insofar as the maximization of total net benefits is a principal goal of the property system, and neither party is viewed as having a constitutional right to use his property exactly when and as he wishes, it is constitutionally a matter of indifference whether the coal mines are closed by a transfer payment from the lower owners to the mine owner, or whether the mine owner bears the loss from a regulation closing his mine.[46]

While nothing in this article is antithetical to the use of private negotiation to effect the benefit analysis process, where very diverse interest groups are involved the substantiality of transaction costs in organizing a fully informed market suggests the inadequacy of reliance solely upon private negotiations.[47] It is therefore frequently necessary to invoke the authority of government.

While an agreement whereby lower landowners permit their land to be adversely affected by mining activity for a valuable consideration ought to be respected as between those parties,[48] such an agreement could not restrict the government's exercise of the police power since in any such accommodation the interests being considered would doubtless go beyond the contracting parties.[49]

46. While the placement of the costs of accommodation is a matter of indifference constitutionally, under the approach of this article it is not of indifference as a matter of policy. The problem with privately negotiated accommodations is that the party holding a dominant physical position would always be able to exact a payment from the other party to the controversy. As we shall see, mere physical position ought not to determine the cost allocation questions. *See* p. 177 *infra*. *Compare* Michelman, *supra* note 2, at 1180-81.

47. M. OLSON, JR., THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS (1965); Michelman, *supra* note 2, at 1174-76; Calabresi, *Transaction Costs, Resource Allocation and Liability Rules—A Comment*, 11 J.L. & ECON. 67 (1968).

48. *See* Stewart v. Chernicky, 439 Pa. 43, 266 A.2d 259 (1970).

49. Pennsylvania Coal Co. v. Mahon, 260 U.S. 393 (1922).

The proposed treatment of private contracts should also guide those situations in which government, as an owner, has sold a right of use in its property such as in the leasing of federal oil lands. No compensation would be constitutionally required for the loss of right to profit from oil drilling if the government later prohibited drilling. Inasmuch as the lease price is likely to have included the anticipation of permission to drill, one might ask which of two contracting parties should be viewed as having borne the risk of changes in the law.

In that sense the question is the same as that involved when one sells a stock of beer on the day before Prohibition is declared, with delivery to be made a week later. *Cf.* Boston Beer Co. v. Massachusetts, 97 U.S. 25 (1878).

Since the government is both a contracting party and the maker of legal rules, the risk of government mendacity should be minimized by inclusion of a reopening period. *See* note 33 *supra*. It might, for example, be held that if restrictions are imposed within a certain time following the sale, the buyer is entitled to recover back from government the entire price paid.

Government could thus restrain the strip miner and allocate the costs of accommoda-

B. *Legislative and Administrative Decisionmaking*

It seems clear that neither legislatures nor administrative agencies operate as perfect cost-benefit analysts. Yet, while an exacting quantification of benefits and costs may not be possible, the very act of considering the claims of conflicting resource users, identifying the interests at issue, and searching for solutions, should push the process toward rationality if representation before the legislature is adequate.

An example of this conflict accommodation process can be seen in the current controversy over highways and transportation, where interests other than the mere facilitation of traffic have emerged in the legal process,[50] such as interests in the maintenance of parks and the housing problems of relocated persons, and the true cost of facilitation of motor vehicle traffic. This has provoked a search for information about a wide range of methods of accommodating conflict, including new techniques of route selection, tunneling under parks and other natural areas, restricting highway use, and alternative forms of transportation. In this respect, the process of net benefits analysis in the highway area can be seen as a process of continuing legislative enlightenment about costs and benefits, evidenced by a continuing series of intermediate choices toward the optimal utilization of the resource networks affected by transportation.

Clearly, this is an ongoing process, as no single legislative act can resolve these complex questions. Each act is instead a tentative and intermediate choice that is itself a part of a network of continuously growing data and continuously growing alternative choices for legislative action.

tion to him, even though he has already made a payment to the lower owner. Whether, in such a case, the miner should be entitled to recover back what he has paid the lower owner can be settled by an interpretation of the contractual arrangements made between the parties.

From a theoretical point of view, if the accommodation favoring the lower owners is a correct one, the payment that would have to be made to compensate the losses incurred by continued mining would exceed the benefits accruing from continued mining, for the essence of the accommodation in favor of restraining strip mining is that the benefits from the mining are less than the losses which it causes to the other affected uses. If the strip miner, then, truly had to calculate and pay the full costs of continuing his activity, he would voluntarily have ceased mining, for that would have been the cheaper course of action.

In practice this suggests that if mining continues, any payment actually made will have been insufficient, in part because of the "free ride" problem which induces beneficiaries of an indivisible good or service to withhold payment, in part perhaps as a result of lack of knowledge or effective bargaining power or difficulty in organizing a private market that could cope with the entire affected resource network. This is simply another way of saying what has been commonly noted—that many activities are carried on without taking account of their true social cost.

50. Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402 (1971).

C. *The Judicial Role*

Even under the revised doctrine of takings proposed here, there will be a need for constitutional decisionmaking by courts to determine whether a governmentally imposed constraint discriminates among equally situated property owners[51] or prevents property owners from making profitable uses that do not have spillover effects.[52]

It is always possible for a property owner to claim that a legislative benefit analysis is wrong, but because such decisions inevitably involve substantial elements of legislative judgment and value preference, this hardly seems an appropriate area for constitutional decisionmaking. It would involve courts in a re-examination of legislative social welfare choices. Judicial intervention of this kind, therefore, ought to be limited to those cases in which the court is satisfied that the legislative determination is sufficiently distorted as to constitute an abuse of the police power; that the legislature has subordinated a judgment about maximization of social benefits to advancement of private gain.[53]

Courts should, however, continue to intervene in net benefit analysis decisions at the non-constitutional level, to assure, for example, that determinations made by administrative agencies are consistent with legislative policy and are based on sufficient information, or to invoke the legislative remand technique.[54]

51. *See* p. 169 *supra*.

52. *See* section III *supra*. Though the discussion here is limited to the judicial role with respect to claims that there has been a taking, nothing in this article is meant to alter the availability of nuisance and trespass actions where the government has *not* acted on a particular problem of conflicting uses.

53. The famous Illinois Central case, Illinois Cent. R.R. v. Illinois, 146 U.S. 387 (1892), discussed at length in a previous article, Sax, *The Public Trust Doctrine, supra* note 16, at 489-91, and in J. SAX, DEFENDING THE ENVIRONMENT, ch. 7 (1971), is illustrative of the proposed use of judicial power as a constitutional matter in that it seeks to articulate the point at which a purported exercise of the police power constitutes such mismanagement of resources as to be an abuse of legislative authority. For an example of a court seeking not very successfully to identify the limits of its function in examining a legislative judgment, see National Land & Inv. Co. v. Easttown Twp. Bd., 419 Pa. 504, 514-33, 215 A.2d 597, 603-13 (1966).

Courts may probe significantly into the propriety of condemnation decisions made by administrative agencies or private entities having eminent domain authority, without having to reach a constitutional confrontation with the legislature. See McIntire, *"Necessity" in Condemnation Cases—Who Speaks for the People?*, 22 HAST. L.J. 561 (1971); Costello, *Challenging The Right to Condemn*, 1966 U. ILL. L.F. 52; Note, *Challenging the Condemnor's Right to Condemn: Avoidance of Peripheral Damages*, 1967 WASH. U. L.Q. 436; Note, *Necessity in Eminent Domain Proceedings: Four Cases*, 29 MONT. L. REV. 69 (1967).

54. The legislative remand technique is "[t]he device by which courts . . . halt a project found to infringe public rights [and] in so doing . . . thrust upon the promoter of that project the affirmative obligation to go back to the legislature and obtain specific authorization (if he can get it) that makes clear a decisive public policy." J. SAX, DEFENDING THE ENVIRONMENT, *supra* note 53, at 175. Thus it is "[a] judicial technique to

V. Allocating the Costs of Accommodation

It is not enough to argue that the costs of accommodating conflicting claims on the common resource network need not be borne by the public as a matter of constitutional law. It remains to determine who is to pay those costs.[55] Narrowing the reach of the takings clause thus places the matter of cost allocation in the realm of policy choice, where it properly belongs.

In establishing legislative-administrative guidelines for distributing the costs of conflict accommodation, there are several models from which to choose. Under the existing compensation law, costs are borne by the regulated party unless doing so would destroy the value of his property altogether, in which case they are borne by the public. Alternatively, existing compensation law sometimes imposes costs upon a party's activities if they are found to be a noxious use, a nuisance, or the cause of the harm.[56]

A second cost allocation model to which legislatures might turn is enterprise liability,[57] which seeks both to spread costs widely and to impose them on the beneficiaries of the activity. The effort to identify beneficiaries, however, ultimately brings one back to the old "cause of the harm" problem that has plagued takings law.[58] Is the damage from strip mining caused by the desire to mine coal, or the desire to maintain residences in the area of the mines? The inextricability analysis set out above makes clear the folly of trying to answer that question. While a general theory of cost spreading has the desirable effect of assuring that economic loss does not fall too harshly on any individual, the broadest spreading can obviously be accomplished by making the general public bear the cost. But this simply returns us to the prob-

thrust a problem of significance upon a busy legislature's attention. . . . It cannot be emphasized too strongly that the governmental process *is* a process—diffuse, interlocking, interdependent—and that any discussion of what courts can do, or what legislatures should do, must never lose sight of the fact that it is how we are governed that is in issue, not some academic theory about the purity of institutions." *Id.* at 188-89.

55. The costs of conflicts among competitors for the use of certain resources are what Professor Calabresi calls primary costs. G. CALABRESI, THE COST OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS (1970) [hereinafter cited as THE COST OF ACCIDENTS].

56. I have discussed the inadequacies of both these approaches in a previous article. Sax, *supra* note 2, at 48-60.

57. *See, e.g.*, Greenman v. Yuba Power Products, Inc., 59 Cal.2d 57, 377 P.2d 897, 27 Cal. Rptr. 697 (1962); Goldberg v. Kollsman Instrument Co., 12 N.Y.2d 432, 191 N.E.2d 81 (1963); RESTATEMENT (SECOND) OF TORTS § 402 A; Michelman, *supra* note 2. *See* Spies & McCord, *supra* note 26, at 452, for a discussion of risk distribution principles of tort law applied to compensation problems.

It has been suggested, however, that such a model in practice would cause horrendous administrative problems. *See* Michelman, *supra* note 2, at 1178-79.

58. Sax, *supra* note 2, at 48.

lem of public rights. Must the public, in essence, buy the right to regulate by compensating all losses incurred as a result of government regulation?

A third way of approaching the cost allocation problem would be principally designed to prod innovation. If the costs of accommodation at any given time are borne by the general public, the absence of economic pressure on those immediately involved may produce a less than optimal solution in the long run, since the optimal solution to any given conflict is rarely, if ever, fully known at any given time. More importantly, optimal solutions are by no means static. One need only consider an issue such as air pollution from automobiles to get a sense of the magnitude and complexity of the problem. Alternative solutions include mechanical modification of existing automobiles, the development of new types of engines, or a shift to alternate forms of transportation.

In such situations, the very ability to find an optimal solution can be affected by a rule that produces pressures for innovation. The present system of compensation, permitting one to treat the current ability to profit as a property right, provides incentives to innovate only technologies that are immediately profit-producing for present owners. Coal, for example, may sit in the ground for years because it cannot be extracted profitably. As soon as one develops a machine to exploit it more cheaply, he is assumed to have a constitutional right to extract it profitably, notwithstanding the damage his technique may impose on others.[59]

It is this behavioral aspect of cost allocation theory that is at issue here. What structure of incentives does a legal system create when it treats existing technology as property, without examining the effects of that technology on others?[60]

59. Of course private law actions may be available to those who are damaged, but as far as government restrictions are concerned, in most cases the owner is viewed as having a constitutional right to be protected against *total* loss of profits, though regulation is usually permitted to be imposed so as to reduce his profits substantially. *See* note 7 *supra*. In limited situations, the public interest has been viewed as prevailing over profit-making, thus codifying a hierarchy of public welfare considerations. *Id.* A drug company that has invested its entire capital in the development of a new remedy and come up with Thalidomide is, even now, not in a position to complain if government sends it back to the laboratory via a bankruptcy proceeding.

60. This problem is well known in nuisance law, with its traditional acceptance of the state of the art of defense. It has also plagued administrative agencies which see their function as imposing obligations only up to the point of presently known and available technology. This issue has begun to be explored in the literature. *See* Katz, *The Function of Tort Liability in Technology Assessment*, 38 U. CIN. L. REV. 587 (1969); Tribe, *Legal Frameworks for the Assessment and Control of Technology*, IX MINERVA 243 (1971); NATIONAL ACADEMY OF SCIENCE, TECHNOLOGY PROCESSES OF ASSESSMENT AND CHOICE (U.S. Govt. Print. Office, July 1969).

It is well understood in some contexts that government power may be used to drive marginal producers out of business, as in the case of factories that cannot or will not employ existing technology, or which cannot provide minimally required wages and safety devices. The problem of the marginal producer is not limited, however, to the ability to meet present technology. It is possible that an industry ought not to be in the hands of owners who are unable to carry forward an acceptable level of research and development. Those who now own coal suitable for strip mining may be quite thinly capitalized and requiring them to accommodate the demands of nearby lands for water pollution and erosion control may drive them out of business under present technology and market conditions. Were those lands owned by larger corporate enterprises with a substantial research capacity however, a sensible economic view would make clear that present restrictions only impair present usefulness, and need not render the land permanently useless. Over time, it can be expected that technology will be developed allowing profitable extraction of minerals without undue harm to other users of the common resource network. Taking a larger view of governmental regulation, it may be desirable to produce just this result, and to get the mineral rights into the hands of those who can afford needed research.[61]

Owners who have no other substantial property may have to sell out, their investment simply not having matured in the way, or at the time, that they would have liked. Those who are truly devastated economically by such a result should be able to turn to government agencies which deal with the victims of natural disaster, economic depression and other such need-creating events.[62]

61. If this were to occur, the law would in one sense repeat the history of those lands. Having been sold once for lumber and having become relatively worthless (because there was no market nor an extractive technology for getting the coal out profitably), the land often passed into the hands of those who were able and willing to wait for a time when technology developed; the law may say they must wait still longer. If they can afford to wait, they will do so. If not, they will pass the land on (for even under those conditions it is not likely to be wholly worthless) to those who can afford research and waiting.

62. Here the legislature is involved in what Calabresi would call secondary cost avoidance, *i.e.*, reducing the costs of adjustment to dislocations which result when substantial losses are placed on a particular party rather than being spread more broadly. THE COST OF ACCIDENTS, *supra* note 55, at 39-67. Policies such as relocation and retraining assistance, or perhaps lump-sum transfers not inconsistent with cost allocation for incentive purposes, may well be recommended to thus mitigate the dislocative effect of government policies.

The final cost in the Calabresi trilogy is tertiary cost, consisting of the administrative or transaction costs of operating the mechanism by which primary and secondary costs are controlled. The goal of the cost allocation system may be thought of as the minimization of the sum of all costs through time. Michelman, Book Review, 80 YALE L.J. 647, 651 (1971).

While this approach may result in undue concentration of economic power as certain lands become useful only to those who can afford either to hold the lands or to engage in substantial research, this problem should be treated on its own merits, and not submerged in an undiscriminating interpretation of compensation law.[63] Should a legislature feel that rigorous environmental protections will drive too much land into the hands of large companies, it can itself decide to subsidize research or interim control programs for small producers. The point is that this is a matter of legislative policy and not of constitutional requirement.

The same may be said of a fear that rigorous environmental controls on the extraction of coal, for example, will create an energy crisis. Properly implemented, laws governing the production of coal will weigh the social value of the coal produced against the costs incurred by unrestricted production. As the need for the coal increases, the position of coal producers will improve relative to other conflicting property owners. At some point it may be determined that the losses incurred by mining coal under present technology are in the public interest. Government may then be forced to maintain pressure for the development of new protective technology by directly financing research in the public sector, or by imposing a more limited cost allocation than that involved in a complete prohibition of coal mining. The point is that these issues should be resolved on their own merits, as questions of benefit optimization policy, rather than as elements of the constitutional law of property rights.

If the property owner has any claim upon our solicitude, it must proceed from the claim that a sharp modification in the legal rules would unfairly violate his expectations. When the question is asked whether one is legally entitled to the expectation that the law will not significantly change, it must be recognized that the law has often changed in ways that have been sharply disadvantageous to property owners.[64] The more useful question, raised by the premise of present

63. I do not mean to minimize the importance of the problem of concentration, especially in light of the concern expressed over coal firms being purchased by large oil companies. I do suggest that the problem is more complex than merely one of economic concentration.

64. *See* Sax, *supra* note 2, at 51-52. It is not uncommon for a court quite suddenly to discover, or rediscover, a doctrine that significantly reduces the value of property rights. *E.g.*, Note, *Public Access to Beaches*, 22 STAN. L. REV. 564 (1970). For a discussion of Bentham's view of expectations, see Michelman, *supra* note 2, at 1212.

Furthermore, the question of expectations must be evaluated in light of the nature of the governmental regulation. When the government has vindicated public rights and in so doing has caused an individual economic injury, the government action follows

compensation law, is whether it is necessary for every property owner to have the opportunity to profit from the use of his land as he wishes, and at every given moment of time. Plainly, owners of property are frequently able to forego present profits and tolerate a considerable degree of economic uncertainty while awaiting changes in market conditions, technology, population movement, public investment and changes in the law that would remove present impediments to profit.

To be sure, knowledge of acceptable levels of uncertainty is highly important to management of the economy since at some point of uncertainty prices will plummet and the economic structure as a whole may be severely threatened. From the perspective of the present inquiry, however, it need only be noted that in simply asserting that every property owner must be protected in the present opportunity to profit from his property, existing compensation law provides a quite undiscriminating response to the uncertainty problem.[65]

Having elaborated a framework for thinking about cost allocation, it remains to outline the circumstances under which government should impose the costs of accommodation upon one private party, rather than another, or upon the public treasury.

The issue can be illustrated by reference to the problem of automobile air pollution. Initially, one must make a decision about accommodating the conflict between those who must breathe the fumes and those who are responsible for their production. Let us assume that while the total cost of the pollution amounts to $1 million in losses to members of the public, the imperfection could be cured by investing an additional $2 million in manufacturing. It would be a proper accommodation to withhold the investment and permit cars at present to operate with the defects. It then must be asked, however, whether the million dollar loss should be allocated to the injured class, or to the manufacturers. In reaching this decision, it is of no conse-

from a situation in which the property owner has been imposing costs on others without compensation. The argument for holding these government regulations to be exercises of the police power rather than takings is that the disadvantaged owner is yielding something which objectively was not his to begin with. Much as in a recovery action in tort, expectations of this kind need not be recognized as "reasonable" and given legal protection.

65. Nor does the present rule serve as an intelligible guide for the individual property owner for protection against economic disaster. It operates equally for the rich and the poor, protecting each only against those reductions in value that approach 100 per cent. Thus, the poor man who loses two-thirds the value of his home, his only asset, receives no compensation; while the rich man who loses all of one of his hundred tracts is fully compensated. If this is rough justice, it is rough indeed. For other oddities of the present rule, see Sax, *supra* note 2, at 51-54, 60. *But see* Waite, *Governmental Power and Private Property*, 16 CATH. U.L. REV. 283, 289 (1967), suggesting that the "circumstances of the landowner" be taken into account.

quence that one use rather than another was found to be benefit optimizing. Nothing in this analysis purports to give weight to a characterization of the problem as being "caused" by one, rather than another, of two activities in conflict. The analysis instead seeks to identify the class best equipped to organize for the purpose of discovering less costly solutions to the problem.[66]

In general, the prospects for useful innovation seem inversely related to the diffuseness of the entity upon which the burden is placed, the smallness of the interest of each member of the entity in the conflict, and the irregularity or uncertainty of the problem for that entity.[67] Basically, this is because groups bearing these characteristics are ill-suited to carrying on concerted activity, given the diffuseness of interests and the high transaction costs involved in organization. Thus in the auto pollution case, the injured class is highly unorganized and the risk of damage seems remote and unpredictable to any individual member of the class. Automobile manufacturers, however, comprise a highly organized constituency for whom the problem is of considerable magnitude as to each constituent member of the group. When charged with these costs, a significant incentive is created to produce a technology that will reduce or terminate the problem, provided a solution can be generated at a cost less than the cumulative costs incurred by those injured by pollution.

Thus the goal of the system ought to be to identify that constituency which, if charged with the costs of accommodating the conflict, would have a large stake in a lower cost solution, and which is capable of organizing to cope with the problem.

At times no existing party to the conflict may be suitable for the imposition of innovation-prodding costs. For example, the class of persons injured in apartment house fires is clearly a diffuse group, not easily organized, and its relation to the problem of fires is not easily perceived. Similarly, fire is sufficiently rare and unpredictable that the owners of buildings would not be likely to serve as a force

66. For an exploration of this general question, see M. OLSON, JR., *supra* note 47. Calabresi terms this the search for the cheapest cost avoider. THE COST OF ACCIDENTS, *supra* note 55, at 135-73; Michelman, *supra* note 2, at 1167 *et seq.*

67. It is recognized that the burden will generally be passed on by manufacturers to consumers in the price of cars, and that users of cars as a class largely overlap the class of air pollution victims. But from the perspective of imposing innovative pressures, it makes a good deal of difference whether the costs are reflected in the general price of cars or are distributed as medical expenses, even among the same group of people. Only in the former case is the manufacturer—seeking to keep the price of his product down—likely to feel concerted pressure for innovation. The same may be said of restraints imposed on coal mining, factories, airports or any other activity.

for the innovation of fire protection technology. It has been our experience that only the organization of a group with a concerted and continuous interest in fire protection serves as an innovative force in such situations, *e.g.*, the fire insurance industry.

Insofar as cost allocation in the context of this article is concerned, it seems proper for a choice to be made as between the conflicting parties only when there is a significant probability that the imposition of costs would be innovation-prodding. Where some private entity can be developed that will have a concerted interest in the problem, the legal rules for cost allocation should encourage such development. In the area of strip mining, for example, where persons involved in land reclamation are required to be insured with a bond for security against failure to meet the legal standards involved, insurance companies writing these bonds have moved in to develop knowledge and expertise about land reclamation.[68]

Similarly, where governmentally imposed accommodations are so rigorous as to drive out the present class of owners, the effect is to give rise to a new institution, or pattern of ownership, that has the capacity and concerted interest in the problem sufficient to cope with it. While it may not be that cost allocation induces an old class of owners to innovate,[69] ownership may be transferred to a constituency that *is* capable of holding the property while seeking to develop an

68. *See* Stevens, *Strip Mine Reclamation Good in Spots, Inferior in Others,* Courier-Journal (Louisville, Kentucky), September 1, 1969, at 1, col. 1. Both Kentucky and West Virginia now require a bond of applicants for strip mining permits, which bonds are forfeited if the operator violates the regulations regarding methods of operation or reclamation. *See* KY. REV. STAT. §§ 350.060(7), 350.130(1-2) (Supp. 1970); WEST VA. CODE § 20-6-16 (Supp. 1971).

69. One must be careful that the accommodation and cost allocation processes do not work at cross purposes. Conceivably, in a situation like the strip mine example, it would be determined that mining should be permitted to continue—when all the benefits of the mining, beyond those directly to the mine owner, are considered. It might also be determined that costs of accommodation should be allocated to mining. In theory, the costs of accommodation are always less than the benefits from mining, so that allocating those costs to the mine could not put it out of business. But the benefits accrue not only to the mine itself. Thus the total benefits from mining may be $1,000, and the costs of continued mining to lower owners only $500. Mining should continue, but the whole $1,000 of benefits may not accrue to the miner. He individually may only reap $300 of benefits. To impose the entire $500 accommodation cost on him would be to close the mine, an undesired result in the circumstances. The ideal solution is to spread the $500 cost among other beneficiaries of continued mining, where that is practicable. Where it is not, the practical solution may be to reduce the amount of costs allocated to the miner to a point where he can continue in business. This will still impose some innovative pressure on him.

Of course, this situation arises only where the miner prevails in the accommodation. Should the lower users prevail, and it is determined to allocate costs to the miner, one need not worry about his going out of business. In such a situation, the cost allocation is designed to prod him, or someone who purchases the property from him, to seek out new ways of using the property that will be consistent with the protection of lower users. That is the situation referred to in the text.

acceptable and profitable solution to the conflict. Such an occurrence may be viewed as a variant of the development of the insurance industry in the example given earlier.

It may well be that in some situations there is no reasonable prospect that any of the immediate parties to the conflict is likely to produce innovative solutions and further, that no new institutional or ownership force is likely to develop. In such circumstances, the costs of accommodation should be borne by the general public, through institutions designed specifically for the purpose of absorbing these costs. This will be necessary in cases where the capital costs of research are so great, or the potential for solutions so extremely remote, that no institution in the private sector of the economy is capable of taking up the challenge.[70]

Sometimes, a decision as to cost allocation will require a choice between two industries, rather than between a highly organized industry and a constituency of widely dispersed private citizens. Consider, for example, the problem of airplane noise in residential areas. Is the problem of innovation to be viewed as one for the air travel industry or for the residential housing industry?

In answering this question, attention should be paid to the pervasiveness of this problem for each of the industrial groups that are potential sources of innovation. If, for example, it were noted that ninety per cent of all airports were close to residential areas, but only one per cent of residences were near airports, it would be desirable to impose the costs on the airport or on the airline industry. In such a situation, the cost of airport noise, if imposed on the residents, would not likely be reflected in the cost of housing generally, whereas, if imposed on the airlines or airports, the costs *would* be reflected in the general costs of operating those industries.

Another factor in determining cost allocation illustrated by the airport-residence noise problem involves a judgment about the kinds of optimizing solutions likely to be fruitful within the foreseeable future. If a policy is to be directed to the promotion of research, it is necessary to ascertain the kind of research that ought to be encouraged, *i.e.*, whether the greatest potential lies in the technology of

70. Underlying this allocative principle is the notion of secondary cost minimization. Rather than perhaps inaccurately assigning costs in situations where it is impossible to identify the cheapest cost avoider, public policy might limit its concern in instances of this type to secondary cost minimization, or spreading. *See* note 62 *supra*.

building airplanes, the modification of airport operations, or the improvement of residences to make them less susceptible to neighboring noise. It would be most appropriate to induce innovation by that industry in which the greatest probability of fruitful research lies.

Thus the cost allocation problem is a complex one, and all factors will not always tend in a single direction. At times one may have to choose between a concerted and well-organized group with a relatively small stake in the problem, and a rather diffuse group with quite a large stake. In the case of automobile air pollution, the possible optimizing solutions, as noted previously, are very diverse. Aside from improving the automobile, one might wish to move to a much enlarged system of public transportation to reduce the total quantum of travel, or to alter residential patterns so that people might cease to live so near highways. Alternatively, automobiles might be restricted from densely populated areas.

Notably, each of these solutions would require a very different approach. If we wish to promote change in the automobile, it makes good sense to impose the cost of air pollution on automobile manufacturers. If one felt that the greatest promise lay in discouraging driving, an appropriate step might be to raise the price of gasoline by a significant amount, thus imposing the costs on the general driving public in hopes of changing behavior patterns. If one wished to move to an enlarged system of public transportation, however, the resources required to provide an alternative model of transportation might well be beyond the automobile industry for all its wealth. The problems of land acquisition, regulation of land development patterns and the related questions in developing mass transit systems may require power and resources available only to the general government.

The present resolution of this conflict demonstrates the applicability of the general principles set out in this article. If we are satisfied that it is sensible to impose emission limits on the automobile, as we have done, it is because we believe that accommodation in favor of a lower level of auto emissions will enlarge net social benefits beyond the existing unregulated situation. On those grounds, the conflict is resolved in favor of reduced automobile emissions.

One can accept each of these propositions without asking whether the auto pollution problem is caused by the automobile industry or by the consumer demand for automobile travel, without asking whether the opportunity to manufacture cars is, or is not, a property right.

The automobile need not be characterized as a nuisance, nor need one try to divine whether travel is more of a right than clean air. If one truly believed that the auto air pollution problem were a problem of rights and wrongs, property and non-property, nuisance and noxious use, it would be impossible rationally to accommodate conflict and allocate the costs of that accommodation.

In short, rather than fumbling with doctrinal labels and legal accusations, we can put our energy into trying to determine what resolution of conflicting uses is likely to maximize total net benefits for us, and how we can best achieve that goal.

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