Florida Law Review

Volume 38 | Issue 2 Article 3

March 1986

Pay Up or Shut Down: Some Cautionary Remarks on the Use of Conditional Entitlements in Private Nuisance Cases

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PAY UP OR SHUT DOWN: SOME CAUTIONARY REMARKS ON THE USE OF CONDITIONAL ENTITLEMENTS IN PRIVATE NUISANCE CASES.

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I. INTRODUCTION

Conflict over the use of land necessarily raises the issue of whether the benefit from an existing or anticipated use of the land is greater than the cost of that use which is imposed upon neighboring landowners. Over the past fifteen years, the emphasis on the integration of law and economics has influenced analysis in the law of private nuisance, which deals with such conflicts.[1] These

* Professor of Law, The Ohio State University College of Law. I am grateful for the helpful comments of Jim Meeks, Thomas Bergin, Peter Gerhart and Timothy Jost on earlier drafts of this article. I owe a particular debt to Allan Samansky who began work on this project with me but moved on to bigger and better things. Thanks are also due to Scott Clark for his valuable research assistance.

1. *See, e.g.*, Carpenter v. Double R Cattle Co., 105 Idaho 320, 329-31, 333-34, 669 P.2d 643, 653-54, 656-57 (Ct. App. 1983) (discussing economic implications of nuisance law and citing major articles in this field), *rev'd*, 108 Idaho 602, 701 P.2d 222 (1985).

Numerous recent articles have emphasized the economic implications of land use disputes. *See, e.g.*, Ellickson, *Alternatives to Zoning: Covenants, Nuisance Rules and Fines as Land Use Controls*, 40 U. CHI. L. REV. 681, 719-76 (1973); Ogus & Richardson, *Economics and the Environment: A Study of Private Nuisance*, 36 CAMBRIDGE L.J. 284 (1977); Pfennigstorf, *Environment, Damages and Compensation*, 1979 AM. BAR FOUND. RESEARCH J. 349; Polinsky, *Resolving Nuisance Disputes: The Simple Economics*

land use conflicts, however, raise important questions of fairness and cannot be resolved solely on the basis of economic criteria.[2] In addition, the resolution of nuisance disputes can have important environmental consequences.[3] The difficulty of resolving nuisance cases is further compounded, because the effects, particularly the effects on human health, of many of the substances released into the environment remain uncertain.[4] This article discusses the interplay among three components — efficiency, equity and uncertainty — in the context of determining the appropriate remedy in private nuisance cases.

A private nuisance is a substantial and unreasonable interference with the use and enjoyment of another's land.[5] The generally accepted approach in deciding whether an interference is unreasonable involves balancing the gravity of the harm to the plaintiff against the social value of the defendant's use.[6] The balancing, however, is not absolute. Once the interference becomes sufficiently severe, a nuisance will be found regardless of the social value of the defendant's conduct.[7]

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of Injunction and Damage Remedies, 32 STAN. L. REV. 1075 (1980); Rabin, *Nuisance Law: Rethinking Fundamental Assumptions*, 63 VA. L. REV. 1299 (1977); Woj, *Property Rights Disputes: Current Fallacies and a New Approach*, 14 J. LEGAL STUD. 411 (1985).

Some commentators deny the importance of economic considerations in resolving such disputes. Professor Epstein, for example, argues nuisance law should be based primarily on principles of corrective justice. He analogizes the property rights protected in a nuisance action to an individual's right to bodily integrity, and argues that these rights are too basic to be valued in dollars and compared with other economic variables. *See* Epstein, *Nuisance Law: Corrective Justice and Its Utilitarian Constraints*, 8 J. LEGAL STUD. 49, 50 (1979). Other commentators believe that nuisance law protects some interests, especially those involving residential plaintiffs, which are too basic to enter into any economic calculus. *See* Freeman, *Give and Take: Distributing Local Environmental Control Through Land-Use Regulation*, 60 MINN. L. REV. 883, 892-903, 913-27 (1976); Michelman, *Norms and Normativity in the Economic Theory of Law*, 62 MINN. L. REV. 1015, 1028 (1978). This article assumes that efficiency concerns are an important element of a proper analysis of both substantive and remedial nuisance law.

2. *See, e.g.*, Rabin, *supra* note 1, at 1302-03. This article will not attempt to define "fairness," "equity," or similar terms. Several contemporary authors, including John Rawls, Robert Nozick, and Richard Posner, have attempted a comprehensive understanding of concepts such as fairness and justice, but even their works fundamentally disagree. *Compare* J. RAWLS, A THEORY OF JUSTICE (1971) (concept of justice is based on presumed consent from a hypothetical uncertain original position) *with* R. POSNER, THE ECONOMICS OF JUSTICE (1981) (justice primarily derived from the concept of wealth-maximization). These authors have each been criticized. *See, e.g.*, Englard, Book Review, 95 HARV. L. REV. 1162 (1982) (criticizing Posner); Frankel, Book Review, 5 COLUM. HUM. RTS. L. REV. 547 (1973) (criticizing Rawls); Grey, Book Review, 25 STAN. L. REV. 286 (1973) (criticizing Rawls); Hammond, Book Review, 91 YALE L.J. 1493 (1982) (criticizing Posner); Nagel, Book Review, 85 YALE L.J. 136 (1975) (criticizing Nozick).

3. *See infra* text accompanying notes 98-103.

4. *See infra* text accompanying notes 114-23.

5. *See* W. PROSSER, HANDBOOK OF THE LAW OF TORTS § 87, at 580, § 89, at 593 (4th ed. 1971); RESTATEMENT (SECOND) OF TORTS §§ 821D, 821F, 822 (1979). The interference may be intentional or merely negligent or reckless. This article deals only with instances of intentional nuisance, i.e., where the defendant knows or should know to a substantial certainty that his conduct is causing a substantial and unreasonable interference.

6. *See, e.g.*, W. PROSSER, *supra* note 5, § 87, at 581, § 89, at 596; RESTATEMENT (SECOND) OF TORTS § 826 (1979).

7. *See* RESTATEMENT (SECOND) OF TORTS § 829A comment 6 (1979).

Courts have traditionally, although not invariably, granted injunctive relief to plaintiffs who successfully establish a nuisance claim.[8] Some courts, however, after deciding the issue of liability for the plaintiff, have refused injunctive relief and permitted only the recovery of damages where the harm to the defendant from an injunction would have been grossly disproportionate to the resulting benefit to the plaintiff.[9] This "balancing of the equities,"[10] resulting in the denial of injunctive relief, generally occurs where there is considerable harm to the plaintiff but where the social value of defendant's use appears much greater.[11] Other courts, however, have refused to engage in this balancing process and have held that whenever a nuisance is found the plaintiff is entitled to an injunction.[12]

Recent articles have advocated two major alterations in nuisance law. Some commentators argue that a prevailing plaintiff in a nuisance case should usually recover damages, not receive an injunction.[13] Others argue that even where the defendant prevails, the courts should sometimes issue a conditional injunction requiring the defendant to cease the offending activity, but only if the plaintiff pays the defendant damages for discontinuing the activity.[14] Both groups suggest that increased use of the damage remedy and conditional injunctions will pro-

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8. *See, e.g.*, Pendoley v. Ferreira, 345 Mass. 309, 314, 187 N.E.2d 142, 145 (1963); Whalen v. Union Bag & Paper Co., 208 N.Y. 1, 4-5, 101 N.E. 805, 805-06 (1913); Crushed Stone Co. v. Moore, 369 P.2d 811, 815-16 (Okla. 1962); HAGMAN & MISCZYNSKI, WINDFALLS FOR WIPEOUTS LAND VALUE CAPTURE AND COMPENSATION 180 (1978). Professor Rabin characterizes injunctive relief as the "prevailing judicial response to nuisance actions." RABIN, *supra* note 1, at 1300, 1311.

9. *E.g.*, Boomer v. Atlantic Cement Co., 26 N.Y.2d 219, 257 N.E.2d 870, 309 N.Y.S.2d 312 (1970); *see also* Daigle v. Continental Oil, 277 F. Supp. 875, 881 (W.D. La. 1967).

10. *See* RESTATEMENT (SECOND) OF TORTS §§ 826 comment f, 941 (1979).

11. *See, e.g.*, Boomer v. Atlantic Cement Co., 26 N.Y.2d 219, 257 N.E.2d 870, 309 N.Y.S.2d 312 (1970).

12. *See, e.g.*, Brede v. Minnesota Crushed Stone Co., 143 Minn. 374, 173 N.W. 805 (1919); Crushed Stone Co. v. Moore, 369 P.2d 811, 815 (Okla. 1962).

13. Professor Rabin states that an injunction should be vacated upon the payment of damages by defendant "in every case in which the defendant is at fault." Rabin, *supra* note 1, at 1331. He later modifies this by saying that a court should ordinarily award damages and issue an injunction if the defendant fails to pay. Professor Rabin would exclude instances in which the defendant's egregious conduct deserves punitive treatment or in which the size of the injured class makes an award of damages impractical. *Id.* at 1331, 1335; *see* Ellickson, *supra* note 1, at 738-48; *see also* R. POSNER, ECONOMIC ANALYSIS OF LAW § 3.7, at 51 (2d ed. 1977); Calabresi & Melamed, *Property Rules, Liability Rules and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1119-20 (1972); Michelman, *Pollution as a Tort: A Non-Accidental Perspective on Calabresi's Costs*, 80 YALE L.J. 647, 671-74 (1971).

14. *See* Calabresi & Malamed, *supra* note 13, at 1115-23. Professors Rabin and Ellickson advocate injunctions conditioned upon the payment of damages by plaintiff. Professor Rabin advocates this remedy when the defendant is in a superior equitable position, i.e., is not "morally blameworthy" for the conflict. Rabin, *supra* note 1, at 1310-11. Professor Ellickson, while apparently approving of its use in this context, also discusses it in connection with a right which he accords a successful plaintiff in a nuisance suit to "purchase" an injunction. Under this proposal, the successful plaintiff can secure an injunction by paying the defendant the excess of the defendant's expenses of complying with the injunction over the damages defendant would have to pay if only damages were required. Ellickson, *supra* note 1, at 738-39, 745.

mote the optimal use of land, while still permitting the court to treat the parties equitably.

One goal of this article is to critically examine these suggestions.[15] The framework of the analysis is that since individuals are rational decisionmakers, their decisions in the marketplace should generally be respected. The article does not directly challenge any of the fundamental assumptions that underlie much of the law and economics literature. These have been amply discussed elsewhere.[16] Instead, the article seeks to demonstrate that, contrary to the new conventional wisdom, the superiority of the damage remedy and the conditional injunction in nuisance cases is not established despite acceptance of the assumptions of classical economics.[17]

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15. *See generally* Polinsky, *Controlling Externalities and Protecting Entitlements: Property Right, Liability Rule, and Tax-Subsidy Approaches*, 8 J. LEGAL STUD. 1 (1979) (using an approach and methodology different from the present article on the issue of the appropriate remedy in nuisance cases).

16. Some commentators attack the assumption that the *choices* of people provide the best information about their welfare. This approach consists of a number of related arguments. First, time and the process and outcome of the choice itself transform the chooser's tastes and desires so that we cannot really know that he is better off choosing one alternative. The only certainty is that he *expects* to benefit from the choice. *See* Kelman, *Choice and Utility*, 1979 WIS. L. REV. 769, 781-82.

Second, people often make choices inconsistent with their long-term welfare, even assuming their tastes and desires remain unchanged. Most often, this occurs when the choice turns out to be "wrong" and thus causes regret, but this can occur consciously (for example, when a heroin addict chooses heroin over food). *Id.* at 783-87. Professor Kelman argues that these situations result not merely from constraints on information or income, but also from the inability of people to incorporate into their choice decisions their aspirations to be the kind of people who would choose otherwise. *Id.* at 784, 786. For a similar argument that present incorporation of our "aspirational selves" is essential to appropriate land use policy, see Sax, *Fashioning a Recreational Policy for Our National Parklands: The Philosophy of Choice and the Choice of Philosophy*, 12 CREIGHTON L. REV. 973, 985 (1979); see also Winner, *The Chancellor's Foot and Environmental Law: A Call for Better Reasoned Decisions on Environmental Injunctions*, 9 ENVTL. L. 477, 505 (1979) (courts in applying the "efficiency calculus" should consider such social values as the protection of private property and the environment).

Finally, the market economy arguably creates and shapes people's tastes and desires. Manipulation of people's tastes can operate as an inefficient market mechanism. *See* Baker, *The Ideology of the Economic Analysis of Law*, 5 PHIL. & PUB. AFF. 3, 37-39 (1975); *cf.* Tribe, *Ways Not to Think About Plastic Trees: New Foundations for Environmental Law*, 83 YALE L.J. 1315 (1972) (criticizing policies which facilitate the altering of tastes toward increasing acceptance of substitutes for natural environment).

17. Limiting recovery to damages in nuisance cases has also been criticized as an unconstitutional taking of private property because the plaintiff's remedy to damages forces him to sell a property right for a private purpose. *See* Boomer v. Atlantic Cement Co., 26 N.Y.2d 219, 228, 257 N.E.2d 870, 875, 309 N.Y.S.2d 312, 319 (1970) (Jasen, J., dissenting). However, land use conflicts inevitably produce limitations on the use of land. When prospective uses of land conflict, someone's use of his land must be restricted.

The Constitutional argument incorrectly assumes the answer to the central question in the nuisance case itself — the nature and extent of plaintiff's right to freedom from defendant's interference. A court which decides that plaintiff has a right to damages essentially decides that plaintiff has some rights not rising to the level deserving of injunctive relief. Plaintiff has no "property" right to freedom from the effects of defendant's activities. *See* Calabresi & Melamed, *supra* note 13, at 1092. If plaintiff has no property right, he cannot claim one has been taken. *See* Rabin, *supra* note 1, at 1332-34 (discussing further weaknesses in this argument); *see also* Arnold

The article begins by exploring how conflicting land uses affect the economy and presents arguments for the theoretical superiority of damages and conditional injunctions as remedies in nuisance cases. These arguments are then critically examined. Next, the article evaluates the impact of uncertainty and technological change on the appropriate choice. The article concludes by arguing that while damages and conditional injunctions may be the appropriate remedies on some occasions, the traditional approach will generally better accommodate the dual goals of productivity and equity.[18]

II. The Prevailing Party

In a law suit arising from conflicting land uses, a court must decide which party should win and what remedy the winning party should receive. This article is not primarily concerned with the former issue; the discussion of remedies is largely independent of the principles used to decide which party should prevail. It is helpful, however, to begin the analysis with two paradigms where the appropriate prevailing party seems clear.[19] These paradigms involve an industrial use of land that infringes on the residential amenity of a substantial number of neighboring landowners. In the first paradigm a polluting factory locates near a residential area;[20] in the second, a residential development unexpectedly locates near a polluting factory in an area that had previously been undeveloped.[21]

The reasonable expectation of a homeowner that a residential area will re-

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v. Melani, 75 Wash. 2d 143, 449 P.2d 800 (1968) (mandatory injunction for removal of encroachment denied as oppressive).

18. If a nuisance action protects rights too basic to enter into any type of economic calculus or to require a forced sale for efficiency purposes, injunctions would be the normal remedy. *See* Epstein, *supra* note 1, at 74 n.65. The property rights at stake in nuisance cases are, however, qualitatively different from, for example, the right to bodily integrity. Infringements on bodily integrity are attacks on the person *qua* person. They necessarily affect a person's self-conception and are a threat to that most basic of all values — self-preservation. While even this article is willing to accept the forced sale of a "pollution servitude" when gross inefficiency would otherwise result, it would not accept the forced sale of a person's right to be free from bodily violations by others even if such a sale could be shown to be "efficient." At the very least, the money damages received in a nuisance case could be used to purchase something physically similar to that lost, i.e., property, while there is no replacement item available on the market even similar to one's lost bodily integrity.

However, as this article will make clear, accepting the theoretical legitimacy of forced sales of some interests to further efficiency differs from the assumption that they should routinely occur. This article asserts that such forced sales should be relatively rare. *See infra* text at § V. Additionally, some of the interests involved in nuisance cases, such as neighborhood amenity and sentimental attachment, approach the line that separates "basic" or "fundamental" rights from others.

19. *But see infra* note 24.

20. For a case involving similar facts, see Boomer v. Atlantic Cement Co., 26 N.Y.2d 219, 257 N.E.2d 870, 309 N.Y.S.2d 312 (1970); *infra* text accompanying notes 45-47; *see also* Seagraves v. Portland City Temple, 269 Or. 28, 522 P.2d 893 (1974) (operation of airport adjacent to plaintiff's farm); York v. Stallings, 217 Or. 13, 341 P.2d 529 (1959) (operation of sawmill and railroad spur track across road from plaintiff's home).

21. For a case involving similar facts, see Spur Indus. Inc. v. Del E. Webb Dev. Co., 108 Ariz. 178, 494 P.2d 700 (1972).

main unpolluted or the reasonable expectation of a polluter that an undeveloped area will remain undeveloped has been a significant factor in determining whether a conflicting use is a nuisance.[22] While the principle that equity belongs to the first-user is controversial in some contexts,[23] it is appealing within the limits of the two paradigms. Persons who have established residences in an unpolluted area should not have their residential amenity destroyed by the unexpected arrival of a polluter. Similarly, a polluter who chooses to locate where no one will be injured by his pollution should not lose his investment when a real estate developer unexpectedly decides to build residences on neighboring land.[24]

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22. This approach assumes that an equitable ground exists for giving one party the right to pollute or to be free of pollution. Professor Posner's approach, on the other hand, would give the right to the party willing to pay the most. *See* R. POSNER, *supra* note 2, § 34, at 39.

Prior use alone generally does not constitute a defense to a nuisance action. *See* RESTATEMENT (SECOND) OF TORTS § 840D (1979). However, courts should consider prior use in determining whether a nuisance is actionable. *See* Hall v. Budde, 293 Ky. 436, 169 S.W.2d 33 (1943); Jerry Harmon Motors, Inc. v. Farmers Union Grain Terminal Ass'n, 337 N.W.2d 427 (N.D. 1983); Abdella v. Smith, 34 Wis. 2d 393, 149 N.W.2d 537 (1967); RESTATEMENT (SECOND) OF TORTS § 840D & comment c (1979).

Moreover, in many cases where "coming to the nuisance" did not bar recovery, the conflicting use arose gradually, as when a rural or semi-rural area became residential. *See, e.g.*, Yaffe v. City of Ft. Smith, 178 Ark. 406, 10 S.W.2d 886 (1928); Pendoley v. Ferreira, 345 Mass. 309, 187 N.E.2d 142 (1963). In others, when the defendant began using his property in an objectionable manner, he should have expected that surrounding property might soon be used in a conflicting way. *See, e.g.*, Krebs v. Hermann, 90 Colo. 61, 6 P.2d 907 (1931). Courts universally consider the suitability of the interfering conduct to the character of the locality. *See* RESTATEMENT (SECOND) OF TORTS § 828 (1979). This doctrine would support the expectations of a person conducting an activity in a rural area, which is normally carried on in such area, that the activity would be protected from a lawsuit by others establishing interfering uses nearby.

23. Professor Freeman has suggested that a residential user of land should always have the right to clean air even when the polluter was the prior user of land. Freeman, *supra* note 1, at 894-903. Such a rule would invite extortion because someone might start building a residence next to a polluting factory merely to receive a payment from the polluter. *See* RESTATEMENT (SECOND) OF TORTS § 840D illustration 2 (1979); *infra* note 24.

24. The right of a homeowner living in an unpolluted area to continued freedom from pollution seems noncontroversial. The right of a polluter to continue polluting is more problematic. Allowing the polluter to interfere with the use of land over which it has purchased no servitude may seem unfair. The arriving homeowner, however, interferes equally with the use of land he does not own if he can close down a polluter by building a residence nearby. *See* Coase, *The Problem of Social Cost*, 3 J. LAW & ECON. 1, 13 (1960); *see also* HAGMAN & MISCZYNSKI, *supra* note 8, at 184; Michelman, *Property, Utility, and Fairness: Comments of the Ethical Foundations of "Just Compensation" Law*, 80 HARV. L. REV. 1165, 1196-1201 (1967). *But see* Coleman, *Efficiency, Exchange, and Auction: Philosophical Aspects of the Economic Approach to Law*, 68 CALIF. L. REV. 221, 235-37 (1980) (arguing polluter's harm is not justifiable even though homeowner reciprocates with similar but unequal harm); Epstein, *Nuisance Law: Corrective Justice and its Utilitarian Constraints*, 8 J. LEGAL STUD. 49, 57-60 (1979) (arguing the polluter causes the harm in all cases).

Several arguments have been advanced to protect the polluting first-user. If the pollution was begun with the reasonable expectation that no conflicting uses would arise on neighboring land, equity may require protection of that expectation. *See* Ogus & Richardson, *supra* note 1, at 320; Rabin, *supra* note 1, at 1328. *But see* Freeman, *supra* note 1, at 889-903 ("firstness" does not confer equitable rights unless the firstcomer reasonably expected to prevail in any conflict concerning land uses based on the legal rules existing at the time his use began). For responses to Professor Freeman, see Michelman, *supra*, at 1245 (first-user has "crystallize[d] value where none was apparent before"),

Calabresi and Melamed have described the "winner" in such a lawsuit as receiving a legal "entitlement."[25] This article explores whether the entitlement in the paradigms should normally be absolute so the possessor need only part with it in a voluntary transaction or whether the entitlement should normally be conditional so the possessor can be deprived of it upon payment of damages. An absolute entitlement for the homeowners would require an injunction be issued enjoining the factory from spewing out smoke; a conditional entitlement for the homeowners would require payment of damages to the homeowners by the factory for polluting the air. On the other hand, an absolute entitlement for the factory would mean that the court would not interfere with the factory's emissions; a conditional entitlement would require the factory to stop its emissions if the homeowners paid damages to it for its costs in stopping the pollution.

The two paradigms that are the focus of the article do not, of course, represent the entire range of nuisance cases. In some cases, the conflict over

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and *supra* note 22 (law of nuisance generates expectations of prevailing in land use conflicts).

Some recent tentative empirical evidence supports the Lockean view that the first person to mix his labor with a resource has a prima facie entitlement to it. *See* Hoffman & Spitzer, *Entitlements, Rights and Fairness: An Experimental Examination of Subjects' Concepts of Distributive Justice*, 14 J. LEGAL STUD. 259, 289-93 (1985). Whether granting the entitlement to the first user is also the more *efficient* rule is somewhat controversial. *Compare* Rabin, *supra* note 1, at 1328 (assuming granting entitlement to first-user is more efficient) *with* Freeman, *supra* note 1, at 900 (concluding that rule which generally grants entitlement to first user will not create more efficient results than one that does not).

The following situation illustrates the difficulty of the issue. A farmer wishes to expand his operation to include the commercial raising of pigs. Knowing that he will be liable if a conflicting land uses arises on adjacent land, and desiring to avoid this risk, the farmer has two options and will presumably choose the least expensive. First, he can prevent the conflict from arising by contracting to restrict the use of surrounding land, purchasing a buffer of surrounding land, or purchasing a pollution easement. Second, he can insure against the damages he will suffer if the conflict arises. However, the nature and timing of a conflicting use are often unforeseeable. If the farmer wrongly assumes the worst, i.e., that the land use posing the most severe conflict will arise in the near future, he may spend too much on prevention or insurance. If he doesn't assume the worst, and the worst occurs, he will have spent too little. *See* Michelman, *supra*, at 1243. On the other hand, if the farmer were certain that the entitlement would be awarded to him if a conflict arose, he would have no risk to guard against. This analysis appears inappropriate when the first user foresees the nature and timing of a more efficient conflicting use but nonetheless begins his less efficient use to establish his rights. In such a case, a rule which grants legal recognition based solely on first use might not be efficient. However, this article does not advocate such a rule nor does the extant case law recognize it.

In some circumstances, therefore, a rule granting the entitlement to the first user might be inefficient. For example, to establish rights based on prior use, a landowner might choose to act or improve his property before the economically optimal time. A landowner planning a hotel might choose to build it earlier than he otherwise would have to secure the right to unobstructed sunlight. *See* Barzel, *Optimal Timing of Innovations*, 50 REV. ECON. & STATISTICS 348 (1968). Thus, it is impossible to determine whether a first-user rule promotes efficiency, even one which applies only when the subsequent conflicting use was unforeseeable. *See generally* Wittman, *First Come, First Served: An Economic Analysis of "Coming to the Nuisance"*, 9 J. LEGAL STUD. 557, 565-66 (1980) (a first user deserves compensation for relocation when the development of conflicting residential uses was unforeseeable).

25. Calabresi & Melamed, *supra* note 13, at 1090.

uses of neighboring land will be between only two parties.[26] Many of the choice of remedy problems with which this article deals are likely to be less significant in such cases[27] and therefore a multiple plaintiff paradigm is used. In addition, since the most intractable remedial problems involve residential plaintiffs, this article uses that factual context, although plainly not all nuisance cases involve residential use.[28]

In many cases the existence of conflicting uses of land will arise gradually, not suddenly as in the paradigms. The polluting factory which is originally located in an undeveloped area but which is gradually surrounded by residences[29] or the residential neighborhood that gradually becomes industrialized[30] are examples. The equitable issue is more complex than in the paradigms because the risk that conflicting land uses will gradually arise over an extended period is the type of risk that is more readily seen as assumed by a user. In any event, the primary concern of this article is the *remedy* in nuisance cases rather than the initial allocation of the entitlement, although the analysis may also prove helpful in resolving these difficult entitlement questions.

III. Efficiency, Conflicting Land Uses, and the Appropriate Remedy

This article assumes that in most cases the *entitlement* should be granted solely on the basis of equity.[31] The appropriate *remedy*, however, should not only treat the parties fairly but should also encourage the optimal production of goods and services. For the effect of any remedy on the future production

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26. *See, e.g.*, Amphitheaters Inc. v. Portland Meadows, 184 Or. 336, 198 P.2d 847 (1948) (light from a racetrack interfered with outdoor movie theater).

27. The equitable and efficiency issues in two-party disputes may not always be easier than in multi-party disputes. Generally, however, in two-party disputes the choice of remedy will have less significant consequences in terms of both efficiency and fairness for a number of reasons. With respect to efficiency, there will be fewer impediments to bargaining following the issuance of an injunction or an order to pay damages will facilitate bargaining, and thus, less likelihood that transaction costs will preclude an efficiency-enhancing exchange. First, and most important, two-party conflicts involve no "hold-out" or "free-rider" problems that can impede bargaining. Second, the direct costs of bargaining especially the costs of gathering and disseminating information, are likely to be less in two-party disputes. Third, two-party disputes frequently will be minor in nature and any inefficiency resulting from choice of remedy will be of little social concern. Fourth, two-party disputes more often involve two business entities where there is less likely to be some subjective value above the monetary return which the plaintiff receives from the business, and which would probably form the basis for court awarded damages. *See infra* text accompanying note 52.

28. The article also does not consider cases in which multiple pollution sources affect homeowners. Problems of causation make the application of nuisance law particularly difficult in these cases. Adequate handling of such situations requires a regulatory framework. *See* 1 F. Grad, Treatise on Environmental Law § 3.02[4] (1981).

29. *See, e.g.*, Pendoley v. Ferreira, 345 Mass. 309, 187 N.E.2d 142 (1963).

30. *See, e.g.*, Daigle v. Continental Oil Co., 277 F. Supp. 875 (W.D. La. 1967).

31. This article assumes that when the party with the superior equitable position clearly is not the most efficient user, proper choice of remedy (e.g., damages rather than injunction) can assure efficiency. Therefore, efficiency is generally not a concern in allocating the initial entitlement. A fundamental thesis of this article, however, is that cases are rare in which the efficient result is clear, but will nonetheless not occur if an injunctive remedy is used.

of goods and services to be understood, some elementary background in the economics of conflicting land use must be presented.

A. *The Definition of Efficiency*

The term "efficiency" is often used to describe the goal of optimal production and distribution of goods and services. In making judgments about efficiency, we are interested in comparing two possible states of the economy: for example, one where a polluting factory is allowed to operate and one where it is not. One possible state of the economy, State A, can be said to be more efficient than another, State B, if, in moving from State B to State A, the gainers are sufficiently better off that they could fully compensate the losers and still be ahead.[32] It does not matter for this definition of efficiency that the compensation may not actually take place. Operating the factory will be more efficient than not operating it as long as those who benefit from operation of the factory gain more than the losers, including those affected by the pollution, lose. If operating the factory is efficient, the net value of goods and services (including the value of clear air), valued by people's willingness and ability to pay,[33] will be greater when the factory is operating than when it is not. Therefore, trying to achieve the greatest efficiency is identical to trying to maximize the value of goods and services in the total economy.[34]

B. *Coase's Theorem*

A voluntary exchange will generally improve efficiency. Presumably no party to the exchange would participate unless it made her better off. If, however, there are spillovers from a product that are not taken into account by any market, voluntary transactions alone may not result in optimal efficiency. Suppose that a widget factory with the latest anti-pollution equipment nonetheless pollutes the surrounding area with smoke created by widget production. The factory does not take account of the costs inflicted on the neighboring landowners by the smoke by paying them compensation. If the value of the widgets is less than the value of the next best use of the resources used in widget production plus the value of the clean air that is being polluted, the economy is not efficient. That is, if the factory were forced to shut down, those harmed by the polluted air could fully compensate the factory owner for his lost profits and still be better off than they had been with the factory in operation. If, however, the factory is legally entitled to continue widget production, this inefficient state of affairs may continue.

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32. This Kaldor-Hicks definition of efficiency is one of two that economists use. The other definition, known as Pareto superiority, is stricter. According to this latter definition, one state of the economy is more efficient than another only if at least one person is better off and *no one* is worse off. *See* Posner, *The Value of Wealth: A Comment on Dworkin and Kronman*, 9 J. LEGAL STUD. 243, 244 (1980).

33. *See* R. POSNER, *supra* note 13, § 1.2.

34. Commentators often interchange value maximization with the more traditional formulation in note 32. *See* Michelman, *supra* note 1, at 1220.

Prior to Professor Coase's pathbreaking article[35] in 1960, economists would have concluded that government intervention would be necessary for the widget producers to take into account the cost of the smoke,[36] probably through a tax on widgets equal to this cost. Professor Coase demonstrated that the optimal number of widgets might be produced even without government intervention. Coase's theorem suggests that, as long as there are no impediments to bargaining between the factory and the neighboring landowners,[37] the efficient number of widgets would be produced regardless of whether the right to clean air belonged to neighboring landowners or the right to spew out smoke belonged to the factory.[38]

The mechanics of Coase's theorem can be simply illustrated. Assume that a widget factory's only alternatives are to continue operating with the resulting pollution or shut down completely. The factory would be willing to pay up to $100 to neighboring landowners for their consent to pollution of the air; this represents the excess of the factory's profit over the profit obtainable by the next best use of the land and other resources which go into widget production. Assume further that the landowners would cumulatively need $125 to compensate them for all the pollution. The efficient result is for the factory to shut down. If the land were used for its next best use, $100 in value of production would be lost, but the improvement in air quality would be worth $125. If the landowners have the right to clean air, the factory will shut down because it will not be profitable to pay the landowners for the right to pollute the air. The landowners would demand at least $125 for this right.

On the other hand, Coase's Theorem suggests that the factory would also shut down even if it had the right to pollute the air. The neighboring landowners would pay the factory an amount up to $125 to stop producing widgets and polluting the air and the factory would take any amount over $100. Thus, the factory will agree to stop producing for a payment between $100 and $125.

Coase's Theorem would still apply if the neighboring landowners only valued the damage from pollution at $75. Now it would be efficient for the factory to continue producing the widgets. If the neighboring landowners had the right to clean air, they would accept an amount over $75 in exchange for allowing the factory to pollute the air. The factory would be willing to pay an amount below $100. Thus, a figure between $75 and $100 would be agreed on and the factory would continue producing widgets. If, instead, the factory had the right to pollute the air, the neighboring landowners would be unwilling to pay the factory the $100 which it would require to shut down. Consequently, the factory would not shut down.

A court that was asked to decide whether the neighboring landowners had

35. Coase, *supra* note 24.

36. *See, e.g.*, PIGOU, THE ECONOMICS OF WELFARE 29-30 (1938).

37. *See infra* text accompanying note 40.

38. The *number* of widgets produced, however, may differ depending upon who has the entitlement. The distribution of the entitlement affects the relative wealth of the parties, which may affect the number of widgets produced. The number produced would be efficient, however, regardless of the distribution of the entitlement. For a further discussion, see *infra* note 39.

the entitlement to clean air or whether the factory had the entitlement to pollute would not, in this example, have to be concerned with efficiency because the efficient result would necessarily come from the parties' bargaining. Once the court decided the issue, it could make the entitlement absolute with no concern for efficiency. The efficient result would automatically follow as the parties bargained after the decision.

IV. Transaction Costs and the Case for Damages

Many simplifying assumptions have been made in the example illustrating Coase's Theorem.[39] The most crucial for purposes of this article is that there are no costs or other impediments connected with the negotiating process. Such impediments, which will be generically described as transaction costs,[40] can be very substantial in the real life analogue to the example. The negotiating process will probably be prolonged and expensive. If the neighboring landowners have the entitlement to clean air, each landowner will find it in her interest to overstate the value of clean air to her in order to try to obtain a disproportionate share of any payment from the factory.[41] If the factory has the entitlement to pollute the air and the landowners are considering paying the factory not to pollute the air, each landowner will then try to understate the value of clean air to her in order to induce others to pay for the clean air that will then be available to all.[42]

These strategies will cause the costs of bargaining to increase very rapidly as the number of homeowners increases. Each homeowner will find it to her

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39. The first assumption is that shifts in wealth do not affect the demand for clean air. If a consumer who had suffered the pollution without compensation were suddenly assigned the right to clean air, the consumer would be relatively richer than before. He may demand more to sell his right to clean air than he would pay for clean air. If the demand for clean air contains any positive income elasticity, the amount of clean air will be greater when the consumer originally has the right to clean air than if he had to purchase it from the polluter. Consequently, the number of widgets produced may decrease if the consumer has the right to clean air. *See* Randall, *Coasian Externality Theory in a Policy Context*, 14 Nat. Resources J. 35, 42-43 (1974). In addition, the wealth redistribution between the landowner and the owner of the factory may directly affect the demand for widgets. The parties may change their demand for widgets in different ways as their income changes. The wealth redistribution caused by a shift in liability rules will affect the distribution and allocation of other resources in the economy if the parties do not spend their money identically. *See* R. Posner, *supra* note 13, § 3.4, at 35 n.1. While one should not ignore these effects, their uncertainty will often reduce their utility in decisionmaking. *But see infra* text accompanying notes 155-57.

40. This article uses the term "transaction costs" to include all impediments to bargaining. These include: (1) the obvious costs of bargaining such as the opportunity costs of the time spent in actual negotiation; (2) the costs of attorneys or other representatives; and (3) other direct costs of bargaining. They would also include, however, the costs of obtaining information relevant to the transaction, including the value of the resource to the other party. Finally, "transaction costs" will also describe the problems caused by "hold-outs" and "free-riders." *See, e.g.*, McGarity, *Media-Quality, Technology, and Cost-Benefit Balancing Strategies for Health and Environmental Regulation*, 46 Law & Contemp. Probs. 159, 169-179 (1983); *see also* A. Polinsky, An Introduction to Law and Economics 18 n.11 (1983).

41. This typifies the "hold-out" situation.

42. This creates the "free-rider" problem.

advantage to mislead the other homeowners, as well as the factory, about the value of clean air to her. Transaction costs will be diminished to the extent that each party to the dispute has reliable information concerning the value of the entitlement to the other parties, but typically parties in a nuisance action will not have such information.

Even if there were only two parties to a nuisance action, transaction costs might still be substantial. For example, if a factory is willing to pay $100 for the right to pollute and the only affected landowner would be fully compensated for $25, then the agreed payment should be somewhere between $25 and $100 and each party will try to get the amount most favorable to him. The bargaining may be prolonged as each party tries to bluff the other.

Because many nuisance cases can have very substantial transaction costs, an initial placement of the entitlement by a court might not be changed by subsequent bargaining even if the placement is inefficient. If the court decides on equitable grounds that the party using the resource less efficiently should prevail, transaction costs could prevent the parties from entering into a mutually advantageous agreement to allow more valuable use. A court whose only choice is to grant an absolute entitlement to one side or the other may be faced with a very difficult choice. Perhaps the entitlement should go to one party on the basis of efficiency but to the other on the basis of fairness. Alternatively, neither party may have a superior right to the entitlement on the basis of fairness and the court may be unable to determine which party should be granted the entitlement on the basis of efficiency.

The use of conditional entitlements which allow the possessor of the entitlement to be deprived of it upon the receipt of damages seems to offer a way for the court to avoid these difficult choices. If the court decides that one party should be granted the entitlement on the basis of fairness but that granting an absolute entitlement to this person would be inefficient, the court could decide that the efficient user should have the entitlement but that the right to the entitlement would be conditioned upon that party's payment of permanent damages.[43] In this case, the actual payment of permanent damages will occur only if the court was right as to whose use of the land was more valuable. The party required to pay damages will be willing to do so only if the value of the use of land to it is worth more than the damages. Otherwise the party will abandon its right to "buy" the use of the land with damages.

Two fairly recent cases demonstrate the theoretical advantages of conditional rather than absolute entitlements. In one case the court ordered a polluter to pay damages. In the other, the court held that the polluter must cease its activity but required the other party to pay the polluter the damages resulting from discontinuing the activity. Both cases have been widely approved as models of what courts should generally do in similar cases.[44] In the next section, this article suggests that such approval may not be warranted. This section, however,

43. A decision to protect the entitlement through a grant of damages would be protection by a "liability" rule. An entitlement transferable only by voluntary transaction is protection by a "property" rule. Calabresi & Melamed, *supra* note 13, at 1092.

44. *See* authorities cited *infra* note 55.

simply presents the facts and explains why the cases have been generally applauded.

In the first case, *Boomer v. Atlantic Cement Co.*,[45] a cement plant, which cost $45,000,000 and employed over three hundred persons, was constructed in 1962 in an area that was largely residential and agricultural. The air pollution from the plant was severe, reducing the value of neighboring real estate by as much as fifty percent, but the total damage to the plaintiffs was estimated to be only $185,000.[46] The court nonetheless determined that the plaintiffs had the entitlement to unpolluted air. The court decided, however, that an injunction would not be issued. Rather, it held that paying the neighbors permanent damages equal to the decline in market value of their land would "do justice between the contending parties."[47]

If the court had issued an injunction, the landowners could have demanded huge sums from the cement factory to allow it to continue production. The company then, in all probability, would have attempted to bargain the landowners to a lower price. These negotiations would have had all the attendant costs of any large negotiation. More importantly, since such a large number of homeowners was involved, the "hold-out" problems would have been very significant, thereby increasing the transaction costs. With chances for miscalculation high, the aggregate of these transactions costs may have simply precluded any agreement, and the factory would have been forced to close in spite of the inefficiency of that result.

The second case is *Spur Industries v. Del E. Webb Development Co.*[48] Plaintiff, Del Webb, had purchased land near a cattle feedlot and developed it as a residential area. At the time of the suit many residential lots had already been sold and the buyers were adversely affected by the smell from the feedlot, and Del Webb also owned land that it was unable to develop because of the smell. The court enjoined Spur Industries, the defendant, from operating the feedlot on the ground that it was a public and private nuisance but ordered Del Webb to pay Spur the costs of discontinuing the operation of the feedlot at its present location.[49]

Because *Spur* involved questions of both private and public nuisance,[50] it is not technically a case where the court issued an injunction conditioned on the other party's paying damages. However, the case does serve as a good example of the merits of such a remedy. The harm caused by the odors from the feedlot

45. 26 N.Y.2d 219, 257 N.E.2d 870, 309 N.Y.S.2d 312 (1970).

46. Boomer v. Atlantic Cement Co., 55 Misc. 2d 1023, 1026, 287 N.Y.S.2d 112, 115 (1967), *aff'd*, 30 A.D.2d 480, 294 N.Y.S.2d 452 (1968), *rev'd*, 26 N.Y.2d 219, 257 N.E.2d 870, 309 N.Y.S.2d 312 (1970).

47. *Boomer*, 26 N.Y.2d at 226, 257 N.E.2d at 873, 309 N.Y.S.2d at 317.

48. 108 Ariz. 178, 494 P.2d 700 (1972).

49. *Id.* at 186, 494 P.2d 708. *Spur Industries* is the only case found by this author in which the court ordered one party to cease its land use, but ordered the other party to pay damages. Because the feedlot was a public as well as a private nuisance, however, Del E. Webb apparently did not have the choice of not paying damages and allowing the feedlot to continue. *Cf.* ARIZ. REV. STAT. ANN. § 36-601 (1986).

50. 108 Ariz. at 184, 494 P.2d at 706.

to the owners of neighboring land seemed clearly greater than the costs to Spur of discontinuing the feedlot on the land. At the same time, it would have been unfair to make Spur bear the costs of an injunction; Spur was there before the land was used for residential purposes and the transformation into a residential area was very sudden and apparently unexpected.[51]

Thus, in circumstances similar to *Spur*, an injunction enjoining the operation of a feedlot which requires those benefiting from the injunction to pay for the harm caused to the owner of the feedlot seems to satisfy the requirements of both efficiency and fairness. The entitlement can be awarded to the feedlot owner solely on the basis of fairness: he began his use with no reasonable expectation of the type of interference which resulted from the residential development. The conditional injunction remedy also seems to insure efficiency: since the harm is greater than the value of the operation, it is efficient that it shut down rather than continue operating. Further, since those benefiting from the injunction had the option of not paying the damages with the result that the feedlot would continue, there exists a practical test of the conclusion that closing the feedlot was the efficient result. If closing the feedlot was not worth more to those benefiting than the amount required to reimburse the feedlot owner for his damages, the damages would not be paid and the activity would continue.

V. The Case Against Damages

Many of the apparent advantages of the damage remedy and the conditional injunction presented in the previous section do not withstand rigorous analysis. Contrary to the preceding analysis, use of these remedies may frustrate, not advance, the goals of efficiency and equity. Consequently the arguments that use of damages and conditional injunctions in private nuisance actions should be significantly increased is, at best, overstated. In the analysis below it will be assumed that the residential plaintiff's measure of damages is the difference between the market value of plaintiff's property with and without the nuisance.[52] It will also be assumed that defendant's damages if a conditional injunction is issued are the costs of moving or of terminating the offending activity.[53]

Boomer is an excellent case for closely investigating the damage remedy because an injunction seems so clearly an inappropriate remedy.[54] In fact, the court's decision has received widespread approval.[55] This section attempts to

51. Spur had expanded the feedlot after Del E. Webb had started the development. This may have justified reducing the damages that Del E. Webb had to pay Spur, but the court, after having mentioned the expansion, ignored its consequences. *Id.* at 182, 494 P.2d at 704.

52. *See, e.g.*, Boomer v. Atlantic Cement Co., 72 Misc. 2d 834, 340 N.Y.S.2d 97 (1972), *aff'd*, 42 A.D.2d 496, 349 N.Y.S.2d 199 (1973).

53. *See Spur Industries*, 108 Ariz. at 186, 494 P.2d at 708.

54. *See supra* text accompanying notes 45-47.

55. *See, e.g.*, Bryson & MacBeth, *Public Nuisance, the Restatement (Second) of Torts, and Environmental Law*, 2 Ecology L.Q. 241, 273 n.155 (1972); Ellickson, *supra* note 1, at 720 n.148; Oakes, *Environmental Litigation: Current Developments and Suggestions for the Future*, 5 Conn. L. Rev. 531, 551 n.124 (1973); Note, *Internalizing Externalities: Nuisance Law and Economic Efficiency*, 53 N.Y.U. L. Rev. 219, 229-30 (1978). *But see* Comment, *Environmental Control — Judicial Grant of Easement to*

show that the goals of efficiency and equity may not have been as well served by the damage remedy as the New York Court of Appeals and the commentators have thought.

This section will also focus upon the facts of *Spur Industries* in analyzing the conditional injunction remedy. The case and the conditional injunction remedy have received much attention in the literature,[56] and the case has been cited with approval by a number of commentators. However the advantages of a conditional injunction, like those of the damage remedy in *Boomer*, may very well be largely illusory.

The discussion below is divided into three parts. The first two are relevant to both damages and conditional injunctions. The last part is relevant to damages only.

A. *Allocation of Bargaining Surplus*

Most of the objections to the damage and conditional injunction remedy concern certain assumptions and simplifications made by the proponents of these remedies which will be examined shortly. Yet, even if all their assumptions and simplifications are accepted as accurate, one difficulty remains. While damages and conditional injunctions may be efficient remedies, they will often not be equitable remedies.[57]

For this purpose of this section, it will be assumed that damages measured by the diminution in market value can be calculated with reasonable ease and

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Pollute — An Unwelcome Precedent for New York Environmental Law — Boomer v. Atlantic Cement Co. (New York Court of Appeals, 1970), 35 ALB. L. REV. 148, 159 (1970).

56. *See, e.g.*, Ellickson, *supra* note 1, at 738-48; Rabin, *supra* note 1, at 1342-45. Professor Rabin concludes that a plaintiff with no right to compensation for defendant's conflicting land use should have the right to cause the defendant to move or shut down upon payment of damages to the defendant whenever the annoyance is both "bona fide and reasonable." *Id.* at 1343. He does not expand upon these conditions. Professor Ellickson does not specify when a conditional injunction might be appropriate for the plaintiff who has no right to damages.

In addition, in those cases in which the plaintiff was entitled to damages, Professor Ellickson would permit the plaintiff to "purchase" an injunction by paying the court-determined difference between plaintiff's damages and the defendant's cost of closing down or otherwise abating the nuisance. Ellickson, *supra* note 1, at 738-39. Professor Rabin has criticized this suggestion as both inefficient and ineffective, largely because of transaction costs. He also alludes to other practical and administrative costs and difficulties with Ellickson's suggestion. Rabin, *supra* note 1, at 1339-41.

57. *See supra* text accompanying notes 35-38. Some additional assumptions are necessary: (1) all of the parties affected by the nuisance are present in the litigation; (2) all parties have or can costlessly obtain the available information concerning the effects of the nuisance; and (3) some incentive remains for the defendant to cease the activity should he become the cheapest cost-avoider. Under the foregoing restrictive assumptions the damage remedy and conditional injunction would enjoy no potential efficiency advantage over absolute entitlements, even theoretical ones. If absolute entitlements were granted, the parties would bargain to the efficient result. *See* Coase, *supra* note 24, at 7-8. Under ideal circumstances involving these assumptions, a judge would not issue a conditional entitlement for lack of advantage in doing so. Thus, the dangers of conditional entitlements would decrease. As it is very unlikely that these assumptions will be met in real life, the dangers are real.

certainty and will make whole all those adversely affected.[58] It will also be assumed that transactions are costless: there are no hold-out problems, and no organizational, communication, or negotiation costs.

Permanent damages in *Boomer* can be justified as an attempt to simulate the market transaction that would voluntarily occur between the landowner and the cement plant if not for the transaction costs. This simulation, however, may be highly inaccurate. If the value of the entitlement were greater to the cement plant than to the landowners, negotiations accompanying a voluntary exchange could have resulted in a price anywhere between the value to the landowners and the value to the cement plant. The plant owner may have been willing and able to pay substantially above the diminution in market value which the activity caused to the affected property.[59] If the landowners in *Boomer* had been shrewd bargainers for example, the price they would have received may have been very close to the value of the entitlement to the cement plant. In a sense, such a situation would have resulted in their having received a "surplus" over what clean air was worth to them. Yet the *Boomer* court awarded only the decline in market value.

The difference between the decline in the market value of neighboring land and the price which might be paid by the polluter in an arm's length transaction will often be substantial, although very difficult to estimate in advance. In spite of that there is no apparent justification for depriving neighboring landowners of a sum which, had the polluter been required to bargain prior to the construction of the plant, might have been theirs. Owners of land are not generally required to sell their land at its market value to someone who is trying to assemble a larger parcel for some productive, non-residential use. The homeowners in such situations have the right to try to hold out for some of the surplus value.[60] It is not clear why the landowners in *Boomer* should not have had a similar right with respect to the entitlement to clean air.[61]

Once a jurisdiction adopts *Boomer*, this bargaining surplus will always be captured by the polluter, whether or not the case actually goes to trial. The polluter will know that the maximum which a court will award is the diminution in market value if it finds his activity to be a nuisance, and consequently there will be little incentive for any pre-construction purchase of rights for a sum greater than this amount. Thus, if the parties do conclude a purchase of the right to pollute and avoid a lawsuit, it is likely to be at a price close to the diminution in market value of the land.[62]

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58. *See infra* text accompanying notes 63-96.

59. *See infra* text accompanying notes 87-93.

60. *See* Note, *Injunction Negotiations: An Economic, Moral and Legal Analysis*, 27 STAN. L. REV. 1563, 1575-76 (1975). For discussion of why eminent domain proceedings are inapposite to the issues under consideration here, see *infra* text accompanying notes 92-93.

61. In most cases, an accurate direct determination of the division of the bargaining surplus by the court would be impossible. The court would have to evaluate the bargaining ability of the parties, determine whether an early consummation of the bargain is more important to one party, and assess the ability of one party to gather information about the other. Thus, the suggestion to award homeowners damages measured in some manner other than by the decline in market value helps little.

62. The landowners may accept a price lower than the decline in market value. Both parties

Similar difficulties exist for conditional injunctions. The defendant in *Spur* was entitled to receive only its damages, while the value to the plaintiff and the homeowners who purchased the land from the plaintiff may have been much greater. While in *Spur* the surplus went to the developer of residences rather than the defendant polluter, the defendant occupied a strong equitable position and arguably deserved at least some of the surplus. The relatively small number of cases where compensated injunctions are appropriate, however, means that increased use of conditional remedies by the courts will result in an anti-residential bias, as it did in *Boomer*.

The failure of the damage remedy and the conditional injunction to appropriately award the bargaining surplus is not a crucial defect because under the assumptions made thus far no one ever receives less than the value of what they are giving up. However, this element of unfairness is only one of several ways in which the damage remedy may be unfair and may result in an anti-residential bias.

B. *Determination of Damages*

The calculation of either the plaintiff's or the defendant's damages is far from a costless, precise exercise and may not measure the true damages of the parties before the court. In addition, there may be damages to persons who are not parties to the lawsuit. The costs and imperfections of a court's determination of damages may vitiate the theoretical superiority of damages and conditional injunctions.[63] This section discusses in four segments the problems in calculating damages: first, the costs involved in calculating damages; second, the errors and approximations that will inevitably be made in trying to measure damages; third, the difference between objective value as determined by a court and subjective value; fourth, the problems caused when all individuals affected

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would save litigation costs by avoiding trial. Thus, each has incentive to settle. However, the landowners may have a greater incentive. First, if the polluter is a large corporation, the landowners might believe that corporate assets will enable the polluter to use tactics to exhaust the landowners' resources. The landowners will perceive the potential litigation costs as high and anxiously avoid them. Secondly, the landowners may believe that the legal system and the greater wealth of the corporation will enable it to win a lawsuit, despite their injury. The landowners may substantially discount their likelihood of success and take a low, but certain, sum rather than risk litigation.

63. As long as courts continue to grant injunctive relief where efficiency is not adversely affected, wealthy plaintiffs will more often receive injunctions and less wealthy plaintiffs will more often receive damages. The discussion of value has assumed a definition consistent with that of traditional welfare economics: "value" is measured by the ability and willingness (expressed in dollars) of the consumer or the producer to pay for the product, or the amount which a consumer or producer would be willing to take to give up a particular product. *See* R. POSNER, *supra* note 13, § 1.2. A person's willingness and ability to pay for a particular item is a function of his income; a person with a large income will generally be willing (and able) to pay more for a product (or resource) such as clean air than a poor person. Therefore, when the homeowners are rich there is a greater likelihood the entitlement to clean air will be worth more to the homeowners than the entitlement to pollute will be worth to a factory than when the homeowners are poor. If a court issues an injunction only where the entitlement is more valuable to the plaintiff than to the defendant, or where the values appear approximately equal (perhaps to avoid the problems discussed in the prior section), the rich homeowner is more likely to receive the injunction. The poor homeowner will be awarded only damages.

by pollution are not parties to the suit. The first segment has implications for economic efficiency; the second, third and fourth, for both efficiency and equity.

1. Costs of information

Determination of market values can be very costly. The history of the *Boomer* case, after the New York Court of Appeals had decided, in effect, to limit the plaintiffs to damages, illustrates this point nicely. The case was remanded by the Court of Appeals to the trial court for a determination of permanent damages.[64] The opinion of the trial court indicates that both plaintiffs and defendant introduced numerous expert witnesses who testified to the value of the property; over 900 pages of testimony were taken.[65] In addition, one plaintiff appealed the trial court's determination, and the Appellate Division was required to reconsider the trial court's decision.[66] Obviously, substantial administrative costs were involved.

If an injunction had been issued in the *Boomer* case, the plant probably would have attempted to negotiate with the homeowners to arrive at a payment sufficient for them not to enforce the injunction. It is, of course, extremely difficult to predict the consequences of such bargaining. Some commentators, however, have concluded that the costs involved in determining the appropriate amount of damages will almost always be less than the costs involved in resolving the rights after an injunction.[67] In discussing the costs of bargaining after an injunction, Professor Ellickson emphasizes the difficulties of each side's ascertaining the bargaining position of the other wise and the social costs of such strategies as exploratory offers, false signals, and threats.[68]

Prolonged negotiations, however, may also accompany an action for damages.[69] For example, there may be a high degree of uncertainty in predicting the court's eventual damage determination.[70] While the range of possible settlement figures may be somewhat smaller than where injunctive relief is avail-

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This remedial discrimination would not be a problem if damages simulated the exchange that would follow an injunction and negotiations. As section IV indicates, however, the homeowner suffers in several respects if his remedy for pollution is damages rather than an injunction. Damages will not fully compensate him for the harm the pollution caused. Limiting the award in all nuisance cases to damages could avoid discrimination on the basis of wealth; however, such an expanded use of this remedy may produce inefficient and inequitable results for the other reasons explained in this article.

64. *See* Boomer v. Atlantic Cement Co., 72 Misc. 2d 834, 340 N.Y.S.2d 97 (1972), *aff'd*, 42 A.D.2d 496, 349 N.Y.S.2d 199 (1973).

65. The report of the case does not indicate precisely how much testimony was taken. The references to the record, however, indicate at least 900 pages occupying three volumes. *See* Boomer v. Atlantic Cement Co., 72 Misc. 2d 834, [839-42], 340 N.Y.S.2d 97, 103-06 (1972) (citations to record not included in official reporter), *aff'd*, 42 A.D.2d 496, 349 N.Y.S.2d 199 (1973).

66. Kinley v. Atlantic Cement Co., 42 A.D.2d 496, 497, 349 N.Y.S.2d 199, 200 (1973).

67. *See, e.g.*, Ellickson, *supra* note 1, at 744-47.

68. *Id.* at 744.

69. *See supra*, Woj, note 1, at 416.

70. Professor Ellickson recognizes that the savings in negotiating costs resulting from the adoption of a permanent damage remedy in nuisance cases depends upon the parties' advance knowledge of the amount of the award. *See* Ellickson, *supra* note 1, at 744 n.218. However, he fails to indicate a method of achieving such certainty.

able, it is likely to remain significant.[71] In any event, it is not clear that the costs involved in determining damages will be lower than the costs involved in negotiating after an injunction has been issued. Even in *Boomer* there might have been fewer costs involved in negotiating after an injunction than in the involved litigation and negotiations that actually took place.[72]

It is misleading to assume, however, that bargaining after the factory has been built will be necessary in every case. If someone contemplating the construction of a plant knew that an injunction would be issued if his plant were found to be a nuisance, he might try to reach agreement with the landowners before building the plant. If such bargaining were successful, there would be neither litigation costs nor post-litigation bargaining costs incurred. Since pre-construction settlement may occur in many cases, the costs of negotiating before a plant is built may be the most relevant figure in comparing the costs of injunctions with the administrative and negotiating costs of damages.[73] There is no reason to believe that pre-construction bargaining costs would be greater than post-injunction bargaining costs, and they may be less.[74]

Inasmuch as the administrative costs of damages may be greater than the costs of injunctions, in those cases injunctions will be the less expensive remedy

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71. *See infra* text accompanying notes 78-86. In addition, Professor Ellickson suggests that the plaintiff should have the right to "purchase" a forced injunction by paying the difference between his damages and defendant's relocation costs. Granting such a right to the plaintiff will increase valuation costs since in most cases courts would have to make the difficult determination of defendant's relocation or termination costs as well as plaintiff's damages. Ellickson, *supra* note 1, at 738-48.

72. Although the plaintiffs may enjoy a strong bargaining position in such a case, reference to such a position as "extortionate" is erroneous. *See* Mechem, *The Peasant in His Cottage: Some Comments on the Relative Hardship Doctrine in Equity*, 28 S. CAL. L. REV. 139, 142 (1955); Ogus & Richardson, *supra* note 1, at 293; Winner, *supra* note 16, at 495. While a plaintiff might have accepted a lower price if his bargaining position were weaker, that alone does not justify criticism of his refusal to accept such an amount when his bargaining position improves after a court determines his legal entitlement. For example, the plaintiffs' willingness to accept a lower amount as a settlement if the parties had resolved potential conflicts by bargaining before the factory was built probably reflects the risk that no cause of action existed, the litigation costs saved, and the fixed costs incurred by the defendant. Criticism of the improved bargaining position of plaintiffs is unjustified. *See* Kinley v. Atlantic Cement Co., 42 A.D.2d 496, 498, 349 N.Y.S.2d 199, 202 (1973) (Herlihy, J., concurring); Note, *supra* note 60, at 1574-76.

73. The *Boomer* court apparently did not consider whether or to what extent defendant had tried to bargain with the plaintiffs before starting construction. If the plaintiffs had been willing to bargain in good faith prior to the construction of the plant, the defendant's argument that an injunction should not be issued after the plant was built because of the large investment which would be lost becomes accordingly weaker. The court's refusal to grant an injunction without investigation of the extent to which the defendant had tried to bargain before building the plant may encourage those planning to build polluting factories (and similar nuisances) not to bargain in good faith prior to construction, but to rely upon the court to award damages to injured parties. Thus, the damage remedy might, in some circumstances, actually act to discourage private bargaining.

74. In theory, these costs should be similar since the plaintiff's absolute entitlement forms the basis for the negotiations. However, because the parties in a pre-construction context have not been adversaries, bargaining possibly will involve less ill-will and intransigence, and so cost less.

for compensating landowners when a factory is built.[75] Similarly, the administrative costs of a conditional injunction may be greater than the costs of granting an absolute entitlement to the defendant. Furthermore, the administrative and negotiating costs involved in determining damages may make moving to a more efficient use of land not worthwhile. For example, if a proposed factory will add $1,000,000 of benefits to the owners and others, but will cause $900,000 of damges to neighboring landowners who have the entitlement, it would appear that the factory should be built and the landowners paid damages. If the costs of determining appropriate damages exceed $100,000, however, it may be more efficient simply to issue an injunction, depending upon the bargaining costs which will be incurred after the injunction.[76] Thus, even when it appears that a damage remedy will further efficiency, an injunctive remedy may ultimately prove less costly to society.[77]

2. Diminution in market price is uncertain

No parcel of real estate has precisely the same characteristics of any other parcel. The fungibility that makes it possible to determine the market price of an ounce of gold on any particular day does not exist. That one three-bedroom house sells for $50,000 does not imply that another three-bedroom house will sell for $50,000. Residential property consists of innumerable variables which individually and in combination determine the property's value. This creates a substantial problem in valuing property, which is magnified in a case such as *Boomer* because the property has to be valued with and without the nuisance.[78]

Once again the history of the *Boomer* case following the decision of the New York Court of Appeals illustrates the point. The trial court on remand referred to the great variance in market value set by the experts.[79] For example, one appraiser valued a 283 acre dairy farm owned by one of the plaintiffs at $210,000

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75. For example, suppose a factory adds $1,000,000 in benefits to the economy but through pollution causes $900,000 in damages to homeowners who have the entitlement. If the administrative costs of damages are $50,000 and the administrative costs of an injunction are $25,000, the injunction is preferable. The administrative costs of an injunction would include all the costs of negotiation necessary for the factory to purchase the homeowner's entitlement.

76. If such costs are at least $100,000 less than the negotiating costs and administrative costs of a damage remedy, an injunction should issue, even though it may prevent the factory from being built, as where post-injunction costs would exceed $100,000 but be at least $100,000 less than the costs of a damage remedy.

77. The most efficient solution is to build the factory with no relief for the homeowners. However, this is not equitable. *See supra* text accompanying notes 23-24.

78. A range of prices representing what most people would pay for a given piece of real estate can be established, and the range may occasionally be fairly narrow. To establish a narrow range, however, will require a substantial data base of similar property sales. In a large city, this task may be easy and inexpensive, but in a smaller community, the difficulty increases since the frequency of sales decreases. Reasonable assessment of the value of a piece of property requires the use of the sales of similar properties in other communities as part of the data base. This method could be expensive and ultimately unreliable since communities differ in many ways which affect the market values of individual parcels.

79. Boomer v. Atlantic Cement Co., 72 Misc. 2d 834, 840-42, 340 N.Y.S.2d 97, 104-06 (1972), *aff'd*, 42 A.D.2d 496, 349 N.Y.S.2d 199 (1973).

without the nuisance while another valued the same farm at $420,500,[80] a difference of more than $200,000. Similarly, one expert assessed the effect of the nuisance on the farm to be a reduction in value from $140,000 to $105,000[81] while another stated that its value with the nuisance was only $25,000.[82] Other similar examples were discussed by the court. On cross-examination of one of the experts, the following dialogue took place:

> Q: Obviously it's [the appraisal of real estate] not an exact science, is it?
>
> A: No, sir.
>
> Q: And would you say that ten different appraisers viewing this property and using the same three methods [of valuation] would come up with varying opinions as to value?
>
> A: I would say that's right, yes, sir.
>
> . . . .
>
> Q: So, in effect, we could have 10 or 15 people here and get 10 or 15 different opinions?
>
> A: I would agree with that.[83]

One expert, when asked to determine the effect of a nuisance upon the market value of another property, frankly admitted that he had never testified in a case involving a nuisance.[84]

Similar problems would exist in a case like *Spur* where the damages involved in moving or terminating a business would have to be determined. The problem would probably involve calculating lost profits, a process that courts have often recognized as very speculative.[85] This imprecision in estimating damages may

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80. *Id.* at 840, 340 N.Y.S.2d at 104. Even though these experts testified for opposing sides, their assessments still differ impressively.

81. *Id.* at 841, 340 N.Y.S.2d at 105.

82. *Id.*, 340 N.Y.S.2d at 104.

83. *Id.*, 340 N.Y.S.2d at 105.

84. *Id.* at 842, 340 N.Y.S.2d at 106. Appraising real property is difficult enough; hypothesizing about its value absent the nuisance is even more difficult. The nuisance will probably affect much of the relevant local market so that comparisons between affected and non-affected properties are impossible, even if sufficient similar properties exist. Thus, the court would have to rely on assessments based upon sales of non-affected properties in other communities as well as conjecture. This method would be less certain and more costly than if similar properties existed within the community. *See, e.g.*, Seneca Hotel Corp. v. Chacchia, 13 A.D.2d 896, 897, 215 N.Y.S.2d 518, 519-20 (1961) (property valued by various parties at $45,373; $64,468; $85,271; and $130,000), *aff'd*, 10 N.Y.2d 1031, 180 N.E.2d 435, 225 N.Y.2d 48 (1962); Southwestern Bell Telephone Co. v. Ramsey, 542 S.W.2d 466 (Tex. Civ. App. 1976) (plaintiff's expert valued condemned property at $50,000, while defendant's experts estimated $261,000 and $337,000); *see also* Treshoma Realty Co. v. Santini Bros., Inc., 35 Misc. 2d 795, 798, 231 N.Y.S.2d 568, 571 (1962); Hazard Lewis Farms v. State, 1 A.D.2d 923, 924, 149 N.Y.S.2d 658, 661 (1956).

85. *See, e.g.*, Smith v. Onyx Oil & Chem. Co., 218 F.2d 104, 110 (3d Cir. 1955); Carnera v. Schmeling, 236 A.D. 460, 260 N.Y.S. 82 (1932); R. DUNN, RECOVERY OF DAMAGES FOR LOST

make the damage remedy or the conditional injunction inequitable to one of the parties. A person may be forced to accept damages that do not reimburse him for the exchange that he is forced to make. Alternatively, the other party may be forced to pay too much as compensation.

There are also adverse consequences for the efficient allocation of resources. If the amount of damages is incorrect, then land may not be used most efficiently. For example, if the court awards too small an amount of damages to plaintiffs who are adversely affected by pollution, the defendant may pay the damages and remain in business, whereas if the court awarded true damages, the defendant would relocate or close down. In the former case, the entitlement to the air would not be allocated to the party to whom it was most valuable, and because of transaction costs there might be no further bargaining to bring about an efficient allocation. As a result, the remedy designed to eliminate misallocation of resources caused by injunctions may very well create an inefficient allocation of resources, but only after substantial public and private valuation costs have been incurred.[86]

3. Subjective value (Consumer Surplus)

Another reason that damages or conditional injunctions do not necessarily lead to allocative efficiency or equity is that the payment of damages to a landowner often does not represent the landowner's total cost even if he is paid exactly the decline in "true" market value. The problem, once again, is most severe when homeowners are affected by pollution and must give up their entitlement to be free of pollution upon the payment of damages.

When products are fungible, a person who is forced to sell an item at market value can simply repurchase the item at market price, with no loss except for the costs of entering the market. However, real property, especially residential property, is not fungible. If a person is forced to sell his residence at market value,[87] his repurchase of a similar home may not provide him with equal satisfaction. He may not have voluntarily sold his house at the market price because he values the house at a price higher than market and cannot purchase a home giving him similar satisfaction at market price.

For similar reasons, a homeowner confronted by a conflicting land use may not be adequately reimbursed even if the decline in market value caused by

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PROFITS § 5.1, at 133 (1978). *See generally* C. MCCORMICK, HANDBOOK ON THE LAW OF DAMAGES § 28 (1935) (lost profits are often too speculative to be proven with sufficient certainly).

86. *See supra* text accompanying notes 65-77.

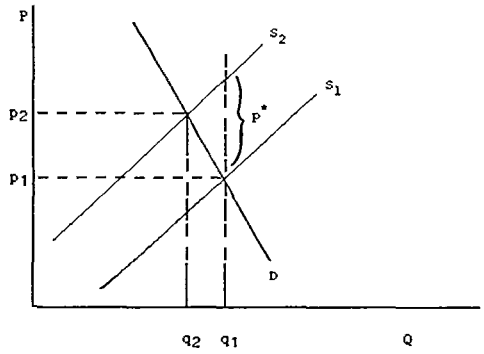
87. Strictly speaking, the uniqueness of each parcel of real property precludes it from having a "market value"; unless the parcel has just been sold in a free transaction, the "market price" must represent a guess as to what a willing buyer would pay a willing seller for that particular parcel. Because properties do have some, and often many, features in common with other properties, however, one can determine a range of prices above and below which the property probably would not sell. Development of this range will probably involve averaging the prices of sales of properties with substantial similarities. AMERICAN INSTITUTE OF REAL ESTATE APPRAISERS, THE APPRAISAL OF REAL ESTATE 68-69, 273-75 (7th ed. 1978). Thus, the terms "market price" or "market value" in the context of this section signify the average price of similar properties.

the conflicting use is accurately determined. If he values the lost entitlement more than the market does, he will be undercompensated. If residences were fungible this would present no problem since the homeowner should be able to sell the residence, and use sales proceeds and his damages to replace the old residence with one in an unpolluted area. But if the homeowner had originally valued his house at more than the market value, the sale of his old residence and purchase of a new one with his damages and sales proceeds will not leave him equally well off. He cannot replace the value he attached to his old home which was not reflected in the market price. More than trifling incursions into residential amenities may be at stake; the pollution in the *Boomer* case was found to have reduced the true market value of property by as much as fifty percent.[88]

Valuation of a house above market value may be due to such factors as long-time familiarity with a particular house or neighborhood, sentimental attachment to the house or neighborhood, or features of a house that make it particularly well-suited to one's needs. While such values will, to some extent, be reflected in the market price of the property,[89] in many cases the homeowner

88. Boomer v. Atlantic Cement Co., 72 Misc. 2d 834, 844, 340 N.Y.S.2d 97, 108 (1972), *aff'd*, 42 A.d.2d 496, 349 N.Y.S.2d 199 (1973). The expert testimony during the trial on remand differed greatly. *See supra* text accompanying notes 80-83. One expert valued a particular parcel at $420,500 without the nuisance and $25,000 with the nuisance. Boomer v. Atlantic Cement Co., 72 Misc. 2d at 840-41, 340 N.Y.S.2d at 104. In addition, the trial court initially estimated total damages for all of the original plaintiffs to be approximately 50% of the total value of their property. Boomer v. Atlantic Cement Co., 55 Misc. 2d 1023, 1026, 287 N.Y.S.2d 112, 115 (1967), *aff'd*, 30 A.D.2d 480, 294 N.Y.S.2d 452, *rev'd*, 26 N.Y.2d 219, 257 N.E.2d 870, 309 N.Y.S.2d 312 (1970).

89. Subjective values will typically increase the equilibrium selling price and reduce the quantity sold. A simple (and over-simplified) diagram illustrates this.



Let S_1 be the hypothetical supply curve of houses if sellers had no subjective value in the houses and S_2 the actual supply curve. p^* represents a measure of this subjective value; it shows the extra amount sellers will require to sell any quantity of houses as a result of the subjective value. D is the demand curve for houses.

Sellers' subjective value decreases the quantity of houses from q^1 to q^2 and increases the equilibrium price from p^1 to p^2. The difference between p_2 and p_1 will be less that p^*. The size of the difference between q_1 and q_2 and between p_2 and p_1 will depend on the slopes of the supply and demand curves.

will still subjectively value the residence above the market.[90] As a result, there is reason to believe that many people will be very substantially undercompensated. It is not hard to imagine that some people will have a very strong attachment to the area in which they grew up or to the house in which they were born. These persons will be faced with the choice of foregoing such important values or tolerating the nuisance created by defendant.[91]

The presence of subjective value when damages are awarded to homeowners means that the damage remedy may be neither equitable nor efficient. It may not be efficient because the polluting activity may be undertaken even when its benefits are less than the full measure of damages caused by the pollution. It may not be equitable because the polluting activity deprives the homeowners

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As the market value of a parcel would be determined in a court proceeding on the basis of recent sales of similar property, one would not expect the market price to reflect the subjective value that many homeowners have for their residences. Many items which compromise the value above the market accrue slowly. These items include familiarity with a particular house and neighborhood, close friends in the immediate area, and emotional attachment based upon long-time family presence. People who occupy their homes long enough for such values to accrue by definition do not sell frequently. The correctness of this argument requires that the emotional attachment to a particular residence, and therefore the subjective value of that residence, increases over time. Other writers have made this reasonable assumption. *See, e.g., Ellickson, supra* note 1, at 736.

90. One might erroneously assume that *all* homeowners attach a subjective value to their properties above the market, or else they would sell their property and recover the market price. Buying and selling residential property and moving from one residence to another involves substantial transaction costs. These costs include the search costs incurred in finding other property, the substantial direct costs in moving, such as paying for the moving company or rental truck, the opportunity costs incurred by the time consuming, unpleasant process of moving, and the substantial costs (e.g., realtor's commissions) of finding a buyer. Some homeowners may not value their homes above the current market value, but value it much more than the *net* amount recoverable upon sale at the market price. Nonetheless, if a homeowner has not sold at the market price, some evidence exists that he values a residence above the market price.

91. However, a court can continue to rely upon the damage remedy, but attempt to include in the award the value of the consumer surplus that the injured party might have. *See, e.g.*, Ogus & Richardson, *supra* note 1, at 307. This amount cannot be accurately assessed without prohibitive costs. *See* A. POLINSKY, *supra* note 40, at 22; Michelman, *supra* note 24, at 1254-55.

Professor Ellickson suggests a solution to the problem of compensation for subjective value. He advocates payment of a "consumer bonus" above the actual market value of the residence to homeowners who suffer from a nuisance. Legislated schedules could determine this bonus, perhaps as various percentages of the market value award. Percentages would be based upon such factors as longevity of occupancy. Ellickson, *supra* note 1, at 736-37.

A more limited use of the damage remedy is preferable to Ellickson's consumer bonus for a number of reasons. First, the administrative cost of establishing and enforcing such a schedule is likely to be substantial. Parties will disagree over which factors should count in making up consumer surplus, the monetary value, and the rate by which they increase with longevity of occupancy.

Second, error will be costly in at least two ways. The schedules might not accurately reflect the factors which make up consumer surplus and their approximate value. The schedules require empirical work, which is lacking. The factors which complicate individual determinations of consumer surplus will complicate determination of an "average value" for purposes of a schedule. Even if such schedules reasonably reflected the average value of various factors, the error cost will remain high if a wide disparity exists among individuals.

Finally, the proposed schedule will not remove the other shortcomings of the damage remedy. *See supra* text accompanying notes 57-62; *infra* text accompanying notes 94-163.

of the subjective value by forcing them to take only the diminution in market value of the property.

If the above analysis is correct, the question is whether it is fair to redistribute wealth by depriving the homeowner of the subjective value existing prior to the nuisance causing activity in order for the person causing the nuisance to recognize a benefit. Whether this redistribution is unjust depends, of course, on the society's distributional goals and ideals. If one of the society's distributional goals favors redistribution from rich to poor, then depriving the residents of this subjective value for the benefit of others may not be unfair if the redistribution in fact goes in this direction. To suggest that the beneficiaries of this redistribution are always poorer than the residents seems, however, to be a very questionable proposition. At the very least, it would appear safe to say that there is no strong evidence for believing that a clear correlation exists. Thus, forcing residents to take only the objective value of their land will not necessarily result in a redistribution of wealth from rich to poor.

The nature of the interests subject to deprivation is also an important issue. Presumably, the more significant the loss and the more difficult the value is to replace, the greater the justification needed to support its deprivation. The subjective value in a residence is usually a result of a particular combination of factors including those qualities that made the residence especially appealing at the time of purchase, the time and effort spent making the residence a close reflection of the owner's personality, and the security and intimacy provided by the familiarity with pleasant surroundings that occurs over time.

These factors form the basis for the owner valuing her home above the market, and are the values lost when she is paid only the diminution in market value caused by the nuisance. Her home is now subject to an unwelcome intrusion, no longer the place of intimacy and familiarity. This loss is significant and one not easily replaced, since it is only through a substantial expenditure of time and effort that it accrued in the first place. It may be that over a long period the residence in its undisturbed form becomes so intimately connected with the owner that its loss or its undesirable alteration would require very great compensation. To forcibly redistribute this "wealth" should require a very substantial justification. If efficiency cannot provide it, and nuisance producers cannot be shown to generally be the favored subjects of redistribution, it is hard to see what this justification might be.

In addition, there may be economic reasons for refusing to redistribute the wealth from the homeowners to the factory. Protecting the family residence from substantial interference by injunctions, thus providing personal and family security, may produce "positive externalities," that is, benefits beyond those which individuals recognize in private transactions. The existence of such benefits is conjectural, but the emotional security of individuals seems likely to produce positive benefits for the society not accounted for in the typical valuation process. Likewise, the sense of well-being resulting from pleasant residential surroundings may produce this same kind of common benefit. While the market value of residences would reflect the average of individual valuations of residential amenity, there seem likely to be other positive effects associated with this amenity that are not so reflected. For example, people may be more pro-

ductive at work because they have pleasant and comfortable surroundings in which to relax after work. This increased productivity is unlikely to be included in any individual's valuation of the worth of the well-being provided by the residential amenity.

While the government in exercising its eminent domain power has the ability to deprive the owner of this subjective value,[92] there are significant reasons for not generally extending this ability to private parties. First, exercises of the eminent domain power generally result in a widely distributed public benefit. The redistribution of the subjective value accrues to the public at large rather than to a few individuals. Although this may not matter to the resident, it may, on the other hand, make the loss more palatable because it does not seem that any particular individual, or small group of individuals, is being preferred to him or benefiting at his expense.

In addition, the governmental interest in overcoming the "hold out" problem when it must secure a number of parcels, or when a single owner is engaging in strategic bargaining may be very important to the public welfare or safety. For example, it may be that the governmental acquisition is necessary to provide for the national defense, which may be seriously imperiled by delay. The acquisition of land on which to place missile installations, or the acquisition of land to improve a road which is presently very dangerous are representative scenarios. These considerations are unlikely to be present when the conflict is between two private parties.

Finally, since eminent domain does have the potential for redistributing subjective value, it has been suggested that its use be limited to cases where the governmental interest is very strong and the problems with reaching a voluntary transaction very great.[93] If these criteria are proper in determining when the use of the eminent domain power is appropriate, they provide little basis for a broad general rule permitting private parties to deprive residents of the subjective value in their homes.

4. Parties to litigation

The amount of damages awarded to the landowners for pollution, will understate the costs of the pollution to the extent that not all the landowners affected by the pollution bring or join actions to recover damages. Some parties may not realize that they are affected by the pollution and thus may fail to bring suit. Additionally, the costs of litigation and procedural limitations on class actions[94] may mean that the costs paid to the plaintiffs do not represent

92. U.S. CONST. amend. V; *id.* amend. XIV § 1; OHIO CONST. art. I § 19; *id.* art. XVIII §§ 10-11.

93. *See* R. POSNER, *supra* note 13, at 11-12.

94. If the plaintiff brings a class action in federal court, he will have the burden and costs of notifying the members of the class. Eisen v. Carlisle & Jacquelin, 417 U.S. 156 (1974). Such class actions in federal court will be rare because each class member must satisfy the jurisdictional-amount and diversity status. Zahn v. International Paper Co., 414 U.S. 291 (1973). But often the state class action rule follows Federal Rule of Civil Procedure 23, and most states will follow *Eisen*.

the full cost to society of defendant's activity. Consequently, a company may pay permanent damages and still remain in production despite the fact that the more efficient result would be to close down or relocate.

The cost of litigation is a substantial disincentive to bringing a lawsuit. The availability of contingent fee arrangements ameliorates this to some extent, but there are substantial litigation costs beyond attorney's fees. The time spent in litigation, costs for which attorneys are reimbursed despite the presence of contingent fee arrangements, and adverse effects upon personal relationships[95] are some examples of these costs.

Individuals will tend not to bring actions for damages to the extent that costs of litigation are substantial relative to the amount of damages that may be recovered. The problem of landowners not bringing or joining actions for damages will be most severe when each one of a large number of landowners has suffered a small amount of damage. The cumulative damage, however, may still be great. This combination is likely to exist for certain types of pollution.[96] In such cases, the remedy of damages will very likely not result in economic efficiency.

Parties not joining a lawsuit will cause even more severe problems when the court chooses to use conditional injunctions. If landowners know that joining a lawsuit will obligate them to contribute to a fund, they will be reluctant to join the lawsuit. Some will remain uninvolved hoping others will contribute to the fund that will be used for "purchasing" an injunction to enjoin a conflicting use of land. It is exactly this type of free-rider problem that makes the conditional injunction impractical in most situations when the number of potential plaintiffs exceeds a very small number.

C. *Existence of Uncertainty*

Until now the uncertainty of future consequences has been neglected. This section discusses first the implications of present uncertainty about the future effects of pollution. Second, it considers the consequences of technological change.

1. Future health consequences of pollution

Under the restrictive assumptions of perfect, costless information and rational behavior, the risk of future health effects from pollution is no different from any other factor impacting on the market value of residential property. Thus, injecting it into the analysis does not affect the foregoing conclusions. The risk

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See, e.g., MINN. R. CIV. P. 23.01-.05; OHIO R. CIV. P. 23. *But see* N.Y.R. CIV. P. 904 (plaintiff will ordinarily bear the expense of notification, but court may order defendant to bear expense if justice so requires).

95. An example would be animosities engendered when landowners sue a manufacturer which employs their neighbors. In *Boomer*, the cement plant employed 300 persons which may explain the small number of plaintiffs in the lawsuit. *Boomer*, 26 N.Y.2d at 225 n*, 257 N.E.2d at 873 n*, 309 N.Y.S.2d at 316 n*.

96. A typical example would be a rendering plant emitting an unpleasant odor that affects a large area.

of future adverse consequences from pollution should be reflected in the market value of the property subject to the pollution; this risk is a component of the damages that the polluter would have to pay the neighboring landowners. However, if a homeowner cannot purchase an equally satisfactory residence with the damages he receives and the price he gets from his now-polluted home, and if he is more sensitive to pollution than the population at large,[97] he will be undercompensated by the payment of damages.

This section will explore why the assumption that future adverse consequences from pollution will be reflected in the market value of property is necessarily false, and why the market will systematically undervalue the risk of future health effects from pollution. Heavy reliance on a damage remedy in private nuisance cases will result in potentially serious consequences. This is particularly so in nuisance cases involving air and water pollution which continue to arise on a regular basis.[98] While both federal and state governments have enacted considerable legislation aimed at dealing with pollution,[99] there is much evidence that this legislation is inadequate to deal with the hazards presented by the introduction of substances into the air and water.[100] For example, a list of thirty-nine recognized and suspected carcinogens emitted by fossil fuel power plants has been compiled by D.F.S. Natusch.[101] Of these, only five are regulated under federal environmental protection statutes.[102] Recent commentators have argued that a private nuisance action retains viability as a means of preventing pollution despite the existence of anti-pollution statutes and regulations.[103]

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97. If he were not more sensitive to the risk than the population at large, damages representing the decline in market value would fully compensate him, even if the residence possessed some subjective value. The landowner can always retain the residence rather than use the damages and sale proceeds to buy another residence. *See supra* text at § IV.

98. *See, e.g.*, Carpenter v. Double R Cattle Co., 108 Idaho 602, 701 P.2d 222 (1985); McCastle v. Rollins Envtl. Servs., 415 So. 2d 515 (La. App. 1982); Frank v. Envtl. Sanitation Mgt., 687 S.W.2d 876 (Mo. 1985); Branch v. Western Petroleum, Inc., 657 P.2d 267 (Utah 1982); *see also* Allen v. City of Ogden, 210 Kan. 136, 499 P.2d 527 (1972); Boomer v. Atlantic Cement Co., 26 N.Y.2d 219, 257 N.E.2d 870, 309 N.Y.S.2d 312 (1970); Folmar v. Elliot Coal Mining Co., 441 Pa. 592, 272 A.2d 910 (1971); Jost v. Dairyland Power Coop., 45 Wis. 2d 164, 172 N.W.2d 647 (1969).

99. *E.g.*, Federal Water Pollution Control Act of 1972, 33 U.S.C. §§ 1251-1376 (1982 & Supp. II 1984); Clean Air Act, 42 U.S.C. §§ 7401-7642 (1982 & Supp. II 1984).

100. *See, e.g.*, Leape, *Quantitative Risk Assessment in the Regulation of Environmental Carcinogens*, 4 HARV. ENVTL. L. REV. 86, 104-07 (1980); Schroeder, *A Decade of Change in Regulating the Chemical Industry*, 46 LAW & CONTEMP. PROBS. 1, 38-40 (1983).

101. Natusch, *Potentially Carcinogenic Species Emitted to the Atmosphere by Fossil Fuel Power Plants*, ENVTL. HEALTH PERSPECTIVES, Feb. 1978, at 79.

102. National Emission Standards for Hazardous Air Pollutants, 40 C.F.R. §§ 61.01-.71 (1985) (standards for beryllium, vinyl chloride, mercury, benzene and radon-222).

103. *See* Bleiweiss, *Environmental Regulation and the Federal Common Law of Nuisance: A Proposed Standard of Preemption*, 7 HARV. ENVTL. L. REV. 41, 68 (1983); Furrow, *Governing Science: Public Risks and Private Remedies*, 131 U. PA. L. REV. 1403, 1413 (1983); Note, *Environmental Law — The Nuances of Nuisance in a Private Action to Control Air Pollution*, 80 W. VA. L. REV. 48, 86 (1977). Other reasons have also been suggested for use of nuisance suits to prevent pollution. *See, e.g.*, Maloney, *Judicial Protection of the Environment: A New Role for Common Law Remedies*, 25 VAND. L. REV. 145, 162 (1972) (avoidance of governmental immunity); Comment, *Equity and the Eco-System: Can Injunctions Clear the Air?*, 68 MICH. L. REV. 1254, 1262 (1970) (private suits provide a forum for the

This analysis begins with the premise that the market often undervalues the risk of future adverse consequences caused by pollution. Perhaps the most significant reason for this undervaluation is that those affected lack information about the dangers to their health created by pollutants.[104] One reason the risk may be underestimated by those affected is that the needed information, while already available to some, is not practically available to the public.[105] It may be in the hands of those who have something to gain by its non-disclosure, or agencies of the government may purposely fail to disclose information on the dangers of pollution for economic or political reasons.[106] In addition, the affected parties may not be able to expend the resources necessary to discover the danger to health created by the pollution. With the tremendous explosion of scientific knowledge, even scientists have a difficult time keeping abreast of significant new developments in their fields.[107]

Although the extent of this problem is difficult to estimate, in an increasing number of cases people have been exposed for long periods to substances which are known or strongly believed to have adverse health consequences.[108] The evidence to date indicates that the catastrophic damage associated with the chemical dumping by Hooker Chemical, Inc. in the Love Canal area of New York was foreseen but not disclosed by some officials at Hooker. At the very least it was clear to Hooker officials that there was some health risk associated with their activity.[109] Evidence of similar actions in the asbestos,[110] vinyl

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development of new legal theories to better deal with pollution); Note, *Hazardous Wastes: Preserving the Nuisance Remedy*, 33 STAN. L. REV. 675, 687 (1981) (avoiding delay of administrative process).

104. *See* M. SHAPO, A NATION OF GUINEA PIGS 28 (1979); Latin, *Environmental Deregulation and Consumer Decisionmaking Under Uncertainty*, 6 HARV. ENVTL. L. REV. 187, 190 (1982); Ogus & Richardson, *supra* note 1, at 316.

105. In connection with toxic substances, the Disaster Research Center concluded that "absence of concrete knowledge about local chemical risks is often conspicuous at the community level." Disaster Research Center, College of Social and Behavioral Sciences, Ohio State University, Newsletter, vol. 12 no. 2, at 5 (1978).

Companies which produce toxic substances conduct much of the research on their effects. This may produce poorly designed and executed experiments "incapable of revealing negative information." Doniger, *Vinyl Chloride Regulation*, 7 ECOLOGY L.Q. 500, 514 (1978). The Environmental Protection Agency has used industry studies in setting exposure standards for substances such as arsenic. *See* R. BOYLE & ENVIRONMENTAL DEFENSE FUND, MALIGNANT NEGLECT 112 (1979).

106. *See infra* notes 110-12.

107. *See* M. SHAPO, *supra* note 104, at 7 (noting 20,000 scientific journals are in publication, and suggesting legislation concerning hazardous substances should respond to difficulty of finding as well as of assessing scientific information).

108. *See* E. EFRON, THE APOCALYPTICS: CANCER AND THE BIG LIE: HOW ENVIRONMENTAL POLITICS CONTROLS WHAT WE KNOW ABOUT CANCER 283 (1984).

109. "Hooker admitted recognizing as long as 20 years ago that the site (Love Canal) posed a serious health hazard but never brought it to the attention of the State, the federal government or the affected residents." Raloff, *Abandoned Dumps: A Chemical Legacy*, 115 SCI. NEWS, 348, 351 (1979). The Niagara County Government and the City of Niagara Falls apparently "played down" the danger of Love Canal until the state Department of Health stepped in. N.Y. Times, Jan. 21, 1979, § 6 (Magazine), at 44.

110. Evidence is increasing that manufacturers of asbestos products have, for as long as five decades, suppressed information about the dangers of asbestos. Studies in 1938 in Germany and in 1950 in England demonstrated a strong link between lung cancer and asbestos. The asbestos

chloride,[111] and other industries[112] is now being discovered.

When attempts are made to disseminate information relating to the health hazards of substances to those who have been exposed, the efforts are sometimes less than successful. Even after "extensive publicity in the press" only 64.4 percent of the women who participated in a survey knew that oral contraceptives could cause clotting abnormalities, a conclusion which had, at that time, become almost universally accepted in scientific circles.[113]

The foregoing discussion demonstrates that even when there is solid evidence

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industry ignored these findings and did not inform their workers or anyone else of these apparent dangers. In addition, Dr. Irving Selinkoff, in an attempt in 1950 to discover a link between lung cancer and asbestos, was refused access to any information by the industry. S. EPSTEIN, THE POLITICS OF CANCER 84, 99 (1978).

Dr. Thomas Mancuso, a medical consultant to a major asbestos manufacturing firm, advised the firm that serious health risks of which the industry was aware had been associated with asbestos. The firm discharged Dr. Mancuso soon thereafter and continued to manufacture asbestos insulation without a warning label for six more years. Castleman, *How the Asbestos Industry Avoids its Victims*, BUS. & SOC'Y REV., Fall 1979, at 33, 35.

111. In 1974 three major manufacturers expressed shock and surprise at the "discovery" that exposure of workers to polyvinyl chloride was implicated in an outbreak of a rare form of liver cancer (angiosarcoma). These manufacturers announced they would do everything they could to prevent worker exposure, and expressed regret that they had been previously unaware of the danger. Evidence exists, however, that these companies were aware of health dangers associated with the manufacture of polyvinyl chloride well before 1974. The industry ignored studies done in 1949 and 1961 associating vinyl chloride with adverse health affects. Studies in Europe in 1970 and 1972 established a strong link between vinyl chloride exposure and cancer, especially a study done by Dr. Cesare Mattoni in 1972 for a group of European chemical manufacturers. The Manufacturing Chemists Association, the major trade association of the U.S. chemical industry, and the European manufacturers who sponsored the study agreed not to reveal the results. The study was not revealed until 1974. The American Association for the Advancement of Science claimed the suppression of this data by the Manufacturing Chemists Association resulted in thousands of workers being exposed without warning to toxic concentrations of vinyl chloride. For detailed information on these and other abuses by the manufacturers in the vinyl chloride industry, see Klein, *The Plastic Coffin of Charlie Arthur*, ROLLING STONE, Jan. 15, 1976, at 43.

112. The history of polychorinated byphenyls (PCBs) offers a sad example of both corporate and government irresponsibility and suppression of information. Studies indicated that PCBs adversely affected health effects and the environment. Monsanto, a PCB manufacturer, responded not by notifying those who might be affected, but by launching a massive advertising campaign extolling the harmlessness of PCBs to the environment. R. BOYLE & ENVIRONMENTAL DEFENSE FUND, *supra* note 105, at 64. More alarming is documentary evidence indicating that agencies of the State of New York suppressed information gathered by their own studies which indicated a high concentration of PCBs in fish in the Hudson River. Studies indicating similarly high levels of PCBs in salmon in Lake Ontario were also suppressed, and became known only through the leaks of a Department of Conservation scientist who became known as "Deep Trout." *Id.* at 67.

One of the most horrifying examples of alleged corporate irresponsibility involves the potent carcinogen bischloromethylether (BCME). When evidence appeared that BCME probably caused lung cancer, Rohm and Haas, one of the largest manufacturers of the chemical, approached Dr. Morton Nelson of New York University to do carcinogenicity tests on BCME. When he insisted on publishing his findings, the company hired Hazelton Laboratories instead. Earlier, Rohm and Haas had ordered chest x-rays for its employees, but never disclosed the results to them, despite the fact that the x-rays showed numerous employees probably were suffering from lung cancer. S. EPSTEIN, *supra* note 110, at 113.

113. M. SHAPO, *supra* note 104, at 132.

that a substance is harmful to humans, for a variety of reasons this evidence often is not available to those affected by the pollution. Increasingly, however, we are faced with the situation where science has not established that a substance is harmful, but rather merely suspects that it is harmful.[114] Only a small portion of the substances introduced into the environment have been systematically tested.[115] In addition, even where data are available, they are generally based upon animal tests,[116] which are subject to extreme variations in interpretation and prediction, rather than epidemiological studies.[117] Often, some scientists believe a substance presents a risk of harm while others do not,[118] or there is great disparity in the degree of harm perceived by different scientists.[119] Finally, because of the long latency periods for diseases such as cancer, there have been situations where a substance assumed harmless has later turned out to pose a significant health danger.[120] How should these facts influence the decision of a judge in a private nuisance case?

First, it is likely that the same impediments to information dissemination discussed earlier will be present when the available evidence does not establish the harmfulness of a substance but gives reason to suspect it might be harmful.

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114. Commentators have characterized this problem in various ways. John Higginson, past Director of the International Agency for Research on Cancer, distinguishes between "potential risks" and "real risks." A "real risk" can be quantified on the basis of epidemiological data. A "potential risk" requires extrapolation from other data sources. Mr. Higginson alternatively describes the latter situation as "the risk of risk." Higginson, *Multiplicity of Factors Involved in Cancer Patterns and Trends*, in CANCER SYMPOSIUM: AN ACADEMIC REVIEW OF THE ENVIRONMENTAL DETERMINANTS OF CANCER RELEVANT TO PREVENTION, *cited in* E. EFRON, *supra* note 108, at 355.

115. *See* E. EFRON, *supra* note 108, at 73-74 (citing other sources). The reason is clear: the number of new substances introduced into the environment is growing rapidly, and testing for adverse health effects is both time consuming and expensive. A 1977 EPA study prepared for the Office of Toxic Substances put the number of industrial chemicals at 25,000 and growing at the rate of 700 per year. EPA, POTENTIAL INDUSTRIAL CARCINOGENS AND MUTAGENS 1 (1977). However, a proper study of the effects of one chemical takes an estimated three and a half years and costs as much as $500,000 in 1980 dollars. *See* E. EFRON, *supra* note 108, at 256.

While the National Institute for Occupational Safety has listed 1500-2000 suspected carcinogens, only a small number have been regulated under any of the federal laws for which authority exists to regulate carcinogenic substances. *See* Leape, *supra* note 100, at 104 n.150.

116. Leape, *supra* note 100, at 93.

117. *Id.* at 95-99.

118. *See* E. EFRON, *supra* note 108, at 242.

119. *See* Huber, *Safety and the Second Best: The Hazards of Public Risk Management in the Courts*, 85 COLUM. L. REV. 277, 314 (1985); *see also* Bazelon, *Science and Uncertainty: A Jurist's View*, 5 HARV. ENVTL. L. REV. 209, 212 (1981) (regulatory agencies must disclose uncertainty surrounding decisions to enable public to weigh risks). For cases in which scientific experts disagreed greatly over the risks presented by certain chemical substances in the environment, see National Lime Ass'n v. EPA, 627 F.2d 416 (D.C. Cir. 1980); Ethyl Corp. v. EPA, 541 F.2d 1 (D.C. Cir.), *cert. denied*, 426 U.S. 941 (1976); Reserve Mining v. EPA, 514 F.2d 492 (8th Cir. 1975).

120. These include: heavy metals, PCBs, and certain pesticides such as DDT. *See* Pfennigstorf, *supra* note 1, at 372; M. SHAPO, *supra* note 104, at 52. One commentator has summed up the difficulty in this way: "The extraordinary variety of chemicals contributes to the environmental problems by practically guaranteeing that a shroud of uncertainty will surround chemicals due to our inability to test each substance for adverse effects in a timely manner." Schroeder, *A Decade of Change in Regulating the Chemical Industry*, 46 LAW & CONTEMP. PROBS. 1, 6 (1983).

In fact, it is probably more likely that adverse information will not be available to the public in this case. Those who are exposing the public to a substance will be tempted to suppress doubts about the safety of the substance in the hope that the fears will later turn out to be unfounded. This is especially true when releasing information might cause substantial losses which would be avoided if the information were not released and the substance ultimately proved harmless. Recognizing this danger, injunctive relief as a protective measure may be appropriate even when the harmfulness of the substance is not clearly established in court.

Secondly, in some situations at least, a judge should issue an injunction when there is the potential for future adverse health effects from pollution, even when she is reasonably certain that those affected have all of the available information regarding the potential health danger of a substance. It would seem grossly unfair to require a homeowner to choose between giving up his residence and subjecting himself to possible future catastrophe. A choice between giving up one's residence and tolerating a nuisance when the interference causes mere inconvenience or annoyance is qualitatively different that when the choice is between leaving one's home or risking physical calamity. Judges should be reluctant to subject those affected by pollution to such a choice when there is any reasonable basis to believe that a pollutant will cause future health consequences.

Thirdly, individual market choices are not likely to reflect all of the societal costs created by pollution. Many of the costs which will have to be born if a substance ultimately proves harmful will not be shouldered by the person affected, and therefore, will not enter into the choice of deciding the price he is willing to pay to avoid the nuisance. For example, items such as health and disability insurance shift much of the risk to others who will probably have no voice in deciding whether the risk should be borne. Similarly, publicly subsidized health care benefits, job retraining programs, and tax-provided benefits such as survivors' social security bear much of the cost of pollution related disease. As a result, judges should once again consider the efficiency of granting an injunction.

There are good reasons for courts to adopt a posture that is more risk averse than the market when dealing with pollution concerns. Too often, the dangers of chemical substances have been underestimated in our rush to affluence.[121] There is a growing concern that advertising and marketing techniques for consumer products often make truly reflective choice difficult or impossible.[122] Also, there is considerable evidence that the market undervalues risk where there is a substantial degree of uncertainty, where the risk is new or unusual, or where the probabilities of harm are low.[123] Additional research is necessary with respect

121. *See supra* text accompanying notes 113-20.

122. *See* Kroeber-Riel, *Activation Research: Psychological Approaches in Consumer Research*, 5 J. CONSUMER RESEARCH 240, 248 (1979).

123. *See* Arnold & Grabowski, *Auto Safety Regulation: An Analysis of Market Failure*, 12 BELL J. ECON. 27, 29 (1981); Furrow, *supra* note 103, at 1450-51 (tendency to underestimate the likelihood

to these issues; however, when coupled with the problems discussed previously, further caution in relying on the damage remedy seems warranted.

A number of recent court decisions indicate an increased willingness to consider potential health danger as a significant factor in deciding whether to issue injunctive relief, even though the danger or degree of danger has not been "scientifically" established. *Reserve Mining Co. v. EPA*[124] involved the discharge of asbestos-like particles into the waters of Lake Superior and the air around Silver Bay, Minnesota. The United States and the states of Minnesota, Wisconsin and Michigan filed an action to halt the discharge based upon a number of statutory and common law grounds including the federal common law of public nuisance.[125] The plaintiffs argued that the discharge endangered the public health since it contained fibers which were "substantially identical" to amosate asbestos.[126] Inhalation of amosate asbestos, at occupational levels of exposure, had been associated with an increased incidence of various cancers.[127]

While the litigational history of the case is very complicated and the plaintiffs asserted numerous bases for relief, the crux of the case was whether the evidence of health hazard supported the granting of injunctive relief. The district court determined that injunctive relief was justified and issued an immediate injunction.[128] Enforcement of this order would have immediately closed the plant. The Eighth Circuit stayed the injunction pending appeal, conditioned upon the defendant taking "prompt steps" to abate the air and water discharges.[129] The stay was continued while the district court completed disposition of certain unresolved issues.[130] After the stay order was unsuccessfully appealed,[131] the district court issued a final order[132] and the Eighth Circuit once again heard the defendant's appeal.

In a very lengthy opinion, the Eighth Circuit dealt with the health claims of plaintiffs. The defendant had attempted to show in the district court that no scientific proof existed that the discharges were harmful to the health of the Silver Bay residents. Defendant argued that its discharge contained "short" fibers rather than the "long" fibers which had been rather conclusively shown

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of events remote from normal experience); Kunreuther, *Limited Knowledge and Insurance Protection*, 24 PUB. POL'Y 227, 250 (1976) (tendency to become insensitive to large potential losses at low probabilities); McGarity, *supra* note 40, at 169; Rodgers, *Benefits, Costs, and Risks: Oversight of Health and Environmental Decisionmaking*, 4 HARV. ENVTL. L. REV. 191, 219 (1980) (uncertainty produces undervaluation).

124. 514 F.2d 492 (1975), *modified*, 529 F.2d 181 (8th Cir. 1976).

125. *Id.* at 501.

126. *Id.*

127. *Id.*

128. United States v. Reserve Mining Co., 380 F. Supp. 11 (D. Minn. 1974), *modified*, 514 F.2d 492 (8th Cir. 1975).

129. Reserve Mining Co. v. United States, 498 F.2d 1073, 1086 (8th Cir. 1974).

130. *See* 514 F.2d at 504-05.

131. Minnesota v. Reserve Mining Co., 419 U.S. 802 (1974) (order denying application to vacate stay after continuance); Minnesota v. Reserve Mining Co., 418 U.S. 911 (1974) (order denying application to vacate stay).

132. *See* 514 F.2d at 505.

to be carcinogenic at occupational levels of exposure.[133] In addition, Reserve argued that its discharges were *so far below* occupational levels that it could not be concluded that exposure to them was carcinogenic.[134]

In its opinion, the Eighth Circuit admitted that the evidence on the first issue was "conflicting and uncertain" and that there were no human epidemiological studies bearing on the question.[135] On the second issue, the court acknowledged that even the level of exposure could not be determined except at "the very roughest approximation."[136] In addition, it concluded that the level of exposure "cannot be equated with the factory exposures which have been clearly linked to excess cancer and asbestiosis."[137]

With respect to the discharges into the water, the evidence indicating a health hazard was even weaker. The court appointed expert concluded that on the available evidence he was unable to determine whether the discharges were creating a public health hazard in Lake Superior.[138] Despite these uncertainties, the Eighth Circuit issued an order which required that Reserve halt the discharges, although a period of time was given to them and to the State of Minnesota to work out alternative dumping arrangements.[139] The court acknowledged that plaintiffs had not proved the probability of harm by a preponderance of the evidence.[140] Yet, because the evidence was sufficient to raise "a concern for the public health resting upon a reasonable medical theory," the court issued an injunction, albeit one which permitted Reserve time to attempt effective abatement and disposal methods.[141]

While *Reserve Mining* involved numerous statutory and common law claims, the major issue on appeal was the remedy. In fact, Reserve did not deny that it had failed to comply with a number of state pollution control statutes. The primary issue on appeal, as described by the court, was whether "the existence of [the] risk to the public health justifies an injunction decree requiring abatement on reasonable terms as a precautionary and preventive measure to protect the public health."[142] Notwithstanding the court's admission that plaintiff had not shown the harm was more probable than not, it issued an injunction. At least in nuisance cases, this was a sharp break with the traditional standard of proof necessary for injunctive relief.[143]

A recent Illinois Court of Appeals case, *Village of Wilsonville v. SCA Services,*

133. United States v. Reserve Mining Co., 380 F. Supp. 11, 42 (D. Minn. 1974), *modified*, 514 F.2d 492 (8th Cir. 1975).

134. 514 F.2d at 511 n.34.

135. *Id.* at 510.

136. *Id.* at 511 (quoting United States v. Reserve Mining Co., 380 F. Supp. 11, 49 (D. Minn. 1974), *modified*, 514 F.2d 492 (8th Cir. 1975)).

137. 514 F.2d at 511.

138. *Id.* at 518.

139. *Id.* at 537-38.

140. *Id.* at 520.

141. *Id.* at 536.

142. *Id.* at 520.

143. *See* Pfennigstorf, *supra* note 1, at 377.

Inc.,[144] is even more closely analagous to the issue with which this article is concerned. Plaintiffs in *Wilsonville* brought an action to enjoin defendant SCA from the continued operation of a chemical hazardous waste landfill. The basis for the action was common law nuisance as well as a violation of the Illinois Environmental Protection Act.[145] The trial court found that the operation of the toxic-waste dump constituted a common law nuisance. The trial court's finding was based upon: (1) the dust and odors emanating from the site, (2) the transportation of hazardous materials through the Village en route to the site, and (3) the pollution of the air and water which might occur in the future as a result of the dump.[146]

The appellate court had no trouble determining that sufficient evidence existed to support the first two bases.[147] However, the evidence was conflicting concerning the potential for future health harm created by the dump. The defendant argued that the likelihood of harm was too uncertain to justify injunctive relief. While admitting the evidence that the toxic substances could migrate from the dump was, "at best, uncertain," the court found that migration in the future was a reasonable likelihood.[148] The court decided that this standard was sufficient to justify injunctive relief, even though the other factors, by themselves, may not have been sufficient.[149] The court rejected defendant's argument that the court should "balance the equities" and refuse injunctive relief.[150] It seems clear that the health danger, though uncertain, was a crucial factor in the court's decision to allow injunctive relief in a case where damages might otherwise have been sufficient.

The approach of the *Wilsonville* court was sound. When a nuisance is created by pollution, the potential for future health consequences should be a very significant factor in deciding whether injunctive relief is appropriate, even if plaintiffs cannot demonstrate by a preponderance of the evidence that the pollution will ultimately prove harmful to human health. Rather, the standard which the court used in *Reserve Mining* of "reasonable medical hypothesis" or the standard which the court used in *Wilsonville* of "reasonable likelihood of harm" should be sufficient when the harm which appears possible is of a serious or catastrophic nature. In deciding how much emphasis to give to the risk of future health consequences, the court should consider at least the following factors:

> (1) Is there present scientific evidence that the particular pollutant to which plaintiffs are exposed has been shown to have adverse health consequences?

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144. 77 Ill. App. 3d 618, 396 N.E.2d 552 (1979).

145. *Id.* at 621, 396 N.E.2d at 554; *cf.* ILL. REV. STAT. ANN. ch. 111 1/2, §§ 1001-1061 (Smith Hurd 1977 & Supp. 1986).

146. 77 Ill. App. 3d at 627, 396 N.E.2d at 557.

147. *Id.* at 627-28, 396 N.E.2d at 557-58.

148. *Id.* at 635, 396 N.E.2d at 563.

149. *Id.* at 635-36, 396 N.E.2d at 564.

150. *Id.* at 638, 396 N.E.2d at 566.

(2) Is there any reasonable scientific evidence that the harm may be life-threatening or otherwise catastrophic?

(3) Will others who are not parties to the suit be exposed?

(4) How much scientific testimony attesting to the possible existence of the risk is available, and what are the credentials of those who offer it?

(5) Over what time frame will the risk extend?

(6) How much time will be required to do the research necessary to establish whether the danger in fact exists?

(7) What is the benefit from the product made or process employed by defendant?

Finally, even if plaintiffs offer no evidence of possible future health harm, the potential harm is something which the judge should consider if the pollutant is ingested and is not obviously safe. It may be, for reasons suggested before, that plaintiffs do not have access to information suggesting possible health hazards, or it may be that evidence of the substance's harmful nature has simply not been discovered yet.

In summary, the strong likelihood that the market may be undervaluing the potential harm caused by pollution should be an additional factor weighing against the award of damages. Even though a successful plaintiff can "sell back" an injunction to an offending defendant [151] allowing the pollution to continue, there are a number of reasons why an injunction would still be more protective of the environment. First, as explained previously,[152] the transaction costs, including the hold-out problem, might prohibit a subsequent "buy-out" of the injunction by the defendant. While the damage remedy was initially proposed to avoid the purported inefficiency created by this very problem, it cannot be assumed because of the Market under-valuation just discussed that the "buy-out" which would occur absent transaction costs would necessarily be efficient.[153] In cases where buying out the injunction is clearly the most efficient result, the transaction costs would probably not be sufficient to preclude a sale of the injunction.[154]

Second, this article has assumed throughout that the measure of efficiency should be the willingness and ability to pay for a particular resource, that is,

151. *See* Ogus & Richardson, *supra* note 1, at 293; Note, *supra* note 60, at 1569-70.
152. *See supra* text accompanying notes 42-44.
153. *See* Latin, *supra* note 104, at 190; *supra* text accompanying notes 104-20.
154. *See* Note, *supra* note 60, at 1580.

the person who is willing to pay the most for a resource is the most efficient user. An alternative measure which has been recognized as equally useful in judging the relative utility of a resource to different people is the amount for which a person would be willing to sell a resource. As a number of commentators have noted,[155] neither is *prima facie* a better measure. Yet, numerous critics of the "Chicago school" note that the amount a person may be willing and able to pay for a resource, and the amount for which he would be willing to sell the same resource if he owned it may be vastly different.[156] A commonplace example, used by Professor Kelman, is that a person may not be willing to sell a bottle of fine wine which he has saved for years for the current market price of $100, but he would not purchase a similar bottle for that price if he owned none.[157] In the present context, homeowners of modest means may not be willing or able to pay a factory a sufficient amount to cause it to stop polluting if the factory had the right to pollute. Yet, the same homeowners may not accept an equal or even greater amount from the factory to give up their right to clean air if they had the entitlement. An injunction implicitly makes the governing standard the amount the homeowners are willing to take to give up their right to clean air rather than the amount they are willing to pay to stop pollution. Consequently, use of injunctions will likely result in less pollution than if the damage remedy is used.

Some have argued courts are not equipped to determine if the population at large is undervaluing the risk of a pollutant and that the legislature is the more appropriate forum to deal with the issue of health risks from hazardous substances. The argument is not persuasive. This article does not suggest that courts should establish comprehensive national policy with respect to pollution. It merely suggests that in private nuisance cases involving potential health consequences, courts must consider the issues of uncertainty and market imperfection prior to deciding which remedy to employ. The court must choose some remedy, and its choice should be a fully informed one. A number of commentators have even argued that courts may be a more appropriate body than the legislature to make such judgments because of their insulation from political pressure and their familiarity with balancing costs and benefits in other contexts.[158]

As the title of this article indicates, it is intended as a cautionary note; it does not suggest that the mere presence of possible adverse health effects should necessarily mandate injunctive relief. Certainly the unnecessary closing of a productive resource can have a serious negative impact on people. This article does argue, however, that in nuisance cases involving air or water pollution,

155. *See, e.g.*, Baker, *supra* note 16, at 19-20; McGarity, *supra* note 40, at 172; Randall, *The Problem of Market Failure*, 23 NAT. RESOURCES J. 131, 139 (1983).

156. *See* Baker, *supra* note 16, at 16-22; Kelman, *Consumption Theory, Production Theory, and Ideology in the Coase Theorum*, 52 S. CAL. L. REV. 669, 680 (1979); McGarity, *supra* note 40, at 170-73; Randall, *supra* note 155, at 139.

157. Kelman, *supra* note 156, at 678-79.

158. *See* Oakes, *supra* note 55, at 553-54; Furrow, *supra* note 103, at 1462.

adverse health effects cannot be ignored or slighted because the evidence is inconclusive. Cases such as *Reserve Mining* and *Wilsonville* point the proper way.

2. Technological change

The injunction remedy insures that any available technological means of eliminating the pollution which is cheaper than closing down or relocating will be adopted by the defendant. A rational defendant faced with an injunction requiring him to eliminate the pollution will do so by the cheapest means available, which may include pollution eliminating devices. If damages represented the full costs of the offending activity, the remedy of damages would also insure an efficient solution, which could include pollution abatement equipment. If pollution abatement devices were cheaper than paying damages, the defendant would adopt them. Because of the defects in the damage remedy discussed previously, however, the damage remedy cannot assure that technological solutions to abate the pollution will be adopted, even if they are the most efficient solution.

A more interesting question arises, however, when no feasible technology exists at the time of the lawsuit for reducing the pollution. It is still possible that the defendant or a third party might in the future develop a means of mitigating or eliminating the pollution. If permanent damages are awarded when the technology for reducing the pollution does not exist, defendant will thereafter have no incentive to develop this technology or utilize it if it should be developed; he has paid for the right to pollute indefinitely.[159] Yet research and future implementation of a presently unknown solution may be the efficient course of action.

In a world of perfect information and costless bargaining the problem would not exist. The plaintiffs who had previously received damages in a prior suit would be willing to pay the defendant either for a particular level of research and development or for implementing existing technology when the expected benefits from research or implementation outweigh the costs. In the real world of imperfect information and transaction costs, however, a remedy of permanent damages is likely to decrease greatly the chances that a polluter will discover or use any technological improvement subsequently discovered that will diminish the amount of pollution. For example, the court in *Boomer* required only the payment of permanent damages and provided no further incentive for defendant to reduce its pollution if an inexpensive means of doing so suddenly appeared.

While the potential for future public regulation may provide some incentive for developing or installing control technology, this incentive seems weak since regulation, should it come, can be dealt with by the polluter at that time. In

159. *See* D. HAGMAN & D. MISCZYNSKI, *supra* note 8, at 180-81. These authors suggest that an incentive can be provided by requiring a return of part of the damages if a solution to the abatement is found. *Id.* at 196. This solution raises a host of practical difficulties. For example, how long would some damages remain recoverable? Five years? Ten years? Fifty years? From whom should they be recoverable if, for example, the residence changes hands before a solution is found? What if some plaintiffs cannot pay or cannot be found once the pollution is abated? What if only partial abatement occurs or only some plaintiffs are affected?

addition, there may be a perception among corporate officials that developing technology today to reduce pollution only increases the likelihood that tomorrow's regulation will be stricter than it otherwise would have been.[160]

Some potential plaintiffs who were not parties to the original suit may threaten to sue when companies continue polluting after paying damages. This threat, however, will probably not affect the polluter in any significant way. At least some of the potential plaintiffs who did not join in the original suit would refuse to join in a subsequent suit for the same reasons. They may, for example, be employees of the plant who do not want to see its profitability endangered. The success of the original plaintiffs in securing damages may convince some of those who did not join in the first suit to sue, particularly if one of their main concerns in not originally litigating was the fear of losing. These people, however, would probably sue soon after the success of the first plaintiffs; there would be nothing gained by waiting. Any significant advances in abatement technology would be unlikely to come until later.[161]

Other possibilities such as public relations and a sense of community or moral responsibility may also provide some incentive for the polluter who has paid permanent damages to undertake research or install anti-pollution equipment. But these incentives have proved notoriously unreliable in the past as mechanisms to encourage research and development into pollution control technology or to force the adoption of already existing control techniques.[162] It seems extremely doubtful that these factors would cause a polluter to undertake any effort to explore means of reducing pollution or to spend substantial sums adopting a method that had been discovered by others, especially when the polluter has already paid for the right to pollute.

Admittedly, an unconditional injunction which is to take effect immediately is no better at resolving this problem, since the defendant will either close down the plant or buy out the plaintiff. If the latter should occur, there will be no incentive to later install efficient pollution control devices because the defendant will have already paid his "damages." Equitable relief, however, can be much more flexible than an immediate unconditional injunction. As suggested by the dissent in *Boomer*, a defendant can be given a period of time in which to abate

160. Companies sometimes go to great lengths to avoid the impact of regulations already in effect. *See* J. WRIGHT, ON A CLEAR DAY YOU CAN SEE GENERAL MOTORS 24-25 (1979).

161. The development of an inexpensive abatement technology, which may increase the likelihood of injunctive relief, may be a subsequent incentive to sue. However, no incentives exist to invest substantial sums in research and development, and only a small incentive exists to invest in existing equipment in anticipation of a suit. If the court orders abatement after deciding a lawsuit, the polluter will probably be no worse off than if he had adopted the method prior to the suit. The potential savings of additional temporary damages and litigation costs would be offset by the value of the use of the money in the intervening period and the possibility that no future suit would occur.

162. The "horror stories" of corporate irresponsibility in knowingly exposing innocent people to hazardous pollutants abound. None, however, displays a more blatant disregard for human life and the environment than the history of the production of Kepone, a highly toxic chemical substance. *See* Goldfarb, *Kepone: A Case Study*, 8 ENVTL. L. 645 (1978); *see also supra* notes 109-12 (discussing other examples).

the nuisance while remaining liable for past damages until the nuisance is abated.[163] The court, in determining the time period in which the defendant must abate the nuisance should consider such things as the amount of time plaintiff has been subjected to the nuisance, the degree of invasion, the potential for adverse health effects and accumulative damages, the likelihood that defendant will be able to abate the nuisance within a reasonable time, and any other relevant factors.

If the court relies upon such a remedy, it is unlikely that the plant will close immediately or that the defendant will "buy-out" the plaintiffs. The defendant will surely want to utilize some of the "grace period" in researching and developing abatement technology, at least to the point where it becomes clear that a solution is presently impossible at a cost lower than closing down or buying the plaintiffs out. The defendant may not have been willing to expend these funds prior to the decision that its activity constitutes a nuisance in the hope that it would prevail. The grace period will give defendant an opportunity to take advantage of technological developments which occur later. At the same time, plaintiffs will be protected since, if a solution is not found within a reasonable time, they can force the defendant to close down or buy them out.

VI. Absolute and Conditional Entitlements Compared

The traditional choices — issuing an injunction or allowing the defendant to continue the activity — are superior to damages and conditional entitlements in one important respect; there are no forced exchanges. All else being equal, people would prefer that exchanges be voluntary. The plaintiffs in *Boomer* had purchased their property before the cement plant was built and undoubtedly expected that they had the right to unpolluted air unless they voluntarily sold this right. Similarly, the defendant in *Spur* surely felt he had the right to continue the feedlot unless he voluntarily sold the right to Del Webb. The question in every case is whether the benefits of the damage remedy should mandate an involuntary sale by the party receiving the entitlement.

As noted at the outset, the asserted rationale for conditional entitlements is efficiency.[164] The damage remedy (whether damages flow from plaintiff or defendant) will arguable preclude transaction costs from preventing otherwise efficient transactions. This article suggests, however, that the efficiency benefits of conditional entitlements are subject to considerable doubt. In fact, there are significant efficiency advantages which sometimes flow in the other direction.

Under the present system of remedies in nuisance cases, both the remedy (injunction or damages) and the amount of damages are uncertain. Given this state of affairs, parties may arrive at different conclusions as to the ultimate result in a lawsuit and proceed to litigation with all its attendant costs, when they could have bargained to a less costly conclusion had the legal result been

163. *See* Ogus & Richardson, *supra* note 1, at 311 (citing cases).
164. *See supra* text accompanying notes 41-42.

known in advance.[165] If the remedy and its consequences are clear, these costs may be avoided.[166]

In addition, there is reason to doubt that transaction costs will be sufficient to preclude an exchange in the cases where *extreme* inefficiency would result if an injunction were granted, particularly if the number of plaintiffs is relatively small. Where the resource is vastly more valuable to the polluter than the homeowners, the amount offered to each homeowner will be very attractive. The attractiveness of this sum to most homeowners will increase the moral pressure on others not to "hold-out." This is particularly true when the number of plaintiffs is small and they are well-acquainted. As a result of the attractiveness of the price, the number of hold-outs is likely to be smaller; those who do continue to hold out will become more visible, again resulting in increased moral pressure on them to refrain from holding out. Although the commentary is in disagreement, certainly some basis exists to believe that the effect of transaction costs in precluding efficient exchanges has been overstated.[167]

If the court concludes that the plaintiffs in a nuisance action have the entitlement, both injunctions and damages can lead to inefficient as well as inequitable results. The cases in which there are serious problems with injunctions are precisely those where the efficiency of damages is uncertain. Injunctive relief may be inefficient when there are a large number of parties involved because transaction costs may preclude a subsequent "buy-out" of the injunction by the polluter. Damages may similarly not lead to an efficient result because the damage remedy does not preclude strategic behavior.[168] For example, the award of an injunction conditioned upon the payment of damages can create significant free-rider problems.[169] As the number of parties increases, so will the aggregate amount of uncompensated subjective value[170] the likelihood of valuation error,[171] the potential for future adverse health effects,[172] and the likelihood that some of those affected will not be parties to the litigation.[173]

Injunctive relief is more flexible than might first appear. A period of time can be granted to permit the defendant to abate the nuisance.[174] In this way an injunction can function in the same manner as such regulatory schemes as the Clean Air Act Amendments of 1970.[175] The threat of having to close down

165. *See* Ulen, *The Efficiency of Specific Performance*, 83 MICH. L. REV. 341, 380 (1984). Although Professor Ulen makes this point in discussing the contract remedy of specific performance, it applies equally well in a nuisance context.

166. To avoid such costs entirely, one must know the placement of the entitlement in advance.

167. *See* Woj, *supra* note 1, at 416.

168. *See id.*

169. *See* Pfenningstorf, *supra* note 1, at 355-57.

170. *See supra* text accompanying notes 87-91.

171. *See supra* text accompanying notes 78-86.

172. *See supra* text accompanying notes 96-102.

173. *See supra* text accompanying notes 92-94.

174. In *Boomer*, the dissent advocated an injunction to become effective eighteen months from the date of the decision. Boomer v. Atlantic Cement Co., 26 N.Y.2d 219, 231, 257 N.E.2d 870, 877, 309 N.Y.S.2d 312, 322 (1970) (Jasen, J., dissenting).

175. In the Clean Air Amendments of 1970, Congress mandated a 90% reduction in motor

or abate the pollution within a prescribed period may force polluters to abate more quickly and more economically than had seemed possible.[176] An injunction which grants defendant a period of time for abatement can provide considerable protection for plaintiffs while giving the defendant the incentive and opportunity to eliminate or reduce the pollution and avoid the costs associated with closing down.

The preference for injunctions when the plaintiffs have the entitlement to clean air should not be absolute. In some cases the value of the polluting factory may be very great and because of the large number of affected homeowners it will be impossible to purchase the homeowners' entitlements to clean air. In an extreme case an injunction will result in an undesirable state of affairs, and damages may be the lesser of two evils.

The number of situations wherein damages provide the preferable remedy may be far smaller than commonly assumed, however. It is not at all clear, for example, that *Boomer* was such a case. The courts have never explained why the defendant could not have reached an agreement with the eleven plaintiffs before the plant was built.[177] In the rare case where it is clear that the injunctive remedy is inappropriate and the subject of the forced exchange is a residence, the owner should receive some premium, such as twice the pre-nuisance market value, because the residence is usually worth more than market value to its owner and cannot be replaced at the market value. If a premium is appropriate, it should also apply if the landowner elects to sue for damages rather than injunctive relief.[178] Since damages will generally underestimate the

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vehicle emissions of hydrocarbons and carbon monoxide by 1975 and in nitrogen oxides by 1976. Clean Air Amendments of 1970, Pub. L. 91-604, § 6(a), 84 Stat. 1676, 1690 (current version at 42 U.S.C. § 7521 (1982)). Congress realized that the technology for such a reduction was unavailable when the Amendments were passed. *See* 1 F. GRAD., *supra* note 28, § 2.04[2][b][i], at 2-191.

The deadlines established in 1970 have been congressionally and administratively extended numerous times, in part due to the energy crisis of the mid-1970s. *See, e.g.*, Energy Supply and Environmental Coordination Act of 1974, Pub. L. 93-319, § 5, 88 Stat. 246, 258 (current version at 42 U.S.C. § 7521 (1982)). Vehicle emissions dramatically improved from 1970 to 1975. Overall emissions decreased 67% during these years, with reductions in hydrocarbons and carbon monoxide of 83% from uncontrolled levels. THE SIXTH ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 45 (1975). This improvement continues more slowly today. Given the failure of the auto industry to make any significant advances in emissions control prior to 1970, the 1970 Amendments have succeeded despite the failure of the industry to meet the original ambitious standards.

176. The regulatory context contains analogous examples. The plastics industry strongly opposed establishment by the federal government of exposure standards for vinyl chloride. The industry projected that the proposed standard would cause a loss of $65 to $90 billion in the economy, and from 1.7 to 2.2 million jobs. One year after the standard was established, no plants had closed and the price of vinyl chloride had dropped. R. BOYLE & ENVIRONMENTAL DEFENSE FUND, *supra* note 105, at 108. Similarly, in 1977, when the Occupational Safety and Health Administration proposed an emergency exposure standard for benzene, Shell Oil claimed that they would have to monitor 150 workplaces. In reality they had to monitor only 25. S. EPSTEIN, *supra* note 110, at 140.

177. *See supra* text accompanying note 65.

178. This suggestion is subject to some of the same criticism directed at Professor Ellickson's idea of a "consumer bonus." *See supra* note 91. Unlike Professor Ellickson, however, I advocate the payment of damages even with a bonus only as a last resort.

costs of pollution, the existence of this premium will not be likely to have significant adverse effects on efficiency.

VII. Conclusion

This article has attempted to demonstrate that the remedies of damages and conditional injunctions in nuisance cases do not invariably produce economic efficiency and equitable results. As a last resort the remedy of permanent damages has an appropriate place in nuisance law. The conditional injunction, however, is of too little practical value to merit even occasional use. While the cases establishing the traditional approach may not have been couched in the language of economic analysis, their fundamental wisdom remains.