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PROPERTY RULES, LIABILITY RULES, AND INALIENABILITY: ONE VIEW OF THE CATHEDRAL

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Professor Calabresi and Mr. Melamed develop a framework for legal analysis which they believe serves to integrate various legal relationships which are traditionally analyzed in separate subject areas such as Property and Torts. By using their model to suggest solutions to the pollution problem that have been overlooked by writers in the field, and by applying the model to the question of criminal sanctions, they demonstrate the utility of such an integrated approach.

I. INTRODUCTION

ONLY rarely are Property and Torts approached from a unified perspective. Recent writings by lawyers concerned with economics and by economists concerned with law suggest, however, that an attempt at integrating the various legal relationships treated by these subjects would be useful both for the beginning student and the sophisticated scholar.[1] By articulating a concept of "entitlements" which are protected by property, liability, or inalienability rules, we present one framework for such an approach.[2] We then analyze aspects of the pollution problem and of

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[1] *See, e.g.*, Michelman, *Pollution as a Tort: A Non-Accidental Perspective on Calabresi's* COSTS, 80 YALE L.J. 647 (1971) (analysis of three alternative rules in pollution problems); Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347 (1967) (Vol. 2 — Papers and Proceedings) (analysis of property as a means of cost internalization which ignores liability rule alternatives).

[2] Since a fully integrated approach is probably impossible, it should be emphasized that this article concerns only one possible way of looking at and analyzing legal problems. Thus we shall not address ourselves to those fundamental legal questions which center on what institutions and what procedures are most suitable for making what decisions, except insofar as these relate directly to the problems of selecting the initial entitlements and the modes of protecting these entitlements. While we do not underrate the importance, indeed perhaps the primacy, of legal process considerations, *see* pp. 1116–17 *infra*, we are merely interested in the light

criminal sanctions in order to demonstrate how the model enables us to perceive relationships which have been ignored by writers in those fields.

The first issue which must be faced by any legal system is one we call the problem of "entitlement." Whenever a state is presented with the conflicting interests of two or more people, or two or more groups of people, it must decide which side to favor. Absent such a decision, access to goods, services, and life itself will be decided on the basis of "might makes right" — whoever is stronger or shrewder will win.[3] Hence the fundamental thing that law does is to decide which of the conflicting parties will be entitled to prevail. The entitlement to make noise versus the entitlement to have silence, the entitlement to pollute versus the entitlement to breathe clean air, the entitlement to have children versus the entitlement to forbid them — these are the first order of legal decisions.

Having made its initial choice, society must enforce that choice. Simply setting the entitlement does not avoid the problem of "might makes right"; a minimum of state intervention is always necessary.[4] Our conventional notions make this easy to compre-

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that a rather different approach may shed on problems frequently looked at primarily from a legal process point of view.

As Professor Harry Wellington is fond of saying about many discussions of law, this article is meant to be only *one* of Monet's paintings of the Cathedral at Rouen. To understand the Cathedral one must see all of them. *See* G. HAMILTON, CLAUDE MONET'S PAINTINGS OF ROUEN CATHEDRAL 4–5, 19–20, 27 (1960).

[3] One could of course look at the state as simply a larger coalition of friends designed to enforce rules which merely accomplish the dominant coalition's desires. Rules of law would then be no more than "might makes right" writ large. Such a view does not strike us as plausible if for no other reason than that the state decides too many issues in response to too many different coalitions. This fact, by itself, would require a different form of analysis from that which would suffice to explain entitlements resulting from more direct and decentralized uses of "might makes right."

[4] For an excellent presentation of this general point by an economist, see Samuels, *Interrelations Between Legal and Economic Processes*, 14 J. LAW & ECON. 435 (1971).

We do not intend to imply that the state relies on force to enforce all or most entitlements. Nor do we imply that absent state intervention only force would win. The use by the state of feelings of obligation and rules of morality as means of enforcing most entitlements is not only crucial but terribly efficient. Conversely, absent the state, individuals would probably agree on rules of behavior which would govern entitlements in whole series of situations on the basis of criteria other than "might makes right." That these rules might themselves reflect the same types of considerations we will analyze as bases for legal entitlements is, of course, neither here nor there. What is important is that these "social compacts" would, no less than legal entitlements, give rise to what may be called obligations. These obligations in turn would cause people to behave in accordance with the compact in particular cases regardless of the existence of a predominant force. In this article

hend with respect to private property. If Taney owns a cabbage patch and Marshall, who is bigger, wants a cabbage, he will get it unless the state intervenes.[5] But it is not so obvious that the state must also intervene if it chooses the opposite entitlement, communal property. If large Marshall has grown some communal cabbages and chooses to deny them to small Taney, it will take state action to enforce Taney's entitlement to the communal cabbages. The same symmetry applies with respect to bodily integrity. Consider the plight of the unwilling ninety-eight-pound weakling in a state which nominally entitles him to bodily integrity but will not intervene to enforce the entitlement against a lustful Juno. Consider then the plight — absent state intervention — of the ninety-eight-pounder who desires an unwilling Juno in a state which nominally entitles everyone to use everyone else's body. The need for intervention applies in a slightly more complicated way to injuries. When a loss is left where it falls in an auto accident, it is not because God so ordained it. Rather it is because the state has granted the injurer an entitlement to be free of liability and will intervene to prevent the victim's friends, if they are stronger, from taking compensation from the injurer.[6] The loss is shifted in other cases because the state has granted an entitlement to compensation and will intervene to prevent the stronger injurer from rebuffing the victim's requests for compensation.

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we are not concerned as much with the workings of such obligations as with the reasons which may explain the rules which themselves give rise to the obligations.

[5] "Bigger" obviously does not refer simply to size, but to the sum of an individual's resources. If Marshall's gang possesses superior brain and brawn to that of Taney, Marshall's gang will get the cabbages.

[6] Different cultures deal with the problem in different ways. Witness the following account:

> "Life Insurance" Fee is 4 Bulls and $1200. Port Moresby, New Guinea. Peter Howard proved that he values his life more than four bulls and $1200. But he wants $24 and one pig in change.
>
> Mr. Howard gave the money and livestock to members of the Jiga tribe, which had threatened to kill him because he killed a tribe member in an auto accident last October 29.
>
> The police approved the extortion agreement after telling the 38 year old Mr. Howard they could not protect him from the sworn vengeance of the tribe, which lives at Mt. Hagen, about 350 miles Northeast of Port Moresby.
>
> Mr. Howard, of Cambridge, England, was attacked and badly beaten by the tribesmen after the accident.
>
> They said he would be killed unless the payment of money and bulls was made according to the tribal traditions. It was the first time a white man in New Guinea had been forced to bow to tribal laws.
>
> After making the payment, Mr. Howard demanded to be compensated for the assault on him by the tribesmen. He said he wanted $24 and one pig. A Jiga spokesman told him the tribe would "think about it." New York Times, Feb. 16, 1972, at 17, col. 6.

The state not only has to decide whom to entitle, but it must also simultaneously make a series of equally difficult second order decisions. These decisions go to the manner in which entitlements are protected and to whether an individual is allowed to sell or trade the entitlement. In any given dispute, for example, the state must decide not only which side wins but also the kind of protection to grant. It is with the latter decisions, decisions which shape the subsequent relationship between the winner and the loser, that this article is primarily concerned. We shall consider three types of entitlements — entitlements protected by property rules, entitlements protected by liability rules, and inalienable entitlements. The categories are not, of course, absolutely distinct; but the categorization is useful since it reveals some of the reasons which lead us to protect certain entitlements in certain ways.

An entitlement is protected by a property rule to the extent that someone who wishes to remove the entitlement from its holder must buy it from him in a voluntary transaction in which the value of the entitlement is agreed upon by the seller. It is the form of entitlement which gives rise to the least amount of state intervention: once the original entitlement is decided upon, the state does not try to decide its value.[7] It lets each of the parties say how much the entitlement is worth to him, and gives the seller a veto if the buyer does not offer enough. Property rules involve a collective decision as to who is to be given an initial entitlement but not as to the value of the entitlement.

Whenever someone may destroy the initial entitlement if he is willing to pay an objectively determined value for it, an entitlement is protected by a liability rule. This value may be what it is thought the original holder of the entitlement would have sold it for. But the holder's complaint that he would have demanded more will not avail him once the objectively determined value is set. Obviously, liability rules involve an additional stage of state intervention: not only are entitlements protected, but their transfer or destruction is allowed on the basis of a value determined by some organ of the state rather than by the parties themselves.

An entitlement is inalienable to the extent that its transfer is not permitted between a willing buyer and a willing seller. The state intervenes not only to determine who is initially entitled and to determine the compensation that must be paid if the en-

[7] A property rule requires less state intervention only in the sense that intervention is needed to decide upon and enforce the initial entitlement but not for the separate problem of determining the value of the entitlement. Thus, if a particular property entitlement is especially difficult to enforce — for example, the right to personal security in urban areas — the actual amount of state intervention can be very high and could, perhaps, exceed that needed for some entitlements protected by easily administered liability rules.

titlement is taken or destroyed, but also to forbid its sale under some or all circumstances. Inalienability rules are thus quite different from property and liability rules. Unlike those rules, rules of inalienability not only "protect" the entitlement; they may also be viewed as limiting or regulating the grant of the entitlement itself.

It should be clear that most entitlements to most goods are mixed. Taney's house may be protected by a property rule in situations where Marshall wishes to purchase it, by a liability rule where the government decides to take it by eminent domain, and by a rule of inalienability in situations where Taney is drunk or incompetent. This article will explore two primary questions: (1) In what circumstances should we grant a particular entitlement? and (2) In what circumstances should we decide to protect that entitlement by using a property, liability, or inalienability rule?

II. The Setting of Entitlements

What are the reasons for deciding to entitle people to pollute or to entitle people to forbid pollution, to have children freely or to limit procreation, to own property or to share property? They can be grouped under three headings: economic efficiency, distributional preferences, and other justice considerations.[8]

A. Economic Efficiency

Perhaps the simplest reason for a particular entitlement is to minimize the administrative costs of enforcement. This was the reason Holmes gave for letting the costs lie where they fall in accidents unless some clear societal benefit is achieved by shifting them.[9] By itself this reason will never justify any result except that of letting the stronger win, for obviously that result minimizes enforcement costs. Nevertheless, administrative efficiency may be relevant to choosing entitlements when other reasons are taken into account. This may occur when the reasons accepted are indifferent between conflicting entitlements and one entitlement is cheaper to enforce than the others. It may also occur when the reasons are not indifferent but lead us only slightly to prefer one over another and the first is considerably more expensive to enforce than the second.

But administrative efficiency is just one aspect of the broader concept of economic efficiency. Economic efficiency asks that we

[8] *See generally* G. Calabresi, The Costs of Accidents 24–33 (1970) [hereinafter cited as Costs].

[9] *See* O.W. Holmes, Jr., The Common Law 76–77 (Howe ed. 1963). For a criticism of the justification as applied to accidents today, see Costs 261–63. *But cf.* Posner, *A Theory of Negligence*, 1 J. Legal Stud. 29 (1972).

choose the set of entitlements which would lead to that allocation of resources which could not be improved in the sense that a further change would not so improve the condition of those who gained by it that they could compensate those who lost from it and still be better off than before. This is often called Pareto optimality.[10] To give two examples, economic efficiency asks for that combination of entitlements to engage in risky activities and to be free from harm from risky activities which will most likely lead to the lowest sum of accident costs and of costs of avoiding accidents.[11] It asks for that form of property, private or communal, which leads to the highest product for the effort of producing.

Recently it has been argued that on certain assumptions, usually termed the absence of transaction costs, Pareto optimality or economic efficiency will occur regardless of the initial entitlement.[12] For this to hold, "no transaction costs" must be under-

[10] We are not here concerned with the many definitional variations which encircle the concept of Pareto optimality. Many of these variations stem from the fact that unless compensation actually occurs after a change (and this itself assumes a preexisting set of entitlements from which one makes a change to a Pareto optimal arrangement), the redistribution of wealth implicit in the change may well make a return to the prior position also seem Pareto optimal. There are any number of variations on this theme which economists have studied at length. Since in the world in which lawyers must live, anything close to Pareto efficiency, even if desirable, is not attainable, these refinements need not detain us even though they are crucial to a full understanding of the concept.

Most versions of Pareto optimality are based on the premise that individuals know best what is best for them. Hence they assume that to determine whether those who gain from a change could compensate those who lose, one must look to the values the individuals themselves give to the gains and losses. Economic efficiency may, however, present a broader notion which does not depend upon this individualistic premise. It may be that the state, for paternalistic reasons, *see* pp. 1113–14 *infra*, is better able to determine whether the total gain of the winners is greater than the total loss of the losers.

[11] The word "costs" is here used in a broad way to include all the disutilities resulting from an accident and its avoidance. As such it is not limited to monetary costs, or even to those which could in some sense be "monetizable," but rather includes disutilities or "costs" — for instance, the loss to an individual of his leg — the very expression of which in monetary terms would seem callous. One of the consequences of not being able to put monetary values on some disutilities or "costs" is that the market is of little use in gauging their worth, and this in turn gives rise to one of the reasons why liability, or inalienability rules, rather than property rules may be used.

[12] This proposition was first established in Coase's classic article, *The Problem of Social Cost*, 3 J. LAW & ECON. 1 (1960), and has been refined in subsequent literature. *See, e.g.*, Calabresi, *Transaction Costs, Resource Allocation and Liability Rules — A Comment*, 11 J. LAW & ECON. 67 (1968); Nutter, *The Coase Theorem on Social Cost: A Footnote*, 11 J. LAW & ECON. 503 (1968). *See also* G. STIGLER, THE THEORY OF PRICE 113 (3d ed. 1966); Mishan, *Pareto Optimality and the Law*, 19 OXFORD ECON. PAPERS 255 (1967).

stood extremely broadly as involving both perfect knowledge and the absence of any impediments or costs of negotiating. Negotiation costs include, for example, the cost of excluding would-be freeloaders from the fruits of market bargains.[13] In such a frictionless society, transactions would occur until no one could be made better off as a result of further transactions without making someone else worse off. This, we would suggest, is a necessary, indeed a tautological, result of the definitions of Pareto optimality and of transaction costs which we have given.

Such a result would not mean, however, that the *same* allocation of resources would exist regardless of the initial set of entitlements. Taney's willingness to pay for the right to make noise may depend on how rich he is; Marshall's willingness to pay for silence may depend on his wealth. In a society which entitles Taney to make noise and which forces Marshall to buy silence from Taney, Taney is wealthier and Marshall poorer than each would be in a society which had the converse set of entitlements. Depending on how Marshall's desire for silence and Taney's for noise vary with their wealth, an entitlement to noise will result in negotiations which will lead to a different quantum of noise than would an entitlement to silence.[14] This variation in the quantity

[13] The freeloader is the person who refuses to be inoculated against smallpox because, given the fact that almost everyone else is inoculated, the risk of smallpox to him is less than the risk of harm from the inoculation. He is the person who refuses to pay for a common park, though he wants it, because he believes that others will put in enough money to make the park available to him. *See* COSTS 137 n.4. The costs of excluding the freeloader from the benefits for which he refused to pay may well be considerable as the two above examples should suggest. This is especially so since these costs may include the inefficiency of pricing a good, like the park once it exists, above its marginal cost in order to force the freeloader to disclose his true desire to use it — thus enabling us to charge him part of the cost of establishing it initially.

It is the capacity of the market to induce disclosure of individual preferences which makes it theoretically possible for the market to bring about exchanges leading to Pareto optimality. But the freeloader situation is just one of many where no such disclosure is achieved by the market. If we assume perfect knowledge, defined more broadly than is normally done to include knowledge of individual preferences, then such situations pose no problem. This definition of perfect knowledge, though perhaps implicit in the concept of no transaction costs, would not only make reaching Pareto optimality easy through the market, it would make it equally easy to establish a similar result by collective fiat.

For a further discussion of what is implied by a broad definition of no transaction costs, see note 59 *infra*. For a discussion of other devices which may induce individuals to disclose their preferences, see note 38 *infra*.

[14] *See* Mishan, *Pareto Optimality and the Law*, 19 OXFORD ECON. PAPERS 255 (1967). Unless Taney's and Marshall's desires for noise and silence are totally unaffected by their wealth, that is, their desires are totally income inelastic, a change in their wealth will alter the value each places on noise and silence and hence will alter the outcome of their negotiations.

of noise and silence can be viewed as no more than an instance of the well accepted proposition that what is a Pareto optimal, or economically efficient, solution varies with the starting distribution of wealth. Pareto optimality is optimal *given* a distribution of wealth, but different distributions of wealth imply their own Pareto optimal allocation of resources.[15]

All this suggests why distributions of wealth may affect a society's choice of entitlements. It does not suggest why *economic efficiency* should affect the choice, if we assume an absence of any transaction costs. But no one makes an assumption of no transaction costs in practice. Like the physicist's assumption of no friction or Say's law in macro-economics, the assumption of no transaction costs may be a useful starting point, a device which helps us see how, as different elements which may be termed transaction costs become important, the goal of economic efficiency starts to prefer one allocation of entitlements over another.[16]

Since one of us has written at length on how in the presence of various types of transaction costs a society would go about deciding on a set of entitlements in the field of accident law,[17] it is enough to say here: (1) that economic efficiency standing alone would dictate that set of entitlements which favors knowledgeable choices between social benefits and the social costs of obtaining them, and between social costs and the social costs of avoiding them; (2) that this implies, in the absence of certainty as to whether a benefit is worth its costs to society, that the cost should be put on the party or activity best located to make such a cost-benefit analysis; (3) that in particular contexts like accidents or pollution this suggests putting costs on the party or activity which

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[15] There should be no implication that a Pareto optimal solution is in some sense better than a non-Pareto optimal solution which results in a different wealth distribution. The implication is only that given the *same* wealth distribution Pareto optimal is in some meaningful sense preferable to non-Pareto optimal.

[16] *See* Demsetz, *When Does the Rule of Liability Matter?*, 1 J. LEGAL STUD. 13, 25–28 (1972); Stigler, *The Law and Economics of Public Policy: A Plea to the Scholars*, 1 J. LEGAL STUD. 1, 11–12 (1972).

The trouble with a term like "no transaction costs" is that it covers a multitude of market failures. The appropriate collective response, if the aim is to approach Pareto optimality, will vary depending on what the actual impediments to full bargaining are in any given cases. Occasionally the appropriate response may be to ignore the impediments. If the impediments are merely the administrative costs of establishing a market, it may be that doing nothing is preferable to attempting to correct for these costs because the administrative costs of collective action may be even greater. Similarly, if the impediments are due to a failure of the market to cause an accurate disclosure of freeloaders' preferences it may be that the collective can do no better.

[17] *See* COSTS 135–97.

can most cheaply avoid them; (4) that in the absence of certainty as to who that party or activity is, the costs should be put on the party or activity which can with the lowest transaction costs act in the market to correct an error in entitlements by inducing the party who can avoid social costs most cheaply to do so; [18] and (5) that since we are in an area where by hypothesis markets do not work perfectly — there are transaction costs — a decision will often have to be made on whether market transactions or collective fiat is most likely to bring us closer to the Pareto optimal result the "perfect" market would reach.[19]

Complex though this summary may suggest the entitlement choice to be, in practice the criteria it represents will frequently indicate which allocations of entitlements are most likely to lead to optimal market judgments between having an extra car or taking a train, getting an extra cabbage and spending less time working in the hot sun, and having more widgets and breathing the pollution that widget production implies. Economic efficiency is not, however, the sole reason which induces a society to select a

[18] In *The Costs of Accidents*, the criteria here summarized are discussed at length and broken down into subcriteria which deal with the avoidance of different types of externalization and with the finding of the "best briber." Such detailed analysis is necessary to the application of the criteria to any specific area of law. At the level of generality of this article it did not seem to us necessary.

[19] In accident law this election takes the form of a choice between general or market deterrence and specific deterrence, in which the permitted level and manner of accident causing activities is determined collectively. For example, society may decide to grant an entitlement to drive and an entitlement to be compensated for accidents resulting from driving, and allow decisions by individual parties to determine the level and manner of driving. But a greater degree of specific deterrence could be achieved by selecting a different set of initial entitlements in order to accord with a collective cost-benefit analysis — by, for example, prohibiting cars of more than a certain horsepower.

The primary disadvantage of specific deterrence, as compared with general deterrence, is that it requires the central decisionmaker not only to determine the costs of any given activity, but also to measure its benefits, in order to determine the optimum level of activity. It is exceedingly difficult and exceedingly costly for any centralized decisionmaker to be fully informed of the costs and benefits of a wide range of activities. The irony is that collective fiat functions best in a world of costless perfect information; yet in a world of costless transactions, including costless information, the optimum allocation would be reached by market transactions, and the need to consider the alternative of collective fiat would not arise. One could, however, view the irony conversely, and say that the market works best under assumptions of perfect knowledge where collective fiat would work perfectly, rendering the market unnecessary. The fact that both market and collective determinations face difficulties in achieving the Pareto optimal result which perfect knowledge and no transaction costs would permit does not mean that the same difficulties are always as great for the two approaches. Thus, there are many situations in which we can assume fairly confidently that the market will do better than a collective decider, and there are situations where we can assume the opposite to be true. *See* COSTS 103–13.

set of entitlements. Wealth distribution preferences are another, and thus it is to distributional grounds for different entitlements to which we must now turn.

B. Distributional Goals

There are, we would suggest, at least two types of distributional concerns which may affect the choice of entitlements. These involve distribution of wealth itself and distribution of certain specific goods, which have sometimes been called merit goods.

All societies have wealth distribution preferences. They are, nonetheless, harder to talk about than are efficiency goals. For efficiency goals can be discussed in terms of a general concept like Pareto optimality to which exceptions — like paternalism — can be noted.[20] Distributional preferences, on the other hand, cannot usefully be discussed in a single conceptual framework. There are some fairly broadly accepted preferences — caste preferences in one society, more rather than less equality in another society. There are also preferences which are linked to dynamic efficiency concepts — producers ought to be rewarded since they will cause everyone to be better off in the end. Finally, there are a myriad of highly individualized preferences as to who should be richer and who poorer which need not have anything to do with either equality or efficiency — silence lovers should be richer than noise lovers because they are worthier.[21]

Difficult as wealth distribution preferences are to analyze, it should be obvious that they play a crucial role in the setting of entitlements. For the placement of entitlements has a fundamental effect on a society's distribution of wealth. It is not enough, if a society wishes absolute equality, to start everyone off with the same amount of money. A financially egalitarian society which gives individuals the right to make noise immediately makes the would-be noisemaker richer than the silence

[20] For a discussion of paternalism, see pp. 1113–14 *infra*.

[21] The first group of preferences roughly coincides with those notions which writers like Fletcher, following Aristotle, term distributive justice. The second and third groups, instead, presumably deal with Fletcher's "corrective" justice — rewards based on what people do rather than what they are. *See* Fletcher, *Fairness and Utility in Tort Theory*, 85 HARV. L. REV. 537, 547 n.40 (1972).

Within the "corrective" justice category our second and third groupings distinguish those preferences which are transparently linked to efficiency notions from those whose roots are less obvious. If there were a generally accepted theory of desserts, one could speak in general terms about the role the third group plays just as one tends to speak about the role of either the first or second group. We do not believe that an adequate theory of desserts — even if possible — is currently available. *See also* pp. 1102–05 *infra*.

loving hermit.[22] Similarly, a society which entitles the person with brains to keep what his shrewdness gains him implies a different distribution of wealth from a society which demands from each according to his relative ability but gives to each according to his relative desire. One can go further and consider that a beautiful woman or handsome man is better off in a society which entitles individuals to bodily integrity than in one which gives everybody use of all the beauty available.

The consequence of this is that it is very difficult to imagine a society in which there is complete equality of wealth. Such a society either would have to consist of people who were all precisely the same, or it would have to compensate for differences in wealth caused by a given set of entitlements. The former is, of course, ridiculous, even granting cloning. And the latter would be very difficult; it would involve knowing what everyone's tastes were and taxing every holder of an entitlement at a rate sufficient to make up for the benefits the entitlement gave him. For example, it would involve taxing everyone with an entitlement to private use of his beauty or brains sufficiently to compensate those less favorably endowed but who nonetheless desired what beauty or brains could get.

If perfect equality is impossible, a society must choose what entitlements it wishes to have on the basis of criteria other than perfect equality. In doing this, a society often has a choice of methods, and the method chosen will have important distributional implications. Society can, for instance, give an entitlement away free and then, by paying the holders of the entitlement to limit their use of it, protect those who are injured by the free entitlement. Conversely, it can allow people to do a given thing only if they buy the right from the government. Thus a society can decide whether to entitle people to have children and then induce them to exercise control in procreating, or to require people to buy the right to have children in the first place. A society can also decide whether to entitle people to be free of military service and then induce them to join up, or to require all to serve but enable each to buy his way out. Which entitlement a society decides to sell, and which it decides to give away, will likely depend in part on which determination promotes the wealth distribution that society favors.[23]

[22] This assumes that there is not enough space for the noisemaker and the silence lover to coexist without intruding upon one another. In other words, this assumes that we are dealing with a problem of allocation of scarce resources; if we were not, there would be no need to set the initial entitlement. *See generally* Mishan, *supra* note 12.

[23] Any entitlement given away free implies a converse which must be paid for. For all those who like children, there are those who are disturbed by children;

If the choice of entitlements affects wealth distribution generally, it also affects the chances that people will obtain what have sometimes been called merit goods.[24] Whenever a society wishes to maximize the chances that individuals will have at least a minimum endowment of certain particular goods — education, clothes, bodily integrity — the society is likely to begin by giving the individuals an entitlement to them. If the society deems such an endowment to be essential regardless of individual desires, it will, of course, make the entitlement inalienable.[25] Why, however, would a society entitle individuals to specific goods rather than to money with which they can buy what they wish, unless it deems that it can decide better than the individuals what benefits them and society; unless, in other words, it wishes to make the entitlement inalienable?

We have seen that an entitlement to a good or to its converse is essentially inevitable.[26] We either are entitled to have silence or entitled to make noise in a given set of circumstances. We either have the right to our own property or body or the right to share others' property or bodies. We may buy or sell our-

for all those who detest armies, there are those who want what armies accomplish. Otherwise, we would have no scarce resource problem and hence no entitlement problem. Therefore, one cannot simply say that giving away an entitlement free is progressive while selling it is regressive. It is true that the more "free" goods there are the less inequality of wealth there is, if everything else has stayed the same. But if a free entitlement implies a costly converse, entitlements are *not* in this sense free goods. And the issue of their progressivity and regressivity must depend on the relative desire for the entitlement as against its converse on the part of the rich and the poor.

Strictly speaking, even this is true only if the money needed to finance the alternative plans, or made available to the government as a result of the plans, is raised and spent in a way that is precisely neutral with respect to wealth distribution. The point is simply this: even a highly regressive tax will aid wealth equality if the money it raises is all spent to benefit the poorest citizens. And even a system of outdoor relief for the idle rich aids wealth equality if the funds it requires are raised by taxing only the wealthiest of the wealthy. Thus whenever one speaks of a taxing program, spending program, or a system of entitlements as progressive or regressive, one must be assuming that the way the money is spent (if it is a tax) or the way it is raised (if it is a spending program) does not counter the distributive effect of the program itself.

[24] *Cf.* R. MUSGRAVE, THE THEORY OF PUBLIC FINANCE 13–14 (1959).

[25] The commonly given reasons why a society may choose to do this are discussed *infra* at pp. 1111–15. All of them are, of course, reasons which explain why such goods are often categorized as merit goods. When a society subsidizes a good it makes a similar decision based on similar grounds. Presumably, however, in such cases the grounds only justify making possession of the good less costly than would be the case without government intervention, rather than making possession of the good inevitable.

[26] This is true unless we are prepared to let the parties settle the matter on the basis of might makes right, which itself may also be viewed as a form of entitlement.

selves into the opposite position, but we must start somewhere. Under these circumstances, a society which prefers people to have silence, or own property, or have bodily integrity, but which does not hold the grounds for its preference to be sufficiently strong to justify overriding contrary preferences by individuals, will give such entitlements according to the collective preference, even though it will allow them to be sold thereafter.

Whenever transactions to sell or buy entitlements are very expensive, such an initial entitlement decision will be nearly as effective in assuring that individuals will have the merit good as would be making the entitlement inalienable. Since coercion is inherent because of the fact that a good cannot practically be bought or sold, a society can choose only whether to make an individual have the good, by giving it to him, or to prevent him from getting it by giving him money instead.[27] In such circumstances society will pick the entitlement it deems favorable to the general welfare and not worry about coercion or alienability; it has increased the chances that individuals will have a particular good without increasing the degree of coercion imposed on individuals.[28] A common example of this may occur where the good involved is the present certainty of being able to buy a future benefit and where a futures market in that good is too expensive to be feasible.[29]

[27] For a discussion of this inevitable, and therefore irrelevant degree of coercion in the accident context, see COSTS 50–55, 161–73.

[28] The situation is analogous to that which involves choosing between systems of allocation of accident costs which minimize rapid changes in wealth, through spreading, and those that do not. Indeed, if the avoidance of rapid changes in wealth is, itself, viewed as a merit good, the analogy is complete. In the accident field a great deal of attention has been devoted to the problem of rapid changes in wealth. *See, e.g.*, Morris & Paul, *The Financial Impact of Automobile Accidents*, 110 U. PA. L. REV. 913, 924 (1962). *But see* W. BLUM & H. KALVEN, PUBLIC LAW PERSPECTIVES ON A PRIVATE LAW PROBLEM — AUTO COMPENSATION PLANS (1965).

[29] A full discussion of this justification for the giving of goods in "kind" is well beyond the scope of this article. An indication of what is involved may be in order, however. One of the many reasons why the right to vote is given in kind instead of giving individuals that amount of money which would assure them, in a voteless society, of all the benefits which having the vote gives them, is that at any given time the price of those benefits in the future is totally uncertain and, therefore, virtually no amount of money would assure individuals of having those future benefits. This would not be the case if an entrepreneur could be counted on to guarantee those future benefits in exchange for a present money payment. That is what happens in a futures market for, say, sow's bellies. The degree of uncertainty in the cost of the future benefits of the vote is such, however, that a futures market is either not feasible, or, what is the same thing, much too costly to be worthwhile. In such circumstances the nonmarket alternative of giving of the good in kind seems more efficient. Many of the merit goods which are, in fact, given in kind in our society — for example, education — share this character-

C. Other Justice Reasons

The final reasons for a society's choice of initial entitlements we termed other justice reasons, and we may as well admit that it is hard to know what content can be poured into that term, at least given the very broad definitions of economic efficiency and distributional goals that we have used. Is there, in other words, a reason which would influence a society's choice of initial entitlements that cannot be comprehended in terms of efficiency and distribution? A couple of examples will indicate the problem.

Taney likes noise; Marshall likes silence. They are, let us assume, inevitably neighbors. Let us also assume there are no transaction costs which may impede negotiations between them. Let us assume finally that we do not know Taney's and Marshall's wealth or, indeed, anything else about them. Under these circumstances we know that Pareto optimality — economic efficiency — will be reached whether we choose an entitlement to make noise or to have silence. We also are indifferent, from a general wealth distribution point of view, as to what the initial entitlement is because we do not know whether it will lead to greater equality or inequality. This leaves us with only two reasons on which to base our choice of entitlement. The first is the relative worthiness of silence lovers and noise lovers. The second is the consistency of the choice, or its apparent consistency, with other entitlements in the society.

The first sounds appealing, and it sounds like justice. But it is hard to deal with. Why, unless our choice affects other people, should we prefer one to another? [30] To say that we wish, for

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istic of involving present rights to future benefits in circumstances where a futures market does not exist and at first glance seems very difficult to organize cheaply. We do not suggest that this is the sole explanation for the way voting is handled in our society. For instance, it does not explain why the vote cannot be sold. (An explanation for that may be found in the fact that Taney's benefit from the vote may depend on Marshall's not having more of it than he.) It does, however, add another, not frequently given, explanation for the occasional allocation of goods rather than money to individuals.

[30] The usual answer is religious or transcendental reasons. But this answer presents problems. If it means that Chase, a third party, suffers if the noise-maker is preferred, because Chase's faith deems silence worthier than noise, then third parties *are* affected by the choice. Chase suffers; there is an external effect. But that possibility was excluded in our hypothetical. In practice such external effects, often called moralisms, are extremely common and greatly complicate the reaching of Pareto optimality. *See* pp. 1112–13 *infra*.

Religious or transcendental reasons may, however, be of another kind. Chase may prefer silence not because he himself cares, not because he suffers if noise-makers get the best of it when his faith deems silence lovers to be worthier, but because he believes God suffers if such a choice is made. No amount of compensation will help Chase in this situation since he suffers nothing which can be

instance, to make the silence lover relatively wealthier because we prefer silence is no answer, for that is simply a restatement of the question. Of course, if the choice does affect people other than Marshall and Taney, then we have a valid basis for decision. But the fact that such external effects are extremely common and greatly influence our choices does not help us much. It does suggest that the reaching of Pareto optimality is, in practice, a very complex matter precisely because of the existence of many external effects which markets find hard to deal with. And it also suggests that there often are general distributional considerations between Taney-Marshall and the rest of the world which affect the choice of entitlement. It in no way suggests, however, that there is more to the choice between Taney-Marshall than Pareto optimality and distributional concerns. In other words, if the assumptions of no transaction costs and indifference as to distributional considerations, made as between Taney and Marshall (where they are unlikely), could be made as to the world as a whole (where they are impossible), the fact that the choice between Taney's noise or Marshall's silence might affect other people would give us no guidance. Thus what sounds like a justice standard is simply a handy way of importing efficiency and distributional notions too diverse and general in their effect to be analyzed fully in the decision of a specific case.

The second sounds appealing in a different way since it sounds like "treating like cases alike." If the entitlement to make noise in other people's ears for one's pleasure is viewed by society as closely akin to the entitlement to beat up people for one's pleasure, and if good efficiency and distributional reasons exist for not allowing people to beat up others for sheer pleasure, then there may be a good reason for preferring an entitlement to silence rather than noise in the Taney-Marshall case. Because the two entitlements are apparently consistent, the entitlement to silence strengthens the entitlement to be free from gratuitous beatings which we assumed was based on good efficiency and distributional reasons.[31] It does so by lowering the enforcement costs of the entitlement to be free from gratuitous beatings; the entitlement to silence reiterates and reinforces the values protected by the entitlement to be free from gratuitous beatings and reduces the number of discriminations people must make between one activity and another, thus simplifying the task of obedience.

compensated, and compensating God for the wrong choice is not feasible. Such a reason for a choice is, we would suggest, a true nonefficiency, nondistribution reason. Whether it actually ever plays a role may well be another matter.

[31] The opposite would be true if noisemaking were thought to be akin to industry, and drive and silence to lethargy and laziness, and we had good efficiency or distributional reasons for preferring industry to lethargy.

The problem with this rationale for the choice is that it too comes down to efficiency and distributional reasons. We prefer the silence maker because *that* entitlement, even though it does not of itself affect the desired wealth distribution or lead us away from efficiency in the Taney-Marshall case, helps us to reach those goals in other situations where there are transaction costs or where we do have distributional preferences. It does this because people do not realize that the consistency is only apparent. If we could explain to them, both rationally and emotionally, the efficiency and distributional reasons why gratuitous beating up of people was inefficient or led to undesirable wealth distribution, and if we could also explain to them why an entitlement to noise rather than silence in the Taney-Marshall case would not lead to either inefficiency or maldistribution, then the secondary undermining of the entitlement to bodily integrity would not occur. It is only because it is expensive, even if feasible, to point out the difference between the two situations that the apparent similarity between them remains. And avoiding this kind of needless expense, while a very good reason for making choices, is clearly no more than a part of the economic efficiency goal.[32]

Still we should admit that explaining entitlements solely in terms of efficiency and distribution, in even their broadest terms, does not seem wholly satisfactory. The reasons for this are worth at least passing mention. The reason that we have so far explained entitlements simply in terms of efficiency and distribution is ultimately tautological. We defined distribution as covering *all* the reasons, other than efficiency, on the basis of which we might prefer to make Taney *wealthier* than Marshall. So defined, there obviously was no room for any other reasons. Distributional grounds covered broadly accepted ideas like "equality" or, in some societies, "caste preference," and highly specific ones like "favoring the silence lover." We used this definition because there is a utility in lumping together all those reasons for preferring Taney to Marshall which cannot be explained in terms of a desire to make everyone better off, and in contrasting them with efficiency reasons, whether Paretian or not, which can be so explained.

Lumping them together, however, has some analytical dis-

[32] We do not mean to underestimate the importance of apparent consistency as a ground for entitlements. Far from it, it is likely that a society often prefers an entitlement which even leads to mild inefficiencies or maldistribution of wealth between, say, Taney and Marshall, because that entitlement tends to support other entitlements which are crucial in terms of efficiency or wealth distribution in the society at large and because the cost of convincing people that the situations are, in fact, different is not worth the gain which would be obtained in the Taney-Marshall case.

advantages. It seems to assume that we cannot say any more about the reasons for some distributional preferences than about others. For instance, it seems to assume a similar universality of support for recognizing silence lovers as relatively worthier as there is for recognizing the relative desirability of equality. And that, surely, is a dangerous assumption. To avoid this danger the term "distribution" is often limited to relatively few broad reasons, like equality. And those preferences which cannot be easily explained in terms of these relatively few broadly accepted distributional preferences, or in terms of efficiency, are termed justice reasons. The difficulty with this locution is that it sometimes is taken to imply that the moral gloss of justice is reserved for these residual preferences and does not apply to the broader distributional preferences or to efficiency based preferences. And surely this is wrong, for many entitlements that properly are described as based on justice in our society can easily be explained in terms either of broad distributional preferences like equality or of efficiency or of both.

By using the term "*other* justice reasons" we hope to avoid this difficulty and emphasize that justice notions adhere to efficiency and broad distributional preferences as well as to other more idiosyncratic ones. To the extent that one is concerned with contrasting the difference between efficiency and other reasons for certain entitlements, the bipolar efficiency-distribution locution is all that is needed. To the extent that one wishes to delve either into reasons which, though possibly originally linked to efficiency, have now a life of their own, or into reasons which, though distributional, cannot be described in terms of broad principles like equality, then a locution which allows for "other justice reasons" seems more useful.[33]

III. Rules For Protecting and Regulating Entitlements

Whenever society chooses an initial entitlement it must also determine whether to protect the entitlement by property rules, by liability rules, or by rules of inalienability. In our framework, much of what is generally called private property can be viewed as an entitlement which is protected by a property rule. No one can take the entitlement to private property from the holder unless the holder sells it willingly and at the price at which he subjectively values the property. Yet a nuisance with sufficient public utility to avoid injunction has, in effect, the right to take property with compensation. In such a circumstance the entitlement to the property is protected only by what we call a liability rule:

[33] *But see* Fletcher, *supra* note 21, at 547 n.40.

an external, objective standard of value is used to facilitate the transfer of the entitlement from the holder to the nuisance.[34] Finally, in some instances we will not allow the sale of the property at all, that is, we will occasionally make the entitlement inalienable.

This section will consider the circumstances in which society will employ these three rules to solve situations of conflict. Because the property rule and the liability rule are closely related and depend for their application on the shortcomings of each other, we treat them together. We discuss inalienability separately.

A. Property and Liability Rules

Why cannot a society simply decide on the basis of the already mentioned criteria who should receive any given entitlement, and then let its transfer occur only through a voluntary negotiation? Why, in other words, cannot society limit itself to the property rule? To do this it would need only to protect and enforce the initial entitlements from all attacks, perhaps through criminal sanctions,[35] and to enforce voluntary contracts for their transfer. Why do we need liability rules at all?

In terms of economic efficiency the reason is easy enough to see. Often the cost of establishing the value of an initial entitlement by negotiation is so great that even though a transfer of the entitlement would benefit all concerned, such a transfer will not occur. If a collective determination of the value were available instead, the beneficial transfer would quickly come about.

Eminent domain is a good example. A park where Guidacres, a tract of land owned by 1,000 owners in 1,000 parcels, now sits would, let us assume, benefit a neighboring town enough so that the 100,000 citizens of the town would each be willing to pay an average of $100 to have it. The park is Pareto desirable if the owners of the tracts of land in Guidacres actually value their entitlements at less than $10,000,000 or an average of $10,000 a tract. Let us assume that in fact the parcels are all the same and all the owners value them at $8,000. On this assumption, the park is, in economic efficiency terms, desirable — in values foregone it costs $8,000,000 and is worth $10,000,000 to the buyers. And yet it may well not be established. If enough of the owners hold-out for more than $10,000 in order to get a share of the $2,000,000 that they guess the buyers are willing to pay over the

[34] *See, e.g.*, Boomer v. Atlantic Cement Co., 26 N.Y.2d 219, 309 N.Y.S.2d 312, 257 N.E.2d 870 (1970) (avoidance of injunction conditioned on payment of permanent damages to plaintiffs).

[35] The relationship between criminal sanctions and property entitlements will be examined *infra* pp. 1124–27.

value which the sellers in actuality attach, the price demanded will be more than $10,000,000 and no park will result. The sellers have an incentive to hide their true valuation and the market will not succeed in establishing it.

An equally valid example could be made on the buying side. Suppose the sellers of Guidacres have agreed to a sales price of $8,000,000 (they are all relatives and at a family banquet decided that trying to hold-out would leave them all losers). It does not follow that the buyers can raise that much even though each of 100,000 citizens *in fact* values the park at $100. Some citizens may try to free-load and say the park is only worth $50 or even nothing to them, hoping that enough others will admit to a higher desire and make up the $8,000,000 price. Again there is no reason to believe that a market, a decentralized system of valuing, will cause people to express their true valuations and hence yield results which all would *in fact* agree are desirable.

Whenever this is the case an argument can readily be made for moving from a property rule to a liability rule. If society can remove from the market the valuation of each tract of land, decide the value collectively, and impose it, then the holdout problem is gone. Similarly, if society can value collectively each individual citizen's desire to have a park and charge him a "benefits" tax based upon it, the freeloader problem is gone. If the sum of the taxes is greater than the sum of the compensation awards, the park will result.

Of course, one can conceive of situations where it might be cheap to exclude all the freeloaders from the park, or to ration the park's use in accordance with original willingness to pay. In such cases the incentive to free-load might be eliminated. But such exclusions, even if possible, are usually not cheap. And the same may be the case for market methods which might avoid the holdout problem on the seller side.

Moreover, even if holdout and freeloader problems can be met feasibly by the market, an argument may remain for employing a liability rule. Assume that in our hypothetical, freeloaders can be excluded at the cost of $1,000,000 and that all owners of tracts in Guidacres can be convinced, by the use of $500,000 worth of advertising and cocktail parties, that a sale will only occur if they reveal their true land valuations. Since $8,000,000 plus $1,500,000 is less than $10,000,000, the park will be established. But if collective valuation of the tracts and of the benefits of the prospective park would have cost less than $1,500,000, it would have been inefficient to establish the park through the market — a market which was not worth having would have been paid for.[36]

[36] It may be argued that, given imperfect knowledge, the market is preferable because it places a limit — the cost of establishing a market — on the size of the

Of course, the problems with liability rules are equally real. We cannot be at all sure that landowner Taney is lying or holding out when he says his land is worth $12,000 to him. The fact that several neighbors sold identical tracts for $10,000 does not help us very much; Taney may be sentimentally attached to his land. As a result, eminent domain may grossly undervalue what Taney would actually sell for, even if it sought to give him his true valuation of his tract. In practice, it is so hard to determine Taney's true valuation that eminent domain simply gives him what the land is worth "objectively," in the full knowledge that this may result in over or under compensation. The same is true on the buyer side. "Benefits" taxes rarely attempt, let alone succeed, in gauging the individual citizen's relative desire for the alleged benefit. They are justified because, even if they do not accurately measure each individual's desire for the benefit, the market alternative seems worse. For example, fifty different households may place different values on a new sidewalk that is to abut all the properties. Nevertheless, because it is too difficult, even if possible, to gauge each household's valuation, we usually tax each household an equal amount.

The example of eminent domain is simply one of numerous instances in which society uses liability rules. Accidents is another. If we were to give victims a property entitlement not to be accidentally injured we would have to require all who engage in activities that may injure individuals to negotiate with them before an accident, and to buy the right to knock off an arm or a leg.[37] Such pre-accident negotiations would be extremely ex-

possible loss, while the costs of coercion cannot be defined and may be infinite. This may be true in some situations but need not always be the case. If, for example, we know that the holdouts would sell for $500,000 more than is offered, because they recently offered the land at that higher price, coercing them to sell at an objectively determined price between the seller's offer and the purchaser's offer cannot result in more than $500,000 in harm. Thus, the costs of coercion would also not be infinite. Nor is it an answer to say that the man who would sell for a higher price but is coerced for a lower one suffers an indefinite nonmonetary cost in addition to the price differential simply because he is coerced and resents it. For while this may well be true, the same nonmonetary resentment may also exist in those who desire the park and do not get it because the market is unable to pay off those who are holding out for a greater than actual value. In other words, unascertainable resentment costs may exist as a result of either coercion or market failure.

[37] Even if it were possible, it should be clear that the good which would be sold would not be the same as the good actually taken. If Taney waives for $1,000 the right to recover for the loss of a leg, should he ever lose it, he is negotiating for a joint product which can be described as his "desire or aversion to gamble" and "his desire to have a leg." The product actually taken, however, is the leg. That the two goods are different can be seen from the fact that a man who demands $1,000 for a 1 in a 1,000 chance of losing a leg may well demand more

pensive, often prohibitively so.[38] To require them would thus preclude many activities that might, in fact, be worth having. And, after an accident, the loser of the arm or leg can always very plausibly deny that he would have sold it at the price the buyer would have offered. Indeed, where negotiations after an accident do occur — for instance pretrial settlements — it is largely because the alternative is the collective valuation of the damages.

It is not our object here to outline all the theoretical, let alone the practical, situations where markets may be too expensive or fail and where collective valuations seem more desirable. Economic literature has many times surrounded the issue if it has not

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than $100,000 for a 1 in 10 chance of losing it, and more than $1,000,000 for the sale of his leg to someone who needs it for a transplant. *See generally* COSTS 88–94. This does not mean that the result of such transactions, if feasible, would *necessarily* be worse than the result of collective valuations. It simply means that the situation, even if feasible, is different from the one in which Taney sells his house for a given price.

[38] Such preaccident negotiations between potential injurers and victims are at times not too costly. Thus in a typical products liability situation the cost of negotiation over a potential injury need not be prohibitive. The seller of a rotary lawn mower may offer to sell at a reduced price if the buyer agrees not to sue should he be injured. Nevertheless, society often forbids such negotiations because it deems them undesirable. This may occur because of the reasons suggested in note 37 *supra*, or for any of the other reasons which cause us to make some entitlements wholly or partly inalienable, *see infra* pp. 1111–15.

Attempts have been made to deal with situations where ex ante negotiations are not feasible by fiscal devices designed to cause people to reveal their preferences. One of these contemplates requiring individuals to declare a value on their properties, or even limbs, and paying a tax on the self assessed value. That value would be the value of the good if it were taken in an accident or by eminent domain. *See generally* N. Tideman, Three Approaches to Improving Urban Land Use, ch. III (1969) (unpublished Ph.D. dissertation submitted to U. of Chicago Economics Department, on file in Yale Law Library). Of course, if the good is only taken as a result of an accident or eminent domain, the problem of gambling described in note 37 *supra* would remain. If, instead, the property or limb could be taken at will at the self assessed value, serious problems would arise from the fact that there are enormous nonmonetizable, as well as monetizable, costs involved in making people put money values on all their belongings and limbs.

An additional, though perhaps solvable, problem with self assessed taxes is the fact that the taking price would exclude any consumer surplus. This may have no significance in terms of economic efficiency, but if the existence of consumer surplus in many market transactions is thought to have, on the whole, a favorable wealth distribution effect, it might well be a reason why self assessed taxes are viewed with skepticism. *Cf.* Little, Self-Assessed Valuations: A Critique (1972) (unpublished paper, on file in Harvard Law School Library). The reader might reasonably wonder why many individuals who view self assessed taxes with skepticism show no similar concerns for what may be a very similar device, optional first party insurance covering pain and suffering damages in automobile injuries. *See, e.g.*, Calabresi, *The New York Plan: A Free Choice Modification*, 71 COLUM. L. REV. 267, 268 n.6 (1971).

always zeroed in on it in ways intelligible to lawyers.[39] It is enough for our purposes to note that a very common reason, perhaps the most common one, for employing a liability rule rather than a property rule to protect an entitlement is that market valuation of the entitlement is deemed inefficient, that is, it is either unavailable or too expensive compared to a collective valuation.

We should also recognize that efficiency is not the sole ground for employing liability rules rather than property rules. Just as the initial entitlement is often decided upon for distributional reasons, so too the choice of a liability rule is often made because it facilitates a combination of efficiency and distributive results which would be difficult to achieve under a property rule. As we shall see in the pollution context, use of a liability rule may allow us to accomplish a measure of redistribution that could only be attained at a prohibitive sacrifice of efficiency if we employed a corresponding property rule.

More often, once a liability rule is decided upon, perhaps for efficiency reasons, it is then employed to favor distributive goals as well. Again accidents and eminent domain are good examples. In both of these areas the compensation given has clearly varied with society's distributive goals, and cannot be readily explained in terms of giving the victim, as nearly as possible, an objectively determined equivalent of the price at which he would have sold what was taken from him.

It should not be surprising that this is often so, even if the original reason for a liability rule is an efficiency one. For distributional goals are expensive and difficult to achieve, and the collective valuation involved in liability rules readily lends itself to promoting distributional goals.[40] This does not mean that distributional goals are always well served in this way. Ad hoc decisionmaking is always troublesome, and the difficulties are especially acute when the settlement of conflicts between parties is used as a vehicle for the solution of more widespread distributional problems. Nevertheless, distributional objectives may be better attained in this way than otherwise.[41]

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[39] For a good discussion of market failure which is intelligible to lawyers, see Bator, *The Anatomy of Market Failure*, 72 Q. J. ECON. 351 (1958).

[40] Collective valuation of costs also makes it easier to value the costs at what the society thinks they should be valued by the victim instead of at what the victim would value them in a free market if such a market were feasible. The former kind of valuation is, of course, paternalism. This does not mean it is undesirable; the danger is that paternalism which is not desirable will enter mindlessly into the cost valuation because the valuation is necessarily done collectively. *See* pp. 1113–14 *infra*.

[41] For suggestions that at times systematic distributional programs may cause

B. *Inalienable Entitlements*

Thus far we have focused on the questions of when society should protect an entitlement by property or liability rules. However, there remain many entitlements which involve a still greater degree of societal intervention: the law not only decides who is to own something and what price is to be paid for it if it is taken or destroyed, but also regulates its sale — by, for example, prescribing preconditions for a valid sale or forbidding a sale altogether. Although these rules of inalienability are substantially different from the property and liability rules, their use can be analyzed in terms of the same efficiency and distributional goals that underlie the use of the other two rules.

While at first glance efficiency objectives may seem undermined by limitations on the ability to engage in transactions, closer analysis suggests that there are instances, perhaps many, in which economic efficiency is more closely approximated by such limitations. This might occur when a transaction would create significant externalities — costs to third parties.

For instance, if Taney were allowed to sell his land to Chase, a polluter, he would injure his neighbor Marshall by lowering the value of Marshall's land. Conceivably, Marshall could pay Taney not to sell his land; but, because there are many injured Marshalls, freeloader and information costs make such transactions practically impossible. The state could protect the Marshalls and yet facilitate the sale of the land by giving the Marshalls an entitlement to prevent Taney's sale to Chase but only protecting the entitlement by a liability rule. It might, for instance, charge an excise tax on all sales of land to polluters equal to its estimate of the external cost to the Marshalls of the sale. But where there are so many injured Marshalls that the price required under the liability rule is likely to be high enough so that no one would be willing to pay it, then setting up the machinery for collective valuation will be wasteful. Barring the sale to polluters will be the most efficient result because it is clear that avoiding pollution is cheaper than paying its costs — including its costs to the Marshalls.

Another instance in which external costs may justify inalienability occurs when external costs do not lend themselves to collective measurement which is acceptably objective and nonarbitrary. This nonmonetizability is characteristic of one category of external costs which, as a practical matter, seems frequently to

greater misallocation of resources than ad hoc decisions, see Ackerman, *Regulating Slum Housing Markets on Behalf of the Poor: Of Housing Codes, Housing Subsidies and Income Redistribution Policy*, 80 YALE L.J. 1093, 1157–97 (1971); Calabresi, *supra* note 12.

lead us to rules of inalienability. Such external costs are often called moralisms.

If Taney is allowed to sell himself into slavery, or to take undue risks of becoming penniless, or to sell a kidney, Marshall may be harmed, simply because Marshall is a sensitive man who is made unhappy by seeing slaves, paupers, or persons who die because they have sold a kidney. Again Marshall could pay Taney not to sell his freedom to Chase the slaveowner; but again, because Marshall is not one but many individuals, freeloader and information costs make such transactions practically impossible. Again, it might seem that the state could intervene by objectively valuing the external cost to Marshall and requiring Chase to pay that cost. But since the external cost to Marshall does not lend itself to an acceptable objective measurement, such liability rules are not appropriate.

In the case of Taney selling land to Chase, the polluter, they were inappropriate because we *knew* that the costs to Taney and the Marshalls exceeded the benefits to Chase. Here, though we are not certain of how a cost-benefit analysis would come out, liability rules are inappropriate because any monetization is, by hypothesis, out of the question. The state must, therefore, either ignore the external costs to Marshall, or if it judges them great enough, forbid the transaction that gave rise to them by making Taney's freedom inalienable.[42]

Obviously we will not always value the external harm of a moralism enough to prohibit the sale.[43] And obviously also, external costs other than moralisms may be sufficiently hard to value to make rules of inalienability appropriate in certain circumstances; this reason for rules of inalienability, however, does seem most often germane in situations where moralisms are involved.[44]

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[42] Granting Taney an inalienable right to be free is in many respects the same as granting most of the people a property entitlement to keep Taney free. The people may bargain and decide to surrender their entitlement, *i.e.*, to change the law, but there are limits on the feasibility of transactions of this sort which make the public's entitlements virtually inalienable.

[43] For example, I am allowed to buy and read whatever books I like, or to sell my house to whomever I choose, regardless of whether my doing so makes my neighbors unhappy. These entitlements could be a form of self paternalism on the part of the neighbors who fear a different rule would harm them more in the long run, or they could be selected because they strengthen seemingly similar entitlements. *See* pp. 1103–04 *supra*. But they may also reflect a judgment that the injury suffered by my neighbors results from a moralism shared by them but not so widespread as to make more efficient their being given an entitlement to prevent my transaction. In other words, people who are hurt by my transaction are the cheapest cost avoiders, *i.e.*, the cost to them of my being allowed to transact freely is less than the cost to me and others similarly situated of a converse entitlement.

[44] The fact that society may make an entitlement inalienable does not, of

There are two other efficiency reasons for forbidding the sale of entitlements under certain circumstances: self paternalism and true paternalism. Examples of the first are Ulysses tying himself to the mast or individuals passing a bill of rights so that they will be prevented from yielding to momentary temptations which they deem harmful to themselves. This type of limitation is not in any real sense paternalism. It is fully consistent with Pareto efficiency criteria, based on the notion that over the mass of cases no one knows better than the individual what is best for him or her. It merely allows the individual to choose what is best in the long run rather than in the short run, even though that choice entails giving up some short run freedom of choice. Self paternalism may cause us to require certain conditions to exist before we allow a sale of an entitlement; and it may help explain many situations of inalienability, like the invalidity of contracts entered into when drunk, or under undue influence or coercion. But it probably does not fully explain even these.[45]

True paternalism brings us a step further toward explaining such prohibitions and those of broader kinds — for example the prohibitions on a whole range of activities by minors. Paternalism is based on the notion that at least in some situations the Marshalls know better than Taney what will make Taney better off.[46] Here we are not talking about the offense to Marshall from Taney's choosing to read pornography, or selling himself into slavery, but rather the judgment that Taney was not in the position to choose best for himself when he made the choice for erotica or servitude.[47]

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course, mean that there will be no compensation to the holder of the entitlement if it is taken from him. Thus even if a society forbids the sale of one's kidneys it will still probably compensate the person whose kidney is destroyed in an auto accident. The situations are distinct and the kidney is protected by different rules according to which situation we are speaking of.

[45] As a practical matter, since it is frequently impossible to limit the effect of an inalienable rule to those who desire it for self paternalistic reasons, self paternalism would lead to some restraints on those who would desire to sell their entitlements. This does not make self paternalism any less consistent with the premises of Pareto optimality; it is only another recognition that in an imperfect world, Pareto optimality can be approached more closely by systems which involve some coercion than by a system of totally free bargains.

[46] This locution leaves open the question whether Taney's future well-being will ultimately be decided by Taney himself or the many Marshalls. The latter implies a further departure from Paretian premises. The former, which may be typical of paternalism towards minors, implies simply that the minors do not know enough to exercise self paternalism.

[47] Sometimes the term paternalism is used to explain use of a rule of inalienability in situations where inalienability will not make the many Marshalls or the coerced Taney any better off. Inalienability is said to be imposed because the many Marshalls believe that making the entitlement inalienable is doing God's

The first concept we called a moralism and is a frequent and important ground for inalienability. But it is consistent with the premises of Pareto optimality. The second, paternalism, is also an important economic efficiency reason for inalienability, but it is not consistent with the premises of Pareto optimality: the most efficient pie is no longer that which costless bargains would achieve, because a person may be better off if he is prohibited from bargaining.

Finally, just as efficiency goals sometimes dictate the use of rules of inalienability, so, of course, do distributional goals. Whether an entitlement may be sold or not often affects directly who is richer and who is poorer. Prohibiting the sale of babies makes poorer those who can cheaply produce babies and richer those who through some nonmarket device get free an "unwanted" baby.[48] Prohibiting exculpatory clauses in product sales makes richer those who were injured by a product defect and poorer those who were not injured and who paid more for the product because the exulpatory clause was forbidden.[49] Favoring the specific group that has benefited may or may not have been the reason for the prohibition on bargaining. What is important is that, regardless of the reason for barring a contract, a group did gain from the prohibition.

This should suffice to put us on guard, for it suggests that direct distributional motives may lie behind asserted nondistributional grounds for inalienability, whether they be paternalism, self paternalism, or externalities.[50] This does not mean that giving

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will, that is, that a sale or transfer of the entitlement would injure God. Assuming this situation exists in practice, we would not term it paternalism, because that word implies looking after the interests of the coerced party. *See* note 30 *supra*.

[48] This assumes that a prohibition on the sale of unwanted babies can be effectively enforced. If it can, then those unwanted babies which are produced are of no financial benefit to their natural parents and bring an increase in well-being to those who are allowed to adopt them free and as a result of a nonmarket allocation. Should the prohibition on sales of babies be only partially enforceable, the distributional result would be more complex. It would be unchanged for those who could obtain babies for adoption legally, *i.e.*, for those who received them without paying bribes, as it would for the natural parents who obeyed the law, since they would still receive no compensation. On the other hand, the illegal purchaser would probably pay, and the illegal seller receive, a higher price than if the sale of babies were legal. This would cause a greater distributive effect within the group of illegal sellers and buyers than would exist if such sales were permitted.

[49] *See* note 37 *supra*.

[50] As a practical matter, it is often impossible to tell whether an entitlement has been made partially inalienable for any of the several efficiency grounds mentioned or for distributional grounds. Do we bar people from selling their bodies for paternalistic, self paternalistic, or moralistic cost reasons? On what basis do we prohibit an individual from taking, for a high price, one chance in three of having

weight to distributional goals is undesirable. It clearly is desirable where on efficiency grounds society is indifferent between an alienable and an inalienable entitlement and distributional goals favor one approach or the other. It may well be desirable even when distributional goals are achieved at some efficiency costs. The danger may be, however, that what is justified on, for example, paternalism grounds is really a hidden way of accruing distributional benefits for a group whom we would not otherwise wish to benefit. For example, we may use certain types of zoning to preserve open spaces on the grounds that the poor will be happier, though they do not know it now. And open spaces may indeed make the poor happier in the long run. But the zoning that preserves open space also makes housing in the suburbs more expensive and it may be that the whole plan is aimed at securing distributional benefits to the suburban dweller regardless of the poor's happiness.[51]

IV. The Framework and Pollution Control Rules

Nuisance or pollution is one of the most interesting areas where the question of who will be given an entitlement, and how it will be protected, is in frequent issue.[52] Traditionally, and very ably in the recent article by Professor Michelman, the nuisance-pollution problem is viewed in terms of three rules.[53] First, Taney

to give his heart to a wealthy man who needs a transplant? Do we try to avoid a market in scarce medical resources for distributional or for some or all of the efficiency reasons discussed?

[51] There is another set of reasons which causes us to prohibit sales of some entitlements and which is sometimes termed distributional; this set of reasons causes us to prohibit sales of some entitlements because the underlying distribution of wealth seems to us undesirable. These reasons, we would suggest, are not true distributional grounds. They are, rather, efficiency grounds which become valid because of the original maldistribution. As such they can once again be categorized as due to externalities, self paternalism, and pure paternalism: (1) Marshall is offended because Taney, due to poverty, sells a kidney, and therefore Marshall votes to bar such sales (a moralism); (2) Taney, seeking to avoid temporary temptation due to his poverty, votes to bar such sales (self paternalism); and (3) the law prohibits Taney from the same sale because, regardless of what Taney believes, a majority thinks Taney will be better off later if he is barred from selling than if he is free to do so while influenced by his own poverty (pure paternalism). We do not mean to minimize these reasons by noting that they are not strictly distributional. We call them nondistributional simply to distinguish them from the more direct way in which distributional considerations affect the alienability of entitlements.

[52] It should be clear that the pollution problem we discuss here is really only a part of a broader problem, that of land use planning in general. Much of this analysis may therefore be relevant to other land use issues, for example exclusionary zoning, restrictive covenants, and ecological easements. *See* note 58 *infra*.

[53] Michelman, *supra* note 1, at 670. *See also* Restatement (Second) of Torts

may not pollute unless his neighbor (his only neighbor let us assume), Marshall, allows it (Marshall may enjoin Taney's nuisance).[54] Second, Taney may pollute but must compensate Marshall for damages caused (nuisance is found but the remedy is limited to damages).[55] Third, Taney may pollute at will and can only be stopped by Marshall if Marshall pays him off (Taney's pollution is not held to be a nuisance to Marshall).[56] In our terminology rules one and two (nuisance with injunction, and with damages only) are entitlements to Marshall. The first is an entitlement to be free from pollution and is protected by a property rule; the second is also an entitlement to be free from pollution but is protected only by a liability rule. Rule three (no nuisance) is instead an entitlement to Taney protected by a property rule, for only by buying Taney out at Taney's price can Marshall end the pollution.

The very statement of these rules in the context of our framework suggests that something is missing. Missing is a fourth rule representing an entitlement in Taney to pollute, but an entitlement which is protected only by a liability rule. The fourth rule, really a kind of partial eminent domain coupled with a benefits tax, can be stated as follows: Marshall may stop Taney from polluting, but if he does he must compensate Taney.

As a practical matter it will be easy to see why even legal writers as astute as Professor Michelman have ignored this rule. Unlike the first three it does not often lend itself to judicial imposition for a number of good legal process reasons. For example, even if Taney's injuries could practicably be measured, apportionment of the duty of compensation among many Marshalls would present problems for which courts are not well suited. If only those Marshalls who voluntarily asserted the right to enjoin Taney's pollution were required to pay the compensation, there would be insuperable freeloader problems. If, on the other

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§§ 157–215 (1965). Michelman also discusses the possibility of inalienability. Michelman, *supra*, at 684. For a discussion of the use of rules of inalienability in the pollution context, see pp. 1123–24 *infra*.

[54] *See, e.g.*, Department of Health & Mental Hygiene v. Galaxy Chem. Co., 1 ENVIR. REP. 1660 (Md. Cir. Ct. 1970) (chemical smells enjoined); Ensign v. Walls, 323 Mich. 49, 34 N.W. 2d 549 (1948) (dog raising in residential neighborhood enjoined).

[55] *See, e.g.*, Boomer v. Atlantic Cement Co., 26 N.Y. 2d 219, 309 N.Y.S. 2d 312, 257 N.E.2d 870 (1970) (avoidance of injunction conditioned on payment of permanent damages to plaintiffs).

[56] *See, e.g.*, Francisco v. Department of Institutions & Agencies, 13 N.J. Misc. 663, 180 A. 843 (Ct. Ch. 1935) (plaintiffs not entitled to enjoin noise and odors of adjacent sanitarium); Rose v. Socony-Vacuum Corp., 54 R.I. 411, 173 A. 627 (1934) (pollution of percolating waters not enjoinable in absence of negligence).

hand, the liability rule entitled one of the Marshalls alone to enjoin the pollution and required all the benefited Marshalls to pay their share of the compensation, the courts would be faced with the immensely difficult task of determining who was benefited how much and imposing a benefits tax accordingly, all the while observing procedural limits within which courts are expected to function.[57]

The fourth rule is thus not part of the cases legal scholars read when they study nuisance law, and is therefore easily ignored by them. But it is available, and may sometimes make more sense than any of the three competing approaches. Indeed, in one form or another, it may well be the most frequent device employed.[58] To appreciate the utility of the fourth rule and to com-

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[57] This task is much more difficult than that which arises under rule two, in which the many Marshalls would be compensated for their pollution injuries. Under rule two, each victim may act as an individual, either in seeking compensation in the first instance or in electing whether to be a part of a class seeking compensation. If he wishes to and is able to convince the court (by some accepted objective standard) that he has been injured, he may be compensated. Such individual action is expensive, and thus may be wasteful, but it presents no special problems in terms of the traditional workings of the courts. But where the class in question consists, not of those with a right to enjoin, but of those who must pay to enjoin, freeloader problems require the court to determine that an unwilling Marshall has been benefited and should be required to pay. The basic difficulty is that if we begin with the premise which usually underlies our notion of efficiency — namely, that individuals know what is best for them — we are faced with the anomaly of compelling compensation from one who denies he has incurred a benefit but whom we require to pay because *the court* thinks he has been benefited.

This problem is analogous to the difficulties presented by quasi-contracts. In terms of the theory of our economic efficiency goal, the case for requiring compensation for unbargained for (often accidental) benefits is similar to the argument for compensating tort victims. Yet courts as a general rule require compensation in quasi-contract only where there is both an indisputable benefit (usually of a pecuniary or economic nature) and some affirmative acknowledgment of subjective benefit (usually a subsequent promise to pay). *See* A. CORBIN, CONTRACTS §§ 231–34 (1963). This hesitancy suggests that courts lack confidence in their ability to distinguish real benefits from illusions. Perhaps even more importantly, it suggests that the courts recognize that what may clearly be an objective "benefit" may, to the putative beneficiary, not be a subjective benefit — if for no other reason than that unintended changes from the status quo often exact psychological costs. If that is the case, there has been no benefit at all in terms of our efficiency criterion.

[58] *See* A. KNEESE & B. BOWER, MANAGING WATER QUALITY: ECONOMICS, TECHNOLOGY, INSTITUTIONS 98–109 (1968); Krier, *The Pollution Problem and Legal Institutions: A Conceptual Overview*, 18 U.C.L.A.L. REV. 429, 467–75 (1971).

Virtually all eminent domain takings of a nonconforming use seem to be examples of this approach. Ecological easements may be another prime example. A local zoning ordinance may require a developer to contribute a portion of his land for purposes of parkland or school construction. In compensation for taking

pare it with the other three rules, we will examine why we might choose any of the given rules.

We would employ rule one (entitlement to be free from pollution protected by a property rule) from an economic efficiency point of view if we believed that the polluter, Taney, could avoid or reduce the costs of pollution more cheaply than the pollutee, Marshall. Or to put it another way, Taney would be enjoinable if he were in a better position to balance the costs of polluting against the costs of not polluting. We would employ rule three (entitlement to pollute protected by a property rule) again solely from an economic efficiency standpoint, if we made the converse judgment on who could best balance the harm of pollution against its avoidance costs. If we were wrong in our judgments and if transactions between Marshall and Taney were costless or even very cheap, the entitlement under rules one or three would be traded and an economically efficient result would occur in either case.[59] If we entitled Taney to pollute and Marshall valued clean air more than Taney valued the pollution, Marshall would pay Taney to stop polluting even though no nuisance was found. If we entitled Marshall to enjoin the pollution and the right to pollute was worth more to Taney than freedom from pollution was to Marshall, Taney would pay Marshall not to seek an injunction or would buy Marshall's land and sell it to someone who would agree not to seek an injunction. As we have assumed no one else was hurt by the pollution, Taney could now pollute even though the initial entitlement, based on a wrong guess of who was the cheapest avoider of the costs involved, allowed the pollution to be enjoined. Wherever transactions between Taney and Marshall are easy, and wherever economic efficiency is our goal, we could employ entitlements protected by property rules even though we would not be sure that the entitlement chosen was the right one. Transactions as described above would cure the error. While the entitlement might have important distributional effects, it would not substantially undercut economic efficiency.

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the developer's entitlement, the locality will pay the developer "damages": it will allow him to increase the normal rate of density in his remaining property. The question of damage assessment involved in ecological easements raises similar problems to those raised in the benefit assessment involved in the question of quasi-contract. *See* note 57 *supra*.

[59] For a discussion of whether efficiency would be achieved in the long, as well as the short, run, see Coase, *supra* note 12; Calabresi, *supra* note 12 (pointing out that if "no transaction costs" means no impediments to bargaining in the short or long run, and if Pareto optimality means an allocation of resources which cannot be improved by bargains, assumptions of no transaction costs and rationality necessarily imply Pareto optimality); Nutter, *supra* note 12 (a technical demonstration of the applicability of the Coase theorem to long run problems). *See also* Demsetz, *supra* note 16, at 19–22.

The moment we assume, however, that transactions are not cheap, the situation changes dramatically. Assume we enjoin Taney and there are 10,000 injured Marshalls. Now *even if* the right to pollute is worth more to Taney than the right to be free from pollution is to the sum of the Marshalls, the injunction will probably stand. The cost of buying out all the Marshalls, given holdout problems, is likely to be too great, and an equivalent of eminent domain in Taney would be needed to alter the initial injunction. Conversely, if we denied a nuisance remedy, the 10,000 Marshalls could only with enormous difficulty, given free-loader problems, get together to buy out even one Taney and prevent the pollution. This would be so even if the pollution harm was greater than the value to Taney of the right to pollute.

If, however, transaction costs are not symmetrical, we may still be able to use the property rule. Assume that Taney can buy the Marshalls' entitlements easily because holdouts are for some reason absent, but that the Marshalls have great freeloader problems in buying out Taney. In this situation the entitlement should be granted to the Marshalls unless we are sure the Marshalls are the cheapest avoiders of pollution costs. Where we do not know the identity of the cheapest cost avoider it is better to entitle the Marshalls to be free of pollution because, even if we are wrong in our initial placement of the entitlement, that is, even if the Marshalls are the cheapest cost avoiders, Taney will buy out the Marshalls and economic efficiency will be achieved. Had we chosen the converse entitlement and been wrong, the Marshalls could not have bought out Taney. Unfortunately, transaction costs are often high on both sides and an initial entitlement, though incorrect in terms of economic efficiency, will not be altered in the market place.

Under these circumstances — and they are normal ones in the pollution area — we are likely to turn to liability rules whenever we are uncertain whether the polluter or the pollutees can most cheaply avoid the cost of pollution. We are only likely to use liability rules where we are uncertain because, if we are certain, the costs of liability rules — essentially the costs of collectively valuing the damages to all concerned plus the cost in coercion to those who would not sell at the collectively determined figure — are unnecessary. They are unnecessary because transaction costs and bargaining barriers become irrelevant when we are certain who is the cheapest cost avoider; economic efficiency will be attained without transactions by making the correct initial entitlement.

As a practical matter we often are uncertain who the cheapest cost avoider is. In such cases, traditional legal doctrine tends to

find a nuisance but imposes only damages on Taney payable to the Marshalls.[60] This way, if the amount of damages Taney is made to pay is close to the injury caused, economic efficiency will have had its due; if he cannot make a go of it, the nuisance was not worth its costs. The entitlement to the Marshalls to be free from pollution unless compensated, however, will have been given *not* because it was thought that polluting was probably worth less to Taney than freedom from pollution was worth to the Marshalls, nor even because on some distributional basis we preferred to charge the cost to Taney rather than to the Marshalls. It was so placed *simply because we did not know* whether Taney desired to pollute more than the Marshalls desired to be free from pollution, and the only way we thought we could test out the value of the pollution was by the only liability rule we thought we had. This was rule two, the imposition of nuisance damages on Taney. At least this would be the position of a court concerned with economic efficiency which believed itself limited to rules one, two, and three.

Rule four gives at least the possibility that the opposite entitlement may also lead to economic efficiency in a situation of uncertainty. Suppose for the moment that a mechanism exists for collectively assessing the damage resulting to Taney from being stopped from polluting by the Marshalls, and a mechanism also exists for collectively assessing the benefit to each of the Marshalls from such cessation. Then — assuming the same degree of accuracy in collective valuation as exists in rule two (the nuisance damage rule) — the Marshalls would stop the pollution if it harmed them more than it benefited Taney. If this is possible, then even if we thought it necessary to use a liability rule, we would still be free to give the entitlement to Taney or Marshall for whatever reasons, efficiency or distributional, we desired.

Actually, the issue is still somewhat more complicated. For just as transaction costs are not necessarily symmetrical under the two converse property rule entitlements, so also the liability rule equivalents of transaction costs — the cost of valuing collectively and of coercing compliance with that valuation — may not be symmetrical under the two converse liability rules. Nuisance damages may be very hard to value, and the costs of informing all the injured of their rights and getting them into court may be prohibitive. Instead, the assessment of the objective damage to Taney from foregoing his pollution may be cheap and so might the as-

[60] *See, e.g.*, City of Harrisonville v. W.S. Dickey Clay Mfg. Co., 289 U.S. 334 (1933) (damages appropriate remedy where injunction would prejudice important public interest); Madison v. Ducktown Sulphur, Copper & Iron Co., 113 Tenn. 331, 83 S.W. 658 (1904) (damages appropriate because of plaintiff's ten year delay in seeking to enjoin fumes).

sessment of the relative benefits to all Marshalls of such freedom from pollution. But the opposite may also be the case. As a result, just as the choice of which property entitlement may be based on the asymmetry of transaction costs and hence on the greater amenability of one property entitlement to market corrections, so might the choice between liability entitlements be based on the asymmetry of the costs of collective determination.

The introduction of distributional considerations makes the existence of the fourth possibility even more significant. One does not need to go into all the permutations of the possible tradeoffs between efficiency and distributional goals under the four rules to show this. A simple example should suffice. Assume a factory which, by using cheap coal, pollutes a very wealthy section of town and employs many low income workers to produce a product purchased primarily by the poor; assume also a distributional goal that favors equality of wealth. Rule one — enjoin the nuisance — would possibly have desirable economic efficiency results (if the pollution hurt the homeowners more than it saved the factory in coal costs), but it would have disastrous distribution effects. It would also have undesirable efficiency effects if the initial judgment on costs of avoidance had been wrong and transaction costs were high. Rule two — nuisance damages — would allow a testing of the economic efficiency of eliminating the pollution, even in the presence of high transaction costs, but would quite possibly put the factory out of business or diminish output and thus have the same income distribution effects as rule one. Rule three — no nuisance — would have favorable distributional effects since it might protect the income of the workers. But if the pollution harm was greater to the homeowners than the cost of avoiding it by using a better coal, and if transaction costs — holdout problems — were such that homeowners could not unite to pay the factory to use better coal, rule three would have unsatisfactory efficiency effects. Rule four — payment of damages to the factory after allowing the homeowners to compel it to use better coal, and assessment of the cost of these damages to the homeowners — would be the only one which would accomplish both the distributional and efficiency goals.[61]

An equally good hypothetical for any of the rules can be constructed. Moreover, the problems of coercion may as a

[61] Either of the liability rules may also be used in another manner to achieve distributional goals. For example, if victims of pollution were poor, and if society desired a more equal distribution of wealth, it might intentionally increase "objective" damage awards if rule two were used; conversely, it might decrease the compensation to the factory owners, without any regard for economic efficiency if rule four were chosen. There are obvious disadvantages to this ad hoc method of achieving distributional goals. *See* p. 1110 *supra*.

practical matter be extremely severe under rule four. How do the homeowners decide to stop the factory's use of low grade coal? How do we assess the damages and their proportional allocation in terms of benefits to the homeowners? But equivalent problems may often be as great for rule two. How do we value the damages to each of the many homeowners? How do we inform the homeowners of their rights to damages? How do we evaluate and limit the administrative expenses of the court actions this solution implies?

The seriousness of the problem depends under each of the liability rules on the number of people whose "benefits" or "damages" one is assessing and the expense and likelihood of error in such assessment. A judgment on these questions is necessary to an evaluation of the possible economic efficiency benefits of employing one rule rather than another. The relative ease of making such assessments through different institutions may explain why we often employ the courts for rule two and get to rule four — when we do get there — only through political bodies which may, for example, prohibit pollution, or "take" the entitlement to build a supersonic plane by a kind of eminent domain, paying compensation to those injured by these decisions.[62] But

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[62] Of course, variants of the other rules may be administered through political institutions as well. Rule three, granting a property entitlement to a polluter, may be effectuated by tax credits or other incentives such as subsidization of nonpolluting fuels offered for voluntary pollution abatement. In such schemes, as with rule four, political institutions are used to effect comprehensive benefit assessment and overcome freeloader problems which would be encountered in a more decentralized market solution. However, this centralization — to the extent that it replaces voluntary payments by individual pollution victims with collective payments not unanimously agreed upon — is a hybrid solution. The polluter must assent to the sale of his entitlement, but the amount of pollution abatement sought and the price paid by each pollution victim is not subjectively determined and voluntarily assented to by each.

The relationship of hybrids like the above to the four basic rules can be stated more generally. The buyer of an entitlement, whether the entitlement is protected by property or liability rules, may be viewed as owning what is in effect a property right not to buy the entitlement. But when freeloader problems abound, that property right may instead be given to a class of potential buyers. This "class" may be a municipality, a sewer authority, or any other body which can decide to buy an entitlement and compel those benefited to pay an objective price. When this is done, the individuals within the class have themselves only an entitlement not to purchase the seller's entitlement protected by a liability rule.

As we have already seen, the holder of an entitlement may be permitted to sell it at his own price or be compelled to sell it at an objective price: he may have an entitlement protected by a property or liability rule. Since, therefore, in any transaction the buyer may have a property or liability entitlement not to buy and the seller may have a property or a liability entitlement not to sell, there are, in effect, four combinations of rules for each possible original location of the en-

all this does not, in any sense, diminish the importance of the fact that an awareness of the possibility of an entitlement to pollute, but one protected only by a liability rule, may in some instances allow us best to combine our distributional and efficiency goals.

We have said that we would say little about justice, and so we shall. But it should be clear that if rule four might enable us best to combine efficiency goals with distributional goals, it might also enable us best to combine those same efficiency goals with other goals that are often described in justice language. For example, assume that the factory in our hypothetical was using cheap coal *before* any of the wealthy houses were built. In these circumstances, rule four will not only achieve the desirable efficiency and distributional results mentioned above, but it will also accord with any "justice" significance which is attached to being there first. And this is so whether we view this justice significance as part of a distributional goal, as part of a long run efficiency goal based on protecting expectancies, or as part of an independent concept of justice.

Thus far in this section we have ignored the possibility of employing rules of inalienability to solve pollution problems. A general policy of barring pollution does seem unrealistic.[63] But rules of inalienability can appropriately be used to limit the levels of pollution and to control the levels of activities which cause pollution.[64]

One argument for inalienability may be the widespread exist-

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titlement: voluntary seller and voluntary buyer; voluntary seller and compelled buyer; compelled seller and voluntary buyer; compelled seller and compelled buyer. Moreover, since the entitlement to that which is being bought or sold could have been originally given to the opposite party, there are, in effect, eight possible rules rather than four.

We do not mean by the above to suggest that political institutions are used only to allocate collectively held property rights. Quite the contrary, rule two, for instance, gives pollution victims an entitlement protected by a liability rule to be free from pollution. This rule could be administered by decentralized damage assessment as in litigation, or it could be effected by techniques like effluent fees charged to polluters. The latter type of collective intervention may be preferred where large numbers are involved and the costs of decentralized injury valuation are high. Still, under either system the "sale price" is collectively determined, so the basic character of the victims' entitlement is not changed.

[63] *See* Michelman, *supra* note 1, at 667.

[64] This is the exact analogue of specific deterrence of accident causing activities. *See* COSTS at 95–129.

Although it may seem fanciful to us, there is of course the possibility that a state might wish to grant a converse entitlement — an inalienable entitlement to pollute in some instances. This might happen where the state believed that in the long run everyone would be better off by allowing the polluting producers to make their products, regardless of whether the polluter thought it advantageous to accept compensation for stopping his pollution.

ence of moralisms against pollution. Thus it may hurt the Marshalls — gentleman farmers — to see Taney, a smoke-choked city dweller, sell his entitlement to be free of pollution. A different kind of externality or moralism may be even more important. The Marshalls may be hurt by the expectation that, while the present generation might withstand present pollution levels with no serious health dangers, future generations may well face a despoiled, hazardous environmental condition which they are powerless to reverse.[65] And this ground for inalienability might be strengthened if a similar conclusion were reached on grounds of self paternalism. Finally, society might restrict alienability on paternalistic grounds. The Marshalls might feel that although Taney himself does not know it, Taney will be better off if he really can see the stars at night, or if he can breathe smogless air.

Whatever the grounds for inalienability, we should reemphasize that distributional effects should be carefully evaluated in making the choice for or against inalienability. Thus the citizens of a town may be granted an entitlement to be free of water pollution caused by the waste discharges of a chemical factory; and the entitlement might be made inalienable on the grounds that the town's citizens really would be better off in the long run to have access to clean beaches. But the entitlement might also be made inalienable to assure the maintenance of a beautiful resort area for the very wealthy, at the same time putting the town's citizens out of work.[66]

V. The Framework and Criminal Sanctions

Obviously we cannot canvass the relevance of our approach through many areas of the law. But we do think it beneficial to examine one further area, that of crimes against property and bodily integrity. The application of the framework to the use of criminal sanctions in cases of theft or violations of bodily integrity is useful in that it may aid in understanding the previous material, especially as it helps us to distinguish different kinds of legal problems and to identify the different modes of resolving those problems.

Beginning students, when first acquainted with economic efficiency notions, sometimes ask why ought not a robber be simply charged with the value of the thing robbed. And the same question

[65] *See* Michelman, *supra* note 1, at 684.

[66] *Cf.* Frady, *The View from Hilton Head*, Harper's, May, 1970, at 103–112 (conflict over proposed establishment of chemical factory that would pollute the area's beaches in economically depressed South Carolina community; environmental groups that opposed factory backed by developers of wealthy resorts in the area, proponents of factory supported by representatives of unemployed town citizens).

is sometimes posed by legal philosophers.[67] If it is worth more to the robber than to the owner, is not economic efficiency served by such a penalty? Our answers to such a question tend to move quickly into very high sounding and undoubtedly relevant moral considerations. But these considerations are often not very helpful to the questioner because they depend on the existence of obligations on individuals not to rob for a fixed price and the original question was why we should impose such obligations at all.

One simple answer to the question would be that thieves do not get caught every time they rob and therefore the costs to the thief must at least take the unlikelihood of capture into account.[68] But that would not fully answer the problem, for even if thieves were caught every time, the penalty we would wish to impose would be greater than the objective damages to the person robbed.

A possible broader explanation lies in a consideration of the difference between property entitlements and liability entitlements. For us to charge the thief with a penalty equal to an objectively determined value of the property stolen would be to convert all property rule entitlements into liability rule entitlements.

The question remains, however, why *not* convert all property rules into liability rules? The answer is, of course, obvious. Liability rules represent only an approximation of the value of the object to its original owner and willingness to pay such an approximate value is no indication that it is worth more to the thief than to the owner. In other words, quite apart from the expense of arriving collectively at such an objective valuation, it is no guarantee of the economic efficiency of the transfer.[69] If this is so with property, it is all the more so with bodily integrity, and we would not presume collectively and objectively to value the cost of a rape to the victim against the benefit to the rapist even if economic efficiency is our sole motive. Indeed when we approach bodily integrity we are getting close to areas where we do not let the entitlement be sold at all and where economic efficiency enters

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[67] One of the last articles by Professor Giorgio Del Vecchio came close to asking this question. *See* Del Vecchio, *Equality and Inequality in Relation to Justice*, 11 NAT. LAW FORUM 36, 43–45 (1966).

[68] *See, e.g.*, Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968).

[69] One might also point out that very often a thief will not have the money to meet the objectively determined price of the stolen object; indeed, his lack of resources is probably his main motivation for the theft. In such cases society, if it insists on a liability rule, will have to compensate the initial entitlement holder from the general societal coffers. When this happens the thief will not feel the impact of the liability rule and hence will not be sufficiently deterred from engaging in similar activity in the future. *Cf.* COSTS at 147–48.

in, if at all, in a more complex way. But even where the items taken or destroyed are things we do allow to be sold, we will not without special reasons impose an objective selling price on the vendor.

Once we reach the conclusion that we will not simply have liability rules, but that often, even just on economic efficiency grounds, property rules are desirable, an answer to the beginning student's question becomes clear. The thief not only harms the victim, he undermines rules and distinctions of significance beyond the specific case. Thus even if in a given case we can be sure that the value of the item stolen was no more than X dollars, and even if the thief has been caught and is prepared to compensate, we would not be content simply to charge the thief X dollars. Since in the majority of cases we cannot be sure of the economic efficiency of the transfer by theft, we must add to each case an undefinable kicker which represents society's need to keep all property rules from being changed at will into liability rules.[70] In other words, we impose criminal sanctions as a means of deterring future attempts to convert property rules into liability rules.[71]

The first year student might push on, however, and ask why we treat the thief or the rapist differently from the injurer in an auto

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[70] If we were not interested in the integrity of property rules and hence we were not using an indefinable kicker, we would still presumably try to adjust the amount of damages charged to the thief in order to reflect the fact that only a percentage of thieves are caught; that is, we would fix a price-penalty which reflected the value of the good and the risk of capture.

[71] A problem related to criminal sanctions is that of punitive damages in intentional torts. If Taney sets a spring gun with the purpose of killing or maiming anyone who trespasses on his property, Taney has knowledge of what he is doing and of the risks involved which is more akin to the criminal than the negligent driver. But because Taney does not know precisely which one of many Marshalls will be the victim of his actions, ex ante negotiations seem difficult. How then do we justify the use of criminal sanctions and of more than compensatory damages? Probably the answer lies in the fact that we assume that the benefits of Taney's act are not worth the harm they entail if that harm were fully valued. Believing that this fact, in contrast with what is involved in a simple negligence case, should be, and in a sense can be, made known to the actor at the time he acts, we pile on extra damages. Our judgment is that most would act differently if a true cost-benefit burden could be placed. Given that judgment and given the impossibility of imposing a true cost-benefit burden by collective valuations — because of inadequate knowledge — we make sure that if we err we will err on the side of overestimating the cost.

There may be an additional dimension. Unlike fines or other criminal sanctions, punitive damages provide an extra compensation for the victim. This may not be pure windfall. Once the judgment is made that injuries classified as intentional torts are less desirable than nonintentional harms — either because they are expected to be less efficient or because there is less justification for the tortfeasor's not having purchased the entitlement in an ex ante bargain — then it may be that the actual, subjective injury to the victim from the tort is enhanced. One

accident or the polluter in a nuisance case. Why do we allow liability rules there? In a sense, we have already answered the question. The only level at which, before the accident, the driver can negotiate for the value of what he might take from his potential victim is one at which transactions are too costly. The thief or rapist, on the other hand, could have negotiated without undue expense (at least if the good was one which we allowed to be sold at all) because we assume he knew what he was going to do and to whom he would do it. The case of the accident is different because knowledge exists only at the level of deciding to drive or perhaps to drive fast, and at that level negotiations with potential victims are usually not feasible.

The case of nuisance seems different, however. There the polluter knows what he will do and, often, whom it will hurt. But as we have already pointed out, freeloader or holdout problems may often preclude any successful negotiations between the polluter and the victims of pollution; additionally, we are often uncertain who is the cheapest avoider of pollution costs. In these circumstances a liability rule, which at least allowed the economic efficiency of a proposed transfer of entitlements to be tested, seemed appropriate, even though it permitted the nonaccidental and unconsented taking of an entitlement. It should be emphasized, however, that where transaction costs do not bar negotiations between polluter and victim, or where we are sufficiently certain who the cheapest cost avoider is, there are no efficiency reasons for allowing intentional takings, and property rules, supported by injunctions or criminal sanctions, are appropriate.[72]

VI. Conclusion

This article has attempted to demonstrate how a wide variety of legal problems can usefully be approached in terms of a specific framework. Framework or model building has two shortcomings.

whose automobile is destroyed accidentally suffers from the loss of his car; one whose automobile is destroyed intentionally suffers from the loss of the car, and his injury is made greater by the knowledge that the loss was intentional, wilful, or otherwise avoidable.

[72] *Cf.* pp 1111–13.

We have not discussed distributional goals as they relate to criminal sanctions. In part this is because we have assumed the location of the initial entitlement — we have assumed the victim of a crime was entitled to the good stolen or to his bodily integrity. There is, however, another aspect of distributional goals which relates to the particular rule we choose to protect the initial entitlement. For example, one might raise the question of linking the severity of criminal sanctions to the wealth of the criminal or the victim. While this aspect of distributional goals would certainly be a fruitful area of discussion, it is beyond the scope of the present article.

The first is that models can be mistaken for the total view of phenomena, like legal relationships, which are too complex to be painted in any one picture. The second is that models generate boxes into which one then feels compelled to force situations which do not truly fit. There are, however, compensating advantages. Legal scholars, precisely because they have tended to eschew model building, have often proceeded in an ad hoc way, looking at cases and seeing what categories emerged. But this approach also affords only one view of the Cathedral. It may neglect some relationships among the problems involved in the cases which model building can perceive, precisely because it does generate boxes, or categories. The framework we have employed may be applied in many different areas of the law. We think its application facilitated perceiving and defining an additional resolution of the problem of pollution. As such we believe the painting to be well worth the oils.