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ESSAY

PROPERTY RULES AND LIABILITY RULES: THE CATHEDRAL IN ANOTHER LIGHT

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STEWART J. SCHWAB**

[T]his 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.¹

INTRODUCTION: FROM COASE TO CALABRESI

Ronald Coase's essay on "The Problem of Social Cost"² introduced the world to transaction costs, and the introduction laid the foundation for an ongoing cottage industry in law and economics. And of all the law-and-economics scholarship built on Coase's insights, perhaps the most widely known and influential contribution has been Calabresi and Melamed's discussion of what they called "property rules" and "liability rules."³ Those rules and the methodology behind them are our subjects here.

We have a number of objectives, the most basic of which is to provide a much needed primer for those students, scholars, and lawyers who are interested but not particularly fluent in the economic analysis of law. Like Coase before them, Calabresi and Melamed figure regularly in the work of the legal academy,⁴ but—again like Coase

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¹ Guido Calabresi & A. Douglas Melamed, Property Rules, Liability Rules, and Inalienability: One View of the Cathedral, 85 Harv. L. Rev. 1089, 1090 n.2 (1972).

² Ronald H. Coase, The Problem of Social Cost, 3 J.L. & Econ. 1 (1960).

³ Calabresi & Melamed, *supra* note 1, at 1092; see also Guido Calabresi, Transaction Costs, Resource Allocation and Liability Rules—A Comment, 11 J.L. & Econ. 67, 73 (1968) (anticipating some points made in 1972 article).

⁴ A search of Westlaw's journal and law review database reveals that 388 articles have cited Calabresi & Melamed, *supra* note 1, to date. Search of Westlaw, JLR library (Aug. 3,

before them—their ideas are not understood as well as they should be, notwithstanding an excellent explanation by Professor Polinsky published some fifteen years ago.⁵ Since Polinsky's contributions have been all too routinely ignored, we shall restate several of his central points emphatically. But we also take issue with parts of Polinsky's analysis, and we aim, in any event, to extend his account, and the literature on property rules and liability rules generally, into previously undiscovered territory.

In Parts I and II we set out first the background and next the conventional understanding of the “four rules” that figure in the work of Calabresi and Melamed. Then, in Part III, the centerpiece of our discussion, we shift from description to critique and from the familiar to the novel. We question some of the typical thinking about transaction costs, and about “objective” versus “subjective” accounts of reality (as in objective versus subjective damages). We consider the irony in the standard analysis of “extortion” and the paradox of Calabresi and Melamed's so-called rule four of reverse damages. We present a way out of the paradox—namely reverse-reverse damages, or what we prefer to call “the double reverse twist”—and in the course of doing so introduce a “best-chooser” principle that adds a new element to the conventional methodology. We then use the best-chooser principle to show that much that seems strange in our account is in fact familiar, provided one thinks about legal institutions in a sufficiently systematic way.

Throughout, we mean to be both constructive and critical, trying to enhance a useful method of legal analysis but at the same time questioning whether the method, rightly understood, entices its practitioners into a game not worth the candle. So there is a tension in our account. It is addressed in the Conclusion.

1995). That number is underinclusive; the database goes back only to 1981 for some journals, 1985 for most, and 1994 for others, yet we know of citations in earlier years. See *infra* note 44. Moreover, reference to the article in casebooks, texts, and the like is commonplace. For example, after a casual sampling of casebooks and a few readers in the more likely fields of interest (environmental and natural resource law, property, land use, torts, and administrative law), we quickly found 20 books making more or less use of the article—ranging from mere citation, to citation and rather extensive discussion, to extracts of the article. As to judicial opinions, our search uncovered about a dozen instances. Search of Westlaw, ALLFEDS and ALLSTATES libraries (Aug. 3, 1995).

⁵ See A. Mitchell Polinsky, *Resolving Nuisance Disputes: The Simple Economics of Injunctive and Damage Remedies*, 32 *Stan. L. Rev.* 1075 (1980) [hereinafter *Polinsky, Nuisance Disputes*]. Two related but more technical treatments are A. Mitchell Polinsky, *Controlling Externalities and Protecting Entitlements: Property Right, Liability Rule, and Tax-Subsidy Approaches*, 8 *J. Legal Stud.* 1 (1979); and A. Mitchell Polinsky, *On the Choice Between Property Rules and Liability Rules*, 18 *Econ. Inquiry* 233 (1980).

I

SOME BACKGROUND

A. "Four Rules": An Intellectual History

The problem of environmental pollution is the stock example in the literature of concern to us here, so we shall use it too. As Calabresi and Melamed pointed out,⁶ traditional thinking about the pollution problem had envisioned three alternative ways a court might resolve an ongoing conflict, say a nuisance suit, between a polluter *P* and a resident *R*.⁷ *First*, the court could find a nuisance and issue an injunction against *P* in favor of *R* (meaning that *P*, in order to keep on polluting, would have to buy off *R* in a subsequent, post-injunction transaction). *Second*, the court could find a nuisance but permit *P* to go on polluting upon payment of damages to *R*. *Third*, the court could find the pollution not to be a nuisance and permit *P* to continue (meaning that *R*, in order to bring a halt to the pollution, would have to buy off *P* in a subsequent transaction). There were, in short, "three rules," the first and third of which might induce post-judgment voluntary (bilateral) transactions and the second of which might induce a post-judgment involuntary (unilateral) transaction, a sale that *P* could, if it chose, force upon *R*.⁸

As right and complete as this set of possibilities had always seemed, Calabresi and Melamed could show easily enough that something was missing. Their method was to model the conflict between *P* and *R* in terms of its two variables: (1) an *entitlement* to the environmental resource at stake, such as air, water, peace and quiet, or a view; and (2) the *means of protecting* that entitlement. Regarding (1), the entitlement could obviously be awarded in the first instance either to *R* (right to an undisturbed environment) or to *P* (right to pollute).⁹ Less obviously, the entitlement could in either instance be protected

⁶ See Calabresi & Melamed, *supra* note 1, at 1115-16.

⁷ The judiciary is not, of course, the only legal institution that bears on the pollution problem, nor even the dominant one; legislative intervention is the mainstay now and has been for decades. But essentially everything that can be said of judicial resolution can be said of legislative resolution also, and in some instances more revealingly—as we shall see. See *infra* Part III.F.

⁸ Calabresi & Melamed, *supra* note 1, at 1115-16.

⁹ For the sake of convenient exposition, we envision the entitlement as an all-or-nothing proposition, such that *P* is entitled to pollute, period, or *R* is entitled to unsullied quality, period. The more likely real-world case would work at the margin, with *P* entitled to pollute up to a certain point and *R* entitled to relative but not absolute quality. See, e.g., Polinsky, *Nuisance Disputes*, *supra* note 5, at 1081-83. Our simplifying assumption does not change the basic analysis (one could view our unit of analysis as being at the interesting margin).

by a "property rule" on the one hand or by a "liability rule" on the other.¹⁰

The *property-rule* approach is illustrated by the first and third (the bilateral) examples discussed above, where enjoining *P* or, the conceptual opposite, denying any relief whatsoever to *R*, leaves the parties in a situation where subsequent voluntary transactions between them are the means by which they might move the entitlement from one party to the other. "Property" is an apt locution here because that term in its common usage connotes entitlements (property rights) that are transferred, if at all, through *willing* exchanges, which is to say ordinary market transactions between buyers and sellers.

As to the *liability-rule* approach, illustrated by the second (the unilateral) example discussed above, "liability" is a less apt locution. Here *R* has an entitlement that it might nevertheless be *forced* to sell to *P* should the latter choose to pay an amount of compensation determined not by *R* but rather by the court, as "damages" for which *P* is "liable." (The choice of terminology perhaps reflects what some would see as Holmes's bad-man view of the law: *P*'s obligation is not to abate its pollution—though *P* may do so if it wishes—but rather merely to pay *R* if *P* chooses instead to pollute.)

Back to the missing element in the traditional picture of three rules. Since, in Calabresi and Melamed's framework, the entitlement to the resource in question could be awarded initially to either *P* or *R*, and since the entitlement could be protected in either event by a property rule or a liability rule, the structure of the situation is a two-by-two matrix, as shown in Table 1. In principle, there must be "four rules" for resolving matters, rather than the traditional three. What had been missing, and what Calabresi and Melamed discovered with their model, is the now rather notorious "rule four."¹¹ The rule recognizes an entitlement in *P* protected by a liability rule, meaning that *R* can force *P* to stop polluting provided *R* pays compensation determined not by *P* but rather (as above, with rule two) by the court, as "damages" for which *R* is liable.¹² Rule four is merely the liability rule alternative to property rule three, just as rule two is the liability rule alternative to property rule one.

¹⁰ Calabresi & Melamed, *supra* note 1, at 1090-92.

¹¹ *Id.* at 1116.

¹² On the measure of damages, whether awarded to *R* or to *P*, see *infra* note 28.

TABLE 1
CALABRESI & MELAMED'S "FOUR RULES"

		METHOD OF PROTECTION	
		Injunction/ Property Rule	Damages/ Liability Rule
INITIAL ENTITLEMENT	Resident	Rule 1	Rule 2
	Polluter	Rule 3	Rule 4

It's as simple as that, but is that so simple? On the one hand, rule four seems never to have occurred to a single legal scholar during all the centuries of common-law commentary predating Calabresi and Melamed's discussion—a discussion, by the way, in which the authors were quick to point out that “even legal writers as astute as Professor [Frank] Michelman have ignored this rule.”¹³ On the other hand, a different kind of legal writer—a judge—*was* astute enough to discover (better, invent) exactly the same rule at exactly the same time as Calabresi and Melamed. While the two scholars were constructing their elegant model in the heady intellectual atmosphere of Cambridge, Massachusetts,¹⁴ a state supreme court justice was searching for a rough-and-ready solution to a commonplace nuisance dispute in the desert community of Sun City, Arizona. Logic drove the scholars, but necessity moved the judge—in each instance, and at the same time, to the theretofore nonexistent, and even now rare, rule four.

We are referring, of course, to Justice James D. Cameron's decision in the *Spur Industries* case,¹⁵ handed down at about the same time that Calabresi and Melamed's article was handed over. (This simultaneity regarding an item as exotic and arcane as rule four must surely be one of the pithier events in the intellectual history of legal doctrine.) The case grew out of a dispute between *Spur Industries*, which operated cattle feedlots in an area originally devoted to agriculture, and *Del Webb*, a company that decided to develop a retirement

¹³ Calabresi & Melamed, *supra* note 1, at 1116 (referring to Frank I. Michelman, *Pollution as a Tort: A Non-Accidental Perspective on Calabresi's Costs*, 80 *Yale L.J.* 647 (1971)).

¹⁴ Calabresi, a Yale man through and through, was a visiting professor at the Harvard Law School in 1969-1970, and Melamed was his student there. We presume that Harvard is where the seed of rule four was planted, wherever it thereafter happened to germinate. And, of course, the *Harvard Law Review* published the work.

¹⁵ *Spur Indus., Inc. v. Del E. Webb Dev. Co.*, 494 P.2d 700 (Ariz. 1972) (Cameron, Vice C.J.). The opinion in the case indicates no awareness of Calabresi and Melamed's article, and vice versa, but the scholars did anticipate a case something like *Spur Industries*. See Calabresi & Melamed, *supra* note 1, at 1121.

community, Sun City, in the same area.¹⁶ Del Webb bought land (at a relatively low price, thanks to the rural setting) and started building; Spur Industries was expanding its feedlot operations at about the same time. Del Webb began selling homes in 1960 and gradually extended Sun City in the direction of Spur Industries's operations.¹⁷ The closer the homes moved toward the feedlots, the harder it was for Del Webb to sell them. By 1967, only 500 feet separated the retired people from the soon-to-be-retired cattle.¹⁸ Del Webb then sued for an injunction, claiming that the flies and odors coming from Spur Industries's feedlots were a nuisance. The trial court agreed and entered a permanent injunction against Spur Industries.¹⁹ In other words, the trial court treated the matter as a rule one case.

On appeal, the Supreme Court of Arizona affirmed in part and reversed in part.²⁰ The feedlots were indeed a nuisance and could indeed be enjoined. But Del Webb had "come to the nuisance" (bringing the hapless citizens along), thus creating a problem that it, but not Spur Industries, could have foreseen.²¹ While this would ordinarily justify denying any and all relief to the developer, the interests of the residents of Sun City had to be considered. In the court's view the residents were relatively blameless, and for their sake Spur Industries's feedlots had to go. But Spur Industries was relatively blameless too, and for its sake Del Webb had to pay. Hence Spur Industries was ordered to move and Del Webb was ordered to "indemnify Spur for a reasonable amount of the cost of moving or shutting down."²² In the terminology of Calabresi and Melamed, Spur Industries was entitled to pollute, but its entitlement, protected only by a liability rule, would be transferred to Del Webb upon payment of (judicially determined) compensation by the latter to the former. And that's rule four.²³

B. Efficiency and Justice

Now that we can see how judges hold four suits in their deck, not just the three that they'd played with for so long, it is reasonable to ask what this understanding adds to the game. To answer that ques-

¹⁶ *Spur Indus.*, 494 P.2d at 704-05.

¹⁷ *Id.* at 704.

¹⁸ *Id.* at 705.

¹⁹ *Id.* at 701.

²⁰ *Id.* at 708.

²¹ *Id.* at 707-08.

²² *Id.* at 708.

²³ Is it? Rule four implies a choice by Del Webb to pay up or shut up, whereas the court's judgment implies that Del Webb *must* pay and that Spur Industries *must* move. We address this matter later. See *infra* text accompanying notes 84-86.

tion, we have to begin by thinking about the objectives of the game in the first place.

Here we subscribe to what seems to be the general view: In the event of conflicts arising from incompatible demands upon some resource (in our stock example, some environmental resource), the idea is to achieve resolutions that promote "efficiency" and "justice."²⁴ "Efficient" resolutions are taken to be those that maximize the value of the resource (or minimize the cost of the conflict over the resource), with value (or cost) being measured, as is usual in economics, in terms of willingness to pay given some initial distribution of wealth or entitlements. (That is, given the situations of *P* and *R* in the world, which of them is willing to pay the most for the contested resource?)²⁵ "Justice," in its turn, means essentially everything else that matters to a sensible resolution—distributional or corrective justice, for example.²⁶

From the standpoint of efficiency, a judge should (if possible) assign the entitlement to the resource in question such that it *ends up* in the hands of that party, *P* or *R*, who values it most (or can do without it at least cost). From the standpoint of justice, the judge should assign the entitlement such that it *starts out* in the hands of the party who is most deserving in light of the applicable justice norm, conceived in one way or another. Then, even if the justly distributed entitlement is subsequently transferred in a bilateral (voluntary) or unilateral (forced) sale, the deserving party will nevertheless, and at least, be compensated, as the justice norm is taken to require. We cannot state the justice norm in the formulaic fashion of the efficiency norm, because, unlike efficiency, justice does not have a single conventional meaning. But it matters little for our purposes, so long as we recognize that efficiency isn't the only objective, and that some

²⁴ See, e.g., Calabresi & Melamed, *supra* note 1, at 1093-1105.

²⁵ A difficulty known as the offer/asking problem arises here. Suppose that *P* is willing to pay the most for the entitlement to the contested resource in the sense that if *P* starts out with the entitlement, *R* will not offer enough to bid it away; whereas *R* is willing to pay the most for the entitlement in the sense that if *R* starts out with it, *P* will not offer enough to bid it away either. In other words, each party's willingness to pay differs from each party's willingness to accept, such that *R* values the entitlement "the most" when *R* starts out with it, but not otherwise, and so too for *P*. In these instances, brought on by so-called distribution and framing effects, it is impossible to assign an entitlement on value-maximizing grounds. See, e.g., Richard Craswell, *Passing on the Costs of Legal Rules: Efficiency and Distribution in Buyer-Seller Relationships*, 43 *Stan. L. Rev.* 361, 385-91 (1991) (discussing wealth effects and framing effects). For a thoroughgoing and illuminating consideration of the literature, see generally Elizabeth Hoffman & Matthew L. Spitzer, *Willingness To Pay vs. Willingness To Accept: Legal and Economic Implications*, 71 *Wash. U. L.Q.* 59 (1993); see also *infra* note 77.

²⁶ See Calabresi & Melamed, *supra* note 1, at 1098-1105.

other—some “justice”—reason might countermand what efficiency would otherwise dictate.

If efficiency and justice concerns point in the same direction, whether that of *P* or that of *R*, then, as we shall see, the matter of how to *assign* entitlements, and even the matter of how to *protect* them (whether with property rules or liability rules), is relatively simple. Indeed, it happens that the panoply of four rules also works well when the arrow of efficiency and the arrow of justice point in opposite directions. But all of this is true only if the judge has very good information, or if the parties are able to deal with each other at relatively low cost.²⁷ The interesting cases, and the realistic ones, arise when neither of these conditions holds. Part II examines these real-world cases, considering first how they are conventionally treated.

II

PROPERTY RULES AND LIABILITY RULES: THE CONVENTIONAL WISDOM

It appears to us that practitioners of Calabresi and Melamed's approach, of whom there are many, have gradually obliterated the nuanced, indeed the tentative, nature of the original analysis, substituting for it a simplistic conventional wisdom about how to assign and protect entitlements in terms of the four rules we have described.

A. *Assigning Entitlements Initially*

Start with the matter of initial assignment. How should a judge decide who, as between *P* and *R*, is to get the contested entitlement initially? In the terms of Table 1, which *row* should the judge choose? As already suggested, efficiency and justice bear on the answer, but so too do the costs of transacting. Regarding efficiency, suppose that the judge concludes from the evidence in an *R v. P* case that it is less costly for *P* to avoid (abate) the pollution than it is for *R* to avoid or tolerate it.²⁸ (In Calabresi's original and now very familiar terminology, *P* is the cheapest cost avoider.) Suppose also that the judge has

²⁷ Rather than belabor this point explicitly here, we refer the reader to the work of Professor Polinsky, *Nuisance Disputes*, supra note 5, at 1088-92.

²⁸ *P*'s avoidance cost might be measured in terms of the costs of abatement measures at the source, or the lost profits of cutting back on business, or the costs of relocating, or a combination of these. When we talk about *P*'s avoidance cost, we have in mind the cheapest of all these alternatives.

Similarly, *R*'s avoidance cost would be measured in terms of the cost, say, of keeping the windows closed, or running an air conditioner, or staying indoors during peak pollution periods, or some combination of these. Or *R* could relocate, just as *P* could. *R*'s tolerance cost would be the “damages” *R* suffers given the pollution. Those damages, at least as to future harms, are conventionally measured in terms of the reduction in fair market value of

no justice preference for either party. The efficient resolution then would be to assign the entitlement in question to *R*; this appears to be its cost-minimizing or value-maximizing location, and by hypothesis there is no justice reason to trump it. The entitlement could be given to *R* (protected by a property rule granting *R* injunctive relief).

But now suppose that the judge might be wrong in concluding that *P* is the cheapest cost avoider. Is there any way to hedge against such an error, such that if the entitlement *starts out* with *R* it can still *end up* with *P* if in fact that is its efficient location? The answer to this question goes directly back through Calabresi to Coase. As virtually everybody in the business must know by now, one item in Coase's magnificent contribution to our understanding of social cost was the demonstration that, absent any impediments to bargaining, an initial mistaken (inefficient) assignment of an entitlement can (will) always be corrected by subsequent transactions between the parties.²⁹ So if there are no significant barriers to post-judgment dealings between *P* and *R*, no so-called transaction costs, then the judge can count on the market to fix what the judge might have done wrong in granting *R* the entitlement.³⁰ If in fact *P* values the entitlement more than does *R*, then *P* can simply buy it away at a price negotiated (more or less costlessly) between the two parties.³¹

Insignificant transaction costs is a strong assumption, but if it holds there are equally powerful consequences. To see why, imagine, contrary to what we said above, that the judge in the *R v. P* case *does* have a justice preference, say for *R*. The judge could then simply assign the entitlement to *R* for that justice reason alone, knowing all along that if the entitlement's efficient location happened to be in the hands of *P*, it would move there. In short, when transaction costs are insignificant, efficiency concerns become irrelevant to the judge's inquiry; only justice reasons matter.³²

R's land if the pollution continues—so-called permanent damages. For the sake of convenience, we assume that *R*'s damages are always lower than *R*'s avoidance cost.

²⁹ Coase, *supra* note 2, at 2-8.

³⁰ For now, we include in the specification of no transaction costs the assumption that the parties will not bargain in a strategic or opportunistic way. Later we relax the assumption. See, e.g., *infra* text accompanying notes 37-39.

³¹ As Calabresi put the matter early on: "We can . . . state as an axiom the proposition that . . . all misallocations, even those created by legal structures, can be remedied by the market, except to the extent that transactions cost money or the structure itself creates some impediments to bargaining." Calabresi, *supra* note 3, at 68 (commenting on Coase, *supra* note 2).

³² One of us has given this observation a high-sounding label—"the distributive corollary of the Coase Theorem"—which holds: "With zero transaction costs, initial entitlements cannot be justified on efficiency grounds, and so should be awarded on the basis of need or desert." Stewart Schwab, *Coase Defends Coase: Why Lawyers Listen and Econo-*

When transaction costs loom, the question of who is the cheapest cost avoider is still relevant to the choice of rows in Table 1. But now the word "cost" in the cheapest-cost-avoider locution should be taken to include the costs of transacting, which may be asymmetric. Suppose, for example, that the judge suspects for "some reason"³³ that *P* and *R* cannot transact smoothly if the entitlement is assigned to *R* but can if it is assigned to *P*. Then, barring any justice preference, or even assuming such a preference (for *P*), again there is no problem. The entitlement should be assigned to *P* unless the judge is very confident that *P*'s avoidance cost is lower than the costs of pollution to *R* (*R*'s damages).

There is a problem, of course, if efficiency (here in the guise of asymmetric transaction costs) cuts in favor of *P* but justice cuts in favor of *R*. Obviously, some kind of complicated tradeoff has to be made—easy for us to say,³⁴ confounding for judges to do. For one thing, information about the considerations to be "traded off," efficiency and justice, is by definition rather poor.³⁵ For another thing, the basic conceptions, justice in particular, have elusive meanings. And third, whatever they mean, they seem to be incommensurable.³⁶

mists Do Not, 87 Mich. L. Rev. 1171, 1195 (1989) (reviewing Ronald Coase, *The Firm the Market and the Law* (1988)).

³³ Our ambiguity here follows the lead of Calabresi & Melamed, *supra* note 1, at 1119, where the authors assume asymmetric transaction costs "for some reason," unspecified. For a nice example of asymmetric transaction costs, see Mark Kelman, *A Guide to Critical Legal Studies* 123 (1987). Discussing an entitlement to beach access, Kelman considers whether the court should award it initially to the public or to a single landowner. If the entitlement were initially assigned to all members of the public, a single owner would face tremendous difficulty in trying to buy it from them because the transaction would require identifying and negotiating with so many people. But a single owner could sell beach access to the public, member by member, relatively easily by installing a gate and charging admission. So asymmetric transaction costs point toward assigning the beach-access entitlement to the single owner. *Id.*

³⁴ Easy for others to say, too. See, e.g., Calabresi & Melamed, *supra* note 1, at 1121 (sidestepping inquiry "into all the permutations of the possible tradeoffs between efficiency and distributional goals").

³⁵ For example, justice considerations in the form of distributional consequences can be very uncertain and, in any event, limited. See, e.g., Richard A. Epstein, *The Social Consequences of Common Law Rules*, 95 Harv. L. Rev. 1717, 1720 (1982). And the same can be said as to the efficiency side of things. See, e.g., *id.* ("Similar difficulties plague efforts to attribute substantial allocative effects to particular common law rules."); see also *supra* note 25.

³⁶ On the problem of incommensurability, see, e.g., Richard H. Pildes & Elizabeth S. Anderson, *Slingshot Arrows at Democracy: Social Choice Theory, Value Pluralism, and Democratic Politics*, 90 Colum. L. Rev. 2121, 2145-66 (1990).

One way to think about resolving the apparent incommensurability of efficiency and justice in a context like ours is to begin with the observation that justice is seldom if ever free; if it were, we wouldn't want for it. This should help the analyst in making tradeoffs, because all of them can be put in justice/justice terms (that is, they can be made somewhat more commensurable). For example, if we spend very zealously (efficiency be damned) to

B. *Protecting Entitlements*

Once the judge in an *R v. P* case has determined the initial location of the entitlement to the resource in question, there remains the matter of entitlement protection. Here, as we saw, there are two alternatives, a property rule and a liability rule. In the terms of Table 1, which *column* should the judge choose?

The conventional answer appears to be that the correct column choice depends on the level of transaction costs. If transaction costs are insignificant (low), then the judge should use property rules to resolve the *R v. P* dispute, choosing between rule one (injunctive relief to *R*) and rule three (*R* is denied all relief) by reference to justice preferences, considerations of who might value the entitlement most as between *R* and *P*, and (or) asymmetry in the costs of bargaining (tradeoffs among these might be necessary, as we have seen). The conventional argument for using property rules rather than liability rules seems itself to be an argument from efficiency: Let the parties trade by themselves when they are able; presumably they can establish the relevant values by bargaining more cheaply and more accurately than can the judge by weighing the evidence.³⁷

But suppose, as is regularly the case, that transaction costs *are* significant (high)—whether because there are multiple *Ps* and *R*s (giving rise to multi-party negotiations, and more importantly, the strategic behavior of free riders and holdouts) or even if there is only one *P* and one *R* (where bilateral monopoly may also induce strategic behavior). Here the post-Calabresi-and-Melamed commentators have presumed, almost uniformly, that the judge should opt in favor of lia-

control pollution as a matter of justice, we forgo opportunities to spend the same resources on other ends, say research on AIDS, that should as a matter of justice also be pursued. In this light, the opportunity cost of justice is . . . justice. Even given this conceit, however, bear in mind that information about conflicting goals—now conflicting justice goals—is poor, and justice itself is ambiguous in terms of what it demands.

Rather than put the tradeoffs in justice/justice terms, some commentators have put them in efficiency/efficiency terms. See D. Bruce Johnsen, *Wealth Is Value*, 15 *J. Legal Stud.* 263, 270 (1986). This approach argues that justice is something society values, but so too is happiness. How much society is willing to pay for justice is the value of justice. The goal, under this approach, is to trade off justice against other things in ways that maximize overall value.

³⁷ But couldn't the parties bargain just as well around a liability rule? See *infra* text accompanying note 49. In any event, if the judge should happen to think that an absolute assignment of the entitlement to one party or the other might work too drastic a redistribution of wealth, the judge can make an equitable division, such as giving *R* a right to pretty good air quality and *P* a right to pollute to some degree thought by the judge to be reasonable. The parties can bargain from there if the efficient allocation is something different from what the judge sees as the just distribution. See Polinsky, *Nuisance Disputes*, *supra* note 5, at 1088-90.

bility rules³⁸ (with the choice between rules two and four turning on justice reasons and asymmetries in information, among other factors).³⁹

The reasoning behind this typical presumption runs as follows: Take a situation where, thanks to high transaction costs, the judge's initial assignment of the entitlement is probably also going to be its final resting place if a property rule is used because bargaining impediments will stall any subsequent transfer. No problem: Use a liability rule instead. Determine the costs that *P*'s pollution works on *R* and hold that *P* may continue polluting only upon payment of that amount to *R*, as damages.⁴⁰ If *P*'s avoidance cost is lower than the damages, *P* will choose to avoid—the efficient result. If *P*'s avoidance cost is higher than the damages, *P* will choose to pollute and pay—the efficient result again. And the just result, too, so long as the judge has a justice preference for *R*, or at least no justice preference at all.⁴¹ In short, when private bargaining is likely to fail, one can (so runs the conventional view) turn to the judge to establish a price. The judge figures the opportunity cost of one party and confronts the other party with that figure. That other party makes the choice, and the choice yields the efficient outcome.

Hence the familiar piece of conventional wisdom that amounts to virtual doctrine: When transaction costs are low, use property rules; when transaction costs are high, use liability rules.

³⁸ See *infra* note 44.

³⁹ Indeed, Calabresi and Melamed presumed almost as much—almost but not quite—in their discussion. See Calabresi & Melamed, *supra* note 1, at 1107-08 (when transaction costs are high, then on the one hand “an argument can readily be made for moving from a property rule to a liability rule”; on the other hand, “problems with liability rules are equally real”). But readers of Calabresi and Melamed have not usually been so subtle. See Polinsky, *Nuisance Disputes*, *supra* note 5, at 1076 n.7 (noting strong preference among commentators in favor of liability rules when transaction costs are significant); see also *infra* notes 43-44 and accompanying text.

⁴⁰ The standard citation here is *Boomer v. Atlantic Cement Co.*, 257 N.E.2d 870, 875 (N.Y. 1970). Air pollution from the cement company's operation provoked a suit against it on behalf of a number of neighbors. *Id.* at 871. In *Boomer* the court measured damages—permanent damages—in the terms we discussed *supra* at note 28.

⁴¹ What if the judge has a justice preference for *P*? This might call for yet another complicated tradeoff of the sort mentioned earlier. See *supra* text accompanying notes 33-36. On the other hand, on those occasions where good information about the relative opportunity costs of the parties is available, judges can tailor damage awards to accord with their notions of distributional justice. See Polinsky, *Nuisance Disputes*, *supra* note 5, at 1091-92; *supra* note 37.

III

PROPERTY RULES AND LIABILITY RULES: ANOTHER VIEW

We have little to say about the conventional view regarding entitlement location (the choice of rows in Table 1). That view—the judge should choose on the basis of efficiency and justice—is so general as to be difficult to question, and the tradeoffs implicit in the view are seemingly so intractable that for present purposes we simply put them aside.⁴² Our quarrel is with the conventional view on the issue of entitlement protection (the choice of columns in Table 1), particularly the virtual dogma that liability rules should be used when transaction costs are high.

This particular piece of the conventional wisdom seems to have begun settling in very shortly after Calabresi and Melamed published their article in 1972. Richard Posner, in the first edition of his widely used text on law and economics, cited Calabresi and Melamed's discussion in support of the assertion that "where transaction costs are high, the allocation of resources to their highest valued uses is facilitated by denying property right holders an injunctive remedy against invasions of their rights and instead limiting them to a remedy in damages . . ." ⁴³ The generalization has persisted since then, as one could readily enough gather from a sampling of the literature.⁴⁴ It has be-

⁴² We return to them in our concluding remarks.

⁴³ Richard A. Posner, *Economic Analysis of Law* 29 (1st ed. 1972) [hereinafter Posner, 1st ed.]. Our ellipsis indicates the deletion of Posner's parenthetical question "why?" from the quotation. The answer to the question given in Posner's *Teacher's Manual* is that market allocation is cheaper than legal allocation when transaction costs are low. Richard A. Posner, *Teacher's Manual for Economic Analysis of Law* 5-6 (1st ed. 1973).

At the time of Posner's first edition, the conventional wisdom quite clearly held that few parties mean low transaction costs and many parties mean high transaction costs, such that the then common understanding ran something like this: When there are only a few parties to a dispute, property rules should follow as a matter of course. When there are many parties on one or both sides, liability rules should be used.

Posner's second edition, published in 1977, restated the same general principle found in the first edition, with only minor word changes. Richard A. Posner, *Economic Analysis of Law* 51 (2d ed. 1977) [hereinafter Posner, 2d ed.]. But now the text mentioned a "possible exception" to be considered later. *Id.* The exception had to do with specific performance, but in his discussion Posner considered *Boomer*, 257 N.E.2d at 870, and mentioned the problem that injunctive relief can create "a bilateral monopoly—a source of high transaction costs." Posner, 2d ed., *supra*, at 97. This caused him, in his *Teacher's Manual*, to rethink the common understanding, mentioned above, that few-party cases are necessarily low-transaction-cost cases calling for injunctive (property rule) relief. So Posner acknowledged that the principle that injunctive remedies should issue as a matter of course where transaction costs are low, *id.* at 51, might contain an internal contradiction. That aside, the discussion in the *Teacher's Manual* for the second edition was essentially the same as in the *Manual* for the first edition. Richard A. Posner, *Teacher's Manual for Economic Analysis of Law* 18-19 (2d ed. 1977).

⁴⁴ Putting aside book chapters, casebooks and treatises, and literature in other than strictly legal periodicals, and examining just the period 1975-1986, we found some dozen

come, as we said, virtual dogma. Unhappily, however (and as so commonly happens), the dogma is incorrect, and for a reason that makes the entire structure of four rules as vulnerable as a house of cards.

A. *Transaction Costs and Assessment Costs*

1. *The Problem*

It was Professor Polinsky who first suggested (at least in print) the error in the conventional wisdom,⁴⁵ and the point, once made, is obvious. Just as obstacles to bargaining (transaction costs) might impede efficient exchanges by the parties in property rule cases, so problems in obtaining and processing information (assessment costs) might impede efficient damage calculations by the judge in liability rule cases. If, say, the judge uses liability rule two and calculates damages in a way sufficiently off the mark, then *P* might well pay and pollute when it should abate, or abate when it should pay and pollute. In short, to the question “whether the arguments favoring damage remedies are logically coherent,” Polinsky answered: “They are not.” On real-world assumptions, “the argument could easily go either way.”⁴⁶

articles in which the author(s) read Calabresi and Melamed for the proposition that damages are the preferred remedy when transaction costs are high. But we see little virtue in bothering readers with a page long footnote that would be of little interest to them (save perhaps to see if they were on the list). So let us cite merely one instance from the beginning of our sample and one from the end, at the same time inviting any readers who wish to see the entire list to contact us. See, e.g., Lewis A. Kornhauser, *An Introduction to Economic Analysis of Contract Remedies*, 57 U. Colo. L. Rev. 683, 712 n.79 (1986) (Calabresi and Melamed “contended that liability rules are appropriate whenever negotiation among parties for the entitlement is costly and difficult”); Davis Thompson, *Land Use Allocation and the Problem of Wipeouts from Private and Government Land Uses: A Suggested Rule*, 6 *Envtl. L.* 431, 435 (1975) (use damages remedy when transaction costs are high); see also Polinsky, *Nuisance Disputes*, supra note 5, at 1076 n.7 (noting at the time (1980) a strong preference among commentators in favor of liability rules when transaction costs are significant, and citing instances).

This common (mis)understanding among commentators results from over-reading Calabresi and Melamed—but not without cause. See supra note 39.

⁴⁵ See, e.g., Polinsky, *Nuisance Disputes*, supra note 5, at 1079 (“This article will demonstrate . . . that in realistic circumstances the preference for damage remedies is not always justified.”). But see infra note 50.

⁴⁶ *Id.* at 1111. Polinsky develops his argument at length and in a number of guises, the thrust of which can be gathered for our purposes by a simple numerical example. Suppose *P*’s avoidance cost is \$100,000 and that *R*’s actual damages are \$120,000 but are set by the judge, thanks to misestimation, at \$90,000. Assuming that transaction costs are sufficient to foreclose subsequent, post-judgment bargaining by the parties, *P* will pollute and pay rather than abate, notwithstanding that abatement is the cost-minimizing result. Needless to say, one could readily demonstrate an error in the opposite direction, where the judge mistakenly sets *R*’s damages at too high a point, such that *P* abates when it should pollute and pay.

Strangely enough, however, it continues to go mostly one way. Polinsky to the contrary notwithstanding, the academic community persists in the notion that when transaction costs are high, the judge should use liability rules.⁴⁷ The error in this conventional view arises because conventional thinking idealistically ignores uncertainty about damages (due to assessment costs) at the same time that it realistically acknowledges bargaining difficulties (due to transaction costs). But the ideal always outdoes the real.⁴⁸ Once we recognize that in the real world both transaction costs *and* assessment costs are regularly significant, the bald preference for liability rules loses its foundation. Table 2 summarizes the situation.

TABLE 2
LIABILITY AND PROPERTY RULES, GOOD AND BAD

		ASSUMPTION ABOUT COURT ASSESSMENT OF DAMAGES (Information Costs)	
		Poor (High Costs)	Good (Low Costs)
ASSUMPTION ABOUT PRIVATE BARGAINING (Transaction Costs)	Fails (High Costs)	Hopeless/Neither Rule Works (1)	Liability Rules Preferred (2)
	Succeeds (Low Costs)	Bliss/Both Rules Work (3)	Bliss/Both Rules Work (4)

Our method in Table 2 mimics the approach of Calabresi and Mehlamed. Just as they recognized that their problem had two elements (entitlements and the means of protecting them), each with two possible resolutions (entitlement in either *R* or *P*, protected by either a property rule or a liability rule), so here we too have a two-by-two matrix. Courts can issue judgments—a property-rule injunction (or

For an argument to the same effect, published at about the same time, see Jesse Dukeminier & James E. Krier, *Property Teacher's Manual* 8-26 to 8-30 (1st ed. 1981); James E. Krier & Richard B. Stewart, *Using Economic Analysis in Teaching Environmental Law: The Example of Common Law Rules*, 1 *UCLA J. Envtl. L. & Pol'y* 13, 22-29 (1980).

⁴⁷ See *supra* note 44. Polinsky has restated his original point briefly and plainly over the years, in both editions of his text on law and economics. See A. Mitchell Polinsky, *An Introduction to Law and Economics* 15-25 (1st ed. 1983, 2d ed. 1989).

⁴⁸ To hold the real to the standard of an ideal is to engage in what has been aptly called the *nirvana* approach to analysis. See Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 *J.L. & Econ.* 1, 1 (1969). Coase made the same point earlier on. See Coase, *supra* note 2, at 18 ("All solutions have costs and there is no reason to suppose that government regulation is called for simply because the problem is not well handled by the market or the firm.").

denial of all relief), on the one hand, or a liability-rule award of damages on the other—after either of which the parties can attempt to bargain among themselves. And each of these endeavors, the courts judging or the parties bargaining, can work badly or well as a function of assessment costs and transaction costs. If low transaction costs promise that post-judgment bargaining between the parties can succeed, then the choice between property rules and liability rules seems (superficially) to be pretty much a matter of indifference, since the bargaining can correct an inefficient judgment of any kind.⁴⁹ If instead transaction costs suggest that bargaining will probably break down, liability rules should be preferred (cell 2) as a matter of course only in those instances where assessment costs are relatively manageable. But when assessment costs are also high, then cell 1 contains the truth of the matter. The conventional view ends up favoring liability rules (as in cell 2) by virtue of the implicit but obviously incorrect assumption that courts always have the capacity to assess damages with reasonable precision, relative at least to the capacity of the parties to bargain. Thus conventional thinking begs the chief question away; it does so pre-Polinsky, and it continues to do so now.

In short, when (a) assessment costs promote inaccurate damage awards by the judge, and (b) bargaining between the parties is at the same time impeded by transaction costs, there is no a priori basis for favoring liability rules over property rules. If (a) and (b) are the real-world conditions—and we think they regularly are—then the conventional preference for liability rules makes no sense.⁵⁰

⁴⁹ There is, however, an argument against this indifference proposition. Presumably property rules should still be preferred in low-transaction-cost cases on the ground that the damages calculation necessary to a liability rule entails more judicial time and effort than does a simple order of injunctive relief (or a denial of all relief). In these terms, liability rules would be as good as property rules only if judges were to just go ahead and order any old damage award, making no effort whatsoever to calculate an appropriate measure. Strange as that approach might seem, something much like it is defended in Ian Ayres & Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement To Facilitate Coasean Trade*, 104 *Yale L.J.* 1027 (1995) (arguing that when two parties have private information about how much they value entitlement, untailed liability rules—under which the wrongdoer pays fixed amount of damages upon taking entitlement, notwithstanding entitlement owner's actual loss—can induce parties to bargain more efficiently than they would in the face of a property rule). The argument is questioned on a number of grounds in Louis Kaplow & Steven Shavell, *Do Liability Rules Facilitate Bargaining? A Reply to Ayres and Talley*, 105 *Yale L.J.* (forthcoming 1995); see also *infra* note 50.

⁵⁰ For a fresh argument in favor of liability rules, see Louis Kaplow & Steven Shavell, *Property Rules Versus Liability Rules*, 109 *Harv. L. Rev.* (forthcoming 1996). With respect to a case where transaction costs and assessment costs alike are high (cell 1 of Table 2), Professors Kaplow and Shavell reason that liability rules should nevertheless be preferred to property rules because the former promote at least *some* comparison of costs and benefits, whereas the latter do not. Using a property rule in a cell 1 type case means that the entitlement in question will stay wherever it starts out, for better or worse, because of

2. *The Problem Further Examined*

To his credit, Richard Posner seems to have recognized the problem in the conventional wisdom, but in a way that only deepens it. Earlier we discussed the first two (pre-Polinsky) editions of his law and economics text.⁵¹ Two more editions have since appeared. Published (post-Polinsky) in 1986 and 1992, they seem to incorporate Polinsky's contribution though they neglect to cite his work. The chief discussion in the two later editions stands essentially as it was in the two earlier editions, to the effect that "where transaction costs are high, the allocation of resources to their highest valued uses is facilitated by denying property right holders an injunctive remedy against invasions of their rights and instead limiting them to a remedy in damages."⁵² But now a footnote adds that this statement "*assumes that damages can be computed with reasonable accuracy. If they cannot, there is an argument for injunctive relief.*"⁵³

Academic nicety aside, has Posner granted Polinsky's point? It's hard to say, and hard to figure out what follows in any event. To see why, consider the language we italicized above and notice that the conventional wisdom implicitly contains not one piece of advice, but two, each the apparent corollary of the other. The first piece says this:

If transaction costs are low, use property rules (and otherwise, use liability rules).

The second advises:

If damages can be computed with reasonable accuracy, use liability rules (and otherwise, use property rules).

Now take the real world and acknowledge that transaction costs are commonly high *and* that assessment costs are, too. After all, the parties will typically confront some impediments to bargaining, and the judge will typically confront some difficulties in trying to assess dam-

prohibitive transaction costs. Liability rules, on the other hand, force one party or the other (*P* or *R*) to compare its opportunity costs to an amount of damages representing the judge's "best estimate of harm." Kaplow and Shavell think these "best estimates" can be calculated at fairly low assessment cost, but we are skeptical. Their picture of a "best estimate" is the "average harm" where, say, "there are three equally probable levels of harm, \$500, \$1,000, and \$1,500," such that "damages would be \$1,000, the average harm." But Kaplow and Shavell do not tell us how, and at what expense, the judge actually determines what they simply "suppose"—the "three equally probable levels of harm." How did the judge figure out levels, let alone the probabilities? See also *infra* text accompanying note 68.

⁵¹ See *supra* note 43.

⁵² Posner, 1st ed., *supra* note 43, at 29.

⁵³ Richard A. Posner, *Economic Analysis of Law* 62 & n.5 (3d ed. 1986); Richard A. Posner, *Economic Analysis of Law* 70 & n.5 (4th ed. 1992) [hereinafter Posner, 4th ed.] (emphasis added).

ages accurately.⁵⁴ Then, if in this real-world setting we begin with the first piece of conventional advice, we will be led by it to the second. If, instead, we begin with the second, we will be led by it to the first. So it seems that whether the judge should end up using a property rule, or rather a liability rule, turns on nothing but the arbitrary matter of where the judge starts out. Yet even that's an illusion because, given our real-world assumptions, the judge won't end up anywhere at all, other than by some principle of exhaustion. If the business is taken seriously, then it appears that no matter the starting point, the judge will be led back and forth between the two bits of advice, on and on, et cetera, ad infinitum! How arrive at closure?

B. *Objective (Pretend) and Subjective (Real) Outlooks*

The infinite regress problem we have just described arises because each of two means of establishing relative values—the decentralized market means of bargaining, and the centralized legal means of judging—is clumsy. Confronted with this clumsiness, the conventional wisdom suggests that we opt for (centralized) liability rules over (decentralized) property rules, but that suggestion is, as we saw, usually groundless. After all, each of the two ways of establishing relative values in any given real-world case, the way of the market and the way of the court, is subject to some breakdown. In the market the parties confront transaction costs; in the court the judge confronts assessment costs. The conventional view simply *presumes* that liability rules represent the best that can be done under the circumstances. The question then is this: Why not presume the opposite?

To understand the case for such a reverse presumption, begin with the conceit of *objective* damages, the usual measure in *R v. P* and related litigation. To measure *R*'s damages objectively is to take the market price, set by the intersection of supply and demand curves, and to ignore *R*'s actual, or real (*subjective*), reservation price—the minimum price *R* would accept in a bilateral (voluntary) exchange. Quite obviously, objective damages can understate the truth of the matter; they neglect *R*'s consumer surplus or sentimental value, and hence they can promote error in a very systematic fashion.⁵⁵ Still, the objec-

⁵⁴ Take for granted now something (we think a pretty obvious something) we discuss below, namely that the very considerations leading to high transaction costs will often occasion high assessment costs as well. See *infra* Part III.C.1.

⁵⁵ Kaplow and Shavell, *supra* note 50, concede this difficulty but suggest that to remedy it "courts could employ predetermined tables for estimating losses"—so much for a life, a view, etc. "The table entries might be calculated on some reasonable basis by experts. The use of tables," they assert, "would reduce, potentially to virtually nothing, the cost on a per case basis of including a now-excluded component of loss." *Id.*

tive measure is used because subjective measures are usually too difficult to calculate (assessment costs are too high), given the likelihood that *R* would behave opportunistically, exaggerating sentiments when testifying and the like. So objective damages are a purely cosmetic device. We pretend they represent reality because the pretense *seems* to make liability rules work.⁵⁶

But if the objective damages are just cosmetic, then why not fashion things in a different way and pretend instead that the parties *can bargain*? The conventional pretense saves the liability-rule game, whereas this opposite pretense of ours would save the property-rule game. Exactly as the objective outlook on damages is simply taken to be a *real* indication of value, so our “objective” (pretend) outlook on bargaining could simply be taken to represent how the parties *really* measure their respective opportunity (damage and avoidance) costs. We need only imagine that whatever bargain the parties reach, including no bargain at all, that “whatever” is efficient.

Our argument once again mimics Calabresi and Melamed in the way they proceeded to discover their fourth alternative.⁵⁷ Now we use their method to discover a new “missing fourth” of our own. Once again, two variables are involved in what we are talking about here—market bargaining and judicial assessment—and each of those two variables can be conceived in terms of two outlooks—the objective and the subjective (the pretend and the real). As we saw, the courts use an objective outlook on judicial assessment in order to make the liability-rule system nice; judges pretend that something like fair market value captures the actuality when actually it doesn't. But if judges are free to view their mode of assessment in this way, are we not equally free to view market bargaining in terms of the same outlook, pretending that transactions between the parties capture the ac-

⁵⁶ See, e.g., Calabresi & Melamed, *supra* note 1, at 1108; Posner, 4th ed., *supra* note 53, at 56-57, 522. Calabresi and Melamed say in passing that the objective measure might result in under- or overcompensation. The point is correct as a matter of principle, but overcompensation is unlikely in practice, as Posner's discussion suggests. Posner, 4th ed., *supra* note 53, at 57 (“[A] person who values his property less than the market does will sell it.”).

Recall that in *Boomer v. Atlantic Cement Co.*, 257 N.E.2d 870, 875 (N.Y. 1970), a classic rule-two case, the court measured the plaintiffs' damages in terms of fair market value. See also the opinion of Judge Learned Hand in *Smith v. Staso Milling Co.*, 18 F.2d 736 (2d Cir. 1927), a case in which the defendant's operations polluted the plaintiff's summer residence. Regarding the measure of damages, Hand said: “We cannot accept the estimate of the District Judge as to the value of the plaintiff's premises, which rests only upon his own [the plaintiff's] appraisal, contradicted by the defendant's witnesses, who were surely in a more impartial position. A country residence, on which so much is spent to suit the owner's fancy, cannot be said to have a value equal to its cost.” *Id.* at 739.

⁵⁷ See *supra* text accompanying notes 9-12, and recall our way of constructing Table 2, *supra* at Part III.A.1.

tuality when actually they don't? If we do that, then property rules work "just as well" as liability rules, and any basis for choosing between them disappears. *Voilà!*⁵⁸

C. *The Problems of Correlation and Synergy*

We have seen thus far that market bargaining entails transaction costs and that judicial valuation entails assessment costs. Each is a species of what we can call *valuation costs*. Since both methods of valuing entitlements, through the market or in the courts, are ordinarily costly, either can be wrong, resulting in *error costs*. Hence the (efficiency) issue in any given case is this: Which kind of rule, property or liability, promises to minimize the sum of valuation and error costs?

That, we think, is the question for reflective judges, who should compare *their* ability (and their confidence in their ability) to overcome assessment-cost problems with the *parties'* ability (and the judges' confidence in the parties' ability) to overcome transaction-cost problems. Quite obviously, this entails another complicated kind of tradeoff among seeming incommensurables, "something like summing up an orange, the number 6, and the note F#."⁵⁹ The need for such a tradeoff is conveniently ignored by the conventional view, even as modified by Posner, and happily enough, we suppose, because the exercise appears to be so daunting. In fact, however, two problems can make the task more complex than it thus far appears, and both problems arise for the same general reason. While it is entirely possible that the transaction costs and assessment costs that the judge must try to compare are independent of one another, it is just as possible—in fact, more likely—that they are related. First, they might go up or down together as a function of given circumstances, and in that sense be positively *correlated*. Second, they might interact in a way we shall call *synergistic*. In either event, let alone both, the already very difficult job of trading off among incommensurables can become, for all practical purposes, a hopeless enterprise. If so, a principled choice between property rules and liability rules appears, once again, to be pretty hopeless as well.

1. *Correlation*

Suppose that commonly enough, though not always, the very circumstances that make for high or low transaction costs also make for

⁵⁸ A concern that we label "synergy" could be considered here, but it is best saved for later. See *infra* Part III.C.2.

⁵⁹ Krier & Stewart, *supra* note 46, at 29.

high or low assessment costs. Where this positive correlation holds, the conventional ground for choosing between property rules and liability rules is undermined. Both rules will work well in the circumstance of low costs,⁶⁰ but both will work poorly in the circumstance of high costs, leaving no (efficiency) grounds for choosing between the alternative property and liability rules in high-cost cases. So let us consider briefly (the reasons are actually familiar ones) why the two kinds of valuation costs might tend to be high at the same time, and under the same circumstances.

High transaction costs are likely to arise, oddly enough, in two very different bargaining situations—bargaining between multiple parties on the one hand, and between few parties on the other.⁶¹ In either kind of case, then, property rules are problematic. Unfortunately, however, in either kind of case assessment costs can also be high, such that liability rules are also problematic. Moreover, in both kinds of cases, the very factors that contribute to high transaction costs can contribute at the same time to high assessment costs, such that any rule can be problematic in any case.

Consider multiple-party cases first. When many people have to bargain, their sheer numbers can prevent efficient trades because it takes longer (costs more) for a lot of people to reach accord than it does for a few.⁶² Hence high transaction costs might swamp the value of the transaction itself to the parties. But beyond this problem of numbers, there are the special problems that arise when an exchange will necessarily benefit many people at once (giving rise to free rider problems) or when many people have to agree to an exchange in order for it to be consummated (giving rise to holdout problems). Take our classic pollution parable and suppose, as is so often the case, that there is a single *P* and multiple *Rs*. Imagine that *P* is awarded an entitlement to pollute protected by a property rule (rule three). To stop the pollution the *Rs* will have to pay the factory to abate, but their efforts to raise the necessary funds will be hampered by those *Rs* who, though they greatly value getting cleaner air, withhold support in hopes of taking a free ride on the backs of other contributors (the cleaner air cannot be withheld from anyone). The consequence could

⁶⁰ In fact, both will work well even if assessment costs are high, so long as transaction costs are low. See *supra* text accompanying note 49.

⁶¹ See *supra* text accompanying notes 38-39 and note 39.

⁶² More parties have to “connect,” a figure of speech that comes to mind in reading Posner’s way of making the point: “[G]enerally the costs of a transaction rise with the number of parties to the transaction—perhaps exponentially. (The formula for the number of links required to join all members of a set of *n* members is suggestive in this connection: $n(n - 1)/2$.” Posner, 4th ed., *supra* note 53, at 51.

be that no exchange is made, even where the value of clean air to all the *Rs* exceeds *P*'s avoidance cost (the difference between the two being the potential "gains from trade").

Perhaps, then, the judge should instead award the entitlement in question to the *Rs* and once again protect it with a property rule (rule one), thinking that this will reduce transaction costs. Now holdouts are the problem. Suppose in fact that *P*'s avoidance cost exceeds the sum of all the *Rs*' damages, such that abatement is an *inefficient* result. To avoid abating, *P* has to buy out everybody in order to buy out anybody, and each *R* will be inclined to extract from *P* *all* of the gains from trade.

In both of the foregoing instances, there is a so-called bilateral monopoly that arises because *P* and the *Rs* are locked into mutual dealings: each side can only sell to (or buy from) the other. The costs of the ensuing bluffs and counters can kill efficient exchange.

One can, of course, overstate the free-rider and holdout problems. Private parties sometimes manage to engage in exchange even when some people free ride or hold out, as long as the gains from trade are sufficient to make the costs of transacting worthwhile. (But beware: the larger the gains from trade, the larger the holdout problem can become because the more there is to gain from engrossing the lion's share.) Nevertheless, property rules are well-known to induce just the behavior we describe.

The conventional answer, of course, is to use liability rules in these situations, in particular liability rule two.⁶³ But we can now understand that rule two is unsatisfying to the extent that these very same multiple-party cases entail high assessment costs as well as high transaction costs, and this might regularly be the case. For example, to assess all the *Rs*' damages from pollution, the court has to figure out, ideally (that is, in terms of subjective values), how much money would make all of them just indifferent to tolerating the pollution—difficult enough in the case of one or a few *Rs*, heroic in the case of many.⁶⁴ At the least, the court would have to assess damages objectively, in terms of diminished fair market value. This may make the task easier, but not necessarily easy (inexpensive) given the considerable amount of expert testimony the assessment would entail. In any event, the objective approach carries with it the cost of biased assessments, as we saw earlier.⁶⁵

⁶³ See *supra* text accompanying notes 38-40. Special problems arise if the judge opts instead for liability rule four. See *infra* text accompanying notes 79-86.

⁶⁴ See *supra* text accompanying note 56.

⁶⁵ See *supra* text accompanying note 55.

The foregoing discussion allows us now to deal briefly with cases involving just a few parties. Here property rules will give rise to the very problems of strategic behavior (induced by bilateral monopolies) that we considered in connection with multiple-party cases. Liability rules might work satisfactorily provided objective damages are used, save for those instances where pollution damage and pollution avoidance cost are close to equal (but here the costs of error are minor in any event). Subjective damages would give rise to the assessment costs we have already discussed. Judges will have problems assessing the correct values for the same reason private bargainers would: limited, hidden information. If parties can hide their valuations from each other, they can hide them from a judge. Judges can probably assess subjective values accurately enough when the relevant information is out in the open, but in such cases bargaining might work just as well, since it's hard to be open and at the same time strategic. In any event, few-party cases are no doubt a small fraction of the total population of instances of interest to us here—an observation to which we shall return.⁶⁶

2. Synergy

To see the point about synergy, return to our discussion of objective (pretend) and subjective (real) outlooks,⁶⁷ and imagine the following criticism stated by someone as skeptical of our analysis as we are of the conventional analysis:

It's silly what you said about judicial versus market estimations of value, because you've made matters all or nothing when in fact they are not. If transaction costs are high the parties simply can't bargain, but with objective damages assessed by the court (your well-taken point about them to the side) at least you capture a *part* of reality. So using them when transaction costs are high is, though not great, still the best way to go.⁶⁸

Our riposte is this: Just as objective damages admittedly capture a part of the truth, so too, usually, will the parties' efforts to bargain. The conventional view tends to see value-measured-by-the-courts as a continuous function, more or less accurate in any given case, but at the same time regards value-measured-by-the-market as noncontinuous, either accurate when transaction costs are "low" or worthless when they are "high." But obviously, just as assessment costs can be low or high or somewhere in between, so too can transaction costs.

⁶⁶ See *infra* Part III.E.2-3.

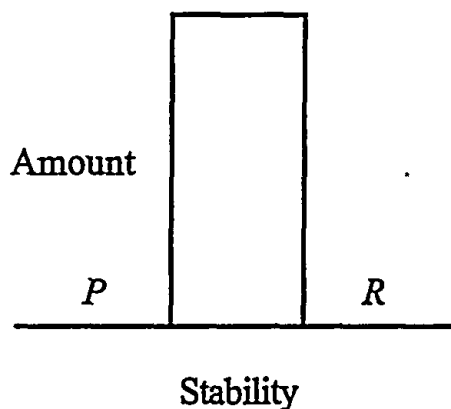
⁶⁷ See *supra* text accompanying notes 55-58.

⁶⁸ This represents a stylized version of Kaplow and Shavell's point about "best estimates" of harm. See Kaplow & Shavell, *supra* note 50.

Parties will often be able to bargain more or less clumsily, even if they seldom can bargain smoothly.

We suppose this is clear enough, but consider a complication. Imagine that transaction costs stand as a wall between *P* and *R*, as depicted in Figure 1 below.

FIGURE 1
A PICTURE OF TRANSACTION COSTS



The vertical dimension of the picture illustrates that transaction costs might be high or low or somewhere in between. The higher the “wall” depicted in the figure, the higher the transaction costs. The horizontal dimension is meant to illustrate the “stability” of the wall of transaction costs, by which we mean its resistance to efforts by *Ps* and *R*s to get over or around or through the barrier to a mutually beneficial bargain. The thicker the wall in the figure, the greater its stability.⁶⁹

⁶⁹ The words “durability” and “persistence” suggest equally apt ways of thinking about what we have in mind. For example, think of a government regulation that provides a short cooling-off period for parties in conflict; here the barrier to transacting is high (transactions are forbidden) but not thick, not durable (the cooling-off period is of short duration). Or think of a government regulation that requires transacting parties to pay a five-dollar fee to the government prior to dealing. Here the barrier to transacting is low (the fee is tiny) but very thick (the regulatory requirement could last forever).

Related examples come to mind when one thinks of bargaining between parties, one of whom has committed specific capital to the parties’ relationship. Suppose Jones, as part of a venture with Smith, has provided some equipment that has virtually no alternative uses but also is not very expensive. Or suppose the equipment has valuable alternative uses but that Jones’s commitment is of short duration (she has provided a billboard to advertise a celebrity tennis match being organized by Smith, an impresario). Should problems develop between the parties, Smith would have little strategic advantage in any haggling with Jones in either case, in the first instance because her capital contribution to the transacting barrier is not very large (not “high”), and in the second because it is not very long-lasting (not “durable”). But we know from the literature that when commitments of specific capital *would* create a substantial bargaining advantage for one party

Obviously, both dimensions of the wall of transaction costs can be a function of many considerations, some of which we discussed above in connection with correlation.⁷⁰ What we left out there, and what seems to be omitted as well from the conventional view, is a *third dimension* having to do with *Ps'* and *Rs'* abilities to cope and learn. In terms of the analogy to a wall of transaction costs, why is there no attention to the parties' capacities to learn ways around (or over, or through) the barrier?

For the moment we have just a little to say about this question.⁷¹ We believe it likely that the coping and learning capacities of the parties will be in part a function of judicial attitudes about liability rules. In other words, there will be a synergistic relationship between what courts do and what parties do. To see our point and test our belief, simply imagine two alternative regimes:

(1) *If a judge thinks the parties will not bargain effectively, the judge will step in with a liability-damages rule.*

Or, instead,

(2) *If a judge thinks the parties will not bargain effectively, tough.*

Which regime would best promote the development of effective—say cooperative—bargaining techniques in the long run? If the answer is (2), which we think it has to be, then an obvious conclusion follows. The more ready the courts are to intervene by way of damages when bargainers might balk—on the notion that assessment costs are lower than transaction costs—the less likely the parties are to learn how to reduce the latter. Hence reflective judges, as they compare assessment costs (*A*) to transaction costs (*T*), should consider how what they think about the size of *T* will feed back and impact eventually on *its—T's—size!* Therein is the troublesome synergy. Judicial determinations might over time affect the magnitude of the variable being determined. If judges regularly conclude that $T > A$ and so use liability rules, the consequence might be that $T > A$ persists, notwithstanding that the use of a property rule might mean, over the longer run, that $T < A$ in some expected value sense. And obviously, if $T < A$, then a property rule *should* be used, at least from the efficiency side of things. So how to decide?⁷²

over the other, the parties learn to develop devices to deal with the problem. The most prominent general account is Oliver E. Williamson, *The Economic Institutions of Capitalism* (1985).

⁷⁰ See *supra* Part III.C.1.

⁷¹ Later we have a little more to say. See *infra* text accompanying notes 98-102.

⁷² When we speak here of the parties learning to cope more effectively with transaction costs, we mean "parties" generally, not just the particular parties caught up in a particular

D. The "Problem" of Extortion

Subscribers to the conventional wisdom might respond in part to our discussion thus far by offering an alternative basis for choosing between property and liability rules, namely a desire to avoid the "problem" of extortion. In this usage, "extortion" refers to the supposed power of the entitlement owner in a property-rule regime to hold out on the other (enjoined) party so as to extract all the gains from trade at stake in post-injunction bargaining. To prevent this problem, the argument runs, one should turn to liability rules. We show here that liability rules, alas, will usually just reverse the direction of the effect that is of concern, and in a very ironic way. Hence the extortion-based principle for choosing between property rules and liability rules ends up being unconvincing.

transaction. The hypothesis is that the more self-reliant people are *expected to be* as part of the general legal culture, the more self-reliant they will *learn to be*.

Excellent examples of our point can be found on the "private" side of land-use law: the law of easements, irrevocable licenses, real covenants, and equitable servitudes. Suppose the owner of a dominant parcel who reaches her land via an easement of way over a neighboring servient parcel decides to extend the easement so as to reach another piece of land that is not part of the dominant tract. Standard doctrine holds that the owner of the dominant parcel may be enjoined from doing so, even if the extension adds little if any additional burden to the servient parcel. But then a problem of bilateral monopoly arises: If the dominant owner has already purchased the nondominant parcel or made improvements on it, and the parcel is accessible only via the easement, the owner of the servient parcel might be able to hold out on the owner of the dominant parcel. In response, some courts allow the extension of the easement upon payment of consequential damages to the owner of the servient parcel. But notice that the bilateral monopoly problem would not have developed had the owner of the dominant tract thought ahead and negotiated for an extension of the easement, or an option for such an extension, before purchasing or improving the nondominant parcel. If damages are routinely awarded, parties like our dominant owner have little incentive to learn to bargain in advance, because the courts will bail them out in any event. Thus market avoidance is encouraged. But if the courts, in order to discourage market avoidance, stick to the standard doctrine, holding out might promote waste and injustice. But if the courts, in order to avoid those undesirable consequences, limit relief to damages, then . . . , etc.

It's something of a dilemma, and hence—as one would expect—the courts differ sharply in their approaches to the problem. Compare, e.g., (1) *Penn Bowling Recreation Ctr., Inc. v. Hot Shoppes, Inc.*, 179 F.2d 64, 66-67 (D.C. Cir. 1949) (court enjoins extension of easement to nondominant parcel until improvement located partly on that parcel was so altered that it could not benefit from easement) with *Brown v. Voss*, 715 P.2d 514, 515-16 (Wash. 1986) (awarding damages instead); (2) *Shepard v. Purvine*, 248 P.2d 352, 361-62 (Or. 1952) (allowing irrevocable license in order to avoid need for arm's-length bargaining between neighbors) with *Henry v. Dalton*, 151 A.2d 362, 365-66 (R.I. 1959) (disallowing irrevocable license and insisting on formal arrangement between neighbors instead); (3) *Sanborn v. McLean*, 206 N.W. 496, 497-98 (Mich. 1925) (implying equitable servitude where formal contracting process had neglected to restrict some lots in subdivision) with *Riley v. Bear Creek Planning Comm.*, 551 P.2d 1213, 1222 (Cal. 1976) (refusing to imply equitable servitude in same situation).

Let us first set out the conventional line of argument. Suppose a simple two-party *R v. P* case in which *R* has alleged a nuisance and prayed for injunctive relief. Suppose further that *R*'s damages, measured in terms of diminution in the fair market value of *R*'s land should *P*'s pollution continue, are estimated to be \$100,000,⁷³ whereas *P*'s avoidance costs are thought to be around \$1,000,000.⁷⁴ If the judge were to find a nuisance and grant an injunction against *P*—property rule one—the so-called problem of extortion could arise. Net gains from trade of \$900,000 (*P*'s avoidance costs minus *R*'s damages) are available for distribution between the parties. In post-injunction bargaining, *R* might try to engross the lion's share of this surplus by threatening to enforce the injunction and force *P* to avoid unless *P* buys off the injunction for nearly the full \$1,000,000, a proposition *P* can be expected to resist. This kind of strategic behavior by *R* might, as we saw earlier, prevent consummation of a deal and result in an efficiency loss, because *R* in our example is the cheapest cost avoider. But put that point aside, and focus instead on distributional justice. For reasons that are not perfectly clear, *R*'s holding out is conventionally regarded as a bad thing, a kind of unjust enrichment, a brand of extortion.⁷⁵ So to get around the injustice, not to mention the inefficiency, the conventional recommendation is to limit *R* to a damages remedy, opting for liability rule two over property rule one.⁷⁶

How exceedingly strange! To see why, take again the case where *P*'s avoidance cost is estimated to be about \$1,000,000 and *R*'s damages \$100,000 (objectively measured), with the difference between the two being \$900,000. That difference, as we saw above, simply represents the gains from trade, to which neither party is, *prima facie*, entitled. Thinking, incorrectly, that *R* necessarily holds the best hand and can thus bargain successfully for something undeserved,⁷⁷ the court

⁷³ This, of course (and, as we have seen, for better or worse) is the conventional measure of *R*'s damages. See *supra* notes 28, 56 and accompanying text.

⁷⁴ This, recall, is the cheapest of all the alternatives available to *P*. See *supra* note 28.

⁷⁵ See, e.g., Note, *Injunction Negotiations: An Economic, Moral, and Legal Analysis*, 27 *Stan. L. Rev.* 1563, 1571-72 (1975) ("Both commentators and courts have recognized that negotiations over the enforcement of an injunction can lead to 'extortion' when the cost to the enjoined party of obeying the injunction is much greater than the damage that would be caused the plaintiff by the continuation of the enjoined action.").

⁷⁶ See, e.g., Polinsky, *Nuisance Disputes*, *supra* note 5, at 1079 n.10.

⁷⁷ The thought is incorrect because the distribution of gains between *P* and *R* is indeterminate, turning on nothing but their relative bargaining abilities. *R* might appear to hold the best hand, but *P* might be the best bluffer. And while it is of course true that stubbornness on *R*'s part can cost *P* an awful lot, it is equally true that stubbornness on *P*'s part can cost *R* an awful lot—all that enrichment, which only *P* is in a position to provide. On the other hand, *R* stands to lose a prospect, an opportunity to line a pocket, whereas *P* stands to be out of pocket, and this could make a difference. See *supra* note 25.

denies injunctive relief and instead awards damages of \$100,000. But this awards *all* the gains from trade to the defendant. In order to assure that *R* doesn't extort something from *P*, the *court* extorts everything from *R*!⁷⁸

E. *The Paradox of Rule Four*

The problem of extortion is ironic; the case of rule four is paradoxical.

1. *The Paradox*

The point of liability rules—at least one of their central purposes—is to serve as a substitute for bargaining when transaction costs are high. Rule two plays this role when asymmetric information costs or justice preferences (or both) point in the direction of an entitlement in *R*, protected only by a damages remedy. *P* can force a sale, but the idea is that a reasonably accurate estimate of *R*'s damages will lead *P* to compare its avoidance cost to *R*'s damages and choose the cheaper, which might be to pollute and pay, or might be to abate. Ordinary bilateral bargaining, thought to be too bogged down by transaction costs, is converted into unilateral bargaining, with *P* acting on its own account but with the judge acting on *R*'s account, as a sort of proxy. We get at least the illusion of a market test—an important objective of the whole business—that will accord more or less with reality depending upon the accuracy of the (objective) damages, the presence or absence of difficult tradeoffs when all the relevant considerations (information, justice, etc.) don't cut the same way, and so on.

Rule four, an entitlement in *P* protected by damages, seems to open up vast new frontiers for liability rules. It lets us once again accommodate high-transaction-cost cases (or so we like to imagine) but at the same time it allows us to act on a justice preference for *P*, or take advantage of asymmetric information. Suppose, for example, that the judge is either indifferent on the question of justice or has a preference for *P*, and suppose also that the judge has a good notion of *P*'s avoidance cost but not of *R*'s damages. Rule four handles the case. Award the entitlement to *P*, determine *P*'s damages (avoidance cost), and tell *R* to pay up or shut up. If *R*'s damages exceed *P*'s avoidance cost, *R* will pay up (the efficient result); otherwise *R* will shut up (efficient again). Under rule four, the judge acts as a proxy

⁷⁸ Can we be satisfied at least that the judicial move avoids inefficient outcomes, however unjustly it distributes the gains from trade? We can if the court's objective assessment of *R*'s damages is not too terribly wide of the subjective mark, or if *P*'s avoidance cost is in any event larger than *R*'s actual (subjective) damages. On the extortion problem, see Polinsky, *Nuisance Disputes*, *supra* note 5, at 1110-11.

for *P* rather than *R*, and *R* decides whether to accept the judge's offer on behalf of *P*. Rule four can, in principle, promote just and efficient results in exactly the fashion of rule two, but at the same time it can accommodate instances that rule two cannot (and vice versa). Rule four can also, like rule two, create the illusion of a market test, and for the same reasons. The two rules look to be mirror images of each other.

But they are not. At least with respect to the *typical R v. P* case, rule four is paradoxical in that it reintroduces the very problem it is meant to solve. Litigation arising from environmental pollution and like problems (our stock example) generally involves not a single *P* and a single *R*, but rather a single *P* and *multiple Rs*.⁷⁹ Rule four asks those multiple *Rs* to agree on a choice—either to pay *P*'s damages (avoidance cost) as set by the court, or to be quiet and go away. But in posing such a choice to a *group of choosers*, rule four gives rise, necessarily, to the same problems of free riding and strategic bargaining, the same transaction costs, that were the reason for opting for a liability rule in the first place!

2. *A Non-Resolution*

The discussion to this point suggests that rule four might be interesting in few-party cases but not in typical multiple-party cases. True, few-party cases, even when liability rules are used to resolve them, can still give rise to a lot of troublesome post-judgment strategic behavior.⁸⁰ Notice, however, that they nevertheless avoid the collective action problem—the group agreement problem—that arises with multiple *Rs*. Hence it would be nice if multiple-party cases could routinely be made into few-party cases.

Professor Polinsky thought they could; he expressed exactly that idea when he observed “that the analysis of injunctive and damage remedies when there are many victims may be of limited relevance [T]he interests of the parties can be aggregated in several ways, most commonly in a class action.”⁸¹

If only life were so simple. In a class action, the lawyer for the representative plaintiff will usually be the “party” carrying on negotia-

⁷⁹ As in *Spur Indus., Inc. v. Del E. Webb Dev. Co.*, 494 P.2d 700 (Ariz. 1972); *Boomer v. Atlantic Cement Co.*, 257 N.E.2d 870 (N.Y. 1970); and the general run of pollution cases. *Spur Industries* does look like a two-party case, but it is not. See *infra* text accompanying notes 83-84.

⁸⁰ See, e.g., Polinsky, *Nuisance Disputes*, *supra* note 5, at 1079, 1090-91, 1093-95 (pointing out that parties may (attempt to) bargain after liability award just as they may after award of injunctive relief, or after denial of all relief).

⁸¹ *Id.* at 1109.

tions and making choices, with little if any effective monitoring by the principals or the judge. In short, the lawyer will be the proxy for the real parties in interest, the *Rs*. Is there any reason to suppose that the lawyer will be a *better* proxy for them than the judge could be? If not, we could just have the judge announce the damage award and order the *Rs* to pay it whether they want to or not. The problem, of course, is that this would foreclose any market test, and market tests are, as we saw, a central purpose of liability rules.

What we want, under the market-test approach of liability rules, is for one side or the other to compare the relative costs of damages and abatement, the relative opportunity costs of the parties. A class action does not give a reliable market test for several reasons. First, it is hardly clear how class-action lawyers would get into the subjective consciousness of each client, let alone how they would then sum up the total. Second is the standard worry that the lawyers will not faithfully represent the aggregation in any event. Especially when they are working on a contingent-fee basis (as is typical), class-action lawyers have well-known incentives to serve their own interests at the price of their clients.⁸² So the class-action idea is just another cosmetic device.

Let us quickly make the same point another way, and then use that way to indicate a path out of the paradox. Above we referred to *Spur Industries* as a multiple-party case,⁸³ when nominally at least it appears to have been otherwise, a simple contest between an innocent *P* (*Spur Industries*) and a guilty *R* (*Del Webb*). Suppose for a moment that these two parties would bargain cooperatively rather than strategically, for which reason the court is inclined to use property rule three, with *Spur Industries* entitled to continue its operations unless *Del Webb* could induce it to do otherwise through bilateral negotiations. This would be a bad approach for the court to take, even on the assumption of cooperative bargaining, because *Del Webb* would likely offer too little to *Spur Industries*, relative to the social costs involved. *Del Webb* would be interested primarily in the marginal units it had been unable to sell in consequence of the pollution; it would be less concerned, if concerned at all, about the retirees who had already bought into the development.⁸⁴ Its smaller stake made it a bad proxy

⁸² See, e.g., Clayton P. Gillette & James E. Krier, *Risk, Courts, and Agencies*, 138 U. Pa. L. Rev. 1027, 1054 nn.74-75 (1990) (discussing literature on class-action lawyers' motivations). For a very current account of the problem, see Pamela Coyle, *When Bigger Isn't Better*, A.B.A. J., Mar. 1995, at 66 (class actions are being criticized for settling on terms very unfavorable to class members, with plaintiffs' lawyers in essence selling out future claims in exchange for huge attorneys' fees).

⁸³ See *supra* note 79.

⁸⁴ *Del Webb* might have had some other-interested altruistic concerns for the citizens of Sun City, and it might have had some self-interested reputational concerns; each of

for the residents of Sun City, yet those were the people whom the court regarded as the real parties in interest.

In any event, in the actual case, the court decided to use a liability rule. It could not use liability rule two because justice demanded that the entitlement be in Spur Industries. So it invented liability rule four, but in a way that seemed to foreclose any market test: Spur Industries, it said, had to go, and Del Webb, it said, had to pay.⁸⁵ Despite such an ultimatum, however, Spur Industries and Del Webb would presumably remain free to bargain after the liability-rule judgment was entered, just as they would have been free to do so after a property-rule judgment.⁸⁶ But Del Webb would again be a bad proxy, for the reasons discussed above. The residents would be in no position to bargain with Spur Industries, either. Collective action problems, not to mention justice considerations, foreclosed a judgment that Spur Industries could remain unless the residents paid its removal costs, and common sense foreclosed a judgment that Spur Industries could remain unless the residents voted to have Del Webb pay those costs (the outcome would be preordained). And rule two, as we said, was of no avail: Spur Industries, as an innocent party, could not justly be held liable in damages.

So what can be done? Consider the following.

3. *Reverse-Reverse Damages (The Double Reverse Twist)*

Rule four entails what aptly can be called reverse damages, since in such cases nominal plaintiffs end up liable to nominal defendants. Yet while reverse damages can work wonders in some cases, they cannot work them in all. In particular, they are paradoxically impotent in the typical case of multiple *Rs*—a case like *Spur Industries*—simply because multiple parties are *bad choosers*. This implies a principle, a *best-chooser axiom*:

*All other things being equal, when liability rules are used the party who is the best chooser should be confronted with the decision whether or not to force a sale upon the other party.*⁸⁷

these could promote the cause of the people already in place, but we think the effects would be marginal at best.

⁸⁵ See *supra* text accompanying note 22.

⁸⁶ See *supra* note 80 and accompanying text.

⁸⁷ The axiom is utterly faithful to the approach of Calabresi & Melamed, *supra* note 1, at 1097 (other things being equal, costs of activity “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”); see also Guido Calabresi & Jon T. Hirschoff, *Toward a Test for Strict Liability in Torts*, 81 *Yale L.J.* 1055, 1060 (1972) (arguing that liability should be placed on party that “is in the best posi-

In most instances, the best chooser will be the smallest-number party—the feedlot operator in *Spur Industries*. But, for justice reasons already discussed, we cannot take the conventional path of rule two, which would make Spur Industries choose between paying damages to the citizens of Sun City or closing down. Similarly, for justice reasons *and* collective action reasons already discussed, we cannot use conventional rule four, which would have the citizens choose between compensating Spur Industries for closing or putting up with the stench.

There is another alternative. Bear in mind that the market-test principle underlying liability rules requires that some party—now seen as the *best chooser*—compare its own opportunity cost to the opportunity cost (figured by the judge) of the other party or parties. Usually the best chooser will be a single entity. Hence, in a case like *Spur Industries*, where Spur Industries (the feedlot owner) is the best chooser, we need (1) a way to confront Spur Industries with the social costs (the damages to the residents) that it would impose if the nuisance were to stay in place, such that Spur Industries would then compare those damage costs to its avoidance costs. But, for justice reasons, we also need (2) a way that doesn't make Spur Industries pay.

The solution? Simply *reverse* the reverse damages; do the double reverse twist. First, have the judge estimate as damages the residents' social costs mentioned in (1). The damages are objectively measured, of course; indeed, they are exactly the damages the judge would calculate in a conventional rule two case like *Boomer*.⁸⁸ Next, have the judge enter the following peculiar order: If Spur Industries moves, the residents must pay Spur Industries the residents' damages set by the judge; if Spur Industries stays, it will get nothing.⁸⁹ Peculiar, but it works. The judgment is just (in the terms in which we are thinking about that norm here), and it promotes the efficient result.

A numerical example may help make the foregoing clear. Suppose that if *P* (a party like Spur Industries) were to stay in operation as and where it is; this would cause damages of \$100,000 to the *Rs* (people like the citizens in the *Spur Industries* case). As before, the

tion to make the cost-benefit analysis between accident costs and accident avoidance costs and to act on that decision once it is made" (emphasis omitted)).

⁸⁸ See *supra* note 40 and accompanying text. So there will remain all of the problems of objective damages previously discussed at length. See *supra* Part III.B. In short, our double reverse twist, despite its virtues, proves in the end to be no more reliable than the underlying damage measure.

⁸⁹ The judge can allocate liability among the residents on any number of seemingly appropriate grounds (in proportion to the market value of each lot in question, for example).

\$100,000 represents the judicially estimated aggregate diminution in the property value of the *Rs*' residences if the status quo ante persists. Suppose also that the estimated value of *P*'s operations as a going concern (the present discounted value of the future net profits) is either (a) \$50,000 or (b) \$500,000, and that in either event abatement short of closing down the operations would cost more than either of those amounts. On assumption (a), the efficient solution is to close *P* down; on assumption (b), it is to have operations continue.

Bear in mind that justice considerations are taken to favor *P*, and consider: If conventional liability rule two were used, *P* would be the chooser. The judge would declare the *Rs* entitled to unpolluted air, but the entitlement would be protected only by a liability rule. The present value of all future damages (that is, the permanent damages) would be set at \$100,000. *P* would have the choice of shutting down or paying the \$100,000 and continuing operations. *P*, a single entity, presumably will choose efficiently. Under assumption (a), it would close down the \$50,000 operation rather than pay twice that amount in damages; under assumption (b), it would pay the damages and continue operations. Both results are efficient.

The problem is that neither result would be just, because on either assumption (and as in the *Spur Industries* case), justice demands that *P* not be liable for damages. So turn to rule four as conventionally applied. The judge would declare that *P* has the entitlement, protected by a liability rule, and would set its damages at \$50,000 (on the (a) assumption) or \$500,000 (on the (b) assumption). The *Rs* would have the choice of shutting down *P* and paying, or shutting up and tolerating the situation. If (b) represents the reality, presumably the residents will put up with the smell. But what if (a) is the fact of the matter? Because of free rider problems, the *Rs* may not be able to raise the necessary \$50,000, even though as a group they would benefit from paying that amount and shutting down *P*'s operations. Thanks to their collective action problem, the multiple *Rs* are bad choosers; their efforts to act together might stall. Indeed, it was exactly this collective action (transaction cost) problem that made us think of opting for a liability rule in the first place!

But now let us do the double reverse twist. The best-chooser axiom dictates that *P* be confronted with the relevant choice. The justice assumption dictates that *P* have the entitlement. *Solution*: The judge calculates, exactly as the judge would in a rule two case, the *Rs*' damages if *P* stays (\$100,000). Next, the judge issues the peculiar order we identified earlier: *P* may continue operating if it so chooses, but if it closes down it will be awarded \$100,000, with a judgment against the *Rs* entered in that amount. *P*, as a relatively good

chooser, can be expected to assess its options accurately and choose efficiently. Under (a), *P* will prefer the \$100,000 from closing to the \$50,000 from staying open, and act accordingly. Under (b), it will prefer the \$500,000 from staying open to the \$100,000 from closing. The results reached (given each assumption) are efficient because the best chooser (a single entity) is forced to compare the relevant opportunity costs. And the results are just, because the presumably innocent party receives rather than pays damages.

Several closing points, beginning with the trivial. First, the double reverse twist might appear to be perverse, in that it tends to give all the gains from trade to *P*.⁹⁰ True enough, but notice that rule two does this in some situations as well (consider *Boomer* again),⁹¹ even though in most rule two cases *P* is regarded as undeserving, a bad actor. In the typical rule four case, *P* is deserving, a good actor. So if any alternative is perverse, it's rule two.

Second, what about the fact that the citizens in *Spur Industries* were also deserving? Fine enough. Make Del Webb pay the damages if *Spur Industries* chooses to move.

Third, what if *both* sides to a lawsuit are innocent, or what if the judge has asymmetric information, with a good handle on *P*'s avoidance cost but little notion of the *Rs*' damages (subjective *or* objective)? That problem not even the double reverse twist can solve.⁹² We have said throughout that the structure of liability rules and prop-

⁹⁰ Under (a), the *Rs* pay \$100,000 to *P* in return for its closing. Assuming the numbers are accurate, the *Rs* are essentially indifferent because the amount they have to pay just equals the value of what they get. *P*, however, is \$50,000 better off than had it stayed open. Under (b), *P* remains open, enjoying the profits from his \$500,000 farm. The *Rs* suffer the \$100,000 loss without compensation. Thus, in both scenarios, *P* receives all the gains from the efficient solution. Of course, if the *Rs*' subjective damages are larger than the objective damages awarded by the court in (a), then some gains accrue to the *Rs*. Moreover, if the judge has good information, the remedy can be tailored to distribute the gains between the parties in some fashion that strikes the judge as equitable. See *supra* note 37.

⁹¹ See *supra* note 40 and accompanying text. With rule two and scenario (a), *P* loses \$50,000 by closing down and the *Rs* gain \$100,000 in property values, compared to the inefficient situation where *P* remains open. The residents are the distributional winners. Under (b), *P* enjoys the \$500,000 profits from its operations while the *Rs* are just compensated for their loss in property values. Compared to the inefficient situation where *P* would close, *P* receives all the gains from trade.

⁹² Relatedly, is the double reverse twist available (in principle) for liability rule two cases as well as liability rule four cases? It depends. Suppose an atypical case with only one *R* (or a few) and multiple *Ps*, and suppose that the judge has a justice preference for *R* but also has reliable information only about the *Ps*' avoidance costs, with little notion of *R*'s damages (these assumptions foreclose a rule two *Boomer*-type judgment, see *supra* text accompanying note 40). The judge could *try* to enter an order that the *Ps* shall continue polluting provided *R* chooses to accept a judicially determined award of "damages" equal to the *Ps*' avoidance costs, but the *Ps* hold a trump: They could simply avoid rather than pay their costs of avoidance, and we presume that they would, absent significant un-

erty rules, rightly understood, calls for deep and strange tradeoffs and comparisons. If anything, the problem just mentioned strengthens that conclusion.

Fourth, and less trivially, under all these liability-rule variations the judge assesses one side's damages and the other side chooses whether to act in the face of those damages. We argued that a major advantage of the double reverse twist over rule four is that it recognizes the better chooser (*P* rather than the *Rs*). But this means that the judge, under the twist, must assess the *Rs*' collective damages rather than *P*'s singular damage. If judicial assessment costs are correlated with transaction costs, the judge will have greater difficulty assessing the damages of bad choosers than of good choosers. To the extent this is true, the gains of having the best chooser are diminished by forcing the judge to assess the damages of the other side. But this is a problem for all liability rules, not just the double reverse twist. If the best chooser is also the party whose costs the judge can assess most easily, no liability rule can take advantage of both the best chooser and the lowest assessment costs.

Finally, and most problematically, how would double-reverse-twist cases, or rule-four cases more generally, find their way into court? After all, it might well be that neither side would want to file suit. Victims (*Rs*) won't file lawsuits asking that they be held liable, and supposed (but actually innocent) wrongdoers (*Ps*) won't usually sue either. *Ps* might appear to have some incentives to do so, since they could hope to get a nice bonus via the reverse damages awarded to them, but the inclination to sue would probably be dampened by several factors. *Ps* would profit only if their rule four theory prevailed *and* if they were awarded amounts equal not to their avoidance costs but rather to the social costs their avoidance would avoid (or something in between). *Ps* could just as well end up getting awards equal only to their opportunity costs, leaving them essentially uncompensated; or getting awards (inaccurately calculated at) less than their opportunity costs, leaving them worse off than they had been before; or

derestimation of those costs by the judge. Their doing so foils efforts to arrange matters such that some party makes a comparison of relative opportunity costs.

Does this observation generalize to *all* liability rule cases? We think it does whenever the party opposite the choice has a "technology" of avoidance. For example, suppose that in a rule- four double-reverse case the judge figures out that the *Rs* could avoid significant damage by installing relatively inexpensive air conditioning and thus enters our peculiar order that *P* could choose to stop polluting and receive the costs of the air conditioning from the *Rs*. We presume that the *Rs* would simply go ahead and install the air conditioning, whether that was more or less expensive than the costs of abatement to *P*; relative opportunity costs could not then be (effectively) compared by *P*.

they could even end up being held liable, leaving them very badly off indeed.

F. Procedures and Institutions

But the point hardly needs belaboring: Rule four appeared late in the litigation game, long after development of the core procedural rules that govern lawsuits. Hence the procedures cover the conventional cases that they were cut to fit, but not an unconventional case like rule four. And while remedies may exist as a matter of principle, they wouldn't be worthwhile as a matter of practice, given that the incidence of rule-four cases would likely be low. To tailor procedures for those cases would be like our ordering custom-made tails to be worn only when we win the Nobel Prize. The rules, and our formal wear, would just hang unused in the closet (justifiably or not).

Calabresi and Melamed themselves noted that rule four "does not often lend itself to judicial imposition for a number of good legal process reasons."⁹³ In their view, however, the difficulty is not so much with rule four as it is with the judiciary:

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. But all of 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.⁹⁴

The point is this: If we see not just the full panoply of four rules, but also the full panoply of legal institutions that can bring those rules to bear, then we have a good picture of the myriad ways we might be able to do right in the case of any kind of conflict. For example, forcing an actor to pay damages to others is one way of getting that actor to consider the consequences of the activity for others, which promotes beneficial choices. This is the essence of rules two and four.

⁹³ Calabresi & Melamed, *supra* note 1, at 1116.

⁹⁴ *Id.* at 1122-23.

But as we saw in considering the best-chooser axiom, sometimes it is necessary to separate the choosing function from the paying function. Indeed, it was this necessity that led to our inventing the double reverse twist, where *P* chooses and *R* pays. Remember, however, that this clever little innovation may not be practical to implement in the litigation setting.

But if we turn, as Calabresi and Melamed suggest, to legislative and administrative bodies, then the problem appears to be quite tractable. Consider, for instance, a subsidy or a tax. With respect to either, we can construct a payment (by the government to the citizen, by the citizen to the government) set in amount by the government but paid to or by the citizen at either the government's behest or the citizen's behest. If in either case one party or the other—the government or the citizen—is thought for one or another reason to be the best chooser, we can act on that thought through familiar means. There are subsidies, for example, that citizens *must* accept (e.g., you have to control your pollution and the government will give you accelerated depreciation). Other subsidies may be accepted or declined (e.g., if you choose to retire some of your land from cotton farming, the government will give you some money). Taxes can and sometimes do work the same way. With emissions taxes (or effluent fees), a *P* can choose to pollute and pay, or abate and not pay, as it wishes.⁹⁵ With income taxes, an *R* can choose to work more, earn more, and pay more, or work less, earn less, and pay less. But with property taxes, the property owner pays, period. The only way to avoid the property tax is to lose the property through a tax foreclosure sale. Then the land belongs to the buyer at the sale, and that buyer will confront the tax—or it belongs to the government, which will of course choose not to tax itself. Table 3 depicts the array.

TABLE 3
GOVERNMENT AND CITIZENS

		WHO CHOOSES?	
		Government	Citizen
WHO PAYS?	Government	Accelerated Depreciation for Mandatory Scrubbers	Fallow Land Subsidies
	Citizen	Property Tax	Effluent Taxes; Income Tax

⁹⁵ The motivating ideas behind emission and effluent fees are explained in James E. Krier, *Marketable Pollution Allowances*, 25 U. Tol. L. Rev. 449, 452-54 (1994). On a

In short, measures that seem extraordinarily odd in the judicial setting can look ordinary in the setting of other familiar legal institutions. Add to this the commonplace that those other institutions, the legislative in particular, are conventionally thought to be in the best position to confront all of the complicated uncertainties and tradeoffs mentioned from time to time in the course of our discussion, and you have, at least you *seem* to have, a philosopher's stone for every base occasion arising in the legal world. But how much of this is fantasy? Let us turn to that question by returning to Coase.

CONCLUSION:
BACK TO COASE

Coase closes the first chapter of his book *The Firm, the Market, and the Law* by addressing the relationship between theoretical and empirical work.⁹⁶ He says in part:

Without some knowledge of what would be achieved with alternative institutional arrangements, it is impossible to choose sensibly among them. We therefore need a theoretical system capable of analyzing the effects of changes in these arrangements. To do this it is not necessary to abandon standard economic theory, but it does mean incorporating transaction costs into the analysis, since so much that happens in the economic system is designed either to reduce transaction costs or to make possible what their existence prevents. Not to include transaction costs impoverishes the theory. No doubt other factors should also be added. But it is not easy to improve the analysis without more knowledge than we now possess about how economic activities are actually carried out. . . . The most daunting tasks that remain are those found in the new subject of "law and economics." The interrelationships between the economic system and the legal system are extremely complex, and many of the effects of changes in the law on the working of the economic system . . . are still hidden from us. . . . A long, arduous, but rewarding journey lies ahead.⁹⁷

The empirical journey is long to be sure, and no doubt arduous, but how rewarding—at least from the standpoint of people particularly interested in the *law* half of law and economics? On this question we ourselves are deeply ambivalent (we aim to show that Coase is too, or at least that once he was). The ambivalence results in, perhaps

related alternative, transferable pollution allowances, see *id.*; see also 42 U.S.C. §§ 7651-7671o (Supp. V 1993) (transferable pollution allowances under Clean Air Act).

⁹⁶ Ronald H. Coase, *The Firm, the Market, and the Law*, in *The Firm, the Market, and the Law* 1, 30-31 (1988). Coase's book collects three of his best known articles, plus a few other earlier works, plus several fresh essays, including the one we draw from here.

⁹⁷ *Id.*

it results from, our efforts in this article to be constructive but also critical. There is a tension between the two aims, and about it we end up feeling irresolute. Probably we will always have that feeling, and probably everyone should share it—but probably it doesn't really matter. Before suggesting why, let us draw together some of our observations, constructive and critical alike.

On the constructive side, we trust that our account provides an accessible guide to the current understanding on property rules and liability rules and that it also extends that understanding considerably. True to Coase's remarks about useful theory, we have tried to explain, refine, and supplement the models and methods that figure in the literature on property rules and liability rules in a way that helps to highlight neglected connections among that literature and scholarship in other areas.

For example, our analysis of transaction costs and assessment costs in terms of correlation and synergy⁹⁸ happens among other things to suggest that ongoing work in the economics of internal organization (the theory of the firm) could be of considerable relevance to a broader range of issues than one might think at first. Thanks once again to Coase and his early stress on the interplay between contracting costs and management costs,⁹⁹ there is today a large body of scholarship—on what is now usually called “transaction-cost economics”¹⁰⁰—that studies decentralized versus centralized means of organizing and controlling social (especially economic) affairs. Nominally the scholarship is about contract and hierarchy, about the way of the market and the way of the firm. But it could just as well be about the way of property and the way of liability; hence it is of more general interest than one might suppose. An instance of this was alluded to earlier, when we suggested that the costs and imperfections inherent in centralized judicial decisionmaking can induce people with conflicting interests to learn methods of cooperating among themselves, coordinating by their own devices.¹⁰¹ This idea first occurred to us as we ruminated about transaction costs and assessment costs in terms of synergy; only later were we introduced to a discussion of the same idea in seemingly unconnected literature.¹⁰²

⁹⁸ See *supra* Part III.C.1-2.

⁹⁹ See Ronald H. Coase, *The Nature of the Firm*, 4 *Economica* (n.s.) 386 (1937), reprinted in Coase, *supra* note 96, at 33-55.

¹⁰⁰ See Williamson, *supra* note 69.

¹⁰¹ See text accompanying notes 69-72.

¹⁰² See Oliver E. Williamson, *Credible Commitments: Using Hostages To Support Exchange*, 73 *Am. Econ. Rev.* 519, 520-22 (1983) (discussing means of private ordering developed by disputing parties in effort to achieve more satisfactory solutions than those provided by legal system).

Another instance concerns the attention in transaction-cost economics to so-called "differential" effects, the gist of which is this: Increasing complexity and uncertainty aggravate the task of organization through the market and the firm alike, but not necessarily equally, such that with changes in the environment one means or the other might gain a comparative advantage.¹⁰³ We suspect that the same holds with respect to control through property rules and liability rules. If so, this is one more piece from the field of transaction-cost economics with a bearing on our topic that has not been appreciated.

One can say much the same about another area of inquiry pretty much ignored to date in the property rule-liability rule literature. We have in mind studies, ongoing in many disciplines, that concern themselves with collective action.¹⁰⁴ The problem of collective action is the problem of group coordination and group decisionmaking, and we have shown that an understanding of groups is important to an understanding of alternative methods of conflict resolution by courts and other legal institutions.¹⁰⁵ The old saw about groups, of which we have been mindful, is that they are uncooperative, uncoordinated—what we have called "bad choosers."¹⁰⁶ That observation is decidedly downbeat, perhaps because it owes to an economist,¹⁰⁷ but scholars working primarily in other disciplines have discovered the happy and obvious fact that groups of people actually do manage to cooperate rather regularly. More to the point, they manage through means that can be thought about in a pretty systematic way. Our perspective on property rules and liability rules brings that thinking into play; by the same token, it underscores the pertinence of experimental work on bargaining, which again suggests, with regard to both few-party cases and multiple-party cases, that antagonists can often negotiate to efficient outcomes.¹⁰⁸

¹⁰³ See, e.g., Scott E. Masten et al., *The Costs of Organization*, 7 *J.L. Econ. & Org.* (forthcoming). We are grateful to Professor Masten for calling our attention both to this paper of his and to the article by Williamson, *supra* note 102.

¹⁰⁴ For an introduction to the literature, see, e.g., Russell Hardin, *Collective Action* (1982); Lars Udéhn, *Twenty-Five Years with The Logic of Collective Action*, 36 *Acta Sociologica* 239 (1993). Illustrative applications and extensions of the new work are, e.g., Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (1990); Lawrence S. Rothenberg, *Linking Citizens to Government: Interest Group Politics at Common Cause* (1992). Game theory is deeply embedded in the modern literature on collective action. For an accessible introduction to it, see Douglas G. Baird et al., *Game Theory and the Law* (1994).

¹⁰⁵ See *supra* text accompanying notes 79-95.

¹⁰⁶ See *supra* text accompanying note 87.

¹⁰⁷ See Mancur Olson, *The Logic of Collective Action* 5-52 (1971).

¹⁰⁸ See, e.g., Elizabeth Hoffman & Matthew L. Spitzer, *The Coase Theorem: Some Experimental Tests*, 25 *J.L. & Econ.* 73 (1982) [hereinafter *Experimental Tests*] (using laboratory test to demonstrate that, in situations with two or three parties, subjects will reach

Mention of experimental work brings us to the other concern expressed by Coase, the concern not with theory but with reality, with how institutions and actors actually operate in the world. Here, as Coase himself suggested, we seem largely to be in the dark. And it is that darkness, the incredible, persistent uncertainty and indeterminacy of so much stuff we really need to know, that drives our critical agenda, the other half of our enterprise here.

A way of making our point is suggested by Gary Schwartz's recent essay on reality in the economic analysis of law.¹⁰⁹ Schwartz's particular focus is on the economic analysis of tort law, and, more particularly within that, on the issue of deterrence that figures so heavily in the law-and-economics literature on torts. He considers the ambitious, finely wrought models developed by economists over the last generation in support of a deterrence theory; he considers the claims of critics that tort law doesn't really deter at all; he looks with great care at the evidence on both sides of the issue, consisting of a surprising number of empirical studies; and he concludes—he has to be right—that tort law doesn't deter nearly as much as the economists' fine-tuned models would suggest it could and should, but does deter more than critics care to believe. Strong claims of deterrence are incorrect, but more moderate claims find some support in the real world.¹¹⁰

Schwartz's punchline, for our purposes, is this:

If, however, only the argument's moderate version is sound, one can wonder about the economists' efforts to fine-tune liability rules in an effort to achieve near-perfect deterrence. These efforts can be sized up as stimulating intellectual exercises that are often lacking in real-world relevance. (Often, but not always: over time some fraction of these exercises will probably yield findings with actual social payoffs.)¹¹¹

"joint-profit-maximizing outcome" in bargaining); see also Don L. Coursey et al., *Fear and Loathing in the Coase Theorem: Experimental Tests Involving Physical Discomfort*, 16 *J. Legal Stud.* 217 (1987) (reaffirming Experimental Tests' findings but recognizing limitations of theory in cases involving risk of death or seriously degrading conduct); Elizabeth Hoffman & Matthew L. Spitzer, *Experimental Tests of the Coase Theorem with Large Bargaining Groups*, 15 *J. Legal Stud.* 149 (1986) (extending findings in Experimental Tests to large-party bargaining groups); Elizabeth Hoffman & Matthew L. Spitzer, *Experimental Law and Economics: An Introduction*, 85 *Colum. L. Rev.* 991 (1985) (discussing how experimental techniques can be used to test economic and legal policy theories); Elizabeth Hoffman & Matthew L. Spitzer, *Entitlements, Rights, and Fairness: An Experimental Examination of Subjects' Concepts of Distributive Justice*, 14 *J. Legal Stud.* 259 (1985) (applying findings in Experimental Tests to public policy decisionmaking).

¹⁰⁹ Gary T. Schwartz, *Reality in the Economic Analysis of Tort Law: Does Tort Law Really Deter?*, 42 *UCLA L. Rev.* 377 (1994).

¹¹⁰ *Id.* at 387-90.

¹¹¹ *Id.* at 444.

Consider in this vein the conventional wisdom about property rules and liability rules, and the conventional models, and the contributions we have tried to make to the wisdom and the models alike. All of this activity has generated, to be sure, and true to Coase, a lot of relevant empirical inquiries, and it has suggested a lot of relevant literature, more than one would suppose, from a lot of disciplines that bear on theory and fact alike. This could be a wonderful thing, but it might on the other hand be an embarrassment. Who, for example, is going to conduct the empirical inquiries? Legal scholars don't even *do* that sort of thing, by and large; and other scholars, in other fields where empiricism is much more common, don't read our theoretical literature (surely, at least, not as much as we, so rootless, read theirs).¹¹² And supposing the work is undertaken, how likely are we to find facts that serve the needs and aspirations of our theories and our models? And if we do find those facts, won't academic spoilsports just refine the models to make reality inadequate once again? Is the enterprise worthwhile? Is the game worth the candle?

These are the kinds of questions that account for our own ambivalence. They are questions, some of them anyway, that used to provoke a deflective response, a deft move: one simply handed such matters and concerns over to legislative and administrative institutions, which were thought to be better equipped to get facts, resolve uncertainties, make systematic judgments and tradeoffs, etc., etc., etc.—the whole business from the Legal Process School. Our brief discussion of legislative alternatives to odd judicial procedures could be read in just this light.¹¹³ The bottom line then would be that all the theory and all the fine-tuned models are very useful indeed, in the same sense that autopsies are useful: They disclose the incurable malady that brought about the death, and in this case the corpse is the courts. We and other theorists have uncovered issues that are probably well beyond the capacities of judges, maybe even if the judges go at them in very rough and ready ways.

Regrettably, however, we can no longer make the deft move, can't just once again deflect the problems over to other branches—thanks to theories and models again, in this case from the field of public choice. Public choice practitioners conduct their own kind of

¹¹² But understand the challenges in being as interdisciplinary as it seems one has to be nowadays. In order to penetrate just the little matters we are discussing here, for example, one should be curious about (if not really *know*) some law and some general economics, of course, but also some transaction-cost economics and some collective action theory (the literature on which is itself busily multidisciplinary) and some game theory and some public choice theory and some Who can hold the reins on all this horsepower?

¹¹³ See *supra* Part III.F.

autopsies, especially of the legislative and the administrative. Those bodies, it appears, can be expected to fail right along with the judicial, and for the same reasons: transaction costs, collective action problems, self-interest, and so on.¹¹⁴

So where are we, and where can we ever be? For our own part, we cannot resolve the tension between our constructive and critical agendas until more of the facts are in, yet we suspect that the facts never really *are* in, not in any interestingly dispositive sense. Coase himself believed this once, or so we think. His essay "The Problem of Social Cost" mentions, right near its end, a dictum of Frank H. Knight's to the effect that "problems of welfare economics must ultimately dissolve into a study of aesthetics and morals."¹¹⁵ Why, that makes modern-day Critics sound like a bunch of pikers! Law and policy aren't "just politics" after all, but something much less concrete. They are just . . . art! And, as Professor Schwartz suggests, much of what we do, we academics of any brand, is just art too, and for art's sake.

Maybe the game doesn't justify the candle. It is nevertheless the game, *ours*. We academics are paid to think and worry about things that in some real sense, some cost-benefit sense, probably aren't worth worrying and thinking about after all. True, as Schwartz concedes, some useful stuff—whether theory or fact—comes along every now and then, but the price is high.

It hardly matters. Just as Monet kept on painting the Cathedral, academics will keep on painting also, no matter the virtues and vices of the enterprise. What comes along will come along, and most of it

¹¹⁴ See generally Daniel A. Farber & Philip P. Frickey, *Law and Public Choice: A Critical Introduction* (1991).

As an illustration of the point we make in the text, consider a wonderful early essay on the "takings" problem: Frank I. Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law*, 80 *Harv. L. Rev.* 1165 (1967). The rules of decision that courts use to figure out which government actions (short of explicit condemnations) might amount to compensable takings raise some of the most perplexing puzzles in the constitutional jurisprudence of property law. Michelman's stellar contribution was to think about the mess in terms of economic and moral theory, thereby coming up with very sophisticated, satisfying, and sensible explanations for much of the case law. The problem was that Michelman's method suggested, to him most of all, that the best and right approaches to takings questions entailed inquiries and means "too artificial or innovative for judicial adoption." *Id.* at 1253. So he made the deft deflective move: What was necessary was more "legislative adoption." *Id.* at 1254. But this was a pre-public choice move, one we doubt Michelman would make today. Now the literature suggests that legislatures are a big part of the takings problem, tempted to enact programs that exploit relatively powerless groups and individuals. See, e.g., Daniel A. Farber, *Public Choice and Just Compensation*, 9 *Const. Commentary* 279 (1992); William A. Fischel & Perry Shapiro, *A Constitutional Choice Model of Compensation for Takings*, 9 *Int'l. Rev. L. & Econ.* 115 (1989); Saul Levmore, *Just Compensation and Just Politics*, 22 *Conn. L. Rev.* 285 (1990).

¹¹⁵ Coase, *supra* note 2, at 43.

will be useless but a little of it might not be. The trick is to be in a position to get lucky, to recognize the good stuff when it appears. To that end we have tried to contribute here. It doesn't matter if it doesn't matter. It's what academics do. It's what we do.