Toward a New Legal Realism

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“Law” without effect approaches zero in its meaning, . . . To know its effect without study of the persons whom it affects is impossible.

Karl N. Llewellyn

INTRODUCTION

Rational choice theory provides a powerful basis for predicting human behavior. It has become the foundation of modern economic analysis, including law and economics, as well as public choice theory.† But the theory has come under growing attack from psychologists and experimental economists, who have shown that human behavior often violates this paradigm.‡ Although precursors can be found over the

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‡ Karl N. Llewellyn, Some Realism About Realism—Responding to Dean Pound, 44 Harv L Rev 1222, 1249 (1931).

§ See, for example, Jeffrey Friedman, ed, The Rational Choice Controversy: Economic Models of Politics Reconsidered (Yale 1996) (defending the validity of public choice despite criticisms); Donald P. Green and Ian Shapiro, Pathologies of Rational Choice Theory: A Critique of Applications in Political Science (Yale 1994) (arguing that public choice is not empirically well-founded).


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past twenty years, legal scholars have recently shown an increasing interest in modifying law and economics to take account of these findings.

If it is to promote human welfare, law must be grounded in an understanding of behavior. This often requires the help of the social sciences to illuminate the behavior of the people whom law regulates, and also that of those who do the regulating. For the past twenty years, the law and economics movement has led the way in this endeavor, greatly enriching our knowledge of the legal system. But there has always been room to question whether its role should be exclusive, and growing doubts about the traditional economic model make the question more pressing today.

*Behavioral Law and Economics* collects some of the most significant work in this vein. In his introduction, Cass Sunstein argues that rational choice models are "often wrong in the simple sense that they yield inaccurate predictions" (p 1). But while people are not always economically rational, their behavior is not random either. Rather, people display well-documented cognitive biases, use heuristics that do not always produce correct results, occasionally lack the willpower to carry out their plans, and sometimes sacrifice their own interests to achieve "fairness" (pp 3–9, 14–16). These departures from the standard rational choice model are by no means foreign to ordinary experience, but what is new is their rigorous documentation by social scientists. Sunstein and his fellow behavioralists seek to enrich traditional economic analysis by incorporating the more realistic description of human behavior assembled by these social scientists (p 50).

The behavioralists' critique of rational choice theory seems well grounded, though their own alternative has not yet fully established itself. Despite its tremendous achievements in economics and other fields, rational choice theory clearly misses significant aspects of human behavior. Efforts by traditionalists to dismiss the significance of

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4 As early as 1985, the challenge posed by psychological research to economic theory was sufficiently pressing to prompt a conference of luminaries from both fields. See Robin M. Hogarth and Melvin W. Reder, *Rational Choice: The Contrast between Economics and Psychology* (Chicago 1987) (reprinting papers from a 1985 University of Chicago conference on psychology's potential impact on the rationality assumption in economics). Word of the dispute had reached even legal academics by that time. For instance, in the early 1980s, an excellent review essay was already available to legal scholars. See Elizabeth F. Loftus and Lee Roy Beach, *Human Inference and Judgment: Is the Glass Half Empty or Half Full?*, 34 Stan L Rev 939 (1982). Some of the keystone psychological research reached nonspecialists a full decade earlier in Amos Tversky and Daniel Kahneman, *Judgment under Uncertainty: Heuristics and Biases*, 185 Science 1124 (1974), and efforts to apply these findings had begun by the 1980s. See Daniel A. Farber, *Contract Law and Modern Economic Theory*, 78 Nw U L Rev 303 (1983) (utilizing cognitive psychology to argue for limits on consumer warranty disclaimers).

5 A less awkward term would be "behaviorist," but it has the disadvantage of prior use to describe Skinnerian psychology.
these gaps are ultimately unpersuasive. Bluntly, a rational actor who
had a significant stake in an outcome would not rely solely on rational
choice theory to predict the behavior of others. Sunstein and other
behavioralist scholars deserve applause for highlighting these gaps.
Yet, while the behavioralists have already expanded our understand-
ing of legal issues, it is too soon to say whether behavioral law and
economics will be a successful new paradigm. We are a long way from
a complete science of human behavior, if indeed such a thing will ever
exist. In the meantime, legal scholars will find much to learn from ra-
tional choice theory, from cognitive psychology, and from the other
social sciences. But premature efforts to package this information as a
new interdisciplinary “movement” may not be helpful.

While the behavioralists have brought important experimental
findings to bear on legal analysis, their perspective has limitations of
its own. Like traditional rational choice theory, it focuses on situations
in which people must make a choice among prespecified options,
thereby excluding key questions about how people interpret existing
options, understand their roles in specific situations, and discover new
options. Like rational choice theory, the behavioralist approach also
tends to slight the rich institutional settings of most legal problems.
Finally, the behavioralists have not yet fully come to grips with the
normative puzzles raised by their vision of human behavior. All of this
being said, however, behavioral law and economics is a noteworthy
step forward. As Sunstein aptly puts it, behavioral law and economics
is a “beginning,” a step toward “new and improved understandings” of
how law operates in the real world (p 10).

The publication of this important collection is a sign of the grow-
ing maturity of the field, and presents an opportune moment to assess
this significant development in legal scholarship. Part I of this Review
will assess the empirical attacks on the accuracy of rational choice
theory. Part II considers the response of traditional law and economics
scholars, such as Judge Richard Posner, to these attacks. Part III in
turn scrutinizes the emerging behavioralist paradigm.

I. EMPIRICAL TESTS OF RATIONAL CHOICE THEORY

Rational choice theory claims to be a description of human be-
behavior, not just a prescription for achieving personal goals. The key
question, then, is how well it lives up to these descriptive claims. As
the behavioralists have shown, although rational choice theory un-
doubtedly does help explain a considerable amount of human behav-
ior, the empirical evidence demonstrates the theory’s incompleteness.
If economic rationality is indeed desirable, we humans are often sadly
deficient.
The rationality assumption is deceptively simple. Rational choice, says Judge Richard Posner, merely means "choosing the best means to the chooser's ends." For Posner, this is little more than common sense. A rational person who wants to keep warm will compare the costs and benefits of alternative methods and "will choose from this array the means that achieves warmth with the greatest margin of benefit over cost, broadly defined." Rationality, in this sense, does not refer to conscious thought processes. "Rats are at least as rational as human beings," Judge Posner believes, "when rationality is defined as achieving one's ends . . . at least cost."

This broad and seemingly innocuous definition turns out to be surprisingly powerful. It implies that people have a coherent set of preferences as a basis for formulating goals, that they maximize their utility given these preferences, and that they make optimal use of available information (p 14). With the help of relatively weak assumptions about people's goals, the rationality assumption implies a remarkably detailed set of behavioral predictions. For instance, rationality entails adherence to expected utility as a decisionmaking criterion under conditions of uncertainty. The strength of rational choice theory is its ability to generate these detailed predictions from such relatively modest assumptions. Its ability to do so, however, also allows empirical testing of the theory. The predictions can be made sharper if we also assume that people are motivated by self-interest, so that their utility functions are defined in terms of their own future welfare.

Of course, doubts have existed almost from the beginning about whether actual human beings are anything like the utterly rational utility calculators of economic theory. The contribution of the behavioralists is to bring to bear an increasingly large and persuasive body of experimental evidence. This evidence shows that rational choice

7 Id.
8 Id.
9 See Baron, Thinking and Deciding at 319–24 (cited in note 3); Mark J. Machina, Choice under Uncertainty: Problems Solved and Unsolved, 1 J Econ Perspectives 121, 122–27 (Summer 1987).
10 For example, Kaplow and Shavell make a clever argument that redistributive rules are always less efficient than the use of the tax system to redistribute income. If we reject the efficient legal rule in order to redistribute wealth, we are necessarily choosing some less efficient alternative. Aside from the direct social costs incurred by using the inefficient legal rule, Kaplow and Shavell argue that the redistribution will have the same inefficiency as the tax system in redistributing income: seeing that a higher income makes them more prone to disadvantageous legal rules, people will have less incentive to make money and therefore will inefficiently reduce their work efforts. Thus, in addition to having the same effect on work incentives that the tax system causes, redistributive legal rules add their own layer of inefficiency. See Louis Kaplow and Steven Shavell, Why the Legal System is Less Efficient than the Income Tax in Redistributing Income, 23 J Legal Stud 667 (1994). This argument assumes that individuals are sophisticated and
theory can be a poor predictor of human behavior. Deviations from rational choice are not only widespread but systematic, and we are beginning to understand some of the mechanisms involved. This section will evaluate some of the key evidence.

A. Defects in Information Processing

Human ability to process information may run into trouble even under conditions of certainty when the information is complex or voluminous. (This is why politicians can sometimes successfully hide tax changes in the depths of the tax return, rather than in the rate tables where they are easier to identify (pp 415–17).) The problems are compounded, however, when people are assessing and evaluating risks.

Sunstein provides a laundry list of human failings in this regard (pp 3–5). Three are of particular interest and have possible legal implications discussed by contributors to the book. First, people are often too optimistic in assessing probabilities. They tend to think they are less likely to get into accidents or to have other problems than the average person. (This has sometimes been called the “Lake Wobegon effect,” after Garrison Keillor’s mythical Minnesota town where “all of the children are above average.”) As Donald Langevoort points out, for example, this effect may cause business managers to shrug aside bad news, leading them into collisions with the securities laws for failing to disclose material negative information (p 144). Overoptimism might also lead firms and consumers to agree too readily to knowledgeable enough to deduce the redistributive effects of the rules and treat them as identical to the effects of the tax system. As a matter of common sense, this seems dubious, but for those who find common sense insufficiently persuasive, behavioral analysis clinches the point (p 288) (arguing that redistributive legal rules have less effect on work incentives than a redistributive tax system due to uncertainty and differences in mental accounting).


See Camerer, Individual Decision Making at 596–608 (cited in note 3) (explaining the computation of conditional probabilities using Bayes’s rule and the systematic departures from this rule).


Firms may, however, develop internal mechanisms to control the excessive optimism of managers. See Robert K. Rasmussen, Behavioral Economics, the Economic Analysis of Bankruptcy Law and the Pricing of Credit, 51 Vand L Rev 1679, 1694–1702 (1998) (describing the rationality assumption in bankruptcy law and examining how behavioral economics affects the bankruptcy law assumption that creditors pass the cost of an inefficient bankruptcy regime on to their debtors).
contractual penalty clauses, assuming that they are less likely to breach than others.  

Second, people tend to overestimate the original likelihood of an event after the event has already happened ("hindsight bias"). When an event occurs, even if it was unlikely ex ante, people adjust their views in hindsight to make it seem inevitable. This is a familiar phenomenon under such rubrics as "Monday morning quarterbacking," but even when people are aware of this bias, it turns out to be very difficult for them to avoid it (p 98). Because litigation usually takes place after the fact, hindsight bias may be a serious problem for legal decisionmakers. After an accident takes place, for instance, juries may overestimate its likelihood, thus wrongly blaming a defendant for failing to take greater precautions (p 95).

Third, people often overemphasize new or dramatic information ("availability bias"), which is like hindsight bias in causing excessive adjustments in probability estimates. When a dramatic incident like Three Mile Island takes place or when the press decides to publicize a problem like asbestos in schools, people may overinflate the risks involved, leading to demands for government action that might not hold up under more sustained scrutiny (pp 331, 338). As these beliefs are confirmed by the views of others who have also overreacted, the phenomenon may even be intensified (p 374). This can lead voters to demand government intervention that may not be warranted by the true magnitude of the risk. Even without government intervention, consumers may overreact, causing excessive shifts in behavior or prompting firms to overinvest in future precautions relative to the actual level of risk involved.

All of these effects are well established under experimental conditions, and none of them is consistent with the traditional model of economic rationality. Whether this should prompt a revision of rational choice theory is a question we will turn to later, after considering some other deviations from economic rationality.

B. Valuation Problems

Besides their difficulties in assessing the probability of an outcome, people fail to value outcomes in accordance with the rational

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choice model. The most notable deviation is the endowment effect.\(^1\)

Provided a person's overall wealth is held roughly constant, the rational choice model makes valuation independent of current holdings. That is, how much a person values a particular item should not depend on whether he already possesses the item. A person who is willing to pay up to $10 for an item should be willing to sell for any price above $10. One implication is that people should equate opportunity costs with out of pocket costs: whether you already have something and lose it should be no different from failing to get it in the first place. One of the clearest findings in behavioral economics, however, is that valuation often does depend on current holdings, so that opportunity costs do not count the same as "real" costs (p 211).

The classic experiment involved coffee mugs with a college logo. Students who were given the mugs refused to part with them, unless they received roughly twice as much money as they would have paid to acquire the mugs in the first place (pp 221–23). Strikingly, this experiment eliminated most of the "psychological" factors that might be expected to cause such results. The mugs had no sentimental value for the students and could have been acquired easily at a campus store. There were no direct dealings between buyers and sellers, where interpersonal factors or the bargaining process might skew outcomes. Nor were the mugs especially hard to value monetarily. Indeed, such effects have been observed even where the price tags were left on the goods in question (p 223). As the mug experiment shows, people seem to have an almost reflexive tendency to value something more highly if they already possess it, even where there is no rational or even obvious emotional basis for doing so.

The endowment effect poses a threat to one of the central pillars of law and economics, the Coase Theorem. The Coase Theorem maintains that, in the absence of transaction costs or income effects, the ultimate outcome should be independent of the initial allocation of rights because people will bargain their way to the efficient allocation (pp 17–18, 27–29, 116). But if valuations depend on the initial allocation, we cannot expect the bargaining process to operate this way. Indeed, under some circumstances, people seem to be very strongly attached to initial allocations (pp 223–25). For instance, in one of the most intriguing papers in the book, Ward Farnsworth examined a sample of nuisance cases in which plaintiffs had obtained injunctive

\(^{16}\) See Camerer, *Individual Decision Making* at 665–70 (cited in note 3) (describing empirical studies of the endowment effect and offering possible psychological explanations for such effects); Samuel Issacharoff, *Can There Be a Behavioral Law and Economics?*, 51 Vand L Rev 1729, 1735 (1998) (terming this the most significant behavioralist finding). The related phenomenon of loss aversion (people weigh losses from the status quo point more heavily than equivalent gains) is discussed at pp 30–31.
relief (pp 302–21). He found no instances whatsoever of post-judgment Coasean bargaining (p 302). The endowment effect may also create problems in assessing damages. Juries may give much higher damages when told to give the plaintiff what she would have demanded in advance to experience a loss, rather than being told to give her enough to make her whole after the loss (p 259).

The endowment effect causes a bias in favor of the status quo. This attachment to the status quo is reinforced by a bias in favor of inaction: people are willing to tolerate higher losses from failing to act in order to avoid the sense of responsibility when losses arise from their own affirmative acts (p 168). Thus, they may be more willing to accept a contractual term when it is found in a form contract or when it is the legal default than when they are negotiating on a blank slate (p 116). Accepting a default or boilerplate term is an inaction that would lead to fewer regrets if the deal later goes sour than would be experienced if the same contract term emerged from active negotiation.

Another valuation difficulty is caused by the propensity to compromise, which can make choices depend on logically irrelevant aspects of the context, in a way that is hard to square with rational choice. Given a choice between A and B alone, someone might choose A, but when C is also an option, the choice might switch to B. So option C, which the person would never actually choose, can affect the choice between the two live options through a kind of gravitational pull (pp 61–62). This is not consistent with the rational choice model, or even with common sense notions of rationality.

To see how odd this is, imagine the following dialogue between a customer and waitress:

Customer:    “What kind of pizza do you have?”
Waitress:   “Today, we have cheese, mushroom, and sausage.”
Customer:   “I’ll have the mushroom.”
Waitress:   “Good choice—actually, I just remembered that we’re out of the sausage anyway.”
Customer:   “In that case, I don’t want the mushroom. Give me the cheese pizza instead.”

Behavioralists do not necessarily expect that such a peculiar sequence of events would take place (except perhaps in a Woody Allen movie). But if mushroom pizza is viewed as a kind of compromise, they would

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17 See also Issacharoff, 51 Vand L Rev at 1740–41 (cited in note 16) (describing decision-making biases resulting from the number of available options and providing examples involving potential litigants and juries awarding punitive damages).
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predict that whether sausage is on the menu on a particular day could influence how people choose between cheese and mushroom.

Juries are notoriously prone to compromises, and experiments confirm that the compromise bias may affect verdicts. In one experiment, subjects were told that the defendant had laced the victim’s coffee with sleeping pills after learning that the victim had attempted to molest the defendant’s daughter. Given a choice between manslaughter and murder verdicts, 47 percent chose manslaughter. But when given the additional choice of a more severe grade of “special circumstances” murder, only 19 percent chose manslaughter; the ordinary murder verdict apparently seemed an attractive compromise when it was the middle of three choices (pp 63–64). Yet the question of whether the provocation was severe enough to reduce murder to manslaughter logically had nothing to do with whether the state provided especially severe punishment for particular kinds of killings—no more than whether you prefer cheese to mushroom should depend on whether sausage pizza is also on the menu.

Besides valuing outcomes, people may also place independent value on the process by which those outcomes are obtained. For this reason, as mentioned earlier, their assessment of a loss may depend on whether they feel responsible for causing the loss through affirmative acts or instead by failing to take any action. More notably, they often care not only about what they gain or lose but about the fairness of the process. The classic example is the ultimatum game. The subjects are told that a certain amount of money is to be allocated. The first subject is to make an offer, which becomes the basis of the allocation if it is accepted. If the offer is rejected, neither subject gets anything, so the first offer is in effect a “take it or leave it” ultimatum. The rational strategy is for the second subject to accept any amount greater than zero, because getting a fraction of the allocation is better than rejecting the offer and getting nothing. Knowing this, the first subject should offer the smallest possible amount greater than zero (usually a penny), which the second subject should then accept. But the test results are quite different. The first subject typically makes an offer that is close to half of the amount, and “low ball” offers are frequently rejected by the offerees, who apparently prefer to lose any potential gain rather than agree to an “unfair” division (pp 21–23).

The ultimatum game is illustrative of a number of experiments in which people turn out to have an interest in the fairness of a division (pp 23–26). People are often more likely to behave cooperatively

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18 Extensive discussion of the studies in this area can be found in Alvin E. Roth, Bargaining Experiments, in Kagel and Roth, eds, Handbook at 256–92 (cited in note 3).
than the traditional economist would expect.19 (In our earlier pizza example, the customer is likely to leave a fair tip, even if he does not plan to return.) Outside the laboratory, the failure of rational choice theory to predict cooperative behavior seems most evident in the political arena.20 The classic example is voting, which provides one of the greatest challenges to the rationality assumption. Given the minuscule probability of casting the tie-breaking vote in a general election, a rational voter would not find it worthwhile to incur any costs to vote, including the expenditure of time required to do so. Apparently, people find value in participating in the process, not merely in their instrumental impact on election outcomes. Thus, they cooperate in making political decisions despite the lack of any apparent personal payoff.21

C. How Reliable Are the Findings?

To evaluate the effects reported by the behavioralists, we need to ask three questions: Do these reported effects fairly reflect the experimental results? Are the experiments conducted and analyzed with appropriate rigor? And finally, can the effects be generalized, or are they limited to experimental settings? Because of space constraints, only a brief comment will be offered here on each of these points.

First, the effects discussed above seem to be well documented in the literature. The “coffee mug” experiment, for instance, is far from being an isolated finding of the endowment effect, but instead is part of a series of experiments investigating this effect. Reading any careful review of the literature, such as The Handbook of Experimental Economics,22 makes it clear that the evidence is often more complex than the sketches presented above. Experimental findings are not always consistent and may turn out to vary with subtle differences in the experimental setting. Nevertheless, the behavioralist view is well supported overall by the experimental evidence.23


21 For further discussion of voting and rational choice theory, including unconvincing efforts to explain the anomaly by postulating a “taste” for voting, see text accompanying notes 41–48. For a useful recent discussion of the literature on the voting paradox, see Robert D. Cooter, The Strategic Constitution 20–22 (Princeton 2000).

22 See, for example, the summary of the experimental literature in Alvin E. Roth, Introduction to Experimental Economics, in Kagel and Roth, eds, Handbook at 23–86 (cited in note 3).
Second, as reading *The Handbook* or a sampling of the original papers indicates, the scholars who work in this field are competent and intelligent. It is not difficult to raise questions about particular experiments—a cynic might well define empirical research as "a study which failed to control for some arguably critical variable." Nevertheless, most of the arguable defects become the targets of later experimenters, gradually tightening the findings. As one would expect from peer-reviewed work by reputable scholars over a period of several decades, the general standard of work is relatively high.

The third question is the most difficult. The investigators seem to have made efforts to deal with the most obvious criticisms of the experimental methodology, such as the small size of the payoffs or the limited opportunities for learning. Still, it is impossible to eliminate entirely doubts about whether the results are partially artifacts of the experimental setting.

Nevertheless, there are good reasons to believe that the rational choice model’s shortcomings are not limited to experimental conditions. As Kenneth Arrow has pointed out, when behavior is highly interdependent, the rationality assumption seems to impose unrealistically high computational burdens on the human brain. In these settings, even an approximation of completely rational behavior may be infeasible. Moreover, it is not difficult to find real world phenomena (such as voting or the absence of post-judgment negotiations found by Farnsworth) that fit poorly with rational choice predictions. Furthermore, behavioralists have a good track record in explaining some otherwise puzzling, nonexperimental anomalies. Although it may be possible to explain these results away, they provide at least prima facie support for the existence of nonrational behavior in nonexperimental settings. Finally, although evolution would eliminate animals completely incapable of rational responses to their environment, it would be somewhat surprising if humans had evolved on the savannah with cognitive abilities that just happened to be perfectly suited to make optimal choices in modern complex societies.

Direct falsification of rational choice theory is difficult. It is generally possible to imagine some set of preferences, information, and expectations that fits the observations. In many settings, the resulting

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24 The real world applicability of experimental results, for these and other reasons, is an issue that was subject to investigation at a relatively early point in the development of the field. See Robin M. Hogarth and Melvin W. Reder, *Introduction*, in Hogarth and Reder, *Rational Choice* at 1-13 (cited in note 4).
model is plausible, but sometimes rational choice models seem too contrived or implausible to be acceptable. The findings of the behavioralists indicate that these modeling breakdowns occur in predictable situations. If so, we can improve our predictions of human behavior with the help of their experimental findings.

II. DEFENSES OF RATIONAL CHOICE THEORY

Even such a stalwart defender of rational choice theory as Judge Richard Posner admits that "there is something to behavioral economics," and that "law can benefit from its insights." Like other traditionalists, however, he insists that behavioral economics is only a minor qualification to rational choice theory, which continues to be the best overall description of human behavior. Posner suggests several reasons for minimizing the significance of behavioral economics. His views seem representative of critics of the movement and deserve attention in any assessment of the subject.

A. Corrective Mechanisms and Aggregation Effects

To begin with, while Posner is willing to concede that the behavioralists have discovered some interesting "quirks" of individual human behavior, he believes these quirks have minimal significance for understanding economic institutions. He views the findings about individual behavior as largely irrelevant for two reasons: economics is mostly concerned with the aggregate behavior of large groups rather than with individuals, and people utilize various corrective measures to compensate for cognitive biases.

27 Posner, 50 Stan L Rev at 1551 (cited in note 6).
28 See id at 1556 (Behavioralists have a tendency to "give up on rational-choice economics too soon."); id at 1557 (Rational choice economics is "more robust" than behavioralists believe.). For other somewhat skeptical responses to behavioral economics, see Jennifer Arlen, Comment, The Future of Behavioral Economic Analysis of Law, 51 Vand L Rev 1765, 1776–87 (1998) (arguing that behavioral law and economics cannot yet replace traditional law and economics as a "central framework for normative policy analysis"); Issacharoff, 51 Vand L Rev at 1741–44 (cited in note 16) (discussing the difficulties of using biases documented by behavioralists in formulating changes that affect the entire legal system); Robert E. Lucas, Jr., Adaptive Behavior and Economic Theory, in Hogarth and Reder, Rational Choice at 217 (cited in note 4) (arguing that economic theory can account for adaptation). For a discussion of the similar debate about rational choice theory in political science, see Daniel A. Farber and Philip P. Frickey, Public Choice Revisited, 96 Mich L Rev 1715 (1998) (reviewing Maxwell L. Stearns, Public Choice and Public Law: Readings and Commentary (Anderson 1997)). More recent work by Arlen seems somewhat more receptive, though not uncritical, toward behavioral economics. See Jennifer Arlen, Matthew Spitzer, and Eric Talley, Endowment Effects, Other-Regarding Preferences, and Corporate Law (April 21, 2000) (unpublished manuscript on file with author) (finding that effects predicted by behavioralism are present but significantly dampened in the aggregate corporate context).
29 Unfortunately, perhaps because the book was already rather long, Sunstein did not include any work by critics of behavioral law and economics.
The aggregation point seems to be mistaken. Posner suggests that irrationality will not affect demand curves because some consumers will be rational and the random mistakes made by other consumers will cancel each other out on average.\textsuperscript{31} This argument fails on several grounds. To begin with, as behavioralists themselves have responded, "[T]he evidence suggests that people are likely to err in a systematic direction."\textsuperscript{32} Hence deviations from rational behavior are not random and therefore will not usually cancel each other out. Moreover, as a general matter, even if mistakes are in some sense random, they will not cancel each other out if the economic setting is itself asymmetrical.\textsuperscript{33}

Even apart from the effect of asymmetries in the economic setting, the possibility of making irrational decisions is a kind of risk, which actors who are otherwise rational may factor into their decisions. For instance, if consumers learn that they are often mistaken about product quality but are unable to improve their performance because cognitive errors are hard to eliminate, they will find purchasing to be riskier. If they are risk averse, they will reduce their purchases.

Aggregation may even magnify the effect of irrationality, particularly in strategic settings. When people are interacting with each other strategically, even a rational player must take into account a cascading series of possibilities: that other players will be irrational; or that their actions will be affected by the possibility that he himself is irrational; or that they will factor in the possibility that even though both sides are actually rational, his forecasts of their moves will be affected by the possibility of their being irrational; and so on. As Kenneth Arrow points out, when rationality can no longer be taken as common knowledge among the players, the disruptive effects on the game can be profound.\textsuperscript{34}

\textsuperscript{31} Id at 1556–57.
\textsuperscript{32} Jolls, Sunstein, and Thaler, 50 Stan L. Rev at 1599 (cited in note 26).
\textsuperscript{33} For instance, suppose some consumers irrationally overvalue a good and an equal percentage undervalue it. Then, at any given price, we will see two effects. Some consumers who would otherwise buy the good will misperceive its value as lower and fail to make the purchase. Other consumers, who under full rationality would be marginal buyers at a slightly lower price, will mistakenly overvalue the good, believe that it is worth purchasing at the higher price, and make the purchase. But there may be different numbers of people in those two groups. The percentages of those making errors may be the same, but they come from different populations (the sets of marginal buyers at the two different prices). Hence, the two movements will cancel only if there would be equal numbers of marginal buyers at the two prices under full rationality, or to put it another way, only if the slope of the demand curve is constant. In general, the slope will vary, so the effects will not cancel. Thus, the "noise" caused by random irrationality will, as a general matter, affect the shape of the demand curve.
\textsuperscript{34} Arrow, Rationality of Self and Others at 212 (cited in note 25).
A related argument is that the market will eliminate irrational behavior through a form of natural selection, which will drive irrational actors out of the market or minimize their significance (p 19). It may well be true that deviations from rationality are more important in nonmarket contexts. Even in market contexts, however, such deviations may be significant. Natural selection applies more to firms than to consumers, and even there, overlooks the possibility that a significant number of "irrational" firms may be in the market at any given time, either because of lags in eliminating them or because some forms of "irrationality"—such as excessive optimism—may actually help motivate managers to be more successful (pp 153–58). Moreover, although markets may sometimes provide checks on irrationality, in some circumstances, individual errors might actually reinforce each other, arguably leading to bubbles and other forms of irrationality even in well-organized markets. In any event, even in markets, some behavior occurs that seems hard to square with rational choice theory.

Finally, Posner suggests, people can be educated to correct for their own cognitive biases. This is certainly true to some extent, but we should not blithely overestimate human perfectibility. People can learn to compensate for some of their biases, but some of these biases seem deeply ingrained and difficult to reverse, even when people are aware of them (p 98). For example, we all know about "Monday morning quarterbacking," but it is difficult to avoid passing judgment with the benefit of hindsight.

All of this is not to say that people are hopeless idiots, or that it is impossible to design processes and structures for making outcomes more rational. Indeed, the behavioralists themselves have a number of ideas for doing so. For instance, Jeffrey Rachlinski gives extensive consideration to ways of controlling the hindsight effect in litigation, some of them already used by the legal system (pp 103–12). Similarly, Sunstein, Daniel Kahneman, and David Schkade consider ways to avoid jury valuation flaws. For instance, they suggest having the jury give a numerical score to the seriousness of the defendant’s misconduct,
which the judge would then translate into a dollar amount of punitive damages using a table (pp 243–54). Another constructive suggestion relates to negotiating. Babcock and Loewenstein suggest having parties make lists of the weaknesses in their own cases prior to any negotiation as a way of overcoming self-serving bias (pp 361–62). Thus, we need not take nonrational behavior as an incurable flaw in the legal system. But no grounds exist for assuming that the problem will solve itself, or that merely pointing out cognitive biases will be enough to cure them.

B. Redefining Preferences and Rationality

An alternative defense of rational choice theory is to insist that people are rational despite aspects of their behavior that are seemingly hard to square with rational choice theory. Posner offers two suggestions along these lines.

First, he suggests, we can eliminate mismatches between preferences and behavior by redefining the preferences. For example, to explain voting, we can assume that people must derive utility from the act of voting, rather than merely from affecting the outcome of elections. Voting, as we saw earlier, poses a considerable challenge to rational choice theory. The most common response is Posner’s: redefine the preferences. But this response (like others) is ultimately unsatisfactory, and because this is such an important anomaly for rational choice theorists, it is worth dwelling on the point.

As Donald Green and Ian Shapiro point out, no one has offered independent evidence of this consumption value apart from voter turnout itself (the fact to be explained). As they also observe, it seems peculiar that people do not obtain equal consumption value from other actions such as jury service or writing letters to legislators. More recent efforts to resolve the voter’s paradox involve game theory. Models do exist in which voters’ mutual expectations result in an equilibrium with high turnout. But the results depend entirely on the assumption that voters were perfectly informed about the voting costs of other citizens and about the exact level of support of the candi-

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40 The underlying cognitive problem in this setting is “scaling without a modulus,” involving the difficulty of giving free-floating estimates of value.
42 See, for example, id at 1554.
43 Equally unproven are the alternative rational choice explanations that political leaders are aware of who votes and offer selective incentives to individual voters or that voters have a mistakenly inflated estimate of the likelihood of casting the tie-breaking vote. Green and Shapiro, Pathologies at 52–53 (cited in note 2).
44 Id at 57.
Turnout collapses with more realistic assumptions about voter information.

Green and Shapiro also persuasively rebut the alternative argument that voting is a uniquely low cost activity that consequently offers an unusual chance to express ideological preferences:

Can it be said of Latin American elections, in which voters spend hours in polling lines, sometimes amid threats of violence, that turnout is a low-cost activity? What of the more than 100,000 African-Americans who persevered through the intimidation and poll taxes of the Jim Crow South and voted in the national elections of the 1950s?45

Finally, they consider the fallback argument (made by Posner himself) that, while public choice cannot explain the existence of high turnout, it can explain marginal variations in turnout relating to the closeness of the election or the costs of voting (for example, bad weather). They find the theory’s empirical predictions about these marginal effects to be either banal or unconfirmed.46 In sum, despite considerable ingenuity, rational choice theorists have failed to come up with a plausible explanation for a critical social institution.

Green and Shapiro’s critique gave rise to considerable controversy. When the dust cleared, however, even leading rational choice theorists in political science seem to have conceded that their methodology could not provide a complete predictive model of political behavior.47 Certainly an ad hoc redefinition of preferences is a dangerous response for rational choice theorists, since it risks shifting the explanatory power from the rationality assumption to the empirically derived preference maps. Thus, Posner’s effort to save rationality by redefining preferences, like other efforts to “rationalize” voting in instrumental terms, is unavailing.

Posner’s other gambit is to save rational choice theory by redefining rationality in terms of long-term survival strategies. Thus, being instinctively possessive (and therefore exhibiting the endowment effect) may be rational over the long run. Because others will realize that even small incursions will be irrationally resisted, they will refrain from making such incursions, thereby avoiding potential losses without actually incurring the costs of resistance.48 Posner suggests that such adaptions would have been especially useful in prehistoric soci-

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45 Id at 57–58.
46 Id at 58–59.
47 Id at 59–65.
49 See Posner, 50 Stan L Rev at 1562–63 (cited in note 6).
ety before other methods of enforcing rights evolved. Maybe this speculation is correct. Still, to say that rational choice theory is correct because people's behavior, while irrational under the circumstances of modern society, would have been rational among cave dwellers, seems a pretty desperate defense.

The last ditch defense of the rational choice theory is to insist that it takes a theory to beat a theory, and that the behavioralists have only assembled a collection of empirical regularities without any unifying theory. The behavioralists indignantly respond that they do have a theory, although an incomplete one. The assumption on both sides is apparently that the sine qua non of social science is having a unified predictive theory. But perhaps this is merely another symptom of economics' famous case of "physics envy." Physics presents a breathtaking example of mathematical elegance combined with fantastically accurate predictions. But taking physics as the paradigm of science may be a mistake. Today's great success story among the sciences may well be biology. Biology does have a central paradigm (evolution) and an understanding of its molecular basis. But organisms, because they are the products of evolution rather than design, are extremely complex, and no one seems to think that their features can be predicted in any detail on the basis of a deductive theory. To take an example at random from a recent journal, if you want to know the role of guanosine triphosphatase in T cell differentiation, you have to go to the lab to find out; no one seems to think you can calculate it in advance from some general theory. Some of us do find the theoretical elegance of physics more congenial than the complexities of molecular biology, and it would be nice if the social sciences turned out to be as elegant as relativity or quantum mechanics. But there is no reason to believe that a successful science of human behavior will look more like physics than like biology.

50 Id.
51 Id at 1558.
52 Jolls, Sunstein, and Thaler, 50 Stan L Rev at 1597–98 (cited in note 26) (refuting Posner's claim that behavioral law and economics is undertheorized by briefly describing the theoretical advances made by the behavioralists). More specifically, Jeffrey Rachlinski provides a theoretical account of hindsight bias, its economic and legal consequences, and the resulting adaptation by the legal system (pp 111–12).
53 See Baiyong Li, et al, Role of the Guanosine Triphosphatase Rac2 in T Helper 1 Cell Differentiation, 288 Science 2219 (2000). In case you are curious, the conclusion is that Rac2 does activate the development of T helper cells.
54 If anything, given the fact that human behavior must derive ultimately from biological mechanisms, we ought to guess that biology is the closer model. Indeed, given the spectacular successes of the biological sciences in the past half century, it may turn out to be a distinctively archaic attitude to take physics as the paradigm of science.
III. THE LIMITS OF BEHAVIORAL LAW AND ECONOMICS

People do behave more or less rationally much of the time. This fact gives the rational choice model much of its appeal. Rational choice is undoubtedly an extremely useful model for understanding many forms of behavior. The rationality assumption also helps underwrite the general effort to guide human affairs through reason, although "reason" may be broader than this one narrow form of instrumental rationality. But "more or less" and "much of the time" are not "precisely" and "always." The rational choice model, then, is useful but incomplete.

The behavioralists seek to continue the basic project of law and economics by providing an improved model of choice. Although a worthy endeavor, this project may itself be too confining in three respects. First, the "choice" between specified alternatives is not the only interesting human activity. Often, the most significant question is not which alternative a person prefers but how that person interprets the available choices or the nature of the task. By focusing too intently on choice, behavioral economics continues one of the limitations of the rational choice model itself. This may or may not be important in studying markets, but it is significant when studying legal decision-makers who constantly face poorly defined choice situations or problems of interpretation. Second, again like the rational choice theorists, the behavioralists' desire to find a wide range of applications for their models can make them short circuit the complexity and institutional richness of human behavior. As a result, their analysis may not be sufficiently attentive to context. Third, the behavioralists have not yet thought completely through the difficult normative problems raised by their analysis—they often seem to assume that the normative system of welfare economics can function independently of the rational choice model, while in fact the two are closely related. These three limitations of current behavioralism suggest the need to reconceptualize the endeavor.

A. The Interpretive Dimension

Behavioralist research tends to focus on whether choices comply with the rational choice model or fit some known bias or heuristic. But this may miss the most interesting and significant aspect of the problem.

Mark Kelman, Yuval Rottenstreich, and Amos Tversky's study of the compromise effect in jury verdicts is a good example. As noted earlier, 55 subjects in one experiment were told that the defendant had

55 See Part I.B.
laced the victim’s coffee with sleeping pills after learning that he had attempted to molest her daughter. Given a choice between manslaughter and murder verdicts, half of the jurors chose manslaughter. But the figure fell to one-fifth when jurors were given the additional choice of a more severe grade called “special circumstances” murder—the ordinary murder verdict apparently seemed an attractive compromise when it was the middle of three choices (pp 63–64). With great ingenuity, Kelman and his co-authors then test this finding and work through the implications of the surprisingly reduced appeal of the “extreme” manslaughter verdict.

The most intriguing point about this experiment is hidden in the middle of a lengthy footnote (p 88 n 10). This point involves the jurors in the three-option situation, but focuses on their murder verdicts rather than on the decreased number of manslaughter verdicts. About 40 percent of them chose ordinary murder, but this verdict (as opposed to a verdict of special circumstances) is almost impossible to justify under the instructions. One of the triggers for “special circumstances” murder is poisoning, which seems pretty clearly satisfied by giving someone coffee and twenty crushed sleeping pills “hoping that he would die” (p 63). If their thought processes even roughly tracked the instructions they were given, the jurors should not have arrived at a verdict of ordinary murder. Instead, it was quite popular.

This anomaly suggests that we might want to ask a different question: not “do these data illustrate the compromise effect?,” but instead, “how did the jurors reach their decisions?” The popularity of the “ordinary murder” verdict shows that many jurors did not follow, even approximately, the analysis mandated by the instructions. This is confirmed by the apparent impulse toward compromise shown by the contrast between the two- and three-option juries. If jurors had followed the directions, they could not very well have thought any one verdict was a compromise between the others, because the instructions portrayed the various verdicts as independent branches on a decision tree rather than as points on a continuum. No amount of compromising will turn the recipe for scrambled eggs into the recipe for soufflé, and no amount of compromising can turn a decision about the defendant’s mental state into a qualitatively different decision about the means of death. (It is not as if there were three options regarding mental state, and the jurors compromised by picking the middle one. The three options related to entirely separate issues.) Thus, the jurors could not have approached their task as that of following the instruc-

56 The authors state that “finding murder at all, rather than special circumstances murder ... is explicable only as a compromise verdict.”
tions (where compromise might have come in only if several decisions were possible at any single node of the decision tree).

If the jurors were not following the instructions, what were they doing? One possibility, which the authors themselves suggest in passing, is that the jurors simply took these grades of murder as marking out points on a linear scale (p 65). In that situation, the jurors may have been influenced by the compromise effect. But if the compromise effect occurred, it would only be because the jurors had already incorrectly coded the categories of murder into a linear scale. They might also have favored the middle verdict for reasons quite apart from the compromise effect. Some jurors might well have decided that the crime actually was near the middle of the scale in terms of blameworthiness: it was a premeditated poisoning but provoked by a report of sexual assault on the defendant's daughter. Given only two categories, perhaps those jurors split evenly about where to place the crime; given three categories to choose from, many chose instead to place the crime in the middle category. Thus, to truly understand the pattern of verdicts, we need to know more about how the jurors process the information.

By focusing so intently on the choices, without considering the prior act of interpretation necessary to structure the choices, the behavioralist account misses what is in many respects the most noteworthy aspect of the experiment. Compromise verdicts are certainly an interesting problem, but if jurors systematically interpret crimes differently than the formal legal rules demand, that is a significantly more important problem. It is also part of an issue of broad jurisprudential import: what actually happens when you tell people to follow rules? Do the rules effectively constrain decisions? In this study, jurors apparently took rules that were supposed to create a decision tree, but interpreted them as calling for a quite different mode of analysis.

57 In discussing a second experiment, the authors remark that the types of murder "are naturally ordered in terms of 'severity'" (p 65).

58 An alternative, which does not involve the assumption of linearity, is that jurors pictured some typical example of each crime, and then tried to decide which "typical" scenario came closest to the actual facts. When murder was defined to include even the most brutal killings, perhaps the jurors envisioned a typical murder that was more heinous than the one they pictured when the domain of murder was truncated by an additional category. The jurors then looked to see which typical crime best fit the facts, and after being redefined, murder became a more attractive fit than manslaughter.

59 Admittedly, the gap between formal legal rules and juries' conceptions of justice is not a complete surprise. For instance, evidence indicates that juries apply their own version of rape law in which contributory negligence by the complainant is a defense, regardless of the instructions to the contrary they receive from the court. See David P. Bryden and Sonja Lengnick, Rape in the Criminal Justice System, 87 J Crim L & Criminol 1194, 1258 (1997), citing Harry Kalven, Jr. and Hans Zeisel, The American Jury 249–51 (Little, Brown 1966).
The problem is not that one particular study overlooked something significant, but that behavioral law and economics in general has been focused on a subset of the human decisionmaking process: making choices between defined alternatives. If the Kelman study is unusual, it is not because it focused so heavily on this problem, but because it came close to raising issues of interpretation and role definition. Nowhere else in the Sunstein book are these issues really touched upon. This is an unnecessary limitation on intellectual horizons. A great deal of interesting work has been done by cognitive psychologists and others about other aspects of cognition, such as how people learn to better interpret ambiguous information, how experts differ from novices, or how individuals solve problems (as opposed to making choices). By focusing nearly exclusively on one significant and interesting—but nonetheless limited—body of social science, the behavioralists miss out on some important intellectual opportunities. Of course, if the purpose was merely to collect work in a particular mode, no harm is done—but if the idea is that behavioral law and economics is an emerging paradigm, the narrowness of its horizons is worrisome.

B. Institutional Context

The Kelman study is typical in another respect. Rather than beginning with an interest in juries and how they function, the authors apparently began with an interest in the compromise effect and looked for places to test it. The tendency to focus on one or two cognitive processes at the expense of institutional context seems to be widespread among the behavioralists. Two examples will serve to illustrate the problem.

The first again relates to juries, this time in civil cases. In an extremely interesting study, Sunstein, Kahneman, and Schkade found a great deal of consensus when jurors were asked to rank their outrage at a defendant’s misconduct on a scale of seriousness, but the researchers found wild variations when jurors were then asked to translate those judgments into an award of punitive damages (pp 232–33). They then suggest various ways of making punitive damages less random, either by having the jurors do only the ranking and leaving the damage award to the judge, by using experts to perform the task of monetizing the jury’s sense of outrage, or by removing the entire task

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60 See, for example, Edward S. Adams and Daniel A. Farber, Beyond the Formalism Debate: Expert Reasoning, Fuzzy Logic, and Complex Statutes, 52 Vand L Rev 1243, 1284–89 (1999) (attempting to apply models of expert problem solving to judicial statutory interpretation); Baron, Thinking and Deciding at 49–73 (cited in note 3) (problem solving); Baron, Thinking and Deciding at 74–90 (learning and construction of internal models).
from the jury and having experts set fines (pp 246–49). But Samuel Issacharoff points out that this may be a drastic solution to a minor practical problem, because various institutional constraints may already effectively limit ultimate damage awards. Similarly, he points out, proposals to curb jury hindsight bias through changes in evidentiary standards ignore the modest effect that burdens of proof probably have on juries; burden of proof rules instead are most significant in their effect on judges’ decisions regarding summary judgment and on appellate review of verdicts. Whether Issacharoff is right on the details of this criticism, he is certainly right that we cannot consider jury functioning in isolation, without taking into account the dynamics of the judicial system as a whole.

A second example is the behavioralists’ view of environmental regulation, which they seem to largely attribute to the availability bias. This bias supposedly leads the public to overestimate the risk from dramatic or highly publicized environmental problems, in turn resulting in unworkable or draconian regulatory schemes (pp 325, 374). It is plausible to assume that the availability effect does operate here, but we need to consider the full picture. Under the rational actor model, we might have no environmental regulation at all, since diffuse groups of consumers are less likely to organize effectively than concentrated industry interests. Without some counterweight, such as the availability effect or fairness norms to motivate voters, “rational” decisionmaking would have unfortunate results. Moreover, political entrepreneurs may have incentives to develop durable reputations, and maintaining a strong reputation for credibility may limit their ability to fully exploit this bias.

Considering the availability bias out of context provides almost as much of a caricature of environmental regulation as does the more cynical rational choice model in attempting to explain environmental law as a form of market exclusion by established firms. Before we decide that the availability effect is a “problem” in need of correction, we have to consider the full institutional context.

C. Normative Puzzles

The rational choice model brings with it a simple approach to valuation. We can judge social outcomes by how much they advance individual preferences, which are assumed to be well defined. We can then measure effects on preference satisfaction by considering how

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62 Id at 1744.
63 For a discussion of some of these dynamics, see Daniel A. Farber, Politics and Procedure in Environmental Law, 8 J L, Econ, & Org 59 (1992).
64 See id at 62 n 4.
much money a person would pay to obtain a particular good or to avoid a particular bad (pp 116, 261). At least when the object in question is not seen by individuals as fungible, behavioral science throws this picture of valuation into doubt.

One major deviation from economic theory is the endowment effect. If people already own something, they value it differently, so we cannot treat individual valuations as an independent standard for deciding how to assign entitlements. The problem is especially acute for intangibles. Clearly people have a great deal of trouble in putting valuations on pain and suffering, or on their sense of outrage against misconduct, or on environmental resources such as endangered species. People demand much more if asked to consent to environmental harm than they would pay to avoid the harm. But even beyond these problems, preferences seem to depend on how subjects choose reference points for comparison, which may well depend on how problems are framed (pp 211–87).

Preference instability poses serious normative problems. If people's views of the seriousness of an injury are unstable—if their views change depending on whether they have already suffered the injury, how the question is framed, or how entitlements are assigned initially—then we cannot think of such objects as "having" values that a policy analyst can simply measure. Instead, the values themselves will be outgrowths of the decisional process, and thus of our procedural norms and institutional arrangements. Hence, we cannot simply assess social outcomes by asking if they maximize social value; we must first decide on normative grounds how best to crystallize that value. Thus, if people assign one price to pain before the fact and a lower price after the fact—for instance, if they would pay more to avoid a disease in the first place than to cure it later—we cannot really say that one is the objectively true value while the other is a result of cognitive bias. For the same reason, we cannot judge legal rules by whether they more reliably measure the true value.

This indeterminacy creates serious difficulties in making policy decisions. It also makes references to paternalism and antipaternalism somewhat suspect for certain kinds of decisions. Both labels assume that there is some measure of true welfare, so the question is whether welfare is maximized by individual decisions or by government interventions. Sometimes this is a useful model, but one implication of behavioral economics is that some situations cannot be usefully described this way because of preference shifts. We can be paternalistic toward the pre-accident victim and tell him that he is overestimating the seriousness of the future harm, or we can be paternalistic toward
the post-accident victim and say he underestimates the harm because he no longer has true health as a reference point, but we cannot avoid doing one or the other. Nor, similarly, can we avoid taking an antipaternalistic attitude toward either the earlier or later self. So asking whether a particular approach is paternalistic or antipaternalistic simply is not very meaningful.

Given the lack of a fixed scale for valuation, decisionmaking cannot be reduced to cost-benefit analysis. Given some degree of value indeterminacy, the key question is how society can best structure the process of making decisions. In answering this question, it may be impossible to avoid making difficult and sometimes controversial normative judgments. That is one reason for the frequent intractability of decisions regarding goods without market valuations, such as environmental quality. The behavioralists cannot be faulted for failing to have an answer to this perplexing problem, but they do need to come to grips with the normative difficulties of policy choice in a world with unstable valuations.

IV. BEYOND BEHAVIORAL LAW AND ECONOMICS

In short, behavioral law and economics has made some significant strides beyond the rational choice model, but needs to go further. It needs to broaden its scope by looking to a broader range of the social sciences; it needs to take a fuller account of institutional context; and it needs to think more deeply about the normative implications of its findings. Judge Posner has described economic analysis of law as the "most significant development in legal thought in the United States since legal realism petered out a half century ago." Perhaps it is time to ask, however, whether law and economics really is best seen as the replacement for legal realism, or instead, as another stage in realism's development. After all, one of the pillars of legal realism was the idea of using the social sciences to understand and improve the operation of the legal system. Economics has been an invaluable resource for legal scholars in this quest.


67 Legal realism used empirical analysis to explain how law was made and administered. Legal realists criticized models of legal reasoning that tried to explain law through syllogistic reasoning and argued that judicial lawmaking occurred much more often than supposed by formalists and positivists. Legal realists incorporated the social sciences of sociology, anthropology, psychology, and political science, and to a much lesser extent economics, to analyze empirical evidence to learn how law actually functioned. See Herbert Hovenkamp, Knowledge About Welfare: Legal Realism and the Separation of Law and Economics, 84 Minn L Rev 805, 854–57 (2000); John Henry Schlegel, American Legal Realism and Empirical Social Science (UNC 1995) (describing legal realists' efforts to apply empirical social science to the law).
Rational choice theory has been a great addition to our stock of useable knowledge of human behavior, and behavioral law and economics promises to be another significant addition. But we should not assume that these paradigms exhaust the store of useable knowledge, or that we already know how all the pieces fit together.

The question, then, is not whether the work of the behavioralists is valuable, but how best to conceptualize the venture. At this point, the behavioralists seem to consider themselves as engaged in a specifically defined interdisciplinary venture: finding legal applications for behavioral economics (itself something of a hybrid between the rational choice model and cognitive psychology). It may be more fruitful in the long run, however, to define the project more broadly as deepening the understanding of legal problems through using the models and methods of the social sciences. So conceived, behavioralism can contribute to Sunstein's aspiration of giving the law a greater grip on the realities of human life (p 10).

Someone once defined science as the effort to investigate the universe "no holds barred," and that might well be the best attitude toward use of the social sciences in solving legal problems. If we need a name for this, we could call it the "Law and Reality" movement or the "Realistic Legal Studies" movement. The term "legal realism" already exists, however, and has some kinship with these modern developments. Like the old legal realists, the behavioralists seek to use the social sciences to understand the behavior of legal decisionmakers and the effects of legal rules. As Sunstein says, in terms reminiscent of the realists, the behavioralists seek "new and improved understandings of the real-world effects of law" and "better uses of law as an instrument of social ordering" (p 10). Today, however, the social sciences in question are more sophisticated than in the heyday of the old legal realism, in no small part because of the rigorous development of rational choice theory. In the end, then, we may come to look upon Sunstein and his behavioralist friends as among the key contributors to a revitalized form of legal realism.