

## Amos Tversky’s contributions to legal scholarship: Remarks at the BDRM session in honor of Amos Tversky, June 16, 2006

Paul Brest\*

William and Flora Hewlett Foundation

### Abstract

Together with his long-time colleague Daniel Kahneman, Amos Tversky, provided the intellectual infrastructure for contemporary behavioral law and economics. Prospect theory undermines the Coase Theorem, which is the bedrock of traditional law and economics; and the heuristics and biases research questions the fundamental idea of a rational self-interested decisionmaker, which is also challenged by subsequent studies of the role of affect in judgment and decisionmaking.

Keywords: Tversky, behavioral law and economics, Coase Theorem, prospect theory, availability heuristic, paternalism.

To place Amos Tversky’s contributions to legal scholarship in context, I’ll begin with an incredibly brief and oversimplified history of the role of the social sciences in the legal academy.

Except for the short efflorescence of Legal Realism in the early twentieth century and its slender offshoot, the Law and Society movement, American legal scholarship for the first two hundred years of the Republic was highly insular and oblivious to the social sciences.

Then came the law and economics (L&E) movement, founded by Guido Calabresi of Yale Law School, Richard Posner then of Stanford (now Chicago) — with Chicago economists Ronald Coase and Aaron Director as godfathers. Calabresi’s 1970 book, *The Cost of Accidents*, employed microeconomics to provide a coherent conceptual scheme for the law of torts — of accidents. Richard Posner’s 1973 *Economic Analysis of Law* gave readers both a positive and normative economic survey of virtually every area of law, from antitrust to criminal to family law.

These books signaled the beginning of an intellectual movement that has had enormous influence on legal academic thinking and — though this is harder to assess — that has also influenced regulatory policy and judicial doctrine. The core of the economic analysis of law is microeconomics supplemented by the Coase Theorem. The model of the individual is *homo economicus*. In Gary Becker’s words: “all human behavior can be viewed as involving participants who

1. maximize their utility
2. from a stable set of preferences and
3. accumulate an optimal amount of informa-

tion and other inputs in a variety of markets” (Becker, 1998, pp. 3–4).

These are, of course, the same principles that underlie the axioms of expected utility theory.

The Coase Theorem, which predicts how economically rational individuals will behave in free markets, is particularly important to legal rules and procedures. It asserts that, in the absence of transaction costs, no matter on whom the costs or liabilities of engaging in an activity are imposed, the parties will bargain to achieve the socially optimal level of that activity. For example, if liability for pollution is imposed on a power plant, the plant will pollute and compensate the victims if profits from polluting exceed the harm to the victims, and it will shut down if the harm to the victims exceeds the benefits of polluting; and if the costs are imposed on the victims — by not making the power plant liable — the victims will pay the plant to shut down if the harm to the victims exceeds the benefits of polluting to the plant, but not otherwise. This analysis counsels against regulations that would impede voluntary efficiency-producing market transactions.

Much of L&E scholarship consists of applying the microeconomic model to legal questions, for the most part assuming or asserting that people’s goal is to maximize wealth. (Many of the scholars understood that including values other than wealth, such as one’s “taste” for fairness or justice, threatened to undermine the model’s elegant simplicity and power.)

Before the arrival of L&E, legal analysis was organized largely by conceptual schemes internal to the law. The economic analysis of law provided a more comprehensive and apparently policy-relevant way of ordering the messy domains of legal doctrine and policy. Like the large majority of legal scholars who preceded the movement, most

\*Paul Brest is president of the William and Flora Hewlett Foundation and former dean of Stanford Law School. Email: PBrest@hewlett.org

of the core L&E scholars were not empiricists and did not pay much attention to whether the model fit the real world. To the extent they did empirical work, it was based on a sort of sociological or anthropological observation<sup>1</sup> rather than on either econometric or experimental methods.<sup>2</sup>

At least some proponents of L&E acknowledged that individuals do not always make rational choices. After all, Herbert Simon's "Behavioral Model of Rational Choice" was published in 1955, around the same time as Coase's work. But if humans were only "boundedly rational," the bounds were not very constraining and, more important, they did not bias decisions in any systematically predictable manner.

And then came Amos Tversky and Daniel Kahneman (T&K). While so-called "behavioral law and economics" (BLE) has not replaced the neoclassical tradition — and indeed has been strongly resisted by the neoclassicists — it has similarly been applied to virtually every area of the law, both to explain behavior and prescribe normative substantive and procedural rules.

I will focus on T&K's particular contributions — especially prospect theory and the biases and heuristics research. But though the domain of BLE extends beyond their work, and in some cases is orthogonal to it, their influence is so pervasive that it would be almost as foolhardy to disentangle their impact on the field as it would be to try to separate Amos's particular contributions from Danny's.

While T&K do not undertake to unseat the idea that much human behavior is rational, their work presents serious challenges to each of Becker's views of *homo economicus*.

1<sup>st</sup>: The distinction between decision utility (what one expects or predicts at the time of the decision) and experienced utility problematizes the core concept of utility. In fact, individuals often do not maximize their utility — or to the extent they do, it is the result of complex interactions of the poor affective forecasting and psychological adaptation studied by Dan Gilbert, Tim Wilson, and others.

2<sup>nd</sup>: BLE replaces the idea of a stable set of preferences, which under classical L&E can only be influenced by countervailing incentives, with preferences that are sometimes created by the way the choice is framed, and which, therefore, may be influenced by someone's attempting to manipulate the frame or simply by happen-

stance. Tversky analogized preferences to the umpire's assertion that balls and strikes "ain't nothing till I call 'em" (Tversky & Thaler, 1992).

3<sup>rd</sup>: Because of the ways that people process information, having accurate information does not necessarily improve decisionmaking, and sometimes may detract from it. Moreover, rather than accumulate the optimal amount of information, individuals often uncritically accept information that confirms their beliefs while overcritically rejecting disconfirming data; they are overconfident in their judgments; and are prone to base judgments on information that is vivid and available to memory rather than more accurate but pallid and unmemorable.

I will focus on the influence on legal thought of T&K's work on framing and the processing of information.

The endowment effect, a corollary of the loss aversion described by prospect theory, significantly undermines the Coase Theorem. Indeed, it raises a problem for much legal doctrine, which assumes that an individual places the same value on a good or legal entitlement whether or not she currently possesses it — that willingness to pay is the same as willingness to accept. The endowment effect thus suggests that the ability of private markets to reallocate legal entitlements may be weaker than the Coase theorem, and traditional law and economics analysis more generally, would have us believe.

For example, contingent valuation is a common method for placing a value on environmental goods or harms. It is used in litigation as well as administrative policymaking. On the assumption that WTP and WTA are identical, affected individuals are surveyed to determine how much they would pay to gain an environmental good or how much they would accept to suffer its loss. But it turns out that WTP and WTA often diverge widely. Russell Korobkin reports on a study in which duck hunters were willing to pay an average of \$247 per person per season for the right to prevent the development of wetlands so they could hunt, while they demanded an average of \$1044 dollars to give up an entitlement to hunt there (Korobkin, 2003).

(I should note that Korobkin is one of three Stanford Law School graduates in the mid-90's — the other two being Jeff Rachlinski and Chris Guthrie — all now in legal academia, who had the good fortune to study with Amos and his colleagues at the Stanford Center on Conflict and Negotiation.)

Korobkin conducted an interesting series of experiments that showed that the parties negotiating a contract treated default contract terms as the status quo or reference point for assessing gains or losses (Korobkin, 1998). For example, in some jurisdictions the default rule makes a shipper absolutely liable for the consequences of losing or damaging a package — liable whatever the reasons for

<sup>1</sup>Actually, in an important project along these lines, Robert Ellickson (then at Stanford, now Yale) discovered that the Coase theorem did not seem to explain relationships between farmers and ranchers in Shasta County, California (Ellickson, 1991).

<sup>2</sup>I hasten to say that there are some empirically-inclined economists who study legal issues; but their research — some of which is exemplified in popular form by Levitt and Dubner (2005), is not particularly concerned with the microeconomics model I have described.

the loss or damage — while in others, the shipper is only liable for reasonably foreseeable harm. But contracting parties in either jurisdiction can negotiate to change the damage rule.

Subjects playing the roles of lawyers for a shipper contracting a long-term agreement with a mail-order merchandise house were randomly assigned to a jurisdiction that had one or the other rule. It turned out that they demanded considerably more to relinquish their limited liability in a jurisdiction that had the “reasonably foreseeable damages rule” than they were willing to pay to acquire limited liability in a jurisdiction that made them absolutely liable. (A subsequent experiment demonstrated that the contracting parties might treat the terms embodied in a standard form contract, rather than the jurisdiction’s default rule, as the status quo, thus demonstrating how malleable the reference point can be.)

Prospect theory also provides an insight into the paradigmatic legal activity of litigation. Nothing in economic theory suggests that plaintiffs and defendants would have different risk attitudes. But prospect theory (accurately) predicts that plaintiffs tend to be risk-averse and defendants risk-seeking. As Chris Guthrie notes (2003):

In most lawsuits, plaintiffs choose either to accept a certain settlement from the defendant or to proceed to trial in hopes of obtaining an even more favorable judgment; most defendants, by contrast, must choose either to pay a certain settlement to the plaintiff or to gamble that further litigation will reduce the amount they must pay. Thus, plaintiffs generally choose between options that appear to represent gains, while defendants generally choose between options that appear to represent losses.

In a number of experiments, in which law students were randomly assigned to the roles of plaintiffs or defendants in litigation scenarios, Jeff Rachlinski demonstrated a considerable difference in the parties’ risk tolerance: Defendants tended to be mildly risk seeking, while the plaintiffs were highly risk averse.<sup>3</sup> The experiments provide a persuasive explanation for the nontrivial number of civil cases that go to trial rather than being settled.

Let me turn from prospect theory to the availability heuristic. The availability heuristic explains a variety of judgment and decisionmaking phenomena, and plays a role in the behaviors of lawyers, clients, and courts. Some of the most interesting legal issues concern how availability affects perceptions of risk. The phenomenon is famil-

<sup>3</sup>In another experiment, in which federal magistrates presided over hypothetical settlement conferences, magistrates who were presented the facts from the plaintiff’s point of view were more prone to advise settlement than those with the defendant’s perspective.

iar to everyone in this audience: Judgments of probability are based on how readily salient examples come to mind. A recent study of Canadians’ and Americans’ perceptions of the risks of SARS or terrorist attacks highlights how vivid media coverage can substitute for arcane and, in any event, pallid statistical data. Canadians thought they were more likely to be killed by SARS, Americans thought they were more likely to be killed by terrorists, and both greatly overestimated the probabilities.

In recent years, a purely cognitive explanation of the phenomenon has been supplemented by one that focuses on *affect*. Cass Sunstein, a professor of law at Chicago, has coined the term *probability neglect* to describe how, when emotions run high — for example, when contemplating dreadful risks — people tend to greatly overweight probabilities or to ignore them altogether and focus only on the horrific, worst-case outcome. Indeed, affect is playing an increasingly important role in behavioral economics more broadly — for example, in understanding dynamically inconsistent preferences or hyperbolic discounting. Although this was not the major focus of Amos Tversky’s work, the lines of thought certainly trace back to him, for example through the pioneering work of his collaborator Paul Slovic.

BLE’s insights about the effects of framing, availability, and emotions raise fundamental questions both about individual decisions — for example, whether to undergo a risky medical procedure — and about public policies made by legislatures. With respect to the former, Guthrie and Korobkin have suggested that, though lawyers may be no less prone to framing effects and biases than anyone else, their disinterest may allow them to play the role of “cognitive counselor” for their clients.

The insights of the availability heuristic and what Slovic has termed the *affect heuristic* have given rise to a vigorous policy controversy over “paternalism.” If people living in flood- and earthquake-prone areas tend to buy insurance only in the aftermath of disasters, should legislatures counter the tendency of such risks to become *unavailable* over time by making insurance mandatory. If accurately informing individuals of the hazards of consumer goods may lead to alarm, to over-reactions or to deadweight hedonic losses from fear or (say, in the case of cigarettes) self-loathing, should manufacture or use of the products be regulated instead? Jolls, Sunstein, and Thaler (1998) have argued that the insights of BLE at least call for an “anti-anti paternalistic” stance, and have argued for what they call “soft paternalism” in some circumstances: Since government must inevitably determine initial entitlements and default rules, let those be rules that are likely to encourage enlightened self-interested behavior — for example (to return to the issue of discounting), a default of being enrolled in a retirement plan rather than having to take active steps to enroll.

Even the proponents of soft paternalism temper their prescriptions with concerns about a democratic government manipulating its citizens. And critics have suggested that soft paternalism may be particularly pernicious precisely because it is “soft” and therefore will not mobilize the same sort of focused opposition as hard regulatory policies.

I have touched on some of the major differences between classical L&E and BLE. But Amos Tversky’s influence on legal scholarship is far broader. For example, in an interesting set of experiments, Mark Kelman and his colleagues demonstrated the strong context-dependent effects on juries that were given a choice between convicting a defendant of either of two grades of homicide (as some jurisdictions do) or three (as others do). Jeff Rachlinski has documented how the negligence standard for torts and investment errors invites hindsight bias and he has proposed structural solutions to the problem.<sup>4</sup> Rachlinski, Guthrie, Andrew Wistrich, and others have shown the susceptibility of jury awards for damages to the anchoring and (insufficient) adjustment phenomenon (Guthrie et al., 2001; Sunstein et al., 2002). Linda Babcock and George Loewenstein (1997) have demonstrated how self-serving biases affect litigants’ willingness to settle. In addition to his foundational work on inferential errors, Lee Ross, who was Amos’s long-time colleague and friend, has expanded the agenda to the important area of negotiation. A relatively new legal scholar, Jeremy Blumenthal, who studied with Dan Gilbert, is applying insights from the rapidly emerging literature on affective forecasting, and affect more generally, to legal issues ranging from advance medical directives to the psychological consequences of litigating to seek vindication for personal wrongs (Blumenthal, 2005).

At least some of this research is entering the classroom through courses in negotiation, through specialized advanced courses, and through references in standard courses such as torts, civil procedure, and contracts.

What is the intellectual stature of BLE in today’s academy? Though it has significantly challenged traditional L&E, it has not replaced it as a paradigm for legal analysis. BLE has encountered resistance from adherents to traditional L&E on at least three grounds. *Philosophically or ideologically*, BLE complicates, if it does not undermine, the assumptions that underlie the idea of autonomous self-interested actors and the presumption favoring unhindered market transactions among them. *Stylistically*, I think some scholars are attracted to L&E by the elegant simplicity of its models. And *empirically*, though many of the observations and experiments that underlie BLE seem pretty powerful, it is per-

fectly legitimate to approach them with skepticism born of one’s Bayesian priors. The BLE observational studies are . . . well . . . observational — and often not strongly econometric. And the laboratory experiments raise genuine questions about methodology and external validity.

But I think the strongest explanation for the perseverance of the economic model of human behavior is the absence of a strong competitor as a comprehensive model. As proponents of traditional L&E bob and weave to accommodate the insights of psychology (e.g., Posner, 1998), the elegance and power of the paradigm becomes compromised. Yet, notwithstanding arguments by Deborah Frisch and some others who question the normative status of expected utility theory, BLE provides a *corrective* rather than a substitute for the traditional model. *Homo psychologus* is essentially *homo economicus* with bounded rationality, bounded willpower, and bounded self-interest (Jolls et al., 1998; and see Kelman, 1998, for a response). Even if one believes that the bounds bind a lot, thus significantly constraining rational judgment and behavior, they do not provide an alternative paradigm.<sup>5</sup>

I doubt that Amos Tversky thought or hoped otherwise. Although he designed some of the cleverest “gotcha” experiments in the history of social psychology, Amos was the quintessential rationalist who, I imagine, wished that humankind could do somewhat better than his research disclosed.

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<sup>4</sup>Mark Kelman and his colleagues (1998) have argued that the well-known psychological literature documenting the phenomenon is not as robust as most people assume.

<sup>5</sup>And while the nascent science of neuroeconomics promises to radically change our understanding of these phenomena, I am skeptical that it will provide a model of the same category.

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