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Stephen E. Ellis

The University of Oklahoma

Grant M. Hayden

Southern Methodist University, Dedman School of Law

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Beyond Tinkering:
Economics After Behavioral Economics

Stephen E. Ellis^{*}
Grant M. Hayden^{**}

^{*} Assistant Professor of Philosophy, University of Oklahoma. B.A., M.A. University of Kansas; Ph.D. Rutgers University. Contact information: Department of Philosophy, 455 W. Lindsey, Rm. 605, Norman, OK 73019; (405) 360-6433; sellis@ou.edu.

^{**} Professor of Law, Hofstra Law School. B.A., M.A. University of Kansas; J.D. Stanford Law School. Contact information: Hofstra Law School, Hempstead, NY 11549; (516) 463-5159; lawgmh@hofstra.edu.

BEYOND TINKERING: ECONOMICS AFTER BEHAVIORAL ECONOMICS

INTRODUCTION

Economic theory is a sort of distilled common sense: it draws out the implications of the view that people act to best get what they want, given what they believe about their circumstances. That basic insight is used to build mathematical models that are intended to explain and predict human behavior. Those models are useful in many ways—most centrally, they allow us to structure incentives in order to achieve important ends.¹ Structuring incentives, on any kind of large scale, is a job for governments, and the tool they use is the law. Thus, it should come as no surprise that lawmakers have looked to economic theory for guidance. And, indeed, the law and economics movement has become, by almost any measure, the most dominant school of legal thought in the last half a century.

But there is sufficient reason to conclude that economic theory, as it stands, is flawed. While economic models have had their successes, a large and growing body of empirical evidence reveals that people often fail to live up to the rational-actor ideal of standard economics. Real people, it turns out, use mental shortcuts. They display systematic biases when they make decisions. And they occasionally take actions that conflict with their interests, in both the long and short term. As a result, the behavior of real people is often at odds with that predicted by standard economic theory.

¹ There is some debate about what those ends should be. Normally, we try to maximize people's ability to get what they want, on the assumption that they know their own needs. In certain cases, however, we seek to discourage the pursuit of certain ends, e.g., heroin-induced stupors.

Social scientists respond to this evidence in a variety of ways. Economists usually stick with standard consumer theory and attempt to explain the anomalous empirical results by reference to some overlooked input (some new belief, for example) or by applying the models in new ways. Sufficiently subtle application of economic analysis, they claim, can account for the troublesome cases. Behavioral economists accept standard consumer theory as both a normative benchmark and a rough approximation of the relevant causal mechanisms of behavior, but propose new models meant to capture the way behavior deviates from the standard account. These models retain the basic structure of economic theory while replacing its simple mathematical representations of belief and desire with alternatives that better fit the evidence.

In the last decade, legal scholars have taken up the cause and incorporated behavioral economics into their study of the law. Some have carried out empirical research involving legal situations that confirm and, in some cases, further refine behavioral models. Others take the behavioral models as given, and use them to make suggestions about specific areas of the law (such as contract law) or to argue broader normative points (such as the proper scope of governmental paternalism). As a result, much of the work of fleshing out the findings of behavioral economics is now being done in law schools, not economics departments.

But behavioral economics and its legal incarnation are not without problems of their own. Chief among these is the fact that, unlike standard economics, behavioral economics has not coalesced into a unified theory of behavior. At its core it is a collection of psychological phenomena—norms, biases, and heuristics—that are connected only in the sense that each runs counter to some fundamental tenet of traditional economics. Some have charged, we think unfairly, that behavioral economics is nothing more than this collection. Like many exaggerations, however, this one contains a grain of truth. Behavioral economists generally do

just build the data into their models. Where, for example, *behavior* seems risk averse for gains and risk loving for losses, behavioral accounts posit *motivational structures* (e.g., *wants, interests, values*) that are risk averse for gains and risk loving for losses. And where *behavior* seems to reflect an overemphasis on low probability events, behavioral accounts posit *belief structures* that overweight low probabilities. The result of this straightforward approach is a set of data-driven modifications for standard economic models. To the extent that the empirical evidence allows, behavioral economics adopts standard economics as it is.

Behavioral economists usually appeal to only one or two modifications to account for a given behavioral regularity. This raises a number of problems. Where only a single modification of an orthodox model suffices to capture the data, are the other psychological features absent, and, if so, why? Appeal to different sets of modifications may give individually plausible but jointly inconsistent (and irreconcilable) explanations for a particular bit of behavior. The lack of a unified theory also makes it harder to figure out how behavioral and standard economics fit together. There are many instances where standard accounts seem to get things right. Are people rational, self-interested maximizers only some of the time, and, if so, when? These issues show how difficult it is to translate the teachings of behavioral economics into positive law, if for no other reason than it is difficult to convince policymakers to rely upon relatively isolated, apparently intermittent, features of human behavior.

This issue has not gone unnoticed by those in behavioral law and economics. In the introduction to his leading book in the field, Cass Sunstein notes:

Behavioral law and economics is in its very early stages, and an enormous amount remains to be done. Some of the outstanding questions are foundational and involve the nature of economics itself: Can behavioral economics generate a unitary theory of behavior, or is it an unruly collection of effects? Is it too ad hoc and unruly to generate predictions in the legal context? As compared with

approaches based on ordinary rationality assumptions, does behavioral economics neglect the value of parsimony?²

Noticing the issue and doing something about it, however, are two entirely different matters. And despite a wealth of empirical work, there has been surprisingly little done in the way of answering these fundamental questions. Behavioral economists resolutely focus on the trees with very little attention to the forest, and, as a result, they have failed to develop a single, consistent account of economic behavior. Until this failure is rectified, it is unlikely that behavioral economics will capture the full attention of legal academics, and, more importantly, legal policymakers.

A primary reason for the failure of behavioral economics to confront important questions is its continued unreflective reliance on the basic economic paradigm. Indeed, the usual behavioral methods for accommodating the empirical evidence take the basic economic account as canonical. Accept, reject, or tinker with the functional forms, most economists, standard and behavioral, confine themselves to thinking about the particular elements of common sense that originally inspired economic models.

There is, however, another approach. Economic theory (and its successors) might be *too* distilled—after all, there is much more to our common-sense theory of behavior than the claim that people act to get what they want. Recognizing this possibility allows us to step back and look to common sense for additional resources to enhance economic models in an idea-driven, “top down” fashion, as opposed to a data-driven, “bottom up” way.

This paper will discuss one such approach, based on Frederic Schick’s work on *understandings*. Drawn from the well of common-sense psychology, the concept of understandings presents an additional element to the basic desire-belief apparatus that underlies

² Cass R. Sunstein, *Introduction*, in BEHAVIORAL LAW & ECONOMICS 1, 9 (Cass R. Sunstein ed., 2000).

economic theory. The idea, in a nutshell, is that people normally consider their circumstances from a particular (more or less narrow) perspective. As a result, they act on proper subsets of their beliefs and desires that reflect their take on their situations.³ It is important to see that appeal to understandings is not an alternative to paying close attention to psychological evidence. Rather, it is a way of enhancing our ability to accommodate that evidence in a coherent way. This approach has the advantage of being readily integrated into standard economic theory and is capable of shedding crucial light on many of the situations that give standard accounts trouble (and give rise to behavioral alternatives). As such, it is a step in the direction of a more unified theory of human behavior.

I. LAW AND ECONOMICS

Standard economic theory has its roots in our normal, everyday theory about how people act (what philosophers often call “folk psychology”). The basic elements of the theory are desires and beliefs, and the central relationship between the two is that people act to fulfill their desires given what they believe about their situation.⁴ While this is primarily a normative account—we think that such actions *make sense* in an important way, so people *should* so act⁵—

³ As we will see, the subset of a person’s mental states that she uses to think about a situation constitutes her understanding of that situation.

⁴ This is, for example, Richard Posner’s basic line on rationality. See RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 17 (6th ed. 2003); Richard A. Posner, *Rational Choice, Behavioral Economics, and the Law*, 50 STAN. L. REV. 1551, 1551 (1998).

⁵ To act on this norm is to act *rationally* in a particular sense. “Rational” is a term of approval, commendation, or endorsement. To say that something is rational is to say that it makes sense in some way. See, e.g., ALAN GIBBARD, *WISE CHOICES, APT FEELINGS* 6-7 (1990). Instrumental rationality, the sort of rationality involved in economics, is primarily concerned with the fitness of actions to wants. A person’s desires are treated as the baseline for evaluating her behavior and actions are commended when they advance the objects of those wants. An instrumentally rational action is endorsed *from the perspective of certain goals*. This is a conditional commendation—if the actor has appropriate desires *then* the action makes sense. Saying that something is instrumentally rational is, however, a *strong* commendation. An instrumentally rational action is a *good* way to achieve an agent’s ends, whatever they are. Instrumental rationality applies derivatively to actors and choices. An instrumentally rational *agent* is one who takes instrumentally rational actions. Someone might be instrumentally

we usually assume that people approximate the norm. The idea that people act to get what they want, given what they believe, plays an important role in how we navigate the world. We use it, for example, to help predict the behavior of others, even of complete strangers. We think of another driver that she doesn't want to die or be seriously hurt; that she knows there is a truck there and that pulling out in front of such a truck runs the risk of death or serious injury; so we conclude that she won't pull out. Such predictions are usually pretty close to the mark. We also use the principle to form judgments about the characters of others. We think of our neighbor, for instance, that he saw that his wife was uncomfortable with his story; that he went ahead and told it anyway; we conclude, therefore, that he must not care much about her feelings (jerk!).

The idea that people act to achieve their ends, given what they think, is a core principle of folk psychology. Economic theories are really just ways of formalizing (or better, *regimenting*) this core principle. The rational choice account of behavior that underwrites modern economics is, as David Lewis masterfully puts it, “a systematic exposition of the consequences of certain well-chosen platitudes about belief, desire, preference and choice. It is the very core of our common-sense theory of persons, dissected out and elegantly systematized.”⁶ The desires, attractions, and aversions of common sense are all aggregated into the *preference rankings* of rational choice economics (and these preference rankings are numerically represented by *utility*

rational in general or on a particular occasion. An instrumentally rational *choice* is one made on the grounds that it is a best (good) way to achieve an end. It is usually held that people *should* take instrumentally rational actions, i.e., that it is good (at least *ceteris paribus*) to be an instrumentally rational person, because instrumental rationality is a necessary component of more full-blooded evaluation. One can't intentionally achieve desirable ends unless one's actions achieve ones ends, whatever they are. Instrumental rationality is often invoked in descriptive as well as normative claims. It picks actions for each set of ends in each circumstance—the actions that best satisfy those ends—and so defines a correspondence between situations (as represented by beliefs) and actions. Once the correspondence is defined, we can ask if people actually act in accordance with it. This is where the social science discussion gets serious.

⁶ DAVID LEWIS, PHILOSOPHICAL PAPERS, VOL 1, 114 (1983).

functions).⁷ Beliefs about available actions, surrounding circumstances, and other people are all modeled with *subjective probability functions*. Choice of action is treated as the result of *subjective expected utility maximization* (that is, the action chosen is one with the highest probability-weighted average utility). In standard economic accounts, all of a person's wants (interests, values, etc.) are reflected in her utility function. Likewise, all of her beliefs (judgments, hunches, etc.) are reflected in her subjective probabilities. Actions, then, are understood as the result of a person's whole mind.

The common sense at the core of economics helps to explain its influence. While most people can't be bothered with the mathematical models themselves, they retain their intuitive appeal because they are a "scientized" version of normal psychology. Despite the fact that everyday explanations do not employ the language of modern economics, or come with the same mathematical baggage, we see evidence of economic principles in our common-sense attempts to explain and predict human behavior. When, for example, we explain Luke's failure to make his customary trip to the ice cream shop by reference to his refusal to pay a dollar more for his cone, we've spelled out the basic story of downward sloping consumer demand.⁸ Economic principles should be even more readily apparent in our attempts to explain, systematically guide, and predict the effects of various strategies to change human behavior. This should be true, for example, when parents devise a set of rules for their children, with attendant rewards and punishments. For example, we expect that rewards will "buy off" children and punishments will "raise the costs" of bad behavior. It should be equally true when we construct rules to guide

⁷ The way in which different attractions fit together to guide actions in various circumstances is not well-understood. See Stephen Ellis, *Multiple Objectives: A Neglected Problem in the Theory of Human Action* (forthcoming in SYNTHESE).

⁸ In emphasizing the common sense roots of economic theory, we don't mean to deny that it can be used to explain puzzles or make novel predictions. It isn't obvious, for example, that raps stars (or lawyers) will make more money than middle school teachers (or philosophers). Still, appeal to economic principles can help explain this fact.

adult behavior, especially when it comes to rules that we spend some time thinking about. That is, it should be true of the law.

Thus, it should not have been surprising when it was “discovered” that the common law appeared to be driven by an underlying economic logic. Nonetheless, the law and economics movement expended much of its early energy examining the many instances in which the common law appears to maximize allocative efficiency.⁹ Sometimes, the common law did so quite explicitly, as with the Learned Hand formula for negligence liability.¹⁰ More often, however, judges appeared to come to decisions that implicitly comported with the dictates of economics. For example, the defense of impossibility in contract law, which excuses nonperformance under a contract when intervening events render performance physically or legally impossible, tends to promote efficiency by assigning liability to the party who could avoid or spread the risk of the intervening events at the least cost.¹¹ Similar claims of efficiency were made with respect to a rather wide range of doctrines from salvage awards in admiralty¹² to the degrees of homicide in criminal law¹³ to the limited scope of the right to privacy.¹⁴ “It is,”

⁹ See Nicholas Mercuro & Steven G. Medema, *Schools of Thought in Law and Economics: A Kuhnian Competition*, in *Law and Economics: New and Critical Perspectives* 65, 71-75 (Robin Paul Mallow & Christopher K. Braun eds., 1995) (explaining how the Chicago School of law and economics began with a positive analysis of various lawmaking institutions); see also POSNER, *supra* note 4, at 25, 249-56 (“The theory is that the common law is best (not perfectly) explained as a system for maximizing the wealth of society”); Richard A. Posner, *Some Uses and Abuses of Economics in Law*, 46 U. CHI. L. REV. 281, 287-91 (1979) (discussing the fact that common law rules tend to promote efficiency).

¹⁰ Judge Hand explained tort liability on the basis of a mathematical cost benefit analysis: “[I]f the probability [of the accident] be called P; the injury, L; and the burden [of adequate precautions], B; liability depends upon whether B is less than L multiplied by P: i.e., whether $B < PL$.” *United States v. Carroll Towing Co.*, 159 F.2d 169 (2d Cir. 1947).

¹¹ See Richard A. Posner & Andrew M. Rosenfield, *Impossibility and Related Doctrines in Contract Law: An Economic Analysis*, 6 J. LEGAL STUD. 83 (1977).

¹² See William M. Landes & Richard A. Posner, *Salvors, Finders, Good Samaritans, and Other Rescuers: An Economic Study of Law and Altruism*, 7 J. LEG. STUD. 83, 100-08 (1978).

¹³ See POSNER, *supra* note 4, at 233-35.

¹⁴ See Richard A. Posner, *The Right of Privacy*, 12 GA. L. REV. 393 (1978).

notes Richard Posner, “as if the judges *wanted* to adopt the rules, procedures, and case outcomes that would maximize society’s wealth.”¹⁵

Law and economics scholars also spent a bit of time attempting to come up with an explanation for this “efficiency hypothesis.”¹⁶ Perhaps, it was argued, inefficient legal rules were subject to more numerous and intense legal challenges because parties had greater incentives to replace them with efficient rules (and the inefficient rules were thus driven out of the common law).¹⁷ Or maybe parties sought alternative forums for resolving disputes, such as arbitration, in situations where legal rules consistently led to inefficient allocations (and the common law thus competes with other systems of dispute resolution).¹⁸ Or perhaps judges are just naturally drawn to rules that promote efficiency.¹⁹ To this day, there is no generally accepted theory as to why the common law promotes economic efficiency. But given that the nature of the law is to provide generalized rules to govern human behavior, it is no surprise that law and economics was such a fruitful match; the only real question is why it took so long for the two to find each other.

Despite its intuitive appeal and breadth of support in the law and elsewhere, economic theory is controversial. A number of social scientists—psychologists, sociologists, and even other economists—argue that standard economic accounts fail to adequately explain or predict human action. The criticisms fall into two broad areas. The first holds that economic theory is too stripped-down. It doesn’t even pass the “sniff test” because it ignores certain important behavioral inputs—things like mistakes, compulsions, social norms and roles—and instead

¹⁵ RICHARD POSNER, *THE PROBLEMS OF JURISPRUDENCE* 356 (1990).

¹⁶ For a brief discussion of the various theories, *see* Mercuro & Medema, *supra* note 9, at 72-73.

¹⁷ *See* POSNER, *supra* note 15, at 360; ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 492-96 (1988).

¹⁸ *See* Mercuro & Medema, *supra* note 9, at 72.

¹⁹ *See id.* at 25.

appeals to such alien notions as *utility* and *efficiency*. Economist David Kreps captures the *people-aren't-like-that* feel of this objection when he notes:

These models of consumer and firm behavior typically strike people as fairly obnoxious. We don't find consumers strolling down the aisles of supermarkets consulting a utility function to maximize when making their choices, nor do we typically think of business executives being guided completely and solely (or even mainly) by the effect of their decisions on business profits.²⁰

Despite its common-sense roots, standard economic theory is just too sterile, the claim goes, to capture the full range of motivations behind human behavior. Real people aren't much like *Homo economicus*, so the latter makes a poor model for the former.

The second area of criticism points to the empirical shortcomings of orthodox economic theory: its predictions often fail to come true. There are a host of situations where people behave in ways that seem to be inconsistent with subjective expected utility maximization. Take, for example, the famous Allais paradox, which was the first well-known case to cast doubts on rational choice accounts.

Problem 1. Choose between options A and B: A pays \$2500 with probability 0.33, \$2400 with probability 0.66, and \$0 with probability 0.01; B pays \$2400 with probability 1.

Problem 2. Choose between options C and D: C pays \$2500 with probability 0.33 and \$0 with probability 0.67; D pays \$2400 with probability 0.34 and \$0 with probability 0.66.²¹

In Problem 1, A is preferred to B if and only if $0.33u(\$2500) + 0.66u(\$2400) + 0.01u(\$0) > u(\$2400)$, i.e., $u(\$0) > 34u(\$2400) - 33u(\$2500)$. Likewise, in Problem 2, C is preferred to D if and only if $0.33u(\$2500) + 0.67u(\$0) > 0.34u(\$2400) + 0.66u(\$0)$, i.e. $u(\$0) > 34u(\$2400) -$

²⁰ DAVID KREPS, A COURSE IN MICROECONOMIC THEORY 4 (1990).

²¹ This treatment of the case follows Sudgen. See Robert Sudgen, *How People Choose*, in THE THEORY OF CHOICE, 27, 37 (Shaun Hargreaves Heap ed., 1992). The case originally comes from Maurice Allais, *Le comportement de l'homme rationnel devant le risque: Critique des postulats et axiomes de l'école américaine*, 21 ECONOMETRICA 503 (1953).

33u(\$2500). A person who chooses A and D together, or B and C together, therefore behaves in a way that is inconsistent with utility theory. In experiments involving these sorts of problems, however, most subjects choose B and C together.²²

There is also evidence that people switch their preferences over outcomes when those outcomes are described in different ways. The following result from Kahneman and Tversky is representative.

Problem 1 ...: Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows:

If Program A is adopted, 200 people will be saved. ...

If Program B is adopted, there is a one-third probability that 600 people will be saved and a two-thirds probability that no people will be saved. ...

Which of the two programs would you favor? ...

Problem 2 ...: Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows:

If program C is adopted, 400 people will die. ...

If program D is adopted, there is a one-third probability that nobody will die and a two-thirds probability that 600 people will die. ...

Which of the two programs would you favor?²³

Program A in Problem 1 and program C in Problem 2 are indistinguishable in real terms, as are program B in Problem 1 and program D in Problem 2. By measuring the outcomes of the programs in terms of the number of lives saved, Problem 1 adopts as an implicit reference point a situation where the disease has already taken its toll of 600 lives. In Problem 2, however, the

²² See Sudgen, *supra* note 21, at 37.

²³ Daniel Kahneman & Amos Tversky, *Choices, Values, and Frames*, 39 AM. PSYCHOLOGIST 343 (1984).

program outcomes are measured by the number of lives lost, which implies a reference state where no one has yet died of the disease. When given these “two” problems (with a few other problems in between to cleanse their palates), a clear majority of respondents preferred option A in the first problem (72%) and option D in the second (78%). In this case, people are risk averse when the problem is described in terms of gains and risk seeking when it is described in terms of losses. But according to subjective expected utility theory, when counting lives (as with anything else), $((x-600)+200) = (x-400)$, so $u((x-600)+200) = u(x-400)$ also holds. Likewise, $(\frac{1}{3}((x-600)+600)+\frac{2}{3}(x-600)) = (\frac{1}{3}x+\frac{2}{3}(x-600))$, so $u(\frac{1}{3}((x-600)+600)+\frac{2}{3}(x-600)) = u(\frac{1}{3}x+\frac{2}{3}(x-600))$ should also follow. These equalities, combined with the experimental data, lead to the absurd conclusion that $u((x-600)+200) > u(\frac{1}{3}((x-600)+600)+\frac{2}{3}(x-600)) = u(\frac{1}{3}x+\frac{2}{3}(x-600)) > u(x-400) = u((x-600)+200)$. Something is clearly amiss!²⁴

There is evidence of exactly these sorts of description-dependent preferences in the stock market. Standard economic theory holds that you should sell a stock if you think it will fall in price and keep it if you think it will rise, regardless of the purchase price (a sunk cost). There is evidence, however, of a disposition effect—people will hold on to losing stocks longer than they hold on to winning stocks, even when the rate of return on the unsold losers was smaller than the rate of rate of return on the winners after sale. On an aggregate scale, the trading volume of winning stocks is higher than that for losing stocks.²⁵ It appears that people are more willing to gamble on their losers turning around than on their winners staying on track. Preference changes resulting from what are merely different descriptions or sunk costs are obviously a serious issue—common sense or not, utility theory is in trouble if it doesn’t explain behavior. None of

²⁴ See *id.* at 343.

²⁵ See Terrance Odean, *Are Investors Reluctant to Realize Their Losses?* 53 J. FIN. 1775-1798 (1998); Colin Camerer, *Prospect Theory in the Wild: Evidence from the Field*, in CHOICES, VALUES, AND FRAMES 288, 290-91 (Daniel Kahneman & Amos Tversky eds., 2000).

this evidence, by the way, surprises the “sniff test” critics: if utility theory misses determinants of behavior, empirical inadequacy is to be expected.

Partisans of behavioral economics in the field of law incorporate elements of both criticisms. Standard economic models, they argue, naïvely focus on *Homo economicus* rather than real people. Real people are not self-maximizing automatons, but instead can be said to display bounded rationality, bounded willpower, and bounded self-interest.²⁶ Cass Sunstein goes a step further, and explicitly appeals to norms and roles in order to replace preferences in explaining certain behaviors in a legal context.²⁷ The argument here is that standard economics involves fundamental misdescriptions of people and their motivations.

The primary criticism, however, focuses on empirical difficulties. For example, legal scholars appeal to evidence of description-dependent evaluation in order to explain why bargaining doesn’t replace court judgments to a greater extent than it does.²⁸ People seem risk-averse when they see a situation as a potential significant gain and risk-loving when they see it as a potential significant loss. Since defendants are likely to see themselves as potential losers (and plaintiffs often see themselves as potential losers from the standpoint of their pre-injury status), litigants (sometimes on both sides) are often willing to “roll the dice” on a trial.²⁹ Traditional law and economics also holds that people should ignore sunk costs and that resources should be

²⁶ Christine Jolls, Cass R. Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1476 (1998).

²⁷ Cass R. Sunstein, *Social Norms and Social Roles*, in CHICAGO LECTURES IN LAW AND ECONOMICS 139 (Eric A. Posner ed., 2000).

²⁸ See Jolls et al., *supra* note 26, at 1497-1504; Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CAL. L. REV. 1051, 1103-1113 (2000).

²⁹ The Framing Theory of litigation holds that litigants treat their current asset positions as their reference points for evaluating gains and losses. Plaintiffs, as potential gainers are modeled as risk-averse; defendants, as potential losers, are modeled as risk-loving. See Jeffery J. Rachlinski, *Gains, Losses, and the Psychology of Litigation*, 70 S. CAL. L. REV. 113 (1996); Chris Guthrie, *Framing Frivolous Litigation: A Psychological Theory*, 67 U. CHI. L. REV. 163 (2000). This account might underestimate the barriers to settlement since a plaintiff may frame her decision from the standpoint prior to (perceived) injury.

used for their most profitable purposes. The upshot is supposed to be that entitlements in the law will have little effect on the ultimate allocation of resources, at least where transaction costs are low. The empirical evidence shows, however, that past expenditures do influence behavior and that people aren't willing to part with resources, even at a price they wouldn't be willing to pay to obtain the resource in the first place.³⁰ The *successes* of the standard theory turn out to be the special cases—it is only in contexts where professionals engage in repeated trades and arbitrage is possible that incentive structures minimize the influence of human boundedness.³¹

Standard economic theory has some obvious answers to “sniff test” problems. As a formalization of common sense, economic theory has resources for rebutting the charge that it neglects intuitively plausible behavioral inputs. It doesn't, for example, ignore compulsions or social norms and roles. Rather, it adopts the common-sense view that such factors influence what an agent wants, and so her preferences. While notions like utility are admittedly foreign to common sense, it doesn't follow that they are inconsistent with it. Utility is just a mathematical representation of preferences, and so it ultimately reflects a person's desires. People can want all sorts of things, including states of affairs that appeal to their conceptions of fairness or justice.³² So, as Richard Posner notes, economic theory has no trouble accommodating “bounded self-interest” of the sort that describes people's propensity to look beyond their own narrowly-defined interests and act in ways that appear to promote fairness.³³ In fact, it is pretty absurd to think of the human capacity to have interests that aren't self-centered as a *bound* in the first

³⁰ See Jolls et al., *supra* note 26, at 1482-1485, 1497.

³¹ See *id.* at 1485-1486.

³² Ethical rules that serve as “side-constraints” on behavior (e.g., Kant's Categorical Imperative) are not *ipso facto* irrational.

³³ See Posner, *supra* note 4, at 1553-55; 1557-58.

place. Only someone trapped in the mindset of ethical hedonism could count the existence of plural values as a limit.

With respect to the formal apparatus of rational choice accounts, it is clear that people (even most economists) don't *consciously* maximize subjective expected utility. It does not follow, however, that standard economic theory is a failure, for introspective access is not a necessary component of a behavioral theory.³⁴ Most of us, for example, can make pretty fine discriminations among smells, but we don't have even the faintest idea how we do it. A hypothesis naturally suggested by this sort of reflection is that economic models are like perceptual models in that both are abstract (even partial) characterizations of mental processes.³⁵ This sort of account treats subjective preferences and probabilities as important inputs to action, even when they aren't the sole motivating forces.

Economists, though, generally avoid this sort of account. They prefer, instead, to take an *instrumentalist* line: what matters is predictive success rather than accurately describing behavioral mechanisms. Instrumentalism about economic theory is a response, in part, to "sniff test" objections. "People aren't like that" isn't a relevant complaint against a predictive tool. It is also motivated, however, by a desire to steer clear of psychological claims.³⁶ In fact, given that much of the problematic data stems from relatively small-scale psychological studies, they would rather steer clear of individual-level claims about behavior altogether. The instrumentalist position holds that economics models get human behavior right in the aggregate, regardless of

³⁴ If it were, behavioral economics would also fail—most people don't introspect their bounded rationality or bounded willpower.

³⁵ See, e.g., Stephen Ellis, *What Economists (and Everyone Else) Should Think About Utility Theory*, 18 S.W. PHIL. REV. 93 (2002); Posner, *supra* note 15, at 356.

³⁶ This desire is motivated, in part, by theoretical scruples about unobservable entities. See ALEXANDER ROSENBERG, *PHILOSOPHY OF SOCIAL SCIENCE* 79-81 (1995).

what actually motivates the behavior.³⁷ Even if *most* individuals fail to maximize subjective expected utility, instrumental economics should correctly predict aggregate behavior where deviations from maximization are random. The standard line in economics is that it can tell you about the net effect of incentives on groups of people.³⁸

An instrumentalist theory is a tool that takes information about certain accessible variables as an input and outputs a prediction, usually about the future state of those same variables. Taken straight, economic models involve the mental states of particular individuals. In order to use them as predictive tools, one must first specify the relevant accessible inputs. Instrumentalism rides on the coattails of the normative economic theory here. Economists usually treat the objective probabilities of a situation—what beliefs are directed at—as the subjective probabilities of relevant agents, and actual choices—what desires are supposed to order—as “revealed” preferences. Interpreting economic theory in this way insulates it, to some extent, from counter-evidence. The failure of particular individuals to maximize subjective expected utility is not important if the theory doesn’t say anything about the behavior of individuals, much less their psychological mechanisms. Given the aggregative character of economic instrumentalism, even systematic failures can be chalked up to adverse selection of the sample studied from the larger population. If behavior in a certain population is distributed

³⁷ See KREPS, *supra* note 20, at 4-5.

³⁸ See POSNER, *supra* note 4, at 18; Posner, *supra* note 4, at 1556-1557. The *locus classicus* of this view is supposed to be Milton Friedman’s 1953 paper, *The Methodology of Positive Economics* (reprinted in *THE PHILOSOPHY OF ECONOMICS* (Daniel Hausman ed., 1990)). Friedman does appear to endorse a purely instrumentalist account: “The ultimate goal . . . is the development of a ‘theory’ or ‘hypothesis’ that yields valid and meaningful (i.e., not truistic) predictions about phenomena not yet observed.” *Id.* at 213. A closer reading, however, suggests a more nuanced view. His basic point is that a good economic theory “abstracts the common and crucial elements from the mass of complex and detailed circumstances surrounding the phenomena to be explained and permits valid predictions on the basis of them alone.” *Id.* at 218. Thus, Friedman’s main point is that the empirical evidence (as opposed to intuitive judgment) determines which abstractions from the actual mechanisms are appropriate, not that any attention to mechanisms is irrelevant. “Complete ‘realism’ is clearly unattainable, and the question whether a theory is realistic ‘enough’ can be settled only by seeing whether it yields predictions that are good enough for the purpose at hand.” *Id.* at 237; see also *id.* at 219-21, 225-27.

around a mean of rational action, it will be possible to select more and less rational subsets of agents.³⁹

Despite the fact that it is rarely mentioned, the insulation from counter-evidence provided by standard economic instrumentalism clearly comes at a price. Where there is adverse selection, economic models are likely to make bad predictions because a (sub)set of irrational agents won't act in the way they suggest. Posner, to his credit, admits that this is a problem for rational choice accounts of criminal behavior: "If the [criminal justice] system is designed to deter, then criminals—the part of the population that is not deterred—will not be a random draw from the population, just as lunatics are not a random draw. We can expect the undeterrable to have peculiar traits, including, in a system in which punishment takes the form of imprisonment, an abnormal indifference to future consequences."⁴⁰

Interpreting economic models instrumentally also puts a lot of pressure on their predictive adequacy. A non-instrumental model might plausibly claim to represent certain features of a situation even if those features are being overwhelmed in that circumstance. Feathers and bowling balls don't fall at the same rate in most actual circumstances, but it doesn't follow that simple models of gravitational attraction are false. Likewise, perhaps, the actions of very tired or very hurried agents may not conform to the predictions of consumer theory. An instrumental model of aggregate behavior that has empirical problems has no such intuitive plausibility to fall back on. And, on balance, the empirical evidence suggests that that economic theory is not up to the predictive task it is assigned. It doesn't, at least so far, account for much of the phenomena of interest to economists, orthodox or behavioral. Regardless of whether some standard model *could* account for the behavioral evidence, currently available models *don't*. As

³⁹ See Posner, *supra* note 4, at 1561, 1570-1571.

⁴⁰ See *id.* at 1568.

a tool, then, standard economic theory fails to predict as much of the relevant phenomena as we would like.

The problems encountered by standard economic theory should come as no surprise. It is, after all, based on common sense intuitions, and common sense can lead us astray. “Folk” accounts are often flawed—“folk physics,” for example, has heavier objects falling faster than lighter objects. Even if the core “folk” account is on track, there is usually much more to be said (e.g., a good physical theory still must account for the difference between feathers and bowling balls). Everyone who thinks seriously about economic issues recognizes the need to adapt economic models to handle anomalous behavior.

Orthodox economics tries to preserve the basic structure of subjective expected utility maximization and account for recalcitrant behavior by either finding new inputs into the old models that account for the empirical results (e.g., new motives, more complex beliefs about circumstances) or applying the old models in novel ways (e.g., “multiple person” models, evolutionary psychology). The first strategy does successfully fend off certain challenges. Some apparent difficulties are resolved by paying more attention to the objects of preference. It isn’t anomalous for someone to drink Folgers most of the time, even when she claims to prefer Starbucks. We recognize that Folgers-flavor vs. Starbucks-flavor isn’t the only relevant dimension to her choice: a cup of Folgers costs \$0.75, while Starbucks runs \$2 per cup. Likewise, there is no anomaly if someone who usually buys a cheap candy bar on the way to the movies pays the inflated theater price when she is on a date. Paying full price can send a signal about her attitude toward money that she wants to send.⁴¹ There is a plausible response to the

⁴¹ The candy bar case is due to an example by David Friedman:

Allais paradox that runs along these lines. The most popular choices are supposed to be inconsistent because an agent chooses B in Problem 1 if and only if $u(\$0) < 34u(\$2400) - 33u(\$2500)$ and C in Problem 2 if and only if $u(\$0) > 34u(\$2400) - 33u(\$2500)$. For many people, however, the \$0 outcome in Problem 1 is accompanied by regret—“Oh God, I just blew a sure \$2400”—in a way that the \$0 outcome in Problem 2 is not. There is nothing inconsistent about choosing B and C if $u(\$0 \text{ \& regret}) < 34u(\$2400) - 33u(\$2500)$ and if $u(\$0 \text{ and no regret}) > 34u(\$2400) - 33u(\$2500)$. In each of the foregoing cases, the inaccurate prediction is the result of an insensitive modeler missing some feature of the situation to which the agent is responding. Most attempts to safeguard economic theory from empirical counter-evidence follow this strategy. They point to some extra structure in the difficult cases—such as sophisticated preferences or beliefs, information asymmetry, signaling, or strategic behavior—that changes the application of standard economic tools.⁴²

Still, the “new inputs” strategy has some important limits. Initially, the extra attention to (beliefs about) circumstances, motives, and the like doesn’t make much sense unless they are thought of as real features of situations. A plausible instrumentalist model must appeal to accessible inputs. Appeal to beliefs or motives that aren’t apparent in the circumstances would

[C]onsider someone who has a choice between two identical products at different prices. It seems that for almost any objective we can think of, he would prefer to buy the less expensive item. ... But suppose you are taking a date to a movie. You know you are going to want a candy bar, which costs \$1.00 in the theater and \$0.50 in the Seven-Eleven grocery store you pass on your way there. Do you stop at the store and buy a candy bar?

DAVID FRIEDMAN, *PRICE THEORY: AN INTERMEDIATE TEXT* 3 (1990). Friedman thinks that the only conclusion licensed by economic theory is *yes*. He recognizes, of course, that you might not: “Do you want your date to think you are a tightwad? You buy the candy bar at the theater, impressing your date (you hope) with the fact that you are the sort of person who does not have to worry about money.” *Id.* Standard economic theory, he thinks, just fails in this instance. Does this case really tell against economic theory? Obviously not, for the reasons outlined above. See Ellis, *supra* note 35, at 97-98.

⁴² Again, there are costs to this approach. Complicating the application of economic theory means that one must abandon some of its straight-forward recommendations. For example, the Coase theorem depends on the existence of a certain sort of simple market, one without strategic behavior. See, e.g., Deirdre McClosky, *The So-Called Coase Theorem*, 24 E. ECON. J. 367 (1998).

be completely *ad hoc*.⁴³ Further, it usually takes an agent who is actually rational to signal or otherwise engage in strategic behavior. This sort of realism stands in direct opposition to the instrumentalist interpretation of models adopted by most economists. The standard focus on aggregate behavior in economics is also an uncomfortable fit with the “new inputs” strategy. A set of agents who are merely rational *on average* probably can’t support sophisticated strategic applications of standard economic theory. Again, only individually rational agents can perform most strategic behavior.

Finally, the “new inputs” approach just doesn’t handle some of the important cases. The empirical evidence does provide some decisive objections to economic theory. There are some fairly simple cases where economic models fail despite the lack of any complicating environmental structures. Appeal to hidden complexity in the world is no help with the Asian Disease case, for example. The outcomes of programs A and C are literally identical, as are the outcomes of programs B and D—only the terms used to describe them differ. There are no asymmetries in the case for a modeler to miss. Rather, agents seem to irrationally distinguish cases that aren’t actually different. There isn’t any room for this in standard economic theory.⁴⁴ This sort of failure also lends credence to the view that (yet-to-be-discovered) situational complexity might not be the best explanation for the more complicated apparent failures of economic theory. If there is clear evidence that people systematically treat gains and losses differently in this case, then appeal to this sort of differential treatment is plausible in the disposition-effect cases and the lack-of-bargaining-around-judgments cases.

⁴³ This fact accounts for David Friedman’s reluctance to distinguish between a candy bar on a date and a candy bar alone.

⁴⁴ For more cases where economic theory clearly fails, see section II below.

The second strategy—applying the old models in novel ways—is woefully underdeveloped. “Multiple selves” accounts haven’t been studied in any serious way.⁴⁵ Even a cursory examination, however, raises some serious issues about the basic account of preferences at the heart of economic theory. The main problem is understanding the relations among the different “selves.” If we take the metaphor seriously, *intrapersonal* dynamics are at least as complicated as *interpersonal* dynamics. It has been argued, for example, that there are intrapersonal versions of the prisoner’s dilemma and Arrow’s theorem.⁴⁶ Shifting to a “multiple selves” view would require seriously rethinking a host of issues.⁴⁷ At any rate, the standard prescriptions of law and economics presuppose univocal agents. The claim that legal rules maximize allocative efficiency, for example, takes for granted that the agents before the bar are the same agents whose behavior led to the court case in the first place.

Appeal to evolutionary psychology amounts to a surrender to behavioral economics. While evolutionary theory does use mathematical models that are quite similar to economic models, the “agent” in those models is *nature*, not the creatures that evolve.⁴⁸ Nature “chooses” creatures that maximize *her* goal of inclusive fitness. It doesn’t follow that those creatures are maximizers at all (think of insects), much less maximizers that share nature’s goal of inclusive fitness. Evolutionary psychology suggests, rather, that people will be well adapted to their ancestral environments, not universal problems solvers. In fact, relatively narrow behavioral rules are likely to provide lower cost solutions to ecological challenges, at least where there is some environmental stability. Prominent advocates of evolutionary psychology tell us that

⁴⁵ Such accounts have, however, been put forth as a method of explaining such phenomena as hyperbolic discounting. *See, e.g.,* POSNER, *supra* note 4, at 19.

⁴⁶ See Gregory Kavka, *Is Individual Choice Less Problematic than Collective Choice?*, 7 ECON. & PHIL. 143, 148-53, 157-60 (1991).

⁴⁷ For an overview of these issues, *see* Ellis, *supra* note 7.

⁴⁸ Creatures are nature’s *strategies* on these accounts.

human behavior is driven by a grab-bag of ecologically rational heuristics rather than an all-purpose process of utility maximization.⁴⁹ At a minimum, we should expect evolved beings to care about a variety of things other than inclusive fitness.⁵⁰ All of this assumes that evolutionary psychology, as it is currently understood, is an accurate account, which is far from established. There is little doubt that mental activity is underwritten in crucial ways by brains, and further, that brains, as bodily organs, are subject to evolutionary pressures. It isn't at all clear, however, exactly how brains underwrite minds. Likewise, we don't know very much about the crucial details of human ancestral environments. As a result, we just don't have any good idea about how selection pressures have influenced human thought. Most of the accounts offered by evolutionary psychologists have some plausibility, but none has really established itself as likely.⁵¹

The upshot is that things don't look good for standard economic approaches. While they have their virtues, they also confront a number of cases that they can't explain, and they don't seem to have the resources needed to expand their explanatory reach. But all may not be lost: perhaps solutions to the difficult cases can be found in behavioral economics.

II. BEHAVIORAL LAW AND ECONOMICS

Behavioral economics is explicitly an attempt to overcome the deficiencies of standard economics. This approach accepts the normative appeal of economic theory—people should maximize their subjective expected utility. It recognizes, however, that there are empirical

⁴⁹ See, e.g., PETER M. TODD & GERD GIGERENZER, *SIMPLE HEURISTICS THAT MAKE US SMART* (2000).

⁵⁰ See, e.g., ROBERT FRANK, *PASSIONS WITHIN REASON* (1988); JOHN TOOBAY, LEILA COSMIDES & JEROME BARKOW, *THE ADAPTED MIND* (1995).

⁵¹ See, e.g., Jerry Fodor, *The Trouble with Psychological Darwinism*, 20 LONDON REV. OF BOOKS (1998); Jerry Fodor, *The Selfish Gene Pool*, TIMES LITERARY SUPP. (July 27, 2005).

difficulties with economic models, and posits that those problems are not the result of random noise, but rather follow from behavioral regularities. Behavioral economics modifies the structure of economic theory in order to capture those regularities and come up with adequate descriptive models.⁵² While the data about anomalous behavior receives most of the attention in the behavioral law and economics literature,⁵³ behavioral economists themselves develop structural models that are meant to capture this data. These models retain the basic structure of economic theory while replacing simple accounts of subjective probabilities and utilities with more psychologically plausible (but still mathematically tractable) alternatives.

In its current state, behavioral economics appears scattered. A glance at one of the basic articles or defining collections of essays shows it to be a grab bag of empirical findings that have little relationship with each other (though they all stand in opposition to some tenet of traditional economics). Each new empirical falsification of an economic assumption gives rise to a new behavioral model, or at least a new modification of standard economic models. There are some efforts to impose order on these investigations. Prospect theory, for example, unites in one model changes that attempt to account for what appear to be the disparate phenomena of

⁵² That behavioral economics is after better descriptive adequacy is clear in virtually every article on the topic. It is equally clear that behavioral economists accept the normative appeal of standard accounts. By treating anomalous actions as errors, they are buying into the norm of standard economics. Behavioral economics began when “cognitive scientists ... took maximization of utilities and logical rules of probability judgments as benchmarks and used conformity or deviation from these benchmarks as a way to theorize about cognitive mechanisms (much as optical illusions are used to understand perception).” Colin Camerer, *Behavioral Economics: Reunifying Psychology and Economics*, 96 PROC. NAT’L ACAD. SCI. USA 10575 (1999); see also Jolls *et al.*, *supra* note 26, at 1473-74, 1487, 1523-45; Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision under Risk*, 47 ECONOMETRICA 263 (1979); Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 221 SCI. 453, 458 (1981); Philip E. Tetlock & Barbara A. Mellers, *The Great Rationality Debate*, 13 PSYCHOL. SCI. (2002); A. Peter McGraw, Philip E. Tetlock, & Orie Kristel, *The Limits of Fungibility: Relational Schemata and the Value of Things*, 30 J. CONSUMER RES. 219 (2003). Behavioral economists sometimes claim that “dysfunctional effects within one framework will often look functional in another.” Philip E. Tetlock & Barbara A. Mellers, *The Great Rationality Debate*, 13 PSYCHOL. SCI. 98 (2002). This, however, hardly amounts to throwing off the norms of standard economic theory (which, after all are a subset of the norms of common sense). Given their views about human capacities, it isn’t surprising that behavioral economists offer different *prescriptions* than orthodox economists. Both sets of prescriptions, however, are aimed at the same *ideal* – actions that optimally satisfy desires.

⁵³ See Posner, *supra* note 4, at 1558-61.

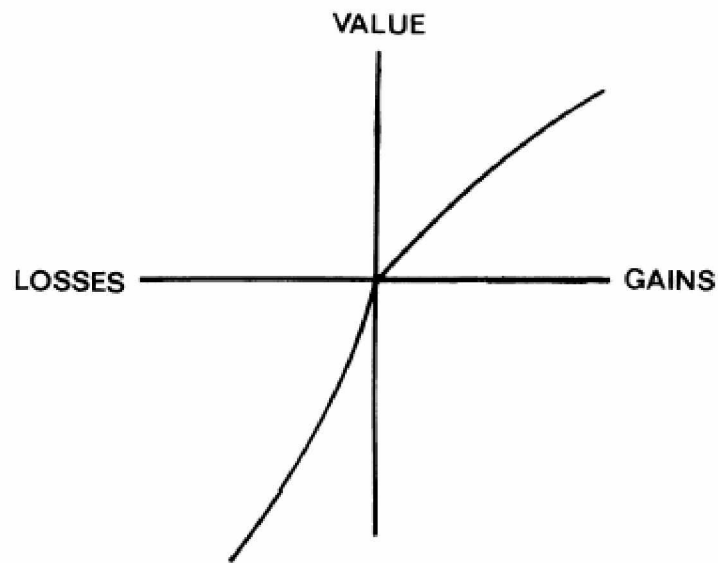
endowment effects and overemphasis on low probability events. And, somewhat less persuasively, the behavioral phenomena to be explained are grouped together in categories such as bounded rationality, bounded willpower, and bounded self-interest.⁵⁴ But on balance, behavioral economics comes across as a collection of insights into what appear to be almost wholly distinct psychological phenomena.

Prospect Theory merits close attention since it is the most well developed behavioral model. Amos Kahneman and Daniel Tversky explicitly formulated it as an empirically superior alternative to Subjective Expected Utility Maximization.⁵⁵ They were impressed, in particular, by the evidence of endowment effects and description-dependent preferences. In order to account for this evidence, Prospect Theory replaces the utility assignments of standard theory (to total asset positions, or, more generally, total states of affairs) with a value function that assesses *changes* (in total assets, or, more generally, situations) from a reference point. People, on this account, evaluate changes in their circumstances rather than the circumstances themselves. In order to capture the empirical data, prospect theory directly models people as risk averse for gains and risk loving for losses. The following figure represents the sort of value function that results.⁵⁶

⁵⁴ See Jolls et al., *supra* note 26, at 1476-79.

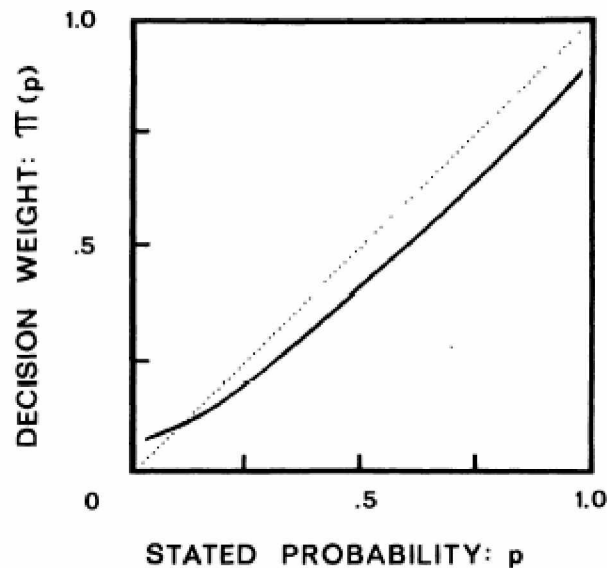
⁵⁵ See Kahneman & Tversky, *supra* note 52, at 263.

⁵⁶ See *id.* at 279.



Note that a material (and so value) gain can reset the reference point. From the new reference point, an equivalent material loss will result in an even greater value loss. In order to model reference-point-based values, Prospect Theory must account for how they are set. To do this, it adds a framing step to the decision process. A person's reference point is usually her current asset position, but framing allows that her reference point can differ depending on her expectations and how her circumstances are presented to her. In the Asian Disease case, for example, the *problems* are phrased in a way that permits multiple reference points ("the outbreak ... is expected to kill 600 people"). The *programs*, however, imply specific reference points: programs A and B *save lives*, suggesting that we should think of the 600 as already gone; programs C and D *limit loss of life*, suggesting that we should think of the 600 as still with us.

Kahneman and Tversky also see evidence that people overweight low probability events in their decisions, so they replace the subjective probabilities of standard theory with decision weights that capture this effect.⁵⁷



For any probability $p < 0.3$ (or so), the decision weight $\pi(p) > p$; for probability $p > 0.3$ (or so), the decision weight $\pi(p) < p$.⁵⁸

While Prospect Theory is the most developed behavioral account, it isn't the whole story. It does, however, serve as a jumping off point for most advances in behavioral economics. Cumulative prospect theory, for example, proposes an alternative account of (still non-linear) decision weights. In the original Prospect Theory, the decision weights are transformed simple probabilities. If, for example, $P(x) = 0.5$ then the decision weight for x is $\pi(0.5)$. The cumulative

⁵⁷ See *id.* at 283.

⁵⁸ See Camerer, *supra* note 25, at 288; Drazen Prelec, *The Probability Weighting Function* 66 *ECONOMETRICA* 497 (1998).

probability of x will be $P(\text{outcome} \leq x)$; the relevant decision weight for x will be $w(P(\text{outcome} \leq x))$. This change in focus is supposed to have some advantages, but it doesn't make much difference in the predictions of models once the relevant weighting functions have been calibrated with the empirical data.⁵⁹ A drawback of cumulative decision weights is that they are only well defined for outcomes that can be adequately modeled with a real valued interval (i.e., where it makes sense to order outcomes as greater than, less than, or equal to one another). This requirement may turn out to be problematic, e.g., cumulative decision weights won't be defined over partial preference orderings.

Mental accounting, an approach pioneered by Richard Thaler, is probably the most important extension of Prospect Theory. Starting from the insight that people evaluate gains and losses asymmetrically, Thaler notes that the prospects being evaluated are not always well defined. Suppose, for example, that someone goes shopping and gets one item at a deep discount (a gain relative to her reference point) but end up paying more than expected for another item (a loss relative to her reference point). Does she evaluate each item-transaction separately and then aggregate those values or does she aggregate the item-transactions and then evaluate? In Prospect Theory, the sum of the values of two objects is not generally the same as the value of

⁵⁹ Amos Tversky & Daniel Kahneman, *Advances in Prospect Theory: Cumulative Representation of Uncertainty*, 5 J. RISK & UNCERTAINTY 297 (1992); Prelec, *supra* note 58, at 497-499; William Neilson & Jill Stowe, *A Further Examination of Cumulative Prospect Theory Parameterizations*, 24 J. RISK & UNCERTAINTY 31 (2002). The shift from Prospect Theory to Cumulative Prospect Theory was motivated, oddly enough, by theoretical considerations rather than empirical evidence. Prospect Theory allows for violations of first order stochastic dominance; Cumulative Prospect Theory doesn't. The shift was motivated primarily by this difference, on the grounds that violations of stochastic dominance are just too outrageous. See, e.g., Tversky & Kahneman, *supra*, at 298, 299-300, 302; Alain Chateauneuf & Peter Wakker, *An Axiomatization of Cumulative Prospect Theory for Decision Under Risk*, 18 J. RISK & UNCERTAINTY 137, 137 (1999); Ulrich Schmidt, *Reference Dependence in Cumulative Prospect Theory*, 47 J. MATH. PSYCHOL. 122, 122 (2003). There is evidence, however, that people often choose gambles that are stochastically dominated. See, e.g., Michael Birnbaum & Juan Navarette, *Testing Descriptive Utility Theories: Violations of Stochastic Dominance* 17 J. RISK & UNCERTAINTY 49 (1998).

those two objects together (i.e., $v(x) + v(y) \neq v(x \& y)$) so whether someone thinks of the objects as distinct prospects or parts of the same prospect will matter in how she evaluates them.⁶⁰

The details of Mental Accounting are not crucial for our purposes. Suffice it to say that people organize “expenditures” and “credits” by type (e.g., money vs. time), topic (e.g., entertainment vs. cash reserves), and time-frame (e.g., gambling proceeds for the day vs. those for the trip). Where the categorization isn’t fixed, people seem to organize prospects for evaluation in such a way as to maximize the aggregate amount of value experienced. According to Mental Accounting, then, the framing step of a decision process slices up the space of outcomes to be evaluated as well as sets up reference points for gains and losses.⁶¹

Prospect Theory and its elaborations clearly must be understood as non-aggregative, non-instrumentalist accounts. The relatively small-scale experiments (at least compared with markets) that provide the data for Prospect Theory are meant to isolate behavior at an individual level. Kahneman and Tversky see this behavior as evidence of real psychological structure.⁶² Indeed, it would be difficult to even develop a convincing instrumentalist interpretation of Prospect Theory. Orthodox economics can plausibly be an instrumentalist account because it can treat environmental frequencies as subjective probabilities and actual choices as “revealed” preferences. According to Prospect Theory, however, there is a gap between normative concepts like preferences and beliefs on the one hand and descriptive concepts like value functions and decision weights on the other. Given this distance, there don’t seem to be any intuitive features

⁶⁰ Richard Thaler, *Mental Accounting Matters*, 12 J. BEHAVIORAL DECISION MAKING 183, 183-186 (1999); Richard Thaler, *Mental Accounting and Consumer Choice*, 4 MARKETING SCI. 199, 199-201 (1985).

⁶¹ See Thaler, *Mental Accounting Matters*, *supra* note 60, at 186-203; Thaler, *Mental Accounting and Consumer Choice*, *supra* note 60, at 201-214; A. Peter McGraw, Philip E. Tetlock, & Orie V. Kristel, *The Limits of Fungibility*, 30 J. CONSUMER RES. 219 (2003); Nicolao Bonni & Rino Rumiati, *Acceptance of a Price Discount*, 15 J. BEHAVIORAL DECISION MAKING 203 (2002); Todd L. Cherry, *Mental Accounting and Other-Regarding Behavior*, 22 J. ECON. PSYCHOL. 605 (2001).

⁶² See Tversky & Kahneman, *supra* note 52, at 456-458; *see also* Camerer, *supra* note 52, at 10575, 10577.

of cases themselves that can effectively serve as proxies for the apparatus of Prospect Theory. This seems to generalize to any account that significantly diverges from orthodox economics. Something at the individual level must actually correspond to value functions, decision weights, etc. in order for behavioral accounts to make sense.

Behavioral economics is a fundamentally conservative approach in that it retains the basic approaches and structures of economic theory. Its basic project is that of standard economics, with extra concern for empirical adequacy. Like orthodox accounts, behavioral models attempt to formalize the common sense notions of desire and belief. The value functions of Prospect Theory, for example, attempt to capture the role normally assigned to desire just as utility functions of standard theory try to. Likewise, the decision weights of Prospect Theory try to regiment the role of beliefs in much the way that the subjective probabilities of standard theory attempt to. The only serious difference is that the functional forms of Prospect Theory formalizations are explicitly developed with an eye toward the empirical data.

Some of these modifications proposed by behavioral theories, however, require additions to the basic structure of provided by common sense. Since it requires a reference point in order to categorize the gains and losses that are assessed by the value function, Prospect Theory supplies a framing account of how reference points are set. Mental accounting requires a framing step to account for how the space of outcomes is partitioned. While framing is not part of the core principle of folk psychology formalized by standard economics, it isn't foreign to common sense. People sometimes see the glass as half empty, sometimes as half full.⁶³ Still, Kahneman, Tversky, Thaler, and the others don't import *much* that is new. Once the reference

⁶³ More on this below!

points are in place and the objects of evaluation are discriminated, they tend to focus on exactly the determinants of behavior that standard economists do—what people value and believe.

Because most behavioral models attempt to formalize what is worth preserving from the common-sense notions of desire and belief, we find evidence of behavioral economic effects already built into legal doctrine (just as we did with standard economic theory). Take, for example, the endowment effect, one of the more robust empirical findings that influences behavioral economics.⁶⁴ This effect describes the fact that people value items they already own more than they would pay to acquire the same items. Such a discovery would appear to be a novel aspect of human behavior that should quickly suggest a variety of improvements in legal doctrine. But while there have been some suggestions along these lines,⁶⁵ there have not been nearly as many as one would have thought. Part of the reason for this, as Sam Issacharoff noted, “is that in this area behavioral models have already been best integrated into the understanding of legal claims.”⁶⁶ The same may be said of some of the other models of behavioral economics. Indeed, the concept of “bounded self-interest”—the fact that people tend to care more about fairness than predicted by traditional economic models—may help explain those “anomalies” of law and economics where judges appear to be concerned with distributional concerns as well as allocative ones.

Behavioral economics is better than the orthodox theory, but even with respect to empirical adequacy, it is something of a mixed bag. In the first place, it is unclear that it can cope with the successes of standard economic theory. In the laboratory, experimental

⁶⁴ The endowment effect is a corollary of Prospect Theory’s loss aversion. For a summary of the studies supporting the existence of the effect, see Daniel Kahneman, Jack L. Knetsch & Richard H. Thaler, *Experimental Tests of the Endowment Effect and the Coase Theorem*, 98 J. POL. ECON. 1325, 1327 tbl.1 (1990).

⁶⁵ See, e.g., Russell Korobkin, *Behavioral Economics, Contract Formation, and Contract Law*, in BEHAVIORAL LAW & ECONOMICS 116 (Cass R. Sunstein ed., 2000);

⁶⁶ Samuel Issacharoff, *Can There Be a Behavioral Law and Economics?*, 51 VAND. L. REV. 1729, 1736 (1998).

economists have shown that exchange markets set up with agents who know only their own circumstances converge to the prices and allocations predicted by standard general equilibrium analysis.⁶⁷ These sorts of successes occur in the real world as well, as even the advocates of behavioral economics admit.⁶⁸ As we saw before, these advocates argue that these successes of economic theory occur only in special circumstances. These caveats, even if accurate, are no help, however, to behavioral models that just build the usual regularities into their core equations. Even the discipline provided by high stakes and arbitrage opportunities is no help for an agent if her beliefs work like the decision weights of Prospect Theory. Interaction among behavioral agents is unlikely to result in the same outcome as interaction among standard economic agents. This is a problem for behavioral economics to the extent that orthodox accounts make accurate predictions.

Obviously, Prospect Theory and its kin capture the cases they are designed to capture. There are, however, a number of ways to account for the empirical evidence in question. Given this fact, one might question why behavioral economists make the exact modifications to the functional forms of standard theory that they do. There is clearly an idea that as much of orthodox economics as possible is to be preserved, and that changes should be made only as new behavioral anomalies appear in the data.⁶⁹ This approach seems to be a hangover from standard economic instrumentalism—if all that matters is predictive success then it makes sense to accommodate the evidence in a direct way, without worrying too much about the underlying psychology. Note, however, that that this sort of latent instrumentalism is quite implausible for behavioral accounts such as Prospect Theory. Further, such a piecemeal, data-driven approach is

⁶⁷ See, e.g., Vernon L. Smith, *Rational Choice: The Contrast Between Economics and Psychology*, 99 J. POL. ECON. 877, 887, 880 (1991); see also Kreps, *supra* note 20, at 198.

⁶⁸ See Jolls, et al., *supra* note 26, at 1486.

⁶⁹ See *id.* at 1593.

troubling because of the way changes in models can interact. A modification to account for one sort of evidence might change the way in which other evidence can be accommodated.

This sort of interference can be seen in the behavioral economic literature. Appeal to reference-point-dependent value, for example, competes with appeal to fairness norms as the explanation for unexpected failures to bargain around court orders.⁷⁰ No model could incorporate *both* Prospect-Theory-style value functions *and* a Sunstein-style appeal to fairness norms: Sunstein holds that fairness norms have influence apart from mediation by preferences.⁷¹ A model with both value functions and norms mediated by preferences would have too much—one or the other is sufficient to account for the data. Projectability is also a concern: do behavioral accounts handle the new evidence as it comes in? The empirical work seems mixed. James Druckerman, for example, finds that while reference-point framing effects seem to occur in certain political contexts, they don't occur in others.⁷² The upshot is that behavioral anomalies like the framing effect are not constant, but rather intermittent and dependent on circumstances. Without some underlying theory telling us when the various anomalies are likely to occur, it is difficult to piece behavioral economics into a coherent picture, much less one that can be readily integrated with the successes of standard economics.

While those who work in law and behavioral economics readily admit the lack of a unifying theory, they do not view this as a fatal or insurmountable problem.⁷³ The contrast drawn here, as always, is with traditional economics, which they see as well-theorized but

⁷⁰ See *id.* at 1497-98.

⁷¹ See Sunstein *supra* note 27, at 139.

⁷² James N. Druckerman, *Political Preference Formation: Competition, Deliberation, and the (Ir)relevance of Framing Effects*, 98 AM. POL. SCI. REV. 671, 673-81 (2004); see also James N. Druckerman, *Using Credible Advice to Overcome Framing Effects*, 17 J.L. ECON. & ORG. 62 (2001); Jerwen Jou, James Shanteau & Richard Jackson Harris, *An Information Processing View of Framing Effects: The Role of Causal Schemas in Decision Making*, 24 MEMORY & COGNITION 1, 3-8 (1996).

⁷³ See Korobkin & Ulen, *supra* note 28, at 1057-58, 1071-73; Jolls et al., *supra* note 26, at 1487-89; Thomas S. Ulen, *The Growing Pains of Behavioral Law and Economics*, 51 VAND. L. REV. 1747, 1747 (1998).

empirically false (at least on many occasions).⁷⁴ In choosing between a complete theory that leads to incorrect predictions and an incomplete group of psychological phenomena that, when applied in the right context, lead to accurate predictions, it's easy to see the appeal of behavioral economics. Indeed, it is sometimes viewed as a version of legal pragmatism.⁷⁵ And those in law and behavioral economics rightly caution that the discipline is still in its infancy, and express hope that someday it will come together into a more coherent theory.⁷⁶ (That said, relatively little work is done to further this goal; instead, most of the work tends to involve the application of existing behavioral models to particular legal doctrines.)

But the lack of a unified theory is a serious shortcoming, especially in the context of developing prescriptions for legal doctrine. Initially, the lack of such a theory makes it difficult to sort out the relationships among the great (and growing) number of heuristics, biases, and other behavioral “anomalies.” There may be multiple behavioral explanations for many types of behavior; indeed, as noted above, this sort of problem is already springing up in the literature. Without some theory that explains the relationships among competing models, it seems less likely that a particular behavioral approach will gain much traction among lawmakers.

There is also a related problem: without a unified theory of behavior, it is difficult to figure out when lawmakers should apply traditional economics and when they should apply behavioral economics (or, if behavioral models are viewed as fine-tuning standard models, when you fine-tune and when you leave well enough alone). Take, for example, the fact that people value items they already own more than they would pay to acquire the same items (i.e., the endowment effect). Is it, as posited by behavioral economists, best modeled by Prospect

⁷⁴ See Korobkin & Ulen, *supra* note 28, at 1057-58; Jolls et al., *supra* note 26, at 1487-89.

⁷⁵ See Korobkin & Ulen, *supra* note 28, at 1057.

⁷⁶ See Korobkin & Ulen, *supra* note 28, at 1057; Jolls et al., *supra* note 26, at 1487; Ulen, *supra* note 73, at 1747.

Theory's reference-point-dependent value functions? Or is it, according to standard accounts, best explained by some combination of wealth effects, rational adaptation, and the absence of close substitutes? Without a unified theory, we are not even sure that the two accounts compete at all—perhaps the behavior is best captured by some combination of the two.

Integrating the findings of behavioral economics into a more unified theory of behavior would go a long way toward persuading both legal academics and, ultimately, policymakers of their importance. A large part of Richard Posner's critique of behavioral economics is that it is "undertheorized."⁷⁷ Other legal academics, though less wedded to traditional law and economics methods, make a similar point.⁷⁸ Policymakers, too, will be reluctant to jump on board without some principled way of mediating among behavioral models. The law, after all, is a collection of fairly general rules of widespread applicability. While some tailoring is obviously possible, there are limits. And, given the current state of behavioral economics, it may well be that most policymakers choose to stay with the status quo (the status quo bias at work!).

The root of the problem, though, may not be that behavioral economics is undertheorized in some way. Behavioral economics, after all, is as capable of forming models to

⁷⁷ Posner, *supra* note 4, at 1559.

⁷⁸ See Issacharoff, *supra* note 66. Issacharoff, for example, believes that at least four conditions must be met in order for a successful behavioral law and economics to emerge:

- 1) The effects identified must be generalizable and not limited to idiosyncratic situation-specific departures from rational model expectations;
- 2) The effects identified must be robust;
- 3) The effects identified must be of sufficient magnitude as to systematically undermine predictions of behavior derived from models that assume rational choice;
- 4) The insights derived from the behavioral and psychological studies must be capable of being operationalized to condition the behavior of all persons subject to specific regulation.

Id. at 1734. It should come as no surprise that the legal academy would be much more eager to embrace the empirical results if they came as part of a broader theory of behavior—the academy has always been drawn to more scientific theories of the law (one needs only to think of Langdell's formalism, the Progressive's belief in the power of science, and Law and Economics; even the Legal Realists looked to the new work in psychology to buttress their claims).

handle cases as standard economics. The problem, rather, is that behavioral models are under-*motivated*. The fact that standard models don't handle the empirical evidence is good reason to alter those models, but the alterations themselves are pretty simple-minded. Behavioral economists often fail to draw a distinction between empirical evidence and what it is evidence *for*. If, for example, the data suggest an endowment effect, the behavioral approach treats that effect as a brute fact, building it into the core apparatus of the model without any further ado. This sort of "curve fitting" approach accepts without question that standard economic models are both normatively attractive and in the right neighborhood of the causal mechanisms of behavior. This, in turn, suggests a certain diagnosis of the problems with standard economic theory: we know what people are supposed to do, but there are flaws in the design that implements the plan.⁷⁹

Behavioral economics, then, lets standard economic theory set the agenda: it discusses exactly the elements of common sense that standard theory discusses; it (mostly) leaves out what standard theory leaves out. Both the source and the failures of economic theory suggest, however, that this approach should at least be questioned. Economic theory is abstracted from folk psychology. If it has problems, it is at least a live possibility that the abstraction was deficient. This point is more urgent when it becomes clear that behavioral economics is prey to similar failures.

Like orthodox accounts, behavioral models hold that behavior reflects *all* of an agent's wants, interests, values, etc. The gains and losses that value functions in Prospect Theory assess are, for example, *overall* gains and losses concerning the prospect at hand. There is, however,

⁷⁹ It is an interesting feature of this approach that although it accepts orthodox economics as a normative benchmark, it characterizes agents as incapable of making direct progress in approximating that norm. An agent accurately characterized by Prospect Theory, for example, *couldn't* evaluate overall circumstances, as opposed to changes in those circumstances.

evidence of human “tunnel vision” that suggests people often act on a proper subset of the values they hold. Some behavioral phenomena are, therefore, beyond the reach of even behavioral economics.

Consider, for example, an experience of George Orwell in the Spanish Civil War.⁸⁰ Orwell had gone out to snipe at Fascists. He saw an easy target—a fleeing enemy soldier holding up his trousers as he ran—but he couldn’t shoot because “a man who is holding up his trousers isn’t a ‘Fascist’, he is visibly a fellow-creature, similar to yourself, and you don’t feel like shooting at him.”⁸¹ Orwell knew, of course, that the man was still a Fascist, but he didn’t *see* him that way. He also realized that others he had fired at (both before and after this incident) were fellow-creatures, but he did see *them* as Fascists and he shot with resolve if not relish.⁸²

Something recognizable as framing seems to be going on here—before Orwell decided whether to shoot, he focused in on certain aspects of his situation rather than others. But this clearly isn’t framing as Prospect Theory understands it—there aren’t any reference point issues here. Orwell seemed to hold two relevant principles: *it is generally wrong to kill others* and *it is generally right to stop the spread of Fascism*. We expect someone to who volunteers to serve in an armed conflict to come to an understanding about how such principles fit together. Orwell, for example, (usually) seemed to think that stopping the spread of Fascism was crucial enough to allow some compromise on his principle against killing. Standard economics starts with these sorts of overall evaluations—an act of killing has a utility assignment, all (factual and motivational) things considered. Behavioral economics follows the same line. Whether some action counts as a net gain or loss is determined by the whole person’s motivational structure.

⁸⁰ The case was suggested by FREDERIC SCHICK, UNDERSTANDING ACTION 1-2 (1991).

⁸¹ GEORGE ORWELL, COLLECTED ESSAYS 192 (1991).

⁸² *See id.* at 189.

Mental accounting does nothing to change this since it only addresses what the basic objects of evaluation are, not how they get evaluated. In the case at hand, however, Orwell seems to have lost contact with his usual overall evaluation. He wasn't able to understand (frame) his situation as one where he was shooting a Fascist; he had "tunnel-vision" on the humanity of his intended victim.

Economists of all stripes are likely to write off Orwell's case as a psychological anomaly, but this is a mistake. Attention is at least as bounded as rationality or willpower. On reflection, it should be obvious that people rarely reflect on all of their values or beliefs when they act. Steve doesn't consider all of the implicated values when he goes to the snack machine at work (although he probably should). Rather, he feels a twinge of hunger that distracts him from the task at hand and he acts to satisfy that hunger with no real thought to the costs.

There is a similar story of "tunnel-vision" at the very foundation of economics. One of the stylized facts about markets is that they lead people to act on bottom line considerations, i.e., to get money, products, services, etc. In the marketplace, people act for personal gain; other values are reflected only in what they do with those gains. Both critics and advocates of markets generally agree that they lead people to focus on bottom line issues, at least in certain contexts. They disagree only about whether this is a good thing.⁸³ Markets are thought to have this effect because of the way economic incentives work: acting on non-market values is costly; market competition drives out high-cost competitors.

⁸³ This claim is an element in many criticisms of market-oriented societies. Elizabeth Anderson claims, for example, that the freedom of the market is really freedom *from* (most) values. See Elizabeth Anderson, *The Ethical Limitations of the Market*, 6 ECON. & PHIL. 179-205 (1990). It is more surprising, perhaps, that proponents of market systems make similar points. The classic argument that free enterprise undermines racial discrimination holds, for instance, that markets lead employers to put profit before prejudice. See, e.g., GARY BECKER, *THE ECONOMICS OF DISCRIMINATION* (1957); Kenneth Arrow, *The Theory of Discrimination*, in DISCRIMINATION IN LABOR MARKETS 91-100 (Orley Ashenfelter & Albert Rees eds., 1973); Milton Friedman, *Capitalism and Discrimination*, in CAPITALISM AND FREEDOM 108 (Milton Friedman ed., 1982).

This story can't be right, however, at least in many cases. As we saw before, people care about a variety of issues, including many that aren't self-focused. According to economic theory, orthodox or behavioral, markets should reflect this fact. If consumers really care about, say, labor rights or avoiding racial "inferiors," they should be willing to pay to further those goals. Entrepreneurs, then, should compete to satisfy the demand for products that advance these goals (e.g., labor-friendly shoes, Caucasian-produced bread). Niche marketing of this sort exists, of course, but it is relatively rare. While markets certainly haven't eradicated racism, or any other non-pecuniary value, people *do* tend to focus on narrowly "economic" considerations when they do things like make purchases or hire workers. The standard economic picture, one shared by both orthodox and behavioral accounts, has it that people act from their whole minds. The common evidence of human tunnel vision strongly suggests that this picture is inadequate.

The upshot is that things don't look much better for behavioral economic approaches than they do for standard approaches. While they have their virtues, behavioral models also confront a number of cases that they can't explain and they don't seem to have the resources needed to expand their explanatory reach. While both standard and behavioral economics formalize certain central aspects of common sense, there are other aspects that they leave out. There are resources in those other aspects that can be exploited to handle some data. Sometimes, for example, we explain behavior by holding that people are overwhelmed by emotion. Likewise, we explain some behavior by holding that people are distracted from important information. The difficulties encountered by both orthodox and behavioral economics suggest, at least, that it would pay to look again at the original regimentation of common sense to see if there is anything worthwhile that was left out. Such a reexamination can provide insights for both normative and descriptive models of behavior.

III. TOWARD A UNIFIED THEORY OF BEHAVIOR

When attempting to develop a more unified theory of behavior, it makes sense to begin by asking whether there are any features that are common to the great variety of behavioral anomalies. One candidate is the importance of context.⁸⁴ The phenomena catalogued by behavioral economists often turn on a change in the context of the action or decision at issue (or, to be more precise, they turn on a change in the subject's apprehension of the situation). The subjects of prospect-theory experiments, for example, respond differently to situations involving perceived gains and those involving perceived losses. Indeed, the highly contextual nature of many of the behavioral effects is one of the things that makes them so difficult to pin down and, ultimately, operationalize into law. Thus we are told by scholars of law and behavioral economics that, without an overarching theory, the key to developing useful legal commands in any given circumstance involves "due regard for the relevant decision-making capabilities of the actors *in that specific setting*."⁸⁵

But it is not merely a change in context that gives rise to the cases that cause so much trouble for standard economic theory. A new situation often presents a person with new information, and clearly that information can change the person's underlying beliefs or ultimately even her desires. Standard economics, however, can easily handle such changes. What standard economics cannot do is accommodate changes in context that are unaccompanied by changes in underlying beliefs and desires and nonetheless prompt different actions. Thus, our

⁸⁴ At first glance, looking to something as broad as the context of action appears to be too abstract to be of much use. But here it is good to remember that we are attempting to unify what appear to be a rather wide-ranging group of behavioral phenomena. It is unlikely that the unifying principle is going to take the form of some hidden trick of the mind that we're completely unacquainted with; more likely, it will be something right under our noses. Whether systematic attention to context ultimately gives rise to a theory that is too *ad hoc* or underdetermined, however, is a fair question, and one that is taken up later in this section.

⁸⁵ Korobkin & Ulen, *supra* note 28, at 1057-58 (emphasis supplied).

reexamination of commonsense psychology should be with an eye to finding a way to build the context of human action back into our motivational theory.

The observation that actions take place in specific contexts is not new. It has long been recognized that a person is disposed to act in a situation that poses a particular problem (challenge, opportunity, etc.), and that she responds to the problem by trying to solve it.⁸⁶ Aristotle provides a simple example: “I want to drink, says appetite; this is drink, says sense or imagination or thought: straightaway I drink.”⁸⁷ In this case, some situation prompts the agent’s thirst, such as heat or exercise. A person can be thirsty, of course, without paying much attention to that fact. Here, however, she does pay attention. The agent’s view of her situation activates her desire for a drink. Her perception of her circumstance brings thirst to the fore, making it seem like a problem. The agent operates in the context of her problem. She sees that she can do something about her thirst—take a drink—and so she does. Note that Aristotle’s agent still has many other reasons—she wants to give a sacrifice, finish a tragedy, etc.—but in *this* situation she acts on her thirst. Common sense tells us, then, that only a part of a person’s preference structure might be “on line” at any given time. People have a limited capacity for comprehending their environments. As a result, their attention is selective.⁸⁸

Frederic Schick, in a series of articles and books over the last two decades, has developed an addition to the standard folk psychological account of action that captures role of perceived

⁸⁶ See G.H. VON WRIGHT, PRACTICAL REASON 50-51 (1983); Rex Martin, *Intelligability*, 74 MONIST 129, 129-30 (1991); Rex Martin, *G.H. von Wright on Explanation and Understanding: An Appraisal*, 29 HISTORY AND THEORY 205, 206-08 (1990); SCHICK, *supra* note xx, at 55-60; FREDERIC SCHICK, MAKING CHOICES: A RECASTING OF DECISION THEORY 17-18 (1997).

⁸⁷ ARISTOTLE, ARISTOTLE’S *DE MOTU ANIMALIUM* 701a32-34 (Martha C. Nussbaum trans., 1978).

⁸⁸ Different people can understand the same circumstances in different ways. Particular people are not necessarily tied to particular perspectives, however.

circumstances in causing actions.⁸⁹ He calls desire-belief pairs *grounds*.⁹⁰ Grounds are *potential* reasons for actions. Each of us has grounds for a number of incompatible actions. A particular ground is activated, and so leads to action, in virtue of the person's *understanding* of her situation.⁹¹ In Aristotle's case, the agent's ground for drinking (and not her other grounds) is activated by her understanding that thirst is her problem now, not her religious duties or her play deadline. She acts to satisfy only that desire. A person has one understanding at a time—the one implicit in the mental states she is actually using. This understanding cannot always be simply characterized, of course. It might involve more than one dominant theme, e.g., someone might understand a situation in terms of both loyalty and justice. Compound understandings of this sort involve as elements considerations that might constitute separate understandings on their own. A complex understanding activates a particular ground only when the agent sees as her objective the object of the desire component of the ground.⁹²

Thinking about understandings helps us see that reasons aren't necessarily *overall* evaluations of the sort that utility or value functions are supposed to provide in standard economic or prospect theory, respectively. There are often interests (contained in unactivated grounds) that aren't considered. How is partial evaluation sufficient to support an action? An activated ground shows that a course of action is desirable insofar as it advances toward the objective the agent actually considers. Given her understanding, she doesn't see anything to give her pause before acting. This insight leads Schick to develop a three-part theory of reasons. If a person has grounds for an action and she understands her circumstances in a way that activates

⁸⁹ See FREDERIC SCHICK, *AMBIGUITY AND LOGIC* 61 (2003); SCHICK, *supra* note 86; SCHICK, *supra* note 80; Frederick Schick, *Status Quo Basing and the Logic of Value*, 15 *ECON. & PHIL.* 23 (1999); Frederick Schick, *Allowing for Understandings*, 89 *J. PHIL.* 30 (1992); Frederick Schick, *Coping With Conflict*, 85 *J. PHIL.* 362 (1988); Frederick Schick, *Rationality: A Third Dimension*, 3 *ECON. & PHIL.* 49 (1987).

⁹⁰ See SCHICK, *supra* note 86 at 14-15, 22.

⁹¹ See *id.* at 15-22.

⁹² See *id.* at 23-27, 67-71; see also SCHICK, *supra* note 80, at 61.

exactly the mental states that make up those grounds, then she does the action. Schematically, if a person (1) wants *A*; (2) believes both that *A only if B* and *B is available*; and (3) understands as her situation as one where (a) the realization of *A* is her objective, i.e., the desire for *A* is the only one activated; (b) making *B* true is a means to or way of making *A* true, i.e., the belief that *A only if B* is activated; and (c) some option realizes *B*, i.e., the belief that *B is available* is activated, then she does *B*. If someone has a ground for an action and she uses exactly the mental states that make up that ground to think about her situation, then the action suggested by that ground will (in the absence of external restraint or infirmity) ensue—no other considerations that could derail the transition from desire to action are active.⁹³

It is hard to say what makes some features salient and others not in a given situation. Of course, we don't need to know the full story for the purposes of this paper—we're suggesting a line of inquiry, not a finished account. Folk psychology tells us enough, however, to convince us that this line is worth pursuing. To have a certain understanding is to represent a situation with certain propositions involving certain properties. Attitudes toward those propositions are thereby activated and so employed in reasoning. Other propositions involving those properties are likely to spring to mind as well, activating desires and beliefs that involve them. We might believe of someone, for example, that he sees her action as a threat to his masculinity. The person in question sees the circumstances surrounding her action and his response through the lens of his masculinity: that consideration looms large in his thinking. His beliefs about manliness, his desire to protect his own manliness, considerations involving the relationship between

⁹³ See SCHICK, *supra* note 80, at 84-88. Note that on this view, *instrumental* rationality can be subjectivist about understandings as well as beliefs and desires. Still, there are normative issues about what constitutes appropriate understandings, just as there are normative issues about appropriate desires and appropriate beliefs. Schick takes a pluralist, subjectivist line. See SCHICK, *supra* note 89, at 117-32 ; SCHICK, *supra* note 80, at 151-64. We are more inclined to a kind of objectivist view: an appropriate understanding of a certain situation is one that would lead to the same decision/action as if the agent had all of her mental states activated. In other words, we accept the normative force of utility maximization.

masculinity and other aspects of his self-image, etc. come to mind when he thinks about his situation and so they will guide his actions.⁹⁴

Appeal to understandings is part, albeit a neglected part, of our common-sense psychology. Reflection on our everyday thoughts reveals the role that understandings play. When I see a child in trouble, for example, I don't think about my own monetary gain, despite the fact that I might be able to make some money in that circumstance. Likewise, I rarely think about the harm I might do others when I drive. I think rather about where I am going and what I'll do when I get there. We already know, in some sense, that we can affect the actions of others by framing their options in certain ways, i.e., by bringing to mind certain propositions rather than others. Understandings play a familiar, if unheralded, role in our everyday thinking about behavior.

It is fairly easy to adapt economic theory to accommodate Schick's insights about understandings. Standard consumer theory starts with preferences. It doesn't say anything, however, about how these preferences result from an agent's various interests. Let us suppose that each of a person's basic goals induces an interval ranking of actions. People act on subsets

⁹⁴ Aristotle's theory of perception and imagination provides a crude but not implausible account of understanding. According to Aristotle, people have a capacity for directly representing situations they encounter: *perception*. ARISTOTLE, ARISTOTLE'S *DE ANIMA* BOOKS II AND III 418a3-6, 424a17-27 (D.W. Hamlyn trans., 1974). On his account, when someone perceives an object she registers certain of its properties. The faculty of perception is closely related to the faculty of *imagination*. Images are appearances as of this or that sort of thing. *Id.* at 428a10-5, 428b3-5. They are like perceptions in that they are representations of certain properties. *Id.* at 429b18-21, 431b125, 432a3-7. Images are unlike perceptions, however, in that they are not closely tied to particular objects. Imagination allows a person to represent more than she has already encountered. *Id.* at 428a5-7, 429b12-15, 431b12-15. When we represent the object of a mental state we have an image of the properties it involves, combined in the way it suggests. Imagination, then, is how we entertain propositions. When we entertain a proposition any attitudes toward it are likely to be activated. Beliefs and desires that involve some of the same attributes are likely to become activated as well since the mind forms new images by recombination. This account of how imagination works does suggest actual patterns of activation. Aristotle's theory of imagination provides an associationist account of understanding. Mental states become activated because they are related in certain ways to mental states that are currently activated: their objects resemble one another, often occur together, are related as cause and effect, etc. These are the sort of "principles of connexion among ideas" to which Hume refers. DAVID HUME, AN ENQUIRY CONCERNING HUMAN NATURE 14 (Eric Steinberg ed., 1977). The mechanism that activates mental states might be what drives out associationist intuitions.

of their mental states, so they attend to only some of their basic interest rankings and some of their beliefs. In any circumstance, the behavior-relevant probability weights are those that are conditioned on salient beliefs and the action-guiding expected utilities are importance weighted sums of the (numerical representations of the) rankings of salient desires.

The formal account is simple but a bit tedious. Let $\mathbf{A} = \{a_i \mid a_i \text{ is an action that the agent thinks she can perform}\}$; $D = \{d \mid d \text{ is a basic desire}\}$; \mathbf{R}_d is the binary preference relation over \mathbf{A} provided by desire $d \in D$. $a_i \mathbf{R}_d a_j$ means that a_i is at least as good as a_j with respect to desire d . Each \mathbf{R}_d is *complete* and *transitive*. A function $u_d: \mathbf{A} \rightarrow \mathfrak{R}$ (the real numbers) gives an expected utility assignment that numerical represents \mathbf{R}_d such that $u_d(a_i) \geq u_d(a_j)$ iff $a_i \mathbf{R}_d a_j$. Each $u_d(\cdot)$ is unique only up to positive linear transformation. Schick's idea, in brief, is that people can be motivated by different proper subsets of their desires in different situations. What follows is a way to build this idea into formal economic models. Let $\mathbf{N} = \{N \mid N \text{ is a situation}\}$; $\mathbf{C} = \{\mathbf{R}_d \mid \mathbf{R}_d \text{ for } d \in D\}$ is the set of preference rankings provided by someone's basic desires; $\text{Pow}(\mathbf{C}) = \{C_i \mid C_i \subseteq \mathbf{C}\}$ is the set of subsets of \mathbf{C} , i.e., the various combinations of rankings provided by basic desires. $S: \mathbf{N} \rightarrow \text{Pow}(\mathbf{C})$ is a function that specifies the set of preference relations activated in situation N . Where multiple rankings are activated, the final evaluation is a weighted sum of the rankings provided by particular desires. (This is a controversial claim, but it makes sense under certain conditions.)⁹⁵ In situation N a person will have the set of activated rankings $S(N) = \mathbf{C}_N$. Her ranking of states will be given by $u_{\mathbf{C}_N}(\cdot) = \sum_{i \in \mathbf{C}_N} w_i u_i(\cdot)$ where w_i is the weight of the i th desire. She will choose an $a_j \in \mathbf{A}$ such that $u_{\mathbf{C}_N}(a_j) \geq u_{\mathbf{C}_N}(a_k)$ for all $a_k \in \mathbf{A}$. Expected utilities depend on probability functions in the standard way. Let $B: \mathbf{N} \rightarrow \text{sets of propositions}$ be the

⁹⁵ See John Harsanyi, *Cardinal Welfare, Individualist Ethics, and Interpersonal Comparisons of Utility*, 63 J. POL. ECON. 312-314 (1955).

function that specifies a set of salient propositions for each situation. The probabilities that a person assigns given that she takes action a_i , $P(\cdot \mid a_i)$, in situation N are $P(\cdot \mid a_i \ \& \ B(N))$.

Appeal to understandings can account for the cases that create trouble for orthodox economics. It handles the description-dependent preference cases in exactly the way Prospect Theory does—framing in terms of gains or losses from reference points is a kind of understanding.⁹⁶ It matters that the price I can sell my stock for is not merely \$X, but \$10 *less* than I was expecting, because this expectation brings certain values to mind. Likewise, reflecting on people who are recently dead brings to mind a different set of beliefs and interests than thinking about people who are about to die. This sort of appeal to different sets of mental states provides a potential explanation for the risk attitudes that are just built into Prospect Theory: losses make powerful fears salient; gains make fantasies salient but they are less powerful. We know how to live with our status quo situation, at least in most cases. It is easy, however, to imagine, and so fear, losses—we can think about what might happen when we lose the familiar. It is less easy to imagine gains—the new is unfamiliar and we might not know how it would affect our lives. Likewise, it isn't difficult to see how focusing on some considerations and not others would lead someone to divide up the space of outcomes being considered in a particular way. Schick's understandings are similar to Kahneman-Tversky-Thaler-style framing in that both posit a pre-processing step where the inputs that influence behavior are specified. Traditional framing, however, misses a lot of what is useful in understandings because it still assumes that people consult all of their wants, interests, values, etc. when calculating gains or losses. The understandings account goes beyond what either standard or behavioral economics is

⁹⁶ See SCHICK, *supra* note 80, at 121-45; see also Jou et al., *supra* note 72, at 1-3, 9-11.

even willing to look at by allowing that people can act on a proper subset of their desires and beliefs.

This approach also promises to help solve a number of philosophical problems regarding human action, including puzzles about inner conflict and weakness of will.⁹⁷ It provides, in particular, an attractive alternative to building “bounded willpower” directly into behavioral models. After all, seeing willpower as a strictly limited commodity makes its opposite, stubbornness, something of a mystery. And stubbornness in certain areas of life but not others would be particularly perplexing. If willpower is a general-purpose capacity that is limited or a feature of hyperbolic discounting of overall utility (or value), how can Steve be so resolute about avoiding Wal-Mart and so irresolute about his food intake? A model that invokes understandings can account for both stubbornness and weak will. Someone who sees a decision as a matter of principle will have access to all of the motivational reinforcement that principle has to offer. Someone who is trying to lay off the doughnuts, on the other hand, would like to focus on the health risks of junk food. He is used to focusing on the pleasure it brings, however, so he often sees them as pleasurable and proceeds to eat.

There is no problem in seeing which desires motivate weak-willed actions—we can determine the desires that people actually act on. Appeal to understandings explains why people tried to advance those goals and not others—they work toward the ends that are before their minds. This account handles even the most difficult cases, ones where a person performs an action that she acknowledges, even at the time she acts, is not the best overall. The key to thinking through such cases is realizing that there is a distinction between *access* to a desire and *activation* of that desire. Clearly, a person can have *beliefs about* her own desires. Such beliefs

⁹⁷ See SCHICK, *supra* note 80, at 102-21.

can be activated even when the desires they concern are not. Admittedly, such cases are likely to be rare because having a belief about a desire would normally activate that desire. Still, they seem to happen. Simply having access to a desire will not influence a person's behavior in the way that activation of that desire would—an agent can conclude that a proposed action is sub-optimal considering a certain desire, but not care because that desire is not activated, and so not part of her reason. This seems to be precisely what happens. When a person acts against what she acknowledges is a more important consideration than the one she is acting on, she will often report that she doesn't care about it now or that she can't think about it now. This indicates that she isn't feeling the pull of that consideration. People are able to make intellectual judgments about optimal actions, all things considered, using a process that *models* desires but doesn't *employ* them. This seems to be how much of our deliberation about the future actually works.

Paradoxically, the understandings approach also has the potential to salvage more of orthodox economic theory than most behavioral approaches. Consider, for example, the “tunnel vision” on “bottom line” considerations induced by market contexts. Within those contexts, standard economic theory fares pretty well. It is only when further considerations (e.g., fairness, security) get involved that things begin to fall apart. The approach of behavioral economics—which involves building various behavioral effects straight into the standard models—sacrifices, to some extent, the intuitive connections between preferences and beliefs and the parts of models that represent them. The intuitive plausibility of standard models is better preserved by looking at which beliefs and interests are operating in a particular case. And this is exactly what an understandings approach does, for an appeal to understandings provides a mechanism by which context can influence behavior. Where a circumstance makes the sorts of things that economists look at salient, people act in the way economists predict. Where a situation brings a threat

(opportunity, etc.) to the foreground, agents act in light of that threat (opportunity, etc.). An account that includes this sort of framing is able to account for both the cases that confound orthodox economics and the cases that confound behavioral economics.

Behavioral and understanding approaches can provide competitive explanations for particular phenomena.⁹⁸ In order to decide between approaches in such cases, research will need to be done. That being said, it is important to see that adding understandings is not incompatible with the various behavioral moves. We have good reason to expect that some combination of approaches will be required to account for the full range of behavioral complexity. It is unlikely, for example, that beliefs are always adequately modeled by subjective probabilities, even when appropriately conditionalized.⁹⁹ In order to handle the empirical evidence, economics will probably need to take a two-track approach: look for more common-sense resources (“top down”) and fit the descriptive models to the data (“bottom up”).¹⁰⁰

The concept of understandings helps in this regard by providing a top-down approach. It can be formalized in a way consistent with standard economic theory, and can therefore capture the successes of standard accounts. At the same time, an understandings approach can also explain many of the empirical findings that drive the development of behavioral models including (but perhaps not limited to) Prospect Theory, Mental Accounting, and claims of bounded willpower. Because it does so by providing an account of the underlying mechanism that motivates seemingly anomalous behavior, the approach may allow us to mediate among the various behavioral accounts, as well as help integrate them into standard models. And, finally, an understandings approach may also explain the cases that escape both standard and behavioral

⁹⁸ In much the way that different behavioral approaches can compete, as noted before.

⁹⁹ Prelec, *supra* note 58, at 497-499.

¹⁰⁰ See Russell B. Korobkin, *A Multi-Disciplinary Approach to Legal Scholarship: Economics, Behavioral Economics, and Evolutionary Psychology*, 51 JURIMETRICS J. 319 (2001).

accounts (think of Orwell's sniping or our tunnel vision in market contexts). The result of all this—a more unified theory of behavior—would allow us to better predict and regulate human behavior.

Social scientists tend to be suspicious about views that claim too many advantages, especially when those advantages include the unification of contending accounts. The worry here is that if people can understand situations in any which way, then there is no behavior, however off the wall, that is inconsistent with the account. An unfalsifiable theory, however, has no place in social science. Some views really are too good to be true (or at least too good to be scientific truths).

All accounts of human behavior (or at least all of the remotely plausible ones) face criticism along these lines because they appeal to mental states that aren't directly observable.¹⁰¹ A theory would be unfalsifiable if it always avoided empirical evidence by changing its interpretation of unobservable conditions. Common sense appeal to desires and beliefs is sometimes derided because we could always come up with mental states that would rationalize any bit of behavior.¹⁰² Obviously, standard economic accounts are subject to exactly the same criticism.¹⁰³ Behavioral accounts come in for similar criticism, often from economists and their allies.¹⁰⁴

What should we think about this type of criticism? For one thing, it seems to rule out most of modern social science on the grounds that it appeals to unobservables. Perhaps the

¹⁰¹ Behaviorism avoids this issue, for example, but it is a poor account precisely because it doesn't appeal to the internal states of agents. External environment just isn't the only determinant of behavior.

¹⁰² See, e.g., ALEXANDER ROSENBERG, PHILOSOPHY OF SOCIAL SCIENCE 36-43 (1995).

¹⁰³ See, e.g., Christine Jolls, Cass R. Sunstein & Richard Thaler, *Theories and Tropes: A Reply to Posner and Kelman*, 50 STAN. L. REV. 1593, 1597-1599.

¹⁰⁴ Posner, for example, claims that "it is profoundly unclear what 'behavioral man' would do in any given situation. He is a compound of rational and non-rational capacities and impulses. He might do anything." Posner, *supra* note 4, at 1559.

criticism itself is too good (or powerful) to be true.¹⁰⁵ Still, there are some legitimate issues raised by this line of thought. It is a mistake, for example, to *inter-define* behavioral inputs and outputs (e.g., to hold that when an agent does *y*, it follows that she wanted to do *y*). To do so would automatically fit the unobservable inputs to the observable outputs.¹⁰⁶ Further, adding extra inputs to behavioral models does make it harder to test those models. As we make more distinctions among circumstances, there are fewer relevantly similar situations to serve as test cases.¹⁰⁷ Finally, there is a problem for theorists rather than theories. Even a testable account can have adherents who are willing to make *ad hoc* assumptions about input conditions just to fend off difficult data.¹⁰⁸ This sort of “faith-based” adherence to an account speaks less to the legitimacy of a theory than to the character of certain theorists, but there is certainly a pitfall here to avoid.

The foregoing problems are not insurmountable. No social scientist worth her salt fixes the identity conditions of mental states in purely behavioral terms. A person’s behavior, of course, provides crucial evidence for the attribution of mental states to her, but it is overall patterns of behavior that serve this role. No action is the sole evidence for its own (purported) causal antecedents. Each theory of action identifies certain behavioral inputs, outputs, and

¹⁰⁵ One problem is that this view holds that attributions of not-directly-observable mental states are necessarily unconstrained. Surely, however, an argument is needed here. More on this below.

¹⁰⁶ This was a problem for Behaviorism—what counted as a stimulus was just whatever resulted in the relevant response. Certain ways of understanding “revealed preferences” in economic models make this mistake too. See, e.g., Daniel Hausman, *Revealed Preference, Belief, and Game Theory*, 16 *ECON. & PHIL.* 99 (2000). Such attempts still aren’t immune to falsification, however, because attempts to handle different actions can lead to inconsistent unobservable states. More below!

¹⁰⁷ This is what exercises David Friedman, *supra* note 41. Distinguishing between contexts where someone is alone and where she has a date means that we can’t just observe things like convenience store behavior. Of course there is something different about each candy bar purchase, so there might be a “tendency [for] each option to become a unique alternative.” AMARTYA SEN, *RATIONALITY AND FREEDOM* 170 (2002). Of course this tendency is self limiting if the theory in question constrains what counts as a relevant distinction. As David Hausman notes, “[a]lternatives cannot be individuated non-arbitrarily without reference to subjective beliefs and wants.” Hausman, *supra* note 106, at 111.

¹⁰⁸ As we saw before, there are also critics who charge *ad hoc*-ery any time someone appeals to an unobservable state, whether there is a case to be made for doing so or not.

processes. The unobservability of particular mental states or processes ensures that no single bit of evidence will serve as a critical test for an account. Still, it is possible for a pattern of evidence to be incompatible with the pattern predicted by a behavioral theory.¹⁰⁹

With regard to the account we are urging, understandings are like desires and beliefs (and preferences, value functions, subjective probabilities, decision weights, etc.) in that they are implicitly characterized by the role they play in their home theory.¹¹⁰ This theory provides what is basically an associationist account of limited attention. Understandings certainly aren't free variables on this account—they are constrained by the character of the motivating cases. One couldn't, for example, understand a problem in a way she had never entertained before. An agent is likely to understand a circumstance in terms of concepts and attitudes that she has strongly internalized or those to which she has recently been exposed.

Adding understandings does increase the difficulty in testing behavioral theory because it increases the number of inputs to keep track of. Still, it is possible to present agents with similar circumstances framed in similar ways, so it doesn't make testing impossible.¹¹¹ Druckerman's work on how "framing effects depend in critical ways on context" provides a good starting point for testing an understandings-based account.¹¹² His emphasis on persuasion, counter framing, and heterogeneous discussion suggests that environmental factors can broaden an agent's understanding even to such an extent that she will approximate orthodox economic outcomes.¹¹³

¹⁰⁹ The behavioral criticism of orthodox economics is a paradigm example of how this sort of test works.

¹¹⁰ See, e.g., Schick, *supra* note 80, at 70-1, 148-50.

¹¹¹ "Faith based" adherence is as (un)attractive with an understandings-based account as it is with any other behavioral theory. The trick to avoiding this temptation is to have a proper respect for empirical evidence and to take challenges seriously. Critics have a role here as well – they need to *make* challenges seriously. The fact that another account draws different distinctions than yours doesn't, by itself, warrant a charge of unfalsifiability.

¹¹² See Druckerman (2004), *supra* note 72, at 683.

¹¹³ *Id.* at 680-683

A more unified approach would go a long way toward convincing legal policymakers to act upon the recommendations of economists, standard and behavioral. The approach described here—which adds understandings to the basic desire-belief elements of standard economics—captures the successes of standard law and economics and addresses many of the concerns of the behavioral law and economists. That alone seems worth the price of admission. But in addition, an understandings approach may also provide some insight into legal issues that current economic approaches, both standard and behavioral, leave us unsatisfied.

Take, for example, voting, which has been long been seen as a puzzle for standard economics.¹¹⁴ The puzzle isn't the more familiar one of trying to explain low voter turnout, but its opposite—trying to explain why people bother to vote at all. The problem is that the decision to cast a ballot appears irrational: the costs of voting (in time and effort) almost always exceed the benefits likely to flow from casting a single ballot (in large part because the chance of casting the tie-breaking vote—even in relatively small, closely-contested municipal elections—is mathematically miniscule). Nevertheless, millions of people routinely make the economically pointless decision to vote.

Voting is thus seized upon as an example of the failure of standard economic theory.¹¹⁵ It must be that people are not just narrowly self-interested maximizers of their own utility; instead, their self-interest is “bounded.”¹¹⁶ Voting, like charitable giving and other selfless acts,

¹¹⁴ The paradox was first noted almost a half century ago by Anthony Downs, *see* ANTHONY DOWNS, AN ECONOMIC THEORY OF DEMOCRACY 260 (1957), and continues to dog the literature, *see* Eric A. Posner, *Symbols, Signals, and Social Norms in Politics and the Law*, 27 J. LEG. STUD. 765, 783 (1998). Richard Hasen sets out a nice survey of the problem, and some of the proposed solutions, in Richard L. Hasen, *Law, Economics, & Norms: Voting Without Law?*, 144 U. PA. L. REV. 2135 (1996).

¹¹⁵ *See, e.g.*, DONALD P. GREEN & IAN SHAPIRO, PATHOLOGIES OF RATIONAL CHOICE THEORY 70 (1994); Jolls *et al.*, *supra* note 26, at 1489.

¹¹⁶ *See, e.g.*, Alec C. Ewald, “Civil Death”: *The Ideological Paradox of Criminal Disenfranchisement Law in the United States*, 2002 WIS. L. REV. 1045, 1099 n.219 (“Citizens tend to vote not egotistically but ‘sociotropically,’ favoring the candidate or party they think likeliest to benefit the economy or society as a whole.”).

demonstrate one of the flaws of the rational-actor basis of standard economics. Beyond this insight, however, behavioral economics offers little guidance on resultant questions, such as why people choose to vote rather than engage in other types of selfless (or selfish) behavior.

Standard economics, though, has a perfectly plausible comeback on this question: people vote because they like to vote.¹¹⁷ As discussed above, standard economic theory can accommodate other-regarding values and behavior; the “bounded self-interest” claim is no more convincing here than it is elsewhere. Practitioners of law and economics then move onto subsidiary (although perhaps more useful) questions about changes in voting behavior, such as why voter turnout increases in closely-contested elections or why voting increases with the wealth and education of the voter.¹¹⁸ Here, too, they have answers—people, for example, are more likely to vote in closely contested elections because information costs are lower.¹¹⁹ It is much easier to come by information about candidates and issues in highly competitive elections, because there’s much more extensive campaigning and media coverage. And perhaps the wealthy and well-educated vote in order to signal that they are cooperators in order to obtain cooperative returns from others in society: the signal only works if it is costly to vote, and the opportunity costs of voting rise with wealth and education.¹²⁰

An understandings approach should help us out a bit when trying to develop a framework that explains voting behavior. On the issue of why people vote, it may be, as standard economics

¹¹⁷ See Posner, *supra* note 4, at 1554; see also William H. Riker & Peter C. Ordeshook, *A Theory of the Calculus of Voting*, 62 AM. POL. SCI. REV. 25 (1968). This may appear to be a trivial explanation, but it is no more trivial than explaining a strong demand for donuts by reference to people’s desire for them (despite their unhealthy side effects). While useful work with respect to voting and donuts requires more nuanced assessments of people’s preferences (to explain changes in demand, for example), the fact that there is some level of demand for either should not, by itself, be taken as evidence that economic theory is flawed.

¹¹⁸ These types of issues also drive most of the critique of standard economic theory with respect to voting. See Jolls *et al.*, *supra* note 26, at 1489.

¹¹⁹ See Posner, *supra* note 4, at 1554-55; John G. Matsusada, *Explaining Voter Turnout Patterns: An Information Theory*, 84 PUB. CHOICE 91, 95-105 (1995).

¹²⁰ See Eric Posner, *supra* note 114, at 783-85.

holds, that voting is a rational thing to do: all things considered, some people value voting more than its demands on their time. But it may also be that when people decide to vote, they aren't considering all things; instead, they're merely consulting a particular subset of their desires and beliefs, given their understanding of the current situation. Election day may bring all sorts of beliefs and desires relating to civic virtue online, focusing people's attention on voting. An understandings approach is consistent with the standard answer. At the same time, it is more plausible than the standard approach here because it isn't necessary to assume that people decide to vote after considering all of their beliefs and desires (and all possible courses of action associated with them).

An understandings approach also helps us on the subsidiary issues as well. For example, on the question of why turnout increases in closely-contested elections, it may be, as standard theory has it, that people are more likely to vote because information is cheap. But it seems just as plausible that the extra campaigning and media coverage serve more as an attention-getting device than as a means to lower information costs. People vote because they've been reading, listening, watching, and talking about the election—they are focused on the election. To be sure, they also come to the polls armed with some extra, relatively low-cost information about the candidates and the issues. But there's nothing inconsistent about adopting both a standard account and an understandings approach when trying to fully understand behavior. Indeed, under our approach, one would expect that the fundamental question to be answered when analyzing any kind of unexpected behavior is whether it was motivated by a new belief, a new desire, or a new understanding of the situation.

CONCLUSION

Standard economic theory has provided a great deal of insight into existing law and guidance for legal policymaking. And the law and economics movement had a number of successes, especially in areas involving the regulation of market behavior like antitrust and environmental law. But most of its significant work, involving relatively straightforward applications of economic theory, has now been completed. At this point, law and economics scholars are left to filling in doctrinal interstices and, significantly, attempting to explain empirical results that appear to contradict some of its most fundamental precepts. As Russell Korobkin and Thomas Ulen aptly put it, it is as though “[t]he law-and-economics movement has suffered from the truthfulness of one of its most important postulates: the law of diminishing marginal returns.”¹²¹

At this stage of its development, the value of behavioral law and economics lies in its potential. The empirical findings of behavioral economics are sufficiently robust for us to conclude that some of the assumptions of standard economic theory are mistaken. Now the problem is figuring out how the ever-expanding list of heuristics, biases, and norms interact with each other (and with standard accounts). In other words, there is a distinct need to develop a unitary theory of behavior in order to move forward.

We believe that adding the concept of understandings to the basic desire-belief machinery of economics is the kind of top-down approach that could help lead to the development of a more complete theory of human behavior. This is, in part, because it can be formalized in a way that is consistent with standard economic theory. At the same time, it is capable of capturing some of the empirical results that drive some of the more prominent behavioral models. In any case, it

¹²¹ Korobkin & Ulen, *supra* note 28, at 1053.

represents a step in the right direction, toward a more unified (and empirically sound) economic theory. And, as part of such a theory, it also stands a better chance of being operationalized into law.