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Comment

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I agree completely with Shafer that a coherent normative system of choice must be compatible with a realistic description of how people choose. "Ought" implies "is." We do not recommend the impossible. But the observation that certain particular choices may be in conflict with a set of normative decision making principles (or ethical ones) does not lead us to abandon these principles automatically; to do so would be to identify the "ought" and the "is." Instead, we look at the world of conflicting—and often confusing and incoherent—choice to determine whether there are empirical patterns consistent with the normative system we propose. I believe that by a rather selective choice of example Shafer has managed to obscure these empirical regularities; in particular, by treating choosing individuals as if they were "of one mind" about their decisions and decision making process, he has ignored the degree to which we *do* seek to make "policy choices," the degree to which we experience conflict and attempt to resolve it by subordinating isolated desires and modes of thought to more general ones, and, most importantly, the empirically demonstrable degree to which we achieve our broad goals when we in fact succeed in making these policy

judgments, which he questions. I have five basic disagreements with his characterization of our decision making behavior.

1. In Section 2.3 Shafer writes: "It is almost always more sensible to construct preferences from judgments of probability and value than to try to work backward from choices between hypothetical acts to judgment of probability and value." I agree. But why is that "sensible?" His advice is sensible due to the *empirical* findings (Dawes, 1979) that expert and nonexpert predictions made in that "decomposed" manner are superior to those made *wholistically*. And because preference is in part a prediction (of one's future state of mind), then it is reasonable to suppose (Dawes, 1986) that preference judgments made in this manner will be superior as well—as a general rule, certainly subject to exceptions.

But the success of the decomposition procedure hinges on an ability to make such component judgments *across* individual choices, an ability the empirical research implies we possess. My hypothesis for explaining the empirical finding is that *wholistic* judgments in a context of implicitly comparing psychologically incomparable dimensions or aspects are much more difficult than are judgments about what dimensions and aspects predict and in which direction. (The decision analyst would include weighting them, but that goes beyond the empirical results.) We *can* be consistent and accurate if we ask ourselves the right question. It is the commitment and ability to make

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each judgment as if it were a “policy” one that allows such decomposition to work as a technique, and policy judgments necessarily require sensitivity to *an abstract world from which many of the specifics of particular problems are omitted—i.e., a “small” world.* (That’s the whole basis of expert systems as well.)

Paradoxically, however, much of Shafer’s paper involves an attack on the possibility of making just such policy judgments. In Section 1.5 he maintains, “The man does not really have a true preference, and he is looking to various arguments (including those presented by the salesman) in an effort to construct one.” In Section 3.2 he writes, “But if we face only a single isolated choice between candidate *A* and candidate *B*, then it may be a waste of time to search for a rule that would seem fair in a wider context.” Later, “But, ‘the reader may insist, doesn’t it bother you that you are using a rule that produces intransitivities when it is more widely applied?’ I must respond that I have enough to worry about as I try to find adequate evidence or good arguments for my particular problem. If I allow myself to be bothered whenever my evidence is inadequate for the solution of a wider problem, then I will always be very bothered.”

2. If in fact I am not “bothered” by searching for rules adequate to solutions to wider problems, then choices involving millions of dollars and selections of vaccines (or even of eggs for omelettes—which I don’t cook) are of no consequence to me. It is only because I *am* bothered by a search for a consistency subsuming individual choices that I am willing to agonize over choices I will never make. Even if we are to interpret Shafer’s remarks in Section 3.2 as being relevant only to the problem of transitivity, my willingness to consider hypothetical choices implies a commitment to *some* type of ordering, even if it’s one that interacts (again in a coherent manner) with context in a manner that results in intransitivity when context is not considered. I am bothered. I search. Shafer must either show me that I am deluded or that my search is fraught with contradictions, despite the empirical finding that policy judgments provide better choices (when my choice is meant to be predictive) than do decisions considered in isolation.

3. Shafer paraphrases Savage as “repeatedly” saying that “the way to use his theory is to search for inconsistencies in one’s preferences and then revise these preferences to eliminate these inconsistencies” (Section 3.3). Without accepting Savage’s particular axioms, I agree that this search underlies the whole enterprise. The point is that there are multiple “me’s”—particularly at different points in time. There is, for example, the “me” that makes a contradictory choice to what I believe to be the “same” question framed differently, and there is the “me” that believes I do not wish to make contradictory choices. That

leads to conflict. But it is no different in quality from the conflict between the me that believes that the length of lines does not change as a result of the context in which they are embedded and the me that perceives the Muller-Lyer illusion. There is also the me that is incapable of distinguishing between a 50-g weight and a 51-g one, between a 51-g one and 52-g one, and so on, and the me that knows damn well that I can’t allow such indifference to be transitive to the point of 2000 pounds. In all these instances, I opt for general principle. Consequently, I measure length in inches, weight in grams or pounds and purposely frame every problem in all ways I can devise so that my choice will *not* be affected by frame. At least I try (even though constructing a method yielding complete ranking of weight that allows me to distinguish between 51 and 52 g may not be “the *best* way for a person to spend his or her time”—Section 3.2, italics added). I might not always succeed (particularly in framing problems), but the very attempt itself indicates a commitment to consistency that supersedes my isolated judgment.

There is no compelling reason why a “decision” elicited as an immediate response should be the same as one after further consideration. Nor is there any reason why all conflicts must be satisfactorily resolved. Indeed, Slovic and Tversky have demonstrated that the arguments of Savage and Allais are not satisfactory to resolve them. (But having tried for years to teach statistics to Oregon students, I am not convinced that many subjects understood these arguments.) Shafer’s argument at a descriptive level hinges on what it is the chooser is willing to “give up” if “pushed to the wall”: the individual choice, the axiom, or even the law of contradiction? The examples he uses don’t do that. They are entirely hypothetical, and they simply involve a conflict between isolated choices.

The conclusion Shafer appears to reach could only be established by studying real choice situations and demonstrating lack of choice consistency in these, or between these and choices in hypothetical situations, *and showing moreover that these contradictions are acceptable to people actually making decisions, or that they do not detract from the broad goals of the decision maker.* That approach is entirely different from the approach of presenting highly hypothesized problems of the author Shafer criticizes or of Shafer himself. It requires empirical research that is very difficult to plan and execute.

4. Of course, our policy decisions need not be adherence to Savage’s axioms. (In fact, I seriously question postulate 2, because I have variance and skewness preferences over outcomes, and making a probability mixture of gambles with the same third gamble does not leave these characteristics invariant; moreover,

transitivity of indifference due to nondiscriminable differences must be modified, as it has been by many authors.) The problem is, however, that the types of “contradictions” Shafer presents could be used to attack *any* consistency principles. Moreover, his general arguments about the difficulty of constructing alternatives do as well. Certainly, I prefer a right shoe plus \$1 to a left shoe if I don’t possess the right shoe of the pair, and certainly I prefer the left shoe if I do (to use a simpler example similar to Shafer’s flour and butter one) *if* I like the pair of shoes to the extent I would sometimes wear them *if* I had the opportunity, etc. There is no prior way to determine how the decision maker will characterize alternatives, as opposed to some other way involving Nero Wolfe, or a way that divides some alternatives into multiple ones, etc. But then again, there is no prior way (knowing nothing about the situation or the experiment) of determining exactly what will be categorized as an “outcome” in a probabilistic experiment, and (as Savage points out) that does not inhibit us from making probabilistic calculations.¹ A meaningful alternative is a *pair* of shoes, or it might not be under certain circumstances (e.g., I don’t like them). That the construction of such alternatives cannot be accomplished by a set of simple rules independent of the decision maker is a poor basis for giving up the idea that people consider alternatives and outcomes. Of course, the psychology of how people go about constructing alternatives and outcomes (just as that of how people perceive objects on the basis of retinal activation) is fascinating, but it is a different matter.

5. I would like to end by returning to the problem of the multiple “me’s” making the decision. In his first

¹ “We usually couch probability problems in terms of the Kolmogorov theory and in particular in terms of atomic, or unsubdividable, events; these are the points of the probability space. But in practice, any event can be further subdivided by flipping still another coin. Yet we feel, and find, that there is no harm in this ambiguity” (from paragraph 7 of a letter from L. J. Savage to Robert Aumann dated January 27, 1971). Reproduced in Drèze, J. H. (1985). Decision theory with moral hazard and state-dependent preferences. Core Discussion Paper 8545, Center for Operations Research and Econometrics, Université Catholique de Louvain.

discussion of the omelette (Section 2.1), Shafer asks: “If the man dislikes throwing eggs away without knowing they are rotten, and if he claims the dislike attaches to the act in itself, not just the misfortune that results if the eggs are not rotten, do we have reason to fault him?” The simplest interpretation for such a dislike is that the man does not wish to abandon sunk costs (e.g., of the egg). A plausible reason for honoring sunk costs is that he does not understand their nature. Once that nature is explained to the man, will he still dislike the *act* of throwing an egg away?

A proscriptive decision analyst who ascribes utility to honoring sunk costs as if each act of a client equally well represented what the client “desired” would simply be out of work. But the “waste not” desire not to throw away an egg that is unneeded and possibly deleterious to an omelette may be based on *other* desires the man has (e.g., to use money rationally), and the decision analyst becomes in part “therapist” by helping the man subordinate his less important desires to his more important ones with which these conflict. (The decision analyst shows that rational use of money does not entail honoring sunk costs; the psychoanalyst shows Dora how to satisfy her unconscious needs without having coughing fits.) My interpretation is that such therapy is exactly what Savage is attempting to accomplish when he proposes that individual choices should correspond to his normative “axioms” and be modified if they don’t. This normative idea is based on the descriptive hypotheses that peoples’ desires will change when choice is viewed in broad contexts, and Savage proposes that they will change to be compatible with his axioms. Again, Shafer is correct that “ought” implies “is,” but his arguments refute neither the general descriptive proposition nor the specific one. Whether Savage’s is the best possible therapy is another matter. Shafer does not propose an alternative.

ADDITIONAL REFERENCES

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