

From 'psychology of stupidity' to 'maps of bounded rationality': the heuristic value of normativity

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0. This paper is interdisciplinary in nature: it draws insights from philosophy of science, psychology, and economics. It aims at examining the epistemological roots of the normative versus descriptive tension in the field of decision making, as well as potentially fruitful ways of learning from it. The continuing confrontation between normative and descriptive, formal and informal, abstract and concrete seems to play a crucial role in the development of physics and mathematics, as well as in the social and human sciences. On the one hand, normative (formal) accounts provide the analytical categories and standards to assess the results of empirical research. On the other hand, descriptive (informal) accounts reveal a richness of actual phenomena that suggest a poverty of normative proposals. In this light, the behavioral-experimental challenge to Rational Choice Theory is a special case of a general phenomenon in the history of science.

1. Behavioral decision theory (BDT) aims at the difficult task of integrating knowledge from different fields (economics, cognitive and social psychology), and applying it to real-world problems. Like much of reality, these problems do not fall in the domain of any one discipline. Within each constituent discipline, both pure and applied, we find well-developed, detailed methodologies both for judging claims to knowledge and for putting them to use. But we have no articulated methodology for interdisciplinary work, not even so vague and general a philosophy as the filtered-down version of the scientific method that we are taught at school (Cartwright, 1999). The needed philosophy of science must provide guidance on how to develop methodologies, not only for the laboratory, where one can hope to control conditions, but also for life in the messy world within which science is actually practiced.

2. Initially, we look at the relation of economics and psychology as an attempt to use the latter to "conquer some of the abundance" (Feyerabend 1999) of the human behavior lost in the abstract assumptions of the former. Then, we look at the analogous risk of BDT too quickly settling into a new orthodoxy, one of expanded abstraction, but still a far cry from the "dappled world" of actual decision making. BDT's gamble is that it can provide enough relevant abundance in its experimental settings to compensate for the reduced role afforded to the unifying abstraction of economics. Having identified these tensions, we propose two approaches to their productive exploitation. One feeds the lessons of BDT back to economics, in a way that both tests and applies these lessons. The primary expressions of this contribution are improved measurement in conventional economic models (with better selection, specification, and assessment of variables) and the formalization of novel substantive hypotheses in terms recognizable by economists. The second approach extends BDT toward greater abundance, in an orderly way that will facilitate future feedback to economics. The primary expressions of this contribution are models (sometimes called integrated assessments - Fischhoff, 2002) embedding isolated psychological phenomena on a broader context and assessment procedures capable of exposing the limits of such formalisms.

3. Rather than looking at the relationship between economics and psychology in terms of conflict, we suggest that the interaction between abstract and concrete, formal and informal is a crucial feature in the growth of the disciplines - just has proven to be the case with mathematics and the natural sciences (Lakatos 1968, 1970, 1974). Psychological research can benefit from the influence of normative models by setting new questions and by testing the normatively implied answers. Economics may benefit from descriptive research to improve its models by getting them closer to the ground. Our proposal, therefore, holds that the normative and descriptive accounts must be regarded as two necessary components of a single process of discovery, aimed at incorporating psychological findings into economics and vice versa. In this light, psychology and economics are playing out a special case of a common pattern in the history of science.

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