

TOWARD AN OBJECTIVISTIC THEORY OF PROBABILITY

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1. Introduction

It is the purpose of this article to set forth the initial ideas and implications of a mathematical theory first expounded in the RAND Corporation Research Memorandum RM-900. In that paper, and in the abstract [3], we refer to the theory as a *theory of behavior*; and this is a more adequate description. For, not only does the theory purpose to locate the concept of probability properly in the context of reality; it also provides a truer precisement of the concept of human motivation—what in the literature of economics and econometrics is designated by the word “utility”; and it implies an inherent discreteness attending all real behavior, in agreement with the quantum theory of physics. In short, the theory defines no boundaries for itself; it has, quite to the contrary, the force of asserting that when probability is correctly conceived in its intimate connection, nay, identification with other fundamental notions of science, then there emerges the structural unity of all reality, the conceptual oneness of all behavior, whether of physical particles or of machines or of human beings.

Reality is a going affair. It is the sum total of the acts of systems that our senses lead us to isolate and posit, and of the underlying determinants of these acts. Hence our designation: theory of behavior. And the core of the theory is the characterization of these underlying determinants and the specification of the law of actualization of the mentioned acts.

But the import of the theory goes much further. It forcefully suggests that the *systems* just spoken of—that is, for example, an electron, a baseball, an automobile, a lady’s hat, a dog, a human being, a group of human beings, etc.—are indeed *complex* posits of our classical five senses. That these “material” things are *not* the pristine stuff of reality.

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