Human Action under Uncertainty:

Probability as Extended Logic

by

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Abstract

I propose a new approach to the theory of human action under uncertainty.   It is based on the probability theory as an extended logic.   It gives rise to a human action that maximizes the *expected truth-value of propositions* instead of expected utilities. Advantages of the new approach are many: it is based on the rules of probability logic *without ad hoc assumptions*; it focuses on processing of *incomplete information* rather than on "random variables"; it makes a critical role of *prior knowledge* explicit; it can deal with the problem of *ambiguity* and the *diversity* of human action; it links actions to *beliefs* in the truth of propositions about *facts* as well as *values*; it explains apparently "irrational" behaviors in terms of probability logic; it can deal with situations in which an action affects *the states of the world and the mind*; it explains phenomena that the expected utility maximization approach cannot; and it expands the scope of moral and social sciences.   Those advantages will be demonstrated through simple examples.