
*Epistemology and Inference* is a collection of essays written by the author over a period of nearly twenty years. They cover various items of probability theory and epistemology. Some are more general, some more technical in nature. Nearly all the essays were published either in journals, or in edited volumes. We shall give an overview of the topics covered and discuss more thoroughly one of the central themes of the author's ideas.

Part I. General. In “Prophecies and Pretentions” (1977) the author discusses the results of “the Limits to Growth” of the Club of Rome Project and compares their approach with the models of H. Kahn and a group of Sussex researchers. In “Two World Views” (1970) different kinds of approaching the world — through actions or through contemplation — lead to different views on science and probability, the first to a decision-theoretic view on science and a subjectivistic probability theory, the latter to scientific rationalism and a logical or epistemological probability theory. In “Tyche and Athene” (1979) Kyburg shows how essential the study of the foundations of probability is for various topics in philosophy: as a guide to action, in its application to statistical inference, for the acceptance of statements in a rational corpus, and so on.

Part II. Critical Probability Papers. In the first paper of this chapter, “Probability and Decision” (1966), it is shown that even in relatively simple decision situations the interpretation one gives to probability (empirical, logical, or subjectivistic) leads to several contrary solutions of the problem. The two following essays, “Bets and Beliefs” (1968), and “Subjective Probability: Criticism, Reflections, and Problems” (1978), offer critical considerations relevant to both subjective and logical interpretations of probability; the latter is an attack on the subjective view. The two following articles, handling with chance and the fiducial probability notion of R. A. Fisher, are written in view of Kyburg's own interpretation of probability.


In the final Part V Kyburg states, what he calls, a number of philosophical jokes.

In toto we may say that Kyburg's “Epistemology and Inference” is a useful and interesting book. It provides the reader, whether a specialist or a student of probability theory, with a well-considered selection of Kyburg's
papers on a diversity of items, general introductory readings as well as technical
discussions on more particular problems. As Isaac Levi states: “This collection
will go a long way towards giving Kyburg’s ideas the broader currency they
deserve. It will help establish for the philosophical public at large what a few
specialists realize — namely, that Kyburg is a philosopher of first-rate originality
who has a deep familiarity with the material he chooses to explore”. It is of
course not possible in this brief review to give a critical discussion of all material
covered, but we would like to make some minor comments on “Conjunctivi-
tatis”.

In this paper Kyburg gives an argument against the principle of (strong)
deductive closure, and more precisely against the conjunctive part of it, the
Conjunction Principle (if S is a body of reasonably accepted statements and
s₁ and s₂ belongs to S, then the conjunction of s₁ and s₂ belongs to S) that
leads to “conjunctivitis”. Instead of the strong deductive closure principle
Kyburg chooses for (i) the Weak Deduction Principle together with (ii) the
Weak Consistency Principle (p. 233). Let us have a look at his argument, the so
called lottery paradox. Consider a fair lottery with a million tickets. Hypothesis
O : “Exactly one ticket wins”. Hypothesis 1 : “Ticket number 1 will not win”.
It is obviously a fairly acceptable hypothesis (there is only one chance in a
million that it fails), so let’s accept it and put it in our corpus of knowledge.
By the same reasoning we also should accept Hyp. 2 : “Ticket 2 will not win the
lottery”, and so on. By the Conjunction Principle we are then bound to accept
Hyp 1 & Hyp 2, and of course Hyp 1 & Hyp 2 & Hyp 3, and so on. Conclusion
“No ticket will win the prize”. But this is blatantly false; exactly one ticket will
win by Hypothesis 0. Kyburg concludes: the Conjunction Principle leads to
contradictions and should therefore be abandoned. A lot of authors accept the
principle of conjunction, and following his good habitude, Kyburg compares
his view in the remaining part of the article with that of Hempel, Hintikka,
Lehrer and Levi. We will not enter this discussion.

Let’s look more closely at Kyburg’s argument. First of all, the principle
of conjunction is, intuitively spoken, very appealing. If p is accepted, and q is
accepted why shouldn’t we accept p & q. On the other hand Kyburg’s argument
seems logically quite correct. Secondly, iff we reformulate the argument as
Hyp 1’: “When I buy ticket 1, I probably loose my money”, so I don’t buy
it”; analogously for Hyp 2’, and so on. The conclusion becomes: “don’t buy
any ticket” (you loose your money anyway). There are no good reasons, except
if you would like loosing your money, to enter the lottery-one-chance-in-a-
million. In this reformulation nothing seems wrong with the conjunction
principle. Or does Kyburg like loosing his money? Thirdly, even if your
acceptance rate is as high as .999,999 never forget something can go wrong
sooner or later. The day after the number of the winning ticket was published
there is another contradiction to be found in your corpus of knowledge which
has nothing to do with the conjunction principle, viz. Hyp i: “ticket i will
not win the lottery” and “Ticket i won the lottery”. Hence, there is nothing
wrong with the conjunction principle, but with the acceptance of Hyp i. So I
would say: accept all the hypotheses 0 < i ≤ 1,000,000 and their conjunction
(corollary: don’t play on lotteries), or accept none of them so that you are
absolutely sure no contradiction will ever appear (and loose your money).

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