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Is Epistemic Preferability Transitive?

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I do not mean to imply that I still think 'Truth and Use' the best or most illuminating way of responding to Dummett's ideas, but I cannot see that Tennant's criticisms even engage with the line I was taking.

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## IS EPISTEMIC PREFERABILITY TRANSITIVE?

By ROY A. SORENSEN

ALTHOUGH the 'heavier-than' relation is transitive, Edgington has shown that 'probably-heavier-than' is not ('On the Possibility of Rational "Inconsistent" Beliefs', *Mind*, October 1968).

Suppose each of three boxes contains three objects which have the following weights, in pounds:

Box A: 2, 6, 7

Box B: 1, 5, 9

Box C: 3, 4, 8

Now consider repeated comparisons of two randomly selected objects, one from Box A and one from Box B. Since each of the three A objects is equally likely to be paired with each of the B objects, there are nine equally likely A-B comparisons. In five of the nine comparisons, the A object is heavier than the B object . . . .

Edgington goes on to describe the B-C and A-C comparisons but I shall merely list the pairings:

A-B			B-C			A-C		
2, 1	6, 1	7, 1	1, 3	5, 3	9, 3	2, 3	6, 3	7, 3
2, 5	6, 5	7, 5	1, 4	5, 4	9, 4	2, 4	6, 4	7, 4
2, 9	6, 9	7, 9	1, 8	5, 8	9, 8	2, 8	6, 8	7, 8

In 5/9 of the possible outcomes the A object is heavier than the B object, so an object from A will probably be heavier than a B object. Similarly, an object from B will probably be heavier than a C object. Surprisingly, in 5/9 possible outcomes the C object is heavier than the A object, so an object from C will probably be heavier than an A object.

In 'A System of Epistemic Logic' (*Ratio*, December, 1972), Chisholm and Keim present "The Calculus of Epistemic Preferability". They take epistemic preferability to be a transitive relation but adopt as an axiom the 'broader principle according to which the relation of "not-being-epistemically-preferable-to" is transitive.'

$$(A_2) [\sim(pPq) \ \& \ \sim(qPr)] \supset \sim(pPr)$$

One reads (A<sub>2</sub>) as: If it is not the case that p is epistemically preferable to q, and it is not the case that q is epistemically preferable to r, then it is not the case that p is epistemically preferable to r.

A counterexample to (A<sub>2</sub>) can be constructed if one takes Edgington's observation as a guide. Let A, B, and C be disjoint groups of equally talented researchers. Each of the groups has three subgroups whose sizes correspond to the weights in Edgington's three boxes. One subgroup from each of A', B', and C' is randomly selected to work on three independent problems. The problems are equally difficult and are such that the likelihood of a correct solution is directly related to the number of researchers working on it. The three subgroups then submit their different conclusions, a, b, and c, respectively. By consulting the list of possible outcomes of this random selection, one can infer that a is more likely to be correct than b, and b is more likely to be correct than c, but surprisingly, c is more likely to be correct than a. Therefore, a is epistemically preferable to b, and b is epistemically preferable to c, but a is *not* epistemically preferable to c. So one has a counterexample to (A<sub>2</sub>).