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University

Foundations & Philosophy of Science Unit

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Professor Persi Diaconis
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Dear Professor Diaconis

Thank you for yours of the 15th and your offprints and preprints.

I know Cramér's two text-books from my student days and am happy to learn that they are among your favorites too. And I'll take a look at James Berger's book. Many thanks for the reference.

I don't understand the solutions proposed to the three prisoners problem, which you discuss in your review of Shafer's book. It would seem that an objectivist would reason as follows. There is probability just in case there is randomness. Now, in the case at hand there are two possibilities: either all three prisoners have already been sentenced, or only B has. If the former, alea jacta est: probabilities cannot change as a result of new information because there were no probabilities to begin with. If only B has already been sentenced, then there are two possibilities: either A and C are judged and one of them sentenced, or their fate is left to chance, e.g. to the outcome of a coin flipping. In the former case there are still no probabilities but only degrees of uncertainty. The probabilities emerge alongside the chance process and happen to coincide, in this particular case, with the uncertainties, provided of course we are quite certain that the coin is fair: otherwise the probabilities will differ from the uncertainties.

Being a physicist I cannot reason like the subjectivists or personalists: I keep probabilities (objective measures of possibilities) separate from uncertainties (mental states).* If we know the former then we must adjust the latter to them; but the former cannot be known if they do not exist except in our imagination.

Cordially



Mario Bunge

* Otherwise statistical mechanics, quantum mechanics, genetics, and other probabilistic theories would be about our own mental states, not about material entities out there.