

#Orthodox methods: historical background.

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Comments on 16.3.

At the risk of engaging in fourth-order opinion-making (aka my opinion about Jaynes's opinion of Newman's opinion of Jeffrey's opinion of Newman's methods):

The “dispute” between Neyman and Jeffreys referred to on p. 496 is quite bizarre. The problem is to determine probability of drawing a white ball in the following setting: presented with 2 urns, first with one white and two black balls and one with one black and one white ball, one chooses with equal probability first the urn, and then one of the balls from the chosen urn. Of course both Neyman and Jeffreys know the answer is $5/12$ (aka the average of $1/2$ and $1/3$). What happened is basically Jeffereys claimed that Neyman's definition of probability (which is essentially fraction of underlying equiprobable outcomes in some unspecified space of all outcomes) will lead to nonsensical answer of $2/5$. Neyman rightfully objected that the space of outcomes applicable to this problem is not the “naive” one that Jeffreys supposes he would use (aka the final ball chosen), but a different one, which, while left unspecified, produces the correct answer of $5/12$, as Neyman demonstrates. Thus Neyman (correctly, in my view) accuses Jeffreys of basing criticism on a misapplication of the (Neyman's) method – a criticism Jaynes so often levies against non-Byeseans, it's ironic he fails to match the pattern to this case. (Finally, both Neyman and Jeffreys refer to Janina Hosiasson: Jeffreys thanks her for bringing this problem to his attention, and Neyman names her as a person specifically knowledgeable about possible misapplications of his version of definition of probability! As Louis Juvet might say “Comme c'est étrange...”.)