

Symmetry and Probability

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Abstract

There is a strong connection, in our world, between symmetry and probability. We often rely on symmetries to infer the probabilities of different possible outcomes, both their objective chances and our degrees of belief in their obtaining. Despite the success of these inferences, I argue that symmetry considerations do not suffice to justify or explain our probability assignments, neither for objective nor subjective probabilities. Where symmetry considerations do succeed, they are not the a priori ones people have taken them to be. I argue that the explanation for their success is empirical, stemming from symmetries in the dynamical structure of our world.

Keywords: symmetry, probability, indifference, statistical mechanics, chance, degrees of belief, subjective probability, objective probability

Subjects: [Specific Sciences: Probability/Statistics](#)
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