

# *What De Finetti Really Meant When He Said “PROBABILITY DOES NOT EXIST”: A Comment on Spiegelhalter’s Interpretation*

:: Tommaso Costa

## Abstract

Few sentences in the philosophy of probability have generated more confusion than Bruno de Finetti’s famous claim that “probability does not exist”. The line is routinely interpreted as a denial of probability itself, while de Finetti intended only to reject the idea that probability is an objective property of the world. A recent essay by David Spiegelhalter in *Nature* has reintroduced this ambiguity through an instrumentalist “as-if” formulation. This short note clarifies the distinction between de Finetti’s anti-metaphysical stance, Spiegelhalter’s pragmatic instrumentalism, and E. T. Jaynes’s conception of probability as a form of epistemic objectivity. Recognising these differences helps avoid persistent misunderstandings about what ‘non-existence’ means in probabilistic contexts.

## Keywords

Probability, de Finetti, Uncertainty, Epistemology, Bayesian Reasoning

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Few sentences in the philosophy of probability have generated more confusion than Bruno de Finetti’s striking declaration that “probability does not exist”. The line appears at the opening of his *Theory of Probability* (1974: *Theory of Probability*, Wiley, Preface) and has since travelled far beyond its original context. Detached from the explanation that immediately follows, the phrase is often read as a radical rejection of probability itself.



De Finetti's own presentation makes the intended meaning unmistakable. In the Preface of *Theory of Probability* he writes, in block capitals as in the original:

PROBABILITY DOES NOT EXIST.

He immediately adds: "My thesis, paradoxically, and a little provocatively, is simply this: **PROBABILITY DOES NOT EXIST**. The abandonment of superstitious beliefs about the existence of 'objective' probabilities is absolutely essential."

Seen in its full context, the slogan is not a rejection of probability itself, but of the metaphysical belief that probabilities are real properties of the world.

De Finetti makes this explicit in *Lezioni di Calcolo delle Probabilità* (1970, Einaudi, pp. 3–5), where he writes that probability is "not an objective property of things, but a subjective way of expressing our degree of confidence". The point is repeated in *Probabilità, Induzione e Statistica* (1972: Einaudi, Ch. 1). His view is simply that nature does not contain "real probabilities" in the way it contains masses or temperatures. Probability exists only as coherent degrees of belief.

A recent essay has revived this ambiguity. Spiegelhalter (2024: Does probability exist?, *Nature*, 560–563) argues that numerical probabilities are not objective features of the world, but constructions based on judgement — a view that is close to de Finetti's and entirely correct. Yet the essay ends with the claim that "probability probably does not exist — but it is useful to act as if it does." This introduces a form of pragmatic instrumentalism: probability becomes a convenient fiction rather than a logical norm.

This is not de Finetti's view. For de Finetti, probability is not a fiction; it is the logic of coherent belief. Jaynes makes this point in *Probability Theory: The Logic of Science* (2003: Cambridge University Press, pp. 4–6). For Jaynes, probability is "a property of our state of knowledge", meaning that if two rational agents share the same information, they should—at least ideally—assign the same probabilities.

Once this distinction is clear, the problem with "acting as if probability existed" becomes visible. The instrumentalist stance frames probability as merely useful rather than logically necessary. Under de Finetti's and Jaynes's views, the probability calculus is not optional: it is the unique system of rules that rational agents must follow to avoid incoherence.

Recognising this distinction can help clarify ongoing discussions about uncertainty, modelling, and the epistemic foundations of scientific inference. This short comment is meant to disentangle these positions, not to criticise them.

TOMMASO COSTA

 <https://orcid.org/0000-0002-0822-862X>

GCS-fMRI, Koelliker Hospital and Department of Psychology, University of  
Turin

FOCUS Laboratory, Department of Psychology, University of Turin  
Neuroscience Institute of Turin (NIT), Turin