

# Objective probability-like things with and without objective indeterminism

E. Szabó, László (2007) Objective probability-like things with and without objective indeterminism.

Full text available as:

[PDF](#) - Requires a viewer, such as [Adobe Acrobat Reader](#) or other PDF viewer.

## Abstract

I shall argue that there is no such property of an event as its “ probability.” This is why standard interpretations cannot give a sound definition in empirical terms of what “ probability” is, and this is why empirical sciences like physics can manage without such a definition. “ Probability” is a collective term, the meaning of which varies from context to context: it means different — dimensionless  $[0,1]$ -valued — physical quantities characterising the different particular situations. In other words, probability is a reducible concept, supervening on physical quantities characterising the state of affairs corresponding to the event in question. On the other hand, however, these “ probability-like” physical quantities correspond to objective features of the physical world, and are objectively related to measurable quantities like relative frequencies of physical events based on finite samples — no matter whether the world is objectively deterministic or indeterministic.

**Keywords:** probability, interpretation of probability, branching space-time, quantum probability

[Specific Sciences: Probability/Statistics](#)

[Specific Sciences: Mathematics](#)

[Specific Sciences: Physics](#)

**Subjects:** [General Issues: Determinism/Indeterminism](#)

[General Issues: Operationalism/Instrumentalism](#)

[Specific Sciences: Physics: Quantum Mechanics](#)

[General Issues: Logical Positivism/Logical Empiricism](#)

**ID Code:** 3956

**Deposited By:** [E. Szabo, Laszlo](#)

**Deposited On:** 24 March 2008

**Additional Information:** Journal reference: Studies in History and Philosophy of Modern Physics 38 (2007) 626