

Pragmatism and Degrees of Belief

1 Ch.1 Are Dutch book Arguments Pragmatic?

1.1 Thesis

Bayesian epistemologists often refer Dutchbook Arguments as providing a pragmatic justification for probabilism. However, what they really mean is just a mix of “behavioral” or “prudential” and not really in the sense Peirce uses that word. How the word is used is immaterial - Peirce himself has given on reclaiming this word he introduced; nevertheless, it is still of philosophical interest to ask if Dutch book arguments are pragmatic in the Peircean sense.

1.2 Overall Goals

- Introduce core ideas: pragmatism, probabilism, normative and descriptive dimension of degrees of belief, probability and rationality
- Flesh out a reading of Peirce’s pragmatic maxim for the rest of the dissertation, with the emphasis on Peirce’s idea that reasoning about future conduct is indispensable to the pragmatist project.
- Situate pragmatism in the context of contemporary debate, by comparing Dutch book scenarios to Peirce’s prescription of statistical practice in *Theory of Probable Inference*.

2 Ch.2 The Principle of Indifference and the Measurement of Partial Belief

2.1 Thesis

This chapter aims to provide a historical review of the development of subjective probability in relation to pragmatism. It focuses on the two lines of thoughts started by Peirce 1) definition of degrees of belief and 2) the use of the Principle of Indifference. It will be suggested that while Peirce find *descriptive* value in the notion of partial belief, it has very low normative relevance because of the limited cases in which the Bayes's theorem could be properly applied. Keynes's view will then be used as a bridge between Peirce and Ramsey's account of subjective probability.

2.2 Overall Goals

- Explain Peirce's definition and criticism of partial belief in "Probability of Induction," mention the scholarly dispute regarding its interpretation, and then find a middle ground as a solution.
- Explain Keynes's view in relation to Peirce. In particular, suggest that Keynes's view sounds like a sophisticated version of Peirce's idea of conceptualism. However, because Keynes severely limits the applicability of the Principle of Indifference, and accepts the existence of indeterminate probability, at the end their views may not conflict much. However, Peirce would still have a problem with Keynes's use of a Russellian notion of knowledge.
- Discuss how Ramsey tries to meet the challenge set up by Peirce by first giving a somewhat detailed account of dispositional partial beliefs, and replace the Principle of Indifference with an empirical notion "ethically neutral proposition."
- End the chapter with a discussion of Ramsey's failed effort to reconcile pragmatism and his notion of degrees of belief in "Truth and Probability," which sets up the next chapter.

3 Ch. 3 Ramsey's flight from subjective probability

3.1 Thesis

Explore Ramsey's sketched out solution to his dissatisfaction with this account of subjective probability, and argues that his final solution is very close to Peirce's hypothetical frequentism

3.2 Overall Goal

- Explain why Ramsey would not accept the Dutch book argument in the way strict Bayesian epistemologists do, due to his acceptance of Peirce's ampliative/explicative distinction, which he expands into the idea of logic of truth and logic of consistency.
- Dutch book coherence only applies to consistency and cannot be the whole of probabilistic thinking.
- Discuss Ramsey's struggle with finding the connection between subjective and objective probability - a thesis from Peirce in Probability of Induction. Explore the interpretation that all he needed was De Finetti's exchangeability theorem to embrace full blown subjective probability.
- Discuss that Ramsey's idea of "systematic probability" - probability is a degree of belief of a system, not an agent. David Lewis borrowed this idea and developed the "Best System" interpretation of probability. Discuss if Peirce will accept this notion of degrees of belief.

4 Ch. 4 The Weight of Evidence in Medical Decision Making

4.1 Thesis

Discuss the problem with incomplete evidence in medical decision making, and explore how Peirce and Keynes's notion of Weight of Evidence could solve this problem.