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On the Non-Monotonicity of Confirmation under Auxiliary Hypotheses

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ABSTRACT. Bayesian confirmation is not monotonic once auxiliary hypotheses are allowed to vary: further evidence can disconfirm a hypothesis it would otherwise confirm.

KEYWORDS: confirmation, auxiliary hypotheses

1. Introduction

Evidence E confirms hypothesis H when $P(H \mid E) > P(H)$. This relation is not stable once auxiliary hypotheses vary.

2. The Non-Monotonicity Result

Let A be an auxiliary hypothesis needed to derive a consequence of H. If evidence E' disconfirms A more than it confirms $H \wedge A$, the net effect on H can be negative.

References

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