

Baloney Detection:

How to Draw Boundaries Between Science
and Pseudoscience

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Intro to Philosophy

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1. How reliable is
the source of the
claim?

2. Does the source
often make similar
claims?

3. Have the claims
been verified by
another source?

4. How does the claim fit with what we know about how the world works?

5. Has anyone gone
out of the way to
disprove the claim,
or has only
supportive evidence
been sought?

Boundary Problem

- 503 When exploring the borderlands of science, we often face a “boundary problem” of where to draw the line between science and pseudoscience.
- It is not always clear where to draw the line.

6. Does the preponderance of evidence point to the claimant's conclusion or to a different one?

7. Is the claimant employing the accepted rules of reason and tools of research, or have these been abandoned in favor of others that lead to the desired conclusion?

8. Is the claimant providing an explanation for the observed phenomena or merely denying the existing explanation?

9. If the claimant proffers a new explanation, does it account for as many phenomena as the old explanation did?

10. Do the
claimant's personal
beliefs and biases
drive the
conclusions, or vice
versa?

Probability of Being True...

- Science does not deal in absolutes.
- The likelihood of a theory being true is conditional on its continued fruitfulness for description, production of new theory and engineering.
- “We cannot seriously believe that science utterly misrepresents the way the world is; and we cannot accurately determine the fit between the two.”
Joe Margolis, *Pragmatism Without Foundations*, 1986

Probability of Being True...

- 504 In all cases, we remain open-minded and flexible, willing to reconsider our assessments as new evidence arises.
- This is, undeniably, what makes science so fleeting and frustrating to many people; it is, at the same time what makes science the most glorious product of the human mind.