

AGAINST THE TOTAL EVIDENCE REQUIREMENT

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Three Evidence Questions

- Constitution
 - ▣ What *is* evidence?
- Possession
 - ▣ What evidence e does subject S have at time t ?
- Confirmation
 - ▣ How probable is a hypothesis h on one's evidence e ?

Two Versions of (RTE)

- Formal (Focus = Confirmation)
 - “*E* evidentially supports *H* for an epistemic agent *S* in a context *C* if and only if *E* confirms *H*, relative to *K*, where *K* is *S*’s total evidence in *C*” (Fitelson 2008: 626).
- Informal (Focus = Possession)
 - “[W]hat epistemic rationality requires is that your confidence in *h* at *t* be proportional to the degree to which *h* is supported by *all and only* the evidence that you possess at *t*” (Neta 2008: 90).

Constitution > Possession

- Constitution Determines Possession
 - ▣ As Williamson says, “How much evidence one *has* for the proposition depends on what one’s evidence *is*” (Italics mine. Williamson 200: 189).
 - ▣ Thomas Kelly corroborates Williamson’s sentiments by indicating that Possession hinges on, “what sorts of things are eligible to serve as evidence” (Kelly 2008: 940).

Case: Hertz & Thomson

- Hertz (1883)
 - ▣ *e*: In Hertz's experiments, which were designed to show electrical effects of cathode rays, no such effects were produced.
 - ▣ *h*: Cathode rays are not electrically charged.
- Thomson (1897) – 14 Years Later
 - ▣ *e*: He discovered Hertz tubes were not properly evacuated. Thomson produced a higher vacuum, and Cathode rays showed electrical effects.
 - ▣ *h*: Cathode rays are electrically charged.

Four Possible Answers

- A1: Hertz's experiments are (strong) evidence that cathode rays are not charged.
- A2: From 1883 to 1897 Hertz's experiments were (strong) evidence that cathode rays are not charged; after 1897 they were not.
- The results of Hertz's experiments are not and never were (strong) evidence that cathode rays are not charged.
 - ▣ A3: Potential – Given h and e are true...
 - ▣ A4: Veridical – h must in fact be true.

Four Accounts of Constitution

	ES-Evidence	Subjective	Potential	Veridical
Objective?	No	Yes	Yes	Yes
e = true?	No	Yes	Yes	Yes
h = true?	No	No	Probable	Yes
Justification Type	Fallibilist	Fallibilist	Semi-fallibilist	Infallibilist
Output of Justification	A Reason for Believing	Being Justified in Believing	A Good Reason to Believe	A Good Reason to Believe
Empirically Incomplete?	No	No	Yes	Yes

Epistemic Rationality

- Truth-directed as a goal.
- Aligned with scientific rationality in seeking Potential and Veridical evidence.
 - ▣ “A scientist wants to know whether some experimental results reported in e provide a good reason for believing a hypothesis h —not a good reason for someone in a particular epistemic situation, and not just a good reason for him, but a good reason period, independent of epistemic situations. And he wants to know whether e is a good reason in the strong sense. His goal is to obtain veridical evidence, since he seeks true hypotheses. And whether it is veridical evidence has nothing to do with what he or anyone else knows or believes. It is not veridical evidence for one type of epistemic situation but not another” (Achinstein 2001: 37).

(RTE) Deficiencies

- Epistemic Rationality
 - ▣ (RTE) only captures Subjective and ES-evidence, which do not require a hypothesis to be true.
- Formal commitments underlie informal claims.
- Constitution of Evidence
 - ▣ Committed to positive relevance.
 - Positive Relevance: $P(h|e\&b) > P(h|b)$.
 - Associates “evidence” with “making it rational to be more confident that h is true.”

Counter-example: \sim Sufficient

- Positive Relevance Not Sufficient
 - *b*: Michael Phelps was in good physical condition Tuesday morning.
 - *e*: On Tuesday, Michael Phelps was swimming training laps.
 - *h*: On Tuesday, Michael Phelps drowned.

Counter-example: ~ Necessary

- Positive Relevance Not Necessary
 - e_1 : *The New York Times* reports that Barack Obama owns all but one of the 1000 tickets sold in the lottery.
 - e_2 : *The Washington Post* reports Obama owns all but 1 of the 1000 tickets sold.
 - b : This is a fair lottery in which one ticket drawn at random will win.
 - h : Barack Obama will win the lottery.
 - Positive Relevance: $P(h|e_1 \& e_2 \& b) > P(h|e_1 \& b) = 999/1000$.

Objective Epistemic Probability

- Threshold-based
 - ▣ Only if something passes a well-defined threshold does it count as evidence and warrant any confidence in it.
- Belief vs. Reasonableness of Belief
 - ▣ Belief is categorical.
 - ▣ Reasonableness of belief comes in degrees.
 - Subject to the rules of probability.
- Captures Potential and Veridical evidence.

Case: Ann Eating Arsenic

- “[A]lthough eating a pound of arsenic is fatal within 24 hours, suppose that authorities in the community believe that arsenic, even a pound of it, promotes health when put on food. And suppose that people know that Ann ate a pound of arsenic 24 hours ago, and also know what the authorities believe and have no reason to question them. Is it, or is it not, reasonable to believe Ann is dead or dying?”
(Achinstein 2001: 96).

Two Possible Answers

- A1: Not Reasonable
 - ▣ Subjective, ES-Evidence
- A2: Reasonable
 - ▣ Supervenience Claim
 - What it's reasonable to believe supervenes on the physical facts about what arsenic does to the body.
 - ▣ Objective
 - Asks what it's reasonable to believe without considering agent's other beliefs or epistemic situation.

Relativizations

- Temporal Condition
 - ▣ Enables handling evidence at a time.
- No Interference Condition
 - ▣ Ignore Subjective and ES-evidence.
 - ▣ Ann arsenic example.
- Disregarding Condition
 - ▣ Disregard luminosity.
 - ▣ Degree of reasonableness of belief not tied to a luminous mental state.

Proper Subset Evidence Req.

- PSER-F (formal)
 - ▣ $P_t(h|e_p \& e_v \& n.i. \& d(e_s \& e_{es})) > k$
- PSER-I (informal)
 - ▣ Epistemic rationality requires one to proportion one's confidence in h at t to the degree to which h is supported by all and only a proper subset of one's total evidence, i.e., Potential and Veridical evidence that one possesses at t .
- Answers the three evidence questions.

Objection: Fallacy of Exclusion

- (PSER) commits the fallacy of exclusion or suppressed evidence by excluding from consideration evidence that would undermine an inductive argument. Imagine Thomas has flipped a coin 10 times and each time it has landed heads. Thomas has Subjective evidence that the coin is biased towards heads. (PSER) asks Thomas to disregard this evidence, including any microconditions, to determine what it's reasonable to believe. (PSER) makes it reasonable for Thomas to believe with a probability of .5 that the next flip will land heads, but including Thomas' Subjective evidence may undermine the reasonableness of this belief by sanctioning, say, a degree of belief of .6 that the next coin flip will land heads. So, (PSER) gets it wrong.

Objection: Timothy Williamson

- (PSER) seems aligned with Williamson's view on evidence and knowledge with regard to anti-luminosity and externalism. This brings (RTE) back into the picture because Williamson equates one's total evidence with one's total body of knowledge. If one thinks epistemic rationality is a requirement on knowledge, then (PSER) will end up endorsing (RTE) when (PSER) is brought into a theory of knowledge.

Objection: Background Info.

- (PSER) doesn't explicitly indicate how background information facilitates determining rational degrees of confidence in hypotheses. The Possession question applies to background information as follows: How can an agent identify which background information she possesses? (RTE) has a nice way of answering this question—background information is only possessed by an agent (i.e., admissible to rationally regulate degrees of confidence) if it's well supported by an agent's total evidence. (PSER), on the other hand, cannot supply such an answer. Thus, it doesn't provide a way of specifying which background information is admissible.