

# INQUIRY FOR FALLIBILISTS

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## Two Theses

**K-Aim** The aim of inquiring into a question  $Q$  is to come to know the answer to  $Q$ .<sup>1</sup>

**Fallibilism** It's possible for a rational agent to know  $p$  without being absolutely certain that  $p$ .<sup>2</sup>

## Goals of the talk

- Argue that we need to choose between K-Aim and Fallibilism
- Provide some reason to think that Fallibilism is the more attractive option
- Develop an alternative to K-Aim, according to which inquiry aims at maximizing the epistemic value of our credal states
- Highlight the implications of this alternative for some further topics in epistemology

## Bringing out the tension

*Two cases of fallible knowledge:*

**Manatee Research** Mia is a researcher at UF interested in monitoring how many manatees are in Florida. Based on extensive surveys, she comes to know  $m$ : *There are > 7,500 manatees in Florida*. But she is not completely certain of  $m$ : she rationally assigns at least some credence to the possibility that there was a flaw in her survey methodology.

One day Mia receives an email from a researcher at FAU. They announce that they have just completed a new, comprehensive study of manatee populations in Florida. As a courtesy, they have attached all of their data.

*Claim:* Mia has a reason to look at the study.

*The tension:* According K-Aim, there should be no point in inquiring further into whether  $m$  is true.

**Ancient History** Tess is about to take her Roman history test. She learned the material well, but it has been some time since she reviewed. She is fairly confident in  $r$ : The Western Roman Empire fell in 476 CE. However, she rationally assigns some credence to the possibility that she got the dates wrong. As a matter of fact, her memory is correct.

Before the test, Tess' teacher announces: "Since it's the last day of class, I'll be nice. One of the questions you'll be asked is, 'When did the Western Roman Empire fall?' You now have five minutes to review your materials before the test begins." As it happens, Tess has her textbook, *Ancient Roman Civilization*, in front of her. To check the date, all she would need to do is to flip it open to the relevant page and peruse the text.

*Claim:* Tess has a reason to check her textbook.

*The tension:* If Fallibilism is true, Tess' belief in  $r$  could amount to knowledge. If so, K-Aim says she has already attained the goal of inquiry w. respect to  $r$ .

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<sup>1</sup>Kvanvig 2009; Kappel 2010; Kelp 2011, 2014, 2018, 2021, forthcoming; Rysiew 2012; Friedman 2013, 2017; Whitcomb 2017; Sapir & van Elswyk 2021.

<sup>2</sup>Cf. Cohen 1988; Reed 2013; Worsnip 2015; Brown 2018.

## Diagnosing the source of the tension

But K-Aim and Fallibilism are not logically inconsistent. So why is there a tension here?

*Some ideas from epistemic decision theory:*

- Some credal states are more epistemically valuable than others.
- Epistemic value is at least partly a function of accuracy—i.e.:

**Valuable Accuracy** If A's credence in  $p$  is not maximally accurate, then A's credence in  $p$  is not maximally epistemically valuable.

- Accuracy is a function of 'proximity' to truth:

**Alethic Proximity** If A's credence in a true proposition  $p$  is higher than B's, then A's credence in  $p$  is more accurate than B's.

*Hypothesis:* We engage in inquiry in order to make our credal states more epistemically valuable:

**EV-Aim** The aim of inquiring into a question  $Q$  is to make your credence in the answer to  $Q$  as epistemically valuable as possible.

*Observation:* Fallibilism + EV-Aim + Valuable Accuracy + Alethic Proximity is inconsistent with K-Aim.

*NB:* Can also use epistemic decision theory to explain the intuition that Mia and Tess rationally ought to inquire further.

**Maximize Expected Epistemic Value** Epistemic rationality requires you to maximize expected epistemic value.

**Oddie's Theorem** The expected epistemic value of your current credal state is always less than or equal to the expected epistemic value of the credal state that will result from gathering cost-free evidence and conditionalizing on it, and strictly less when there's a chance that the new evidence will affect your credences.<sup>3</sup>

## Rejecting Fallibilism

One option is to go infallibilist: we are rationally required to have credence 1 in everything we know.

*Worries:*

- Predicts **Manatee Research** and **Ancient History** are impossible as described. But is this plausible? Can't a test-taker know the answer to a question with being absolutely certain of it?
- Hard to make sense of patterns of reasoning such as: "I'm pretty sure that I know when the Roman Empire fell. But I'm not completely certain I know it, so I might as well check."
- "knows for certain" is not redundant.
- Naturally occurring ascriptions of knowledge with "near certainty":
  - "When [a false ID] is handed to a cop, he knows with near certainty the guy before him is not the guy identified on the flimsy piece of paper."<sup>4</sup>
  - "In less than half an hour, the doctor knows with near certainty which influenza virus—if any—is present in the patient's respiratory tract."<sup>5</sup>

<sup>3</sup>Oddie 1997, cf. Good 1967. Assumes that our measure of epistemic value is strictly proper: the expected epistemic value of a credence function  $c$ , when calculated using  $c$  itself, must exceed the expected epistemic value of any other credence function.

<sup>4</sup>Geeting, *Truckers and Troopers*, p.96

<sup>5</sup><https://www.nature.com/articles/d41586-019-02754-7>

## Rejecting K-Aim

*Q:* If knowledge is not the aim of inquiry, what is?

*A:* EV-Aim!

- As stated, EV-Aim doesn't tell us how to understand epistemic value, though we've seen that Fallibilism + Valuable Accuracy + Alethic Proximity suffices to establish that knowledge is not *sufficient* for achieving a maximally valuable credal state.

*Some options for fleshing out EV-Aim:*

1. Epistemic value reduces to accuracy. This yields:

**Accuracy Aim** The aim of inquiring into a question *Q* is to make one's credence in the answer to *Q* as accurate as possible.

2. Generalize various conditions on knowledge to apply to credences, e.g.:

**Aptness Aim** The aim of inquiring into *Q* is to make your credence in the answer to *Q* maximally apt—i.e., maximally accurate in virtue of manifesting a cognitive ability.<sup>6</sup>

**Safe Accuracy Aim** The aim of inquiring into *Q* is to attain a safely accurate credence in the answer to *Q*—i.e., maximally accurate at all nearby worlds where it is held on the same basis.<sup>7</sup>

3. Appeal to a notion of epistemic certainty, understood as an epistemic status that is more demanding than knowledge:

**Cartesian Aim** The aim of inquiring into a question *Q* is to attain epistemic certainty about the answer to *Q*.<sup>8</sup>

All these views agree that the aim of inquiry is more demanding than knowledge. And all are consistent with Fallibilism.<sup>9</sup>

*Worry:* Doesn't EV-Aim—in any of its forms—make the aim of inquiry unattainable?

- **Reply #1:** In everyday life, we frequently claim to be certain of many things.
  - “Dr. Anthony Fauci said he is ‘absolutely certain’ the Omicron coronavirus variant will become the dominant variant in the US soon.”<sup>10</sup>
  - “Scientists are absolutely certain that this warming trend is due to human activity.”<sup>11</sup>
  - “Hunter Biden says he is ‘100 percent certain’ he will be cleared of wrongdoing in tax investigation.”<sup>12</sup>

Perhaps, then, epistemic certainty is an attainable status after all.

- **Reply #2:** This objection cuts equally well against the infallibilist version of K-Aim.
- **Reply #3:** Even when we have not attained the aim of inquiry into question *Q*, it may still be rational to turn our attention to other questions, because we may have a better chance of making epistemic progress on those other questions.

<sup>6</sup>See e.g., Sosa 2007 for the view that a belief amounts to knowledge iff it is true in virtue of manifesting a cognitive ability.

<sup>7</sup>For defenses of a safety condition on knowledge, see e.g., Sosa 1999; Williamson 2000; Pritchard 2005; Lasonen-Aarnio 2010; Beddor & Pavese 2020.

<sup>8</sup>See Pasnau 2017 for discussion of the role of epistemic certainty in the early modern period, and Beddor 2020 for contemporary applications.

<sup>9</sup>These views are not necessarily rivals. For example, one might try to explain epistemic certainty in terms of maximal aptness or maximal safety, or some combination of the two.

<sup>10</sup><https://www.cnn.com/us/live-news/omicron-covid-19-variant-12-16-21/index.html>

<sup>11</sup><https://www.brookings.edu/wp-content/uploads/2019/09/20190920-global-response-to-the-climate-crisis.pdf>

<sup>12</sup><https://thehill.com/homenews/sunday-talk-shows/546384-hunter-biden-says-he-is-100-certain-he-will-be-cleared-of/>

## Consequences

### The dogmatism paradox

Imagine that when Mia gets the email from the FAU researcher, she reasons:

“I know  $m$  is true. If I read the results of this new survey, I might find corroborating evidence that  $m$  is true, in which case I will retain my knowledge. But I might encounter evidence that  $m$  is false, which may defeat my knowledge. The safest course, then, is to delete the email!”

Mia’s reasoning here seems absurd. But wherein lies her mistake?<sup>13</sup>

**Diagnosing the dogmatist’s error** Mia is correct that deleting the email may protect her knowledge of  $m$ . But knowledge is not the epistemic *summum bonum*: as long as Mia is less than certain of  $m$ , her credence in  $m$  is epistemically suboptimal. By contrast, if she reads the study, she is guaranteed to maximize expected epistemic value (by Oddie’s theorem).

### The norm of practical reasoning

Our examples also put pressure on the knowledge norm of practical reasoning:

**Knowledge-Action Norm (KN)** If you know  $p$ , you’re permitted to take  $p$  for granted in practical reasoning.<sup>14</sup>

If Tess knows  $r$ , then by KN she is permitted to take  $r$  for granted in practical reasoning. So she is permitted to ignore any possibilities in which  $r$  is false. But if she is permitted to ignore all  $\neg r$  possibilities, then there is no point checking the textbook.

Our discussion also suggests a natural replacement for KN:

**Optimal Credence-Action Norm** If  $S$ ’s credence in a true proposition  $p$  is maximally epistemically valuable, then  $S$  is permitted to take  $p$  for granted in practical reasoning.

### The value of knowledge (or lack thereof)

Some philosophers have been attracted to K-Aim because it offers to shed light on the value of knowledge. If we reject K-Aim, what should we say about the importance of knowledge?

- Initial point: while I’ve been arguing against K-Aim, my arguments are compatible with the idea that knowledge is a necessary condition for attaining the aim of inquiry.
- But even if it is, it’s unclear that knowledge is doing much work here: key explanatory notion = epistemically valuable credences.

If knowledge is not important bc of its role in inquiry, we are left with two options:

*Option #1:* Identify some other important epistemological functions for knowledge to serve.

*Option #2:* Reject the assumption that knowledge has any important explanatory work to do. Maybe much of the explanatory work traditionally allocated to knowledge is better served by the notion of epistemically valuable credences.

<sup>13</sup>This is the dogmatism paradox; Harman 1973; Kripke 2011; Lasonen-Aarnio 2014; Borges 2015; Beddor 2019; Fraser forthcoming.

<sup>14</sup>Cf. Hawthorne & Stanley 2008; Fantl & McGrath 2002, 2009; Weatherson 2012; Ross & Schroeder 2014; Moss 2018.