Rational Inconsistency Against Infallibilism

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Abstract

Recent epistemological literature features compelling and novel arguments for thinking that an agent can rationally believe each member of a set of propositions while knowing that one of the members is false. Perhaps more provocatively, these proponents of "rational inconsistency," as it were, claim that it's also possible to know each true member of the set while knowing that one of the members is false. In this article, I explain why, if that's true, then, on pain of an absurd implication regarding the confirmation of a proposition by evidence, proponents of rational inconsistency should reject Infallibilism about knowledge.

Key Terms: Rational Inconsistency; Infallibilism; Confirmation; Evidential Probability

1 Setup

Let me tell you about a letter in the mail:[1]

Letter 1: Aunt Agnes wrote to tell you that Vic has passed away.

In the good case, we'll suppose, Letter 1 is a source of knowledge. But even in the bad case—where the letter supports something false—it's a source of rational belief.

Here are some more sources of knowledge and rational belief:

[1] This is an example from Littlejohn (Forthcoming). There are obvious connections to the preface paradox here (see Makinson (1965)).

Letter 2: Grandma Brenda wrote to say that Charis passed away.

Letter 3: Uncle Chuck wrote to say that Dinesh passed away.

...

Letter 100: Cousin Zelda wrote to say that Alice passed away.

Suppose you get all of these letters and that they are independent of each other. You read them and believe what they support. You now have 100 rational beliefs and potentially bear 100 distinct knowledge relations.

Let's now suppose that a reliable informant tells you that one and only one of the letters contains an error. Suppose also that the informant is telling the truth and that that you now know what this informant has told you. Finally, let's add that, prior to getting the information from the informant, you had no more reason to think that any one of the letters contained an error than any other.

I just finished describing the 'letter case.'[2] Some epistemologists are wont to endorse the following outlook on situations like it:

Rational Inconsistency (RI): It's rational to believe what Letter 1 supports, what Letter 2 supports, what Letter 3 supports, and so on, up to Letter 100, even though you know that exactly one of the letters contains an error.

Indeed, in a series of articles, Clayton Littlejohn and Julian Dutant have made rather compelling arguments for likes of (RI).[3]

[2]Much has been said about this sort of preface-paradoxical scenario. Some of the issues that arise given the kind of Infallibilism I'll target have been covered in Hawthorne and Lasonen-Aarnio (2009), Williamson (2009a), Williamson (2009b) (though these philosophers are chiefly concerned with how a safety-driven view of knowledge can be accommodated in light of challenges). Sharon and Spectre (2013), Williamson (2014), and Spectre (2019) provide helpful discussions about closure principles for knowledge and the preface paradox. But see Hong (2023) for a more recent and comprehensive discussion of knowledge and the preface paradox. Readers interested in how situations like the letter case should bear on one's views on the nature of rational or justified belief might consider Fitelson and Easwaran (2015), Smith (2022), and the references to Dutant and Littlejohn I'll provide in a moment.

[3]Littlejohn and Dutant (2020); Litlejohn and Dutant (2021); Littlejohn and Dutant (2024); Littlejohn (Forthcoming); Littlejohn and Dutant (Forthcoming).

But they go further. Consider Littlejohn on the letter case: "I think that the beliefs in the contents of the letters can be clear cases of *knowledge* even when we have testimony that supports [that one of the letters is mistaken]."[4] Given the stipulation that only one of the letters contains a mistake, endorsement of the likes of (RI) among its proponents is tied to the judgment that you can have knowledge of what 99 of the letters supports as well as knowledge that one of the letters contains an error.[5] Call this 'Knowledgeable Inconsistency' (or (KI)).

My concern isn't with the arguments for (RI) or (KI). Rather, my interest is in their relevance for debates about Infallibilism. In what follows, I'll argue that, on pain of an absurd result regarding confirmation, proponents of (KI) should reject a prominent kind of Infallibilism.

2 The target and significance of the argument

At least since Williamson (2000), non-skeptical Infallibilism has been fashionable.[6] "Non-skeptical" here should be read as implying that a subject can have knowledge in the way that's stipulated in the letter case (by way of information contained in letters and from reliable informants). It's that non-skeptical outlook in conjunction with the following that will be my target:

Probability Condition (PC): S knows that p only if the evidential probability of p on S's total evidence is 1.[7]

The argument I'll give exposes a dilemma: either we reject (KI), or we reject non-skeptical Infallibilism. That's an interesting result in its own right. For then those who are cosy toward

[4]Littlejohn (Forthcoming) Pg. 862. My alteration and italics.

[5]See especially the discussion of "collective defeat" in Litlejohn and Dutant (2021).

[6]A small sample of endorsements of a non-skeptical version of some kind of Infallibilism includes Dutant (2016), Kelp et al. (2022), and Fratantonio and Lasonen-Aarnio (2022).

[7]Williamson (2000) is the most developed non-skeptical infallibilist view that accepts this condition given his commitment to the E=K thesis. See Climenhaga (2021) for a more skeptical commitment to (PC).

non-skeptical Infallibilism will have reason to reject either (RI) or the association of (RI) with (KI) that Dutant and Littlejohn affirm. Meanwhile, those who would accept (KI) will have grounds to either affirm Fallibilism about knowledge[8] or a kind of skepticism.

But yet another reason for drawing attention to the argument I'll give is to identify a theoretical space in which proponents of (KI) would do well to clarify their position. Though Littlejohn and Dutant don't necessarily endorse (PC), Littlejohn accepts a restricted version of the E=K thesis in Littlejohn (2008) and Littlejohn (2011). The restriction is that, though propositions non-inferentially known are members of your total evidence set, propositions that you know inferentially are not. Now, if a proposition is a member of your total evidence, it'll have probability 1 on your evidence. For that reason, at least one well-known proponent of (KI) is committed to the (evidential) infallibility of non-inferential knowledge. That kind of Infallibilism is enough to generate the result that I'll claim is problematic. (To be sure, it's controversial whether knowledge from testimony—as in the letter case—is inferential or basic. We should be able to generate the kind of result I'll derive in a case where the items of knowledge at issue are less controversially non-inferential, however. But, even if we can't, it'd be interesting in its own right if proponents of (KI) must be reductionists about testimony.)

3 The problematic result

It'll help to have some abbreviating devices to relate information about the letter case. Let '$p1$' refer to the proposition ⌜Vic passed away⌝ (what Letter 1 supports), and let '$p2$,' '$p3$', and... all the way up to '$p100$' refer to similar propositions about persons reported about in the letters. So, $p2$ is ⌜Charis passed away⌝, $p3$ is ⌜Dinesh passed away⌝, and so on. Naturally, then, the proposition ⌜Someone's death was misreported in one of the letters⌝ is true just in case what's expressed by the following is true: $(\sim p1 \vee \sim p2 \vee ... \vee \sim p100)$.

Let's also distinguish your state of information in the letter case before you learn ($\sim p1$

[8]Reed (2012); Brown (2018).

$\vee \sim p2 \vee ... \vee \sim p100$) from the state after. Let EARLIER refer to the time just before, and LATER refer to the time just after.

I should also identify two important collateral commitments for a proponent of (PC).[9] First, if p entails q, then the probability of q is greater than or equal to the probability of p on your total evidence. Call this claim 'Entailment.' Second, if p has probability 1 on your total evidence and q has probability 1 on your total evidence, then $(p \& q)$ has probability 1 on your total evidence. Call this 'Agglomeration.'

Suppose that Letter 100 contains the falsehood and that $p100$ is the only false proposition among $p1$–$p100$. That is, in fact, ⌜Alice passed away⌝ (what's supported by Letter 100) is false. And since this is the only false proposition among $p1$–$p100$, and since we're accepting (RI), let's agree with Littlejohn that, LATER, you have knowledge of each of $p1$–$p99$. That is, let's accept (KI).

(KI) is bad news for non-skeptical Infallibilism (henceforth just 'Infallibilism'). Given Infallibilism and (KI), each of $p1$–$p99$ has probability 1 on your evidence LATER. Where $\Pr_L$ measures the evidential probabilities of propositions on your evidence LATER:

(1) $\Pr_L(p1) = \Pr_L(p2) = ... = \Pr_L(p99) = 1$

By Agglomeration it follows that:

(2) $\Pr_L(p1 \ \& \ p2 \ \& ... \ \& \ p99) = 1$

But, now, by hypothesis, you know that one of the letters contains an error. So:

(3) $\Pr_L(\sim p1 \vee \sim p2 \vee ... \vee \sim p100) = 1$

So then by Agglomeration on (2) and (3) we get:

(4) $\Pr_L((\sim p1 \vee \sim p2 \vee ... \vee \sim p100) \ \& \ (p1 \ \& \ p2 \ \& ... \ \& \ p99)) = 1$

[9] I assume that evidential probability is constrained by the Kolmogorov axioms and ratio formula for conditional probability.

And, with (4), Entailment allows us to derive:

(5) $\Pr_L(\sim p100) = 1$

Is it plausible that you acquire the strongest confirmation possible for the proposition ⌜Alice didn't pass away⌝ when you merely learn the proposition ⌜Someone's death was misreported in one of the letters⌝? That's what derivation (5) encodes, and it doesn't align with how we'd intuitively think of the relationship between confirmation and knowledge in the letter case—especially since we stipulated that you had no more reason to suspect that Letter 100 had an error more than any other letter.

To make matters worse, recall that endorsement of (KI) among its proponents is tied to endorsement of (RI). (RI) implies that it's rational for you to believe $p100$ LATER. Since the probability of $p100$ for you LATER is equal to 1 - $\Pr_L(\sim p100)$, (RI) and (5) imply that it's rational to believe something that has probability 0 on your evidence.

4 Old news?

I claim that result (5) is problematic. I'm going to consider some objection and replies to that claim in a moment. But, before that, allow me to clarify how I understand the problem in contrast with a more familiar issue.

You might think that your beliefs LATER in any of $p1$–$p100$ are epistemically no different than the belief that one's ticket is a loser in a standard lottery case. Per epistemological orthodoxy, however, one cannot know that their lottery ticket is a loser in a standard lottery case.[10] One reason cited in favor of the standard view (though not the only reason) is that, given closure principles for knowledge,[11] we'd then have to take on some unpalatable conclusions. One such conclusion is that you could come to know, via a competent deduction from your knowledge, which lottery ticket, in particular, is the winner.[12]

[10] See Vogel (1999) and Hawthorne (2004) for discussion.
[11] Hawthorne (2014); Alspector-Kelly (2019); Luper (2020).
[12] This is sometimes thought to be a result of so called "multi-premise closure."

That in mind, you might worry that what I've drawn attention to in result (5) is old news. "Sure" you might say, "result (5) is bad; but we already knew that it was wrong to think that you can know that your lottery ticket is a loser for basically the same reason."

Now, I don't think what I've been going on about here is old news—and for reasons I'll explain shortly. But, even if it were, that wouldn't mean that the result to which I've drawn attention isn't noteworthy in the present dialectical setting. As I explained in section 2, there are recent proponents of (KI) and some of them accept a kind of non-skeptical Infallibilism.[13] If it turns out that their position is problematic for a reason that's familiar to epistemology, then it's good to have a record of that point.

But, as I say, there are some key differences between my discussion of the letter case and closure-based arguments against the view that you can know that your lottery ticket is a loser. For one thing, it's not at all clear that one's belief that their ticket is a loser in a standard lottery case is analogous to your beliefs in what's supported by the individual letters. To cite just one major difference, the belief that one's ticket is a loser is based on mere statistical evidence—one of the most frequently cited factors to explain why the belief doesn't count as knowledge.[14] But your beliefs in each of $p1$–$p100$ are not based on mere statistical evidence. Rather, they're based on testimony. Additionally, closure-based arguments against the view that you can know that your lottery ticket is a loser do not turn on whether or not non-skeptical Infallibilism is true.

Finally, and perhaps most importantly, my worry I'm raising about result (5) is *not* that you can know $\sim p100$ once you find out that one of the letters contains an error. For that reason, closure principles for knowledge are irrelevant to the point I'm making. I'm happy to distinguish *being in a position to know a proposition* from *there being a maximal evidential probability allotted to a proposition on your evidence.*

More subtly, then, my claim that result (5) is objectionable relates to a point about how

[13]They are also wont to distinguish the sort of case I'm discussing from a standard lottery case. See Litlejohn and Dutant (2021) and Littlejohn and Dutant (Forthcoming).

[14]A non-exhaustive list: Nelkin (2000), Staffel (2016), and Smith (2017). See also the references in Silva (2023).

confirmation should work in the letter case: intuitively, you simply do not have the kind of confirmation for $\sim p100$ that you acquire, as reflected in result (5), once you learn that one of the letters contains an error. But that's what non-skeptical Infallibilism and (KI) require. Worse still, given (RI), you should believe a proposition that is maximally improbable.

5 Objections and replies

It's time now to look at a few objections to my argument. Here I'll consider three.

5.1 Only a failure of conditionalization?

Earlier I referred to the stipulation that you had no more reason to suspect that Letter 100 contained the error than that any other letter contained it. This could sound like an appeal to a claim about your conditional probabilities EARLIER—perhaps this (where $\Pr_E$ measures your probabilities EARLIER and pi refers to any member of $p1$–$p100$):

(6) $\Pr_E(\sim p100|(\sim p1 \vee \sim p2 \vee ... \vee \sim p100)) = \Pr_E(\sim \mathrm{p}i|(\sim p1 \vee \sim p2 \vee ... \vee \sim p100))$

If I'm assuming (6), then, one might think, what I'm regarding as an absurdity is parasitic on both (a) the fact that your $\Pr_L$ distribution can't be the result conditionalization and (b) the assumption that (a) is objectionable. Infallibilists who accept (KI) can deny (b), however. In the spirit of what Williamson has argued elsewhere,[15] they can maintain that the evolution of evidential probability isn't properly modeled with conditionalization in all cases.

I have three points by way of reply. First, all else equal, it's desirable to be able to accommodate the assumption of (6) and that the evolution of your evidential probabilities is properly modeled with conditionalization. Even if, strictly speaking, conditionalization has exceptions, it's not clear why we should conclude that our derivation of (5) represents a plausible one.

[15] See especially Williamson (1998) and Williamson (2000) Ch. 213–221.

Second, what I'm regarding as an absurdity doesn't turn on anything to do with conditionalization; and so it doesn't turn on a tacit stipulation of (6) alongside other ideas. The result of (5) means that Letter 100 counts for nothing, evidentially speaking, after you hear that one of the letters contains a mistake. But why should that be? Even if your total evidence should allot less probability to the proposition ⌜Alice passed away⌝ LATER, it's counter-intuitive that it should allot it a probability of 0.

Third, nothing in this response addresses the concern that, given (RI), it would be rational for you to believe something with a probability of 0.

5.2 No different from maximal probabilities for truths of logic?

Here's a different attempt to put a good face on (5). One might think the situation is no more odd than the fact that we have maximal evidential support for complex truths of logic.[16] After all, on every body of evidence, the probability of a tautology is 1. The consequence (given the principle Entailment above) that *all* truths of logic have maximal probability, though surprising, is perhaps ultimately unobjectionable. So maybe the result of (5) is merely surprising but ultimately unobjectionable too.

Let's set aside the question of whether the presupposed view of evidential probabilities for truths of logic is correct. The comparison is still bad for a few reasons.

First, one doesn't *acquire* the best confirmation possible for complex truths of logic. Rather, they're maximally probable no matter what one's evidence is (at least according to the position assumed by the objection). That's not true of empirical claims about whether someone's dead or alive—which is what the letters support. Second, one could, in principle, reason *a priori* to deduce complex truths of logic. One can't reason *a priori* in this way about empirical matters like whether Alice has passed.

Both of these differences suggest the analogy with truths of logic is flawed. But, even if we accepted the comparison, we have to reckon with the fact that, by all appearances, LATER

[16]Note: I am not endorsing this view. But it is a view on the market. See for example Smithies (2015) and Titelbaum (2022) Ch. 12.

in the letter case, you have evidence favoring that Alice has passed; namely, the contents of Letter 100. When we conserve this feature in the analogy with our evidence for complex truths of logic, the analogy works *against* the objection. It's counter-intuitive to suppose that a complex truth of logic is maximally probable on one's evidence when one has reliable testimony that it's false.

Besides, once again, nothing in this response addresses the concern that, given (RI), it would be rational for you to believe something with a probability of 0.

5.3 Confusing probabilities at different levels?

The concept of improbable knowing is familiar to contemporary epistemology by now.[17] But one might think there's an inverse phenomena: failing to know that p when it's probable on your evidence that you know that p. Perhaps this phenomena is witnessed in the letter case. The thought would be that, though you have the strongest confirmation possible for the proposition ⌜Alice didn't pass away⌝ and this implies a failure on your part to know that Alice passed away, you nevertheless have evidence favoring that you *know* that Alice passed away.

Indeed, after hearing from your informant, one might think you should become more confident that you know all that you rational believe in the letter case. Here's Littlejohn again:

> Let's imagine two ways that the letters case could have developed:
>
> > **Mere Expectation:** The letters are read and committed to memory. The thinker realises that there's some small chance that each letter is mistaken. Given their information, the expected number of errors is 5.
> >
> > **Conviction:** As before, but we add that we're told by a reliable source that one (and only one) letter contained an error.

[17] Williamson (2014); Kim (2015).

> ...[T]he 'news' we have about our beliefs is better in Conviction than Mere Expectation. With respect to each belief about the contents of each letter, your confidence that the belief in question has the properties that make it objectively epistemically desirable should be greater in Conviction than Mere Expectation (e.g. whilst your confidence in Mere Expectation that each letter is a potential source of knowledge might be a maximum of .95, your confidence in Conviction could be .99).[18]

Armed with this insight, an infallibilist might say, the fact that the probability of $p100$ is so low after you hear from your informant seems bad only because it's easy to confuse a judgment of the probability of $p100$ with a judgment about the probability *that you know* $p100$. We have an error theory. To the extent that I thought it was problematic that the probability on your evidence of $p100$ is so low, that's only because (i) I'm intuiting that the probability *that you know* $p100$ is high and (ii) I'm confusing probabilities from different levels: probabilities of first-order propositions and probabilities of corresponding higher-order propositions about knowledge of the first-order propositions.

One might think an advantage of this kind of view is that it can make sense of why it's rational for you to believe $p100$ despite its having such a low probability too. For, according to this position, it's very probable on your evidence that you know $p100$. Perhaps that's all you really need for rational belief.[19]

The view of rational belief at play seems plausible enough. But what's presupposed by the error theory—namely, (KI) and non-skeptical Infallibilism—requires an impossible probability distribution given the factivity of knowledge. Let 'K$p100$' stand for the proposition that you know that Alice passed away. Then the following must hold of necessity since K$p100$ entails $p100$:

(7) $\Pr_L(\mathrm{K}p100) \leq \Pr_L(p100)$

[18]Littlejohn (Forthcoming) 862–863.

[19]In fact, it's right in line with the view of rational belief laid out in Littlejohn and Dutant (Forthcoming).

That means that the probability that Alice passed away puts a limit on the probability of the proposition that you know that Alice passed away. From our initial result of (5), we know that the probability that Alice *didn't* pass away is 1. So then the probability on your evidence that she passed is 0. Therefore, $\Pr_L(\mathrm{K}p100)$ cannot be greater than 0. In other words, you don't even have evidence that you *know* that Alice passed away.

6 A choice

Recall (RI):

(RI): It's rational to believe what Letter 1 supports, what Letter 2 supports, what Letter 3 supports, and so on, up to Letter 100, even though you know that exactly one of the letters contains an error.

I've argued that (RI)'s association with (KI)—the view that you can know all but one of the propositions supported by the letters and that one of the letters contains an error—leads to a problematic result given Infallibilism: you acquire the strongest confirmation possible for believing that a specific letter contains an error once you learn that one of the letters contains an error, and you can rationally believe something that has probability 0 on your evidence. We face a choice: either we reject (KI) or we reject non-skeptical Infallibilism. So, proponents of (RI) who are wont to accept (KI) should reject non-skeptical Infallibilism: they must either be skeptics or fallibilists. Of more general interest, then, on pain of absurdity, we can't accept (RI), the association of (RI) with (KI), and non-skeptical Infallibilism.

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