The Lockean Thesis

Paul Silva Jr.
University of Cologne

Rough Draft as of: 12 March 2024

Forthcoming in *The Blackwell Companion to Epistemology, 3rd edition*

This entry introduces the Lockean Thesis and sketches the ways in which the lottery paradox, the preface paradox, and the problem of merely statistical evidence can be used to put pressure on the Lockean Thesis.

1. Introduction

Van Fraassen (1989: 151) observed that there was a time when probabilism's epistemology of degrees of confidence was an underappreciated research program among mainstream epistemologists, which emphasized the theory of knowledge and justified outright belief. But probabilism's prosperity as a research program long ago reached a point where traditional epistemologists cannot avoid "the Bayesian Challenge": what is distinctive to the study of outright belief and its rationality when probabilism's probabilistic constraints on rational levels of confidence is able to explain so much of what traditional epistemology sought to explain?

But probing the Bayesian Challenge requires us to get clearer on how the ideologies of traditional and probabilist epistemology are related to each other. Richard Foley recommended a proposal for unifying traditional and probabilist epistemology through a straightforward reduction of belief to degrees of confidence:

> [B]elief-talk is a simple way of categorizing our degree of confidence in the truth of a proposition. To say that we believe a proposition is just to say that we are sufficiently confident of its truth for our attitude to be one of belief. (Foley 1993: 140)

The proposed reduction has come to be known as *the Threshold View*. As Foley observed, the Threshold View is a metaphysical view with a powerful epistemic implication:

> [I]t is epistemically rational for us to believe a proposition just in case it is epistemically rational for us to have [a] sufficiently high degree of confidence in it, sufficiently high to make our attitude towards it one of belief. (Foley 1992: 111)

Foley called this *the Lockean Thesis* due to Locke's suggestive remarks in Book IV of *the Essay*. It is an epistemological claim about the relation between rational belief and rational degrees of confidence, and it provides a bridge between probabilism and traditional epistemology. Note that, as stated here, the Lockean Thesis concerns only propositional (*ex ante*) rationality. See the entry **PROPOSITIONAL AND DOXASTIC JUSTIFICATION.**

In regard to both the Threshold View and the Lockean Thesis, note the vagueness of the use of the term 'sufficiently'. There is not much agreement about what counts as a 'sufficiently high degree of confidence' beyond the idea that it is a degree of confidence that can be represented as a number (or interval) that lies somewhere *between* .5 and 1 on a probability scale. Additionally, there is disagreement about whether or not the same level of confidence will count as sufficient in relation to belief across all contexts. See Ross and Schroeder (2014) for references and discussion.

2. Challenges to the Lockean Thesis

There are a variety of challenges to the Lockean Thesis, but the lottery paradox, the preface paradox, and the problem of merely statistical evidence provide the leading objections to it. To keep track of how these objections put pressure on the Lockean Thesis it will help to separate its constitutive conditionals:

> **LT-Nec:** Necessarily, it is rational for *S* to believe that *p only if* it is rational for *S* to have a sufficiently high level of confidence in *p*.
>
> **LT-Suf:** Necessarily, it is rational for *S* to believe that *p if* it is rational for *S* to have a sufficiently high level of confidence in *p*.

Here's a quick sketch of *one way* the lottery paradox can be used to put pressure on LT-Suf. Take a fair lottery with 1000 tickets where it is known that just one ticket will win. The known objective chances of ticket #1 losing is very high. Assume that (0): it is rational to be very highly confident that *p* if you know that the objective chances of *p* are very high and you have no further evidence that washes out the probative force of the objective chances. Since the probative force of the objective chances are not washed out in a typical lottery case, we may infer that (1): it is rational for you to be highly confident (but less than maximally confident) that ticket #1 is a loser. Now assume that (2): 'sufficiently' in LT-Suf doesn't require maximal confidence. With (1), (2), and LT-Suf it will follow that *it is rational to believe that #1 is a loser*. But the same is true of *every* ticket. With this set up and two additional assumptions we can derive a contradiction from repeated applications of (0) and LT-Suf to facts about each one of the remaining 999 tickets being individually very likely to lose. The first additional assumption is (3): it is never simultaneously rational to believe *p* and rational to believe ¬*p*. The second is (4): that rational belief is closed under conjunction introduction. For with (4) and a few standard inference rules – e.g. disjunction elimination, universal generalization – we can deduce from its being rational to believe of each ticket individually that it is a loser, that (5): *it is rational to believe that all the tickets are losers*. But the lottery situation began with the fact that (6): *it is rational to believe, because it is known, that* not *all the tickets are losers*. These last two italicized claims contradict (3). One way to circumvent this contradiction is to drop LT-Suf. See the entry **LOTTERY PARADOX** for further discussion.

In contrast, the preface paradox can be used to put pressure on LT-Nec. Here's a sketch of *one way* to pull that off. Let M be a set of 1000 independent statements, m_1-m_{1000}, about your activities last year, where each member of M is justified by a distinct experiential memory. (In a standard telling of the preface paradox, each member of M would be recorded in a book.) Having a highly reliable memory and being skilled at forming new true beliefs on the basis of experiential memory in a way that produces knowledge, it's widely thought that (7): it is rational for you to believe of each individual member of M, that it is true. (We could also reach (7) from (0), (2), and LT-Suf.) From (7), (4), and a few standard inference rules (indicated above) it follows that (8): it is rational to believe that all of m_1-m_{1000} are true. (8) and LT-Nec jointly entail that (9): *it is rational to be sufficiently highly confident that all of* m_1-m_{1000} *are true*. But knowing that your memory is imperfect, you know that there is a high objective chance that there is at least one false statement in M and this does not seem to be washed out by further evidence. Again, apply (0). From which it would follow that (10): *it is rational for you to be sufficiently highly confident that* not *all of* m_1-m_{1000} *are true*. (In a standard telling of this paradox, this would be stated in the preface of the book.) But (9) and (10) are inconsistent with probabilism's commitment to (11): it is never rational to be highly confident of p and highly confident of $\neg p$. This is because probabilism says that one's levels of confidence should be representable as a probability function, which requires one's confidence levels to be representable in a way that conforms to the rule of negation: $\Pr(\neg p) = 1 - \Pr(p)$. It is mathematically impossible for a probability function to conform to this rule and assign a probability above .5 to p as well as to $\neg p$.

One could abandon probabilism at this point to save LT-Nec. But that would be strange if one's aim is to use the Lockean Thesis to bridge probabilism and traditional epistemology. But even without probabilism, LT-Suf and (9) entail (12): *it is rational to believe that all of* m_1-m_{1000} *are true*. And LT-Suf and (10) entail that (13): *it is rational to believe that* not *all of* m_1-m_{1000} *are true*. This contradicts (3). And we again have a collection of plausible assumptions involving LT-Nec that lead to a contradiction. (Notice that placing the sufficiency threshold below .5 would help with the previous problem involving the rule of negation, but it would not help avoid this last problem.) We are thus forced to give up at least one of the claims noted above. And giving up LT-Nec is one option. See the entry **PREFACE PARADOX** for more. Also, for recent evolutions in the discussion of the lottery and preface paradoxes, see Douven (2021), Praolini (2019), Backes (2019), and Smith (2022).

A common approach to both paradoxes is the rejection of (4), i.e. conjunction closure. This solution is attractive as it takes as its starting point the fact that the risk of ending up with a false conjunction grows as one adds independently risky conjuncts. For example, take 12 probabilistically independent claims each having a .9 probability of being true. The probability of their conjunction is their product, i.e. approximately .28. Could it really be rational to believe *p* when you are in a position to know that *p* is much more likely false than true? Conjunction closure seems to imply that this can sometimes be the case, and thus seems to imply the rationality of some instances of epistemic akrasia. For discussion of epistemic akrasia, see Horowitz (2013) and Silva (2018). See Smith (2022) for references and a recent discussion of conjunction closure.

For such reasons it is easy to see how and why the rejection of conjunction closure in defense of the Lockean Thesis is attractive. Unfortunately, the rejection of conjunction closure is not enough to save the Lockean Thesis from all problems. For LT-Suf is threatened by the problem of merely statistical evidence. This problem takes as its starting point the idea that high (but non-maximal) confidence can be rational in at least some cases where your evidence supports *p* only by supporting the fact that *p* is highly likely to be true, and not also by entailing *p*, or by providing you with a good abductive argument for *p*, or by *p* being the content of familiar knowledge-affording representational states (perception, memory, etc). The problem is then developed by observing that belief in such cases is irrational because merely statistical evidence is never sufficient for rational belief. From these assumptions we can see the problem for LT-Suf. For these assumptions imply that there are cases where it is rational to have a very high (but non-maximal) confidence that *p*, but not rational to believe that *p*. See Jackson (2020) for further discussion and references. For discussion of what *merely statistical evidence* is and whether or not merely statistical evidence is *never* or only *sometimes* insufficient for rational belief, see Silva (2023).

There are alternative proposals in defense of the Lockean Thesis. One promises to resolve all of these problems by adopting a version of the Lockean Thesis on which only a maximum level of rational confidence is sufficient for rational belief. Such a view follows from a version of the Threshold View that identifies belief with a maximum level of confidence. However, this kind of move raises difficult issues, not least of which is a growing body of literature in support of belief-credence dualism. According to dualist views, belief and levels of confidence are different doxastic attitudes that play different roles in our cognitive economy. Dualists typically reject the Threshold View and the Lockean Thesis, and thus have additional resources for addressing the lottery paradox, the preface paradox, and the problem of merely statistical evidence. For a discussion of different metaphysical views of the relation between belief and confidence see the entries **BELIEF** and **CREDENCE**. See also Jackson (2020) and Clarke and Staffel (2024).

There are also formal treatments of these paradoxes. For example, Spohn (2012) rejects the probabilistic representation of belief. Leitgeb (2017) advocates a Lockean approach that aims to resolve the standard paradoxes without forfeiting logical closure, the consistency requirement, or probabilistic representation of rational belief. For a discussion of formal models of belief and the Lockean Thesis see Genin and Huber (2022).

References

Backes, Marvin (2019). A Bitter Pill for Closure. Synthese 196:3773-3787.

Clarke, Roger & Staffel, Julia (2024). Are Credences Different From Beliefs? In Blake Roeber, Matthias Steup, John Turri & Ernest Sosa (eds.), Contemporary Debates in Epistemology, Vol. 3. Wiley Blackwell.

Douven, Igor (ed.) (2020). Lotteries, Knowledge, and Rational Belief: Essays on the Lottery Paradox. New York: Cambridge University Press.

Foley, Richard (1992). 'The Epistemology of Belief and the Epistemology of Degrees of Belief.' American Philosophical Quarterly 29, 111–24.

Foley, Richard (1993). Working Without a Net: A Study of Egocentric Epistemology. New York: Oxford University Press.

Genin, Konstantin and Franz Huber (2022). 'Formal Representations of Belief'. The Stanford Encyclopedia of Philosophy (Fall 2022 Edition). Edward N. Zalta & Uri Nodelman (eds.), URL = <https://plato.stanford.edu/archives/fall2022/entries/formal-belief/>.

Horowitz, Sophie (2013). Epistemic Akrasia. Noûs 48 (4):718-744.

Jackson, Elizabeth G. (2020). The Relationship Between Belief and Credence. Philosophy Compass 15 (6):1–13.

Leitgeb, Hannes (2017). The Stability of Belief: How Rational Belief Coheres with Probability. Oxford: Oxford University Press.

Praolini, Francesco (2019). No Justificatory Closure without Truth. Australasian Journal of Philosophy 97 (4):715-726.

Ross, Jacob & Schroeder, Mark (2014). Belief, Credence, and Pragmatic Encroachment. Philosophy and Phenomenological Research 88 (2):259-288.

Silva, Paul (2023). 'Merely statistical evidence: when and why it justifies belief.' Philosophical Studies 180(9): 2639-2664.

Silva, Paul (2018). 'Explaining enkratic asymmetries: knowledge-first style.' Philosophical Studies 175(11):2907-2930.

Smith, Martin (2022). The Hardest Paradox for Closure. Erkenntnis 87 (4):2003-2028.

Spohn, Wolfgang (2012). The Laws of Belief: Ranking Theory and its Philosophical Applications. Oxford: Oxford University Press.

Van Fraassen, Bas C. (1989). Laws and Symmetry. Oxford: Oxford University Press.