

The Paradox of the Preface and Logic's Normative Status

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Abstract:

I try to defend logic's normativity without rejecting the Preface Paradox. My central argument is that logical inference does not concern belief acquisition. We can reason in accordance with logical norms and still hold inconsistent beliefs, insofar as we are subject to distinct epistemic obligations. This is not a threat to the normativity of logic: it is simply that rational belief must be contextualized in light of our fallibility. The tension in the Preface Paradox is not something we should try to avoid. It is a reminder that when we reason under uncertainty, we should do so with humility.¹

¹ I take full responsibility for any errors that may be present in this paper.

Introduction:

Imagine that you begin reading a newly published non-fiction book on your favorite topic, say, dark chocolate. The author spends each chapter presenting research on dark chocolate-related subjects; production methods, milk-cocoa ratios, etc. The book is peer-edited and fact-checked, and correspondingly, the author is confident that each claim she makes is true. However, in the preface, after thanking various contributors, she acknowledges that there is likely to be at least one false claim in the book -because no book is completely error-free- and for this she takes anticipatory responsibility. To the avid chocolate enthusiast, the author's behavior seems perfectly rational. Humans naturally make mistakes, and the prudent course of action is to admit this ahead of time. Yet some students of logic find this to be problematic. The allegory is what D.C. Makinson termed *The Paradox of the Preface*, where the author holds two contradictory beliefs:

1. Each claim in the book is true.
2. At least one claim in the book is false.

While we take the author to be behaving reasonably, there is clearly an inconsistency. A similar problem appears in the lottery paradox.² Gilbert Harman argues that such inconsistencies challenge the normative status of logic, i.e. "the view that logic is supposed to provide an account of correct reasoning,"³ The preface paradox presents the problem of acknowledging our epistemic fallibility, because if we admit our own fallibility, how can we then commit to believing the claims we make are true.

I argue for a normative conception of logic in light of the fallibility illustrated by the preface paradox. I begin by defining what logic's normativity means, and its main problem with the preface paradox. My central claim is that acknowledging our fallibility does not undermine the obligation to reason according to logical inference.⁴ If we accept premises A and B, and A and B logically entail C, then we should also accept C.⁵ This normative relationship -what John MacFarlane calls bridge principles- holds regardless of whether we sometimes err in application, or in our original belief set. Then I address part of Harman's anti-normative perspective by contending that epistemic humility is not a rejection of logical norms, but a recognition of our human limitations within them. I conclude by extending this argument onto the arena of political reasoning. Specifically, that the humility expressed in the preface paradox ought to inform our approach to reasoning under uncertainty. It is not a fault of rationality, but a virtue, that we acknowledge the possibility that we might be mistaken.

Logic's Normativity

The purpose of formal logic and its normative status is a significant cause of philosophical debate. Said by Immanuel Kant, "in logic we do not want to know how the understanding is and does think and how it has previously proceeded in thought, but rather how it *ought* to proceed in

² Formulated by Henry E. Kyburg in 1961, for each individual lottery ticket, it seems rational to believe it will lose, yet we also know that one ticket must win, rendering our beliefs inconsistent.

³ Said differently, that logical rules prescribe how we ought to think and infer.

⁴ Logical inference refers to the act of drawing a conclusion from premise, in accordance with principles of valid reasoning. It is most often by logical entailment, which is the relationship between propositions where if the first statements (premises) are true, then the second statement (conclusion) must also be true. If the premises are true, there is no possibility for the conclusion to be false.

⁵ Or, as I will explain, to (minimally) not disbelieve C.

thought.” Believing logic has a normative status means logical rules do not just describe how we reason; they set the standard for how we ought to reason correctly. For instance, we consider it a good thing to be logically consistent. It would be an instance of bad reasoning if I believed at once that Joe was taller than me and not taller than me. Similar standards apply to assertions. In asserting something, we “aim at truth,”⁶ and thus commit ourselves to our assertion’s logical consequences. If we’re unable to remain committed to our beliefs, then we should revise them. If I asserted that Joe was taller than me, and I was taller than Mike, I ought to accept that Joe was taller than Mike. If I was unprepared to do so, people would rightly criticize my judgement. As John Macfarlane puts it, “we criticize people not merely for having inconsistent beliefs, but for failing to accept logical consequences of their beliefs.”

Needless to say, there are significant differences in how logicians interpret normativity. To disambiguate my usage, when I refer to logic’s normativity, I rely on two of Macfarlane’s⁷ bridge principles:

If $A, B \models C$, then . . .

$\Rightarrow (Wr+)$ you have reason to see to it that if you believe A and you believe B, you believe C.

$\Rightarrow (Wr-)$ you have reason to see to it that if you believe A and you believe B, you do not disbelieve C.

It is evident that $Wr+$ and $Wr-$ articulate different standards for what counts as reasonable belief. Put another way, they differ in their degree of normative force. $Wr+$ carries greater normative force because it expects belief in the logical consequences of one’s beliefs; it treats failure to believe C, when you believe A and B, as a rational defect. $Wr-$ is less demanding; it only prohibits active disbelief⁸ in C, allowing for suspension of judgment in cases of uncertainty. Having two standards of normativity is helpful because it allows us to distinguish an ideal type of rationality from its minimal requirements- something that will be useful later.

For reference, alternative perspectives on the normativity of logic believe that logic can be more strict. Under Macfarlane’s bridge principles, strict obligation looks like this:

If $A, B \models C$, then . . .

$\Rightarrow (Wo+)$ you ought to see to it that if you believe A and you believe B, you believe C.

Relying on this conception of normativity means accepting that certain beliefs follow necessarily as obligations. The difference between $Wr+$ and $Wo+$ is that $Wo+$ says you *ought* to believe something, whereas $Wr+$ only says that you *have reason* to. In deontic terms, *ought to* expresses obligation, while *reason to* expresses permission. $Wo+$ has been criticized by Harman and others as excessively demanding. For instance, how is one obligated to believe all the logical consequences of their beliefs? I believe in basic mathematical laws like addition, but I am clueless about Gödel’s Incompleteness Theorems. Such theorems are logical consequences of basic

⁶ *Stanford Encyclopedia of Philosophy*

⁷ I rely on $Wr+$ and $Wr-$ throughout the paper. Macfarlane outlines 36 different bridge principles, each with their own strengths and weaknesses, and I suggest for deeper understanding you read his in-depth analysis.

⁸ “Disbelieving” is a mental state that stands in the same relation to believing as denying does to asserting. It is not the same as “not believing”: there are many things one neither believes nor disbelieves.” (Macfarlane)

arithmetic, but could I rightly say that I believe them? It is unlikely. As I find this criticism reasonable, I rely on lighter forms of normativity (Wr- or Wr+) in my argument.

Unpacking the Paradox

For those trying to resolve the preface paradox, there appear two obvious options, i.e. the rejection of either premises. The first solution is to do away with premise one, that each claim in the book is true. Before accepting this, the author might recheck her sources, re-read each chapter, and have the book peer-edited again. All these actions are commendable, but eventually the author is faced with the same situation: the book will still go for publication, and she still plans to write a preface. We could not rightly expect the author to give up on the entire project, and with it each of her individual claims about chocolate. This amounts to disbelieving claims for which the author has already gathered evidence, something unreasonable, if not impossible.

The second possibility is that she rejects premise two, the declaration that at least one of the claims in the book is false. This is also difficult to accept. The author has compelling evidence for each individual piece of information and thus a rational obligation to believe what she has written. At the same time, she also has good evidence -based on the general unreliability of large-scale human projects- to believe that at least one claim is likely to be mistaken. She is caught between two conflicting commitments: to believe that for which she has specific justification, and to maintain a general realism about her own fallibility. The preface paradox is not caused by carelessness, but from a tension between these separate epistemic obligations. The question then is if this acceptance of fallibility really threatens the obligation to reason in accordance with logical inference.

The Proposed Response

The preface paradox resists simple resolution. The author behaves rationally when she believes each premise, as she has compelling evidence for both. If we acknowledge the paradox's force and still wish to defend logical inference, we must clarify what we are arguing for. A first step is identifying the nature of belief sets⁹ and belief acquisition¹⁰ and separating them from logical inference. In the first preface paradox, the author's belief set is formed through a careful fact-finding process, so the line between belief acquisition and logical inference blurs. But imagine a second author, whose entire book is based on episodes of *The Chocolate Therapist* podcast.¹¹ This author, whose epistemic method is notably less rigorous, could plausibly still be a subject of the preface paradox, so long as they sincerely believe each individual claim while recognizing that at least one is likely false. In this instance, the preface paradox seems irrelevant in reference to the author's suspect research process. The second author's process of belief acquisition and conviction of their belief set is what is problematic. With the wrong premises, one can use logical inference and reach conclusions which are clearly false.¹² Logical inference operates on beliefs which in turn are based on other beliefs. Logical inference concerns entailment but does not concern the original belief acquisition. The point is that part of the tension in the paradox lies with the original belief acquisition, not with logical inference itself.

⁹ The collection of all the propositions an individual believes to be true.

¹⁰ The process of how individuals develop or adopt beliefs.

¹¹ This is not meant as slander towards *The Chocolate Therapist* podcast. My point is to show the vulnerability of epistemic dependence in relying on a single source to defend one's belief formation.

¹² This gets at the difference between soundness and validity.

It's also clear that the two preface paradox scenarios do not hold equal weight. The first author has good reasons for her beliefs, the second does not. The distinction matters because we cannot reject the first author on the same grounds as the second. This becomes evident when applying Macfarlane's bridge principles to what we know about beliefs:

A	(I believe) every claim in the book is true. (P1)
B	(I believe) at least one claim in the book is false. (P2)
C	(I believe) I hold inconsistent beliefs.

For the second preface paradox author, under (Wr-) it is easy to say that in the case of "If $A, B \models C$ " we can rationally disbelieve C ($\neg C$), on the basis that belief A is mistaken. The second author might sincerely believe every claim in the book is true, but that does not make it so. Put simply, we solve the preface paradox by rejecting the author's belief in A. But this is not so for the first author; she has rational justification for each claim the book makes, and therefore obligations to believe both premises. Her first-order obligation is to believe what she has evidence for, and her higher-order obligation is to acknowledge the uncertainty of human fallibility.

To meet the standard of rationality required in Wr-, the author must not disbelieve that her beliefs are inconsistent ($\neg C$), i.e. having the belief that her claims are consistent. The higher standard Wr+ would mean she has reason to believe her own inconsistency (Wo+ would obligate her to do so). This is not necessary, and such doxastic attitudes could depend on a series of factors, like the author's personal level of humility. Under Wr-, she is not required to believe that her beliefs are inconsistent, she just must refrain from rejecting the possibility outright. And from what we know, the author seems amicable to this idea. Because of her conflicting epistemic commitments, she seems not to deny that her beliefs are inconsistent. Perhaps our author would be a good candidate for Wr+ as well, if she accepted that her beliefs were inconsistent. The difference between Wr+ and Wr- here is that Wr+ proposes that the author has reason to believe that her beliefs are inconsistent, while Wr- proposes that she does not disbelieve such inconsistency, in effect allowing her to withhold judgment about whether her beliefs actually constitute an inconsistency. By suspending judgement, our author can act rationally -and within the bounds of logic's normativity- while acknowledging the conditions of the preface paradox.

Harman's Criticism

From the anti-normative perspective, Harman argued that "logic is not a theory of reasoning" and that its principles do not prescribe how people ought to change or manage their beliefs. "In Harman's view, logic is a science on par with all others: its goal is to discover laws of a certain kind, viz., about what forms of argument must preserve truth. Rational people will try to have the right views about this, but they will try to have the right views about physics and sociology too, so there is no more essential tie between logic and rationality than between physics or sociology and rationality."¹³ Harman uses the preface paradox to show that "it is sometimes rational to have beliefs even while knowing they are jointly inconsistent, if one doesn't know how the inconsistency should be avoided."¹⁴

¹³ Hartry Field

¹⁴ This is Field's summary of Harman's point about the preface paradox, which I agree with.

My dissent with Harman lies in his view that having inconsistent beliefs means there is no connection between logic and rationality. Accepting that our beliefs might contain inconsistencies is not the same as giving up on logical standards altogether. Such inconsistencies are a problem of belief acquisition, not formal logic itself. We can acknowledge that in everyday life we are often uncertain, while still accepting that, if we hold premises with certainty, then we are rationally bound to accept their logical consequences. Moreover, logic's normativity does not require infallibility in our reasoning, meaning, we can still make mistakes. And when new information changes our beliefs, we ought to revise our original commitments. If the author in the second preface paradox analogy realized *The Chocolate Therapist* had been spreading Cadbury propaganda,¹⁵ their belief in (A) should change. This is not the same as a refutation of logical norms- it's a natural part of reasoning under uncertainty. Acknowledging the force of the preface paradox requires having some epistemic humility- the recognition that fallibility is a feature of our knowledge, and that we can be wrong, even when we have justification for our beliefs. From this perspective, inconsistent beliefs in the paradox are a reminder that rationality includes both logical commitment and intellectual modesty.

Conclusion

I argued that logic does have a normative status and that it does tell us how we should or should not reason. At the same time, we should not ignore the lessons of the preface paradox. I must stress that the defense of logic's normativity and the quality of epistemic humility has significant practical consequences. This is relevant nowhere more than political reasoning, where leaders determine the basic structure of a society. When it comes to defending their claims, rational belief -and with it logical norms- must be the guiding principle of politicians. The appeal of alternative justifications (authority, emotion, intuition, deflection) is undercut by their instability: these methods are ephemeral by nature. As Karl Popper put, "no rational argument will have a rational effect on a man who does not want to adopt a rational attitude." The least we can expect of our leaders is that they guide their belief formation according to logical norms.

The second point is that political reasoning should mirror the attitude of the author in the preface paradox. In moments of uncertainty, good politicians should have the epistemic humility to admit that they could be wrong. They can have first order commitments to their beliefs and still maintain a higher order commitment to acknowledging their fallibility. If we were infallible, governing would be easy, we could simply anoint someone as monarch. But we do not do this. We rely on democracy because it is the best structure we have for getting at the truth. That because no individual can be trusted to decide the truth for all, a dialogue of ideas is the best attempt to approach it. Grounded in the democratic processes of truth-seeking is the humility to admit when we are not sure of ourselves.

I end with the polemical claim that the current political arena is filled with those who pretend otherwise. It is now foolish to acknowledge one's own errors. It is far more advantageous to point out the mistakes of others. Refusal to admit mistakes is now seen as a political strength, but nothing could be more deceitful. When leaders ignore the possibility that they could be wrong, they give up on the whole business of democracy. They give up on the whole business of truth-seeking. The path towards truth is forgone on the grounds that it's already been reached, and it's exchanged for expedience in some other domain. Such vanity is not just bad in itself; it is bad in

¹⁵ This is only a hypothetical.

the outcomes it produces. When human fallibility is ignored, we have no avenue to correct our mistakes.

Ultimately, I believe that logic's normativity and the preface paradox are not abstract causes. I believe that it should bother us when someone relies on an argument that is not based in reason. It should bother us when someone does not accept the logical consequences of their statements. It should bother us when, in times of uncertainty, someone claims to be infallible, when they do not even grant the possibility of being incorrect. When people act like this, we have the right to criticize their judgement. If we accept that the author in the preface paradox is behaving rationally, then others in similar positions ought to behave the same. And we ought to expect that our leaders be held to the same standard of rationality as everyone else.

References

- Field, Hartry, and Peter Milne. "What is the normative role of logic?" *Aristotelian Society Supplementary Volume*, vol. 83, no. 1, 1 June 2009, pp. 251–268, <https://doi.org/10.1111/j.1467-8349.2009.00181.x>.
- Harman, Gilbert. *Thought*. Princeton University Press, 1973.
- Kant, Immanuel. *Critique of Pure Reason*. Translated by Marcus Weigelt, Penguin Classics, 2003.
- MacFarlane, John. *In What Sense (If Any) Is Logic Normative for Thought?*, 21 Apr. 2004, https://johnmacfarlane.net/normativity_of_logic.pdf.
- Makinson, D. C. "The paradox of the preface." *Analysis*, vol. 25, no. 6, 1 June 1965, pp. 205–207, <https://doi.org/10.1093/analys/25.6.205>.
- Popper, Karl R. *The Open Society and Its Enemies*. Princeton University Press, 1963.
- Steinberger, Florian. "The Normative Status of Logic." Edited by Edward N. Zalta and Uri Nodelman, *Stanford Encyclopedia of Philosophy*, Stanford University, winter 2022, plato.stanford.edu/entries/logic-normative/#Bib.