

Induction, Induction, Goose!

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Abstract:

In this paper I raise concerns that I have with what I take to be a lack of warrant for Hume's assertion that there are only two types of reasoning – demonstrative and probable. (Hume's fork) What I leave for others to decide is whether this lack of warrant therefore successfully undercuts Hume's argument for the Problem of Induction.

While it is true that many philosophers have taken issue with Hume’s version of the Problem of Induction over the years, it is significant, I think, that there remain many others for whom this problem is still very much alive and well. Indeed, following Nelson Goodman’s famous “grue” argument, it might even be said that the problem is even more of an issue now than it was in Hume’s day.¹ This is remarkable. For Hume first articulated his version of the Problem of Induction almost three hundred years ago in his 1739 book *A Treatise of Human Nature*. This means that just as the Problem of Induction was a problem in 1739, in 1740, in 1741 and so on all the way up until today, there is a good chance, given our apparent failure as philosophers to reach a consensus on the various (dis)solutions which have been proposed, that it shall remain a problem for some time to come.

Like the Bible, and, well, words and concepts in general, part of what seems to make the Problem of Induction so enduring is precisely that it can be interpreted in many different ways.² Take, for instance, the issue of how we are supposed to provide warrant for Hume’s following assertion, which he makes in his later work *An Enquiry Concerning Human Understanding*,

“All the objects of human reason or enquiry may naturally be divided into two kinds, to wit, *Relations of Ideas*, and *Matters of Fact*.”³

As I understand Hume, and I readily acknowledge that I may not understand him very well,⁴ what he is asserting here is that there are only two kinds of propositions which we humans

¹ See Goodman (1955).

² For a review of the literature, see Henderson (2022).

³ Hume (1748/1993): p. 15.

⁴ I mean, just look at the way I cite Hume in this paper – using page numbers instead of section, part, and paragraph numbers, like the absolute novice that I am.

can reason about – Relations of Ideas, which we can reason about *a priori*, and *Matters of Fact*, which we can reason about on the basis of experience. For as Hume goes on to explain,

“Of the first kind [Relations of Ideas] are the sciences of Geometry, Algebra, and Arithmetic; and in short, every affirmation, which is either intuitively or demonstratively certain... Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is any where existent in the universe.”⁵

By contrast,

“Matters of fact, which are the second objects of human reason, are not ascertained in the same manner; nor is our evidence of their truth, however great, of a like nature with the foregoing [Relations of Ideas]. The contrary of every matter of fact is still possible; because it can never imply a contradiction, and is conceived by the mind with the same facility and distinctness, as if ever so conformable to reality. *That the sun will not rise to-morrow* is no less intelligible a proposition, and implies no more contradiction, than the affirmation, *that it will rise*. We should in vain, therefore, attempt to demonstrate its falsehood.”⁶

As I said, it seems to me that Hume is more or less describing *a priori* and *a posteriori* reasoning here. Here is Hume making this same assertion again later in his *Enquiry*,

⁵ Hume (1748/1993): p. 15.

⁶ Ibid.

“All reasonings may be divided into two kinds, namely demonstrative reasoning, or that concerning relations of ideas, and moral reasoning, or that concerning matter of fact and existence.”⁷

Now, *if* I am interpreting Hume correctly, then it seems to me that, by his own lights, any warrant Hume might have had for making this assertion must itself fall into one of these two categories. Which is to say, if Hume is right that there are only demonstrative and moral, or probable, arguments, then any warrant Hume might have for making this claim must consist of one or more arguments which are themselves either demonstrative and/or probable.

The reason I am being so non-committal about my explication here is because I am decidedly *not* a Hume scholar. Consequently, I am not in a position to say whether the way I interpret Hume is defensible. Nor can I say with any confidence that what I am about to argue has not already been addressed in the literature. What is further, I am unfortunately not in a position to spend any serious amount of time familiarizing myself with that literature, as I am already spending the majority of my time focused on other matters, such as the philosophy of olfaction. In light of my admitted and, to some extent, intentional ignorance, I have decided not to argue for anything substantive. Rather, I shall frame what follows as an open question, and as an invitation for those with the proper expertise to correct me as may be appropriate. If it helps, the reader is invited to treat this paper like something that a first-year student might write. I will not be offended in the least.

⁷ Hume (1748/1993): p. 22.

Returning to the matter at hand, the question I have has to do with how Hume, or really any of us, is supposed to justify the assertion that there are only the two types of reasoning. The reason I want to get my head wrapped around this matter is because Hume utilized this same dichotomy in his *Treatise* to argue for the Problem of Induction. Thus, the purported dichotomy functions as a kind of hidden premise in his argument. And should this assertion turn out to be unwarranted, as I suspect it is, I would then have reason to further suspect that the Problem of Induction never even gets off the ground, or at least not as Hume formulates it in both his *Treatise* and in his *Enquiry*. Bold. I know. But again, I am *not* arguing that all this is actually the case. Rather, as an outside observer looking in, I am here only *wondering* whether it *might* be the case that Hume's argument for the Problem of Induction is unfounded.

As I have repeatedly instructed students, it is of paramount importance that one interprets others as charitably as one can. Therefore, let us grant, even if only for the sake of argument that Hume's assertion is correct in that there really are only two kinds of reasoning – demonstrative and probable. And let us further grant that Hume's description of each of these types of reasoning is correct.

With respect to demonstrative reasoning, Hume notes that when it can be shown that the negation of a given proposition entails a contradiction, we may be certain that that proposition must be true.⁸ Importantly, this certainty does not extend to propositions concerning matters of fact. For there is nothing inherently contradictory about supposing

⁸ Hume (1748/1993): p. 22.

or imagining that the world we observe might be other than it is, or that it might not conform to our predictions. As Hume puts this in his *Enquiry*,

“...it implies no contradiction, that the course of nature may change, and that an object, seemingly like those which we have experienced, may be attended with different or contrary effects.”⁹

And years earlier in his *Treatise*,

“We can at least conceive a change in the course of nature; which sufficiently proves, that such a change is not absolutely impossible. To form a clear idea of any thing, is an undeniable argument for its possibility, and is alone a refutation of any pretended demonstration against it.”¹⁰

Again, if we want to use demonstrative or *a priori* reasoning to prove that a given proposition is necessarily true, then we need to be able to show how negating that proposition leads to a contradiction. In turn, since negating a claim about the world does not lead to a contradiction in this way, on the grounds that it is logically possible that the world might be other than it is, it follows that we cannot use demonstrative reasoning to show that propositions about this world are necessarily true. It would seem then that the best we can do with respect to such propositions is to evaluate the *probability* of their being true.

This leads us to what Hume has to say about probable reasoning. He writes,

⁹ Hume (1748/1993): p. 22.

¹⁰ Hume (1739/2007): p. 62.

“All reasonings concerning matter of fact seem to be founded on the relation of *Cause and Effect*. By means of that relation alone we can go beyond the evidence of our memory and senses... All our reasonings concerning fact are of the same nature. And here it is constantly supposed, that there is a connexion between the present fact and that which is inferred from it. Were there nothing to bind them together, the inference would be entirely precarious.”¹¹

The idea here, I take it, is that if we want to go beyond merely stating *that* we experience sensations, or even just remember having experienced sensations in the past, so as to make claims about what the world must be like in order to cause us to experience such sensations, then we must presume that there is a reliable relation connecting all effects to causes. Moreover, whether warranted or not, this is a presumption which we do make.

At the same time, Hume was convinced that this Cause and Effect relation was not something that we can ground in demonstrative reasoning. For recall that demonstrative reasoning establishes necessary truth by showing that the negation of a given proposition results in a contradiction. Yet there is no proposition concerning any given cause and effect relation which, if negated, would result in a contradiction. If I posit that dropping a ball from a given height will *not* result in that ball falling downwards, I might turn out to be wrong, but I would not be asserting something which is inherently contradictory. There is nothing logically impossible about a ball not falling downwards after being dropped. Thus, it is not

¹¹ Hume (1748/1993): p. 16.

necessarily true that dropping a ball from a given height plays a causal role in that ball falling downwards.

Should Hume be right in thinking that all probable reasoning is grounded in the presumption of a cause and effect relation, and if he was also right in thinking that this relation cannot itself be grounded on any demonstrative reasoning, then in one fell swoop he would have demonstrated the futility of those philosophies of mind, like that of Descartes', which attempted to ground our probable reasoning on *a priori* reasoning. Like Locke, Hume believed that our knowledge begins ultimately with experience. Yet there was a problem here. Hume realized that while it was true that one could not provide a demonstrative argument to support our presumption of that Cause and Effect relation which we have so often taken ourselves to have observed in the regular conjunction of certain events, it was also true that we could not provide a probable argument for this presumption either. For one cannot very well just appeal to experience to warrant one's appeal to experience, as this would beg the question. Thus, we have Hume's Problem of Induction – there seems to be no way of warranting our presumption of that (or those) Cause and Effect relation(s) upon which all of our knowledge of facts about the world is supposed to rest.

Unsurprisingly, even though Hume himself advocated for a “moderate scepticism”, many philosophers have interpreted this part of Hume's philosophy as being a strong argument for a global scepticism in which none of our beliefs about the world can ever be truly warranted. While I have elsewhere shown that I personally do not have any good reasons for thinking that there exists an epistemic gap, or veil of perception, preventing me

from having epistemic access to the world,¹² I shall not draw on that argument to counter Hume's apparent global scepticism here. Instead, I shall once again draw our attention back to Hume's claim that the only kinds of arguments we can level must either be demonstrative or probable. In what follows, I shall refer to this claim as Hume's Dichotomy.¹³

If Hume's Dichotomy is correct, then the only warrant which can be provided for that dichotomy must either be demonstrative and/or probable. In turn, since demonstrative arguments work by showing that a negation of the proposition in question leads to a contradiction, it follows that a demonstrative argument for Hume's Dichotomy would show how negating this proposition leads to a contradiction. Here is a negation of Hume's Dichotomy:

“It is not the case that, “All reasonings may be divided into two kinds, namely demonstrative reasoning, or that concerning relations of ideas, and moral reasoning, or that concerning matter of fact and existence.””¹⁴

While this negation of Hume's Dichotomy might be wrong, and while it might even be difficult if not even impossible to imagine what other type of reasoning there could possibly be, the fact remains that negating Hume's Dichotomy does *not* lead to a contradiction. For it is not *logically* impossible that there might be some other type of reasoning in addition to or even in place of demonstrative and probable reasoning. This entails that, by Hume's own lights, a demonstrative argument cannot be provided for Hume's Dichotomy.

¹² Bakker (2024).

¹³ This is to avoid confusion, given that the usual “Hume's fork” can also refer to a feature of Hume's ethics.

¹⁴ Hume (1748/1993): p. 22.

Building on this, since we have assumed for the sake of argument that Hume's Dichotomy is correct, it follows from this same Dichotomy that if no demonstrative argument can be provided for it, then the only way it can be warranted is if a probable argument can be provided for it. What is further, if we accept, again for the sake of argument, that Hume is correct in asserting that all probable arguments are themselves ultimately grounded upon the presumption of a Cause and Effect relation, then it further follows that Hume's Dichotomy must be grounded upon this same Cause and Effect relation. Yet, Hume took himself to have shown that the presumption of a Cause and Effect relation cannot be supported, whether by demonstrative or probable arguments. Therefore, *if* Hume successfully showed that the presumption of a Cause and Effect relation is unsupportable, then it would follow that Hume's Dichotomy must also be unsupportable. For as we have seen, Hume's Dichotomy can only be supported by way of a probable argument, and according to Hume, all probable arguments rest upon the presumption of a Cause and Effect relation.

But here is the problem. Hume's Dichotomy is one of the (hidden) premises for Hume's argument for thinking that the presumption of a Cause and Effect relation is unsupportable.¹⁵ In turn, if Hume's Dichotomy is not only unsupported, but is in fact unsupportable in the way described above, then we have no good reason to think that Hume has successfully established that the presumption of a Cause and Effect relation is unsupportable. Which is to say, Hume's argument for the Problem of Induction seems to undercut itself. Or at least, so it seems to me.

¹⁵ In fact, Henderson (2022) lists it as the first premise in her reconstruction of Hume's argument.

I want to conclude by acknowledging that *if* what I have just now argued goes through, and *were it to be the case* that no one else has arrived at this conclusion already, then sure, *maybe* this paper could establish something of importance. However, I am only acknowledging these things because I do not want anyone to think that I am feigning humility when I emphasize once more that I am not familiar enough with the literature to say with confidence whether my own argument goes through. It could very well be the case that I have entirely misinterpreted Hume's argument. And in any case it seems eminently likely that others have already anticipated everything I have written here.

I leave it to you, dear reader, to decide whether my argument actually succeeds. And should it succeed, and should it be original, I would happily give the credit for this argument to the first qualified philosopher to successfully demonstrate as much.

Induction, induction, goose!

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