

SESSION FOUR

EXPERIENCE, JUSTIFICATION, AND INFERENCE

Hume's fork

In contrast to Descartes' emphasis on the primacy of reason in the justification of beliefs, Hume's approach to epistemology emphasised the role of experience. For Hume, all our ideas have at their source some impression (some sensation or feeling), and beliefs must be justified by experience unless they are justified by virtue of the meaning of the words in which the beliefs are articulated. Hume was an empiricist who took empiricism to its logical conclusions, as we shall see in this section which will focus on the problem of induction as outlined in 'Sceptical Doubts Concerning the Operations of the Understanding', in Hume's *Enquiry Concerning Human Understanding* (hereafter, EHU). This problem, discussed by Hume, is an epistemological one, and is thought to show that we are not justified in making conclusions about the world that go beyond past or present experience.

For Hume, with respect to a consideration of whether our propositional beliefs are justified, there are two modes of legitimate reasoning available to us. A priori demonstrative (or deductive) reasoning involves what Hume calls 'relation of ideas' and is justified by the very definition of the terms involved in the relevant propositions. A posteriori experimental (or inductive) reasoning involves matters of fact, propositions which make a claim about the world and can be justified by experience alone. (Mathematical inferences are generally deductive. Inferences about the world, especially about the future and causality, are generally inductive.) In this way, legitimate statements are either a priori (in which case they tell us nothing about the world) or a posteriori (in which case they must be supported by impressions or sense-data). There are no other legitimate possibilities. This division is known as 'Hume's fork'.

From such a division, it follows that statements about matters of fact always need empirical support. This is why Hume criticises the ontological argument for God's existence, which tries to prove God's existence a priori. For Hume, no claim about existence can be a priori, because whether something exists is a matter of fact and thus must be known a posteriori. If a statement is a posteriori, it must be grounded in impressions. If no impression supports the statement, the truth of the statement should be rejected.

Deductive and inductive inferences

Demonstrative reasoning is concerned with logical proofs. Similarly, demonstrative knowledge is attained by proof. In demonstrative reasoning the conclusion is deduced from the premises and cannot be denied without inconsistency. If the premises are true then the conclusion must be true also. When Hume talks of demonstrative reasoning, he is referring to

deductive inferences. Where deduction is concerned, if the form of the argument is valid and the premises are true, then the conclusion must be true. An example of a deductive inference is as follows:

Premise 1: All men are mortal.

Premise 2: Socrates is a man.

Conclusion: Therefore, Socrates is mortal.

Such reasoning is concerned with relations among ideas that are ‘intuitively or demonstratively certain’ and discoverable by the ‘mere operation of thought, without dependence on what is anywhere in the universe. Though there never were a circle or triangle in nature, the truths demonstrated by Euclid would for ever retain their certainty’ (EHU, Sec. 4, Part 1). This type of demonstrative reasoning gives us a priori truths. Such relations are necessary but they do not tell us anything about the world. As such, they are uncontroversial but uninformative.

In contrast, propositions concerning matters of fact provide us with information about the world. If we are going to know anything about these matters it will need to be on the basis of an inference from things we do already know. We will have to rely on experience. This is true of arguments concerning cause and effect; the conclusions of such arguments are drawn from ‘past experiences of similar cases, without which we could draw no conclusions at all’ (Morris, 2009, p.22) Indeed, for Hume, causes and their effects are discovered not through reason, but through experience when we find that objects are constantly conjoined. (You should do some independent reading on Hume’s arguments concerning causation. See ‘On the Idea of Necessary Connexion’, in *Hume’s Enquiries Concerning Human Understanding*, Sec. 7, Parts 1 and 2).

With respect to inferences concerning causation, ‘there is no room for demonstrative reasoning here. We can always conceive of a change in the course of nature. However unlikely it may seem, such a supposition is intelligible and can be distinctly conceived’ (Morris, 2009, p.22). As such, it is not contradictory to deny the conclusion of causal arguments:

[T]hat there are no demonstrative arguments in the case [of causation] seems evident; since 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 (EHU, Sec. 4, Part 2).

Indeed, it is correct to say that we can deny the conclusions of inductive arguments (concerning matters of fact) without being contradictory, and that we can not do this with demonstrative or deductive inferences. Take, for example, the following inductive argument:

The sun rose on day 1

The sun rose on day 2

The sun rose on day 3

The sun rose on, say, day n

Therefore, the sun will rise on day $n + 1$.

The premises do not put the conclusion beyond all doubt, as they would in a deductive inference. The conclusion is referring to a distinct event, one that has not been mentioned in the premises. As such, we can deny the conclusion without being logically inconsistent. In an inductive argument like this, the conclusion is probable if the premises are true, but in this sense the premises only support the conclusion (the conclusion is not deduced from the premises). Another example of an inductive inference is as follows:

I have seen hundreds of white swans

I have no evidence of non-white swans

Therefore, all swans are white.

In this inference, the evidence merely points towards the conclusion, but the evidence is compatible with the conclusion being false.

The problem of induction

So, we could say that inferences from past to future are probable only (for example, we could say 'It is probable that the sun will rise tomorrow'). How probable the conclusion of inductive inferences are will depend on how much the premises support the conclusion. But Hume goes on to express scepticism about saying this. Given his doubts about making a justifiable link between the past and future, it is not clear that we are even justified in claiming that the sun will probably rise tomorrow. We use past experience as a guide to the future here too. We still make an inference from known to unknown, and it is this inductive inference that Hume is calling into question. As such, when we say it is probable that the sun will rise tomorrow, we still take for granted that the future will be like the past or present, as we do when we say the sun will rise tomorrow (EHU, Sec. 4, Part 2).

Hume uses the example of the nourishing qualities of bread to make his point about the problematic nature of inductive reasoning:

From causes which appear similar we expect similar effects... we infer a connection... The question still recurs on what process of argument this inference is founded?... It is confessed that the colour, consistency, and other sensible qualities of bread appear not, of themselves, to have any connection with the secret powers of nourishment and support. For otherwise we could infer these secret powers from the first appearance of these sensible qualities, without the aid of experience (EHU, Sec. 4, Part 2).

When Hume uses the term ‘secret powers’, he means the force or supposed necessary connection between causes and their effects. What he is saying here, in the above quote, is that when one type of event has always followed another we expect this to always be the case. We suppose or infer there to be some connection or power between the causes of those events and the effects. But, Hume asks, on what reasoning is this inference founded? When we perceive bread or experience the surface properties of bread, the properties do not themselves seem to have any connection to nourishment. If they did then we would be able to gain a clearer understanding of that connection the first time we saw or tasted bread. If we could infer a reasonable necessary connection or power between causes and effects we would be able to do so from single instances of events. But it is only after we have experienced eating bread on numerous occasions that we start to infer a connection between its properties and nourishment. Indeed, after experiencing similar causes and effects we just infer that similar causes will lead to similar effects, but we do not do this while knowing that there is some necessary connection. As such, we do not have any reason to think that the inference is a good one. We do not know what the inference is founded upon. What Hume is trying to draw our attention to, then, is that there is something between causes and effects which is not accounted for.

We can, of course, note with a fair degree of assurance past correlations between events, for example, whenever I ate bread in the past it nourished me. But conclusions about matters of fact that are beyond immediate sense and memory, like predictions about the future (such as, for example, that bread will continue to nourish me), do not follow necessarily from experience, and are therefore not entirely justifiable. They depend on two ideas: the idea that there is a necessary connection between causes and effects, and that the future will resemble the past — but these ideas are without supporting impressions. As such, we cannot know anything for certain about the future. (He seeks the origin of the idea of necessary connection in EHU, Sec. 7, Parts 1 and 2.) As he says, ‘Here then is the natural state of ignorance with regard to the powers and influence of all objects’ (EHU, Sec. 4, Part 2). Note that, for Hume,

our assumption that the future will resemble the past is a sort of natural belief that we all possess, but at root it is unjustified. Indeed, for Hume it is part of human nature to make such assumptions.

We may ask then, what is the connection between statements about past experience and statements about future events if they are not based on experience or a necessary connection between causes and their effects? Hume's reply is as follows:

[Y]ou must confess that the inference is not... demonstrative: Of what nature is it, then? To say that it is experimental is begging the question. For all inferences from experience suppose, as their foundation, that the future will resemble the past, and that similar powers will be conjoined with similar sensible qualities. If there be any suspicion that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless, and can give rise to no inference or conclusions. It is impossible, therefore, that any arguments from experience can provide this resemblance of the past to the future; since all these arguments are founded on the supposition of that resemblance... In vain do you pretend to have learned the nature of bodies from past experience (EHU, Sec. 4, Part 2).

Inferences that make a connection between statements about past experience and statements that predict the future need to be established by reasoning, and, as we have said, for Hume that reasoning must be either demonstrative (not based on experience), or experimental (based on experience). But it cannot be demonstrative, as we have seen — since it is intelligible that the course of nature may change (Morris, 2009, p22). So it is not inconsistent to deny the conclusions founded on our experience of causal connections, unlike conclusions based on demonstrative reasoning. Neither can probable reasoning establish a certain connection between a proposition about past experience and one about the future, 'since it is based on the relation between cause and effect. What we understand of that relation is based on experience and any inference from experience is based on the supposition that nature is uniform — that the future will be like the past' (Morris, 2009, pp.22-23). But, again, it is conceivable that the laws of nature may change. And to appeal to experience as an attempt to show that inferences from past to future events are justified is to beg the question — for inferences from experience presuppose that the future will be similar to the past, but we have no experience of it being so.

An unsatisfactory circular response

Such inferences, however, could be reconstructed with the addition of an extra premise; a premise which states a general principle of the uniformity of nature (Morris, 2009, p. 23). We could then say that this principle allows us to derive conclusions from inductive inferences, the denial of which would be contradictory. But then we would have to justify this principle, and to do this we would no doubt appeal to experience, and such an appeal would be circular: 'for any such appeal must be founded on some versions of the uniformity principle itself – the very principle we need to justify' (Morris, 2009, p.23). Indeed, any attempt to establishing the truth of this principle would involve inductive reasoning, but this principle is supposed to be the principle upon which all inductive reasoning is justified, and we have no experience that we can point to which will inform us that nature will always be uniform. As such, our experience cannot give us a proof that what we predict will in fact occur. We could try to argue that it is rational to expect the future to resemble the past because experience teaches us that it does, but this response to Hume's problem begs the question — our expectations have worked to give success previously, but what reason is there to suppose that they will continue to work successfully?

Hume concludes his discussion of what has become known as 'the problem of induction' by stating 'it is not reasoning which engages us to suppose the past resembling the future and to expect similar effects from causes which are, to appearance, similar' (EHU, Sec. 4, Part 1). Hume is not just saying that it is not certain that the sun will rise tomorrow; he is saying something more than this. He is saying that we have no justification for forming any suppositions at all about unobserved matters of fact, even probabilistic ones. With regards to our belief that the sun will rise tomorrow, we have no certain justification for this belief. Similarly, we have no certain justification for believing that the sun will not rise tomorrow. Hume's argument seems to suggest that our experience of having seen it rise in the past does nothing whatsoever to make either of these beliefs any more justifiable than the other. Overall, Hume is challenging the rationality of extrapolating from experience. We rely on custom and habit to inform us of future events, but we have no guarantee based on reason that our conclusions about the future are even likely.

Some objections

Many philosophers argue that Hume's mistake lies in measuring inductive inferences against the standards of deductive inference, and to do this is to use an inappropriate yardstick. It is then no wonder that inductive inferences are found wanting. Some might argue that it is possible to predict events unlike ones that have ever happened in experience. For example, scientists can predict the existence of particles that have never been observed. But how can Hume account for the prediction of new sorts of situations? He may reply that scientists are not strictly justified in the predictions they make, because their predictions ultimately rely on experience, and as such their conclusions will be subject to the same problems he has highlighted. So what could possibly justify the practice of induction? The reliability of induction is a matter of fact, not a relation of ideas, but an inductive argument that induction

is justified would be circular. We are then left with the problem of how Hume, as an empiricist, can justify this central aspect of his philosophical system.

After reading this lecture you should be familiar with empiricism and rationalism, and with the distinctions between a priori knowledge and a posteriori knowledge, as well as between synthetic and analytic propositions. You should also be familiar with the work of two important philosophers who could be seen to be representative of the debates between empiricists and rationalists: Descartes and Hume. In particular, you should have an understanding of methodological scepticism; the different approaches to epistemology and, in particular, to the question of how beliefs are justified; the difference between deductive and inductive reasoning; and the epistemological problem of induction. While Descartes' and Hume's approaches to epistemology are very different, both philosophers reveal a commitment to truth; they both reveal a willingness to challenge preconceptions and to present arguments that could lead to uncomfortable conclusions, throwing many of our beliefs into question.

Bibliography

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