

Hume on induction

Hume's arguments on induction occur in the middle of his exploration of the idea of causation. He is seeking to establish the foundation for our knowledge of matters of fact, and has argued that all our knowledge that goes beyond what is present to our senses or memory rests on causal inference. Causal inference, he argues, rests on past experience; it is only our experience of constant conjunction that brings us to infer from the existence or occurrence of some cause to its effect, or from some effect to its cause. But what, he then asks, is the basis of inferring from past experience to the present or future? We have experience that, in the past, whenever a cause of a particular type occurs, e.g. a billiard ball striking another, it was followed by an effect, the second ball moving; but why think that this succession will occur again?

REASONS FOR THINKING THE FUTURE WILL RESEMBLE THE PAST

There are two ideas connected with causation which we might think provided us with good grounds for thinking that causes *always* cause the same effects; and so we can reason from the occurrence of the cause to the effect.

Necessary connection

If a cause is *necessarily* connected to its effects, then if we perceive the cause occurring, we can infer the effect. But Hume argues that we are unable to find any impression of this necessity in the objects themselves (this is discussed in the handout 'Hume on causation'). The necessity exists only in our minds: once we have experienced the constant conjunction of two objects, the perception of one causes our mind to turn to the second. Perhaps because our minds are caused to move from one idea to another like this, we think that the effect *must* follow the cause. Because the necessity is not in the objects themselves, it isn't true that the effect must follow the cause, so it is *possible* that, on this occasion, it doesn't. As Hume points out, there is no *contradiction* in supposing that the second billiard ball won't move when struck. So this can't be the reason we think the future will resemble the past.

Similarity

Philosophers before Hume often thought that an effect must *resemble* its cause. For example, Descartes argues that only God could have caused the idea of God; Locke argues that only an intelligence could have caused intelligence. Hume rejects this as well. Anything *can* cause anything, and it is only through experience that find out what causes what. We can't figure out what something will cause, or what caused it, just by considering the one object. But if effects had to be similar to their causes, we could. So we can't argue that on this occasion, we can know what effect will follow the cause, because it must be similar to the cause. Nor can we reason that because the cause in this case is similar to causes in the past, the effect will be similar to effects in the past. So this isn't why we think we know what will happen next either.

THE OBJECTION TO REASON

Hume argues that our belief that the future will resemble the past is not based on reason at all:

When the mind...passes from the idea or impression of one object to the idea or belief of another it is not determined by reason, but by certain principles which associate together the ideas of these objects and unite them in the imagination. (*Treatise on Human Nature*, p. 92)

When I infer, from perceiving the cause, that the effect will occur, I'm not reasoning. There are two possible sorts of reason that we could give, that which is related to relations of ideas and that which is related to matters of fact.

Relations of ideas are established by 'intuition' (we can just see it is true) or 'demonstration'. But it is not *obviously* false (it is not a contradiction) that a billiard ball will not move when struck. Nor can this claim be proven (by deductive argument) to be false. In any case, relations of ideas are always necessary; and 'the billiard ball won't move' is not a necessary truth because it is not a contradiction to deny it. So if I am reasoning from the cause to the effect, it must be on the basis of matters of fact.

Matters of fact are established by 'probable' arguments. The trouble is, establishing any matter of fact assumes just what we are trying to prove. Suppose I say that I know the billiard ball will move, because it has always moved in the past; on what basis do I think that the future resembles the past? It's true that in the past the billiard ball always moved. But why think it will move again now? Past experience can give me

direct and certain information of those precise objects only, and that precise period of time, which feel under its cognizance. (Enquiry Concerning Human Nature, 33).

Any inference, based on reasoning, from cause to effect presupposes what we are trying to show.

Just as I have previously experienced billiard balls moving when struck, but I have not yet experienced it on this occasion, so I have not experienced the future, but I have experienced the past. If I am to reason from the billiard ball being struck to its moving, I'm going to have to do on the basis of the principle that 'the future will be like the past'. But this principle is in the same boat as my claim that the billiard ball will move! It is not a contradiction to suppose that the future will *not* be like the past, so I can't prove the principle by deductive reasoning. But, of course, I can't prove it by appealing to matters of fact, since I am trying to establish a matter of fact by appealing to the principle! If I say, 'but in the past, the future was like the past', this still gives me no basis on which to infer that 'in the future, the future will be like the past'.

Hume has argued not just that there isn't a reason on the basis of which we make our causal inferences, he has argued that there is no *type* of reason which could serve. He finishes his argument by remarking that children are capable of learning from experience, and yet here we are, professional philosophers, struggling to produce the reasoning which we suppose the child easily employs! We can't, because the inference is not based on reasoning at all.

THE POSITIVE ACCOUNT

Hume's account is this: on the basis of past experience of constant conjunction between a cause and its effect, when we perceive the cause again, our minds are *caused* to infer the effect. We draw the inference without reasoning or argument, but on the basis of a principle of the 'imagination' that has bound the two ideas – of the cause and of the effect – together in our minds. That principle Hume calls 'Custom', without pretending that such a label explains it at all. Custom is not a reason or principle of reasoning. It is not that we think 'this object has constantly been conjoined to this second object, so the second will occur again'. We don't need to *notice* the constant conjunction; our experience of it is enough to cause our minds to move from the perception of the cause to a belief in the effect (see 'Hume on causation'). Custom is, instead, a natural instinct of the mind, a disposition we simply have in the face of experience of constant conjunction. Without custom, we would be unable to draw causal inferences, and so we would have no knowledge of anything beyond what was present to our senses and memory.

IS HUME'S ACCOUNT 'SCEPTICAL'?

Hume's attack on reason, and his resulting account of induction and causal inference, have traditionally been understood to produce scepticism. Since there is no 'reason' to believe the future will be like the past, then any belief about what the future will be like, and what will happen on this occasion, are equally unsupported. We have no rational justification for our causal inferences. But more recently, philosophers have argued that this was not Hume's intention, and pointed out the textual support for this interpretation.

In the *Enquiry*, Hume reiterates his conclusion that

in all reasonings from experience, there is a step taken by the mind which is not supported by any argument or process of the understanding.

But he goes on

there is no danger that these reasonings, on which almost all knowledge depends, will ever be affected by such a discovery. If the mind be not engaged by argument to make this step, it must be induced by some other principle of equal weight and authority. (41)

He is not sceptical about the inference or its use:

My practice, you say, refutes my doubts. But you mistake the purport of my question. As an agent, I am quite satisfied in the point; but as a philosopher...I will not say scepticism, I want to learn the foundation of this inference (38).

And when he says

Without the influence of custom, we should be entirely ignorant of every matter of fact beyond what is immediately present to the memory and senses. We should never know how to adjust means to end, or to employ our natural powers in the production of any effect

he clearly claims that we *do* have knowledge of matters of fact and of how to adjust means to ends.

We may go further and say that Hume believes we have this knowledge through reasoning. Because although inductive and causal inference are not a product of reasoning, the *product* of such inference is, and is described as such by Hume, e.g. that it is not only 'a true species of reasoning' about matters of fact, but the 'strongest' (*Treatise*, 97). Finally, Hume even distinguishes between 'good' and 'bad' causal inferences, which entails that *not* all beliefs about what will happen next are equal.

What, then, can we make of Hume's declaration that custom is a principle of the *imagination*, which ties the ideas of cause and effect together? Hume uses the term 'imagination' in two senses: in the *narrow* sense, he contrasts causal inference producing beliefs about reality with ideas in imagination; in the *broad*, sense, he includes causal reasoning. The basis for the distinction, he remarks in the *Treatise*, is that the latter principles are 'permanent, irresistable (sic), and universal'. This again suggests that the fact that our minds are *caused*, by experience of constant conjunction, to move from perception of cause to belief in the effect, plays an important role for Hume's account.

The return of scepticism

Induction, based on custom, lies at the heart of causal reasoning; and causal reasoning is the foundation of all knowledge of matters of fact. Is Hume not a sceptic then? He is – because he argues that we cannot know the external world exists. The basis on which we believe that it does are the principles of the imagination, *narrowly* understood. In fact, he claims that causal reasoning not only doesn't support this belief, it actually opposes it. The mind has two sets of principles that work in opposition; and we have no more reason to trust one than the other.