



Lecture 9: Hume's Empiricism



Empiricism: all knowledge comes from experience

David Hume was an Empiricist. He thought that we can only know what we can perceive through our senses. Unlike Descartes, then, he does not doubt knowledge from our senses. Still, he admits that when we dream or hallucinate, we experience things that are not sources of real knowledge.

His most significant work is *A Treatise of Human Nature*, on the nature of human psychology: knowledge, emotions, morals.

Two types of perceptions: impression and ideas

Hume calls all contents of our minds Perceptions. These are divided into 2 types: (sense) impressions and ideas. Both impressions and ideas can be simple or complex.

Impressions often come in clusters, for instance, an apple. The impression of the apple as a whole is complex, and include a combination of simple impressions: its shape, texture, smell, colour, taste, and so on. Hume says we can analyse all complex impressions into many simple ones.

Ideas are thoughts and include imagination. After I had a sense impression of an apple, I can think of how that apple tastes and smells. This is the idea of an apple. Ideas are vaguer and less real than the original sense impression.

According to Hume, all our ideas have an origin in simple sense impressions. There are no innate ideas, that is, ideas we are born with. We are born as tabula rasa (empty slates). Our minds are like empty buckets, that get filled with experience.

Reason cannot be trusted

Hume's empiricist position led him to trust our senses more than reason. Our thoughts might deceive us, with the help of imagination. Example: I have seen mountains and I've seen gold. From this, I can imagine something that I have not seen: a gold mountain. This idea does not represent knowledge.

To guarantee that complex ideas represent real knowledge, we should analyse them and see if they have an origin in an impression. If not, these ideas are metaphysical (ontological) speculations, and do not represent true knowledge.

In Descartes' Cogito-argument, the ideas of *God*, an 'I' (*self*, identity over time) and *causation* play a crucial role. By analysing them back to their sense impressions, Hume could not find corresponding impressions for them.

Like the gold mountain, our idea of God is just derived from different sense impressions: very good, very powerful, etc. That they all come together in one divine being is not something that can be backed up by a single sense impression.

Reason has a weak place in Hume's philosophy. Its role is limited to the relations between ideas, such as analytic truths. We know that $3+2 = 5$, but only because '3+2' and '5' means the same. For Hume, such analytic truths give no new knowledge, unlike empirical facts, which are based on experience.

Causation: Hume's analysis

Hume's most influential contribution to philosophy is his analysis of causation. What does it mean for something to cause

something else? Hume thought that causation is a complex idea, just like the notion of God. So which simple impressions does causation consist of?

Hume's example: a billiard ball A rolls, collides into a second ball B, and the second ball starts rolling. We think the first ball colliding with the second *caused* it to roll. We have seen this many times. But what have we actually seen? According to Hume, we can observe the following:

1. Event A is always followed by event B (Constant Conjunction)
2. A happens before B (Temporal Priority)
3. There is spatiotemporal contact between A and B (Contiguity)

What we *cannot* observe is that B happens *because of* A. For this, we need to observe a necessary relation between A and B. So how can we know that there is one?

Hume concludes that causation is nothing but two events following each other. This is called the *regularity theory of causation*. **Causation is nothing but a perfect correlation.** From this analysis, we have no reason to expect that B will follow A next time. This is just an assumption we make based on *habit*.

Whether there exists some necessary connection between cause and effect has been debated a lot among philosophers and divides into Humean and Anti-Humean positions. Some scientists never talk of causation, but only of correlation, association or even increased or relative risk.

The problem of induction

If we could observe a necessary connection between cause and effect, we would have a reason to believe in causal laws. Instead, we are left with speculation and habit. We might assume that the law of gravitational attraction will work also tomorrow, but nothing in our experience that can prove it.

Just because A has been followed by B in the past, it does not mean that it will do so in the future. Any inference from past experience to future events are according to Hume logically *invalid*. Predictions are what he calls inductive inferences.

The problem of induction can be formulated in various ways, but they have the same principle in common:

- to make an inference from *some* instances to *all* instances. **Example:** Some swans are white, but we cannot conclude that all swans are white. Black swans were later discovered.
- to make an inference from the *observed* to the *unobserved*. **Example:** We might test a drug on 100.000 patients and see that it is safe. But we cannot conclude that it is safe for patients who were not in the test.
- to make an inference from the *past* to the *future*. **Example:** Laws of nature have always occurred in the past. But we cannot conclude that they always will. That would be to assume what we should prove: that the future is like the past.

Hume's philosophy led him to a radical form of scepticism: no matter how much knowledge we get, it is not enough to make infallible predictions about the future. **Example:** a chicken is fed by the farmer every day. It might infer that this will happen every day. But one day the farmer chops his head off. The chicken couldn't predict this based on his past experience.

According to Hume, we are all like this chicken.

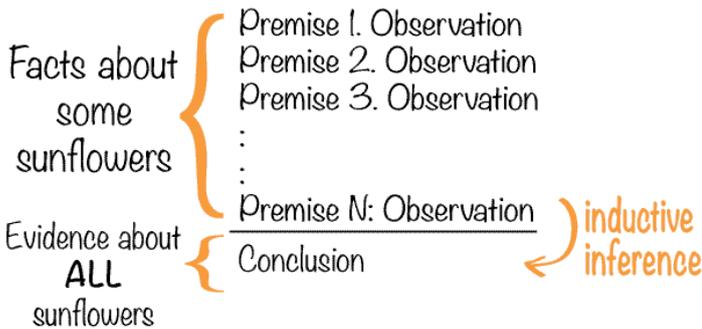
Discussion questions

- What is empiricism?
- How does Hume see the relation between impressions and ideas?
- How did he think we could get real knowledge?
- Why is Hume’s theory an epistemology? Why do you think he doesn’t have an ontology?
- What is Hume’s analysis of causation?
- Can you see any problems for science if Hume is right about causation?
- What is the problem of induction?
- Can you think of an example of inductive inferences made in science that was later proven false?
- Many scientists today are empiricists. What do you think this means for the way they do science?



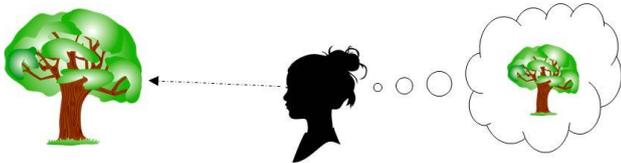
David Hume (1711-1776)

An inductive inference:



Empiricism

Empiricism: all of our knowledge comes through the use of the five senses.



The black swan has become the symbol of an unexpected discovery.



Philosophers (1600s-1800s) discussing causation

Margaret Lucas Cavendish (1623-1673) – attacks interactionism, arguing that motion cannot transfer from one body to another.

Mary Astell (1666-1731) – criticizes occasionalism on the grounds that it renders God a poor craftsman who acts in vain by creating bodies which do not play any role whatsoever.

Mary Shepherd (1777-1847) levels some strong objections against Hume’s imagination-based account of causation and insists on the role of reason in achieving knowledge of causation.

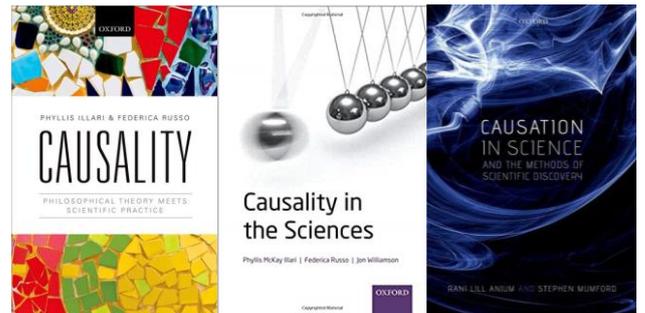
Text box by Maritza Ilich Mauseth

Contemporary discussions of causation in science

Ontological: what is the true nature of causation?

Epistemological: how do we learn about causation?

Methodological: how can we establish causation, scientifically?



Phyllis Illari and Federica Russo are experts on causation and former Editors of the *European Journal for Philosophy of Science*.