

## 10. Hume 1748, The problem of induction

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How do know (or justifiably believe) propositions? Two types:

*Relations of ideas*

E.g. the angles in a Euclidean triangle sum to 180°.

These propositions are *necessarily* true—they don't depend on the way the world happens to be; they couldn't be false.

Hume: they are *a priori*: we can't conceive of them being false, so knowing them doesn't depend on experience.

*Matters of fact*

E.g. the sun will rise tomorrow. E.g. a billiard ball will move another.

E.g. the mouse traps will fire when triggered.

These propositions are *contingent*—they could be true and they could be false, depending on the way the world is.

Hume: they are *a posteriori*: we can conceive of them being true or false; knowing them requires experience.

*Deductive* reasoning: proofs, unpacking meanings, etc.

Easy (ish) to see how we come to (justifiably) believe relations of ideas.

If Jill is taller than Bill, and Bill is taller than Mil, then Jill is taller than Mil.

What about matters of fact?

**Q1: How do we form beliefs about matters of fact?**

*Observed* matters of fact are learned from direct experience.

Set aside Cartesian skepticism.

*Unobserved* matters of fact? We infer from experience to general causes, and thus to general patterns.

→ E.g. from 'All observed Xs are Ys', we infer 'All Xs are Ys'.

This is *inductive* reasoning.

**Q2: Are we justified in our beliefs about unobserved matters of fact?**

The following inference is not valid:

**P1** All observed Xs are Ys.

**C** Therefore, all Xs are Ys.

It's possible for the premise to be true and the conclusion false.

To make it valid, we need to add a premise that the unobserved Xs will resemble the observed ones—sometimes called the *uniformity of nature*:

**U:** If all observed Xs are Ys, then all *unobserved* Xs are Ys too.

If you believe **U**, you're an *inductivist*.

But how are we justified in believing **U**? It's not a relation of ideas.

It's a matter of fact, so not *a priori*.

**U** does seem to have held in the past. Can we infer from this that it'll hold in the future?

→ That would assume (something like) **U** itself!

It would "beg the question".

Compare **U** to **U**<sup>-</sup>:

**U**<sup>-</sup>: If all observed Xs are Ys, then all *unobserved* Xs are *not* Ys.

**U**<sup>-</sup> could be true.

Someone who believes **U**<sup>-</sup>, is a *counter-inductivist*.

Someone who's agnostic between **U** and **U**<sup>-</sup> is an *inductive agnostic*.

It is possible to convince either of these characters to accept **U**?

Hume says no.