6. PAST/FUTURE

I know a lot about things I haven't directly observed. This includes things that (i) have for some reason never crossed my path, (ii) are hidden or hard to get at it, (iii) are too far away to observe, (iv) lie in the distant past, and/or (v) have yet to happen. How do I do it?

Sometimes it's easy: I believe that all squares, even unobserved ones, have four sides; that the sum next year of two apples and two oranges will still be four pieces of fruit; etc. I believe these things because I can't really imagine them false; when I try, I land myself in contradiction. Hume:

S expresses a relation of ideas iff its denial is inconceivable or self-contradictory.

(Necessary? A priori? Analytic?) Relations of ideas are distinguished from matters of fact:

S expresses a matter of fact iff both it and its denial are conceivable, non-self-contradictory.

"I have two cats" is true, but I can imagine it being false. So it expresses a matter of fact.

Observed matters of fact we know about by perception and memory. How do we form opinions concerning unobserved matters of fact?

Opinions about unobserved matters of fact are derived from experience somehow. Any combination of properties is possible in principle; fire might be cold, water might be breathable. To tell which combinations are realized in actual fact, we must consult experience.

So far, fire has always been hot.

So, fire will continue to be hot.

(Data) So far all Fs have been G.

(Theory) All Fs will be G in future.

Induction! Hume:

Opinions about unobserved matters of fact are derived from experience by induction.

The inference from (Data) to (Theory) is not deductively valid: it is possible for the premise to be true and the conclusion false. Think of a chicken who determines by induction that "The farmer will always feed me." Like the farmer, fire could in principle behave differently tomorrow. This suggests there might be a suppressed premise that needs to be made explicit. The "Uniformity of Nature" principle says that

(UN) Whatever F and G may be, if Fs have been G so far, then Fs will continue to be G.

In slogan form: the future will resemble the past. (Data)+(UN) do deductively entail (Theory). But (UN) makes a very strong claim: the patterns that have appeared thus far in my experience hold generally in nature. Clearly that's too strong. (Remember the chicken.) But if we could weaken it in the right way ('It's a law that Fs have been G'?) how do we know it holds?

(D) In the past, the future has resembled the past.

(T) So the future will resemble the past in future.

This not valid without (UN) as an additional premise, which makes the reasoning circular. The fact that past futures have resembled past pasts doesn't show that future futures will resemble future pasts, unless we already know that the future will resemble the past.

1)(UN) concerns unobserved matters of fact. (A)

2)Knowledge of unobserved matters of fact must be derived from experience by induction. (A)

3)But (UN) is an implicit premise in any inductive argument! (A)

4)So there is no non-circular argument for (UN). (1-3)

This suggests that scientific inquiry—inquiry that attempts to draw conclusions about what is unobserved from what is observed—rests on an assumption that cannot itself be proven, but must be taken as an article of faith. It seems to put scientific evidence on the same footing with crystal ball gazing, astrology, divine revelation, etc.

(Data) The crystal ball says my proposal will be accepted.

(Theory) So my proposal will be accepted.

True, this is not valid, but it becomes so if we add a new premise:

(RC) The crystal ball is reliable –– if it says that p, then it's true that p.

True, our best argument for (RC) is

(D) The crystal ball says that it's reliable

(T) The crystal ball is reliable. (= (RC))

True, the argument is valid only if we include (RC) as an extra premise, making the whole exercise circular. But these things are true of scientific reasoning too! Crystal ball gazing has nothing to be ashamed of; it's as intellectually respectable as science!

That can't be right. Some responses:

a) Induction has been more successful than crystal ball gazing. (So far!)

b) Induction is reasonable by definition; it's part of what we *mean* by correct reasoning.

c) Induction be damned, science never uses it anyway (Popper).

d) Induction isn't supposed to be deductively valid! It's inductively valid. (Is it?)

e) Deduction is in the same boat; any attempt to prove that it's reliable will rely circularly on deduction.

Hume's own response was different and more radical:

f) Th ere is no rationally compelling evidence for the reliability of induction. So what? Induction is not a strategy one chooses. It is wired into us. One can no more stop projecting observed patterns than stop breathing. Birds don't have to justify flying south, for it to be the right thing for birds to do. We don't have to justify induction, for it to be the right thing for us to do. Animals do what works. We're animals. Get over it.

What is it we do?
All ravens are black = All non-black things are non-ravens. So a green apple confirms? (Hempel)
Grue $=_{def}$ green before the end of this week, blue thereafter. Are emeralds grue? (Goodman)

24.00 Problems in Philosophy

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