

9.4 The problem of induction

9.4.1 Inductive inference: the negative phase

The following is a direct quote from Morris, William Edward, "David Hume", The Stanford Encyclopedia of Philosophy (Winter 2007 Edition), Edward N. Zalta (ed.)

<http://plato.stanford.edu/archives/win2007/entries/hume/>

Text in bold font is my addition.

Hume proceeds first negatively, to show that our causal inferences are not due to reason, or any operation of the understanding. Reasoning concerns either relations of ideas or matters of fact.

Causal Relations are not provable a priori: Hume quickly establishes that, whatever assures us that a causal relation obtains, it is not reasoning concerning relations between ideas. Effects are distinct events from their causes: we can always conceive of one such event occurring and the other not. So causal reasoning cannot be a priori reasoning.

Causal Relations are discovered by experience : Causes and effects are discovered, not by reason but through experience, when we find that particular objects are constantly conjoined with one another. We tend to overlook this because most ordinary causal judgments are so familiar; we have made them so many times that our judgment seems immediate. But when we consider the matter, we realize that an (absolutely) unexperienced reasoner could be no reasoner at all. (...)

The so-called laws of nature are discovered by experience, not a priori. But, if all our knowledge of matters of facts are based on experience, how do we extend our reasoning to future cases?

The problem of inductive reasoning Even after we have experience of causal connections, our conclusions from those experiences are not based on any reasoning or on any other process of the understanding. They are based on our past experiences of similar cases, without which we could draw no conclusions at all.

But this leaves us without any link between the past and the future. How can we justify extending our conclusions from past observation

and experience to the future? The connection between a proposition that summarizes past experience and one that predicts what will occur at some future time is surely not an intuitive connection; it needs to be established by reasoning or argument. The reasoning involved must either be demonstrative, concerning relations of ideas, or probable, concerning matters of fact and existence.

Induction is not justifiable by any a priori deductive argument: 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. It therefore implies no contradiction, so it cannot be proven false by a priori demonstrative reasoning.

Induction is not provable by any a posteriori probable argument Probable reasoning cannot establish the connection, either, since it is based on the relation of 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.

Assuming the uniformity of nature is question begging: The connection could be established by adding a premise stating that nature is uniform. But how could we justify such a claim? Appeal to experience will either be circular or question-begging. For any such appeal must be founded on some version of the uniformity principle itself the very principle we need to justify.

Conclusion: our reasonings concerning matters of facts beyond the evidence of our senses and our memory are not well grounded

This argument exhausts the ways reason might establish a connection between cause and effect, and so completes the negative phase of Hume's project. The explanatory model of human nature which makes reason prominent and dominant in thought and action is indefensible. Scepticism about it is well-founded: the model must go.

Hume insists that he offers his sceptical doubts about the operations of the understanding, not as discouragement, but rather an incitement to attempt something more full and satisfactory. Having cleared a space for his own account, Hume is now ready to do just that.

9.4.2 Inductive inference: the positive phase

I am still quoting Morris. "T" stands for Treatise.

What the principle of our causal reasoning can be Hume's negative argument showed that our causal expectations are not formed on the basis of reason. But we do form them, and if the mind be not engaged by argument it must be induced by some other principle of equal weight and authority.

This principle can't be some intricate or profound metaphysical argument Hume overlooked. For all of us ordinary people, infants, even animals improve by experience, forming causal expectations and refining them in the light of experience. Hume's sceptical solution limits our inquiries to common life, where no sophisticated metaphysical arguments are available and none are required.

Causal relations are grounded on the custom of constant conjunctions:

When we examine experience to see how expectations are actually produced, we discover that they arise after we have experienced the constant conjunction of two objects; only then do we expect the one from the appearance of the other. But when repetition of any particular act or operation produces a propensity to renew the same act or operation we always say, that this propensity is the effect of Custom.

So the process that produces our causal expectations is itself causal. Custom or habit determines the mind to suppose the future conformable to the past. But if this background of experienced constant conjunctions was all that was involved, then our reasonings would be merely hypothetical. Expecting that fire will warm, however, isn't just conceiving of its warming, it is believing that it will warm.

What makes us believe Belief requires that there also be some fact present to the senses or memory, which gives strength and solidity to the related idea. In these circumstances, belief is as unavoidable as is the feeling of a passion; it is a species of natural instinct, the necessary result of placing the mind in this situation.

Belief is a peculiar sentiment, or lively conception produced by habit that results from the manner in which ideas are conceived, and in their feeling to the mind. It is nothing but a more vivid, lively, forcible, firm,

steady conception of an object, than what the imagination alone is ever able to attain. Belief is thus more an act of the sensitive, than of the cogitative part of our natures, so that all probable reasoning is nothing but a species of sensation.

This should not be surprising, given that belief is so essential to the subsistence of all human creatures. It is more conformable to the ordinary wisdom of nature to secure so necessary an act of the mind, by some instinct or mechanical tendency than to trust it to the fallacious deductions of our reason. Hume's sceptical solution thus gives a descriptive alternative, appropriately independent of all the laboured deductions of the understanding, to philosophers' attempts to account for our causal reasonings by appeal to reason and argument. For the other notions in the definitional circle, either we have no idea of force or energy, and these words are altogether insignificant, or they can mean nothing but that determination of the thought, acquired by habit, to pass from the cause to its usual effect.

End of quote

Conclusion and Discussion - "Custom is the great guide of human life": Hume considers that custom is one of the main principles, or law of human nature. Custom is the *natural* way in which humans go beyond immediate experience and memory. It is a natural and empirical law: it describes a natural process (by contrast to innate ideas or innate principles of logic) and it is derived from observation.

It is a sufficient explanation in the sense that no other cause can be given that would improve the explanation. Hume is following Newton here: we cannot go any further without framing hypotheses that go beyond experience, and hence, are not verifiable.

In particular, Hume will not postulate "mental powers" to explain the mechanism of custom, just Newton did not postulate any "gravity power" in the material bodies. This would be going beyond experience and hence would not have any further explanatory value.

The law of custom is:

1. a good explanation
2. supported by experience

3. the best we have – no alternative does a better job

By inference to the best explanation, we can accept it.

9.5 The Notion of Necessary Connection – What is a cause?

9.5.1 A need for a new definition of cause

- We have seen in the previous sections that:
 - We cannot prove that there is an objective causal relation between two objects or events a priori
 - We cannot prove that there is an objective causal relation between two objects or events a posteriori
 - Hence, we cannot ground our belief that similar cause-events will be followed by similar effect-event on anything objective. In other words, the basis for our expectations is not a reasoning based on objective facts.
 - Instead, the origin of our belief that similar cause-events will be followed by similar effect-event is a psychological one: our belief is a feeling that accompanies the ideas of the objects or events that we have repeatedly experienced as conjoined.
- From the analysis above, it follows that:
 1. The notions of cause, effects, and causal connection, are among the most important ones in human understanding: these notions are the basis of all reasonings about matters of facts which go beyond the evidence of immediate perception and memory.
 2. The notions of cause, effect, and causal connection, are among the less well understood by philosophers:
 - philosophers have been taking that our ideas of causes and effects reflects some features of the world which they have called power, force, energy or necessary connexion
 - we have shown however that the ideas of causes and effects do not rely of simple impressions of objective features of the world

So: we are in need of a proper definition of cause.

- The definition of cause is the opportunity to check on the method for philosophy that Hume advocates, namely, using the copy principle as a criterion of meaning.

The point is then to find which impressions are the basis for our idea of cause and causal connections.

These impressions will exhaust the meaning of our idea of a cause.

9.5.2 Necessary Connection: negative phase

Project: Examination of the impression that correspond to the idea of necessary connection.

Strategy: Investigation of all the sources from which such an impression can derive

We know we have two sources: sensation and reflection

1. First source: the external objects

In this case, the idea of cause would come from sensation

- we do not experience necessary connections in external objects
- all we experience is that one event follows another
- same argument as before: from the first occurrence of a given event, we cannot conjecture what will be the effect

2. Second source: our mind

- Hypothesis: we get the idea of power/force/cause from the consciousness of the power of will.

In other words: what we experience as our will is the experience of power/force/cause. From that experience, we can get the idea of power/force/cause

In this case, the idea of cause would come from reflection

- There are two kinds of thing on which we believe our mind has some power: our body and our ideas. Hume shows that we get the impression of a necessary connection in none of these.

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- We have no experience of the power of mind on bodily organs per se: all we experience is the sequence: will – effect. The means by which the mind acts upon the organs are unknown to us
 - (a) we do not understand how the mind can influence matter and vice versa
 - (b) we do not master the power of the mind in the same way in all organs
 - (c) we know that the means by which the effect follows the will are very complicated and apparently arbitrary

Note the assumptions here: we are not entitled to say that we have experienced a connection unless:

1. we master such connections
2. we understand the intermediates

“If the power were felt, it must be known: were it known, its effects must also be known”

SO: our idea of power is not copied from our experience of the power of our minds on our body

- We have no experience of the power of mind on ideas per se: same arguments:
 - (a) We do not understand the means by which an idea follows our will to conceive it
 - (b) Our power on our ideas is limited – we do not master this
 - (c) Our power varies with factors the influence of which we do not understand either.

Note that we need the same assumptions here

SO: our idea of power is not copied from our experience of the power of our minds on our ideas

SO: Hume has shown that we cannot find any impression to which trace back our idea of causal power and necessary connection.

We have to find out where it comes from.

The assumptions were:

1. the copy principle
2. we do not experience a cause unless we master its consequences and understand the intermediates

9.5.3 Necessary connection: positive phase

There is no impression from which we can derive the notion of cause: is it meaningless? Should we stop talking about causes altogether? Hume gives his account:

- From the repetition of the conjunction, we are determined to imagine a connection
 - custom
 - a particular feeling or sentiment
- Two definitions of cause:
 1. External: a cause is “an object, followed by another, and where all the objects, similar to the first, are followed by objects similar to the second”
 2. Internal: a cause is “an object followed by another, and whose appearance always conveys the thought to that other”
- They constitute the proper definition of cause *together*
- Question: do necessary connections exist only in our minds?

9.6 Hume on Scepticism

9.6.1 Scepticism concerning the evidence of the senses and the existence of the external world

Scepticism 1 – Descartes

- Descartes:
 - scepticism as a *precaution* – before inquiry
 - *universal* scepticism, including faculties
 - base veracity of faculties on 1 original principle + reasoning

- Objection:
 - EITHER there is no principle more evident and convincing than what is coming from our faculties
 - OR if there were one, our only way to grasp it would be by these very faculties that we do not trust

SO: The Cartesian Doubt, were it possible (which Hume denies), would be incurable
- Note: What does Hume mean by “were it possible to be attained by any human creature”? He is implying that, in fact, it is NOT possible to doubt everything in the way that Descartes tells us to do.
- Qualification: Hume advocates a weakened version of Descartes’ method for philosophy:
 - be suspicious about prejudices and opinions
 - base knowledge on clear and evident principles
 - proceed by cautious deductive reasoning
 - check on the conclusions
 - examine all the consequences
- Important Note: of course, what counts as clear and evident for Hume is NOT what counts as clear and evident for Descartes !! For Descartes, a clear and distinct idea is grasped through the mind only, whereas for Hume, a clear and distinct idea is a direct copy of a sensation.

Scepticism 2 – Montaigne

- Montaigne (for example)
 - scepticism as a *result* of inquiry
 - scepticism concerning:
 1. mental faculties
 2. Senses
 3. Maxims of common life
 4. Metaphysics and Theology

- Non convincing arguments for scepticism about the evidence of the senses: the unreliability of senses
 Hume's answer: use reason to correct the senses
 Is this a satisfactory answer? Why? Why not?
- Convincing argument: the problem of representation
 1. Natural instinct: the external world is objective and exists as it appears to us
The Representation Thesis:
 (A) our sensations are the result of the influence of external bodies on our sense organ
 (B) this influence is such that our sensations are "similar" to the external bodies
 2. Philosophy contradicts our natural instinct:
 - our sensations are only images, perceptions in the mind, representations of external bodies
 - we have no way to prove that these perceptions correspond and resemble external bodies
 3. Arguments undermining the representation thesis:
 - (A) dreams etc.: sensations without external objects
 - (B) causal influence of bodies on mind is incomprehensible
 4. Attempts to save the representation thesis defeated:
 - proof by experience: impossible
 - proof by veracity of God (Descartes is the target): contradiction (why do the senses deceive us?) or circle (how to prove that God exists and is not a deceiver)
- Assessment: this kind of scepticism is convincing. We find ourselves in a *dilemma*:
 - EITHER we accept the teachings of nature and then take *all there is are our sensations* (Berkeley)
 - OR we postulate that our perceptions are representations of external bodies but *we cannot prove it either by experience or reasoning*

- Hume is, of course, going to defend the second alternative: we should follow our natural instinct and adopt the representation thesis, but accept also that we cannot prove, either a priori or a posteriori, that this thesis is true.

This view is, according to Hume, both reasonable and beneficial (see part III on the mitigated scepticism)

Scepticism 3 – Berkeley

- Berkeley:
 - everyone agrees that secondary qualities are in the mind only
 - the arguments for which we all accept that secondary qualities are in the mind only also apply to primary qualities
- Appealing to an “abstract” notion of extension won’t do
 - such notion is unintelligible: unknown, indeterminate, inexplicable something
 - Abstract ideas: Hume agrees with Berkeley that abstract ideas – in the sense of general ideas – don’t exist. We only have ideas about particulars – see also note 33, but we use ideas of particulars in an abstract way (see text analysis).
- SUMMARY of the convincing objections against the evidence of the senses and the existence of the external world:
 1. DILEMMA for the representation thesis:
 - If we rely only on our natural instinct (take our sensations as true), then we must accept a world of sensation à la Berkeley, and reject the teachings of our reason (reject that the information that we get from our senses should be corrected by reason)
 - If we rely on our reason, then we must reject our natural instinct, and we have nothing to replace it as a basis for secured knowledge
 2. All sensible qualities, both primary and secondary, are in the mind only
 - All arguments that apply to secondary qualities apply to primary qualities
 - Appeal to abstraction won’t do

9.6.2 Against Excessive Scepticism

Excessive scepticism concerning rational knowledge

- From the outset, Hume formulates the classical objection against scepticism:

It is impossible, because self-contradictory, to prove that reasoning is fallible through reasoning

- Hume then examines some of the most well known arguments that are supposed to support scepticism concerning reasonings:
 - infinite divisibility of space – paradoxes of the infinite
 - infinite divisibility of time

Reference of interest: Zeno's paradoxes (you can find a short and clear presentation in Salmon, *Space, Time and Motion*)

In both cases, "absurd opinions" are supported by clear and valid reasonings. This makes us suspicious about the deductions of reason.

Excessive concerning empirical knowledge

- Popular excessive scepticism – no empirical knowledge is attainable for the senses are unreliable – is tenable only in the Schools, that is to say, not in everyday practice
- Philosophical scepticism – no empirical knowledge is attainable for empirical knowledge relies on causal reasoning which we cannot justify – is tenable
- Popular excessive scepticism is neither useful nor beneficial
 - does not produce any conviction (Copernic vs. Ptolemy)
 - does not involve any ethical behavior (Stoics vs. Epicureans)

9.6.3 Hume's Mitigated scepticism

Four characteristics of Hume's mitigated scepticism

1. Hume's scepticism is a means to fight dogmatism and reveal instead:

the whimsical condition of mankind, who must act and reason and believe; though they are not able, by their most diligent enquiry, to satisfy themselves concerning the foundation of these operations, or to remove the objections, which may be raised against them.

We humans are prompt to make our mind, to defend our ideas against everybody else and to despise or hate the ones who disagree with us.

Hume's view teaches some kind of modesty

2. Philosophy: restricted to the domain of experience

philosophical decisions are nothing but the reflections of common life, methodized and corrected.

Theology and Cosmogony are taken out of the domain of philosophy

3. Abstract sciences: restricted to the domain of quantities and numbers

Any abstract discussion of objects that are neither quantities nor numbers are vain verbal disputes (disputes that are based on disagreement regarding definitions of the words, not their meaning)

4. Empirical science: no demonstration is possible – only probable reasonings.

Through a priori reasonings, we can entertain about any system of coherent propositions. None of such systems can be proved to be false, since they are not contradictory. All such systems are equally plausible. They are all equally implausible as well!

5. burning worthless books ?

