

Hume's *Treatise*, Book 1

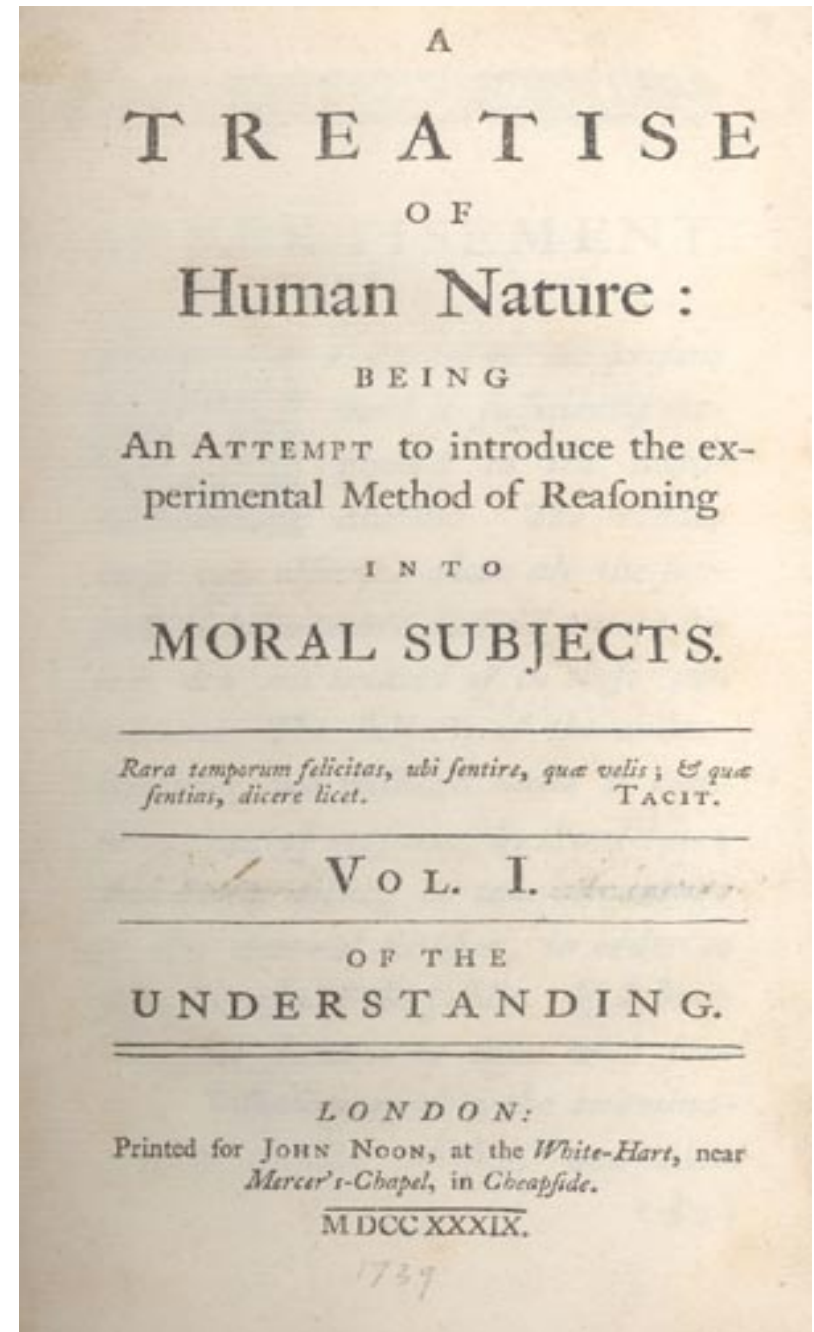
4. Of Knowledge and Probability



Peter Millican
Hertford College, Oxford

4(a)

Relations, and a
detour via the
Causal Maxim



“Of Knowledge and Probability”

- Despite the title of *Treatise* 1.3:
 - Only *T* 1.3.1 deals with “Knowledge” (a word Hume uses in a strict sense, as meaning *deductive* knowledge).
 - Apart from the *title* of *T* 1.3.2, “probability” doesn’t make an entrance until *T* 1.3.6.4.
- The real unifying theme is the idea of *causation*, and causal reasoning. But Hume’s route to his account of it is rather circuitous ...

Hume's Dichotomy Again

- Hume divides his seven types of relation into two groups (*T* 1.3.1.1):
 - The Four “Constant” Relations
Those relations that ‘depend entirely on the ideas, which we compare together’ (i.e. **resemblance, contrariety, degrees in quality, proportions in quantity or number**);
 - The Three “Inconstant” Relations
Those relations that ‘may be chang’d without any change in the ideas’ (i.e. **identity, relations of time and place, cause and effect**).

A Taxonomy of Mental Operations

- Hume argues, rather simplistically, that his seven relations map neatly onto four different mental operations:
 - *resemblance, contrariety, and degrees in quality* are “discoverable at first sight” (*T* 1.3.1.2)
 - *proportions of quantity or number* are susceptible of demonstration (*T* 1.3.1.2-5)
 - *identity and relations of time and place* are matters of perception rather than reasoning (*T* 1.3.2.1)
 - *causation* is the only relation “that can be trac’d beyond our senses, [to] existences and objects, which we do not see or feel” (*T* 1.3.2.3)

	<i>Constant relations</i>	<i>Inconstant relations</i>
<i>Perception</i>	<u><i>Intuition</i></u> <ul style="list-style-type: none"> ■ <i>resemblance</i> ■ <i>contrariety</i> ■ <i>degrees in quality</i> 	<u><i>Sensory Perception</i></u> <ul style="list-style-type: none"> ■ <i>identity</i> ■ <i>situations in time and place</i>
<i>Reasoning</i>	<u><i>Demonstration</i></u> <ul style="list-style-type: none"> ■ <i>proportions in quantity and number</i> 	<u><i>Probability</i></u> <ul style="list-style-type: none"> ■ <i>causation</i>

The Idea of Causation

- To understand reasoning to the unobserved (i.e. *probable* reasoning, though Hume has not yet used the term), “we must consider the idea of *causation*, and see from what origin it is deriv’d” (*T* 1.3.2.4).
- The search for the origin of this idea will shape the remainder of *Treatise* 1.3.
- There is no specific quality that characterises causes and effects, so it must be some *relation* between the two. (*T* 1.3.2.5-6)

Contiguity and Priority

- We find causes and effects to be *contiguous* in space and time (*T* 1.3.2.6), though a footnote hints at a significant reservation (explored in *T* 1.4.5 which points out that many perceptions have no spatial location).
- We also find causes to be *prior* to their effects (*T* 1.3.2.7), though again Hume seems to indicate that this isn't a particularly crucial matter (*T* 1.3.2.8).
- There still seems to be something missing ...

Necessary Connexion

- There follows a famous passage, which is commonly misunderstood:

“Shall we then rest contented with these two relations of contiguity and succession, as affording a compleat idea of causation? By no means. An object may be contiguous and prior to another, without being consider'd as its cause. There is a NECESSARY CONNEXION to be taken into consideration; and that relation is of much greater importance, than any of the other two above-mention'd.” (*T* 1.3.2.11)

To Neighbouring Fields

- Hume is looking for the crucial extra component (beyond *single-case* contiguity and succession) that makes up our idea of cause and effect
- It seems elusive, so he proceeds like those who “beat about all the neighbouring fields, without any certain view or design, in hopes their good fortune will at last guide them to what they search for” (*T* 1.3.2.13).
- There are two such fields ...

The Causal Maxim

- The first field is the Causal Maxim:
 - “Tis a general maxim in philosophy, that *whatever begins to exist, must have a cause of existence*” (*T* 1.3.3.1)
- Hume argues that this is neither intuitively nor demonstratively certain (*T* 1.3.3.1-8)
- “Since it is not from knowledge or any scientific reasoning, that we derive [this] opinion ..., [it] must necessarily arise from observation and experience. ... (*T* 1.3.3.9)

The Sinking of the Causal Maxim

... The next question, then, shou'd naturally be, *how experience gives rise to such a principle?* But as I find it will be more convenient to sink *this question* in the following, *Why we conclude, that such particular causes must necessarily have such particular effects, and why we form an inference from one to another?* we shall make that the subject of our future enquiry. 'Twill, perhaps, be found in the end, that the same answer will serve for both questions." (T 1.3.3.9)

Does Hume Accept the Causal Maxim?

- Unfortunately Hume never returns explicitly to the Causal Maxim, and some of his contemporaries took him to be denying it.
- But there is significant evidence that he accepts it, deriving both from his general deterministic outlook (as we'll see later), and from letters that he wrote to those contemporaries who misunderstood ...

Letter from a Gentleman (1745)

- “it being the Author’s Purpose, in the Pages cited in the Specimen, to examine the Grounds of that Proposition; he used the Freedom of disputing the common Opinion, that it was founded on demonstrative or intuitive Certainty; **but asserts, that it is supported by moral Evidence**, and is followed by a Conviction of the same Kind with these Truths, That all Men must die, and that the Sun will rise To-morrow.” (*LFG 26*)

Letter to John Stewart (1754)

- “... But allow me to tell you, that I never asserted so absurd a Proposition as that any thing might arise without a Cause: I only maintain'd, that our Certainty of the Falshood of that Proposition proceeded neither from Intuition nor Demonstration; but from another Source. That Caesar existed, that there is such an Island as Sicily; for these Propositions, I affirm, we have no demonstrative nor intuitive Proof. Woud you infer that I deny their Truth, or even their Certainty?” (*HL* i 186)

Leading Up to Induction

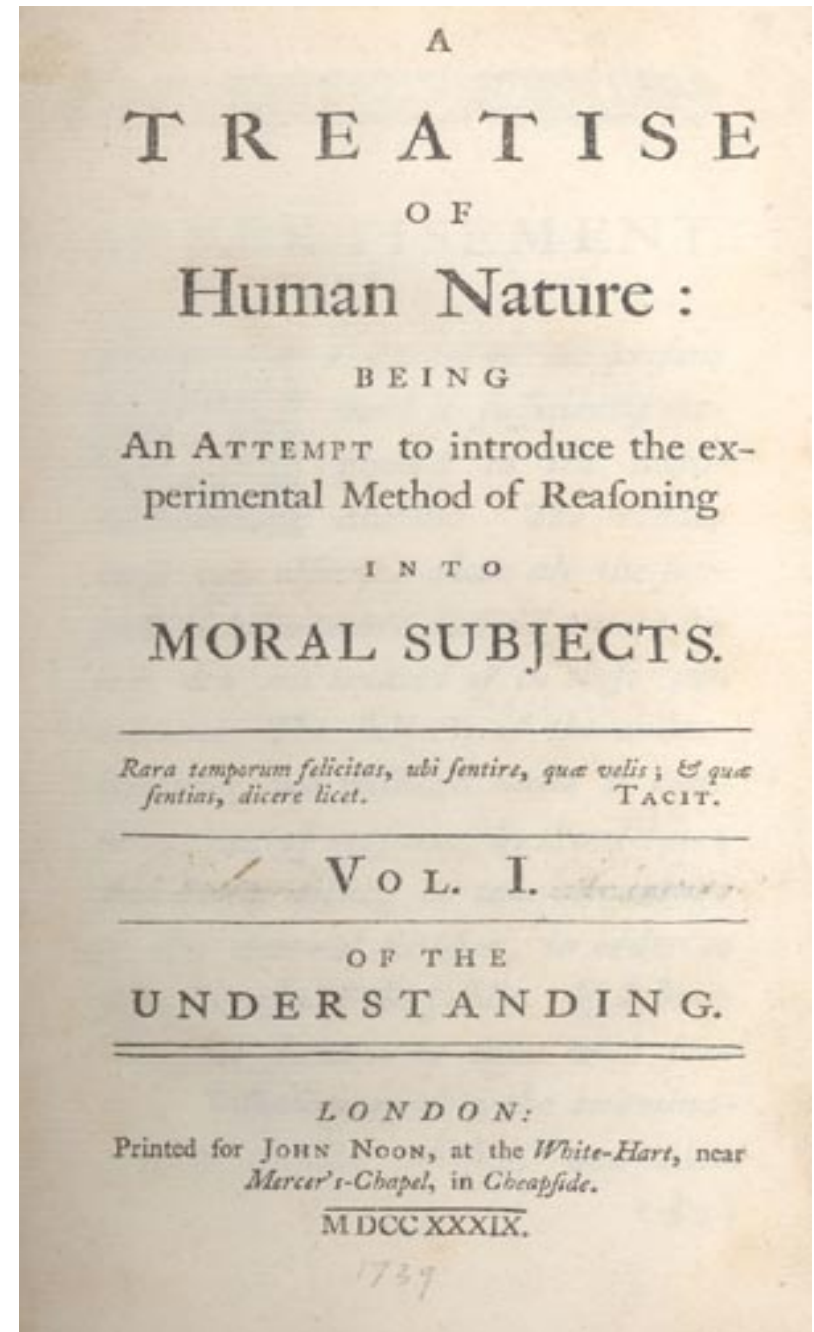
- *Treatise* 1.3.4 argues that causal reasoning, if it is to result in real belief, must start from something perceived or remembered.
- *T* 1.3.5.1 sets out a corresponding agenda:
“Here therefore we have three things to explain, viz. *First*, The original impression. *Secondly*, The transition to the idea of the connected cause or effect. *Thirdly*, The nature and qualities of that idea.”

“Of the impressions of the senses and memory”

- The title of *Treatise* 1.3.5 seems odd, since memory presents *ideas*, not *impressions*.
- But Hume’s main point here is that the perceptions of the senses and memory are alike in being more *strong and lively* – having more *force and vivacity* – than the ideas of the imagination.
- That force and vivacity, apparently, is what enables them to act as a “foundation of that reasoning, which we build ... when we trace the relation of cause and effect” (*T* 1.3.5.7)

4(b)

The Argument Concerning Induction



Three Versions of the Argument

- *Treatise* 1.3.6 contains the famous argument concerning induction, though Hume doesn't seem entirely to appreciate its significance – it is mainly a staging post in his search for the origin and nature of our idea of causation.
- In the *Abstract* of 1740 it is elevated to a much more prominent position, as the centre-piece of Hume's "Chief Argument".
- The fullest and clearest version is in the first *Enquiry*, Section 4.

A Very Brief Overview

- Suppose we see *A* followed by *B* again and again. When we next see an *A*, we naturally infer a *B*. But why?
 - *A Priori* insight? No: *a priori*, we can know nothing whatever about what causal effects *A* will have. “Intelligibility” is just an illusion.
- Such causal/probable/moral inference is based on *extrapolating* into the future the associations that we have observed.

Inferring Uniformity

- What ground can we give for extrapolating from observed to unobserved?
 - Sensory knowledge? No: what we perceive of objects gives us no insight into the basis of their powers, hence no reason to extrapolate.
 - Logical intuition? No.
 - Demonstrative reasoning? No: neither of these, because it's clear that extrapolation *could* fail, so it can't be a matter of pure logic.
 - Probable reasoning? No: would be circular.

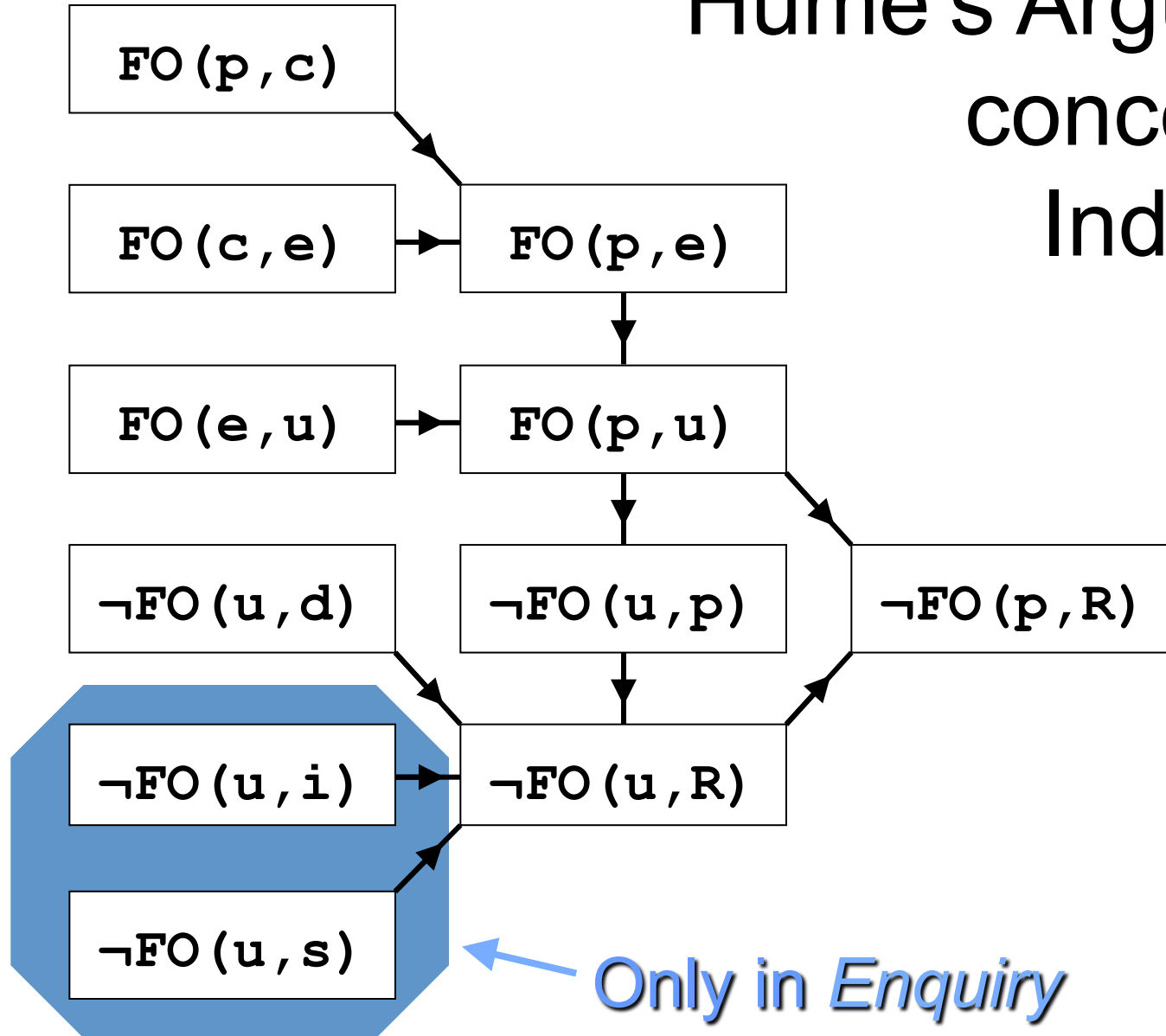
Treatise and Enquiry

- In the *Treatise*, Hume doesn't explicitly rule out sensation and intuition as possible foundations for this "Uniformity Principle".
- There, he seems just to assume that demonstrative and probable reasoning provide the only available options.
- So the *Enquiry* argument is apparently more complete in this respect (but otherwise very similar in spirit).

A Simplified Version

- The essential logic of the argument can be represented using the ‘founded on’ relation (FO), together with:
 - p Probable inference (to the unobserved)
 - c Causal reasoning
 - e (Reasoning from) Experience
 - u Uniformity Principle
 - R Reason
 - d Demonstration**
 - i Intuition**
 - s Sensation**

Hume's Argument concerning Induction



The Four “Kinds of Evidence”

- So the *Enquiry* argument implicitly reasons:
 $\neg\text{FO}(u,s) \ \& \ \neg\text{FO}(u,i) \ \& \ \neg\text{FO}(u,d) \ \& \ \neg\text{FO}(u,p) \ \rightarrow \ \neg\text{FO}(u,R)$
If UP isn't founded on sensation, intuition, demonstration or probable inference, then it isn't founded on Reason.
- Compare this passage from Hume's *Letter from a Gentleman* (1745):
“It is common for Philosophers to distinguish the Kinds of Evidence into *intuitive*, *demonstrative*, *sensible*, and *moral*”

A Sceptical Argument?

- Hume's famous argument concerning induction ...
 - Starts by showing that all probable inference is founded on the Uniformity Principle;
 - Then goes on to undermine every available “kind of evidence” for UP;
 - Then draws from this the conclusion that probable inference is not founded on reason.
- This way of arguing seems to imply that the conclusion has sceptical intent ...

Treatise 1.3.6 – A Closer Look

- Recall Hume’s aim here:
 - He is seeking to understand our idea of necessary connexion (cf. *T* 1.3.2.11).
 - This leads him to ask “Why we conclude, that ... particular causes must necessarily have ... particular effects, and why we form an inference from one to another?” (*T* 1.3.3.9).
 - The key part of this process is “the inference from the impression to the idea” (cf. *T* 1.3.5.1); call this “causal inference” for short.

Causal Inference Is Not A Priori

- Hume first argues that causal inference can't be a priori (*T* 1.3.6.1), because we can conceive things coming out differently.
- Here he makes the [common] assumption that any a priori inference would have to yield complete certainty.
- “’Tis therefore by EXPERIENCE only, that we can infer the existence of one object from that of another” (*T* 1.3.6.2).

Experience and Constant Conjunction

- The kind of experience on which causal inference is based is repeated patterns of one thing, *A*, followed by another, *B*:
 - “Without any farther ceremony, we call the one *cause* and the other *effect*, and infer the existence of the one from that of the other.” (*T* 1.3.6.2)
- “Thus ... we have ... discover'd a new relation betwixt cause and effect, when we least expected it ... This relation is their **CONSTANT CONJUNCTION.**” (*T* 1.3.6.3)

“Perhaps ’twill appear in the end ...”

- The capitalisation in *T* 1.3.6.3 clearly links back to *T* 1.3.2.11, as does the text:

“Contiguity and succession are not sufficient to make us pronounce any two objects to be cause and effect, unless ... these two relations are preserv’d in several instances [i.e. there’s a constant conjunction].”
- But how can this give rise to the new idea of necessary connexion? Anticipating *T* 1.3.14.20,

“Perhaps ’twill appear in the end, that the necessary connexion depends on the inference, instead of the inference’s depending on the necessary connexion”.

A Question of Faculties

- Since causal reasoning from [impression of] cause *A* to [idea of] effect *B* is founded on “past *experience*, and ... remembrance of ... *constant conjunction*” (*T* 1.3.6.4),
 - “the next question is, whether experience produces the idea [of the effect *B*] by means of the **understanding** or **imagination**; whether we are determin’d by **reason** to make the transition, or by a certain association and relation of perceptions?”
- Hume will now argue that it can’t be reason.

UP: The Uniformity Principle

- In the *Treatise*
 - “If reason determin’d us [to infer effect *B* from cause *A*], it wou’d proceed upon that principle, *that instances of which we have had no experience, must resemble those of which we have had experience, and that the course of nature continues always uniformly the same.*” (T 1.3.6.4)
 - This seems *conditional*: *IF* reason is involved, *THEN* it must be based on this principle.
 - The principle seems implausibly strong: surely we don’t have to believe in complete uniformity!

UP in the *Enquiry*

- In the *Enquiry*
 - “all our experimental [experiential] conclusions proceed upon the supposition, that the future will be conformable to the past”. (*E* 4.19)
 - No suggestion of conditionality (cf. also *E* 5.2: “in *all* reasonings from experience, *there is a step taken by the mind*” corresponding to UP).
 - Much vaguer than UP in *Treatise*, and so more plausible: we expect the future to “resemble” (*E* 4.21) the past, but not copy exactly.

The Role of the Uniformity Principle

- Hume is not suggesting, even in the *Enquiry*, that we think of UP *explicitly* when making inductive inferences (cf. *T* 1.3.8.13).
- Rather, in making an inductive inference, we *manifest* the assumption of UP, in basing our inferential behaviour on past experience.
 - So inferring from past to future is *ipso facto* treating “the past [as a] rule for the future” (cf. *E* 4.21)
 - Hence the question arises: can this assumption be founded on reason, or is there some other explanation for why we make it?

Demonstrative and Probable

- Hume takes for granted a Lockean framework, recognising two types of reasoning:
 - In demonstrative reasoning (which potentially yields “knowledge” in the strict sense), each link in the inferential chain is “intuitively” certain.
 - In probable reasoning, some links are merely probable. [Note that in the *Enquiry*, Hume also calls this “moral reasoning” or “reasoning concerning matter of fact and existence”]
- Our modern terms are *deduction* and *induction*.

UP Not Founded on Reason

- “let us consider all the arguments, upon which [UP] may be suppos’d to be founded; ... these must be deriv’d either from *knowledge* [i.e. demonstration] or *probability*”. (*T* 1.3.6.4)
- We can conceive a change in the course of nature, so UP cannot be demonstratively proved. (*T* 1.3.6.5)
- Probable reasoning must be causal, and hence founded on UP. So it cannot provide a foundation for UP, on pain of circularity. (*T* 1.3.6.6-7)

The Gap in Hume's Argument

- The Uniformity Principle is not founded on:
 - demonstrative argument from past experience
 - because a change in the course of nature is possible, whereas any demonstrative argument would have to yield total certainty;
 - probable argument from past experience
 - because any probable argument is itself founded on experience and hence on the Uniformity Principle.
- But what if we could find a way of arguing *probabilistically* but *a priori*?
 - Hume just assumes this to be impossible.

The Sceptical [?] Conclusion

“Thus not only reason fails us in the discovery of the *ultimate connexion* of causes and effects, but even after experience has inform’d us of their *constant conjunction*, ’tis impossible for us to satisfy ourselves by our reason, why we shou’d extend that experience beyond those particular instances, which have fallen under our observation. We suppose, but are never able to prove, that there must be a resemblance betwixt those objects, of which we have had experience, and those which lie beyond the reach of our discovery.” (*T* 1.3.6.11)

Hume's Alternative Explanation

- Reason can't explain inductive inference; so instead, it must arise from associative principles of the imagination:

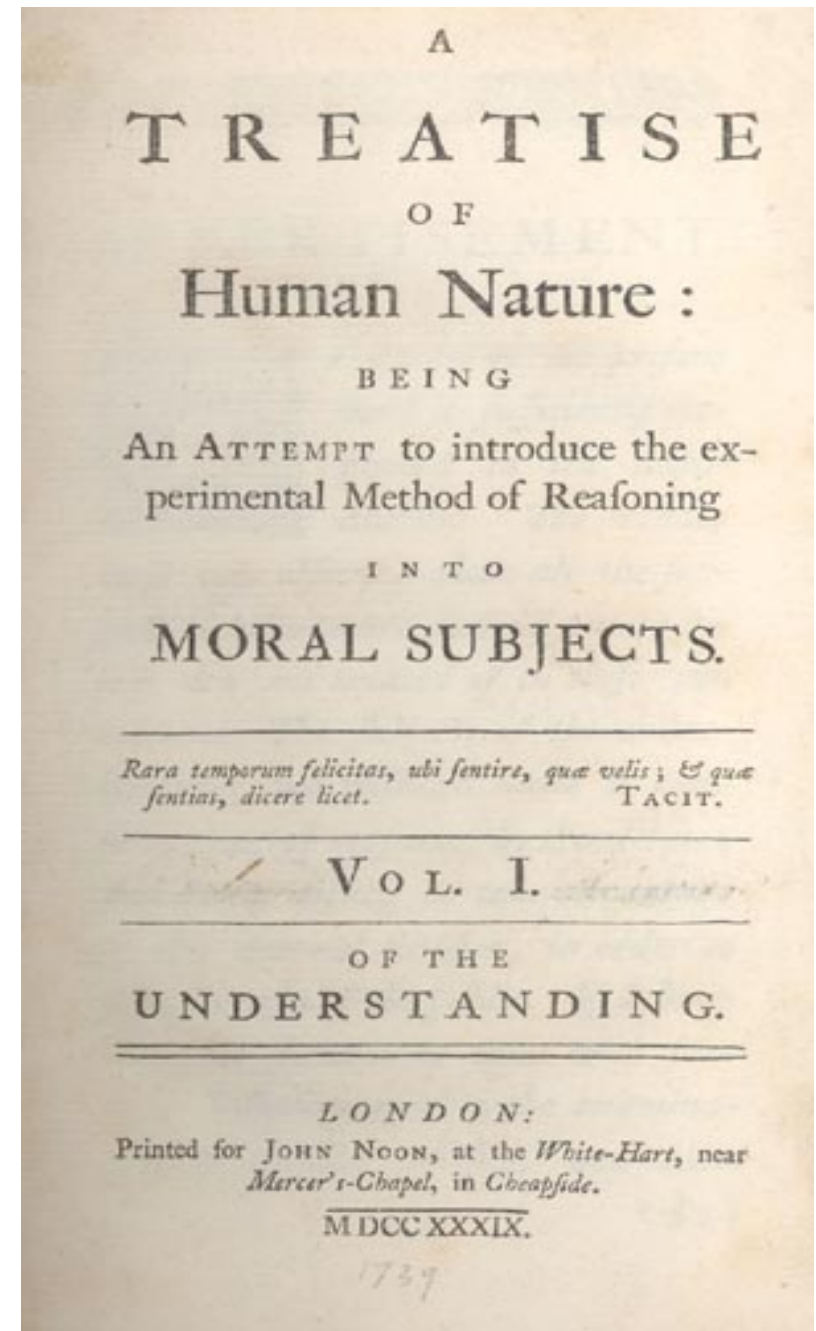
“When the mind, therefore, passes from the idea or impression of one object [the cause *A*] to the idea or belief of another [the effect *B*], it is not determin'd by reason, but by certain principles, which associate together the ideas of these objects, and unite them in the imagination.” (*T* 1.3.6.12)

Custom and General Ideas

- Hume later calls this associative principle “custom” (*T* 1.3.7.6, 1.3.8.10, 1.3.8.12-14).
- His attitude to it is not entirely negative:
 - “Custom, then, is the great guide of human life. It is that principle alone, which renders our experience useful to us ...” (*E* 5.6, cf. *A* 16)
- At *T* 1.3.6.14, Hume says this is essentially the same sort of custom as that which explained general ideas at *T* 1.1.7.7 ff.

4(c)

Belief and Probability



“Of the nature of the idea or belief”

- Recall the agenda set at *T* 1.3.5.1:
 - “Here therefore we have three things to explain, viz. *First*, The original impression [*T* 1.3.5]. *Secondly*, The transition to the idea of the connected cause or effect [*T* 1.3.6]. *Thirdly*, The nature and qualities of that idea.”
- Accordingly, *T* 1.3.7 – “Of the nature of the idea or belief” – focuses on the idea [of the effect *B*] that we infer from the impression [of the cause *A*] in causal inference.

An Idea Associated with an Impression

- Since all belief about the unobserved arises from causal inference (*T* 1.3.2.3, 1.3.6.7), and causal inference moves “from the impression to the idea”,
 “we may establish this as one part of the definition of an opinion or belief, *that 'tis an idea related to or associated with a present impression*” (*T* 1.3.6.15)
- Hume now goes on to investigate the nature of the associated idea.

“a new question unthought of
by philosophers” (A 17)

- Hume finds himself asking a profound question: “*Wherein consists the difference betwixt incredulity and belief?*” (T 1.3.7.3).
- This anticipates Frege:
“two things must be distinguished in an indicative sentence: the content ... and the assertion. The former is the thought ... it is possible to express the thought without laying it down as true.” (1918, p. 21).

A Manner of Conception

- *T* 1.2.6.4 argued that we have no separate idea of existence; so that can't make the difference between belief and unbelief, and nor does any other idea (*T* 1.3.7.2).
- If I believe proposition *P*, and you don't, the same ideas must be involved, or it wouldn't be the same proposition (*T* 1.3.7.3-4).
- So the difference must lie in the *manner of conception*, or *force and vivacity* (*T* 1.3.7.5).

The Definition of Belief

- The initial sketch of belief as
“an idea related to or associated with a present impression” (T 1.3.6.15)

can now be filled out:

“An opinion, therefore, or belief may be most accurately defin’ed, A LIVELY IDEA RELATED TO OR ASSOCIATED WITH A PRESENT IMPRESSION.” (T 1.3.7.5)

What is “Force and Vivacity”?

- This isn't entirely satisfactory:
 - A fictional story can be much more “forceful and lively” than a dull historical account.
 - “Force and vivacity” isn't a separate impression, so how does it fit into Hume's theory of ideas?
 - If it's part of the ideas believed, then how can we distinguish between the belief in a dull red door and the imagination of a bright red door?
 - “Manner of conception” suggests an *attitude* change, rather than a change in the ideas.

Symptoms of Unease

- In a paragraph added in the 1740 Appendix, Hume expresses discomfort with his account:

“An idea assented to *feels* different from a fictitious idea ... And this different feeling I endeavour to explain by calling it a superior *force*, or *vivacity*, or *solidity*, or *firmness*, or *steadiness*. ... 'tis impossible to explain perfectly this feeling or manner of conception. We may make use of words, that express something near it. But its true and proper name is *belief*, which is a term than every one sufficiently understands ...” (*T* 1.3.7.7)

“Of the causes of belief”

- *Treatise* 1.3.8 draws a natural conclusion from two of Hume’s “discoveries”:
 - *T* 1.3.5.3 concluded that causal reasoning has to start from an “impression” of the senses or memory, distinguished from mere ideas of the imagination by their “force and vivacity”. This constitutes their “*belief* or *assent*” (*T* 1.3.5.7).
 - *T* 1.3.7.5 concluded that something inferred by causal inference becomes a *belief* in virtue of its force and vivacity.

The Hydraulic Theory of Belief

“I wou’d willingly establish it as a general maxim in the science of human nature, *that when any impression becomes present to us, it not only transports the mind to such ideas as are related to it, but likewise communicates to them a share of its force and vivacity.*” (*T* 1.3.8.2)

- The remainder of *T* 1.3.8 gives various “experiments” to illustrate that the three associational relations also convey force and vivacity to the associated ideas, confirming this as a general phenomenon of human nature.

“Nothing But a Species of Sensation”

- Hume sums up his theory of belief in dramatic terms at *T* 1.3.8.12:

“Thus all probable reasoning is nothing but a species of sensation. ’Tis not solely in poetry and music, we must follow our taste and sentiment, but likewise in philosophy. When I am convinc’d of any principle, ’tis only an idea, which strikes more strongly upon me. When I give the preference to one set of arguments above another, I do nothing but decide from my feeling concerning the superiority of their influence.”

UP is (Typically) Unconscious

- At *T* 1.3.8.13, Hume observes that:

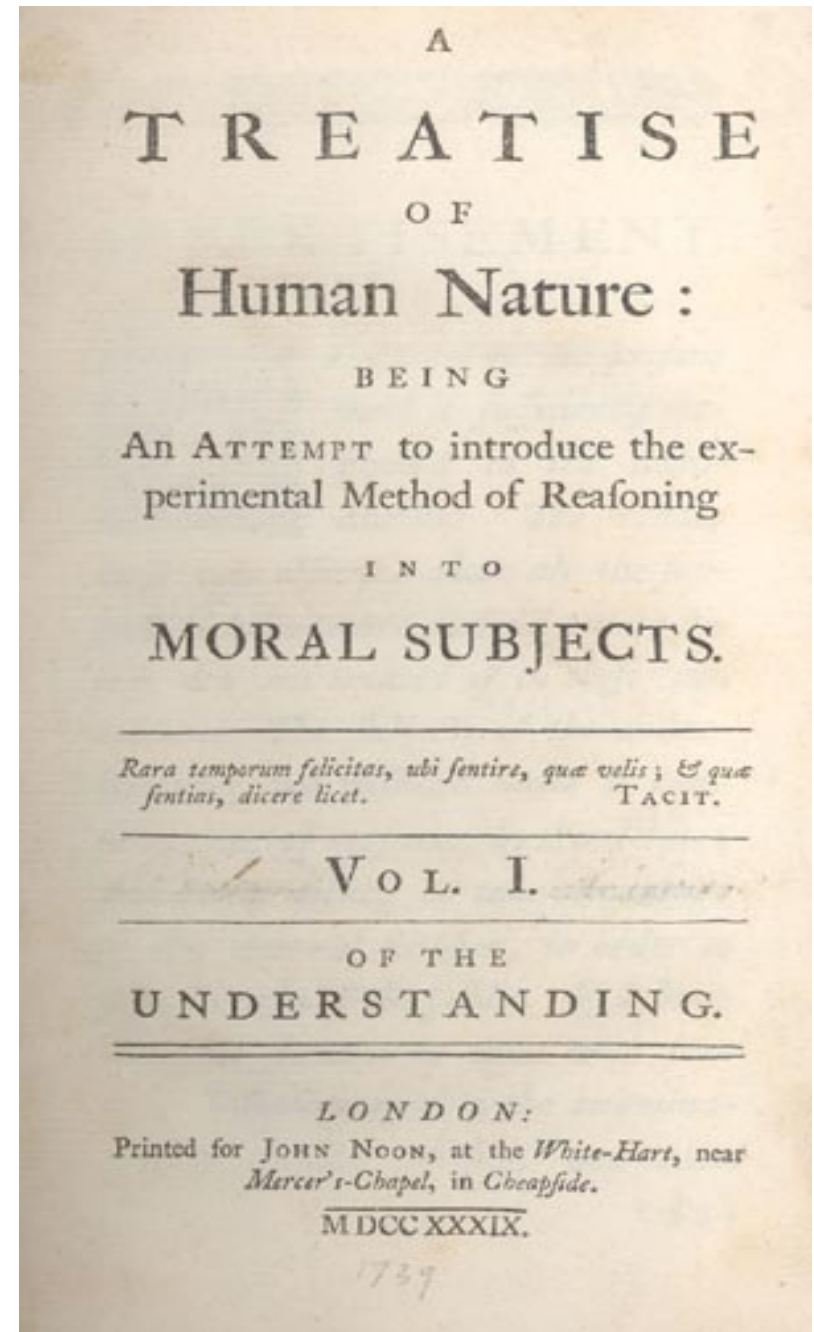
“the past experience, on which all our judgments concerning cause and effect depend, may operate on our mind in such an insensible manner as never to be taken notice of. ... The custom operates before we have time for reflection. The objects seem so inseparable, that we interpose not a moment’s delay in passing from the one to the other. ... the understanding or imagination [sic.] can draw inferences from past experience, without reflecting on it, much more without forming any principle concerning it”₅₂

Fast Forward to *Treatise* 1.3.14

- Hume's discussions in *Treatise* 1.3.9-13 mainly concern various types of rational and irrational beliefs, and the psychological mechanisms underlying them.
- These sections are commonly ignored, but we'll return to them briefly when considering the nature of Hume's "scepticism".
- The main narrative of *Treatise* 1.3 resumes at Section 14, its culmination.

4(d)

“Of the Idea of
Necessary
Connexion”



Reminder 1: The Idea of Cause

- In *Treatise* I.3.2, Hume identifies the components of the idea of causation as *contiguity*, *priority in time* (of *A* to *B*), and *necessary connexion* (see especially *T* 1.3.2.11).
- At *T* 1.3.6.3, he identifies *constant conjunction* (i.e. *regular* succession) as the basis of our ascription of necessary connexion.
- In the remainder of 1.3.6, he argues that causal reasoning is founded on *custom*.

Reminder 2: The Copy Principle

- According to (what is commonly called) Hume's *Copy Principle* (*T* 1.1.1.7), all our simple ideas are copied from impressions.
- This provides “a new microscope” (*E* 7.4) for investigating the nature of ideas, by finding the corresponding impressions.
- In *Treatise* 1.3.14, he accordingly sets out to identify the impression from which the idea of necessary connexion is copied.
- See 1.3.14.1 for a preview of the argument. 56

Synonymy and Definition

- Hume begins his quest for the impression:
“I begin with observing that the terms of *efficacy*, *agency*, *power*, *force*, *energy*, *necessity*, *connexion*, and *productive quality*, are all nearly synonymous; and therefore 'tis an absurdity to employ any of them in defining the rest. By this observation we reject at once all the vulgar definitions, which philosophers have given of power and efficacy; and instead of searching for the idea in these definitions, must look for it in the impressions, from which it is originally deriv'd. If it be a compound idea, it must arise from compound impressions. If simple, from simple impressions.” (*T* 1.3.14.4)

Two Puzzles

- Why does Hume assume that “necessity”, “power”, “force” etc. are virtual synonyms?
- Why does he assume that the idea of “necessary connexion” is *simple*, and hence cannot be explicitly defined?
- Suggested solution: Hume’s interest lies in *a single common element* of the relevant ideas, what we might call the element of *consequentiality*.

A Third Puzzle

- If *necessary connexion* is a key component of our idea of cause, then how can anyone even *believe* that causes could be less than absolutely necessitating?
 - “The vulgar ... attribute the uncertainty of events to such an uncertainty in the causes as makes the latter often fail of their usual influence ...” (*T* 1.3.12.5, *E* 8.13)
- This too is explained if the key idea is not *necessity*, but rather *consequentiality*: a *force* or *agency* need not be compelling.

“Power”, or “Necessary Connexion”?

- In *Treatise* 1.3.14, Hume refers to the idea of “power” or “efficacy” around three times more often than to the idea of “necessity” or “necessary connexion”!
- My suggestion makes the former more appropriate, so why emphasise the latter in the section’s title, and when summing up?
- Suggested explanation: The key result is to shed light on “liberty and necessity”, the problem of free will (*T* 2.3.1-2, *E* 8).

Refuting Locke and Malebranche

- Locke is wrong to suggest we can get the idea of power from “new productions in matter” (*T* 1.3.14.5).
- Malebranche is right to deny that “the secret force and energy of causes” can be found in bodies (*T* 1.3.14.7).
- But the Copy Principle refutes Malebranche’s claim that we acquire the idea of an “active principle” from our idea of God (*T* 1.3.14.10).

No Idea from Single Instances

- Powers cannot be found among the known or perceived properties of matter (*T* 1.3.14.7-11).
- Nor among the properties of mind (added in the *Appendix* of 1740, *T* 1.3.14.12, SB 632-3).
- We cannot find any *specific* impression of power in these various sources, hence they cannot possibly yield any *general* idea of power either (*T* 1.3.14.13; cf. the theory of “general or abstract ideas” of 1.1.7).

Repeated Instances

- The actual source of the key impression is revealed when we turn to *repeated* instances of observed conjunctions of “objects”. In these circumstances,
“... we immediately conceive a connexion betwixt them, and ... draw an inference from one to another. This multiplicity of resembling instances, therefore, constitutes the very essence of power or connexion, and is the source, from which the idea of it arises.” (*T* 1.3.14.16)

An *Internal* Impression

- Repeated instances supply no new impression *from the objects*; to find the elusive impression of power we must look inside ourselves to the habitual transition of the mind (i.e. the operation of custom).
- *T* 1.3.6.3 anticipated this result:
“Perhaps ’twill appear in the end, that the necessary connexion depends on the inference, instead of the inference’s depending on the necessary connexion.”

Is the Impression a *Feeling*?

“This connexion ... which we *feel* in the mind, this customary transition of the imagination from one object to its usual attendant, is the sentiment or impression, from which we form the idea of power or necessary connexion.” (*E* 7.28).

- Stroud and others take the impression to be a *feeling* of compulsion that accompanies the operation of customary inference.
- But Hume’s own arguments seem to rule out the possibility that mere feelings could be the source of the idea (*T* 1.3.14.12, *E* 7.15 n. 13).

Is “Determination of the Mind” an *Impression*?

- Why does Hume equate *inference* from *A* to *B* – a transition of thought from *A* to *B*, with *another*, third, “perception”?

“This determination is the only effect of the resemblance; and therefore must be the same with power or efficacy, whose idea is deriv’d from the resemblance. ... Necessity, then, is ... nothing but an internal impression of the mind, or a determination to carry our thoughts from one object to another.” (*T* 1.3.14.20)

- Hume needs an “impression” to satisfy his Copy Principle, but this may be misleading ...

Reflexive Awareness of Inference

- *Consequentiality* may be the key here ...
- *Inference* is genuinely consequential:
 - “that inference of the understanding, which is the only connexion, that we can have any comprehension of” (*E* 8.25)
- Hume should be taken literally: the source of the idea is the *reflexive awareness of making causal inference*, and not a feeling.
- This awareness is very dubiously an “impression”; here Hume’s theory of the mind is far too crude in limiting our awareness to ideas and impressions.

Necessity in the Mind, not in Objects

“[customary inference] is the essence of necessity. ... necessity is something, that exists in the mind, not in objects; nor is it possible for us ever to form the most distant idea of it, consider’d as a quality in bodies. ... necessity is nothing but that determination of the thought to pass from causes to effects and from effects to causes, according to their experienc’d union.” (*T* 1.3.14.22)

“When we say, therefore, that one object is connected with another, we mean only, that they have acquired a connexion in our thought, and give rise to this inference ...” (*E* 7.28)

Hume's Anti-Realism

- Hume is not saying that there is some kind of full-blooded “thick” necessity, but that it applies only to events in the mind. Rather ...
- We find ourselves inferring from *A* to *B*, and this consequential relation is all that we can understand by “necessity”. We can't even make sense of any more “full-blooded” necessity.
- This seems incredible to us because “the mind has a great propensity to spread itself on external objects, and to conjoin with them any internal impressions, which they occasion” (*T* 1.3.14.25).

An Outrageous Conclusion ...

“But tho’ this be the only reasonable account we can give of necessity ... I doubt not that my sentiments will be treated by many as extravagant and ridiculous. What! the efficacy of causes lie in the determination of the mind! As if causes did not operate entirely independent of the mind, and wou’d not continue their operation, even tho’ there was no mind existent to contemplate them ... to remove [power] from all causes, and bestow it on a being, that is no ways related to the cause or effect, but by perceiving them, is a gross absurdity, and contrary to the most certain principles of human reason.” (*T* 1.3.14.26)

... Which Hume Defends!

“I can only reply to all these arguments, that the case is here much the same, as if a blind man shou’d pretend to find a great many absurdities in the supposition, that the colour of scarlet is not the same with the sound of a trumpet, nor light the same with solidity. If we really have no idea of a power or efficacy in any object, or of any real connexion betwixt causes and effects, ’twill be to little purpose to prove, that an efficacy is necessary in all operations. We do not understand our own meaning in talking so, but ignorantly confound ideas, which are entirely distinct from each other.” (*T* 1.3.14.27)

Objective Causes, in a Sense ...

“As to what may be said, that the operations of nature are independent of our thought and reasoning, I allow it; and accordingly have observ’d, that objects bear to each other the relations of contiguity and succession; that like objects may be observ’d in several instances to have like relations; and that all this is independent of, and antecedent to the operations of the understanding.” (*T* 1.3.14.28)

- There is an objective and a subjective side to our idea of power or necessity; hence two definitions of “cause”.

Two “Definitions of Cause”

- Hume’s main discussions of “the idea of necessary connexion” (*Treatise* 1.3.14 and *Enquiry* 7) both culminate with two “definitions of cause”.
- The first definition is based on *regular succession* of the “cause” *A* followed by “effect” *B* (plus contiguity in the *Treatise*).
- The second definition is based on the mind’s tendency to *infer B* from *A*.

“There may two definitions be given of this relation, which are only different, by their presenting a different view of the same object ... We may define a CAUSE to be ‘An object precedent and contiguous to another, and where all the objects resembling the former are plac’d in like relations of precedency and contiguity to those objects, which resemble the latter.’ If this definition be esteem’d defective, because drawn from objects foreign to the cause, we may substitute this other definition in its place, *viz.* ‘A CAUSE is an object precedent and contiguous to another, and so united with it, that the idea of the one determines the mind to form the idea of the other, and the impression of the one to form a more lively idea of the other.’ Shou’d this definition also be rejected for the same reason, I know no other remedy ...”

(*T* 1.3.14.31)

The Confused Vulgar Idea of Power

- “as we *feel* a customary connexion ... we transfer that feeling to the objects; as nothing is more usual than to apply to external objects every internal sensation, which they occasion” (*E* 7.29 n. 17)
- *At T* 1.3.14.25 n. 32, referring to 1.4.5.13, this is compared to our propensity to objectify taste impressions: “All this absurdity proceeds from our endeavouring to bestow a place on what is utterly incapable of it”.
- Necessity involves “the same propensity” (*T* 1.3.14.25).
- “the sentiment of *nisus* or endeavour” also “enters very much into” the vulgar idea (*E* 7.15 n. 13, 7.29 n. 17).⁷⁵

The More Precise Humean Idea

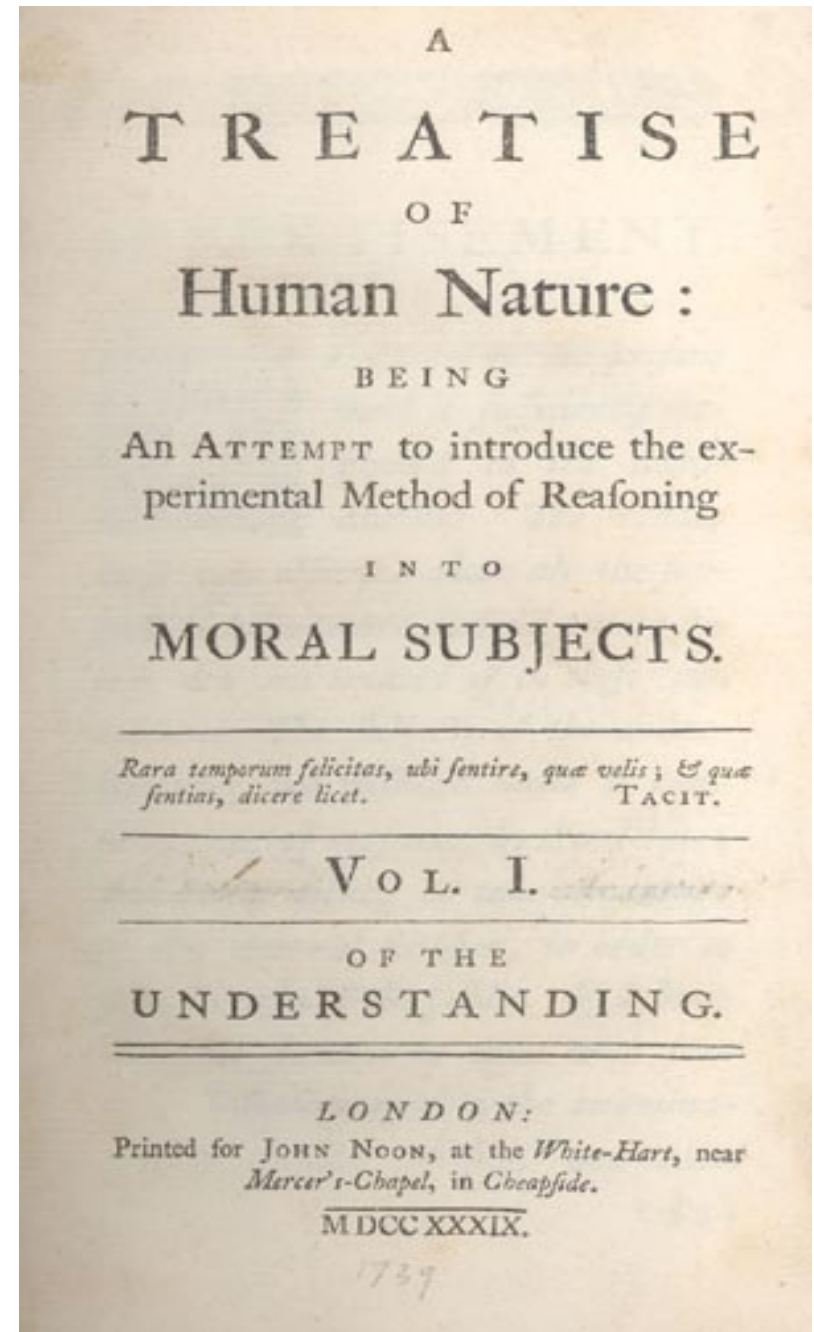
- “’tis probable, that these expressions do here lose their true meaning by being *wrong apply’d*, than that they never have any meaning” (*T* 1.3.14.14).
- Hume takes his analysis and definitions to vindicate a more precise idea of power, by revealing that there is a *bona fide* impression from which it is derived.
- He seems to be saying we should apply that idea according to the first definition (constant conjunction), and understand its application as implying willingness to draw inferences accordingly (as in the second definition).
- This is close to a kind of “quasi-realism” (Blackburn’s term), parallel with Hume’s moral theory.

“Corollaries” of the Definitions

- “All causes are of the same kind ... For the same reason we must reject the distinction betwixt *cause* and *occasion* ... If constant conjunction be imply'd in what we call occasion, 'tis a real cause. If not, 'tis no relation at all ...” (*T* 1.3.14.32)
- “there is but one kind of *necessity* ... and ... the common distinction betwixt *moral* and *physical* necessity is without any foundation in nature.” (*T* 1.3.14.33)
- It is now easy to see why the Causal Maxim of *T* 1.3.3 is not intuitively or demonstratively certain. (*T* 1.3.14.35)
- “we can never have reason to believe that any object exists, of which we cannot form an idea.” (*T* 1.3.14.36)

4(e)

Understanding Hume on Causation



The “New Hume”

- Hume has generally been read as denying the existence of any causal “power” or “necessity” going beyond his two definitions (i.e. any upper-case Causation or “thick connexions”).
- The “New Hume” is the view of John Wright, Edward Craig, Galen Strawson and others that Hume is instead a “Causal Realist”.
- Their most persuasive argument: *Hume’s texts show him to be taking causation, causal power and causal necessity very seriously ...*

“Sceptical Realism”

- John Wright coined the term “Sceptical Realism” for this point of view:
 - Realism: Causation in things goes beyond functional relations of regular succession, involving a full-blooded necessity which, if we knew it, would license a priori inference.
 - Sceptical: In so far as Causation goes beyond what is captured by Hume’s two definitions, it cannot be known or understood.

Hume's Advocacy of Causal Science

- Hume seems in general to have a very positive attitude towards causal science:
 - a) He says that causation is the basis of all empirical inference;
 - b) He proposes “rules by which to judge of causes and effects”;
 - c) He talks of “secret powers”;
 - d) He advocates a search for hidden causes underlying inconstant phenomena.

(a) The Basis of Empirical Inference

- “The only connexion or relation of objects, which can lead us beyond the immediate impressions of our memory and senses, is that of cause and effect ...” (*T* 1.3.6.7)
- “’Tis evident, that all reasonings concerning *matter of fact* are founded on the relation of cause and effect” (*A* 8)
- “All reasonings concerning matter of fact seem to be founded on the relation of Cause and Effect.” (*E* 4.4, cf. *E* 7.29)

(b) The Rules of *Treatise* 1.3.15

- “Since therefore ’tis possible for all objects to become causes or effects to each other, it may be proper to fix some general rules, by which we may know when they really are so.” (*T* 1.3.15.1)
- “[Phenomena] in nature [are] compounded and modify’d by so many different circumstances, that ... we must carefully separate whatever is superfluous, and enquire by new experiments, if every particular circumstance of the first experiment was essential to it” (*T* 1.3.15.11)

(c) Hume's Talk of "Secret Powers"

- Most prominent in *Enquiry 4-5*:
 - “the ultimate cause of any natural operation ... that power, which produces any ... effect in the universe ... the causes of these general causes ... ultimate springs and principles” (*E* 4.12);
 - “the secret powers [of bodies] ... those powers and principles on which the influence of ... objects entirely depends” (*E* 4.16);
 - “those powers and forces, on which this regular course and succession of objects totally depends” (*E* 5.22);

Necessity as Essential to Causation

- “Power” is a term from the same family – derived from the same impression – as “necessity”, which Hume sees as an essential part of our idea of causation:
 - “According to my definitions, necessity makes an essential part of causation” (*T* 2.3.1.18, cf. also 1.3.2.11, 1.3.6.3).
 - “Necessity may be defined two ways, conformably to the two definitions of *cause*, of which it makes an essential part.” (*E* 8.27, cf. 8.25)

(d) The Search for Hidden Causes

- “philosophers, observing, that, almost in every part of nature, there is contained a vast variety of springs and principles, which are hid, by reason of their minuteness or remoteness, find, that it is at least possible the contrariety of events may ... proceed ... from the secret operation of contrary causes. ... they remark, that, upon an exact scrutiny, a contrariety of effects always betrays a contrariety of causes, and proceeds from their mutual opposition.”
(E 8.13, copied from *T* 1.3.12.5)

Causal Science and Causal Realism

- We have seen that Hume indeed takes causal science very seriously. All science must be causal; causal relations can be established by rules; explanation involves reference to secret powers; and we should search for hidden causes.
- But the presumption that this implies Causal Realism that goes beyond the two definitions can be challenged ...

Hume's Anti-Realism: an Initial Case

1. Berkeley's example proves that a positive attitude to science need not imply Causal Realism. Hume's attitude seems quite similar.
2. Hume's argument concerning the origin of the idea of necessary connexion, in *Treatise* 1.3.14 and *Enquiry* 7, has standardly been read as implying that he is a Causal anti-Realist.
3. An important footnote connects the power references in *Enquiry* 4-5 with the apparently anti-Realist argument of *Enquiry* 7, in such a way as to undermine their apparent force.

1. Berkeley's Instrumentalism

- ... the difference there is betwixt natural philosophers and other men, with regard to their knowledge of the *phenomena*, ... consists, not in an exacter knowledge of the efficient cause that produces them, for that can be no other than the *will of a spirit*, but only in a greater largeness of comprehension, whereby analogies, harmonies, and agreements are discovered in the works of Nature, and the particular effects explained, that is, reduced to general rules ... which rules grounded on the analogy, and uniformness observed in the production of natural effects (*Principles* i 105)

Science as Simplification

- “the utmost effort of human reason is, to reduce the principles, productive of natural phaenomena, to a greater simplicity, and to resolve the many particular effects into a few general causes, by means of reasonings from analogy, experience, and observation. But as to the causes of these general causes, we should in vain attempt their discovery ... and we may esteem ourselves sufficiently happy, if, by accurate enquiry and reasoning, we can trace up the particular phaenomena to, or near to, ... general principles.” (*E* 4.12, cf. *T* intro 8)

2. An Argument for Anti-Realism

- Hume's entire argument is structured around the Copy Principle quest for an impression.
- The Principle is a tool for deciding questions of *meaning* (*T* 1.1.6.1, *A* 7, *E* 2.9).
- He aims to find causal terms' *meaning* or *significance* (*T* 1.3.14.14 & 27, *A* 26, *E* 7.3, 26 & 28).
- When the *subjective* impression is identified, the apparently anti-Realist implication is stated.
- The discussion culminates with two *definitions* of "cause", incorporating this anti-Realism.

3. Kames and a Footnote

- Kames (1751) quoted Hume's references to powers in the *Enquiry* (at 4.16) against him, as evidence of inconsistency; they knew each other well and swapped manuscripts prior to publication.
- In 1750 Hume added a footnote to *E* 4.16:
 - “* The word, Power, is here used in a loose and popular sense. The more accurate explication of it would give additional evidence to this argument. See Sect. 7.”

Quantitative Forces

- In the *Enquiry*, Hume is clear that mechanics involves *forces*: theoretical entities that can be quantified and enter into equations describing objects' behaviour. (e.g. *E* 4.12-13)
- “Force” is in the same family as “power” etc.
- This, rather than Causal Realism, explains the *Enquiry*'s prominent “power” language.
- *E* 7.25n and *E* 7.29n both suggest an attitude to such forces corresponding exactly to the anti-realist spirit of *Enquiry* 7. Forces are to be treated *instrumentally* (cf. Newton and Berkeley).

Why Two Definitions?

- The argument of T 1.3.14 and E 7 ends, notoriously, with two definitions of cause:
 - The first definition is based on *regular succession* of the “cause” *A* followed by “effect” *B* (plus contiguity in the *Treatise*).
 - The second definition is based on the mind’s tendency to *infer B* from *A*.
- These don’t coincide: constant conjunctions can be unseen, and we can (mistakenly) infer when the conjunctions are inconstant.

- To make sense of the definitions, we should not assume that they are intended to specify necessary and sufficient conditions.
- Hume's conception of *meaning*, associated with his Copy Principle, suggests a different view. The meaning of causal necessity can only be understood through the impression from which its idea is derived: *reflexive awareness of our own inferential behaviour* in response to observed constant conjunctions.
- The second definition, accordingly, specifies a paradigm case in which we experience this impression and thus can acquire the idea.

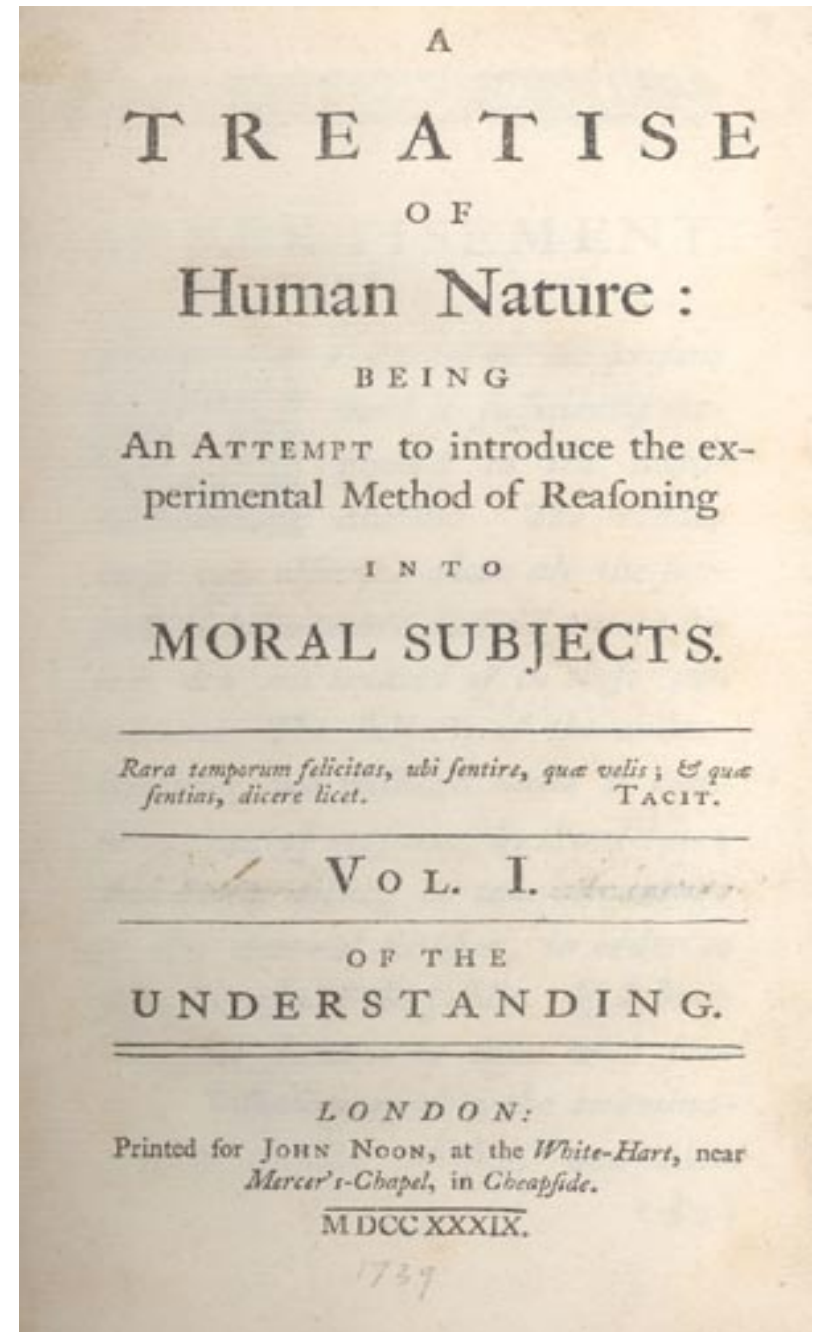
- Nothing in Hume's theory requires that, *having once acquired the idea*, we must restrict its application to those paradigm cases that characteristically generate it.
- Indeed his advocacy of “rules by which to judge of causes and effects” etc. implies that he must think we can go beyond these cases by *systematising* our application of the idea (cf. his discussion of the “system of realities” at *T* 1.3.9.3-5) .
- Accordingly the two definitions can be seen as *complementary* rather than conflicting. The second identifies the relevant idea; the first specifies the criterion for applying it.

- There is a parallel case in Hume’s treatment of *virtue* or *personal merit* in the *Moral Enquiry*. Here again he gives two definitions:
 - “PERSONAL MERIT consists altogether in the possession of mental qualities, *useful* or *agreeable* to the *person himself* or to *others*. ... The preceding ... definition ...” (M 9.1, 9.12)
 - “[My] hypothesis ... defines virtue to be *whatever mental action or quality gives to a spectator the pleasing sentiment of approbation; ...*” (M Appendix 1.10)
- Again we have a characteristic idea, whose application is then to be systematised.

- This understanding of the paired definitions tells strongly in an anti-Realist direction. For it suggests that the system of causes, like the system of virtues, is essentially being read *into* the world rather than being read *off* it.
- We thus have a process of systematisation in which our natural judgement, refined and applied more systematically in accordance with the relevant rules, “raises, in a manner, a new creation”, by “gilding or staining natural objects with the colours, borrowed from internal sentiment” (*M* Appendix 1.21).

4(f)

The Point of Hume's Analysis of Causation



Hume's Use of his Two Definitions

- If we search for subsequent paragraphs in the *Treatise* that mention the definition of “cause”, “power” or “necessity”, we find just three, at *T* 1.4.5.31, 2.3.1.18, and 2.3.2.4
- If we search instead for “constant conjunction” or “constant union”, we find mainly *T* 1.4.5.30-33, 2.3.1.416, and 2.3.2.4 (*T* 1.4.1.2 and 1.4.3.2 also mention “constant union” briefly).
- Similar searches in the *Enquiry* point very clearly to Section 8 (10.5 is the only other).

Causation and the Mind

- Hume is especially keen to establish causality and necessity in respect of the mind:
 - In principle, matter could be the cause of thought
(*T* 1.4.5, “*Of the Immateriality of the Soul*”)
 - The “doctrine of necessity” applies as much to the mental world as to the physical world
(*T* 2.3.1-2 and *E* 8 “*Of Liberty and Necessity*”)
- Both arguments crucially turn on the claim that there is nothing to causal necessity beyond the two definitions ...

Of the Immateriality of the Soul

- The standard anti-materialist argument insists that material changes cannot cause thought, because the two are so different.
 - “... and yet nothing in the world is more easy than to refute it. We need only to reflect on what has been prov’d at large ... that to consider the matter *a priori*, any thing may produce any thing, and that we shall never discover a reason, why any object may or may not be the cause of any other, however great, or however little the resemblance may be between them ” (T 1.4.5.30)

- Hume then goes further to insist that material motion *is indeed* found to be the cause of thought:
 - “we find ... by experience, that they are constantly united; which being *all the circumstances, that enter into the idea of cause and effect* ... we may *certainly* conclude, that motion may be, and *actually is*, the cause of thought and perception.” (*T* 1.4.5.30, my emphasis)
 - “*as the constant conjunction of objects constitutes the very essence of cause and effect*, matter and motion may often be regarded as the causes of thought, as far as we have any notion of that relation.” (*T* 1.4.5.33, my emphasis)

Of Liberty and Necessity

- Hume's argument that the same necessity is applicable to the moral and physical realms depends on taking our understanding of necessary connexion to be completely exhausted by the two factors of constant conjunction and customary inference.
- These two factors can be shown to apply in the moral realm, and he insists that we can't even *ascribe* any further necessity to matter:

“the ... advocates for [libertarian] free-will must allow this union and inference with regard to human actions. They will only deny, that this makes the whole of necessity. But then they must shew, that we have an idea of something else in the actions of matter; which, according to the foregoing reasoning, is impossible.” (A 34, cf. *T* 2.3.1.3-18, *T* 2.3.2.4, *E* 8.4-22, *E* 8.27)

- Here Hume is arguing against the Causal Realist, who thinks that “we have an idea of something else in the actions of matter”.

“A New Definition of Necessity”

- Even more explicitly than with “Of the Immateriality of the Soul”, Hume portrays his argument here as turning on his new understanding of necessity:
 - “Our author pretends, that this reasoning puts the whole controversy in a new light, by giving a new definition of necessity.” (A 34)
- This requires that his definitions are understood as specifying “the very essence of necessity” (*T* 2.3.1.10, 2.3.2.2).

Anti-Realism supporting realism

- all objects, which are found to be constantly conjoin'd, are *upon that account only* to be regarded as causes and effects. ... the constant conjunction of objects constitutes *the very essence* of cause and effect ...
(*T* 1.4.5.32, my emphasis)
- two particulars [are] essential to necessity, *viz.* the constant *union* and the *inference* of the mind ... wherever we discover these we must acknowledge a necessity. (*T* 2.3.1.4)

Reconstructing Hume's Vision

- The “chief argument” of the *Treatise* (as summarised in the *Abstract* of 1740) is almost entirely devoted to causation etc. – *Treatise* 1.3 is the central part of the work.
- Applying the Copy Principle to the idea of necessary connexion reveals the nature of causal necessity, settling fundamental issues about causation in the moral sphere, and eliminating aprioristic causal metaphysics.

The Cosmological Argument

- Hume told Boswell that he “never had entertained any belief in Religion since he began to read Locke and Clarke”
- Both Locke and Clarke advocated the **Cosmological Argument**, and insisted that **matter cannot give rise to thought**.
- *Treatise* 1.3.3 – which disputes the basis of the Causal Maxim – identifies both Locke and Clarke by name (in footnotes).

The Origin of Ideas

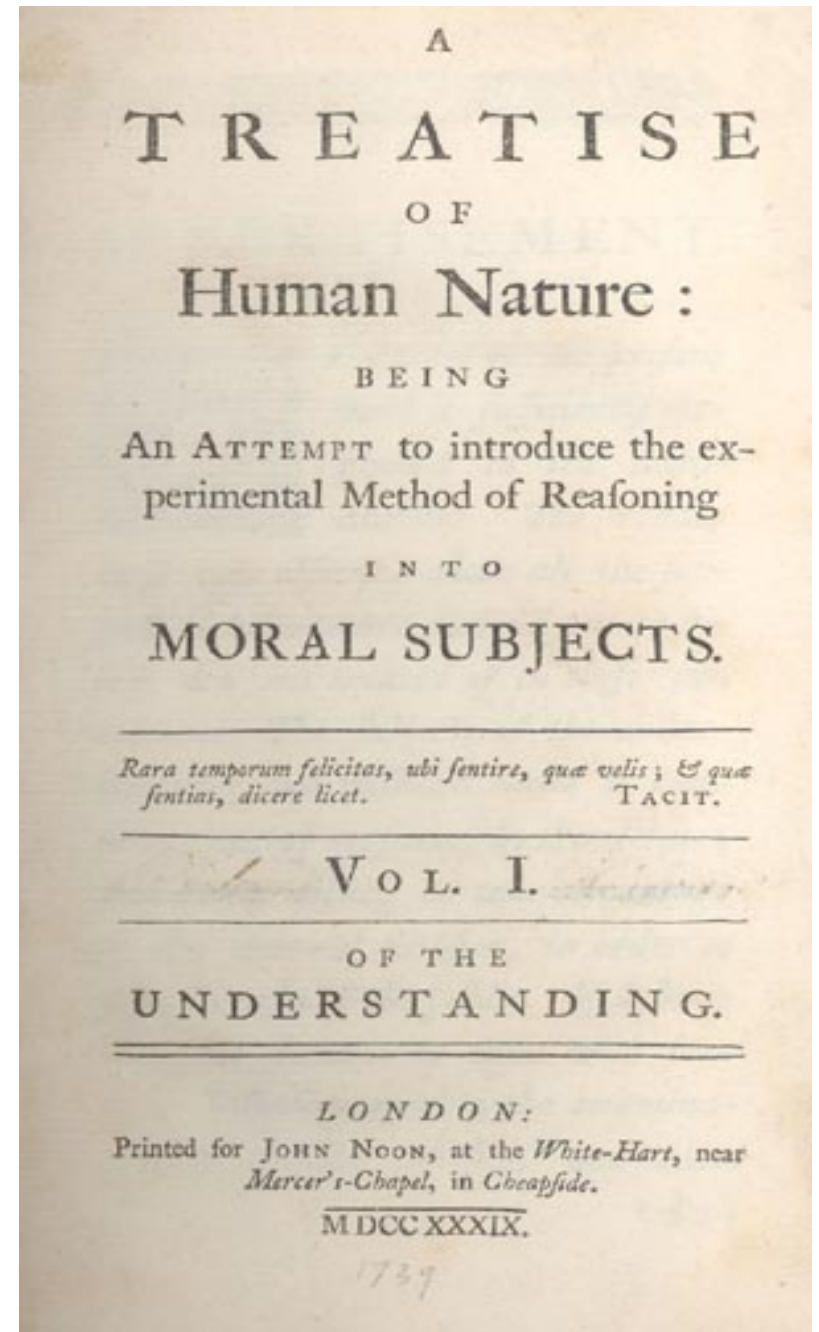
- Locke's empiricism naturally raises the issue of the origin of the idea of causal necessity, central to the Cosmological Argument.
- Locke's "Of Power" (*Essay* II xxi) gives an inadequate account: Hume sees this, and attempts to remedy the omission.
- Locke's chapter focuses also on Free Will. Hume sees his account as supporting Collins against Clarke (a debate very familiar to him through Dudgeon, Baxter, Desmaizeaux).

An Integrated Vision

- Hume's causal anti-Realism refutes:
 - The Cosmological Argument;
 - Anti-materialist arguments;
 - The Free Will Theodicy (cf. Hume's early memoranda, from the late 1730s);
 - Aprioristic causal metaphysics in general.
- At the same time it supports:
 - Empirical, causal science: the *only* way to establish anything about “matters of fact”;
 - Extension of causal science into moral realm.

4(g)

Hume,
Determinism, and
Liberty



Hume's Determinism

- Hume is a determinist, in the sense that he thinks everything happens in conformity with universal, exceptionless causal laws.
- Note that this is entirely compatible with:
 - Hume's view that the uniformity of nature cannot be proved.
 - Hume's analysis of causal necessity.
- However the basis for his determinism is not entirely clear.

Evidence for Hume's Determinism

- We have seen that Hume's letters evince a commitment to the Causal Maxim:
“Whatever begins to exist, must have a cause of existence” (T 1.3.3.1).
- In his sections “Of Liberty and Necessity” (*T* 2.3.1-2 and *E* 8), Hume argues for the Doctrine of Necessity (*T* 2.3.2.3, *E* 8.3).
 - It seems fairly clear from how he describes it that Hume takes this “doctrine” to be the thesis of determinism ...

Hume's Statement of Necessity

“Tis universally acknowledg'd, that **the operations of external bodies are necessary,** and that in the communication of their motion, in their attraction, and mutual cohesion, **there are not the least traces of indifference or liberty.**

Every object is determin'd by an absolute fate to a certain degree and direction of its motion, and can no more depart from that precise line, in which it moves, than it can convert itself into an angel ...

The Necessity of Human Behaviour

... The actions, therefore, of matter are to be regarded as instances of necessary actions; and whatever is in this respect on the same footing with matter, must be acknowledg'd to be necessary. *That we may know whether this be the case with the actions of the mind*, we shall begin with examining matter, and considering on what the idea of a necessity in its operations are founded ...” (*T* 2.3.1.3)

- Hume then goes on to appeal to his two definitions, as we saw earlier.

The Doctrine of Liberty: A Contrast between *Treatise* and *Enquiry*

- In the *Enquiry*, Hume famously pursues ‘a reconciling project’ (*E* 8.23), presenting a *compatibilist* solution to the problem of free will and determinism.
- Following Hobbes, he sees *the doctrine of necessity* as entirely compatible with *the doctrine of liberty* – i.e. the claim that some of our actions are *free*.
- But in the *Treatise*, Hume understands “liberty” as *chance.*, which he denies.

- “... this fantastical system of liberty ...” (*T* 2.3.1.15)
- “According to my definitions ... liberty ... is the very same thing with chance. As chance is commonly thought to imply a contradiction, and is at least directly contrary to experience, there are always the same arguments against liberty or free-will.” (*T* 2.3.1.18)
- “... the doctrine of liberty, however absurd it may be in one sense, and unintelligible in any other.” (*T* 2.3.2.1)

The Evidence for Determinism

“philosophers ... find, that it is at least possible the contrariety of events may not proceed from any contingency in the cause, but from the secret operation of contrary causes. **This possibility is converted into certainty** by farther observation; when they remark, that, upon an exact scrutiny, a contrariety of effects always betrays a contrariety of causes, and proceeds from their mutual opposition.” (*T* 1.3.12.5; *E* 8.13)

Determinism and Morality

- It is commonly assumed that determinism would undermine moral responsibility, but Hume argues that on the contrary,
“this kind of necessity is so essential to religion and morality, that without it there must ensue an absolute subversion of both ... as all human laws are founded on rewards and punishments, 'tis suppos'd as a fundamental principle, that these motives have an influence on the mind, and both produce the good and prevent the evil actions. ... common sense requires it shou'd be esteem'd a cause, and be look'd upon as an instance of that necessity” (*T* 2.3.2.5)