

# Hume, Causal Realism, and Causal Science

## Hume, Causal Realism, and Causal Science



*Sceptical Realist, or Non-Sceptical Anti-Realist?*

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### 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, Peter Kail and others that Hume is instead a "Causal Realist". Their most persuasive argument is that Hume's texts show him to be taking causation, causal power and causal necessity very seriously ...

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### Hume's Advocacy of Causal Science

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

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### 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)

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### 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)

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### Hume's Talk of "Secret Powers"

- "the ultimate cause of any natural operation ... that power, which produces any single 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);

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### 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)
  - "Necessity may be defined two ways, conformably to the two definitions of *cause*, of which it makes an essential part." (E 8.27)

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### 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)

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### Practical Limits on the Search

- "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)

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### 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)

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### Hume: Realist or Anti-Realist?

- Berkeley proves that this attitude to science need not imply Causal Realism, but the frequency and enthusiasm of Hume's references to powers etc. might seem to tell in favour of a Realist reading.
- Against this, the standard basis for seeing him as a Causal anti-Realist is his argument concerning the origin of the idea of necessary connexion, in *Treatise* 1.3.14 and *Enquiry* 7.
- An important footnote connects the power references in *Enquiry* 4 with the apparently anti-Realist argument of *Enquiry* 7 ...

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### 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.

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## 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.”

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## Semantics or Epistemology?

- “New Humeans” claim that Hume's statements about “meaning”, “definition” etc. should not be interpreted *semantically* but *epistemologically*.
- Thus Peter Kail insists that we should “view Hume's talk about ‘meaning’ as meaning ‘acquaintance with’, as opposed to ‘thinkable content’” (2001, p. 39).
- Even if possible, this gives no *positive* evidence for the New Hume. The texts of *T* 1.3.14 and *E* 7 remain *prima facie* strongly anti-Realist.

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## Other “New Humean” Arguments

- “The anti-realist interpretation is a twentieth-century positivist invention”
  - Clearly false. Kames (1751), Leland (1757), and Reid (1785) all see Hume as anti-realist.
- “Causal anti-realism is too outrageous to have been contemplated by Hume”
  - “of all the paradoxes, which I have had, or shall hereafter have occasion to advance in the course of this treatise, the present one is the most violent ...” (*T* 1.3.14.24).

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## Hume's “Strict Scepticism”

- Strawson dubs Hume a “strict sceptic” who “does not make positive claims about what ... knowably ... does not exist” (p. 34).
  - But Hume's anti-realism about causation is a limit on our *ideas* and what *we can mean* by “power” etc., not a limitation on reality.
  - Anyway the claim that he is a “strict sceptic” begs the question. Where are the texts?
  - Hume does deny the existence of some things, e.g. substantial forms, occult qualities.

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## Is the *Enquiry* Realist?

- “All the main support for the view that Hume was an outright regularity theorist derives from the *Treatise*, and vanishes in the *Enquiry*” (Strawson 2000, p. 32). But this is not true:
  - “When we say, therefore, that one object is connected with another, we mean only, that they have acquired a connexion in our thought ...” (*E* 7.28)
  - “The necessity of any action, whether of matter or of mind, is not, properly speaking, a quality in the agent, but in any thinking or intelligent being, who may consider the action” (*E* 8.22n)

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## The “AP” Property

- In *Enquiry* 7 Part 1, Hume repeatedly argues that perception of an object or an internal feeling cannot yield an impression of necessary connexion, because if it could, this would enable us to infer the effect *a priori*, which we cannot do.
  - On this basis, New Humeans claim that “genuine” Humean necessity must, quite generally, licence *a priori* inference.

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- However Hume only applies the *a priori* constraint in Part 1, when considering *single-instance* impressions.
- He does not apply it at all in Part 2, to the impression (arising from *repeated instances*) which he explicitly identifies as the genuine impression of necessity.
- This makes sense if he is assuming that any single-instance connexion must be a *priori*, an assumption that is manifest anyway in his discussion of induction.

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- Moreover an “AP” understanding of causal necessity conflicts with Hume's Conceivability Principle, by conflating causal with “absolute” or “metaphysical” modality.
- If Hume were prepared to countenance a “hidden” objective necessity – of a genuine metaphysical kind – connecting *A* with *B*, then the fact that we can conceive *A*'s not being followed by *B* could not imply that this is a genuine metaphysical possibility. But “whatever we *conceive* is possible, at least in a metaphysical sense” (*A* 11).

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## Defective Definitions?

- One of the most commonly cited passages in support of the New Hume:
  - “so imperfect are the ideas which we form ..., that it is impossible to give any just definition of cause, except what is drawn from something extraneous and foreign to it. ... we cannot remedy this inconvenience, or attain any more perfect definition, which may point out that circumstance in the cause, which gives it a connexion with its effect.” (*E* 7.29)

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## Imperfect Ideas, not Definitions

- Hume describes our *ideas* as “imperfect”, but the *definitions* as “just”.
- He's discussing his definitions of *cause*, not of necessary connexion (which he clearly distinguishes, e.g. in the *Enquiry* index).
- “that circumstance in the cause, which gives it a connexion with its effect” is very *unlikely* to mean the necessary connexion, especially given the footnote to this paragraph.

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## “That Circumstance in the Cause”

- A “circumstance” is a factor that is variable between situations, to which eliminative methods can be applied to identify the true causal factor (e.g. *T* 1.3.13.11, *E* 7.30).
- The footnote to *E* 7.29 makes clear that the relevant “circumstance” is identifiable only by experiment, and even then can be hard to isolate (e.g. it could be the velocity, or the square of the velocity).

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## 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).

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## Inconsistent Definitions?

- G. 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.
- Beebee (2007: 430) and Kail (2007: 266) claim that the two definitions – being inconsistent – cannot be intended as semantic.

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- But this presumes that the only way a definition can be *semantic* is by specifying 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.

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- 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.
- 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.

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- 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.

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- 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).

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## Moving Onto the Offensive

- The arguments in favour of the New Hume are all rather weak – none of those we’ve considered seems sufficient to dent the onus of proof generated by the context, structure and content of Hume’s argument.
- But there are far stronger arguments to be added to the other side of the debate, because the “New Hume” literature – very strikingly and surprisingly – almost entirely ignores the *point* of Hume’s two definitions.

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## 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).

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## 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 ...

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## 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)

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- 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)

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## The 1.4.5 Dilemma

- Hume starts paragraph 1.4.5.31 with a dilemma, before arguing for its second horn in the remainder of the paragraph:
  - “There seems only this dilemma left us ... either to assert, that nothing can be the cause of another, but where the mind can perceive the connexion in its idea of the objects: Or to maintain, that all objects, which we find constantly conjoin’d, are upon that account to be regarded as causes or effects.” (T 1.4.5.31)

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- The word “perceive” here might seem to open the door to a New Humean response: Hume’s interest is *epistemological* rather than *semantic*.
- However on this view, Hume is essentially in agreement with his opponents on what causation involves; his difference with them lies only in his dogmatic claim that *either* we should demand complete transparency to human reason before admitting a causal link, *or else* we should accept it on the basis of mere constant conjunction.
- This would make his argument very misleading: why has he portrayed the disagreement as one concerned with the understanding of causation?

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## 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:

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"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 the New Humean position is very clearly that of Hume's *opponent*, who thinks that "we have an idea of something else ...".

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## "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)
- Again, the New Humean interpretation fails to make any sense of this portrayal.

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## Kail's Defence (a)

- Such objections "crucially miss the fact that Hume refigures the dispute at the level of *common life* rather than as an issue in the metaphysics of causation". (2007: 264)
  - But this, based on E 8.1 alone, looks extremely tenuous; moreover E 8.16, 8.23 and 8.27 all seem to tell strongly against it.
  - Besides, the corresponding discussions in the *Treatise* and *Abstract* give the same argument, but no passage corresponding to E 8.1...

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## Kail's Defence (b)

- Kail recognises the latter objection in a footnote, giving an explicit response:
  - "Response: all this means is that the *Enquiry* affords a better case for realism. Realist readers ... view the *Enquiry* as superior to the *Treatise* with respect to the discussion of causation in this respect not least because the references to secret powers are more prominent, so such a move is not *ad hoc*. Those who prefer the first *Enquiry* to the *Treatise* thus have reason to take this as authoritative. (2007: 268 n. 26)
- This seems to accept that he cannot explain the argument in the *Treatise* or *Abstract*.

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- "Even in the midst of the discussion ... Hume's language, when treating of powers, sounds more naturally epistemic and sceptical than semantically restrictive and reductive:

... our faculties can never carry us farther in our *knowledge* of this relation than [constant conjunction] ... But though this conclusion concerning human *ignorance* ... we *know* nothing farther of causation of any kind." (2007: 266)

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## Kail's Defence (c)

- "in the midst of the discussion Hume is prepared to grant, for the sake of argument, power in matter, but that it makes no difference to the reconciliation. But if the reconciliation turned on the claim that no further thought is possible with regard to causation, even this small concession would violate this alleged central move. ... Here is an opportunity for him to reassert his alleged conclusion that no such ... thought is possible ... But he does not take this opportunity ..." (2007: 266)

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- But this passage from E 8.21, is not "in the midst of the discussion": it follows the main argument and is giving an error-theory as to why people naturally oppose his position.
- Moreover the next paragraph goes straight back to the semantic theme that has dominated most of the discussion:
  - "Better ... to ... try whether they can there form any idea of causation and necessity ... the whole of that necessity, which we conceive in matter ... as long as we will rashly suppose, that we have some farther idea ..."

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- Again, the intended passage (E 8.27), is not "in the midst of the discussion"; it comes later, with the distinctive purpose of arguing that the doctrine of necessity is "innocent".

"[some] maintain it possible to discover something farther in the operations of matter. But this, it must be acknowledged, can be of no consequence to morality or religion, whatever it may be to natural philosophy or metaphysics. We may here be mistaken in asserting, that there is no idea of any other necessity or connexion in the actions of body. But ..."

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## 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)

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## A Double Irony

- Kail (2007: 255) observes that "Realism construed as anti-reductionism regarding meaning and content is not only compatible with scepticism but appears to require it: a great irony for those who might object to realist readings of Hume by a blunt appeal to his scepticism."
- Indeed, but it is the *non-sceptical, pro-scientific* approach of Hume's discussions in "Of the Immateriality of the Soul" and "Of Liberty and Necessity" that give the most solid refutation of the claim that he holds such Causal Realism!

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## Conclusion

- The New Hume has little to recommend it.
- A la carte selection of texts and principles can be used to support any number of Humean readings, but only those that can make sense of the detailed flow of his arguments – and the systematic relations between them – are worth taking seriously.
- On causation, Hume's arguments seem to be quite unambiguously anti-Realist.

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