

HUMES OLD AND NEW

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HUMES OLD AND NEW: FOUR FASHIONABLE FALSEHOODS, AND ONE UNFASHIONABLE TRUTH

Hume has traditionally been understood as an inductive sceptic with positivist tendencies, reducing causation to regular succession and anticipating the modern distinctions between analytic and synthetic, deduction and induction. The dominant fashion in recent Hume scholarship is to reject all this, replacing the ‘Old Hume’ with various New alternatives. Here I aim to counter four of these revisionist readings, presenting instead a broadly traditional interpretation but with important nuances, based especially on Hume’s later works. He asked that we should treat these—notably the first *Enquiry*—as his authoritative philosophical statements, and with good reason.

I

Introduction. The contemporary student of Hume has every right to feel bewildered by the range of interpretations on offer. And this extraordinary variety is not confined to the murky depths of *Treatise* Book I—Hume’s discussions of the external world, or of personal identity, or the concluding section—where almost every commentator seems to find a new reading. Even in the far more familiar topics of induction and causation, which generations of scholars took to be relatively well understood, several would-be revolutions have been initiated over the last couple of decades, and their pace has been increasing. Helen Beebee’s excellent book *Hume on Causation* (London: Routledge, 2006) is only the latest of an impressive series of recent scholarly works, each presenting an interpretation that differs markedly from the classic Hume as portrayed for most of the twentieth century by introductory books and university courses: acknowledging deduction, sceptical about induction, reductionist about causation, and a paradigm soft determinist.

All these new debates are exciting, and have greatly enriched our understanding of Hume’s philosophy in many ways. But nevertheless I take what is currently a minority view amongst the active par-

ticipants, namely, that the classic picture of Hume is broadly correct. This is not to say that the revolutionary interpretations are groundless. On induction, for example, there really is a problem about reconciling a sceptical interpretation of Hume's famous argument (in *Treatise* 1.3.6 and *Enquiry* IV) with the positive view of inductive science that he takes elsewhere. And it is no longer considered plausible for commentators simply to dismiss as crude inconsistency his repeated recommendation that we should rigorously base our factual beliefs on experience, like 'the wise man' who 'proportions his belief to the evidence' (*Enquiry* 10.4) when judging miracle stories.¹ Similarly on causation, a crude anti-realist reading is no longer convincing, and any comprehensive understanding of Hume's philosophy has to be able to explain how, after presenting his seemingly sceptical account of our idea of *cause*, he can so soon follow up by urging us to search systematically for hidden underlying causes of both physical and mental phenomena (e.g. *Enquiry* 8.13–15, cf. *Treatise* 1.3.12.5). I believe such an understanding to be achievable, and that the overall picture of Hume that emerges is philosophically far more powerful than either the straightforward scepticism of the traditional reading or the relatively anaemic naturalism of more recent rivals.

There will not be time now to discuss even the broader features of this position, let alone to consider it in any detail. I shall focus instead on a more limited negative task, of sketching and then attacking four major 'Humean heresies' that have been advanced in recent years, and explaining—fairly briefly—why I think each of them should be dismissed. None of them will be given any sort of comprehensive treatment, but I shall try to give a flavour of what I consider to be the most damning points against them, together with references to other publications where these criticisms can be followed up. My aim is provide a generally sceptical overview of the relevant contemporary Hume scholarship, and—by blowing away some recently acquired cobwebs—to reveal a cleaned up, but still eminently recognizable, Old Hume that so many of us know and love.

¹ Compare Antony Flew (1961, p. 171): 'The inconsistency [is] flagrant and embarrassing ... [and] has not escaped the notice or the assault of his critics [e.g. Broad and Taylor].'

II

The Good Old Hume. To situate the discussions that follow, I shall start with an outline of what I take to be the genuine main themes of Hume's mature treatment of induction and causation; in other words, a sketch of the Old Hume as I believe he ought to be understood. To many of the new 'heretics', this may seem like a crude positivist caricature of the real Hume, but I shall make no attempt to defend it in detail. Instead, I shall use it as a framework for locating the various heresies, and a base from which I can set out to attack them.

The main thrust of Hume's theoretical philosophy concerns the epistemology of induction and the metaphysics of causation, which are closely related. His primary target is the view of reason taken by philosophers such as Descartes, who claimed to be able to establish certain knowledge of the world through rational insight based (at least in part) on innate ideas, and Locke, who more modestly sought to achieve probable belief through rational insight based on ideas derived from experience.² Hume denies that we have any such capacity for rational insight into the world and its workings. Instead we must rely on fallible inductive generalization from experience, ultimately based on the brute assumption—for which no rational foundation can be given—that the laws of nature are uniform. Though this assumption itself is instinctive rather than reasoned, it can nevertheless provide a sufficient grounding for science if we follow it through sys-

² Two positions I reject but cannot consider fully here are those of Stephen Buckle (2001), who sees Hume's *Enquiry* as primarily an attack on Aristotelianism and Roman Catholicism, and Edward Craig (1987), who takes Hume's main target to be the Judaeo-Christian idea of man as made in the image of God. One obvious objection to Buckle is that Hume, at least by 1748, viewed 'The fame of ... ARISTOTLE [as] utterly decayed' (*Enquiry* 1.4). Buckle ignores this passage, and his response to the objection (pp. 53–6) is unconvincing. Nor, as I argue in my (2002b) and (2007a), is there any difficulty in reading the *Enquiry* as systematically aimed at early modern targets, contrary to Buckle (pp. 35–43). Craig's position is more plausible, because it incorporates an evident truth: that a major part of Hume's aim is to attack a view of rational insight which was thought by its early modern adherents to be in some sense angelic or godlike rather than based on animal instinct. Where I part company with him is in seeing this view itself as specifically tied to the Image of God doctrine, or that doctrine as specially pervasive. Many philosophers, since pre-Christian times, have understood our reason to be a distinctively human faculty of perceptual insight, and nothing in Hume's main arguments against this notion requires reference to Craig's Similarity Thesis. I also consider Craig mistaken in viewing Hume's arguments, and that concerning induction in particular, as in any way taking for granted a deductivist view of reason, which as he points out (pp. 77–8) would favour his case. If, as I believe (2002c, §2), it is Locke's perceptual view of *probable* reason that was Hume's main target here, then for the same reason this counts strongly on the other side.

tematically. This involves weighing up evidence in the light of experience, preferring those beliefs that are best inductively supported, rejecting claims that are contrary to our experience (such as religious miracle stories), and generally seeking reliable causal uniformities that underlie the inconstant superficial phenomena. By this means we can distinguish reasonable from unreasonable belief, the ‘philosophy’ of the ‘wise’ from the ‘superstition’ of the ‘vulgar’, without any reliance on Cartesian or Lockean insight into the workings of the world.

There are two main threads to Hume’s ‘chief argument’ by which he reaches this overall position, and which is most thoroughly developed in the first *Enquiry*.³ The first of these starts from ‘Hume’s Fork’, his distinction between *relations of ideas* and *matters of fact*, which corresponds roughly to the distinction between analytic and synthetic propositions (as understood by the logical positivists, rather than by Kant or Frege). Closely related to this is another distinction, between two different types of reasoning: *demonstrative*, which we now call deduction (in the general informal sense of an argument whose premisses guarantee the truth of its conclusion), and *reasoning concerning matter of fact* (*factual reasoning* for short), which we now call induction. Since no ‘matter of fact, beyond the present testimony of our senses, or the records of our memory’ (*Enquiry* 4.3) can be inferred deductively from what we observe, only induction can enable us to discover such matters of fact. Hume accordingly investigates the epistemological basis of induction, finding that it ultimately depends on an animal instinct, *custom*, which irresistibly leads us to expect that unobserved objects will resemble those we have observed. This principle of resemblance or uniformity (often called his Uniformity Principle, or UP) has no possible basis in reason, because it is not intuitively evident, cannot be established on the basis of what we perceive, cannot be inferred deductively from anything that we have experienced, and cannot be inferred inductively without begging the question. Thus our factual inference not only *is not*, but *could not be*, founded on reason. And so were we to rely on reason ‘without the influence of custom, we should be

³ The full subtitle of Hume’s *Abstract of the Treatise* is ‘Wherein The CHIEF ARGUMENT of that BOOK is farther ILLUSTRATED and EXPLAINED’. Of the thirty-five paragraphs in the *Abstract*, only three (28–30) are devoted to material that falls outside the scope of the summary that follows here. Apart from the sections on religion and the final Section XII, the *Enquiry* broadly follows the pattern of the *Abstract*; see Millican (2002b, §7) for an outline comparison of the two.

entirely ignorant of every matter of fact beyond what is immediately present to our memory and senses' (*Enquiry* 5.6).

The second main thread of Hume's 'chief argument' starts from the conceptual empiricism which he inherited from Locke. Expressed in Hume's terminology, this becomes his Copy Principle that all ideas are composed of—and derive their significance from—material copied from impressions of sensation or reflection. He applies this Principle to convict some terms (e.g. 'substance') of meaninglessness, through lack of any appropriate impression to generate the supposed idea.⁴ In other cases, he searches for the impression-source of the idea to shed light on the corresponding term's meaning. The Copy Principle's most important application—which takes this second form—is to the idea of power, force, or necessary connexion, the key *consequential* component of the idea of causation.⁵ This turns out to be derived not from anything that we perceive or understand about causal interactions in the world (e.g. collisions of billiard balls), but instead from our reflexive awareness of making inductive inferences under the influence of custom in response to observed constant conjunctions. Thus causal necessity—in so far as it is anything beyond the constant conjunctions that induce our predictions—is not so much 'read off' the world, as 'read into' it. Hume concludes his discussion of causation with two 'definitions of cause', one of which makes reference only to the *objective* factor of constant conjunction, while the other focuses instead on the *subjective* factor of the mind's tendency to infer accordingly. These definitions are intended to encapsulate all that we can legitimately mean by 'cause' or 'necessity'.

So far this picture is very familiar, even though, as I have acknowledged, some might describe it as a positivist caricature rather than the real Hume. But rather less well known is how he goes on to connect one more important topic to his 'chief argument', namely, free will and determinism. Having framed his two definitions of 'cause', he

⁴ For Hume's discussions of the supposed simple idea of substance in the light of his Copy Principle, see especially *Treatise* 1.1.6 and 1.4.5.2–6, *Appendix* 11, *Abstract* 7 and 28, 'Of the Immortality of the Soul', paragraph 3 (*Essays*, p. 591), and *New Letters*, p. 20.

⁵ My term 'consequential' is intended to capture what is in common to terms such as 'power', 'force', and 'necessary connexion', in that all of them involve one thing's being, in some sense, a consequence of another. Hume treats them all as virtually synonymous for the purposes of his argument, which suggests that his concern is with this simple common element, whose impression-source turns out to be a different kind of consequential relation: 'that inference of the understanding, which is the only connexion, that we have any comprehension of' (*Enquiry* 8.25). For more on this, see §2.2 of my (2007b).

uses the corresponding understanding of ‘necessity’ to argue against the libertarian claim that human actions lack the necessity that characterizes physical events. He accordingly endorses the ‘doctrine of necessity’, but as a *soft determinist*, pursuing a compatibilist ‘reconciling project’ (*Enquiry* 8.23) that interprets moral freedom in terms of intentional agency rather than libertarian contingency. Much of this has Hobbesian echoes, but though Hume is often taken to be a paradigm compatibilist,⁶ his position is actually rather different from those in the mainstream compatibilist tradition passed from Hobbes down to twentieth-century positivists such as Schlick and Ayer.⁷

III

Four Fashionable ‘Heresies’ of Hume Interpretation. Non-specialists might be slightly surprised by the very approving attitude to inductive science that I have attributed to Hume (though mention of his discussion of miracles, and his emphatic contrast between science and superstition, might allay this). But in other respects, most of them would, I imagine, take the account that I have given above as more-or-less orthodox, and as describing—perhaps with some small refinements here or there—the standard Hume of so many introductory books and courses in epistemology and history of philosophy. Yet almost every fundamental aspect of it has been vigorously challenged in recent years, in a sequence of high-profile scholarly publications by numerous well-respected authors. Some of these have had to be confined here to brief footnotes, but the following are the four main ‘Humean heresies’ on which I shall focus:

Stove: Demonstration and Deduction. My account of Hume’s important distinction between *demonstrative* and *factual* reasoning equates

⁶ James Harris has recently challenged this soft determinist consensus, arguing that Hume ‘does not subscribe to determinism of any kind, whether Hobbesian or merely nomological’ (2005, p. 69, n. 15; cf. 2003, p. 464). Harris’s discussion is valuable but I believe this claim to be quite wrong, and in my (2008) pull together the relevant evidence from various sources, including letters, Hume’s discussions of the Causal Maxim and the Rules by which to Judge of Causes and Effects, his accounts of scientific practice and the search for hidden causes, and also a range of other texts and philosophical considerations.

⁷ For a very clear account of Hume’s position and how it is commonly misunderstood, see Botterill (2002).

it more or less with the familiar distinction between *deduction* (in the informal sense) and *induction*. But numerous interpreters over the last few decades have disputed this, claiming that Hume's notion of demonstration is confined to *deductive reasoning from a priori* (or even *self-evident*) *premisses*. Most influential here has been David Stove, whose *Probability and Hume's Inductive Scepticism* (1973) was widely considered for some time to be the most authoritative analysis of Hume on induction. Stove's arguments (pp. 35–6) against the equation of *demonstration* with *deduction* are still widely accepted, even by some (for example, David Owen and Helen Beebee) who nevertheless reject Stove's own account of Humean demonstration.

Garrett: Not Epistemology but Cognitive Science. Don Garrett's influential interpretation of Hume's famous argument concerning induction, proposed in his major book *Cognition and Commitment in Hume's Philosophy* (1997), takes it to be an exercise in cognitive science rather than epistemology. There are also some variations on this theme, developed by a range of scholars including Harold Noonan, David Owen and Helen Beebee, but what is common to all of them is the idea that Hume's argument is essentially *descriptive* rather than *normative*, and is intended to draw a conclusion about the *causation* of our inductive inferences (or of the resulting beliefs), rather than about their rationality. Thus the argument in itself is entirely non-sceptical, and its conclusion—that induction is not 'founded on reason'—should be read as merely denying that induction results from some psychological process of *reasoning* (i.e. stepwise argument or *ratiocination*). This leaves open the possibility that Hume may consider induction to be entirely rational, and indeed those who advocate this sort of interpretation are keen to emphasize that he does so.

Loeb: Hume the Externalist. Louis Loeb is strongly critical of Garrett's 'descriptivist' interpretation, but is motivated by somewhat similar considerations in viewing Hume's famous argument as non-sceptical. Loeb takes Hume to be an externalist, whose criterion of epistemic justification is based not so much on a belief's resulting from (internalist) reason, but rather, on its arising from a process that effectively contributes to the believer's cognitive *stability*. Loeb explored this approach in detail in his *Stability and Justification in Hume's Treatise* (2002), but other externalist interpretations have

also been tried, replacing stability as a criterion with such things as irresistibility, proper functioning, adaptiveness, or reliability (Loeb, 2006, p. 334).

Wright: The Causal Realist 'New Hume'. John Wright's *The Sceptical Realism of David Hume* (1983) was the first major salvo in the most intense debate in recent Hume scholarship, with his claim that Hume is not a reductionist about causation, but is instead a believer in 'thick' (or 'upper-case') Causal powers that outrun his two 'definitions of cause'. Evidence adduced in favour of this claim includes Hume's comments on the apparent defectiveness of those definitions, his frequent references to hidden powers or causes, and his apparent assumption that a genuine impression of necessity must license a priori inference from cause to effect. The main evidence on the other side appeals to the texts of his discussions 'Of the Idea of Necessary Connexion' in *Treatise* 1.3.14 and *Enquiry* VII, and in particular, Hume's apparent use of the Copy Principle to circumscribe the limits of our ideas and hence the possible meaning of 'power' or 'necessity'. Those following Wright's 'New Hume' revolution,⁸ such as Edward Craig, Galen Strawson, Stephen Buckle and Peter Kail, have sought to undermine this objection by insisting that Hume countenances 'relative ideas' (e.g. of 'the ultimate cause of any natural operation', *Enquiry* 4.12) which need not be impression-derived, and hence can extend beyond the limits of the Copy Principle.

That completes my catalogue of the four 'Humean heresies', all of which concern aspects of the central core of his philosophy on induction and causation. If the field were drawn more widely, it would be easy to add more would-be revolutionary readings, some equally surprising to traditionalists.⁹ But for fecundity of novel in-

⁸ The term 'New Hume' was originally due to Winkler (1991), but has since caught on more generally. Most of the main papers are to be found in *The New Hume Debate*, ed. Read and Richman, whose forthcoming second edition will also include a long paper of my own (2007b) in which I attempt a comprehensive refutation.

⁹ It was particularly tempting to include here John Earman's gratuitously abusive account (2000) of the famous argument on miracles, which is a direct application of Hume's philosophy of induction. I discuss Earman's interpretation in my (2003), but its inadequacy can quickly be shown. A careful reading of *Enquiry* 10.5–8 makes very clear that Hume sees the unusualness of a reported event as *one factor amongst others* bearing on the credibility of testimony. Where the other factors are all maximally favourable (so we have a 'proof' of the

terpretation in the most familiar philosophical territory, the last decade or two of scholarship on Hume's 'chief argument' would, I imagine, be hard to match.

IV

The Treatise, the Enquiry, and Induction. Besides these four recent 'Humean heresies', my subtitle alludes to 'one unfashionable truth', which I shall not defend in much detail but is of considerable significance. Namely, that in interpreting and assessing the central core of Hume's philosophy—his epistemology of induction and his metaphysics of causation—we must take the *Enquiry Concerning Human Understanding*, originally published in 1748 and revised numerous times during his life, as our authoritative source. Again I have argued extensively for this elsewhere,¹⁰ and will here just sketch my reasons. They start from the evidence of Hume's letters in the wake of the publication of Books I and II of the *Treatise*, which took place in January 1739. In these letters, starting barely four months later, Hume already expresses serious dissatisfaction with his work and regrets his haste in publishing; this message is then repeated through 1740 to 1745 and 1754, and even in his posthumous 'My Own Life' written in 1776. At first, Hume looks forward to making corrections in a second edition (*Letters*, i, 38), and indeed he inserted some revisions into the appendix published with Book

testimony), but the event would be miraculous (so we also have a 'proof' of its falsehood), we are to weigh these proofs against each other in the balance, and it is the result of this comparison that yields the overall judgement as to whether the testimony should be believed. Earman's interpretation, by contrast, involves the prior calculation of two overall judgements—namely the conditional probability (given the testimony) of the event, and of its absence—which are then put in the balance against each other. But since these two conditional probabilities must sum to 1, this reduces the weighing operation to a complete triviality: the first 'wins' simply if it exceeds 0.5, and a probability exceeding 0.5 is, by definition, precisely what is required to make the event credible. Trivial indeed, but the triviality is Earman's, not Hume's. In view of the regrettably insulting tone of Earman's book, I wonder why a reading of my (1993)—which appears in his bibliography (but nowhere else), explicitly anticipates his formula, and expresses serious reservations about its interpretative adequacy—did not inspire him with a little more of that 'degree of doubt, and caution, and modesty, which ... ought for ever to accompany a just reasoner' (*Enquiry* 12.24).

¹⁰ See for example my (1995, pp. 93–4; 2002b, pp. 40–52; and especially 2006).

III in November 1740 (plus a frank admission of defeat in respect of personal identity). Later he loses all interest in a second edition, and by 1754 is confiding that the *Treatise* ‘so much displeases me, that I have not Patience to review it’ (*Letters*, i, 187). Hume’s recasting of his philosophy instead took a different path, starting with the *Abstract* of the *Treatise*—probably composed late in 1739—in which his arguments get substantially reorganized and refocused. The *Abstract*’s subtitle declares its intended purpose of illustrating and explaining ‘the chief argument’ of the 1739 *Treatise* (see note 3 above). But since it closely anticipates the *Enquiry* both in approach and choice of material, we have good reason for taking the later work—which is of course far more substantial than the *Abstract*—as representing the main core of Hume’s philosophy not only as he saw it after 1748, but even as early as 1739. Moreover Hume’s attitude to the *Enquiry* after publication was in complete contrast with his attitude to the *Treatise*, as shown by his written recommendations to his friends, for example Gilbert Elliot in 1751:

I believe the philosophical Essays [i.e. the *Enquiry* as originally titled] contain every thing of consequence relating to the Understanding, which you would meet with in the *Treatise*; & I give you my Advice against reading the latter. (*Letters*, i, 158)

Nearly twenty-five years later, suffering from terminal cancer and anxiously preparing his philosophical legacy for posterity, he wrote to his printer William Strahan with the ‘Advertisement’ that he insisted should be affixed to all future editions of the volume containing the *Enquiry*. This famously refers to the *Treatise* as a ‘juvenile work’, and ends with the request: ‘Henceforth, the Author desires, that the following Pieces may alone be regarded as containing his philosophical sentiments and principles’.

No doubt Hume’s complete dismissal of his own *Treatise* goes too far, but this does not warrant that we should ignore his request in the wholesale way exhibited by so much work on Hume over recent decades. For it is very clear that on a number of the most prominent topics in his philosophy—for example induction, free will, natural theology, and the overall orientation of his scepticism—the *Enquiry* is not only more superficially polished, but is also more fully developed, explicit and comprehensive. This point is entirely obvious in respect of free will, miracles, the Design Argument, and his mitigat-

ed scepticism, so I shall take as my illustration the case of induction.

It is, I suggest, surprising and even perverse that so many of those who wish to understand Hume's famous argument concerning induction study it primarily in the pages of the *Treatise*, where it is somewhat convoluted and condensed beyond the limits of clarity, as opposed to the *Enquiry*, where it is far more explicitly spelt out and more than twice as long. In practice, such interpreters commonly find themselves obliged to smuggle in passages from the *Enquiry* to plaster over stages that are unclear or omitted from the *Treatise*. For example, the distinction between relations of ideas and matters of fact is a frequent import from *Enquiry* 4.1–2, brought in as a clarifying refinement of the distinction in *Treatise* 1.3.1 between the 'seven different kinds of philosophical relation'.¹¹ But other passages are often imported that have no such parallel in the *Treatise*, and sometimes even structural aspects of the *Enquiry* argument may be superimposed onto what purports to be an analysis of *Treatise* 1.3.6. In Barry Stroud's well-known book *Hume*, for example, shortly after introducing the 'Uniformity Principle', consideration is given to the various ways in which this Principle could be supported:

The uniformity principle cannot be established by observation alone, since it makes a claim about some things that are not, and have not been, observed. ... Therefore, any experiential justification for the uniformity principle must consist of a justified inference from what *has* been observed to the truth of that principle. (Stroud, 1977, pp. 54–5)

The trouble is that these stages of the argument are completely absent from the *Treatise* version. Instead, at *Treatise* 1.3.6.4, Hume's first statement of the Uniformity Principle is immediately followed by the sentence:

In order therefore to clear up this matter, let us consider all the arguments, upon which such a proposition may be suppos'd to be founded; and as these must be deriv'd either from *knowledge* or *probability*, let us cast our eye on each of these degrees of evidence, and see whether they afford any just conclusion of this nature.

He then moves on to dismiss demonstrative and probable reasoning as possible sources of foundation for the Uniformity Principle, and

¹¹ For example, in Noonan (1999, pp. 92–6).

thus concludes his main argument.¹² Hence he is clearly taking for granted here that if the Principle is to be established, then this must be on the basis of either a demonstrative argument (yielding *knowledge*) or a probable argument. In the *Enquiry*, by contrast, he explicitly includes the stages that Stroud takes to be implicit:

It is allowed on all hands, that there is no known connexion between the sensible qualities and the secret powers; and consequently, that the mind is not led to form such a conclusion concerning their constant and regular conjunction, by any thing which it knows of their nature. As to past *Experience*, it can be allowed to give *direct* and *certain* information of those precise objects only, and that precise period of time, which fell under its cognizance: But why this experience should be extended to future times, and to other objects, which, for aught we know, may be only in appearance similar; this is the main question on which I would insist. ... The connexion [from past to future] is not intuitive. There is required a medium, which may enable the mind to draw such an inference, if indeed it be drawn by reasoning and argument. (*Enquiry* 4.16)

Hume thus carefully rules out inference to the Uniformity Principle from anything that we can learn a priori through ‘the sensible qualities’ of bodies.¹³ He also emphasizes the additional point that there is no intuitively evident link between past and future occurrences, so that we require some ‘medium’ or intermediate step—hence some demonstrative or probable reasoning—if we are to have a basis for extrapolating from one to the other (he then goes on to dismiss both types of reasoning in the familiar way). In short, where the *Treatise* rules out only demonstrative and probable argument as potential grounds for the Uniformity Principle, the *Enquiry* deals also with sensation and intuition.

All this impacts quite directly on the interpretation of Hume’s famous argument, because one of the most popular recent heresies which I shall be discussing below, originally due to Don Garrett and then strongly promoted by Harold Noonan, holds that:

¹² The last of these passages, in which Hume presses the charge of circularity against any would-be inductive argument for the Principle, is immediately followed by a sentence beginning ‘Shou’d any one think to elude this argument ...’ (*Treatise* 1.3.6.8).

¹³ For detailed analysis of the *Enquiry* argument, see my (1995) and especially (2002c). §§3.2 and 10.2 of the latter discuss the nature and role of the Uniformity Principle, while §4.1 explicates the relevant Humean notion of ‘a priori’.

Hume should be interpreted ... as making a specific claim, within cognitive psychology, about the underlying causal mechanism that gives rise to inductive inferences: namely, that it is not itself dependent on any reasoning or inference. (Garrett, 2002, p. 333; cf. 1997, pp. 91–2)

Likewise David Owen, whose interpretation is in some respects followed by Helen Beebee, claims that Hume's fundamental concern is to rule out any possibility of *reasoning*—understood as ratiocination involving intermediate steps—that could underlie our inductive processes:

Hume ... is denying that [inductive] inferences can be explained as an activity of the faculty of reason conceived as functioning by the discovery of intermediate ideas ... (Owen, 1999, p. 132)

Both Garrett's analysis (1997, p. 82) and Owen's focus almost exclusively on the text of the *Treatise*, and both therefore ignore the wider scope of the *Enquiry* discussion, which as we have seen is not confined to argument by means of intermediate ideas. In the *Enquiry*, indeed, Hume does not even give overt priority to demonstrative and probable (i.e. 'moral') argument, since he moves on to consider them only after having ruled out sensation and intuition as potential sources of support for the Uniformity Principle. Consider now a passage from Hume's *Letter from a Gentleman to his friend in Edinburgh* (p. 22), composed in 1745 at exactly the time when he was working on the *Enquiry*:

It is common for Philosophers to distinguish the Kinds of Evidence into *intuitive*, *demonstrative*, *sensible*, and *moral*.

Is it coincidental that Hume's argument in *Enquiry* IV rules out exactly these four 'Kinds of Evidence' for the Uniformity Principle? I don't think so. But if he really does conceive his argument as ruling out *any kind of evidence* for the Principle, this puts a far more sceptical light on it than something like a mere denial that the Principle is 'dependent on ... reasoning ... conceived as functioning [through] intermediate ideas'. I would suggest, therefore, that the currently fashionable non-sceptical interpretations of Hume's argument derive much of their plausibility from their predominant reliance on the relatively cursory and crude version in the *Treatise*, and their neglect of the far more comprehensive, polished, and authoritative version in the *Enquiry*. Analysing the *Treatise* on induction—as on

much else—may be more fun for Hume scholars, precisely because its confusing (and sometimes confused) unclarity allows so much more scope for inventive new interpretation. But the widespread focus on it as Hume's supposedly authoritative text, against his explicit and oft-repeated wishes, and in the teeth of such clear evidence of the *Enquiry's* more systematic treatment of the issue, seems utterly indefensible.¹⁴

So much for my one unfashionable truth. Now let us move on to my four fashionable falsehoods.

V

What Does Hume Mean by 'Demonstrative'? Anyone who approaches Hume's texts having a basic familiarity with the standard distinctions of analytic philosophy is likely to be tempted to identify his notion of *demonstration* with what we now call *deduction*. Here of course I do not mean *formal* deduction; that would be most implausible given the informality of Hume's texts, and his contempt for the formal logic he knew. But his talk of 'demonstrative arguments' seems to map very easily onto our very familiar *informal* notion, of an argument whose premisses guarantee the truth of its conclusion.¹⁵ Yet a host of recent interpreters insist that any such identification would be mistaken,¹⁶ and most of these take Hume's notion of a demonstrative argument to be confined to deductive arguments with a priori, and perhaps even self-evident, premisses.

Two main pieces of evidence are usually given against the straightforward identification of Humean demonstration with de-

¹⁴ This is not to deny value in investigating 'the view of the *Treatise*' on its own terms and independently of any later thoughts that Hume might have had. But if the aim of such an investigation is genuinely to establish Hume's own view in early 1739—rather than merely to use the *Treatise* text as a platform for imaginative 'rational reconstruction'—then it is obvious that some of the very best evidence to be had lies in Hume's published texts of 1740 and 1748, which treat many of the same topics as the *Treatise*, and sometimes do so far more clearly and unambiguously.

¹⁵ Though it seems unlikely that Hume—with his dislike of the artificialities of formal logic—would have welcomed the somewhat paradoxical implications of the standard refinement of this informal notion, as an argument whose counterexample set is inconsistent. Hence I am unmoved by Owen's arguments that appeal to such considerations (1999, pp. 90–1).

¹⁶ See, for example, Garrett (1997, p. 87), Owen (1999, p. 87), Buckle (2001, p. 166), and Beebe (2006, p. 20). For references to earlier scholars (Beauchamp and Rosenberg, Gaskin, Passmore, and Stove) see my (2002c, p. 113, n. 36).

duction. First, the various passages in which he appears to say ‘that there can be no demonstrative arguments for any conclusion concerning matter of fact’ (Stove, 1973, p. 35). And secondly, his comments on the limited province of demonstration, most notably:

It seems to me, that the only objects of the abstract sciences or of demonstration are quantity and number, and that all attempts to extend this more perfect species of knowledge beyond these bounds are mere sophistry and illusion. (*Enquiry* 12.27)

If Hume believes that demonstrative arguments can lead only to pure mathematical truths, and never to matters of fact, then doesn’t that settle the question? Well, it would if he did believe these things, but in fact he doesn’t believe either of them. To start with, his reason for limiting the scope of useful demonstration to the realm of mathematics has nothing to do with *apriority*, but is instead a matter of *precise composition* of ideas. The quotation above continues:

As the component parts of quantity and number are entirely similar, their relations become intricate and involved [which enables us] to trace, by a variety of mediums, their equality or inequality, through their different appearances.

Non-mathematical ideas, by contrast, have no such identical component parts, so in attempting to reason demonstratively with them, ‘we can never advance farther ... than to observe this diversity’.

Notice, however, that in confining useful demonstrative argument to the realm of mathematics, Hume has not confined it only to *pure* mathematics. So the crucial test case has to be what he says about *applied* mathematics, in which the same precisely composed ideas are used, but within arguments whose premisses and conclusions concern the contingent world. I have elsewhere (2002c, pp. 133–4) taken as illustration the example of conservation of momentum at *Enquiry* 4.13, where Hume makes a point of emphasizing the contingency of that physical law. But for variety I shall here turn instead to the *Treatise*:

Mechanics are the art of regulating the motions of bodies *to some design’d end or purpose*; and the reason why we employ arithmetic in fixing the proportions of numbers, is only that we may discover the proportions of their influence and operation. A merchant is desirous of knowing the sum total of his accounts with any person: Why? but

that he may learn what sum will have the same *effects* in paying his debt, and going to market, as all the particular articles taken together. Abstract or demonstrative reasoning, therefore, never influences any of our actions, but only as it directs our judgment concerning causes and effects. (*Treatise* 2.3.3.2)

This looks pretty decisive: if demonstrative reasoning is applicable in this way to mechanics and accounting, then it's clearly not confined to the realm of a priori truths. Nor is it possible to weasel out of this by claiming that applied mathematics is somehow purely hypothetical and therefore a priori after all. First, such a manoeuvre is psychologically implausible: the merchant does not think 'If I owe her £60 plus £50 minus £20 then I owe her £90'.¹⁷ But even if he did, in drawing the conclusion that he in fact owes £90 by *modus ponens*, he is still applying demonstrative reasoning to yield a contingent truth.¹⁸

All this is just as well for Hume, because if he were to insist that demonstrative reasoning can only have a priori premisses and conclusions, then he would leave a massive lacuna in his logical taxonomy. He repeatedly insists that 'all reasonings may be divided into two kinds', namely *demonstrative* and *factual* (*Enquiry* 4.18, cf. *Treatise* 1.3.6.4, 2.3.3.2, 3.1.1.18), with the former proceeding on the basis of relations of ideas, and the latter on the basis of causal inference from experience. Moreover his argument concerning induction crucially depends on this claim, since he uses it to enumerate—with a view to elimination—'all the branches of hu-

¹⁷ Besides which, if the line between categorical and hypothetical reasoning is blurred in this way, then it becomes impossible to sustain the view that Hume distinguishes between arguments on the basis of the modal status of their premisses. An argument from one contingent premiss *P* to conclusion *Q* requires exactly the same logic as the corresponding argument with no contingent premiss and the conclusion *if P then Q*. Hume, I believe, would not distinguish between these, but those who hold that demonstrative reasoning is possible only from a priori premisses clearly must do so.

¹⁸ It seems deeply implausible to go to the extreme of denying that a simple application of *modus ponens* (if *P* then *Q*; *P*; therefore *Q*) or *modus tollens* (if *P* then *Q*; not-*Q*; therefore not-*P*) is demonstrative, purely on the grounds that *P* and *Q* themselves are contingent. Hume cannot consistently count such simple logical inference as 'reasoning concerning matter of fact' because it does not in any way depend on causation (cf. *Enquiry* 4.4), but it can hardly be ignored. Without it, Hume will be unable ever to draw a conclusion from any hypothetical piece of reasoning, even an application of *reductio ad absurdum*. For example, at *Treatise* 1.2.4.10 he talks of 'demonstrations from these very ideas to prove, that they are impossible'; but this sounds like a categorical rather than hypothetical conclusion. Note also the clear implication of this passage, that Hume doesn't in fact require the premisses of a demonstration to be *possibly* true, let alone *self-evidently* or *a priori* true.

man knowledge' (*Enquiry* 4.17) that might be thought to furnish an argument for the Uniformity Principle. But if demonstration is restricted to deduction from a priori or self-evident premisses, then his supposedly exhaustive taxonomy is manifestly incomplete, overlooking entirely any deductive argument from contingent premisses.¹⁹ This would be particularly egregious when his taxonomy is presented in the context of his discussion of inferences that may be drawn from a contingent premiss: 'such an object has always been attended with such an effect' (*Enquiry* 4.16). Hume has not lacked valiant defenders, going to great and elaborate lengths to save his system from disaster (e.g. Owen, 1999, pp. 87–112; Beebe, 2006, pp. 20–31), and one can learn much from their interesting discussions. But I believe their efforts to be entirely unnecessary: everything is much more straightforward if we simply identify 'demonstrative' with 'deductive', as generations of Hume's readers have been happy to do without a second thought.

That will do for the positive case, but how should we then respond to Stove's influential appeal to those familiar passages in which Hume appears to assert 'that there can be no demonstrative arguments for any conclusion concerning matter of fact'? Is he just flatly inconsistent? Well again, he might be if he were saying this, but in fact he never does. What he actually says is subtly different:

To form a clear idea of any thing [is] a refutation of any pretended demonstration against it. (*Treatise* 1.3.6.5)

[N]o matter of fact is capable of being demonstrated. (*Treatise* 3.1.1.18)

[W]herever a demonstration takes place, the contrary ... implies a contradiction. (*Abstract* 11)

What is possible can never be demonstrated to be false. (*Abstract* 14; cf. *Enquiry* 4.2)

[The contrary of a matter of fact] can never be proved false by any demonstrative argument or abstract reasoning a priori. (*Enquiry* 4.18)

¹⁹ Nor, as indicated in the previous note, can such deductions be classed as 'reasoning concerning matter of fact' on pain of even greater damage to Hume's system, since this would blow apart his fundamental claim that all factual inference is founded on causation and experience, on which he builds the core of his philosophy.

[M]atter[s] of fact and existence are evidently incapable of demonstration. (*Enquiry* 12.28)

To focus on this difference, note that even in our everyday speech, we would draw a clear distinction between ‘demonstrating Q ’ *tout court* and ‘demonstrating Q from P ’. And a similar point applies to what I claim to be our modern equivalent, ‘deductive proof’. If I provide a valid argument from P to Q , then I can legitimately claim to have deductively proved Q from P . But if my premiss P itself is controversial or uncertain, then it would be grossly misleading of me to claim on this basis to have deductively proved Q *tout court*. Applying this lesson to the Humean quotations above, there is no difficulty whatever for my interpretation in Hume’s denying that a matter of fact can be demonstrated *tout court*, or its contrary ‘proved false by any demonstrative argument ... a priori’. Neither of these denials implies any such bar on demonstrating one matter of fact *from another*. Nor, I believe, is there any significant problem in dealing with Hume’s claim that ‘the contrary [of a demonstration] implies a contradiction’. If the demonstration in question is a proof of Q from P , then its ‘contrary’ is not simply the negation of Q , but rather the conjunction of P with that negation. And again this conforms with our everyday understanding: if I claim that P necessarily implies Q , and you contradict me, then you are clearly asserting that (P and not Q) is a possibility.

To sum up, then, Hume’s notion of demonstration is best read in the most straightforward manner, as broadly equivalent to deduction (in the familiar informal sense). A successful demonstration is therefore a deductively valid argument, either from some hypothetical premiss(es) to a conclusion, or for a conclusion *tout court* (in which case any premisses must themselves be already certain). When Hume says that some proposition ‘cannot be demonstrated’, he invariably means the latter, as indeed would be expected from our own standard usage. All of Hume’s relevant texts can, I believe, be straightforwardly understood in this way, and—unless this claim can be refuted—I would conclude that the far more complex interpretations proposed by Owen and Beebe are entirely unwarranted.

VI

Hume's Epistemology of Induction. I have written at considerable length on Hume's argument concerning induction, and it would be impossible here to rehearse all the objections that can be brought against the now fashionable claim that his argument is primarily descriptive rather than normative.²⁰ Instead, I shall repeat a simple challenge to those who take this view: to account for the *logic* of that argument in terms consistent with their interpretation. This requires a clear statement of the argument's premisses and conclusion, an elucidation of the main concepts that play a significant role within it (such as the 'founded on' relation and the Uniformity Principle), and finally—most crucially—an explication of the argument's structure which demonstrates how its logical sequence is appropriate for getting from the premisses to the conclusion.

All this might seem obvious and unproblematic, but in fact working out such an account within a non-normative, descriptive interpretation is far from straightforward, and this challenge (which I first delivered six years ago in the presence of Don Garrett and David Owen) is so far unanswered. To illustrate the difficulties, I shall focus mainly on Owen's interpretation,²¹ according to which—as we saw earlier—the conclusion to Hume's argument can be glossed as follows:

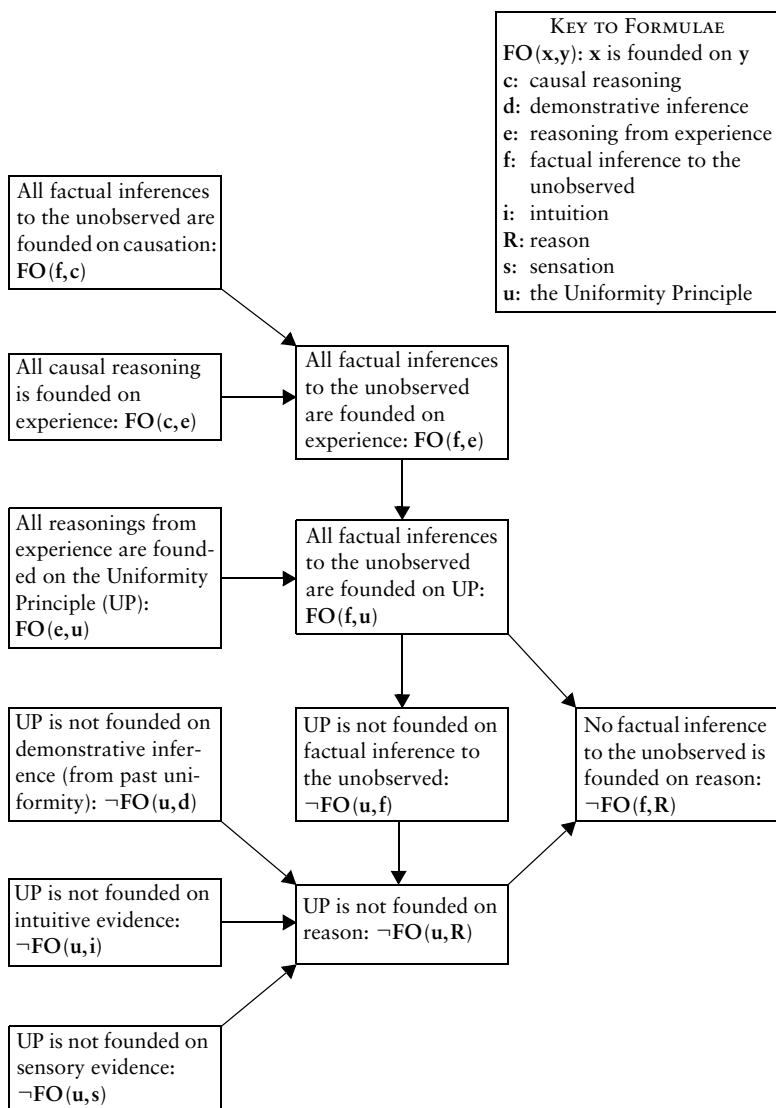
Hume ... is denying that [inductive] inferences can be explained as an activity of the faculty of reason conceived as functioning by the discovery of intermediate ideas ... (Owen, 1999, p. 132)

Hume's own stated conclusion is that factual inference is not 'founded on reason', so if Owen's interpretation is to work, 'X is founded on reason' must mean something like 'X is explicable in terms of ratiocination involving intermediate steps'. But consider now Hume's argument for this conclusion, which in broad outline,

²⁰ My 1995 paper gives detailed criticism of the old 'deductivist' (e.g. Stove) and 'anti-deductivist' (e.g. Beauchamp) interpretations, whereas (2002c) focuses more on Garrett and Owen, incorporating criticisms sketched originally in my PhD thesis of 1996 and presented at greater length in my (1998). Various of these later criticisms are collated, supplemented, and summarized very effectively by Loeb (2006, pp. 324–30). The challenge mentioned below is first presented at the end of my (2001), and then repeated in (2002c, §10.3).

²¹ For more detailed criticism of a similar kind focusing on Garrett's interpretation, see my (1998; 2002c, pp. 157–60).

and on detailed textual grounds, I take to have the logical structure shown below:²²



²² See my (2002c, pp. 146–7) or pp. 170–3 for a more detailed analysis which is built up between pp. 120–39.

Suppose (though this is far from obvious) that Owen is able to explain all of this argument up to the final stage, and let us put to one side the query hinted at earlier, of why on his account Hume should show any interest in whether or not the Uniformity Principle can be founded on sensory or intuitive evidence (neither of which essentially involves intermediate ideas). The remaining problem is then to justify the concluding step:

All factual inferences to the unobserved are founded on UP.
UP is not founded on reason.

∴ No factual inference to the unobserved is founded on reason.

On Owen's account, recall, 'founded on reason' means roughly 'explicable in terms of ratiocination involving intermediate steps', and hence 'founded on the Uniformity Principle' presumably means something like 'explicable in terms of the Uniformity Principle'. But the mystery here is why Hume should then see this step as valid. Compare, for example, the following two short arguments:

David's only surviving parent is Katherine.
Katherine has no surviving ancestors.

∴ David has no surviving ancestors.

This is plainly invalid, because Katherine herself—if alive—furnishes David with a surviving ancestor, even though she has none herself.²³

Factual inference *F* is explicable in terms of UP.
UP is not explicable in terms of ratiocination involving
intermediate steps.

∴ Factual inference *F* is not explicable in terms of ratiocination involving intermediate steps.

²³ The argument is also invalid for another reason, since David's dead father could yet have surviving ancestors. This too provides some analogy to the argument that follows, if factual inference *F* is explained by UP together with some other proposition *P* which is itself explicable in terms of ratiocination. Here, however, I shall ignore this further difficulty for the Owen/Garrett/Noonan account.

If a factual inference F is founded on UP, then UP presumably plays some role in explaining F . Suppose that role is precisely to serve as an intermediate step by which F functions (so we might call UP a ‘parent’ proposition for F ’s conclusion). Clearly this is not in any way ruled out by the premiss that UP itself has no such intermediate-involving explanation (i.e. no ‘parent’ proposition of its own). On Owen’s account, therefore, this argument is as invalid as the previous one, and it is left completely obscure why Hume should take for granted that a lack of *inferential* foundation for UP itself should then be ‘inherited’ by conclusions that are themselves *inferred* on the basis of UP.

Exactly the same sort of inheritance difficulty arises on the account of Garrett and Noonan, who interpret ‘ X is founded on reason’ as (roughly) ‘ X is caused by argument’. For the fact—if it be one—that a belief in UP is not caused by argument cannot prevent UP from itself featuring in an argument that causes some *further* belief. UP could be a whimsey, an innate prejudice, a God-given instinctive belief, or whatever: none of this would a priori prevent it from playing a role in argument for *other* propositions. So the entire structure of Hume’s argument is rendered inexplicable on this interpretation: we have been given no apparent reason why the foundation of the Uniformity Principle itself should be thought to have any direct relevance to the question supposedly at issue (i.e. whether individual factual inferences are ‘caused by argument’). The only recourse seems to be to appeal to very un-Humean rationalist prejudices, such as those expressed by Noonan, who recognizes the problem and attempts to address it:

We could not be caused to engage in the practice of inductive inference by our acceptance of an argument, a premiss of which was the Uniformity Principle, unless we also had available an argument *for* the Uniformity Principle (for we could not believe in the Uniformity Principle, antecedently to acquiring a disposition to engage in inductive inference, except on the basis of argument). (Noonan, 1999, pp. 119–20)

But where has Hume given any rationale whatever for saying that ‘we could not believe in the Uniformity Principle ... except on the basis of argument’? Surely one of the main points of his philosophy is precisely that we *do*, and *have to*, take that Principle for granted all the time, even though it has no independent foundation! The

same objection can be made against Owen, and—with a caveat to be discussed in §VII below—against Beebee:

[S]ince [the Uniformity Principle] is neither intuited nor sensed, then if it is available to us at all, it must be known demonstratively or believed as a result of probable reasoning. (Owen, 1999, p. 129)

We cannot know *a priori* ... that unobserved instances resemble observed instances ... Nor can we come to *believe* [this] Uniformity Principle without employing causal reasoning. (Beebee, 2006, p. 44)

Such interpretations are thus forced to turn Hume into a twofold rationalist about the human mind. First, he thinks that we can only come to have belief in the Uniformity Principle on some (at least quasi-) rational basis: it cannot just be the causal result of a brute instinct, a whimsy, or whatever. Secondly, he can supposedly tell *a priori* that this must be the case: in framing his discussion of induction, he is apparently purporting to have *a priori* knowledge of the mind's causal processes!

This entire problem disappears if 'X is founded on Y' is interpreted *normatively* rather than just causally, as involving *the derivation of rational authority* (an interpretation I justify at length in my 2001 and 2002c, §10.1). For it seems clear that a proposition can pass on rational authority to its 'inheritors' only if it has such authority itself. The final stage of Hume's argument then becomes the plainly valid:

Factual inferences to the unobserved derive whatever authority they possess from UP.
UP has no authority derived from reason.

∴ No factual inference to the unobserved has authority derived from reason.

But any such normative interpretation will make the negative conclusion of the argument, at least to some extent, sceptical.²⁴ To sum

²⁴ Beebee (2006) is non-committal regarding the nature of Hume's conclusion, but she instances Owen's and Garrett's interpretations as illustrating 'that Hume's remarks about our not being "determin'd by reason" to infer from causes to effects are perfectly consistent with the claim that he is no inductive sceptic' (p. 40). If my argument here is successful, however, their interpretations fail to provide any such illustration.

up, proponents of the recently fashionable non-sceptical readings of Hume's famous argument have apparently tended to assume that its logic can survive transposition from a normative to a descriptive key. But it is far from clear that this is the case, and the challenge remains.

VII

Humean Externalism? Very recently yet another novel interpretation of Hume on induction has been proposed by Louis Loeb, sharing some interesting features with Helen Beebe's discussion. Loeb endorses the criticisms I have made of what he calls the 'descriptivist' readings of Hume, but he is anxious also to avoid any sceptical interpretation, given the manifest and widespread evidence that Hume is committed to inductive science. Loeb finds a surprising middle way between these two extremes, by suggesting that Hume is a non-sceptical *externalist*, who takes for granted from the start that induction is epistemically justified, and indeed sees that as part of what is to be explained:

Does recognition of the epistemic character of [*Treatise* 1.3.6] saddle us with the skeptical interpretation ... after all? It would, if Hume thought that a belief is justified only if it is supported or supportable by good argument. Roughly speaking, this is an *internalist* assumption. ... In light of the massive evidence that Hume is not a skeptic about induction, he must reject this internalist way of thinking. (Loeb, 2006, p. 333)

The linchpin in my interpretation is ... [that Hume] incorporates this positive epistemic status into his description of the subject matter under investigation. ... [T]he assumption that inductive inference is justified is part and parcel of the *phenomenon under investigation* ... (Loeb, 2006, pp. 330–1)

Helen Beebe hints at a somewhat similar approach, though without stressing any externalist implications:

Hume's argumentative method in his discussion of the Uniformity Principle *presupposes* that causal reasoning is 'just' reasoning. After all, why should we think that the Uniformity Principle depends on the relation between causes and effects, as Hume claims? Because that relation is

‘the only one, on which we can found a *just* inference from one object to another’ ... if he did not think that causal reasoning is ‘just’ inference ... he would not be in a position to claim that the Uniformity Principle depends on causal reasoning, since there are many other possible sources of the principle (see Millican 2002[c]: 157–8). ... Presumably Hume ignores [these] other possible sources ... because they *manifestly* do not provide a ‘just’ way of inferring effects from causes. ... The upshot of all this is that Hume is not *solely* concerned with the genetic question [of the causal basis of our inductive beliefs]. ... But it does not follow that he is interested in whether or not causal reasoning can be justified. On the contrary: it is his *assumption* that causal reasoning is just reasoning that explains this omission. (Beebe, 2006, pp. 55–6)

This is an ingenious way of attempting to square the circle, by introducing normative constraints into a discussion whose upshot is nevertheless seen as descriptive. If we can take for granted from the start that the causal explanation of inductive inference must render it epistemically justified, then this will indeed restrict the range of acceptable explanations to those that satisfy normative requirements, and thus evade the objections of §VI above which devastate a purely ‘descriptivist’ approach.²⁵

But there is, I suggest, an elephant in the room, namely, the clearly negative thrust of Hume’s argument, which delivers no such epistemically satisfying explanation, and indeed appears to rule out the very possibility. Having identified the Uniformity Principle as the essential prerequisite for any rational foundation of factual inference, Hume then explicitly and systematically eliminates any possible rational foundation for the Uniformity Principle itself,²⁶ and he goes on to draw the natural conclusion, that factual inference lacks any

²⁵ Perhaps there is space—at least on Beebe’s account—for taking Hume to be merely seeking a causal explanation that does not *conflict* with its being epistemically justified. Then the idea would be that normative constraints enter into his famous argument because explanation in terms of a Uniformity Principle that is founded on whimsy or innate prejudice (etc.) would be ruled out. However this seems rather implausible: *if* Hume can accept that induction is somehow justified, in a way that does not depend *at all* on rational considerations, then why should the involvement of *faulty* rational considerations undermine this? The point is particularly clear if we consider the possibility that the Uniformity Principle might be a natural belief providentially implanted by God. It is hard to envisage a conception of justification which would, on the one hand, rule out reliance on any such natural belief as incompatible with justification, but on the other hand, accept that induction is nevertheless justified in some way that doesn’t depend on our use of reason. An externalist could not do the former, and an internalist could not do the latter.

²⁶ Again, this is particularly clear in the *Enquiry* version of the argument: see §IV above.

foundation in reason. Nothing here suggests that he is taking for granted that factual inference is justified; quite the reverse. And at least in the *Enquiry*, he entitles his section ‘Sceptical Doubts Concerning the Operations of the Understanding’, and later refers back to his argument as containing ‘*philosophical* objections’ that give ‘the sceptic ... ample matter of triumph’ (*Enquiry* 12.22). Even Hume’s ultimate appeal to custom—the ‘Sceptical Solution’ to his ‘Sceptical Doubts’—seems an unlikely candidate as an explanation intended to deliver epistemic justification:

[N]othing leads us to this inference but custom or a certain instinct of our nature; which it is indeed difficult to resist, but which, like other instincts, may be fallacious and deceitful. (*Enquiry* 12.23)

Hume is clearly aware that custom’s having served us well in the past gives no guarantee whatever for the future. So even if he is tempted towards externalist considerations in pondering custom’s *past* success (e.g. in delivering apparent truth, reliability or stability to our beliefs), he cannot extrapolate these into the future and commend custom on that basis, unless he is *already* under the spell of inductive convictions. He is, of course, under this spell: he does, in fact, firmly believe that the future will resemble the past, that the same causal laws will continue to operate, and that custom will continue to be reliable. But if the future externalist sanction of custom depends entirely on the truth of this inductive belief, then what benefit does that hypothetical sanction bring? The epistemic problem that Hume seems to be addressing is why we should be justified in believing anything about the *future*, in advance of knowing how well custom will serve us. If this is his agenda, then any appeal to custom’s externalist virtues ‘must be evidently going in a circle, and taking that for granted, which is the very point in question’ (*Enquiry* 4.19).

All this suggests that externalism is ill-suited to providing what Hume—on these interpretations—is supposed to be looking for: an account of induction that explains why it is epistemically justified. There seems to be something peculiarly problematic about appealing to externalism to justify induction (as opposed to perception, say, or even specific inductive beliefs), since any inference to induction’s *enduring* reliability, truth, stability, or whatever, presupposes *exactly* the point in question. Some have suggested that the problem

might be tractable by using second-order inductive arguments to justify first-order induction from an externalist perspective (see Lipton, 2000). But given how uncompromisingly Hume dismisses as circular the *Enquiry* 4.21 argument from past regularity of powers to future powers, I find the attribution of any such viewpoint to him deeply implausible. It is also, I would suggest, quite unnecessary.

As we have seen, Loeb attributes externalism to Hume on the ground that it is the only way of resolving what would otherwise be a contradiction, between the sceptical internalism of his famous argument, and his positive attitude to inductive science. But this is not the only option left, nor is it the best. Far simpler is to allow Hume to build *directly* on his basic inductive belief that the world is uniform, the same belief that an externalist Hume *must* appeal to anyway to get his account off the ground. If Hume is right to say that we cannot help having this belief, then even if his sceptical argument succeeds in denying it any rational foundation, the plain fact is that we are stuck with it. Well, if we are stuck with it, then let us at least reason consistently on that basis, for consistency is clearly a rational virtue. ‘But why should there be any virtue in being consistent with a totally unjustified belief?’ That response misses the point by ignoring our genuine doxastic immersion: if we really *believe* that the world is uniform, then in seeking consistency with that belief, we are motivated by consistency with what we take to be *true*. That, at any rate, is surely a paradigm internalist epistemic virtue.

In short, there is available to Hume a straightforward way of reconciling his sceptical argument with inductive science, without compromising the scepticism, and without having to take on board any interpretatively implausible (and surely anachronistic) externalism. Now is not the time to explore this further, but I believe it can provide the basis for a persuasive account of Hume’s epistemology and philosophy of science, especially as portrayed in his *Enquiry Concerning Human Understanding*.²⁷

²⁷ For much more on this, see Millican (2002b; 2002c, §§ 11–12; 2007a). My new edition of the *Enquiry*, Hume (2007), is informed by this perspective, and has the aim of explicating the work as a thoroughly coherent and self-contained presentation of Hume’s core philosophy, responding to the historical context explained in the edition’s Introduction.

VIII

The New Hume, Liberty, and Necessity. The contentious and sometimes heated ‘New Hume’ debate over Hume’s metaphysics of causation is far too big to take on comprehensively here, but in my survey of prominent ‘Humean heresies’ it could hardly be overlooked. Having recently written a substantial discussion of the debate as a whole—coming down strongly on the ‘Old Hume’ side—I shall make do with referring readers to that for most of the issues (2007b), and focus here on just one: the vital, but generally ignored, connections with Hume’s treatment of ‘liberty and necessity’, or as we call it today, ‘free will and determinism’.

This crucial finale of Hume’s ‘chief argument’ is presented first in two sections of Book II of the *Treatise*, is given no fewer than four paragraphs in the *Abstract*, and constitutes the principal subject-matter of the longest section of the *Enquiry*.²⁸ Moreover it involves the only clear and repeated application of Hume’s two ‘definitions of cause’, which are amongst the most famous passages in his entire corpus. In the *Enquiry*, this link is explicitly highlighted by the positioning and naming of the relevant sections, with the two definitions occurring in the penultimate paragraph of Section VII, ‘Of the Idea of Necessary Connexion’, and their application being explained in the first six paragraphs of Section VIII, ‘Of Liberty and Necessity’. Yet most students of Hume’s philosophy are taught about his views on causation without any mention of this crucial argument, and it is commonly omitted completely from books on his philosophy. Most surprising of all, it has even been generally overlooked in the literature of the recent New Hume debate, even though the main topic of that debate is precisely the interpretation of Hume’s views on causation and necessity!²⁹ Such is the impact of what I consider to be the lopsided enduring focus on the text and topics of *Treatise* Book I to the exclusion of Hume’s more mature philosophical works, in clear violation—as we saw in §IV above—of his explicit and settled wishes.

²⁸ At least as measured by body text, though Section X is longer if the note on Jansenist miracles is included. Both of these sections are significantly longer than any other, together making up over 30% of the *Enquiry* text.

²⁹ In Read and Richman’s collection *The New Hume Debate*, for example, not one of the authors mentions the role of the two definitions in Hume’s argument on liberty and necessity, and only Winkler (1991, pp. 73–4) even refers to their occurrence there.

Hume's key argument concerning liberty and necessity is very explicit, straightforward, and logical, and it is consistent in all three presentations, though its main stages appear at various places and sometimes differently ordered:³⁰

- (1) A cause may be defined in one of two ways:
either 'an object, followed by another, and where all the objects, similar to the first, are followed by objects similar to the second'
or 'an object followed by another, and whose appearance always conveys the thought to that other' (*Enquiry* 7.29; cf. *Treatise* 1.3.14.31, *Abstract* 32).
- (2) 'Necessity may be defined two ways, conformably to the two definitions of *cause*, of which it makes an essential part. It consists
either in the constant conjunction of like objects
or in the inference of the understanding from one object to another' (*Enquiry* 8.27; cf. *Treatise* 2.3.1.4, *Treatise* 2.3.2.4, *Abstract* 32, *Enquiry* 8.5).
- (3) 'These two circumstances form the whole of that necessity, which we ascribe to matter. Beyond the constant *conjunction* of similar objects, and the consequent *inference* from one to the other, we have no notion of any necessity, or connexion' (*Enquiry* 8.5; cf. *Treatise* 1.4.14.33, *Enquiry* 8.21–2).
- (4) 'If it appear, therefore, that all mankind have ever allowed ... that these two circumstances take place in the voluntary actions of men, and in the operations of the mind; it must follow, that all mankind have ever agreed in the doctrine of necessity' [i.e. the doctrine that determinism applies to human actions and the mind's operations, just as it does to material things] (*Enquiry* 8.6; cf. *Treatise* 2.3.1.3).

³⁰ In particular, the argument occurs twice both in the *Treatise* and the *Enquiry*, first to make the case as presented here, and then relatively briefly (*Treatise* 2.3.2.4, *Enquiry* 8.27) with a different emphasis, to remove an objection based on its supposed pernicious consequences. In this second occurrence, Hume's concern is to show that the necessity he ascribes to the mind is 'innocent', neither conflicting with 'orthodoxy' nor undermining morality. So here he stresses the apparent relative mildness of his notion of necessity, rather than the central point of his argument that this notion of necessity is the only one available.

- (5) '[I]t appears, not only that the conjunction between motives and voluntary actions is as regular and uniform, as that between the cause and effect in any part of nature; but also that this regular conjunction has been universally acknowledged among mankind' (*Enquiry* 8.16; cf. *Treatise* 2.3.1.16, *Treatise* 2.3.2.4, *Abstract* 32, *Enquiry* 8.27).
- (6) '[T]his experienced uniformity in human actions, is a source, whence we draw *inferences* concerning them ... this experimental inference and reasoning concerning the actions of others enters so much into human life, that no man, while awake, is ever a moment without employing it' (*Enquiry* 8.16–17; cf. *Treatise* 2.3.1.17, *Treatise* 2.3.2.4, *Abstract* 33, *Enquiry* 8.18–20, *Enquiry* 8.27).
- (7) 'It may ... perhaps, be pretended, that the mind can perceive, in the operations of matter, some farther connexion between the cause and effect; and a connexion that has not place in the voluntary actions of intelligent beings' (*Enquiry* 8.21; cf. *Enquiry* 8.27, *Treatise* 2.3.2.4, *Abstract* 34).
- (8) But the mind cannot even frame an idea of any such farther connexion: 'a constant conjunction of objects, and subsequent inference of the mind from one to another ... form, in reality, the whole of that necessity which we conceive in matter', and 'there is no idea of any other necessity or connexion in the actions of body' (*Enquiry* 8.22 and 8.27; cf. *Treatise* 2.3.2.4, *Abstract* 34).

These last four stages are elegantly summarized in the *Abstract* (34):

[T]he most zealous advocates for 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.

Note that here Hume is explicitly appealing to the limits of coherent thought, as revealed by his search for the impression of necessary connexion, and summarized at stage (3):

Beyond the constant *conjunction* of similar objects, and the consequent *inference* from one to the other, we have no notion of any necessity, or connexion.

Thus his libertarian opponent, in supposing that ‘the actions of matter’ involve some objective necessity that outruns the Humean definitions, is trying to think the unthinkable.

This simple argument, is—it seems to me—a torpedo into the core of the New Humeans’ position, for Hume is here denying exactly what they assert, namely, that we can coherently ascribe to things some kind of ‘upper-case’ Causation or ‘thick’ necessity that goes beyond his two definitions. If we could indeed do this, then the libertarian would be able to ascribe that thick necessity to matter but not to minds, and thus undermine Hume’s claim of equivalence between the necessity of the two domains, which is the entire point of his argument. Nor can there be any serious doubt about his intentions here: the argument occurs in the *Treatise*, the *Abstract* and the *Enquiry*, and it is the principal application of his two definitions in all three of these works. Those definitions are clearly intended precisely for this role, and it is a role that requires them to be interpreted *semantically* rather than merely *epistemologically*: as constraining what we are able to *mean* or coherently refer to. Thus we can completely invert the typical New Humean claim, that we should ‘view Hume’s talk about “meaning” as meaning “acquaintance with”, as opposed to “thinkable content”’ (Kail, 2001, p. 39). To the contrary: when Hume tells us that he plans to give ‘a precise definition of cause and effect’ to ‘fix their meaning’ (*Treatise* 1.3.14.30), he is preparing the ground for one of his most important arguments, which turns crucially on the use of his definitions to circumscribe the limits of our thinkable content.³¹

³¹ In the *Treatise* there is another important argument that rarely gets into the standard textbooks, in the long section ‘Of the Immateriality of the Soul’. This is an attack on those who claim that thinking matter is impossible (usually with a theological agenda, cf. my 2007a, §6), and again appeals to Hume’s analysis of causation. Having argued ‘that all objects, which are found to be constantly conjoin’d, are upon that account alone to be regarded as causes and effects’, he draws the corollary ‘that for aught we can determine by the mere ideas, any thing may be the cause or effect of any thing’ (1.4.5.32). This then clears the way for concluding that ‘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’ (1.4.5.33). Here Hume’s underlying project is much the same as in his discussion of liberty and necessity: to bring the mental realm within the reach of causal explanation and thus open the way for systematic inductive moral science, in opposition to aprioristic metaphysics or superstition.

IX

Conclusion: Hume and Inductive Science. I started by declaring my allegiance to an ‘Old Hume’ who is sceptical about induction, reductionist about causation, soft determinist about free will, and who acknowledges (more or less) the same fundamental logical distinctions that would have been familiar to a twentieth-century positivist: between analytic and synthetic propositions (i.e. relations of ideas and matters of fact), and between deduction and induction (i.e. demonstrative and factual reasoning). But despite all this agreement with interpretative tradition, it is probably clear by now that my picture of Hume’s philosophy is in other respects very different from the classic sceptical caricature. Here the most crucial need is to get a balanced view of Hume’s ‘scepticism’ about induction. On the one hand, I have insisted—against Garrett, Owen, Noonan and Beebee—that Hume’s famous argument on the matter is *genuinely* sceptical, and I have rejected Loeb’s suggestion that he is an externalist. But it would be quite wrong to conclude from this that, as Loeb would imply, the only logical space remaining is that of the traditional indiscriminating sceptic for whom (in Stroud’s delightful phrase) ‘as far as the competition for degrees of reasonableness is concerned, all possible beliefs about the unobserved are tied for last place’ (1977, p. 54). Indeed it is this false dichotomy—the assumption that Hume’s attitude to induction must either be totally sceptical, or totally non-sceptical—that lies behind so many distorted interpretations of his philosophy.

The key to Hume’s attitude is to focus clearly on what his sceptical argument is attacking, and I have argued at length elsewhere (2002c) that his primary target is Locke’s view of probable reasoning as founded on rational *perception*. Hume obliterates this target, by proving that our inductive inferences must all take for granted something that cannot be rationally perceived, namely, that the past is a guide to the future (or more precisely, that the behaviour of things we have observed is *positively evidentially relevant* to the behaviour of things we have not observed). So far, Hume’s argument is indeed purely sceptical, but he does not rest there. Because his result is so fundamental, impacting on all our beliefs that outrun the narrow reach of our senses and memory, he has no option but to move beyond it, and nor do we. Here a reasoned pragmatic argument can

be given, on the basis that accepting some beliefs is better than rejecting all. But in practice any such strategic deliberation is unnecessary, because a far more pressing pragmatic factor comes into play. The instinctive mechanism of *custom*, though not in any way supplying the rational perception that Locke had taken for granted as a requirement for rational belief, steps into the breach and leaves us psychologically unable to refrain from forming beliefs about the unobserved.

Having identified custom as the ‘sceptical solution’ to his ‘sceptical doubts’, Hume’s procedure is to follow through its demands systematically. If we cannot help making judgements and forming beliefs on the basis of conformity with our past experience, then we can at least be discriminating in applying this standard.³² We can also dismiss aprioristic metaphysics, since only experience can receive custom’s endorsement. The best illustration of Hume’s application of this technique is to the case of miracles, which is yet another very important section of his philosophy that is all too frequently neglected in discussions of his epistemology, partly because it had the misfortune to be removed from *Treatise* Book I when Hume ‘castrated’ that work shortly before publication.³³ What Hume first does in this case is to emphasize that testimony lacks any a priori warrant, its strength being derived from the inductive force of custom. Thus the religionist’s own belief in a miracle is itself implicitly founded on custom, in so far as experience tells in favour of the credibility of the reporting witnesses. Against this, Hume now sets the countervailing inductive evidence of nature’s lawlike uniformity, together with a range of observations that highlight the relative empirical unreliability of testimony (especially when religiously inspired). Whether all this can succeed as a way of vindicating empirical science over superstition can, of course, be debated. But I think it is very clear that Hume himself was committed to something like this strategy, which is sufficient to refute that pervasive false dichotomy which has for so long bedevilled his interpreters. The key to understanding Hume is to appreciate that he is *both* deeply sceptical about induction (in a sense), *and* totally committed to inductive science.

³² As I have sketched in response to Loeb in §VII above, such a prescription can perfectly well be supported by appeal to rational considerations that are conventionally internalist.

³³ See *New Letters*, p. 2 and Millican (2002b, p. 34).

A somewhat similar conclusion can be drawn about his view of causation, though the case for this must be made elsewhere (cf. my 2007b). On the one hand, Hume is deeply sceptical about what causation is usually taken to be, and he denies even the meaningfulness of anything that purports to go beyond functional relations of regular succession and our corresponding tendency to make customary inferences.³⁴ On the other hand, and as in the case of induction, this negative result makes room for a positive thesis, that causation—*genuine causation*—is to be understood in accordance with his two definitions, and that we should apply it accordingly. Hence his unequivocal recommendation ‘that all objects, which are found to be constantly conjoin’d, are upon that account alone to be regarded as causes and effects’ (I.4.5.32). This is central to much of his mature philosophy, for as we saw in §VIII above, it is the basis for his insistence that deterministic causal laws are as applicable to the moral world as to the natural, and thus paves the way for his advocacy of inductive moral science.

Hume’s philosophy involves a delicate balance between science and scepticism, which play complementary roles in his overall project: on the one hand to promote systematic inductive investigation of man and nature, and on the other hand, to undermine any would-be alternative way of understanding the world, whether through aprioristic metaphysics or religious doctrine. These themes—both positive and negative—dominate most of his philosophical writings, from the *Essays* whose publication began in 1741, through the first *Enquiry* in 1748, the *Four Dissertations* and especially the *Natural History of Religion* of 1757, and ultimately the *Dialogues Concerning Natural Religion* which Hume prepared for publication on his deathbed. They are also pervasive in the *Treatise*, though not so emphasized or clearly developed, presumably because in that ‘juvenile work’ Hume had yet to clarify the main focus of his thought. ‘Carry’d away by the Heat of Youth & Invention’ (*Letters*, i, 158), he could not resist packing his work with fascinating but confusing lines of thought on other topics, including his du-

³⁴ The phrase ‘functional relations of regular succession’ is intended to take into account Hume’s full recognition that scientific causal laws tend to be framed in terms of complex mathematical relationships involving quantitative forces (e.g. *Enquiry* 4.13, 7.25 n.16, 7.29 n.17), rather than just the simple ‘constant conjunctions’ on which he tends to focus in his discussions. For more on this, see my (2002c, §9.2) and especially (2007b, §3.2).

biously aprioristic discussions of space and time, and those famously obscure arguments on the external world and personal identity that continue to challenge his commentators. The latter are dramatic and conveniently focused on familiar ‘topics’ of the history of philosophy curriculum, but they play relatively little role in his overall philosophical orientation or his mature thought. If we wish to understand the central thrust of Hume’s epistemology and metaphysics correctly, I suggest, then it is instead to the later works, and especially the first *Enquiry*, that we must turn.³⁵

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