Response to "A Priority, Reason, and Induction in Hume"

Peter Millican, University of Leeds

Over the last three years Hume's use of the term "a priori" has suddenly become very topical. Three discussions, by Stephen Buckle, myself, and Houston Smit, all focusing on Hume's argument concerning induction in Section IV of the *Enquiry*, have independently picked up on this question, which seems previously to have gone almost unnoticed.[1] That there is an issue here can be seen by examining what Hume says when considering the foundation of our inferences concerning matter of fact; why, for example, we expect a billiard ball to move in a particular way when struck by another:

> "I shall venture to affirm, as a general proposition, which admits of no exception, that the knowledge of [cause and effect] is not, in any instance, attained by reasonings *a priori*; but arises entirely from experience … Let an object be presented to a man of ever so strong natural reason and abilities; if that object be entirely new to him, he will not be able, by the most accurate examination of its sensible qualities, to discover any of its causes or effects. … No object ever discovers, by the qualities which appear to the senses, either the causes, which produced it, or the effects, which will arise from it; nor can our reason, unassisted by experience, ever draw any inference concerning real existence and matter of fact." (*E* 27, 4.6)

In this passage Hume is clearly allowing an object's "qualities which appear to the senses" as being available to Reason "unassisted by experience". So what he counts as "experience" seems essentially to involve some *memory of prior experience*, rather than merely *current experience*.

Various interpretations are possible. The line I took in my paper "Hume's Sceptical Doubts concerning Induction", published in my 2002 collection, took Hume's notion of "a priori" in this context as being only minimally different in spirit from the modern notion, and straightforwardly motivated by his enquiry into the foundation of our inferences from what we perceive:[2]

> "when [Hume] denies that some kind of knowledge or inference is a priori, he usually means not simply *that it requires experience*, but *that it requires experience beyond mere perception of the objects concerned*. … [according to this] more relaxed Humean notion … a proposition counts as a priori if it can be known *without appeal to any experience beyond what is currently being perceived* (and hence without any appeal to memory as opposed to sensation)." (Millican 2002, pp. 121-2)

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[1] In a footnote on earlier discussions on Hume's use of "a priori", Buckle (2001), p. 42 refers only to two articles from the 1960s, but neither of these focused on the usage in *Enquiry* IV.

[2] I also linked this with my more general claim that the notion of Reason with which Hume is concerned in *Enquiry* IV is essentially *perceptual*, and an acknowledgement that in some other contexts he uses the stricter modern notion of a priority.

Buckle's book *Hume's Enlightenment Tract*, which appeared in 2001 while my own was going through the press, took a radically different line:

> "Hume's unfamiliar use of 'a priori' makes sense if placed against a background of Aristotelian thought: the inspection of the sensory properties of an object will properly be described as priori – as prior to experience – if by 'experience' we mean, not individual sensations, but the Aristotelian sense of connected experience of the world – experiences in the sense of 'being experienced', the fruit of extended contact with the world over time." (Buckle 2001, p. 42)

Here I shall not discuss Buckle's position, except to say that I find his interpretation of *Enquiry* IV as primarily directed against Stoic and Aristotelian positions wildly implausible both textually and historically. Far more historically plausible is Houston Smit's suggestion that the Humean notion of a priority derives from that mentioned in the *Port Royal Logic* and apparently used by Leibniz, which is founded on a distinction between arguments from causes to effects, and those from effects to causes. Whether this can also make sense of Hume's texts is the question to be debated in what follows.

Smit's "from causes" interpretation of Humean a priority

The *Port Royal Logic* mentions the notions of a priori and a posteriori only once, "in passing", explaining them as follows:

> "[There are some] subjects whose truth [the mind] is capable of finding and understanding, either by proving effects by their causes, which is called an *a priori* proof, or, on the contrary, by demonstrating causes by their effects, which is called an *a posteriori* proof." (Arnaud and Nicole 1662, p. 233)

In ascribing this notion of a priority to Hume, Smit clarifies and expands on the *Port Royal* characterisation, and then goes on to develop it in various ways:

> "'Cause' is here used in the broad Aristotelian sense of 'ground' or 'explanatory factor': the material cause (i.e., material constitution) of a statue, and not just its efficient cause, could constitute the starting point of an a priori proof."

> "On this notion, to know the truth of a proposition a priori is to grasp how certain causes, or grounds, make that proposition true. To know the truth of a proposition a priori, then, requires not just establishing *that* the proposition is true, by appeal to grounds that suffice to show that it is true. It requires, rather, knowing *why* that proposition is true, by intellectually perceiving, as such, the grounds, or causes, that make it true."

> "What is distinctive of a priori proofs is … that they proceed by way of one's grasp of how causes determine their effects – we might say, from a rational perception of the way the causality of a cause determines some effect."

> "to prove a proposition from the cause, or ground, that makes it true just is to explain *why* it is true, as against merely establishing *that* it is true."

> "to adopt this notion of the a priori is to conceive of a priori proofs as resting on grounds that we apprehend, not through experience, but rather through the operation of our reason – our faculty for appreciating why certain propositions are true."

Perhaps the best sort of candidate for such rational perception of causal grounds would come from applied mathematics, for example an engineer's understanding of the mechanical principles that enable a bridge to support some particular weight. But there is an apparent problem in Hume's countenancing this as "a priori", because he famously denies that *any* causal relations are known a priori, and explicitly extends this denial even to the principles of mechanics.[3] To his credit, Smit himself presents such an example and tackles the issue head on:

> "the engineer's reasoning is a priori, insofar as it is based on her rational perception of the way in which the geometrical structure of the bridge makes it the case that it has the load bearing properties in question. It is, however, not purely a priori. … insofar as it relies on … knowledge of the causal properties of the materials, the engineer's a priori proof relies on, and incorporates, antecedent a posteriori proofs."

This deflects the immediate objection, but it can be pushed further, as we shall see below.

Is Smit's "from causes" notion clear and distinct?

An initial worry about Smit's position is that his preferred notion of a priority may, at least as ascribed to Hume, collapse under analysis into something very like the modern notion. First, Hume rejects the Aristotelian categorisation of types of cause, stating explicitly "that all causes are of the same kind, and that, in particular, there is no foundation for that distinction which we sometimes make … betwixt efficient causes, and formal, and material, and exemplary, and final causes" (*T* 171, 1.3.14.32). Secondly, the one type of causation that Hume accepts – namely, *efficient* causation – he takes as the foundation of all reasoning concerning matter of fact, fundamentally distinguishing this experiential causal reasoning from abstract reasoning concerning relations of ideas. So it seems odd that he should operate with a notion that embraces together "proving effects by their causes" with "proofs … resting on grounds that we apprehend, not through experience, but rather through the operation of our reason".

Another way of pressing this point is to pursue the issue of the engineer. Smit grants that her reasoning is not *purely* a priori, but then it is natural to ask: "what kind of reasoning *would* be purely a priori?". Since Hume takes causal relations to be knowable only through experience, it seems to follow that any reasoning whatever that relies on such relations – whether it proceeds from causes to effects or from effects to causes – must be classed by him as *not* purely a priori, even on Smit's understanding of the notion. So it appears that Smit's Humean apriority divides, under analysis, in ways that make it hard to sustain both its coherence and its distinctness from the modern notion:

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[3] For the general denial, see the first quotation in this paper. For the treatment of applied mathematics in particular, see *E* 31, 4.13.

	"relations of ideas", e.g. logic, pure mathematics	"mixed mathematics", e.g. mechanics	"deduction" of effects from causes	"induction" of causes from effects
modern "a priori" (knowable independently of all experience whatever)				
Port Royal "a priori" (founded on reasoning from causes or grounds to "effects")	*Given the Aristotelian taxonomy, all of these types of reasoning can be categorised together as involving "causes" of various kinds.*			
Smit's Humean "a priori" (founded on reasoning from causes or rational grounds)	*Reasoning from rational grounds*	*Reasoning from empirically established laws*	***Ordinary causal reasoning from causes to effects***	***Ordinary causal reasoning from effects to causes***
Smit's "pure a priori" (founded on reasoning from causes or rational grounds alone)				

It is not clear that Smit's general characterisation of Humean a priority represents a coherent position, because it relies on categorising together types of reasoning that on Humean principles are quite distinct, and also involves distinguishing two types of reasoning – from causes to effects and from effects to causes – that Hume often categorises together.[4] But if Smit avoids this objection by focusing instead on his stricter *pure* notion of a priority, then it becomes doubtful whether this can remain distinct from the modern notion, given Hume's insistence that absolutely no knowledge of causal relations can be completely independent of experience.

Is the "from causes" notion Humean?

I think Smit has raised a genuine and interesting issue in highlighting the "from causes" notion of a priority within Hume's writings, though consistently with the discussion above, I believe the most convincing examples of this occur in contexts where Hume is treating a priority as a *relative* notion, contrasting some "prior" general empirical knowledge of causal relations with specific observation of "posterior" effects. Such contexts occur at various points in Books II and III of the *Treatise*, the *Moral Enquiry* and the *Essays* (*T* 334, 2.2.2.6-7; *T* 571, 3.2.12.4; *M* 230, 5.43; "That Politics may be Reduced to a Science", para. 6). However Hume's usage here closely mirrors – in both significance and to

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[4] Particularly explicitly at *T* 113, 1.3.9.12; *T* 166, 1.3.14.22; and *T* 225, 1.4.4.1, in which Hume talks respectively of "our inferences …", "that determination of the thought to pass …", and "the customary transition …", but in every case continues "… from causes to effects, and from effects to causes".

some extent in subject-matter – his account of the "universally received [but] at bottom, erroneous, or at least, superficial" notion of "reason" discussed in the long footnote in *Enquiry* V (*E* 43-4 n., 4.5 n.) to which Smit usefully draws attention.[5] But unlike Smit I do not take this to be the same notion of reason that is operative in *Enquiry* IV or the *Dialogues*, where Hume is considering fundamental epistemological questions and is therefore well advised to avoid such vague and defective notions.

To turn first to the *Dialogues*, Smit finds evidence of his "from causes" notion in Demea's claim that his "a priori" theistic argument has an advantage over Cleanthes' "a posteriori" argument because it has the potential to prove the deity's infinity. But this evidence is very double-edged, because Demea's claim of advantage is equally comprehensible – and arguably more so – on the modern understanding of a priority.[6] Demea's point is primarily a negative one against Cleanthes' argument from God's supposed (finite) effects, and this point is equally effective whether Demea views his own rival argument as running from ultimate causes to effects, or as being founded on principles that are known independently of experience. Moreover I would suggest that Cleanthes' subsequent rejection of Demea's argument points in a direction opposite to that which Smit favours:

> "I shall begin with observing, that there is an evident absurdity in pretending to demonstrate a matter of fact, or to prove it by any arguments *a priori*. Nothing is demonstrable, unless the contrary implies a contradiction. Nothing, that is distinctly conceivable, implies a contradiction. Whatever we conceive as existent, we can also conceive as non-existent. …" (*D* 189, cf. *E* 35, 4.18)

This seems to connect something's being provable a priori with the idea of its being demonstrable,[7] and being such that its contrary implies a contradiction. But this seems to be far more closely related to the modern notion of a priority than to Smit's, because if a proposition's contrary is known to imply a contradiction, then it can be known to be true independently of experience, whether or not this knowledge involves causation or rational grounding in the way required by Smit's notion.[8]

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[5] If Hume indeed intends his criticism of the notion of "reason" in this footnote to apply to the notion of a priority as used in the contexts mentioned, then this would provide evidence that, although Smit is importantly correct in seeing Hume as inheriting the "from causes" notion, nevertheless he is wrong in seeing Hume as retaining it in his central arguments. If so, then Hume could perhaps justly be credited with being the true source of the modern notion of a priority, precisely through his explicit recognition and rejection of the older notion. Kant has often been ascribed this honour in the past (e.g. in the Edwards *Encyclopedia*), a major irony if, as Smit suggests, he actually continued to hold to the "from causes" notion.

[6] "Arguably more so" because the notion of reason explained by Hume in the *Enquiry* V footnote would not have the advantage claimed, being essentially a posteriori and thus unable to yield an infinite conclusion.

[7] *Not* to be confused with the idea of its being merely the conclusion of a demonstrative argument – see Millican (2002) §7.1 for a discussion of what Hume means by "demonstrative".

[8] It might be suggested that whenever a proposition's contrary is seen to involve a contradiction, this in itself involves the grasp of rational grounds that would satisfy Smit's notion of a priority. However this suggestion would serve to highlight the worry above, that under critical analysis his notion may lose its apparently distinctive character. If the *Port Royal Logic*'s notion of a priority can be stretched so far than an indirect proof by *reductio ad absurdum* is counted as a proof "from causes to effects", then it is hard to see what essential character it retains, distinct from the modern notion.

Perhaps significantly, the same nexus of concepts plays a role much earlier in Part ii of the *Dialogues*, in which Philo gives as clear a statement as one could wish of the impossibility of a priori knowledge of the world, in what is recognisably the *modern* sense:

> "Were a man to abstract from every thing which he knows or has seen, he would be altogether incapable, merely from his own ideas, to determine what kind of scene the universe must be, or to give the preference to one state or situation above another. For as nothing, which he clearly conceives, could be esteemed impossible or implying a contradiction, every chimera of his fancy would be upon an equal footing; nor could he assign any just reason, why he adheres to one idea or system, and rejects the others, which are equally possible." (D145)

Philo then develops this thesis by relaxing the constraints to include immediate observation:

> "Again; after he opens his eyes, and contemplates the world, as it really is, it would be impossible for him, at first, to assign the cause of any one event … He might set his fancy a rambling; and she might bring him in an infinite variety of reports and representations. These would all be possible; but being all equally possible, he would never, of himself, give a satisfactory account for his preferring one of them to the rest. Experience alone can point out to him the true cause of any phenomenon." (D145-6)

This passage very obviously echoes *Enquiry* IV Part i, and hence provides significant evidence that the term "a priori" in that section of the *Enquiry* is to be interpreted accordingly – as a slightly relaxed variant of the modern notion, rather than Smit's radically different "from causes" notion.

Is the "from causes" notion required to make sense of Enquiry IV?

To turn finally – and all too briefly – to the text of *Enquiry* IV itself,[9] Smit argues persuasively that his proposed notion of a priority could illuminate Hume's argument concerning induction at various points, and would in particular establish causation as central to that argument (thus undermining a suggestion made in my 1995, pp. 191-2, and 2002, pp. 141-2). My reservations about this aspect of his paper would overlap with points already made about his characterisation of the notion, so I shall not pursue them further here. But suppose we accept Smit's positive case for the benefits of understanding Hume's famous argument in his terms; it is still unclear to me whether he believes that this can be complemented with a negative case against rival ways of understanding it such as my own. My final question is, then: are there any stages of Hume's argument concerning induction which *cannot* be made sense of given the sort of interpretation of "a priori" that I favour? I don't believe there are, but would invite Smit to take up this challenge in our discussion.

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[9] Anyone familiar with the long papers Millican (1995) and (2002) will no doubt consider it a mercy to see me here spending so little time on the discussion of *Enquiry* IV!

Conclusion

To conclude by pulling together the questions posed by my three last sections:

1.   I would find it helpful if Smit could spell out in detail his understanding of apriority *as it applies in Hume's philosophy*, with concrete examples to highlight situations in which it comes apart from the modern notion (or from my suggested slight relaxation of the modern notion). When the notion is duly clarified in the light of the sorts of points made above, will there in fact remain any cases that, from a Humean point of view, would straightforwardly count as "a priori" under one notion but not under the other?

2.   If such cases do remain *in principle*, do any of them *actually* occur in Hume's texts? Are there, for example, any propositions that Hume describes as "a priori", which are so on the "from causes" notion but not on the modern notion (or its relaxation), and which cannot be explained away as insignificant in the light of the "erroneous, or at least, superficial" distinction that he rejects in his *Enquiry* V footnote?

3.   Smit has made an interesting and plausible positive case for understanding a priority within *Enquiry* IV in a way that makes essential reference to causation. But in order to establish his position there is also a negative case to be made against rival interpretations. Are there in fact any stages of Hume's argument that fail to make sense if "a priori" is understood in the way I favour, as meaning "knowable independently of any experience beyond what is currently being perceived?" If so, then these are presumably likely to depend on cases in which the two notions come apart, so this query is somewhat dependent on the previous two.

Postscript

I have focused above on objections to Smit's interpretation of a priority *in its application to Hume*. But even if these objections are correct, this does not in itself impugn Smit's "over-arching concern … to explicate Kant's reply to Hume's problem of induction" (n. 18) in such terms – it is after all entirely possible that Kant should have interpreted Hume's use of "a priori" as Leibnizian, even if he was thereby *misunderstanding* Hume's argument. This might indeed possibly help to explain why Kant's supposed reply to Hume is so spectacularly ineffective, founded as it is on transcendental arguments which – even if they work on their own terms in revealing some ultimate transcendental necessity for the uniformity of the phenomenal world (which I very much doubt) – are essentially backward-looking and therefore do nothing to solve Hume's epistemological question about the future. According to

Kant, we know that the world is conditioned in such and such a way because we have (i.e. *have had*) experience of such and such a type, and experience of this type would be impossible were the world not so conditioned. Suppose we accept this. But still nothing (apart perhaps from God or a dogmatic slumber) protects the Kantian from the prospect of an imminent descent into chaos in which such experience suddenly and unexpectedly becomes impossible. So even if the transcendental argument is successful, it does nothing whatever to solve Hume's problem of induction.

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Page references to the *Treatise* and *Enquiry* are to the Selby-Bigge editions, and paragraph numbers as in the recent Norton/ Beauchamp editions. Page references to the *Dialogues* are to the standard 1947 Kemp Smith edition.