HUME'S CAUSAL EXPLANATION OF CAUSAL THINKING

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Hume's discussion of causation in the *Treatise* and first *Enquiry* constitutes one of the most often read parts of his writings.[1] This paper will focus on just one puzzling aspect of his undertaking, first considering how Hume comes to offer a causal explanation of causal thinking, and then raising the question whether this procedure is legitimate.

Hume recognizes that human beings are continually forming additional beliefs concerning matters of fact. For purposes of discussion, Hume seems to be distinguishing between beliefs that are formed directly on the basis of sensation and beliefs that are only indirectly based on sensation. Suppose that someone sees a brick house on Elm Street and, as a result, comes to believe that there is such a house there; presumably this counts as a belief formed directly on the basis of sensation. In the portion of his text that we are considering, Hume seems to regard the process of forming beliefs directly on the basis of experience as not puzzling or suspect.[2] However, many other important beliefs of ours are less directly grounded on experience. One sees the cows all lying down and so one comes to believe that it will rain soon; one sees a big river and comes to believe that trying to walk across it would be fatal; one sees a distinctive footprint in the sand and comes to believe that a human being has recently passed by. Beliefs such as these are inferential in that they definitely go beyond what is directly observed. They make up a large part of one's beliefs about the world and about one's place in it. By what process do these beliefs get formed, when they cannot be directly based on experience? Hume does regard this as puzzling, and seeks an explanation of it.

Hume says that all such inferential beliefs about as yet unobserved objects or as yet unverified matters of fact always involve the relation of causation. He says that the relation of causation, and it alone, "produces such a connexion, as to give us assurance from the existence or action of one object, that 'twas follow'd or preceded by any other existence or action."[3] That is, "any conclusion beyond the impression of our senses can be founded only on the connexion of *cause and effect*."[4]

Does Hume intend to be saying that we can form such a belief about an unobserved object only when we regard it as the cause, or

as the effect, of some object which we are directly experiencing? No, that would not be a good interpretation, for it would make Hume's point needlessly implausible. In the case of the cows and rain, seeing the cows all lying down makes one expect to perceive rain soon; but one need not believe either phenomenon to be the cause of the other. It is enough if one regards these phenomena as causally connected in some way or other. In this example about the cows one presumably would suppose both phenomena to be effects of some unknown antecedent cause--perhaps of a fall in the barometric pressure.

Let us introduce the phrase "causal thinking" as a general name for this process of forming beliefs concerning cause-and-effect relationships, concerning as-yet-unverified matters of fact, and concerning as-yet-unobserved objects.

There can be no doubt that human beings engage in such causal thinking. Yet what is this idea of causality which plays such a central role in our forming of beliefs abut matters of fact? Unlike his predecessors, Hume is not ready to regard this idea as clear; he views it with suspicion. Examining it, he claims to find it composed of three other ideas: contiguity, in that a cause must be spatially contiguous with its effect;[5] succession, in that a cause must temporally precede its effect;[6] and necessary connection, in that a cause must be necessarily connected with its effect.[7] It is the idea of necessary connection to which Hume attaches the most importance, and which seems to him to be most obscure and suspect. To explain what is going on in causal thinking, Hume considers that he must give an account of this notion of causal connection, which he holds not to be an idea abstracted from experience in the normal way.

Hume regards previous philosophers as having made the mistake of supposing that the notion of necessary connection which is involved in causal thinking is the same as the deductive necessity of formal logic. They have supposed that causal thinking is a species of deductive inference. However, to regard the process as entirely deductive would be to suppose that the beliefs we form via causal thinking could be deduced from the information we have verified concerning observed objects, together with rationally self-evident truths. Hume rejects this, saying "There is no object, which implies the existence of any other if we consider these objects in themselves."[8] Information merely about already observed objects cannot deductively yield valid non-trivial conclusions about as-yet-unobserved objects or about cause-and-effect relationships. Even if some steps of deductive reasoning do occur in causal thinking, crucial non-deductive steps must occur in it as well.

Hume takes reason to be the faculty which makes deductive inferences and apprehends *a priori* truths, and which does nothing

else. He therefore concludes that causal thinking is not a process that can be an activity of reason alone. Some other power of the mind must also be at work, he thinks, in performing the non-deductive steps in causal thinking. What is this power? Hume says that in causal thinking the mind "is not determin'd by reason, but by certain principles, which associate together the ideas of these objects, and unite them in imagination."[9] Also he says, "We are not determin'd by reason, but by custom or a principle of association." This "custom" (or "habit"), a non-rational tendency of the mind, is built up as a result of one's past experience of constantly conjoined impressions. That is, having often in the past perceived *A*'s followed by *B*'s, now, when one perceives an *A*, the idea of a *B* comes into one's mind, so forcibly called up by imagination as to make one believe in the existence of an unobserved *B*.

What kind of explanation is Hume giving of causal thinking? At many places in his exposition he uses strongly causal language to describe what he holds to be happening in causal thinking. He declares that "the frequent repetition of any idea infixes it in the imagination."[11] Elsewhere he says that "the mind is determined by custom,"[12] and that "we immediately feel a determination of the mind to pass from one object to its usual attendant."[13] When Hume says such things he surely intends to be telling us what causes us to form beliefs about cause-and-effect relationships and about as-yet-unobserved objects. Indeed, in another place, he even speaks of the present impression as "the true and real cause of the idea, and of the belief which attends it":[14] presumably meaning that one's current impression of *A* causes one to imagine *B* and to believe in it.

In some of his remarks, Hume speaks of past experience as the cause which makes the faculty of imagination produce belief in the unobserved object *B*, while in other places he speaks as though the present impression of *A* is what causes the belief in *B*. However, any apparent conflict between these two ways of speaking is not a significant inconsistency. Hume's view surely is that both the past experience of constant conjunction between *A*'s and *B*'s and the present impression of an *A* are essential causal factors; the belief in an unobserved *B* will not occur unless each of these factors is present. In any case, even though Hume's various formulations differ to this extent in what they pick out as the cause of our belief in an as-yet-unobserved phenomenon, still they all are hypotheses as to what causes causal thinking to occur. In each of these formulations, Hume is advancing a causal explanation of human causal thinking.

Is it philosophically legitimate to advance such an explanation? Immanuel Kant certainly thought that there was something seriously wrong with Hume's treatment of causality. In the

Critique of Pure Reason, Kant writes that

> . . .the very concept of a cause so manifestly contains the concept of a necessity of connection with an effect and of the strict universality of the rule, that the concept would be altogether lost if we attempted to derive it, as Hume has done, from a repeated association of that which happens with that which precedes, and from a custom connecting representations, a custom originating in this repeated association, and constituting therefore a merely subjective necessity.[15]

It is clear that Kant here is trying to express some sort of fundamental objection against Hume's account of causality. To interpret Kant's position adequately would require delving deeply into the complexities of Kant's own elaborate philosophical system. Instead of attempting to do that here, I merely want to ask whether an objection against Hume's procedure can be framed in more present-day terms, in such a way as to capture at least some of the spirit of what Kant may have been driving at. I shall consider three ways of formulating such an objection.

Someone might suppose that there is something immediately circular and incoherent about proposing a causal explanation of causal thinking. Let us remember how Hume himself writes that "The same principle cannot be both the cause and the effect of another."[16] What he seems to mean by this dictum is that it is incoherent to call *A* the cause of *B* while also calling *B* the cause of *A*. Thus, if we believe poverty to be the cause of crime, then we ought not to say that that same kind of crime is the cause of that same kind of poverty. If this dictum is correct, then, *a fortiori*, a principle cannot be the cause of itself. Gravitation ought not to be said to be the cause of gravitation, or magnetism of magnetism. Supposing this dictum were sound, could Hume's own causal explanation of causal thinking avoid running afoul of it? Is not Hume guilty of using causation as a principle to explain causation?

This first way of framing an objection is much too crude, however. In his causal explantion of causal thinking, Hume is not saying that causation is the cause of causation. Instead, he is offering a causal explanation of beliefs concerning causal relationships. Perhaps it would be incoherent to try to explain causation in terms of causation; but, as Hume does not attempt to do that, nothing illegitimate has been pinpointed by this first version of the objection.

Let us consider a second way of framing an objection. Hume has repeatedly said that there are no necessary connections between matters of fact. He adds that "when we talk of. . . power or force.

. . we have really no distinct meaning. . . ."[17] This seems to suggest that Hume regards causal statements as always either false or meaningless. What right has he, then, to turn around and put forward a causal hypothesis-- a hypothesis as to what causes certain human beliefs? If there are no causal connections between matters of fact, any such hypothesis will be false; and if causal language is meaningless, any such hypothesis will be without sense. How can it be legitimate for Hume to advance a causal hypothesis, under these circumstances?

This second way of trying to frame an objection is not quite as crude as the first, but it also is unsatisfactory. In his philosophical moments, Hume does hold that there are no necessary connections betweeen matters of fact; yet he also holds that in practical life we cannot help believing in them (this is his position of mitigated scepticism). Hume's doctrine is that our propensity to believe in causal relationships is basic to our human nature; that we are powerless to resist it; hence that we had better acquiesce cheerfully in accepting the beliefs thus forced upon us. Specifically, then, when we are wondering how beliefs get caused in causal thinking, we cannot help but let our answer be formed by this non-rational propensity of our minds. We have to believe whatever human nature impels us to believe concerning how causal thinking produces beliefs for us. It is a peculiarity of Hume's position that he considers us, as natural beings, to be compelled to form many of our beliefs in ways which we, as philosophical thinkers, can see to be non-rational. In this respect, Hume's position is disturbing. However, it is not self-contradictory. Thus this second line of objection fails to spell out anything illegitimate about Hume's attempt to offer a causal explanation of causal thinking.

A third line of objection may carry more weight. It depends upon some general considerations concerning explanation.

A first background point is that explanations have intellectual value only when they serve to resolve some puzzle or anomaly which has seemed to defeat understanding.[18] At the circus, when twenty-five clowns emerge from a minicar, this seems puzzling and anomalous to most of us, because the phenomenon is in conflict with our assumptions: we assume that they all were inside together, and that the interior volume is far too small to have contained them. An explanation, if we can find one, would resolve this cognitive dissonance.

A second background point is that, in order to perform its function, an explanation must meet an actual intellectual need of those to whom the explanation is addressed. Otherwise, it will not have any prospect of advancing understanding. Thus, for example, it would be pointless to address an explanation of how twenty-five clowns can emerge from a minicar to an audience consisting of the stage-hands who constantly see the clowns

preparing for their act. This audience has no need for such an explanation; it is all obvious to them already, for they saw from the beginning that the clowns never were all in the car together.

In making these two observations about explanation, I am not trying here to propose any comprehensive philosophical theory of explanation. These, I hope, are just comparatively uncontroversial points about how a proposed explanation must mesh with the intellectual needs of the audience to whom it is addressed, if it is to succeed in being of value to them.

To return now to our question about the legitimacy of a causal explanation of causal thinking: Can it function successfully as an explanation? A dilemma begins to arise when we ask to what audience it is addressed. Anyone to whom it is addressed must either be someone who thinks that causal thinking is rationally legitimate or be someone who does not think this. These two possibilities form the two horns of the dilemma.

As the first horn of the dilemma, suppose that the causal explanation of causal thinking is addressed to readers who regard causal thinking as rationally legitimate. That is, they have not embraced the view that deductive thinking is the only legitimate way of reaching conclusions, and so they do not regard the non-deductive steps in causal thinking as automatically suspect. Such persons will find nothing puzzling about how causal thinking can occur. They will regard it as a procedure that is not suspect, and will suppose that reason carries out causal thinking by detecting the causal connections which do hold between things in nature. Thus they will not have any intellectual need for, or any willingness to accept, Hume's causal explanation in terms of the non-rational power of imagination working according to custom. The first horn of the dilemma thus is that the sort of causal explanation of causal thinking which Hume offers cannot succeed in being appropriate to an audience who regard causal thinking as rationally legitimate.

As the second horn of the dilemma, suppose on the other hand that Hume's causal explanation of causal thinking is addressed to readers who are already convinced that causal thinking is not rationally legitimate. These readers are satisfied that causal thinking is not the work of reason. For them, it is indeed puzzling why causal thinking occurs. Hence they will feel need for an explanation of why beliefs get formed as they do in causal thinking. However, these readers must suppose that there is no rational justification for accepting Hume's causal explanation of causal thinking, since it itself is only another specimen of non-rational causal thinking. They cannot regard the explanation as commanding their assent by its logical force, for they are committed to supposing that it has none. Does this mean that they will not accept any such explanation? If they are in control of their

own processes of belief-formation, and if they make it their rule to accept only those beliefs which they regard as rationally legitimate, then certainly they will not believe Hume's explanation of causal thinking, and it will have been pointless to present the explanation to them.

However, perhaps these readers who already are convinced that causal thinking is non-rational do not have control over their own belief processes, or perhaps they do not make it a rule to avoid beliefs which they regard as non-rational. If so, and if they happen to find themselves believing Hume's explanation of causal thinking, presumably they will acquiesce and will not struggle against this process of belief-formation which is occurring within them--that is, the process which is making them believe Hume's explanation of causal thinking. Under such circumstances, perhaps there would be some point in presenting them with the explanation, because presenting it would help to cause them to believe it.

Yet Hume himself seems to concede that within the minds of most readers there will be great resistance to accepting his explanation of causal thinking--this is why the explanation had not been thought of or adopted by philosophy prior to Hume's time. If human beings have little or no natural tendency to believe Hume's hypothesis about the cause of causal thinking, and if they suppose that there are no rational grounds for accepting it, then indeed the explanation will serve no purpose. The upshot is that, for readers who are convinced of the non-rational character of causal thinking, Hume's explanation seems unable to have either rational force or non-rational force, so it is pointless for Hume to propose it to them.

The over-all dilemma is that, whichever type of readers we consider, Hume's proposed explanation cannot effectively meet their intellectual needs. Thus Hume's attempt to offer a causal explanation of causal thinking goes seriously awry. Here we have confirmation of Kant's idea that there is something inherently unsatisfactory about Hume's presentation.

Of course, even if this criticism of Hume's treatment of causality is correct, it will still remain true that Hume made a very important philosophical contribution through his discussion of causality. A philosopher's ideas do not have to be fully sound and defensible in order to shed important light on a topic. We are not denigrating the achievement of a philosopher such as Hume, but rather are treating it with respect, when we formulate criticisms of it.

Notes

[1] David Hume, *Treatise of Human Nature*, (bk. 1, pt. 3);

Enquiry Concerning Human Understanding, (sc. 7).

[2] Of course such an example as this is brought into question later in the *Treatise*, (pt. 4, sec. 2), "Of Scepticism With Regard To The Senses."

[3] David Hume, *Treatise of Human Nature*, ed. Selby-Bigge. (Oxford: Clarendon P, 1888) 73-74.

[4] Hume, *Treatise*, ed. Selby-Bigge 74.

[5] Hume, *Treatise*, ed. Selby-Bigge 75.

[6] Hume, *Treatise*, ed. Selby-Bigge 76.

[7] Hume, *Treatise*, ed. Selby-Bigge 77.

[8] Hume, *Treatise*, ed. Selby-Bigge 86.

[9] Hume, *Treatise*, ed. Selby-Bigge 92.

[10] Hume, *Treatise*, ed. Selby-Bigge 97.

[11] Hume, *Treatise*, ed. Selby-Bigge 116.

[12] Hume, *Treatise*, ed. Selby-Bigge 156.

[13] Hume, *Treatise*, ed. Selby-Bigge 165.

[14] Hume, *Treatise*, ed. Selby-Bigge 102.

[15] Immanuel Kant, *Critique of Pure Reason*, trans. Norman Kemp Smith. (New York: St. Martin's, 1965) p. B 5.

[16] David Hume, *Treatise of Human Nature*, ed. Selby-Bigge 90.

[17] Hume, *Treatise*, ed. Selby-Bigge 162.

[18] The approach to explanation being suggested here differs from the so-called "covering-law" view, which was advocated by many philosophers of science of the past generation, especially by Carl G. Hempel in his *Aspects of Scientific Explanation* (New York: 1965). The "covering-law" view seeks to exhibit what is supposed to be the logical structure of explanation and does not concern itself at all with whether the explanations proposed are of any intellectual value to those to whom they are addressed.