

CAUSATION

Chapter 2

Direct Realism

I have suggested that a good way of categorizing different approaches to the nature of causation is in terms of the four alternatives of direct realism, Humean reductionism, non-Humean reductionism, and theoretical realism. Let us now consider each of these in turn.

Direct realism involves four main theses. First, the relation of causation is directly observable. Secondly, that relation is not reducible to non-causal properties and/or relations. Thirdly, the relation of causation is also not reducible to non-causal properties and/or relations together with causal laws -- since such a reduction would entail that one could not be directly acquainted with the relation of causation. Fourthly, the concept of the relation of causation is analytically basic.

Hume claimed that the relation of causation is not given in immediate experience. But was Hume right about this? This is a crucial question, since when a property or relation is immediately given in experience, no analysis of the corresponding concept is needed. Consider, for example, the quality of redness that one is aware of when one looks at a ripe tomato, or the smell of lilacs, or the taste of a lemon, or the sound of middle C on a piano. If one has experienced such qualitative properties, one can introduce a term or a concept whose sole function is to refer to such qualities, and no analysis is needed in the case of such terms or concepts, since one is immediately acquainted with the properties in question. Moreover, not only is no analysis needed, none can be given. If it were, one could convey what those qualities were like to someone who had never experienced them by telling them how the concepts in question were to be analyzed. But this cannot be done.

The question, accordingly, is whether the situation is the same in the case of causation. Is the relation of causation also immediately given in experience, so that one can know what causation is by directly experiencing it, and only by directly experiencing it? If so, then the concept of causation is also a concept that neither needs to be analyzed, nor can be analyzed.

Let us use the expression "direct realism" to refer to the view that the relation of causation is directly observable, and in such a way that concept of the relation of causation is an analytically basic concept - that is, a concept that cannot be analyzed. Hume claimed, then, that a direct realist view of causation is untenable. Was Hume right about this?

A number of philosophers have certainly claimed that the relation of causation is observable, including David Armstrong (1968, p. 97, and 1999, pp. 211-16), Elizabeth Anscombe (1971, pp. 92-3), and Evan Fales (1990, pp. 11-25). Thus Anscombe argues that one acquires observational knowledge of causal states of affairs when, for example, one sees a stone break a window, or a knife cut through butter, while Fales, who offers the most detailed argument in support of the view that causation is observable, appeals especially to the impression of pressure upon one's body, and to one's introspective awareness of willing, together with the accompanying perception of the event whose occurrence one willed.

Suppose that it is granted that in such cases one does, in some straightforward sense, observe that one event causes another. Does this show that direct realism is true? For it to do so, one would have to be able to move from the claim that the relation of causation is thus observable to the conclusion that it is not necessary to offer any analysis of the concept of causation, that it can be taken as analytically basic. But observational knowledge, in this broad, everyday sense, would not seem to provide adequate grounds for concluding that the relevant concepts are analytically basic. One can, for example, quite properly speak of physicists as seeing electrons when they look into cloud chambers, even though the concept of an electron is certainly not analytically basic. Similarly, the fact, for example, that sodium chloride is observable, and that one can tell by simply looking and tasting that a substance is sodium chloride does not mean that the expression 'sodium chloride' does not stand in need of analysis.

But might not it be argued in response, first, that, one can observe that two events are causally related in precisely the same sense in which one can observe that a tomato is red; secondly, that the concept of a physical object's being red is analytically basic, in virtue of the observability of redness; and therefore, thirdly, that the concept of causation must, for parallel reasons, also be analytically basic?

This line of argument is, however, unsound, and the reason is this. If a concept is analytically basic, then, by definition, one can acquire the concept in question only by being in perceptual or introspective contact with an instance of the property or relation that is picked out by the concept. One could, however, acquire the concept of a physical object's being red in a world where there were no red physical objects: it would suffice if things sometimes looked red, or if one had hallucinations of seeing red things, or experienced red after-images. The concept of redness, interpreted as a concept that applies to physical objects, must, therefore, be definable, and so cannot be analytically basic.

What is analytically basic is the concept of redness that picks out a quality of one's experiences, rather than a property of external objects. It certainly seems, of course, as if the quality of redness that one is aware of when one looks at a ripe tomato is a property of the surface of the tomato. But there are good

reasons for concluding that this is not so. One that is especially important is the fact that qualitative color properties have no place in the account of the physical world that physics has arrived at. Thus there is no property of qualitative redness that characterizes the surface of the tomato. What there is simply the ability of the surface of the tomato, in virtue of the types of molecules that are present, to absorb certain wavelengths of light and reflect others, thereby giving rise, in human observers with normal vision, to experiences that have a certain quality - that of qualitative redness.

As a result, a comparison between the observation of color and the observation of causal relations provides no grounds for concluding that the concept of the relation of causation is analytically basic. To determine whether the latter is the case, one needs to arrive at some clear criterion of when a concept is analytically basic, and then examine whether the concept of causation satisfies that criterion.

How can we arrive at such a criterion? One natural approach is to consider the case of redness, and to ask what answer is suggested by the case. There the ground for concluding that the concept of redness understood as a property of physical objects was not basic was that even if one had never had contact with a red object, or, more dramatically, even if the world never contained any red physical object at all, one could still acquire that concept by, for example, having a hallucination of seeing a red object, or through something that was not red looking red to one. But in these situations, one is having precisely the sort of experience one would be having if one were actually seeing a red object under normal conditions. It is therefore possible to have two experiences that are qualitatively indistinguishable, but only one of which involves perceptual contact with a red object. This suggests the general idea that for a property or relation to be *immediately* given in experience, it must be the case that for any two qualitatively indistinguishable experiences, the property or relation must either be present in both or present in neither.

Can we identify analytically basic concepts with those that pick out properties or relations that can be immediately given in experience? Consider having an experience, which might be hallucinatory, that involves experiencing an instance of qualitative redness of a certain shape and size. Here there is a complex involving three properties, and this complex is immediately given in experience

In the case of properties that can be immediately given in experience, the only way in which one can grasp what such experiences are like is by having the relevant sort of experience

The answer that is suggested by the case of the concept of redness is that for a concept to be analytically basic, the property or relation in virtue of which the concept applies to a given thing must be such that that property or relation is immediately given in experience, where a property or relation is immediately

given in experience only if, for any two qualitatively indistinguishable experiences, the property must either be given in both or given in neither.

Is the relation of causation immediately given in experience? The answer is that it is not. For given any experience E whatever -- be it a perception of external events, an awareness of pressure upon one's body, or an introspective awareness of some mental occurrence, such as an act of willing, or a process of thinking -- it is logically possible that appropriate, direct stimulation of the brain might produce an experience, E^* , which was qualitatively indistinguishable from E , but which did not involve any causally related elements. So, for example, it might seem to one that one was engaging in a process of deductive reasoning, when, in fact, there was not really any direct connection at all between the thoughts themselves -- all of them being caused instead by something outside of oneself. Causal relations cannot, therefore, be immediately given in experience in the sense that is required if the concept of causation is to be unanalyzable.

Let us now turn to objections to direct realism. The first has, in effect, just been set out. For if, for any experience in which one is in perceptual or introspective contact with the relation of causation, there could be a qualitatively indistinguishable, hallucinatory experience in which one was not in contact with the relation of causation, it would be possible to acquire the concept of causation without ever being in contact with an instance of that relation. But such experiences are logically possible. So the concept of causation must be analyzable, rather than being analytically basic.

Secondly, it seems plausible that there is a basic relation of causation that is necessarily irreflexive and asymmetric, even if this is not true of the ancestral of that relation. If either reductionism or indirect realism is correct, one may very well be able to explain the necessary truths in question, since the fact that causal concepts are, on either of those views, analyzable means that those necessary truths may turn out to be analytic. Direct realism, by contrast, in holding that the concept of causation is analytically basic, is barred from offering such an explanation of the asymmetry and irreflexivity of the basic relation of causation.

Thirdly, direct realism encounters epistemological problems. Thus, features such as the direction of increase in entropy, or the direction of the transmission of order in non-entropic, irreversible processes, or the direction of open forks, often provide evidence concerning how events are causally connected. Similarly, causal beliefs are often established on the basis of statistical information -- using methods that, especially within the social sciences, are very sophisticated. Given an appropriate analysis of the relation of causation, one can show why such features are epistemologically relevant, and why the statistical methods in question can serve to establish causal hypotheses, whereas if causation is a basic irreducible relation, it is not at all clear how either of these things can be the case.