

SCIENTIFIC REALISM AND THE SOCIAL SCIENCES

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A central issue in the philosophy of the social sciences is the possibility of naturalism: whether disciplines such as sociology, anthropology, economics and (at least some areas of) psychology can be 'scientific' in broadly the same sense in which this term is applied to physics, chemistry, biology etc. In the long history of debates about this issue, both naturalists and anti-naturalists have tended to accept a particular conception of the natural sciences - the 'positivist' or 'empiricist' view of them. But the challenges to this previously dominant position in the philosophy of science from around the 1960s made this shared assumption increasingly problematic. It was no longer clear what the social sciences would have to be like, were they to be modelled on the natural sciences; and it became necessary to re-consider the arguments employed by anti-naturalists, to see whether these held only against a positivist conception of science. If so, a non-positivist naturalism might be defended: a methodological unity of the social and natural sciences based on some alternative to positivism. This is the view taken by scientific realists in the social sciences, who have attempted to provide a naturalist account of social science by drawing on the realist conception of science developed in the 1960s and 70s by Rom Harré and others.

1 Realist v positivist views of science

Within the philosophy of science, scientific realists criticise positivism both on philosophical grounds, and for failing adequately to represent the nature of scientific theories and their historical development. Rejecting the positivists' deductive-nomological model of explanation as unable to distinguish predictive from explanatory power, realists argue that scientific explanation consists in describing the processes through which observable phenomena, and whatever regularities obtain between these, are generated by the operation of (typically unobservable) underlying structures and mechanisms. In doing so, they likewise reject the Humean view of causation and defend a concept of natural necessity together with a Lockean view of causal powers.

This view of explanation brings with it a more liberal attitude towards the ontological commitments of scientific theories than positivism permits. For although (most) positivists accept what may be termed the 'minimal realist' claim that science aims at knowledge of an external world whose existence and nature are independent of the knowing subject, scientific realists criticise the positivists' tendency to limit what can be said to exist to the domain of the observable, the directly measurable, etc. They therefore reject both operationalist and instrumentalist interpretations of the cognitive status of theoretical concepts, regarding them instead as having, at least potentially, a straightforwardly referential function. And whereas for positivists, scientific progress is largely a matter of the increasing scope and

hence predictive-explanatory power of universal laws, for scientific realists it consists primarily in increasing theoretical depth, with each level of causally operative structures and mechanisms being successively explained by reference to other, deeper levels - a process in which existential hypotheses concerning previously unimagined entities may often play a central role.

Adopting this alternative to the positivist conception of science, realist naturalists have attempted both to articulate the character of a realist social science, and to disarm a number of influential anti-naturalist arguments. These two projects are discussed in sections 2 and 3 below.

2 The nature of a realist social science

Some realists, notably Bhaskar in *The Possibility of Naturalism*, have seen it as their task to identify the ontological presuppositions of a realist social science, especially the nature of the agency-structure relationship (see CRITICAL REALISM). But others, such as Keat and Urry in *Social Theory as Science*, have pursued more modest aims: to free the social sciences from what they see as the unnecessary and theoretically impoverishing limitations of a positivist naturalism, and to indicate the kinds of theoretical work in the social sciences which would be suggested by a realist view of science.

Obvious examples of such limitations are provided by the various forms of behaviourism, in psychology and other social

sciences. For realists, mentalistic concepts can be seen as performing a similar function to theoretical concepts in the natural sciences: as potentially referring to unobservable entities, structure and processes, and employed in theories that can be tested for their explanatory power like any others. Hence there is no a priori reason to eliminate them altogether, to provide them with operational definitions in behavioural terms, or to regard them instrumentally, as no more than convenient fictions or predictive devices.

Nor need the realm of the mental be restricted to that of consciousness. Hence, whereas positivists have often regarded psychoanalytic theory as 'unscientific' or even 'metaphysical', realists may view Freud's arguments for the postulation of 'the unconscious' as on a par with those typically involved in postulating theoretical entities in the natural sciences, and his attempts to specify the nature of its structures and mechanisms as, in principle, a perfectly legitimate exercise in scientific theorising.

However, the use of these examples should not be taken to imply that realists do or must endorse the substantive truth of mentalistic or psychoanalytic theories: a realist philosophy of the social sciences provides no more guidance about the truth or falsity of specific theoretical claims than does realism in the natural sciences. This applies equally to what has been, in the work of many realist naturalists, the main example of a substantive social theory open to a realist interpretation, namely Marx's materialist theory of history and his attempts to identify the underlying structures of the various

'modes of production', such as capitalism and feudalism, and their respective generative mechanisms, such as their means of extracting surplus value.

The fact that Marxism, psychoanalytic theory and mentalistic psychology may all be seen as examples of the kind of theoretical work that realism both permits and encourages suggests that realism does not entail a materialist ontology: theoretical concepts in the social sciences may refer to both ideational and material items (though this might be disputed by some scientific realists). So if 'idealism' in the social sciences is understood as a claim about the actual nature of the social world - that it is exclusively ideational in character - there is no obvious incompatibility between idealism and scientific realism, provided that these ideational items can be seen to meet the minimal realist requirement of existing independently of one's supposed knowledge or theoretical representation of them.

There is, however, another sense of 'idealism', according to which the 'objects of knowledge' are constructed or constituted by the knowing subject, and/or by the various conceptual frameworks within which specific scientific theories are articulated. Idealism in this latter sense is clearly incompatible not just with scientific realism in the social sciences, but with any minimally realist view of either the social or natural sciences. Unfortunately, these two senses of 'idealism' are often confused in debates about the social sciences: in particular, by some post-modernist social theorists who seem to adopt both forms of idealism without noticing their inconsistency.

3 Scientific realism and anti-naturalism

In its most general form, the anti-naturalist claim is that there is something about the character of the social world that makes it an impossible or inappropriate object of enquiry modelled upon the natural sciences. What realist naturalists try to show, in effect, is that this 'something', whilst excluded by a positivist conception of science, can find a suitable home in a realist social science.

The most influential versions of anti-naturalism focus on the distinctively 'meaningful' character of social phenomena, and argue that these require, in place of scientific explanation, some form of 'interpretive understanding'. According to one version of this claim, such interpretive understanding consists in identifying the reasons or purposes for people's actions, and/or relating these to social rules of various kinds. To this the scientific realist may respond by claiming that, once positivistic restrictions on the nature and ontological status of theoretical entities are removed, there is no reason to exclude the possibility of causal relations obtaining between meaningful entities. Thus such 'understanding' of actions can be seen as a form of causal explanation - for example, by analysing agents' reasons as the mentalistic causes (beliefs, desires etc) of their behaviour. Correspondingly, the much cited action-behaviour distinction may be interpreted by realists as involving no more than the causal/theoretical description of observable phenomena which is typical of any science.

But there are other versions of the understanding v explanation thesis, especially those associated with the hermeneutic

tradition, which are less obviously open to this naturalist rejoinder from a realist standpoint. Here the concern is not with the nature of the relationship between reasons/rules and actions, but with the epistemological and methodological character of the process through which the identification of these reasons and rules itself takes place.

Consider here the claim that A's reason for action X is their belief that P, where P is some proposition. Even if it is accepted, as the realist maintains, that this belief can in principle be seen as (part of) the cause of X, there remains the question of what exactly is involved in the identification of P itself. There is surely some process of 'interpretation' here, through which the meaning or content of this proposition is grasped or understood; and the same would apply in the case of social rules and the like. Nor need this interpretive process stop at 'surface' meanings: one may also go further, through various 'depth-hermeneutic' procedures, to arrive at more fundamental levels of beliefs and meanings etc. And although there is also a necessary role for such interpretive processes in the natural sciences, in the communicative interactions of members of the scientific community, they play no part in the identification or explanation of the objects of natural scientific enquiry since these, unlike their counterparts in the social sciences, are essentially non-meaningful in character.

The scientific realist may respond to such claims by arguing that, provided the structures of meaning arrived at by such interpretive procedures meet the minimal realist requirement of existing independently of those procedures themselves

- something that is accepted by some, though by no means all hermeneutic theorists - a qualified form of naturalism remains defensible. For the interpretation of meanings need not be seen as displacing the aims of an explanatory social theory, but rather as a necessary first stage of enquiry that serves to identify the nature of (at least some of) the entities to which reference must be made in pursuing that explanatory project.

This partial concession is unlikely to satisfy many anti-naturalists, however, especially those who doubt the possibility of objective hermeneutic interpretation or view with suspicion the attempt by such realists to draw parallels between 'unobservable' structures and mechanisms in nature and 'unobservable' meanings in the social world. At this point, perhaps, what is required is a more nuanced and discriminating account of naturalism and anti-naturalism themselves, to make clear just what it is that the natural and social sciences are being asserted or denied to have in common.

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RUSSELL KEAT

University of Edinburgh

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