On the Possibility of Social Scientific Knowledge and the Limits of Naturalism

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1 Introduction

In this paper I want to discuss an old question that refuses to lie down. It is a question that continually resurfaces in philosophical discussions on the social sciences and reappears, in one guise or another, in methodological discussions within them: to what extent can society be studied in the same way as nature? Without exaggerating, I think one could call this question the primal problem of the philosophy of the social sciences. For the history of that subject has been dominated by a dispute between two traditions. The first—a naturalistic tradition—has typically seen science as (actually or ideally) unified in its concordance with positivist principles, based in the last instance on the Humean notion of law. The second—a rival anti-naturalist tradition, of hermeneutics—has posited, by contrast, a radical distinction in method between the natural and social sciences, flowing from and grounded in the idea of a radical distinction in their subject matters. The philosophical lineage of this tradition is traceable back through Weber and Dilthey to the transcendental idealism of Kant. Within the Marxist camp an exactly parallel dispute has occurred, with the so-called ‘dialectical materialists’ on one side and Lukács, the Frankfurt school and Sartre on the other.

Now, with the possible exception of the ‘dialectical materialists’ (whose specificity I do not want to discuss here), the great error that unites these disputants is their acceptance of an essentially positivist account of natural science, and more generally of an empiricist ontology. This is very evident if one looks at Peter Winch’s The Idea of a Social Science, perhaps the most influential tract written within the so-called ‘analytical’ school. Winch, it will be remembered, wants to argue that there is an essential identity between philosophy and social science, on the one hand, and a fundamental contrast between the latter and the natural sciences, on the other. When we turn to his arguments for such a contrast we find that they boil down to two. The first is an argument to the effect that constant conjunctions of events are neither sufficient nor (contrary to e.g.

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Weber) even necessary for social scientific explanation, which is achieved instead by the discovery of intelligible connections in its subject matter. This may be granted. But the required contrast is only generated if we assume that the discovery of intelligible connections in its subject matter is not equally the goal of natural scientific explanation. The second is an argument to the effect that social things have no existence, other than a purely physical existence, i.e., as social things, apart from the concepts that agents possess of them. Besides leaving the ontological status of concepts unclear, once more the assumed contrast gets off the ground if we tacitly assume that, with the privileged exception of thought itself, only material objects can properly be said to be ‘real’, i.e. that in natural science esse est percipi. Winch’s anti-naturalism thus depends entirely on empiricist theories of existence and causality. By in effect ceding natural science to positivism, Winch precludes himself from locating the true differences between the natural and the social sciences. Lukács in the Marxist tradition makes an exactly parallel mistake.

Now I think that recent developments in the philosophy of science allow, as the current crisis in the social sciences necessitates, a reconsideration of the problem of naturalism. Naturalism may be defined as the thesis that there is (or can be) an essential unity of method between the natural and the social sciences. It must be straightaway distinguished from two species of it: reductionism, which posits an actual identity of subject matter as well; and scientism, which denies that there are any important differences in the methods appropriate to studying societies and nature, whether or not they are actually (as in reductionism) identified. In contrast to both these forms of naturalism I want to argue for a qualified anti-positivist naturalism. Such a naturalism holds that it is possible to give an account of science under which the proper and more or less specific methods of both the natural and social sciences can fall. But it does not deny that there are important differences in these methods, grounded in the real differences that exist in their subject matters. In particular we shall see that ontological, epistemological and relational considerations reveal differences that place limits on the possibility of naturalism, or rather qualify the form it must take in the social sciences. Moreover these differences all carry methodological import. However, it will transpire that it is not in spite of, but rather just in virtue of, the real differences that distinguish the subject matter of the social from the natural sciences that social science is possible; that here, as elsewhere, it is the nature of the object that determines the form of its science. So that to investigate the limits of naturalism
is *ipso facto* to investigate the conditions which make social science, whether or not it is actualized in practice, possible.

I want first to sketch the elements of an adequate account of natural science, in relation to which the possibility of social scientific knowledge can be re-appraised.

2 Transcendental realism and the problem of naturalism

I have argued elsewhere that it is a condition of the intelligibility of the experimental establishment and the practical application of our knowledge that its objects are real structures which exist and act independently of the patterns of events they generate. It follows from this that causal laws must be analysed as tendencies, which are only necessarily manifest in empirical invariances under relatively special closed conditions. Thus, contrary to the specific claims of Popper and Hempel and the tacit presupposition of Winch, deducibility from empirical invariances, depending upon the availability of constant conjunctions of events, can be neither necessary nor sufficient for a natural scientific explanation. There is an ontological gap between causal laws and their empirical grounds, which both parties to the naturalist debate have hitherto ignored. This not only renders standard positivist methodological injunctions patently inapplicable, it also vitiates the most familiar hermeneutical contrasts. Thus just as a rule can be broken without being changed, so a natural mechanism may continue to endure, and the law it grounds be both applicable and true (that is, not falsified), though its effect, i.e. the consequent, be unrealized.

Knowledge, then, has 'intransitive' objects which exist and act independently of it. But it is itself a social process, whose aim is the production of the knowledge of such objects, that is of the mechanisms of the production of phenomena in nature. Now if we are to avoid the absurdity of the assumption of the production of such knowledge *ex nihilo* it must depend on the utilization of antecedently existing cognitive materials (which I have called the 'transitive' objects of knowledge). Typically, then, the construction of an explanation for some identified phenomenon will involve the building of a model, making use of such cognitive materials and operating under the control of something like a logic of analogy and metaphor, of a mechanism, which if it were to exist and act in the postulated way would account for the phenomenon in question. The reality of the posited explanation must then, of course, be
subjected to empirical scrutiny (for in general more than one explanation will be consistent with the phenomenon concerned). Once done, it must then itself in principle be explained. And so we have in science a three-phase schema of development, in which in a continuing dialectic, science identifies a phenomenon (or range of phenomena), constructs explanations for it and empirically tests its explanations, leading to the identification of the generative mechanism at work, which now becomes the phenomenon to be explained, and so on. On this view of science its essence lies in the move at any one level from manifest phenomena to the structures that generate them. The question of naturalism can thus be posed as follows: to what extent is it possible to suppose that a comparable move can be made in the domain of the social sciences?

Now our analysis of science immediately pinpoints an internal difficulty in this project. For the objects of scientific inquiry are neither empirically given nor even actually determinate chunks of the world, but rather real structures, whose actual presence and appropriate concept have to be produced by the experimental and theoretical work of science. Thus it would seem that we must first know what kinds of things societies are before we can consider whether it is possible to study them scientifically. Indeed without some prior specification of an object of inquiry, any discourse on method is bound to be more or less arbitrary. The question to which this paper aspires to make a contribution may therefore be set as follows: what properties do societies possess that might make them possible objects of knowledge for us?

In considering this question it is essential to establish that these properties, and a fortiori their bearers, societies, are real. For unless this is done our analysis of science entails that the possibility of a non-reductionist naturalism must straightaway collapse. Now, in this respect, it is important to note that science employs two criteria for the ascription of reality to a posited object: a perceptual and a causal one. The latter turns on the capacity of the entity whose existence is in doubt to bring about changes in material things. It should be noticed that a magnetic or gravitational field satisfies this criterion, but not a criterion of perceivability. On this criterion to be is not to be perceived, but (in the last instance) just to be able to do. The standard hermeneutical fork, turning on a conceptual/perceptible dichotomy, which we have already seen invoked by Winch, ignores of course just the possibilities opened up by a causal criterion for ascribing reality.

My strategy in this paper will be based on a pincer movement. First I will concentrate mainly on the ontological question of the
properties that societies possess. Then I will shift to the epistemological question of how this might make them objects of knowledge for us. In considering the former I want to argue that society is irreducible to persons and to attempt a sketch of their relationship. For our purposes merely to argue against methodological individualism, though necessary, is not sufficient. For we must show not only that in explanations in the field of the human sciences social predicates are irreducible, but that a realistic interpretation of social scientific explanations is in principle acceptable; i.e. that some possible objects designated by social scientific theory are real.

3 Against methodological individualism

Methodological individualism asserts that facts about society and social phenomena are to be explained solely in terms of facts about individuals. For Popper, for example, 'all social phenomena, and especially the functioning of social institutions, should be understood as resulting from the decisions etc. of human individuals . . . we should never be satisfied by explanations in terms of so-called "collectives".'

Social institutions are merely 'abstract models' designed to interpret the facts of individual experience. As Jarvie has put it: '"army' is just the plural of "soldier" and all statements about the army can be reduced to statements about the particular soldiers comprising it". Watkins concedes that 'there may be unfinished or half-way explanations of large-scale phenomena in terms of other large-scale phenomena (such as of inflation in terms of full employment)', but contends that we will not have arrived at so-called 'rock-bottom' (ultimate?) explanations of such phenomena until we have deduced them from statements about the dispositions, beliefs, resources and inter-relations of individuals. Specifically, social events are to be explained by deducing them from the principles governing the behaviour of the 'participating' individuals, together with statements of their situations. In this way, methodological individualism stipulates the material conditions for adequate explanation in the social sciences to complement the formal ones laid down by the deductive-nomological model.

Now when we consider the range of predicates applicable to individuals and individual behaviour—from those that designate properties, such as shape and texture, that people possess in common with other material objects, through those that pick out states, such as hunger and pain, that they share with other higher animals, to those
that designate actions that are, as far as we know, uniquely characteristic of them—the real problem appears to be not so much of how we could give an individualistic explanation of social behaviour, but that of how we could give a non-social (i.e. strictly individualistic) explanation of individual, at least characteristically human, behaviour! For the predicates designating properties special to persons all presuppose a social context for their employment. A tribesman implies a tribe, the cashing of a cheque a banking system. Explanation, whether by subsumption under general laws, adverton to motives and rules, or by redescription (identification), always seems to involve irreducibly social predicates.

Moreover it is not difficult to show that the arguments adduced in support of methodological individualism will not bear the weight placed upon them. For example, a comparison of the motives of a criminal with the procedures of a court is sufficient to show that facts about individuals are neither necessarily more observable nor necessarily easier to understand than social phenomena. Again, a comparison of the concepts of love and war shows that concepts applicable to individuals are not necessarily either clearer or easier to define than those that designate social phenomena.

Significantly, the qualifications and refinements proposed by the advocates of methodological individualism weaken rather than strengthen the case for it. Thus the admission of ideal types etc. weakens the force of the ontological considerations in favour of it, while allowing 'half-way' and statistical explanations undermines the epistemological ones. Moreover the examples cited of supposedly genuinely 'holistic' behaviour, such as riots and the biological union of mating couples, merely reveal the poverty of their implicit conception of the social. For, upon analysis of their writing, it is clear that most methodological individualists regard 'the social' as a synonym for 'the group'. The issue for them, then, becomes that of whether society, the whole, is greater than the sum of its constituent parts, individual men. Social behaviour, on this view, then becomes explicable as the behaviour of groups of individuals or of individuals in groups.

Now I think that this definition of the social is radically misconceived: sociology is not concerned, as such, with large-scale, mass or group behaviour, conceived as the behaviour of large numbers, masses or groups of individuals, but (paradigmatically) with the persistent relations between individuals (and groups), and with the relations between these relations. Relations such as between capitalist and worker, M.P. and constituent, student and teacher, husband and wife. Now such relations are general and relatively
enduring but they do not involve collective or mass behaviour as such in the way in which a strike or a demonstration does (though of course they may help to explain the latter). Mass behaviour is an interesting social psychological phenomenon, but it is not the subject matter of sociology.

Now what makes this situation particularly ironical is that the more sophisticated methodological individualists formally concede that relations must play some role in explanation. What then accounts for the polemics and the passion? I think that it can only be explained in terms of their desire to defend a particular form of substantive social scientific explanation, which they mistakenly hold to be uniquely consistent with political liberalism. As Watkins himself has put it: 'Since Mandeville's Fable of the Bees was published in 1714, individualistic social science, with its emphasis on unintended consequences has largely been a sophisticated elaboration on the simple theme that, in certain situations, selfish private motives [i.e. capitalism] may have good social consequences and good political intentions [i.e. socialism] bad social consequences'. There is in fact one body of social doctrine, whose avatars are utilitarianism, liberal political theory, pre-Ricardian classical and neo-classical economic theory, that does conform to individualistic prescriptions, on the assumption that what is in effect a generalized aggregation problem can be solved. According to this model reason is the efficient slave of the passions and social behaviour can be seen as the outcome of a simple maximization problem or its dual, a minimization one: the application of reason, the sole identifying characteristic of man, to desires (appetites and aversions, in Hobbes) or feelings (pleasure and pain, in Hume, Bentham and Mill) that may be regarded as neurophysiologically given. Relations play no part in this model; and this model, if it applies at all, applies as much to Crusoe as to socialized man, and to man whatever (i.e. wherever and whenever) his socialisation—with the corollary expressed by Hume that 'mankind is much the same at all times and places'.

The limitations of this approach to social science should by now be well known. To say that men are rational does not explain what they do, but only at best (that is supposing that an objective function could be reconstructed for their behaviour and empirically tested independently of it) how they do it. Rationality, purporting to explain everything, ends up explaining nothing. To explain a human action by reference to its rationality is like explaining some natural event by reference to its being caused. Rationality is, in this sense, a presupposition of investigation. As for neo-classical economic theory, the most developed form of this tendency in social thought,
it may best be regarded as a normative theory of efficient action, generating a set of techniques for achieving given ends, rather than as an explanatory theory capable of casting light on actual empirical episodes. That is, as a praxiology, not a sociology.

Aside from its championship of a particular explanation form, methodological individualism derives plausibility from the fact that it seems to touch on an important truth, awareness of which accounts for its apparent necessity: namely the idea that society is made up of or consists of and only of people. In what sense is this true? In the sense that the material presence of social effects consists only in changes in people and changes brought about by people on other material things—objects of nature, such as land, and artefacts produced by work on objects of nature. We could express this truth as follows: the material presence of society = persons and the (material) results of their actions. It is this truth that the methodological individualists have glimpsed, only to shroud it with their apologetic shifts.

It is clear that there is, in methodological individualism, a sociological reductionism and a psycho-(or praxio)logical atomism at work, exactly paralleling with respect to the content of explanation, the theoretical reductionism and ontological atomism determining its form. In the philosophy of social science the sociology of individualism plays as important a role in defining the object of investigation as the ontology of empiricism does in defining its method. Together I think that they must be held largely responsible (or rather, they theoretically reflect whatever is responsible) for the social scientific malaise.

The relational conception of the subject matter of sociology advocated here may be contrasted not only with the individualist conception, exemplified e.g. by utilitarian social theory, but with what I shall call the collectivist conception, best exemplified perhaps by the work of Durkheim, with its heavy emphasis on the concept of the group. Durkheim’s group is not of course the same as Popper’s. It is to use a Sartrean analogy more of the nature of a fused group than a series. In particular, as definitive of the social, it is characterized by the possession of certain emergent powers, whose justification I will consider below. Nevertheless the key concepts of the Durkheimian corpus, such as conscience collective, organic vs. mechanical solidarity, anomie etc. all derive their meaning from their relationship to the concept of the collective nature of social phenomena. Thus, for Durkheim, to the extent at least that he is to remain committed to positivism, enduring relationships must be reconstructed from collective phenomena; whereas on the realist and relational view
advances here collective phenomena are seen primarily as the expressions of enduring relationships. Note that on this conception sociology is not only not essentially concerned with the group, it is not even essentially concerned with behaviour.

If Durkheim combined a collectivist conception of sociology with a positivist methodology, Weber combined a neo-Kantian methodology with a still essentially individualist conception of sociology. His break from utilitarianism is primarily at the level of the forms of action or types of behaviour he is prepared to recognize, not at the level of the unit of study. It is significant that just as the thrust contained in Durkheim’s isolation of the emergent properties of the group is constrained by his continuing commitment to an empiricist methodology, so the possibilities opened up by Weber’s isolation of the ideal type are constrained by his continuing commitment to an empiricist ontology. In both cases a residual empiricism holds back, and ultimately annuls, a real scientific advance. For it is as futile to attempt to sustain a concept of the social on the basis of the category of the group, as it is to attempt to sustain a concept of natural necessity on the basis of the category of experience. Marx, I think, did make the attempt to combine a realist ontology and a relational sociology. One can thus schematize four tendencies in social thought as in Table 1 below.

<table>
<thead>
<tr>
<th>Method</th>
<th>Object</th>
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<tr>
<td>Utilitarianism</td>
<td>empiricist</td>
</tr>
<tr>
<td>Weber</td>
<td>neo-Kantian</td>
</tr>
<tr>
<td>Durkheim</td>
<td>empiricist</td>
</tr>
<tr>
<td>Marx</td>
<td>realist</td>
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n.b. concepts of method (social epistemology) underpinned by general ontology; concepts of object (social ontology) underpinned by general epistemology.

It should be noted that as the relations between the relations that constitute the proper subject matter of sociology may themselves be internally related only the category of totality can express this. Some problems that this gives rise to will be considered below. But now I want to consider the nature of the connection between society and people.
It is customary to draw a divide between two camps in sociological theory: one, represented above all by Weber, in which social objects are seen as the results of (or as constituted by) intentional or meaningful human behaviour; and the other, represented by Durkheim, in which they are seen as possessing a life of their own, external to and coercing the individual. With some stretching the various schools of social thought—phenomenology, existentialism, structuralism, etc.—can then be seen as instances of one or other of these positions. And various brands of Marxism can then also be neatly classified. These two stereotypes can be represented as in the diagrams below.

Model I: The Weberian stereotype

Model II: The Durkheimian stereotype

Now it is tempting to try to develop a general model capable of synthesizing these conflicting perspectives, on the assumption of a dialectical inter-relationship between society and men. I want to discuss a plausible variant of such a model, advocated most convincingly by Peter Berger and his associates. Its weaknesses will, I think, enable us to work our way to a more adequate conception of the relationship between society and men, as well as to better display the errors of the conventional stereotypes.

According to the Berger model, which I shall call Model III, society forms the individuals who create society; society, that is, produces men, who produce society, in a continuous dialectic. Model III can be represented by the following diagram.

Model III: The 'Dialectical' conception
According to the proponents of this model 'social structure is not characterisable as a thing able to stand on its own, apart from the human activity that produced it'. But equally, once created, 'it is encountered by the individual [both] as an alien facticity [and] ... as a coercive instrumentality'. 'It is there, impervious to his wishes, ... other than [and resistant to] himself.' This schema thus seems able to do justice both to the subjective and intentional aspects of social life and to the externality and coercive power of social facts. In this way any voluntaristic implications of the Weberian tradition and any reification associated with the Durkheimian one are simultaneously avoided; for a radical distinction is now drawn between natural and social facts, in that the latter but not the former do not exist independently of human activity.

Thus while agreeing with Durkheim that 'the system of signs I use to express my thoughts, the system of currency I employ to pay my debts, the instruments of credit I utilise in my commercial relations, the practices followed in my profession etc. function independently of my use of them.', advocates of this model regard such systems, instruments and practices as objectivations that, under certain conditions, take on an alienated form. According to them objectivation is 'the process whereby human subjectivity embodies itself in products that are available to oneself and one's fellow men as elements of a common world' and 'alienation is the process whereby the unity of the producing and the product is broken.' Thus languages, forms of economic and political organization, cultural and ethical norms are all ultimately embodiments of human subjectivity. And any consciousness which does not see them as such is necessarily reified. Reification must, however, be distinguished from objectivation. This is necessary to any conceivable social life and is defined as 'the moment in the process of objectivation in which man establishes distance from his producing and its product, such that he can take cognizance of it and make of it an object of his consciousness'.

On Model III, then, society is an objectivation or externalization of man. And man, for his part, is an internalization or re-appropriation in consciousness of society. Now I think that this model is seriously misleading. For it encourages, on the one hand, a voluntaristic idealism with respect to our understanding of social structure and, on the other, a mechanistic determinism with respect to our understanding of people. People and society are not, I shall argue, related 'dialectically'. They do not constitute two moments of the same process. Rather they refer to radically different kinds of thing.

Let us consider society. To return for a moment to Durkheim. It
will be remembered that, reminding us that the church-member, or let us say the language-user, finds the beliefs and practices of his religious life, or the structure of his language, ready-made at birth, he argues that it is their existence prior to his own that implies their existence outside himself, and from which their coercive power is ultimately derived. Now if this is the case and the social structure, and the natural world in so far as it is appropriated by men, is always already made, then Model III must be corrected in a fundamental way. It is still true to say that society would not exist without human activity, so that reification remains an error. And it is still true to say that such activity would not occur unless the agents engaging in it had a conception of what they were doing. But it is no longer true to say that men create it. Rather we must say: They reproduce or transform it. That is to say, if society is already made, then any concrete human praxis or, if you like, act of objectivation can only modify it; and the totality of such acts sustain or change it. It is not the product of their activity (any more than their actions are completely determined by it). Society stands to individuals, then, as something that they never make, but that exists only in virtue of their activity.

The alternative model I propose, Model IV, may thus be expressed as follows: Men do not create society. For it always pre-exists them. Rather it is an ensemble of structures, practices and conventions that individuals reproduce or transform. But which would not exist unless they did so. Society does not exist independently of conscious human activity (the error of reification). But it is not the product of the latter (the error of voluntarism). This model may be represented diagrammatically as below.

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Society

reproduction/
transformation

Individuals
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Model IV: The transformational model of social activity

What is the counterpart, represented by the downward vertical lines, to the relationship of reproduction/transformation in which individuals stand to society? Society provides the necessary conditions for intentional human activity (as well as, in any given case, to a greater or lesser extent circumscribing its form). The processes whereby the stock of skills and competences appropriate to given social contexts are acquired could be generically referred to as
'socialization'. Notice that on Model I there are actions, but no conditions; on Model II conditions but no actions; on Model III no distinction between the two. Thus in Durkheim subjectivity tends to appear only in the guise of the interiorized form of social constraint. But a moment's reflection shows equally that real subjectivity requires conditions under which, and materials (e.g. language) with which, the subject can act.

It should be noted that Model IV, as a result of its emphasis on material continuity, can sustain a genuine concept of change, and hence of history—something that neither Model I nor the methodological stereotypes it attempts to situate as special cases can do. Thus Model I appears to involve continuous recreation with genuine novelty, seemingly entailing incomplete social formation, something of a mystery. On the Weberian methodological stereotype change reduces to contrast, and on the Durkheimian one it can only be explained by advertion to exogenous variables. Model IV, moreover generates a clear criterion of historically significant events: viz. those that initiate or constitute ruptures, mutations or more generally transformations in social forms (such as Dalton's training as a meteorologist or the French Revolution).

5 Some emergent properties of social systems

Now if society pre-exists the individual, objectivation takes on a very different significance. For it, conscious human activity, consists in work on given objects, and cannot be conceived as taking place in their absence. These objects may be material or ideational. And they may be regarded as the results of prior objectivations. Now this suggests a radically different conception of social activity, an essentially Aristotelian one: the paradigm being that of a sculptor at work, fashioning a product out of the material and with the tools available to him. I shall call this the transformational model of social activity. It applies to discursive as well as to non-discursive practices; to science and politics, as much as to economics. Thus in science the raw materials used in the construction of new theories are established results, half-forgotten ideas, the stock of available paradigms and models, methods and techniques of inquiry; so that the scientific innovator comes to appear in retrospect as a kind of cognitive bricoleur. To use the Aristotelian terms, then, in every process of productive activity a material as well as an efficient cause is necessary. And social activity consists, then, at least paradigmatically in work on and the transformation of given materials.
If such work constitutes the analogue of natural events, then we need an analogue for the mechanisms that generate them. If social structures constitute the appropriate mechanism-analogue then we must at once register an important difference—in that, unlike natural mechanisms, they exist only in virtue of the activities they govern and cannot be empirically identified independently of them. Because of this they must be social products themselves. Thus men in their social activity must perform a double function: they must not only make social products but make the conditions of their making, i.e. reproduce (or to a greater or lesser extent transform) the structures governing their substantive activities of production. Because social structures are themselves social products, they are themselves possible objects of transformation and so may be only relatively enduring. And because social activities are interdependent, social structures may be only relatively autonomous. Society may thus be conceived as an articulated ensemble of such relatively independent and enduring structures; that is, as a complex totality subject to change both in its components and their interrelations. Moreover it is important to note that because social structures exist only in virtue of the activities they govern, they do not exist independently of the conceptions that the agents possess of what they are doing in their activity; that is of some theory of these activities. Finally, because social structures are themselves social products, social activity must be given a social explanation, and cannot be explained by reference to non-social parameters (though the latter may impose constraints on the possible forms of social activity).

Some ontological limitations on a possible naturalism in the domain of the social sciences can be immediately derived from these emergent social properties, on the assumption (to be vindicated in the next section) that society is sui generis real:

(i) social structures, unlike natural structures, do not exist independently of the activities they govern;
(ii) social structures, unlike natural structures, do not exist independently of the agents’ conceptions of what they are doing in their activity;
(iii) social structures, unlike natural structures, may be only relatively enduring (so that the tendencies they ground may not be universal in the sense of space-time invariant).36

These all indicate real differences in the possible objects of knowledge in the case of the natural and social sciences. They are not of course unconnected. Though one should be wary of drawing conclusions of the sort: ‘Society exists only in virtue of human activity.
Human activity is conscious. Therefore consciousness brings about change. For (a) social changes need not be consciously intended and (b) if there are social conditions for consciousness, changes in it can in principle be socially explained. Society, then, is an articulated ensemble of tendencies and powers which, unlike natural ones, exist only as long as they (or at least some of them) are being exercised; are exercised in the last instance via the intentional activity of men; and are not necessarily space-time invariant.

To turn now to people. Human action is characterized by the striking phenomenon of intentionality. This seems to stem from the fact that persons are material things with a degree of neuro-physiological complexity which enables them not just, like the higher animals, to initiate changes in a purposeful way, to monitor and control their performances, but to monitor the monitoring of these performances and to be capable of a commentary upon them. This capacity for second-order monitoring also makes possible a retrospective commentary upon actions, which gives a person's own account of his behaviour a special status, which is acknowledged in the best practice of all the psychological sciences.

The importance of distinguishing, in the most categorical way, between human action and the social structure will now be apparent. For the properties possessed by social forms may be very different from those possessed by the individuals upon whose activity they depend. For instance we can suppose without paradox or tension that purposefulness, intentionality and sometimes self-consciousness characterize human action, but not changes in the social structure. I want to distinguish sharply then between the genesis of human actions, lying in the reasons, intentions and plans of men, on the one hand; and the structures governing the reproduction and transformation of social activities on the other; and hence between the domains of the psychological and the social sciences. The problem of how men reproduce any particular society belongs to a linking science of social psychology. It should be noted that engagement in a social activity is itself a conscious human action which may, in general, be described either in terms of the agent's reasons for engaging in it or in terms of its social function or role.

Now the autonomy of the social and the psychological does justice to our intuitions. Thus we do not suppose that the reason why garbage is collected is necessarily the garbage collectors reason for collecting it (though it depends upon the latter). And we can allow that our speech is governed by the rules of grammar without supposing either that these rules exist independently of our speech habits (reification) or that they determine what we say. The rules of
grammar, like natural structures, impose limits upon the speech acts that we can perform, but they do not determine our performances. One great advantage of this conception of social science is thus that it preserves the status of human agency, while doing away with the myth of creation (logical or historical), which depends upon the possibility of an individualist reduction. And in so doing it allows us to see that necessity in social life operates in the last instance via the intentional activity of man. Looked at in this way, then, we may regard it as the task of the various social sciences to lay out the structural conditions for various forms of conscious action—for example, what economic processes must take place for Christmas shopping to be possible—but they do not describe the latter.

To return once again to the relationship between society and people. The conception I am proposing is that people, in their conscious human activity, for the most part unconsciously reproduce (or occasionally, transform) the structures that govern their substantive activities of production. Thus people do not marry to reproduce the nuclear family, or work to reproduce the capitalist economy. But it is nevertheless the unintended consequence (and inexorable result) of, as it is also the necessary condition for, their activity.

6 On the reality of society and the subject matter of sociology

I now want to return to the question of the ontological status of societies. I have argued elsewhere that living things determine the conditions of applicability of the physical laws to which they are subject, so that their properties cannot be reduced to the latter; i.e., that emergence characterizes both the natural and the human worlds.38 (And that this is consistent with what may be termed a 'diachronic explanatory reduction', that is a reconstruction of the historical processes of their formation out of 'simpler' things.) If intentional action is a necessary condition for certain determinate states of the physical world, then the properties and powers that persons possess in virtue of which intentionality is correctly attributed to them are real. Similarly, if it can be shown that but for society, certain physical actions would not be performed, then, employing the causal criterion set out at the beginning, we are justified in asserting that it is real.

Now I think that Durkheim, having established the autonomy of social facts using the criterion of externality, in effect employed just such a criterion to establish their reality, in invoking his other
criterion of constraint: 'I am not obliged to speak French with my fellow-countrymen nor to use the legal currency, but I cannot possibly do otherwise. If I tried to escape this necessity, my attempts would fail miserably. As an industrialist, I am free to apply the technical methods of former centuries; but by doing so I should invite certain ruin. Even when I free myself from these rules and violate them successfully, I am always compelled to struggle with them. When finally overcome, they make their constraining power felt by the resistance they offer.' Durkheim is saying in effect that but for the range of social facts particularly sequences of sounds, movements of bodies etc. would not occur. Of course we must insist, against Durkheim, that the range of social facts depends upon the intentional activity of men. The individualist truth that people are the only moving forces in history—in the sense that nothing happens behind their backs, that is, everything that happens, happens in and through their actions—must be retained. Moreover we must conceive social structures as in principle enabling, and not just coercive. Nevertheless in employing a causal criterion to establish the reality of social facts, Durkheim observed perfectly proper scientific practice. Though it must be noticed that we are here dealing with a most peculiar kind of entity: a structure irreducible to, but present only, in its effects.

What is the connection between the transformational model of social activity developed in §5 and the relational conception of the subject matter of sociology advanced in §3? The relational conception does not of course deny that factories and books are social forms. But it maintains that their being social, as distinct from (or rather in addition to) material, objects consists only in the relationships between persons or between such relationships and nature that such objects causally presuppose or entail. The social conditions for the structures that govern the substantive activities of transformation in which men engage (and which constitute the immediate explanation of these activities) can thus only be relations of various kinds: between people and each other, their products, their activities, nature and themselves. If social activity is to be given a social explanation it is in this nexus that it must be found. It is thus in the enduring relations presupposed by, rather than the actual complex motley of particular social forms, that on this conception, sociology's distinctive theoretical interest lies.

Marx combined a relational conception of social science and a transformational model of social activities with the additional premiss—of historical materialism—that it is material production that is ultimately determining of the rest of social life.
well known, although it can be established \textit{a priori} that material production is a necessary condition for social life, it cannot be established \textit{a priori} that it is an ultimately determining one. And so like any other fundamental metaphysical blueprint or paradigm in science historical materialism can only be justified by its fruitfulness in generating research programmes capable of yielding sequences of theories, progressively richer in explanatory power. Not the least of the problems facing historical materialism is that, although progress has been made in particular areas of explanation, the blueprint itself still awaits adequate articulation. (One has only to think of the problem of reconciling the thesis of the relative autonomy of the superstructures with that of determination in the last instance by the base\textsuperscript{42} to be reminded of this.)

7 The limits of naturalism

How, given that societies exist, and have the kinds of properties that they do, might they become possible objects of knowledge for us?

The major ontological limits on the possibility of naturalism, turning on the activity-, concept-, and space-time-dependence of social structures, have already been isolated. Before considering how social scientific knowledge is possible, despite or as I shall try to show because of these features, I want to consider two other kinds of limit on naturalism, which I shall characterize as epistemological and relational respectively.

Society, as an object of inquiry, is necessarily 'theoretical' in the sense that, like a magnetic field, it is necessarily unperceivable; so that it cannot be empirically identified independently of its effects, i.e. it can only be known, not shown, to exist. However in this respect it is not differentiated from many objects of natural scientific inquiry. What does differentiate it is that society not only cannot be empirically identified independently of its effects, but it does not \textit{exist} independently of them either. But, however strange this is from an ontological point of view,\textsuperscript{43} it raises no special epistemological difficulties.

The chief epistemological limit on naturalism is not raised by the necessarily unperceivable character of the objects of social scientific investigation, but by the fact that they only manifest themselves in 'open systems'; that is in systems where invariant empirical regularities do not obtain. Now the real methodological import of this point must be distinguished most carefully from its significance for the
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doctrines of received philosophy of science. It is as easy to exaggerate
the former, as to underestimate the latter. For, as I have shown in
detail elsewhere,\textsuperscript{44} practically all the theories of orthodox philo-

sophy of science, and the methodological directives they secrete

presuppose closed systems. Because of this, they are totally inapplic-
able to the social sciences—which is not of course to say that the

attempt cannot be made to apply them, with disastrous results.

Humean theories of causality and law, deductive–nomological and

statistical models of explanation, inductivist theories of scientific
development and criteria of confirmation, and Popperian theories of

scientific rationality and criteria of falsification, together with the

hermeneutical contrasts parasitic upon them, must all be totally
discarded. The only concern of social science with them is as objects

of substantive explanation.

The real methodological import of the absence of spontaneously

occurring, and the impossibility of artificially creating, closed

systems is strictly limited: it is that the social sciences are denied, in

principle, decisive test situations for their theories. This means that

the criteria for the rational confirmation and rejection of theories in

social science cannot be predictive, and so must be exclusively

explanatory. Particularly important here will be the capacity of a

theory to be developed in a non–ad hoc way so as to situate, and

preferably explain, without strain, a possibility, once (and perhaps
even before) it is realized, when it could never, given the openness of
the social world, have predicted it. It should be stressed that this
difference has in itself no ontological significance whatsoever. It does
not affect the form of laws, which in natural science too must be
analysed as tendencies; only the form of our knowledge of them.

Because the mode of application of laws is the same in open and

closed systems alike,\textsuperscript{45} the mode of application of laws is the same in

society as in nature. And although the necessity to rely exclusively on

explanatory criteria may affect the subjective confidence with which

we hold social scientific theories, if we have independently validated

claims to social scientific knowledge (on explanatory criteria) then

we are just as warranted in applying our knowledge as in natural

science. Or rather, given that the problem is not typically whether or

not to apply some theory, \(T\), to the world, but rather which out of

two or more theories, \(T, T'\), etc. to apply, the degree of our

preference for one theory over another will not be affected by a

limitation on the grounds with which that preference must be

justified.

In addition to allowing (relatively)\textsuperscript{46} decisive test situations,

experimental activity in the natural sciences, in enabling access to the
otherwise latent structures of nature, may provide an invaluable component of the process of scientific discovery that the social sciences, in this respect, will be denied. However, our discussion of the relational and ontological limits will generate an analogue and a compensator respectively for this role in discovery.

The chief relational difference is that the social sciences are part of their own field of inquiry, in principle susceptible to explanation in terms of the concepts and laws of the explanatory theories they employ; so that it is internal with respect to its subject matter in a way in which natural science is not. This qualifies the sense in which the objects of social scientific investigation can be said to be intransitive, i.e. exist and act independently of it. For it is possible and indeed likely, given the internal complexity and interdependence of social activities, that its objects do not exist independently of, and may be causally affected by, social science; just as one might expect that social science is affected or conditioned by developments in, as it patently cannot exist independently of, the rest of society. So far the argument has turned merely on the possibility of a relatively undifferentiated society/social science link. But the case for such a link may be strengthened by noting that just as a social science without a society is impossible, so a society without some kind of scientific, proto-scientific, or ideological theory of itself is inconceivable (even if it consists merely in the conceptions that the agents have of what they are doing in their activity). Now if we denote the proto-scientific set of ideas $P$, then the transformational model of social activity applied to the activity of knowledge-production would suggest that social scientific theory, $T$, requiring cognitive resources is produced, at least in part, by the transformation of $P$. The hypothesis under consideration is that this transformation will be vitally affected by developments in the rest of society, $S$.

It might be conjectured that in periods of transition or crisis generative structures, formerly opaque, become more visible to men. And that this, though it never yields the epistemic possibilities of a closure, does provide a partial analogue to the role that experimental activity plays in natural science. The social conditions for the production and emergence of a social scientific theory must of course be distinguished from the conditions for its subsequent development and (though there are evident connections between the two) from the conditions for its wider societal influence or assent. Thus it is surely no accident that Marxism was born in the 1840's or stunted in the East under Stalin and in the West during the Cold War and post-war boom. Or that sociology, in the narrow sense, was the fruit of the two decades before the First World War.
It should be noted that because social systems are open historicism (in the sense of deductively justified prediction) is untenable. Moreover, because of the historical (transformational) character of social systems, qualitatively new developments in society will be occurring which social scientific theory cannot be expected to anticipate. Hence for ontological, as distinct from purely epistemological, reasons, social scientific, unlike natural scientific, theory is necessarily incomplete. Moreover, as the possibilities inherent in a new social development will often only become apparent long after the development itself, and as each new development is, in a sense, a product of a previous one, we can see why it is that history must be continually rewritten. There is a relational tie between the development of the object of knowledge and the development of knowledge that any adequate theory of social science, and methodology of social scientific research programmes, must take account of. In particular, Lakatosian judgments about the progressive or degenerating nature of research programmes in the social sciences cannot be made in isolation from judgments about factors in the rest of society, S, conditioning work in particular programmes.

Once a hypothesis of a causal mechanism has been produced in social science it can then be tested quite empirically, though exclusively by reference to its explanatory power. But I have so far said nothing about how the hypothesis of the generative mechanism is produced, or indeed about what its status is. It is to these questions that I now turn.

In considering theory construction in the social sciences it should be borne in mind that the putative social scientist would, in the absence of some prior theory, be faced with an inchoate mass of social phenomena, which he would somehow have to sort out and define. In systems, like social ones, which are necessarily open, the problem of constituting an appropriate (i.e. explanatorily significant) object of inquiry becomes particularly acute. Fortunately most of the phenomena with which the social scientist has to deal will already be identified, thanks to the concept-dependent nature of social activities, under certain descriptions. In principle the descriptions or nominal definitions of social activities that form the transitive objects of social scientific theory may be those of the agents concerned or theoretical redescriptions of them. The first step in the transformation $P \rightarrow T$ will thus be an attempt at a real definition of a form of social life that has already been identified under a particular description. Note that in the absence of such a definition, and failing a closure, any hypothesis of a causal mechanism is bound to be more or less arbitrary. Thus in social science attempts at real definitions will in general precede
rather than follow successful causal hypotheses—though in both cases they can only be justified empirically, viz. by the revealed explanatory power of the hypotheses that can be derived from them.

The problem, then, is shifted from that of how to establish a non-arbitrary procedure for generating causal hypotheses to that of how to establish a non-arbitrary procedure for generating real definitions. And here a second differentiating feature of the subject matter of the social sciences should be recalled—the activity-dependent nature of social structures, viz. that the mechanisms at work in society exist only in virtue of their effects. In this respect society is quite distinct from other objects of scientific knowledge. But note that, in this, it is analogous to the objects of philosophical knowledge. For just as the objects of philosophical knowledge do not exist as objects of a world apart from the objects of scientific knowledge, so social structures do not exist apart from their effects. So I suggest that in principle as philosophical discourse stands to scientific discourse, so a discourse about society stands to a discourse about its effects. Moreover, in both cases we are dealing with conceptualized activities, whose conditions of possibility or presuppositions the second order discourse seeks to explicate. However, there are also important differences. For in social scientific discourse we are concerned not to isolate the general conditions of knowledge as such, but the particular mechanisms and relations at work in some identified sphere of social life. Moreover, its conclusions will be historical, not formal; and subject to empirical test, as well as to various a priori controls.51

It is here that the hermeneutical tradition, in highlighting what may be called the conceptual moment in social scientific work, has made a real contribution. But it makes two mistakes. Its continuing commitment to the ontology of empirical realism prevents it from seeing (1) that the conditions for the phenomena, namely social activities as conceptualized in experience, may be real; and (2) that the phenomena themselves may be false or in an important sense inadequate.

Thus what has been established, by conceptual analysis, as necessary for the phenomena may consist precisely in that extra-conceptual reality which consists in the real relations and processes in which people stand to each other and nature, of which they may or may not be aware; which is really generative of social life and yet unavailable to direct inspection by the senses. Moreover, such a transcendental analysis in social science in showing the historical conditions under which a set of categories may be validly applied ipso facto shows the conditions under which they may not be applied. This
makes possible a second-order critique of consciousness, best exemplified perhaps by Marx’s analysis of commodity fetishism. Value relations, it will be remembered, for Marx, are real but they are historically specific social realities. And fetishism consists in their transformation in thought into the natural, and so ahistorical, qualities of things. But as Norman Geras has pointed out, Marx employed another concept of mystification. This is best exemplified by his treatment of the wage form, in which the value of labour power is transformed into the value of labour. This Marx declares to be an expression ‘as imaginary as the value of the earth’, ‘as irrational as a yellow logarithm’. Here he engages in what we may call a first-order critique of consciousness—in which, to put it bluntly, he identifies the phenomena themselves as false; or, more formally, shows that a certain set of categories are not properly applicable to experience at all. Thus, contrary to what is implied in the transcendental idealist tradition, the transformation P→T both (1) isolates real but non-empirical conditions and (2) consists essentially, as critique, in two types of conceptual criticism and change.

Now the apellation ‘ideology’ to the set of ideas P is only justified if their necessity can be demonstrated; that is if they can be explained, as well as criticized. This involves something more than just being able to say that the beliefs concerned are false (or superficial) and being able to say why they are false or superficial, which normally entails of course having a superior explanation for the phenomenon in question. It involves, in addition, being able to give an account of the reasons why the false or superficial beliefs are held—a mode of explanation clearly without parallel in the natural sciences. For beliefs, whether about society or nature, are clearly social objects.

Once this step is taken then conceptual criticism and change passes over into social criticism and change. For, in a possibility unique to social science, the object that renders illusory beliefs necessary comes, at least in the absence of any overriding considerations, to be criticized in being explained. So that the point now becomes, ceteris paribus, to change it. In the full development of the concept of ideology, theory fuses into practice, as facts about values, mediated by theories about facts, are transformed into values about facts. The rule of value-neutrality, the last shibboleth of the philosophy of social science, collapses, when we come to see that values themselves can be false.

To sum up, then, society is not given in, but presupposed by, experience. But it is precisely its peculiar ontological status, its transcendentally real character, that makes it a possible object of knowledge for us. Such knowledge is non-natural but still scientific.
As for the law-like statements of the social sciences, they designate tendencies operating at a single level of the social structure only. Because they are defined only for one relatively autonomous component of the social structure and because they act in systems that are always open, they designate tendencies (such as for the rates of profit on capitalist enterprises to be equalized) which may never be manifested. But which are nevertheless essential to the understanding and the changing of, just because they are really productive of, the different forms of social life.

As for society itself it is not, as the positivists would have it, a mass of separable events and sequences. Nor is it constituted, as a rival school would have it, by the momentary meanings that we attach to our physiological states. Rather it is a complex and causally efficacious whole—a totality, whose concept must be constructed in theory, and which is being continually transformed in practice. As an object of study, it cannot be read straight off the empirical world. But neither can it be reconstructed from our subjective experiences. But, though positivism would have had us forget it, that much at least is the case with the objects of study in natural science too.

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NOTES

4 See my A Realist Theory of Science, esp. chs. 1 & 2.
5 Ibid., ch. 2, sect. 4.
6 Loc. cit.
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7 See R. Harré, Principles of Scientific Thinking, esp. ch. 2; and M. Hesse, Models and Analogies in Science, University of Notre Dame Press, Indianapolis, 1966, esp. ch. 1.


13 Loc. cit.


17 Ibid., p. 278.


22 There are, of course, non-, and even anti-individualist tendencies in Weber's thought (see e.g. R. Aron, Philosophie Critique de l'histoire, NRF, Paris, 1969); just as there are non-, and (especially in The Elementary Forms of Religious Life) anti-positivist strains in Durkheim's (see e.g. R. Horton 'Lévy-Bruhl, Durkheim and the Scientific Revolution', Modes of Thought, eds. R. Finnegar & R. Horton, Faber & Faber, London, 1973).


26 Ibid., p. 63.

27 Loc. cit.


29 'Reification', p. 60.

30 Ibid., p. 61.

31 Ibid., p. 60.


33 This is of course the fundamental insight of the hermeneutical tradition in the

34 Marx, perhaps, comes closest to articulating this conception of history: 'History is nothing but the succession of the separate generations, each of which exploits the materials, the capital the productive forces handed down to it by all proceeding generations, and thus, on the one hand continues the traditional activity in completely changed circumstances and, on the other, modifies the old circumstances with a completely changed activity', K. Marx & F. Engels, *The German Ideology*, Lawrence & Wishart, London, 1965, p. 66.


36 The internal complexity and interdependence of social structures does not mark a necessary difference with natural structures.

37 See R. Harré & P. F. Secord, *op. cit.*, esp. ch. 5.


40 Although Durkheim used a causal criterion to establish the reality of social facts on a collectivist conception of sociology, the same criterion can be used to establish their reality on a relational one. (There is no special difficulty, as e.g. the concept of spin in physics shows, in ascribing reality to relations on a causal criterion).

41 According to Marx, men 'begin to distinguish themselves from animals as soon as they begin to produce their means of subsistence', *The German Ideology*, p. 31. 'The first premiss of all human existence and therefore of all history [is] the premiss ... that men must be in a position to live in order to be able to "make history". But life involves before anything eating and drinking, a habitation, clothing and many other things. The first historical act is thus the production of the means to satisfy these needs, the production of material life itself', *ibid.*, p. 39. ('The first historical act' must of course be understood in an analytical, not chronological, sense.) Cf. also: 'In all forms of society it is a determinate production and its relations which assign every other production and its relations their rank and influence. It is a general illumination in which all other colours are plunged and which modifies their specific tonalities. It is a special ether which defines the specific gravity of everything found within it', K. Marx, *Grundrisse*, Penguin, Harmondsworth, 1973, p. 107.

42 The problem for marxism has always been to find a way of avoiding both economic (or worse technological) reductionism and historical electicism, so that it does actually generate some substantive historiographical propositions. It is a problem of which both Marx and Engels were aware. Thus as Engels was at pains to stress: 'According to the materialist conception of history, the economy is the ultimately determining element in history. [But] if someone twists this into saying that it is the only determining [one], he transforms this proposition into a meaningless, abstract, senseless phrase. The economic situation is the basis, but the various elements of the superstructure ... also exercise their influence upon the course of events ... and in many cases preponderate in determining their form. There is an interaction of all these elements in which, amid the endless host of accidents, the economic movement finally asserts itself as necessary.' (F. Engels, Letter to J. Bloch, 21 September 1890, *Marx–Engels Selected Works*, Vol. II, Lawrence & Wishart, London, 1968, p. 692.) But how are we to conceptualize this ultimate necessity? Marx provides a clue. Replying to an objection he concedes
that 'the mode of production of material life dominates the development of social, political and intellectual life generally... is very true for our time, in which material interests preponderate, but not for the middle ages, in which Catholicism, nor for Athens or Rome, where politics, reigned supreme'. But Marx contends 'this much [also] is clear. That the middle ages could not live on Catholicism, nor the Ancient World on Politics [alone]. On the contrary, it is the economic conditions of the time that explains why here politics and there Catholicism played the chief part.' (K. Marx, Capital, Vol. I, Lawrence & Wishart, London, 1965, p. 81n.) Althusser has attempted to theorize this insight by saying that it is the economy that determines which relatively autonomous structure in the social totality is the dominant one. (See L. Althusser, For Marx, Allen Lane, London, 1969, and L. Althusser & E. Balibar, Reading Capital, New Left Books, London, 1970.)

43 But is the notion of a 'field' that exists only in virtue of its effects any stranger, or prima facie more absurd, than the combination of principles of wave and particle mechanics in elementary micro-physics, now reckoned a common-place?

44 A Realist Theory of Science, Appendix to ch. 2.

45 Ibid., ch. 2, sect. 4.


47 If true, this would have an analogue in the domain of social psychology in the conscious technique of 'Garfinkelling' (see e.g. H. Garfinkel, Essays in Ethnomethodology, Prentice-Hall, New Jersey, 1967), and perhaps in the role played by psychopathology in the development of a general psychology.

48 Consider, for example, the way in which the mass unemployment of the 1930's not only provided the theoretical dynamo for the Keynesian innovation, but facilitated its ready acceptance by the relevant scientific community.


51 Thus the transformational model of social activity implies that it is a necessary condition for any adequate theory of a social system that the theory be capable of showing how the system reproduces or transforms itself. A priori considerations of this sort can be used to criticize particular social theories. See, for example, M. Hollis and E. Nell, Rational Economic Man, Cambridge University Press, Cambridge, 1975, esp. ch. 8. For a criticism of neo-classical economic theory along these lines.


56 C. Taylor 'Neutrality in Political Science', Philosophy, Politics and Society, 3rd series, eds. P. Laslett & W. Runciman, reprinted in A. Ryan, op. cit., shows clearly how theories (or 'explanatory framework') do in fact secrete values. Unfortunately, however, by not specifying any criterion for choosing between theories, he
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leaves himself open to the interpretation that one should choose that theory that most satisfies our conception of what 'fulfils human needs, wants and purposes' (p.161); rather than that theory which, just because it is explanatorily most adequate, and capable inter alia of explaining illusory beliefs about the social world, best allows us to situate the possibilities of change in the value-direction that the theory indicates. Taylor thus merely displaces, rather than transcends, the traditional fact/value dichotomy.