

The Reduction of Society

D. H. MELLOR

How does the study of society relate to the study of the people it comprises? This longstanding question is partly one of method, but mainly one of fact, of how independent the objects of these two studies, societies and people, are. It is commonly put as a question of reduction, and I shall tackle it in that form: does sociology reduce in principle to individual psychology? I follow custom in calling the claim that it does 'individualism' and its denial 'holism'.

1. Reduction

I will construe reduction broadly, to include the replacement, of one science or theory by another, that has often been contrasted with it.¹ The point of reduction in either case is that the progress or extension of one science or theory makes some other science or theory in principle redundant. How far the reduced science or theory survives as a special case is immaterial. Given this broad sense of 'reduction', however, I shall stick to the reduction of sciences rather than of theories. The theory of one science is indeed what annexes or replaces that of another. But the theory of the reduced science was, I take it, all right in its own domain. We need not take on every vexed question of how to compare rival theories. In particular, I shall ignore redundancy due to failure, or to supersession by a better theory from the same domain. My interest is in the takeover of one going scientific concern by another, not internal boardroom coups or the liquidation (or baling out) of scientific bankrupts.

A reducible science will therefore have its own results, to which the reducing science must yield acceptable approximations. To do that it will need bridge principles relating it to its intended prey: for example, the principle that all light is electromagnetic radiation. Since the two sciences were originally independent, bridge principles must to start with be synthetic. Failure of electromagnetic theory to yield acceptable approximations to the known laws of optics would originally have shown merely that light

¹ E.g. E. Nagel, *The Structure of Science* (London: Routledge, 1969), ch. 11; P. K. Feyerabend, 'Explanation, Reduction and Empiricism', *Minnesota Studies in the Philosophy of Science Volume 3*, H. Feigl and G. Maxwell (eds) (Minneapolis: University of Minnesota Press, 1962), 28–97.

was not electromagnetic. What success showed was that, as a matter of natural law, it is.

Here, as elsewhere, success later got enshrined in semantics. 'Light' came to mean a species of electromagnetic radiation, and experiments in optics became *ipso facto* experiments in electromagnetism (whether the meaning of optical or electromagnetic terminology shifted more in this process is immaterial). Whatever semantic shift ensues, however, it is the original empirical correlation that constitutes the reduction.² Reducing one science to another is an empirical achievement. Semantic analysis will not do it; but nor, conversely, will that fact show reduction to be impossible. Sociology might imply as little about individual psychology as the latter does about neurophysiology, or as optics once did about electromagnetism, and still be reducible to it.

2. Reduction and Laws

It would be futile to discuss reduction were there nothing to reduce. I shall credit social sciences with some plausible generalizations (e.g. in economics), however restricted or statistical. Whether they amount to laws, however, is a relevantly moot point. According to Davidson,³ psychological terms do not figure in laws such as occur in physics, nor hence in the psychophysical laws needed to reduce psychology to physics. Were that so, there would equally be no law-like bridge principles linking psychology and sociology. Reduction here, if possible at all, would have to be something quite different from what is so called in natural science.

However, there are psychological and sociological laws. The idea that there are not results primarily from a misconception of natural laws as being or asserting necessities of some kind; necessity is then seen to be foreign to psychology and sociology, and the lack of laws there is at once inferred.⁴ I have given detailed grounds elsewhere⁵ for thinking this a

² D. H. Mellor, 'Physics and Furniture', *Studies in the Philosophy of Science*, N. Rescher (ed.) (Oxford: Blackwell, 1969), 184-185.

³ D. Davidson, 'Psychology as Philosophy', *The Philosophy of Mind*, J. Glover (ed.) (London: Oxford University Press, 1976), 101-110.

⁴ S. Kripke, 'Identity and Necessity', *Naming, Necessity and Natural Kinds*, S. P. Schwartz (ed.) (New York: Cornell University Press, 1977), 66-101; C. McGinn, 'Mental Acts, Natural Kinds and Psychophysical Laws I', *Aristotelian Society Supplementary Volume 52* (1978), 195-220.

⁵ D. H. Mellor, 'Necessities and Universals in Natural Laws', *Science, Belief and Behaviour*, D. H. Mellor (ed.) (Cambridge: Cambridge University Press, 1980), 105-119.

mistaken view of laws. Here I shall take these grounds, and that conclusion, for granted: laws imply no necessity. Nor need they be non-statistical, or unrestricted. The law governing the radioactive decay of radium atoms, for example, is both restricted (to radium) and statistical; yet it is a very paradigm of a law. So restricted or statistical social generalizations need not fail for those reasons to be laws.

A different objection to generalizations in sociology being accounted laws is that, although seemingly non-statistical, they admit some unexplained exceptions. But so do accepted laws in other sciences; and it is reducibility which accounts for that. Consider the reduction of the gas laws to kinetic theory. Just as there is a host of ways many people can be in given social states (e.g. constituting a church), so there is a host of ways many molecules can be in a given gaseous state (e.g. at 100°). A disjunctive definition of these states by enumeration of the ways of being in them would be impossibly complex; so therefore would exceptionless social or gas laws derived by such bridge principles from exceptionless psychological or kinetic ones. We make do instead with usably simple approximations, while consequently admitting some exceptions. What justifies admitting exceptions to them, however, just is their presumed approximation to the more complex exceptionless laws, and that we saw in **1** suffices for reduction.

The approximation moreover must not just be a coincidence: it must be reliable, i.e. it must be lawlike. *Pace* Fodor (apropos the analogous reduction of psychology to physics),⁶ it does not follow, just because bridge principles linking psychological or kinetic with social or gaseous states are complex and indeterministic, that they are not laws; merely, as in kinetic theory, that they are statistical. There must be a lawlike upper limit to the proportion of acceptable exceptions to a generalization: and what provides it is reduction via statistical bridge principles or to a statistical theory. Statistical reduction is precisely what shows that the gas laws admit of occasional exceptions; so the fact that social generalizations also admit of exceptions provides no argument whatever against either the existence or the reducibility of social laws.

When laws are modestly and correctly construed, they are easily seen to abound as much in human as in natural science, and indeed between the two. Whole professions rely on psychological and psychophysical laws, among them policemen, paintmakers, prostitutes, chefs, doctors and torturers. There are likewise obvious general links between social and psychological phenomena: between language and perceptual ability, for example, and between economics and desires. Deterministic and statistical laws of less and greater scope just as obviously provide subjunctive con-

⁶ J. A. Fodor, 'Special Sciences (or: the Disunity of Science as a Working Hypothesis)', *Synthese* 28 (1974), 97-115.

ditionals, by which all our explanations, plans and predictions are supported, in human as in natural science. There is no disproof here that enough laws may link individual psychology and sociology to reduce the latter to the former.

3. Reduction and Ontology

Reduction is easily mistaken to be a matter of ontology. The ontological slogan that 'societies in reality are nothing but people' has undoubtedly encouraged individualism⁷. But sameness of objects does not imply reducibility. In a world of objects all both shaped and coloured, for instance, a science of colours would apply to the same objects as a science of shapes; yet no laws at all might link the two, let alone enough to reduce one to the other.⁸ And in our own world, mental events might all be physical, yet psychology not be reducible to physics.⁹ So even if sociology invoked no objects other than people, it would not automatically reduce to psychology.

Sameness of objects therefore is no proof of reducibility; nor does it follow from it, even when a science is reduced intact. Sometimes the objects of a reduced science are preserved, as when Eddington's notorious table¹⁰ is identified with a swarm of microparticles; but not always. Consider the reduction by geometrical optics of truths about mirror images. Their spatial positions, shapes and colours all reduce to the properties and relations of light rays, mirrors and reflected objects. But the reduction does not preserve the form of propositions about mirror images. The non-relational position of an image, for example, reduces to a relation between the mirror and the object reflected in it. Neither of these objects, however, nor the light rays between them, nor any whole of which these are parts, can be identified with the image itself. Reduction here, even though it precisely reproduces every truth about mirror images, does not reproduce the images themselves—which is why, though every sensible

⁷ E.g. J. W. N. Watkins, 'Ideal Types and Historical Explanation', *Modes of Individualism and Collectivism*, J. O'Neill (ed.) (London: Heinemann, 1973), 153.

⁸ M. B. Hesse, 'Fine's Criteria of Meaning Change', *Journal of Philosophy* 65 (1968), 46–52.

⁹ See § below and H. Putnam, 'Reductionism and the Nature of Psychology', *Cognition* 2 (1973), 131–145; J. A. Fodor, *op. cit.*, note 6; G. P. Hellman and F. W. Thompson, 'Physicalism: Ontology, Determination, and Reduction', *Journal of Philosophy* 72 (1975), 551–564.

¹⁰ A. S. Eddington, *The Nature of the Physical World* (London: Cambridge University Press, 1929), Introduction.

person (*pace* Eddington, Sellars *et al.*) still believes that everyday tables exist,¹¹ no one believes that mirror images do.

Inferences about reducibility, therefore, cannot in general be safely drawn from ontological premises. And since such premises are anyway at least as contentious as questions of reduction, these inferences are rarely useful even when they are safe. In particular, arguing the pros and cons of 'nothing but' slogans, whether about mirror images, tables or societies, is no way to settle the reducibility of the sciences these objects figure in.

4. People

However, some of the objects that concern us are not in dispute. The social sciences are undeniably about people, just as psychology is, only about different aspects and greater numbers of them. Being a capitalist (or the Pope) is no less an attribute of a person because it implies the existence of other people with other equally sociable attributes. Psychology therefore seems at least to prescribe the common subject matter of the two sciences. Sociological attributes must be attributes of people, or of groups of people, whereas people may or may not have sociological attributes. So surely psychology will not reduce to sociology, whether or not there is reduction the other way?

Though its conclusion is true, this argument is too quick. Psychology does not in fact suffice to define its subject matter. For that it has to rely on the physical sciences, since people need bodies as well as minds to behave in the ways psychology studies. Even if bodies do need distinct mental properties in order to be people, their physical properties are still needed, and in fact suffice, to individuate and (by their spatiotemporal continuity) re-identify them.¹² In other words, psychology and sociology alike study further aspects of objects, namely human bodies, which are identifiable independently of either. Sociology, if reducible at all, will at best be reducible to psychology plus physics and physiology. But given those other sciences, it might, for all that has been shown so far, be able to reduce psychology to itself. The priority of psychology in the matter of reduction remains to be argued.

Much psychology arguably does reduce to sociology (plus physics and physiology as needed), most obviously the psychology of thought and per-

¹¹ W. Sellars, 'The Language of Theories', *Current Issues in the Philosophy of Science*, H. Feigl and G. Maxwell (eds) (New York: Holt, Rinehart, 1961), 57-77; D. H. Mellor, *op. cit.*, note 2; 'Do Cultures Exist?', *The Explanation of Culture Change*, C. Renfrew (ed.) (London: Duckworth, 1973), 59-72; 'Materialism and Phenomenal Qualities II', *Aristotelian Society Supplementary Volume 47* (1973), 107-119.

¹² B. A. O. Williams, *Problems of the Self* (London: Cambridge University Press, 1973), ch. 5.

ception. These evidently depend on our language, which seems in turn to be a social rather than a psychological phenomenon. But not all our psychology depends on society. Pain, for instance, is in itself a psychological, not a social, phenomenon. Some pains, moreover, we would attribute to animals without language as readily as to human beings with it, and to hermits as well as to members of any conceivable human society. If physics and physiology cannot reduce the laws governing such psychological phenomena, sociology will not assist them. So psychology will indeed not wholly reduce to sociology, whereas even the complexities of our linguistic behaviour may reduce to our intentions and beliefs (see 11). The reducibility of sociology to psychology is at least an open question, as its converse is not.

5. Microreduction and the Unity of Science

But why try to reduce sociology at all? Two principles have, I believe, tacitly motivated the attempt to do so; and since their influence is as undeserved as it is undefended, and depends largely on their remaining inexplicit, they are worth a little exposition and attack. One is the principle of the unity of science: one world of interacting objects in space and time (setting aside God, numbers, etc.) should in principle need only one science to study it. The other is the principle of microreduction:¹³ the constituents of every spatiotemporal object lie within its boundaries and its properties follow from theirs. In particular and in the end, everything is therefore reducible to microphysics, which studies the properties of the smallest constituents of things and events and therefore of everything. In the meantime and in the human sciences, the smallest constituents are people, and any science of social wholes must therefore reduce to that of these constituents, namely individual psychology.

These doctrines derive a reductive methodology from a dubious metaphysics. Science is supposed to be a unity because the world is one; the smaller realms are supposed to rule the larger because spatiotemporal objects really are wholes constituted by their spatiotemporal parts. I have elsewhere disputed both the general truth of these doctrines and their methodological authority.¹⁴ We do not know that the world is a unity, nor that all entities with spatiotemporal parts are constituted by them. Intellectual economy may indeed be served by merging sciences where we can; and ease of testing often makes microreductive mergers sensible ones to try first. But one cannot argue *a priori* from these doctrines to the possibility of a microreductive unification of the sciences. On the contrary, actual microreductions

¹³ G. Schlesinger, *Method in the Physical Sciences* (London: Routledge, 1963), ch. 2.

¹⁴ D. H. Mellor, *op. cit.*, note 11, and 'Natural Kinds', *British Journal for the Philosophy of Science* 28 (1977), 299–312.

are what give the doctrines such application as they have. And while microreduction is both common and important on a human scale, it is far from always tried, let alone with success.

Macro-explanations, where properties of objects are derived from their relations to larger wholes they are spatiotemporal parts of, are also common in science. Functional explanations of bodily organs provide examples from biology, as 'least action' principles do in physics. To insist that there must also be more fundamental micro-reductions of the wholes involved in these cases simply begs the question. Even in microphysics, whose prestige has been speciously tied to that of microreduction, microreduction does not rule. So-called 'bootstrap' theories, in which every kind of particle of a certain sort reduces to other kinds of particles of that sort, are an obvious exception; and more importantly, so is quantum theory itself. The superposition principle, which is central to the theory and to any currently conceivable successor to it, means that properties of large objects do not follow in the theory from the properties and relations of smaller ones. The equations must be solved afresh for each object with its own boundary conditions. Where quantum theory holds, microreduction fails.

(Since quantum theory claims to hold of everything, one might infer in particular that sociology is indeed not reducible to psychology. The inference would be unwise: on the human scale, the effects of superposition are far too small to prevent psychology producing acceptable approximations to sociological laws. But in any case, quantum theory has only been shown to hold of objects vastly smaller and less complex than people. Only a microreductive prejudice inconsistent with the theory itself would warrant much confidence in its success on a human, let alone a social, scale. Its only relevant use is to help to discredit the myth of a microreductive unity of science, which has much exaggerated quantum theory's own significance, as well as lending spurious support to individualism in social science.)

I do not mean to deny the special place of physics among the natural sciences. It might well be, as Hellman and Thompson put it, 'the most basic and comprehensive of the sciences'¹⁵ even if other sciences do not reduce to it. Some modern physicalists indeed claim no more than that the objects of all other sciences are physical because they have physical parts; others, more seriously, that the facts of all other sciences are supervenient on physical facts; and as Hellman and Thompson show, neither of these requirements implies reducibility. In fact the appeal of even these anaemic forms of physicalism is specious, deriving entirely from the vague and catch-all character of the term 'physical';¹⁶ but at least they show a welcome

¹⁵ G. P. Hellman and F. W. Thompson, *op. cit.*, note 9, 551.

¹⁶ D. H. Mellor, 'Materialism and Phenomenal Qualities II', *Aristotelian Society Supplementary Volume 47* (1973), 107-119; J. Earman, 'What is Physicalism?', *Journal of Philosophy* 72 (1975), 565-567.

retreat from the highly imperialist attitudes which physicists and their philosophical camp-followers have traditionally exhibited.

The fact is that the unity of our sciences is at most a unity of method, dictated by their common aim of finding out general empirical truths. Their objects must indeed be such that we can explain how we perceive them to be as these sciences say they are. Our sciences may well therefore be limited, as Kant said, to objects in space and time with properties capable of somehow affecting our senses. But that will not limit their diversity sufficiently to save physicalism in any serious sense, let alone our two principles of microreduction and the unity of science. There may still be many independent kinds of scientific object whose properties are linked by no laws. So there may be many mutually irreducible sciences; and even where there is reduction, it need no more be of wholes to parts than of parts to wholes. And all this goes as much for human as for natural science. Neither the metaphysics nor the methodology of science supplies good arguments for sociology's reduction to psychology, nor even for the psychological analogues of physicalism's more modest proposals: namely, sociology's supervenience on psychological facts, or its restriction to objects whose parts are people.

6. Groups

Failing appeal to general principles, therefore, the reduction of sociology must be debated on its own account. To simplify the debate I need to draw some more distinctions. The collective objects of the social sciences, like the objects of other sciences, comprise both things and events. By 'thing' I here mean an individual substance (in one philosophical sense), a particular entity located in space and time, that exists for more than a moment but has no temporal parts. Temporally extended events, by contrast, do have temporal parts, which are also events. Non-momentary events and processes (i.e. events characterized by their temporal parts) are never wholly present at a time; a thing, while it exists at all, always is.

A person, a plant, a mountain and a molecule are things in this sense: an illness, an adolescence, a particular harvesting, an avalanche and a chemical reaction are events and processes. Likewise in the social world: weddings, wars, revolutions, elections, reformations, parties (birthday), mergers, strikes, meetings and examinations are all social events and processes; families, tribes, social classes, scientific communities, nations, churches, parties (political), banks, companies, unions, committees and universities are all social things. I shall, for brevity, call social things 'groups', not of course meaning thereby to deny their otherwise heterogeneous character.

I draw the distinction between things and events here because it has important social consequences. It is no coincidence that most of the groups

listed above are moral and even legal agents, while none of the social events is. The fact is that moral and legal responsibility requires just the lack of temporal parts that distinguishes things from events. An agent can only be responsible for what he, she or it did at an earlier time if the selfsame object, the agent, was wholly present at both times. For that the agent must be a thing, not an event. A long-lasting event may indeed have been going on at both times, but the temporal parts present at one are different from the temporal parts present at the other. (In effect, objects with temporal parts always have temporal alibis.) Now how collective or corporate responsibility relates to that of individual people is a major moral, legal and political question, which resolves in large part into questions of reducibility. Since it arises only for groups, a discussion of reducibility restricted to them will suffice, as indeed it will for most other purposes. That being so, there are at least two good reasons of simplicity for making the restriction. One is that the nature of the thing/event distinction is seriously controversial. Some philosophers would reduce talk of things to talk of events,¹⁷ while others would conversely reduce talk of events to talk of things and times.¹⁸ Either way further questions of reduction are raised which have nothing especially to do with the reduction of sociology, and which the restriction enables me to evade without begging. The other reason is that our questions of reduction will have to do with part-whole relations, since people will turn out to be parts of groups (see 9 below); and at least with groups we are spared the added complication of temporal part-whole relations, since neither groups nor people have temporal parts.

I restrict myself therefore to the prospects of reducing truths about groups to truths about people. The restriction is not as severe as it may seem: truths about groups include truths about changes in them and that covers a lot of social events. I dare say indeed that all truths about social events reduce to truths about groups. Even if there are some that don't, I dare say also that they don't matter much to us. And anyway, what I say may well apply, *mutatis mutandis*, even to them; only I shall not try to show that it does.

7. Groups, Sets and Abstract Objects

Whether truths about groups can be reduced to truths about people is mainly a matter of fact. Whether they should be, on the other hand, is a matter of method and ideology. Holism has for example been attacked on the ground that belief in it has undesirable political and ethical conse-

¹⁷ E.g. B. Russell, *An Outline of Philosophy* (London: Allen and Unwin, 1927), ch. 26.

¹⁸ E.g. A. N. Prior, *Papers on Time and Tense* (Oxford: Clarendon Press, 1968), ch. 1.

quences.¹⁹ That may well be, but it gives no reason to think the doctrine false. Wishful thinking is no good principle of evidence, not even when motivated by morality: to hold a belief true is to be aware of sharing it, not to desire or approve of it. So since my interest is merely in the truth of the matter, I shall set these moral and political considerations aside.

I likewise set aside most of the methodological literature.²⁰ In it, 'methodological holists' argue that group phenomena can be adequately studied and explained in terms of groups, and should be so studied and explained. Their 'methodological individualist' opponents argue that groups need in the end to be understood in terms of people, their characters, intentions and interactions. Most of this argument is not germane to my enquiry. After all, it may well be that chemical phenomena can and should be studied in chemical vocabulary, and that attempts to reduce them to physics are methodologically quite perverse,²¹ even if they are in reality 'nothing but' physical processes. Talk of groups and social attributes may likewise serve social scientists far better than talk of people and psychological attributes, and sociology may still be reducible to psychology. The latter question of fact is my concern, not the former question of method.

Not all the methodological literature is irrelevant, however. Individualists in particular have argued the possibility of reduction in the course of recommending it. Some indeed have inferred its possibility from its necessity, for a reason we must take note of. This is that groups, as opposed to people, are abstract objects,²² hence void of causal powers and incapable of being governed by irreducible social or historical laws. Now groups are not in fact abstract objects, but the idea that they are is quite widespread, and it has a potent source that is worth blocking up. This source is the confounding of groups with sets of people, and membership of groups with set membership. Sets of people are indeed abstract objects, like all sets, and therefore causally impotent. But groups, in the sense that matters here, are not sets of people; and the quickest way to see that is to see how different their identity conditions are.

There are two sets of people with which a group might conceivably be identified: the set of its present members, and the set of all its members, past, present and future. In fact, it is neither. If a group were the set of its present members, it would cease to exist if ever anyone joined or left the group. It would have to, because the whole point of sets is to be so defined by their membership that different members mean a different set. But groups such as those listed in 6 are not at the mercy of mortality, recruit-

¹⁹ K. R. Popper, *The Open Society and its Enemies*, 3rd edn, II, (London: Routledge, 1957), 69-73; I. Berlin, 'Historical Inevitability', *Four Essays on Liberty* (London: Oxford University Press, 1964).

²⁰ Usefully collected in J. O'Neill (ed.), *op. cit.*, note 7.

²¹ H. Putnam, *op. cit.*, note 9.

²² K. R. Popper, *The Poverty of Historicism* (London: Routledge, 1957), 135.

ment and resignation to that extent. The Catholic Church is not reborn every time a Catholic dies or is baptized. Nor can a group be identified with the set of all its past, present and future members, the trouble this time being too little change rather than too much. Groups, being things, change in a strong sense in which events do not. Changes in events are just differences between their temporal parts: since things do not have temporal parts, their changes must amount to more than that.²³ But though the set of all past, present and future members of a group can exhibit differences between different subsets, it cannot change in the way things do. Being defined solely by the identities of the group's members, in particular without reference to when they were members, it has no history of change with time (indeed no temporal location at all). So groups, which can survive changes both in membership and attributes, are sets neither of all nor just of contemporary members.²⁴

Groups might of course be sets of entities other than people. Specifically, some groups or 'institutions' have been said to be sets of social roles or practices. But what this means is that some *kinds* of group can be defined by the social attributes people need in order to be members. What make Lloyds and Barclays banks for instance, are the social roles and practices of their employees and their customers. Analogously, what makes me a man is (perhaps) that I am rational and an animal. But that does not make me (as opposed to other men) the set of those attributes; and Lloyds (as opposed to Barclays) is likewise not any set of social attributes.

This confounding of groups with sets of social attributes undoubtedly comes from their being lumped together with social institutions, like languages and economies, that are not groups at all. These institutions, unlike groups, are not things but attributes of things, as temperatures and volumes are. To talk of the English language or economy is to talk of the linguistic or economic attributes of a group of people. Such an attribute may indeed be said to change with time just as a group may, but all that is meant is that some group changes in respect of that attribute. Thus just as a changing volume is some thing expanding or contracting, so a changing language is some group changing its habits of speech. Since 'English' ('German', etc.) refers to the linguistic attributes of a group (or groups) at a time, English itself may be said to change, in the sense of comprising different attributes at different times. But the particular attributes themselves are no more changeable things than particular volumes are. Like volumes, they are properties and so, if objects at all, abstract objects. So

²³ D. H. Mellor, 'McTaggart, Fixity and Coming True', *Reduction, Time and Reality*, R. Healey (ed.) (Cambridge: Cambridge University Press, 1981).

²⁴ This is not a merely pedantic conclusion, to be evaded by some formal weakening of the identity conditions for sets. Groups can only be innocuously abstract objects, and group membership acceptable as a primitive formal relation, if the group's identity follows, as a set's does, from that of its members.

therefore are languages and hence, no doubt, from their being confounded with groups, the tendency to think of groups also as abstract objects.²⁵

8. Groups and People

If group membership is not set membership, what is it? How are groups related to their members? I argue in 9 that the relation is a causal whole-part relation. Causation, however, only relates independent objects, which groups and their members seem not to be. Even if groups are not sets of people, they do seem to depend ontologically on them. As I noted in 4, although people can exist without groups, groups cannot exist without people. To make my causal case, therefore, I must explain away this apparent ontological dependence.

First of all we must distinguish groups from social properties. Properties indeed depend ontologically on their bearers: no red things, no redness; no English-speaking groups, no English language. But the question is not whether social properties need bearers, it is whether groups need people. Indeed they do, but only analytically: we should not call a thing a group were people not among its working parts. But a thing's identity can be quite well defined without settling the question whether or not it is a group. Moreover, one and the same thing can have the property of being a group at one time and lack it at another. People are only needed to give a thing the property of being a group; they may not be needed to make the thing itself exist, or to provide criteria for re-identifying it from time to time.

Consider a telephone system that starts out being a group, with people employed to connect calls, to buy, install and maintain equipment, to connect and charge subscribers and to keep accounts. Over the years, all these jobs disappear one by one. The exchanges are automated, the planning and ordering of equipment, the paying of bills, the debiting of subscribers' bank accounts and the system's book-keeping are all computerized. Everything else is done by outsiders: the design, manufacture, installation and maintenance of equipment is contracted out; the Postmaster General sets the system's policy and prescribes its charges. The system itself no longer has human members at all. It has changed from being a group into being a machine, but the continuity of its other apparatus, its functions and its subscribers suffices none the less to preserve its identity: it remains the same telephone network, the same thing, as it ever was. So things that are at one time groups can get by, at other times, without people (albeit

²⁵ In particular, since languages are attributes of individual people as well as of groups, and extensional logic identifies attributes with the sets of their possessors, this confusion also helps to reinforce that of groups with sets of their members.

ceasing then to be groups); just as people can get by without groups (albeit arguably ceasing then, as hermits, to be fully human). The ontological dependence of groups on people is a matter merely of causal fact in particular cases, and of verbal stipulation in general.

Epistemology may also be invoked to exaggerate the dependence of groups on people. Knowledge of groups has been thought to derive only from observations of people²⁶ and a positivist might infer its reducibility from that. I suppose such inferences need little refutation nowadays: if sociology reduced to psychology for that reason, psychology would likewise reduce to behavioural data, microphysics to pointer readings and the whole lot to something like sense-data. Conversely, if physics and psychology theorize beyond their data, why should sociology not do so? In any case, the premise of the inference is false. Knowledge of groups need not derive from observations of people; people are not always more readily observed singly than *en masse*. Even when our telephone system was a group, knowledge of its collective behaviour might well derive from listening to the phones and looking at the bills rather than from direct observation of the people running it. More seriously, perhaps, consider the prehistorians' use of archaeology. Skeletons aside, single prehistoric people are no more observable than the groups ('cultures') they belonged to. Knowledge of prehistoric cultures derives from looking at their remaining artefacts, not at their members. Our knowledge of groups, I conclude, is quite independent enough of our knowledge of individual people to be causally explicable by it. Whether it actually is so, of course, is another matter.

9. Wholes and Parts

Having cleared the ground, I now argue that groups do in fact relate causally to their members, as wholes relate to parts. The relation I mean is like that between me and my cells (and other bodily parts), and I will develop the comparison somewhat to draw out the details of my claim.

As an embodied person, I am a thing in the sense of **6**, causally related to the parts of my body. I cause my limbs to move and they and my sense organs in turn cause me to see, hear and feel things. What never affects and is never affected by me is clearly no part of me, nor am I part of it. Causal interaction, however, though necessary, clearly does not suffice to make one thing part of another. I affect and am affected by many things, including people and groups, that are not part of me. It is not easy to say precisely what else is needed, but roughly it is that affecting or being

²⁶ M. Lessnoff, *The Structure of Social Science* (London: Allen and Unwin, 1975), 80.

affected by a part constitutes affecting or being affected by the whole. My hand is a part of me because some of its movements constitute actions of mine and some things done to it are *ipso facto* things done to me.

Groups are related to their members in just these ways. Consider the telephone system of 8. Its human members affect and are affected by it: it pays them and they keep it going. One could not be a member and have no such causal relation to it. But it also affects and is affected by its users, by the government, and by the land its cables run through; yet these other things are not among its members. What distinguishes its members, human and otherwise, is that some of their actions and reactions constitute its actions and reactions. An operator or a relay making electrical contact constitutes the system connecting two subscribers; giving money to the right employee in the right way constitutes paying the 'phone bill. In the latter case, the identity of these actions depends on a social convention (which the action of connecting subscribers does not). But the part-whole relation is still causal. Convention may prescribe how an employee accepts payment; that he obeys the prescription is none the less a fact, on which the system's income causally depends.

Here, however, my analogy may again be attacked on the ground that groups are not sufficiently independent of their members to be causally related to them. Specifically, causally related things must be independently identifiable, whereas while people can indeed be identified (by their bodies) without reference to their parts, groups have no such independent embodiment. They may not be sets of people, and some may be able to turn into machines; but while they remain groups their identity depends on that of their members. So even if groups can affect people, group membership cannot itself be a causal relation.

This argument is simply fallacious. Groups do not get their identity from that of their parts, any more than people do. True, some corporate bodies are defined in law by who their founding members are, just as, it has analogously been suggested, people get their identity from that of the sperm and ovum which combine to form their first cells.²⁷ But the existence of such wholes requires also that these specified parts combine to some purpose, be it that of making a person, a firm, a union, a church or a club. And it is continuity in carrying out this purpose which fixes what, at later times, constitutes the same whole, not having the selfsame parts as the whole had to start with. Continuity of the whole's interacting parts is indeed needed, but that is quite compatible with their steady replacement. People may leave, join, or replace others in a group, just as cells may in a body, without impugning its identity, so long as enough remain at any time to keep the whole thing going. And what matters to the whole's continued

²⁷ S. Kripke, 'Naming and Necessity', *Semantics of Natural Language*, D. Davidson and G. Harman (eds) (Dordrecht: Reidel, 1972), 313.

identity is not who (or which) its replacement parts are, but what they do. So even when the identity of a whole, social or human, depends on that of some of its initial parts, it does not generally depend on that of their successors.

Groups are therefore quite independent enough of their members for the whole-part relation between them to be causal. Its causal character is apt to be obscured because the spatial boundaries of groups are less obvious than those of people, and so their spatiotemporal continuity is less apparent. But this is merely because people's social interactions can occur at a distance, whereas the biological interactions of cells cannot. Hence groups can be much less spatially determinate than people can (although some have clear enough boundaries: local authorities, countries, touring companies), since groups are wherever people are acting as their members (here as elsewhere we contrapose the principle of no action at a distance to infer presence from activity).

The fact that people in groups are not contiguous, as cells are in a body, makes groups differ from people in two other striking but in fact irrelevant ways. One is that whereas two people cannot be in exactly the same place at the same time, two groups can.²⁸ This does not mean that groups are not causal wholes; merely that like photons, gas samples and solar systems, groups are penetrable by other things of the same kind. The other difference is that I can belong simultaneously to many groups, whereas a cell can belong to only one body at a time. However, cells do belong to many overlapping parts of the body: blood cells for example are also working parts of the organs the blood feeds. And cells are as much working parts of gravitational and electrical wholes (like the earth) as the rest of us. The fact that sustaining just one group need not be a full-time job for a person, in the way that sustaining just one person is a full-time job for a cell, is of no philosophical significance.

All the lack of contiguity among people in a group shows is that its working parts also include photons, telephones and whatever other machinery it uses. As the telephone system of § 8 illustrates, these non-human parts may in the end take over entirely and the thing cease to be a group at all. How much some thing is a group is therefore a matter of degree; so consequently is the extent to which it concerns sociology. Since the reduction of sociology to psychology is my present business, I shall concentrate hereafter on the human contribution to group attributes. But I must not be taken to deny thereby the causal dependence of groups on other things, ranging from their electrons and other inanimate parts to the land and climate that surround them.

²⁸ A. M. Quinton, 'Social Objects', *Proceedings of the Aristotelian Society* 76 (1976), 1-27.

10. The Limits of Sociology

Groups are causally related to people as wholes are to parts: what follows about the relation of sociology to psychology? Sociology is about groups, and about people's social attributes; psychology is about their individual attributes. What their relation is depends therefore on which attributes are which, and that has not always been made clear. In 4 I gave being a capitalist and being the Pope as examples of social attributes, since they imply the existence of appropriately structured groups: no capitalist economy, no capitalists; no Church, no Pope. The same goes for all the examples familiar from the literature, e.g. being a bank clerk.²⁹ Merely *thinking* one is a bank clerk, or a capitalist, or the Pope, on the other hand, implies the existence of no such group: it is a purely psychological state (I deal in 12 with holist objections to this view).

People's social attributes are in fact causal relations which they have to various groups. The causal relations that make people parts of groups are a subset of these, which are often and aptly called their 'roles', in just the sense in which my heart's role is to pump my blood. A bank clerk's role, for example, is to undertake certain of his bank's dealings with its customers. People's causal transactions with groups are naturally not restricted to their roles: a bank clerk may also borrow from his own or another bank, win the pools, be taxed by the Government, steal from Boots and be arrested by the police. These further groups in turn have other causal transactions, with other groups and with inanimate things as well as with people. All these depend on the groups' properties and relations, which in turn depend on the roles of their members. Our question is: can all the sociological laws governing these properties and relations of groups be acceptably approximated by adding law-like bridge principles to the psychology, physiology and physics of people and other things besides groups?

The question is not quite as vast and intractable as it looks. Groups, I have emphasized, are not just groups. Only some of their laws are sociological, and the rest are not our business. Roughly speaking, social sciences stick (a) to group properties that depend seriously on human action, and (b) to how these in turn affect the actions and attitudes of people and other groups.³⁰ Thus (a) the role of the Church in sustaining Irish society is a matter for sociology, whereas the role of atmospheric oxygen is not; and (b) how a pop group affects its audience is a sociological matter, whereas how its noise affects passing sparrows is not.

This self-denying ordinance still leaves plenty for social science to look at. Even though members of a pop group may know how to excite an

²⁹ M. Mandelbaum, 'Societal Facts', in J. O'Neill (ed.) *op. cit.*, note 7, 221-234.

³⁰ *Op. cit.*, note 29, 222.

audience, the social mechanism of their success, like the chemistry of cooking, still bears professional investigation. Moreover, even such deliberately created groups have, like other artefacts, unintended attributes, some of them sociological. Neighbourhood schools, for instance, do not mean to affect house prices and population patterns, but they do, and it is the job of sociology to find out how.

Social science has still more to uncover when people act in groups unwittingly. For example, an anthropologist may uncover functional properties of a tribe's or a country's religious rituals, and functional roles played by its members, of which they themselves know nothing. The function may indeed depend causally on the members being ignorant of it: religious believers may be less ready than others to accept that their religion is *inter alia* a social opiate. In Marxist theories of false consciousness, moreover, the very existence of some groups requires people to be kept ignorant of how these groups depend on what their members do. In this case the group is not an artefact at all; it need not even be conceived of, let alone created or perceived, by those who make it up, nor by most of those it affects. It is something conjectured by social theory, as the planets Neptune and Vulcan were conjectured by astronomy, to explain observed phenomena. It is therefore theoretical; but to accept the theory's explanations is none the less to accept the group's real existence and causal power. If there really is no proletariat, it no more explains social and political orbitings than the non-existent Vulcan explains planetary ones.

11. The Reduction of Sociology

Can sociology, construed as in 10, be reduced to psychology, bearing in mind that our standards for reduction are approximate and empirical (1), and that to psychology we may add any natural science that is needed and available (4)? I believe it can, given sociology's self-imposed restriction to group attributes that depend on human action; I now say briefly why, amplifying my reasons in 12 by rebutting some holist objections.

The sociology of groups obviously depends on what people do, or would do, in diverse situations. It depends therefore on what motivates people's actions, namely their desires and beliefs: psychological states whose contents and strengths combine to cause specific activity.³¹ To take a common, trite, example: my going out with an umbrella is an action, motivated by a very strong desire to stay dry combined with only a weak belief in its not raining. Movement not thus motivated by belief and desire is not action,

³¹ See e.g. R. C. Jeffrey, *The Logic of Decision* (New York: McGraw-Hill, 1965).

for example our movement round the sun; and for precisely that reason, such remarkable displays of human togetherness are none of sociology's business.

Now most kinds of action need not be deliberate; that is, the agent need not be conscious even of the immediately effective beliefs and desires that produce it. In the theory of action to which I am appealing, these psychological states are characterized not by consciousness, but by the kinds of action they produce.³² It is essential to my present case that this be so, that people can be unconscious of their beliefs and desires. Social theories of false consciousness, like Freudian theory in psychology, require people to act for reasons which their circumstances, social or psychological, keep them unaware of. A psychology limited to consciousness would certainly not be able to reduce such theories; fortunately we know independently, both from clinical psychology and the philosophy of mind, that psychology is not so limited.

The sociological properties of groups, and people's roles in them, depend therefore on psychological states of the people involved. Take an overt, artefact group like Mandelbaum's bank.³³ For someone to be a bank clerk he must believe he is, as must the other bank staff and the public, so that they act and react to him accordingly. The question is whether these psychological facts suffice to make him a clerk. One reason for denying it may be that a social mechanism is needed to confer this role on him and to sustain him in it: a letter, or badge, for example, recording the clerk's appointment, which tells his colleagues of his role; his position behind the counter, which tells the customers of it. His appointment was a social event; and these are the socially recognized traces of it, things with social properties (6). Similar events and traces secure the appointment and subsequent recognition of judges, the election and subsequent authority of government ministers, the wedding and subsequent tax status of married people. Roles depend on these facts as well as on psychological attitudes, and these facts are not obviously reducible to psychology.

But what do such social mechanisms amount to? All they need to do is produce the psychological states needed for social roles to be carried out, and this they do by natural, not social, means. The person to be affected perceives a badge, a bank counter, a wig, the recognizable face of a minister, a ring, certificate or wedding album. He perceives these things by no senses other than those available for perceiving inanimate things. It is the shapes, colours, sounds, smells, tastes, and feels of things that make them

³² In this respect these states are like dispositions in any other science; it does not make the way they explain action any less causal than, say, the way acceleration is explained by forces acting on inertial masses. See my 'In Defense of Dispositions', *Philosophical Review* 83 (1974), 157-181.

³³ *Op. cit.*, note 29.

known to us; and whichever of their properties we credit with giving them the power to affect our senses as they do, we thereby credit also to natural and not to social science. A person must indeed learn to see things as having the social significance they have; but that is just a matter of becoming psychologically disposed to acquire the requisite social beliefs and other attitudes when he sees such significant things. And this is so whether the requisite social beliefs are true or false, conscious or unconscious. The spy needs to believe he is one, his dupes to believe, falsely and probably unconsciously, that he is not. All this role, like any role, needs is a suitable distribution of psychological attitudes among the people involved. Social mechanisms are just natural causal devices for creating and maintaining such distributions.

I claim therefore that there is no more to the sociology of groups than the psychological states which make people co-operate, more or less consciously, in their social roles, and the natural mechanisms of action and perception by which these roles are rightly or wrongly recognized and carried out.³⁴ This, of course, is a vague formulation of my claim, which admits in fact of three readings, corresponding to the three forms of physicalism referred to in 5. I will maintain it in all of them.

The weakest claim is really neither interesting nor contentious: no one will deny that sociology is restricted to wholes which are accounted human because people are parts of them. The stronger claim that sociology is supervenient on psychology (plus physics, physiology, etc; see 4) is perhaps more debatable. It seems evident to me that two equinumerous groups, whose members and surroundings match in psychology, physiology and physics, will also have the same social attributes. But one might object to this that complex social relations between large numbers of people are 'emergent'; that is, they do not follow from simple psychological properties and relations between fewer people. To take a simple example of Professor Hesse's, two trios of people, *abc* and *a'b'c'*, might match in their monadic properties and private pairwise relations, yet *a* be jealous of *b* with respect to *c*, while *a'* is not jealous of *b'* with respect to *c'*. However, this example does not count against the supervenience of sociology. Jealousy may indeed be independent of simpler emotions; but still it is only a property of *a*, not a real relation: *a*'s jealousy could easily survive the death of *b* or *c* if *a* did not know of it.³⁵ The same is true for all beliefs and other propositional attitudes: however complex their contents, they are, as remarked at the start of 10, psychological, not social, attributes. Perhaps there

³⁴ This is not of course to deny that psychological states are affected by social ones, merely that the latter in turn reduce to other psychological and physical states.

³⁵ Even if jealousy itself is required to have an actual object, the related state that generates and explains *a*'s jealous actions can do without it, and that is what matters here.

could be emergent properties of a thing that was, *inter alia*, a group; but, merely by being independent of its members' psychology, they would no more be counted as social properties than a group's total mass is. This is the real source of sociology's supervenience.

Supervenience, however, does not entail the strongest, reductive claim I wish to make: namely, that acceptable approximations to social laws can be derived by suitable bridge principles from those of psychology (physics, physiology, etc.). So let us try to suppose that sociology, though supervenient, is not thus reducible in the sense of 1. In that case there would be a law (deterministic or statistical) relating two or more social attributes of a group, an approximation to which is not derivable from the psychology of its members. Now we might indeed discover a correlation between such attributes, e.g. between tribal religions and land use, without knowing how to derive anything like it. But how do we know that the correlation is a law, and not a mere coincidence? To be a law, it has to support conditionals, e.g. that another similarly placed and otherwise socially similar group would, if it had the same religion, be similarly nomadic (say).³⁶ Now I follow Braithwaite³⁷ and others in supposing us to give a generalization this status only if we think it a consequence of a true explanatory scientific theory. We need not know what the theory is, of course; we need only believe that there is one. And in this case we know that the group law to be derived is sociological; that is, it relates attributes supervenient on its members' actions and attitudes. The law acceptably approximate to our correlation must therefore be derivable from some true explanatory psychological theory. Were it derivable from nothing, it would be no law at all; were it not derivable from psychology, it would not be a social law. The reducibility of social science, like its supervenience, is thus secured by its own self-restriction to what depends on human action.

12. Holist Objections

(a) *Laws and Boundary Conditions*

Holists are apt to observe that social laws, and laws relating social and psychological attributes, hold only under certain social conditions. "The laws of capitalist society cannot be deduced from the laws of physics plus the description of the human brain. They depend on "boundary conditions" which are *accidental* from the point of view of physics but essential to the description of a situation as "capitalism". In short, the laws of capitalism

³⁶ D. H. Mellor, *op. cit.*, note 5, section 2.

³⁷ R. B. Braithwaite, *Scientific Explanation* (London: Cambridge University Press, 1953), ch. 9.

have a certain *autonomy vis-à-vis* the laws of physics: they have a physical *basis* (men have to eat), but they cannot be deduced from the laws of physics.³⁸ Here, for 'physics' read 'psychology'; the point made is often mistaken to count against reducibility.

Of course social laws cannot be deduced from psychological ones; reducers must be allowed the synthetic bridge principles referred to in **1**. Moreover, given these principles—however 'accidental from the point of view of psychology'—acceptable approximation to social generalizations is all that reduction needs. And the fact that these bridge principles, or the purely social laws derivable by means of them, hold only under certain social conditions is no obstacle to such reduction. Let S , S_1 , S_2 , S_3 be social attributes of groups, and p_1 be a psychological (physical, physiological, etc.) attribute of them, such that the prospective laws 'if p_1 then S_1 ' and 'if S_2 then S_3 ' hold only of groups under social condition S . Of S -groups, however, they do hold, i.e.

$$\text{if } S \text{ then (if } p_1 \text{ then } S_1) \quad (1)$$

and

$$\text{if } S \text{ then (if } S_2 \text{ then } S_3) \quad (2)$$

But (1) is equivalent to

$$\text{if } p_1 \text{ then (if } S \text{ then } S_1) \quad (1')$$

and (2) to

$$\text{if } S \text{ and } S_2 \text{ then } S_3 \quad (2')$$

(2') is just an unrestricted social generalization, and if they can be reduced, so can it; (1') differs only in having a psychological restriction; and that can obviously not prevent its reduction to psychology. So there is no argument here against reducibility.

(b) *Anonymous Individuals*

Individualists have used a concept of 'anonymous individuals'³⁹ to refer to the reduction of a social fact to the psychology of unidentified people. This use of the concept has been attacked as a way of 'attempting to talk about non-individual characteristics of societies . . . without being explicit about it'.⁴⁰ Not so: a psychological characteristic is not turned into a social one by my not saying who has it. The concept of anonymous individuals is useful because, as we saw in **7**, even the identity of groups (let alone their properties) rarely depends on the identity of their members. So even the reduction

³⁸ H. Putnam, *op. cit.*, note 9, 134.

³⁹ J. W. N. Watkins, 'Methodological Individualism: a Reply', in J. O'Neill (ed.) *op. cit.*, note 7, 181.

⁴⁰ L. J. Goldstein, 'Two Theses of Methodological Individualism', in J. O'Neill (ed.) *op. cit.*, note 7, 286.

of particular social facts (about the Midland Bank, say) rarely requires reference to particular people. But in any case, sociology, if anything, is a body of law-like generalizations, not a string of particular social facts. And generalizations are no more tied to particular instances in sociology than they are anywhere else. Two different groups, with totally different memberships, can satisfy exactly the same sociological laws. So far as the reduction of sociological law goes, therefore, the identity of group members is completely immaterial. To attack individualism because it appeals to anonymous individuals is like attacking the reduction of psychology to physiology because it does not bother to specify the particular cells that happen from time to time to make up my body.

(c) *Social Beliefs and Social Concepts*

I have defended individualism on the basis, roughly, that someone's being a bank clerk is just a matter of people believing he is and behaving accordingly. To do that I have had in **10** to claim such beliefs for psychology; yet their content is undeniably social. Reducing social facts to people's beliefs about social facts might seem beer too small and easy to be worth brewing. Social concepts, after all, have to be used to identify the very psychological states to which the necessary bridge principles of **1** are to be added. That they then redeliver the social facts believed in, may seem neither surprising nor significant.

The individualism I have defended is not as trivial as this makes it look, and as it has been claimed to be.⁴¹ After all, sociology is not the only science whose concepts provide contents for our beliefs. All sciences do: take medicine. Medical thought needs medical concepts, just as social thought needs social ones. Nevertheless, not all bacterial behaviour can be derived by laws of nature from how we think and feel about bacteria. And that is the crucial difference: the social behaviour of groups *can* be so derived, from how people think and feel about social facts. This is what makes sociology, but not the medical sciences, reducible to psychology by the standards of reduction set out quite generally in **1**.

(d) *Objective Facts, Subjective Meaning*

We allowed in **10** that people may not know or may misperceive their social roles. That is to say, their view of social facts may differ from that of a sociologist studying them.

This of course is just a special case of people differing over what the facts are—which, given the complexity of social facts, is hardly a surprising phenomenon. But from this commonplace there has unfortunately

⁴¹ E.g. by E. A. Gellner, 'Explanations in History', in J. O'Neill (ed.), *op. cit.*, note 7, 263; M. Mandelbaum, *op. cit.*, note 29, 229.

arisen an absurd methodological debate, as to whose view of the facts should rank higher in a sociologist's explanation of a group's activities: his or theirs. Now I have argued for individualism from the assumption that what motivates actions is what agents believe the facts to be, whether they are right or wrong. And in so doing I have to plead guilty to the charge of 'holding that the divergence between the terms of (the sociologist's) theories and those of the agent is of no significance'.⁴²

Nor it is. The sociologist must of course write in his own terms, and he may be wrong. To admit that is no more than to genuflect at the altar of human fallibility, a gesture of no extraordinary relevance to sociology. What really does matter is that the sociologist must be able to say, in his own terms, not only what the relevant facts are, but how they appear to the people he is studying. It is just because the effect of facts on social action is mediated by how people perceive them that sociology comes to depend on their psychology in the first place. The relevant question, however, is whether there is any peculiar difficulty in discovering and stating facts about other people's psychology; in particular, whether the process of doing so itself depends on irreducibly social facts. Since both these claims have been made, they need to be answered.

Their basis is that the psychological states needed to explain action depend on language, and that language is an irreducibly social phenomenon. (For simplicity, I concentrate in what follows on the state of belief; but what I say will apply equally to other relevant psychological states.) There is indeed no denying that our social beliefs depend on our language. We have seen that social beliefs needing social concepts makes no odds to the reduction of sociology ((c) above); but these concepts needing language will make heavy odds if language itself is irreducibly social. Consider the case of the bank clerk who needs to believe that he is one. What that belief is depends on what he thinks 'I am a bank clerk' means. Any problems, therefore, in deciding on the right translation into the sociologist's terms of his subjects' language carry with them problems of saying what their relevant beliefs are. Now Quine has notoriously claimed these problems to be in principle insoluble, to the point of there being no 'fact of the matter' about what speakers of other languages mean and hence believe.⁴³ The debate on this 'indeterminacy of translation' thesis is well worn,⁴⁴ and I

⁴² S. D. T. James, *Holism in Social Theory: the Case of Marxism* (Cambridge University Ph.D. dissertation, 1978), 73. This dissertation has in fact been the main source, both of new ideas and recent references, in my latest revision of this paper, and my debt is none the less for my disagreement with it.

⁴³ W. V. Quine, *Word and Object* (Cambridge, Mass: M.I.T. Press, 1960), ch. 2.

⁴⁴ E.g. D. Davidson, 'Belief and the Bases of Meaning', *Synthese* 27 (1974), 309-323; D. K. Lewis, 'Radical Interpretation', *Synthese* 27 (1974), 331-344.

shall not recapitulate it here; I agree with those who hold it to be no harder in principle to tell what other people mean than to settle the truth of any relatively theoretical matter of fact. There are discernible facts of the matter about what people believe; so the sociologist's need to attribute beliefs to agents poses no special problems of method for the social sciences.

The more serious question is whether the dependence of belief on language shows it to be tacitly social in any way that counts against reducibility. I cannot see that it does. Language is of course a social art. There is no point in a one-man language; and Wittgenstein's private language argument may well have succeeded in showing it to be impossible. Let us grant therefore that what my English words mean depends not just on when and how I would use them, but also on how other English speakers are disposed to respond to and correct my usage. And it does not matter who these other speakers are—they are 'anonymous individuals' in the sense of (b) above. But we saw there that nothing prevents individualism appealing to anonymous people, and there is no other reason to think these dispositions, to constitute linguistic propriety by enforcing it, are more than psychological.

Nor do I see any such reason in more recent theories of linguistic meaning, deriving from Grice and Davidson.⁴⁵ On Davidson's theory, the meaning of sentences is given by when they would be true, and the content of my beliefs reduces to the meaning of sentences I would use to express them. There is nothing here for holism (in the sense of this paper) unless social facts need to be cited to say what makes sentences true. But given the one-way reducibility already established, perfectly adequate truth conditions for all sociological sentences could be provided in purely psychological terms.

On Grice's theory, beliefs take precedence over meanings. English sentences mean whatever beliefs the conventions of language make them used for conveying. Beliefs are what are primarily true or false, and sentences acquire the truth value of the belief they mean. Since beliefs are psychological states if anything is, if sociology intrudes here at all, it must be via the role of convention. However, following Bennett's application of Lewis's theory of convention,⁴⁶ it is clear that these linguistic conventions are no more irreducibly social than those governing any other social role.

⁴⁵ H. P. Grice, 'Meaning', *Philosophical Logic*, P. F. Strawson (ed.) (London: Oxford University Press, 1967), 39–48; D. Davidson, 'Truth and Meaning', *Synthese* 17 (1967), 304–323.

⁴⁶ J. Bennett, *Linguistic Behaviour* (London: Cambridge University Press, 1976), ch. 7; D. K. Lewis, *Convention* (Cambridge, Mass.: Harvard University Press, 1967).

They must reduce, for the reasons already given in **10**, to psychologically motivated actions and reactions to what people see and hear.⁴⁷

University of Cambridge

⁴⁷ This is the latest of a series of successively and heavily revised papers on this topic, and I am indebted to all those who have commented on its predecessors, especially those present at the September 1978 meeting of the Thyssen UK Philosophy Group, at which the penultimate version was discussed. The present version was written during my tenure of a Radcliffe Fellowship, and partly while holding a British Academy Overseas Visiting Fellowship at Stanford University and the University of California, Berkeley. I am grateful to the Radcliffe Trust and the British Academy for making that visit possible, and to my colleagues at Berkeley and Stanford for making it both profitable and pleasant.

Since the final version of this paper was accepted for publication in 1980, the following relevant articles have appeared, of which it has therefore not been possible to take account: H. L. Dreyfus, 'Holism and Hermeneutics', *Review of Metaphysics* 34 (1980), 3-23; K.-D. Opp, 'Group Size, Emergence, and Composition Laws', *Philosophy of Social Sciences* 9 (1979), 445-455; C. Perry, 'Individualism and Causal Explanations', *Agora* 4 (1980), 1-15; C. Perry, 'Popper, Winch and Individualism', *International Philosophical Quarterly* 20 (1980), 59-71; C. Taylor, 'Understanding in Human Science', *Review of Metaphysics* 34 (1980), 25-38; P. Urbach, 'Social propensities', *British Journal for the Philosophy of Science* 31 (1980), 317-328.