CHAPTER 4

Knowing the social world

In the previous chapter we described some of the difficulties associated with causal explanations and interpretations in social science. In this chapter, we focus upon various philosophical justifications and methodological strategies that inform the practice of social research. Though some of the approaches we discuss imply views on problems such as those associated with causality or meaning, it is not our intention to offer "solutions" to the problems we have raised, other than to say that for some philosophers or researchers these are not the right questions to ask in the first place. For this reason there exist views about the nature of the social world, and how we can know it, which circumvent the difficulties discussed so far. Sometimes, these lead to new kinds of problems and though we will illustrate some strategies and justifications, we will not shrink from pointing out some of their more obvious shortcomings.

The first half of this chapter is concerned with the nature of social reality through the examination of various perspectives on the social world. In the process we will be asking: what kinds of things are social phenomena? All philosophical positions and their attendant methodologies, explicitly or implicitly, hold a view about social reality. This view, in turn, will determine what can be regarded as legitimate knowledge. Thus, the ontological shapes the epistemological. The second part of the chapter deals with a number of characterizations of the ways in which we come to know the social world. Here, we wish to demonstrate how epistemological, and sometimes methodological, views actually shape ontological claims. As such, the division of this chapter into two parts is a heuristic device. If the reader is left thinking that this is an artificial divide, we would not disagree.

Perspectives on the social world

Broadly speaking, there are two principal and opposed views about the nature of the social world and the world in general. The first of these we touched upon in the last chapter. It is the claim that the external world consists simply of representations and is a creation of the mind. The existence of common objects, such as cars or ice creams, is a condition of their perception. This idealist doctrine does not deny that things have a real existence, but maintains that all we can ever know is the world of appearances, or that material objects are a product of mind, or that all there is one mind to which all phenomena belong. These latter two views are attributable to George Berkeley (1685–1753) and Hegel respectively. Although Berkeley's idealism is not quite so odd as it sounds, it will not detain us here. The first and last kinds of idealism, however, underlie some examples we will use in this chapter. For instance, a close relative of idealism is empiricism. Empiricist assumptions about the nature of the world enter social science explicitly via positivism, and implicitly through a collapse into phenomenalism exhibited in some interpretivist approaches (Bryman 1988:119). The opposite view to that of representation is that the phenomena we see in the world consists of "real" things. Here, although it is accepted that reality is not always directly known it is, in principle, know able. So, first, let us consider representation in more detail and we can then move on to consider what is known as "realism".

Social reality as representation: the idealist path

The philosophical justification for idealism can be illustrated by a simple experiment. Next time you are in a room containing a table, or a desk, look at it from above and note its descriptive characteristics. Now get down on your hands and knees and look at it from underneath, now look at it sideways on. Does it not look very different? Which was the "real" table? Each of the tables you perceived was the same one, but if the experiences had been separated you could not have known this. Can we ever know the real table? This argument can be extended into the social world. However much we "carve up" social interactions, or social structure, we can never claim to have found out what is "real" about it. It follows from this that the search for the authentic, or the "real" in the

social world, is a misguided venture. In contrast to this we have a series of representations that are equivalent to Kant's "phenomena". The representations of the "social world" are thus created by individual minds. Important consequences flow from these arguments.

Previously, we discussed the contention that all we can ever know are the meanings that individuals attribute to their social situations or the utterances of other people. This, you will recall, leads to the problem, how can we "know" the social, or to put it another way, what "is" the social world? If knowledge is a product of mind, then knowledge can only come via introspection. There are those philosophers who argue that this leads to solipsism: that is, the view that the world is only an object of personal consciousness and there is nothing outside of the individual mind. Berkeley's idealism led him to this view (see Emmett 1964:156–81). Introspection and the solipsism that follows, become a blind alley for any kind of investigation that requires a degree of intersubjective agreement about what is observed.

Weber was a neo-Kantian. Given this, he maintained that the only way we can hope to know the social world is through a refinement of our instruments for observing it, rather than being able to "know" reality itself. Therefore, the best that social scientists can achieve is to describe the social world by employing "ideal types". These are, "the sum total of concepts which the specialist in the human sciences constructs purely for the purposes of research" (Freund 1968:60). Ideal types are not averages, or even a summary description of phenomena found in the social world. Rather, they are a reflection of how an individual might come to know the world from their own viewpoint or value orientation. Crucially, it depends on a shared rational faculty, implying that ideally we can come to know the real world.

Ideal types may be characterized as a way of rescuing a programme for social investigation that rests on the philosophical assumption that "reality" is mind dependant. However, for Weber ideal types were not a rescue operation. Almost by definition, social life is rational. If we could not depend on others acting rationally, then there would be no social life, simply a collection of atomistic individuals. Quite simply, human actions are goal oriented and depend upon abilities to interpret the meanings of other goal oriented agents. Crucially and controversially, Weber's ideal types assume a congruence between the meanings of the investigated and the investigator. According to him, ideal types are "scientifically formulated pure type of phenomena" (1949:96). In effect, they are testable

hypotheses formulated to account for the action being investigated. They can be verified, or following Popper, falsified (Rex 1974).

From this point of view, Weber's work may be characterized as by-passing the problem of how we can know the social by employing the methodological strategy of ideal types. He turns an ontological problem into a methodological solution. Other approaches have utilized the philosophical starting point as a justification for statements about the nature of the social world. In particular, those that begin from an Hegelian, rather than a Kantian, idealism.

Hegelian idealism shares with the Kantian variety the view that the world is a product of mind, but disagrees with the view that the "thing in itself", the Kantian "noumena", is unintelligible. As noted, the Kantian "solution" to this is to seek to refine the instruments through which we gain a knowledge of reality in the first instance. It is this idea that forms the basis of Hegel's critique of Kant's epistemology:

> We ought, says Kant, to become acquainted with the instrument, before we undertake the work for which it is to be employed; for if the instrument be insufficient, all our trouble will be spent in vain …But the examination of knowledge can only be carried out by an act of knowledge. To examine this so-called instrument is the same thing as to know it. But to seek to know before we know is as absurd as the wise resolution of Scholasticus, not to venture into the water until he had learned to swim (Hegel quoted in Singer 1983:51).

Therefore, the starting point for knowing reality is our ontological connection with reality. A close examination of our consciousness will thus enable the development of increased form of consciousness and so on… until "absolute knowledge" is reached. We do not need to be content with a Kantian "appearance of reality", for knowledge of reality itself may be gained in this manner.

Despite this revolution in philosophical thought, we are still left with a problem. If everything is just in the mind, then how can we distinguish the true from the false, the objective from the subjective? Hegel's solution was to take a "holistic" view of the world. The truth is the whole. Anything less than the whole is contradictory and only by knowing the whole truth can the contradictions be removed. This leads Hegel to a coherence theory of truth, whereby the progress of knowledge is seen as a journey towards one complete system. The process through which we move towards truth

consists of contradiction and resolution—dialectics. The latter, of course, has been extremely influential on many approaches to social science; in particular, Marxism. However, although influenced by Hegelian idealism, Marxism tends to exhibit materialist and realist tendencies. We shall return to these views shortly.

Representation and the linguistic turn

Ludwig Wittgenstein (1889–1951) has been highly influential in the development of a linguistically based approach to social investigation. Through the work of Peter Winch (1990) and from there to ethnomethodology, this linguistic turn sees meaning becoming a topic, rather than a resource, in social investigation.

Throughout his career, Wittgenstein had a preoccupation with the scope and limits of language (Monk 1990). Though he first emphasized a "picture theory" of reality along the lines of a correspondence theory, his latter work was given over to the view that language was a social instrument. This involved the replacement of a search for hidden meanings and explanations with a description of the "use" of concepts in everyday language. It is this connection between language and social life which makes Wittgenstein's work of such importance. Language, he contends, actually makes us social. He compares it to a game for which there are set rules and criteria of success and failure. Activities employ different "language games" with different sets of rules. For example, in Western society if a stage compere says "let's give a big hand to X", we tend to clap. We do not throw large hands onto the stage where the person or group is performing. We know the rules of the game and how to play it. It follows that there are no external criteria of assessment that are capable of transcending all language games.

The idea that language is social gives rise to an argument that there cannot be any such thing as a "private language". Language, far from being the expression of inner consciousness, is actually publicly available and exists by virtue of our ability to use it and even a tendency to make mistakes in its use. If language really were simply a reflection of inner thoughts, the notion of a mistake would be irrelevant. Now we are forced to re-consider the view that we cannot access other minds because there exist publicly available linguistic forms of expression.

Peter Winch employs the analogy of the language game in his approach

to social investigation. The task of social investigations is to elaborate the "forms of life" of a particular society (Winch 1990:40–65). Thus, as we have seen, rule following behaviour is of central importance to Winch's formulations. Language implies rules and the rules of societies are apparent through its language games. Different societies will exhibit different sets of games. It follows from this that no ahistorical, acultural framework can be used to adduce the meanings agents employ in different societies. The only method through which we can know society S, is via an examination of its forms of life. This view, however, was extremely controversial and is now of interest due to its influence on a tradition of social thought known as ethnomethodology. Before turning to this position, it is worth elaborating on some more common criticisms of Winch's position, because these criticisms imply an alternative view of how we may come to know the social world.

In considering Winch's work, Steven Lukes argues that no matter how culturally different a society is from that of the investigator's, there has to be a mechanism from which we can begin to understand. Thus to understand the language of society S it:

> must have our distinction between truth and falsity if we are to understand its language, for if *per impossible* it did not, we would be unable even to agree about what counts as the successful identification of public (spatio-temporally) located objects (Lukes 1994:293. Original italics).

It follows from this that any society that has a language must minimally possess concepts of agreement and negation and number: for example, there either is an X here or there is not, or there are *n* Xs here. Lukes's criticism seems to offer some support for Dilthey's view that there is enough in common between people to allow for an understanding of what, at first, appears to be an unfamiliar social situation.

A second criticism of Winch's ideas is that they are relativistic. His work echoes Feyerabend's insofar as Winch is saying that investigators are not able to employ evaluative, transcultural, comparisons. Indeed, as we noted earlier, Winch takes the view that rationality is specific to different societies. However, this begs the question as to whether societies are easily defined entities. The societies of the Winch-Lukes debate were often referred to as "primitive"; whereas we would prefer to say different from our own. Such hermetically sealed societies, if they still exist in the

age of globalization (Spybey 1995), are hardly helpful illustrations in the evaluation of methodological procedures. Though we talk of "Western" society, there are no sharp demarcation points with non-Western societies. Within each, cultures blend and overlap.

In the "Global Village", we would be hard pushed not to find cultures that shared at least some conceptual notions with our own. Therefore, if societies cannot be sharply distinguished, what are we to make of rationality? Quite simply, defining rationality in a given society requires, at minimum, an identification of that society. We are thus left with two choices. First, we can arbitrarily define the boundaries of rational behaviour or, secondly, leave it to the individual to decide whether she, or he, is behaving rationally. The first route would take us back to Weber and would be antipathetic to Winch's project. The second route, on the other hand, renders the concept of the "rational" meaningless.

As noted, Winch's views translate in social science through the ethnomethodological tradition. Ethnomethodology brings together an emphasis on the importance of language with a particularly "philosophical" view of social life derived from the phenomenological writings of Alfred Schutz (1899–1959). Phenomenology holds that consciousness is the only phenomenon that we can know with any degree of certainty. All of the things we perceive in the world are the objects of our consciousness. Within this school of thought Schutz's overall aim was to take Husserl's philosophical problematics and translate them into a phenomenology of the social world which rendered them amenable to sociological study.

In *The phenomenology of the social world* (1972), Schutz describes how undifferentiated experience is constructed into meaningful social objects through the creation of "models". Repeated experiences become meaningful to us; they are "typical" to us and might be said to serve as markers to help us negotiate social life. These "models", which Schutz calls "typifications", are our stock of knowledge of the social world that we continually expand and modify. Typifications can be typical types of people, situations, objects, behaviour, etc. It is these meaningful typifications that must become the topic of sociology and a corollary of his argument is that typifications (and thus meaning) would then become the topic of all social science research.

The central doctrine of phenomenology is that of reduction. Here, we attempt to rid ourselves of prior understandings in order to grasp an experience in its unadulterated form. Thus, for example, to perceive the

"essence" of triangularity we would need to examine the concepts of "triangular" that we hold in our mind. The aim of this strategy is to discover the "ideal" objects of consciousness. In this case, ideal refers to that which remains the same in repeated experiences. This introspective examination of the objects of our conscious mind is called "bracketing". In the social world, ideal objects do not exist in the same sense and the nearest we can get to discovering their essence is to discover what are the meanings that agents attach to them via their actions and utterances. Meanings, unlike, for example, ideal geometrical shapes, change. Therefore, the process of reduction is context dependent and partial.

From the above derives the claim that agents' meanings can be prioritized as the topics of social investigation. For example, in Egon Bittner's (1967) study of the police on skid row, "peacekeeping" was identified as the area of interest. Concepts such as "police", "skid row", as well as other social typifications—"arrests", "middle class morality", along with the physical objects encountered such as houses, cars, streets, truncheons—were taken as given. Only pre-judgements on "peacekeeping" and "law enforcement" were bracketed as the concepts of interest. In general, Bittner was concerned to understand the distinction between these concepts as employed by the police themselves. This work, however, lies within the tradition of ethnomethodology.

Ethnomethodology is an example, *par excellence*, of "folk psychology". Here, the common sense views and expressions of people in their everyday lives are taken as the subject matter of social science. The term ethnomethodology was coined by Harold Garfinkel in the 1950s and can be translated as "peoples' methods". If the imposed meanings of traditional sociology are to be rejected, then it follows that the "grand" explanations and generalizations that it produces are likewise inaccurate and irrelevant. The topic for sociology, Garfinkel argued, must be the everyday meanings people use to account for, or make sense of, theirs and other peoples' activities (Garfinkel 1967). This necessitated taking a very different route from that of Weber as the following quote from Garfinkel's earlier work illustrates:

> At least two important theoretical developments stem from the researches of Max Weber. One development, already well worked, seeks to arrive at a generalized social system by uniting a theory that treats the structuring of experience with another theory designed to answer the question, "What is man?" Speaking loosely,

> a synthesis is attempted between the facts of social structure and the facts of personality. The other development, *not yet adequately exploited*, seeks a generalized social system built solely from the analysis of experience structures (Garfinkel quoted in Heritage 1984:9. Italics added).

In order to perfect this analysis of "experience structures", ethnomethodology needed to move beyond phenomenology towards a linguistic focus upon social life. For this reason, Garfinkel maintained that social life is not just to be described through language, but is actually created by language. There are two ethnomethodological concepts that are of importance to this focus of social inquiry: reflexivity and indexicality. First, let us consider reflexivity.

Social life is created through talk. When we give an account of an event we usually consider that we are providing a description. However, Garfinkel argues that this process is creative in that it helps to make the social world. A friend describing a football game to another will be active in creating the culture of interest that surrounds the sport of "football". The reflexive nature of conversation itself helps us to grasp agents' meanings. To give an account of behaviour is to seek to make it intelligible to others. The sociologist can then take seriously the accounts given by those in whom she is interested, for those accounts will be an attempt to make behaviour meaningful not only to the person themselves, but also to others. It follows that the issues of rationality can no longer be considered a problem. If an agent can provide a situated account for his actions through an explanation of the context of those actions, then it follows that he is behaving rationally. Reflexivity thus becomes a routine part of social interactions that

> Members know, require, count on, and make use of…to produce, accomplish, recognize, or demonstrate rational-adequacy-for-all-practical purposes of their procedures and findings (Garfinkel 1967:8).

Secondly there is the notion of indexicality. Ethnomethodology embarks upon a refusal to differentiate between everyday theorizing in social life and professional social theory by invoking this idea. Indexicality, taken from Charles Peirce's semiology, states that everyday language and actions cannot be understood without being situated within the social context in

which they are performed or uttered. In social life, unlike in the physical sciences, there is no one fixed definition of an event or object, for meaning is seen in relation to social context.

The implications of this position are far reaching. First, there can be no privileging of agents' or investigators' accounts. The accounts that agents give of their actions are indexed to particular situations and though similarities may exist, they tend to conceal complex, situationally specific, meanings. The similarity is the product of "glossing", whereby in everyday life we employ a range of taken for granted rules which have the effect of "avoiding the issue"—talking around a topic without giving a true specification of its content (Cicourel 1973:109). Secondly, this leads to a complex relationship between meanings and rules in ethnomethodology. On the one hand, it is accepted that agents employ rules but, on the other, it is maintained that those rules are just the product of glossing. The application of social rules requires agents to make judgements about meanings. However, there can be no definitive or unambiguous means by which one can arrive at such judgements. Indexicality effectively rules out generalizations because there can be no privileged accounts and undermines explanation because rules cannot be said to have an objective existence. Rules do not place limits on action, or provide yardsticks against which actions may be judged. Instead, they are resources upon which people routinely draw in the situated nature of their activities.

The prioritization of agents' meanings as the topic of research takes interpretivism to its limits. There are many critiques of ethnomethodology. Here, we are concerned to examine briefly those that have implications for any investigative project in social science that seeks to prioritize individual meaning and in so doing deny the possibility of social explanation.

The first observation that may be made is that the insistence on the indexical nature of expressions leads to an epistemological and moral relativism. A principal property of indexical expressions is that they are considered to be unique events. Nevertheless, if they are unique events then it follows that the investigator should not generalize from one event, or set of events, to another. Each event will have a different meaning. Of course, it is permissible to report on the generalizations agents make themselves (their typifications), but the investigator should not attempt to produce her own typifications.

This injunction to investigate the "how" of social life, leads ethnomethodologists to adopt a stance of moral indifference toward those investigated:

> Ethnomethodological studies of formal structures are directed to the study of such phenomena, seeking to describe members' accounts of formal structures wherever and by whomever they are done, while abstaining from all judgements of their adequacy, value, importance, necessity, practicality, success, or consequentiality. We refer to this procedural policy as "ethnomethodological indifference" (Garfinkel & Sacks 1986:166).

If there can be no universal statements about the nature of rational action, then there can be no universal statements about the morality these actions represent. This appears to render social science pointless. If on reporting situation S, nothing is to be learnt about S-like situations, then why bother reporting on it at all? Also, a stance of indifference is not tenable. Ethnomethodologists, like all researchers, investigate those things that interest them (or others if they are commissioned to conduct research). As such, there is a process of selection whereby some things are considered worthy of attention and others are not. As we noted in the previous chapter, no investigation begins from a "theory neutral" vantage point. Indeed, as will be noted in the next chapter, arguments exist to the effect that social science must rest upon moral values.

What may be called "moderatem generalizations" about similar social events appear to be unavoidable. If researchers are unable to say that if X occurs in situation S, it is likely that in a situation resembling S, X may well occur again, then there seems little point to research. It seems impossible not to produce, as investigators, typifications about those we are investigating. The latter take the form of theories based upon the typifications of those investigated. To accept that we can be wrong about our theories is much the same as to accept that in everyday life we may be wrong in our typifications.

At this point, it might be helpful it we made some links with our prior discussions. For a long time, empiricism appeared synonymous with science. If science did not give us an insight into reality, then what could? In the social sciences empiricism has been associated (and sometimes confused with) positivism, yet it and idealism, as exemplified in the above formulations, share much of the same pedigree in the work of John Locke (see Russell 1984). Like Hume, Locke argued that our understanding of the world arises from our experiences. Unlike Hume, however, he emphasized that the way we classify objects in the world must be based on our view of the essential qualities of those objects. Therefore, with Kant,

RESEARCH EXAMPLE 5
The phenomenon of the "radical lawyer"

Max Travers was concerned to focus upon how "radicalism", in the legal profession, is "displayed, recognised, accomplished and constructed as a publicly visible cultural object by ordinary members of society going about their everyday working lives inside the legal profession" (Travers 1994:245). The methods used by Travers in his research were ethnographic and consisted of the reporting of conversations with him and conversations between lawyers and others to which he was able to listen. He reports on the views of the lawyers themselves and those others, in order to build up a picture of what "radical" meant to those who viewed themselves as radical and those who saw the lawyers as being radical. Two distinct views thus emerged. For the lawyers, their radicalism was a conscious moral position, but for those opposed to their views (often non-radical lawyers), the lawyers were putting on an act to please the clients and to raise the profile of the firm. "Radicalism" thus became a contested phenomenon.

The research highlights the problematic nature of the term "radical lawyer" and how it is indexical upon the meanings of the different groups.

he is saying that we do not have any privileged access to things in themselves, but we do have access to their properties: for example, colour, shape, feel, etc. Indeed, such properties are perhaps more *"real"* in their actually being perceived (Emmett 1964:177–9). Hume, you will recall, was even more sceptical and believed that all we could talk about was appearances. Yet Hume's views rested upon the assertion that we cannot base any knowledge of the external world on appearances, because we cannot know anything beyond them.

Given the above, empiricism may be viewed as a form of representation closely allied to idealism. If appearances are apprehended through sense experiences and we make sense of these experiences in our minds, or even via language games, then the question of separating out "truth" from "falsity" comes back to haunt us. For this reason, the empiricist emphasis shifts from statements about what the object world actually is, to statements regarding strategies for knowing the social world. However, there is another

route available to both the natural and social sciences in considering their philosophical foundations. It is to realism that we now turn.

Beyond idealism: a realist theory of science

Realism, as a philosophical doctrine, has a long history. It is a complex body of ideas that, like idealism, takes many forms. Unlike idealism, however, it can be usefully summed up in one phrase: the world has an existence independent of our perception of it. It is then a "common sense" position. As Roy Bhaskar puts it:

> Normally to be a realist in philosophy is to be committed to the existence of some disputed kind of being (e.g. material objects, universals, causal laws; propositions, numbers, probabilities; efficacious reasons, social structures, moral facts) (1993:308).

The kind of things that can be "real" present philosophers with problems. Although it is relatively unproblematic to discuss the reality, or otherwise, of everyday objects such as cats and aeroplanes, the difficulties begin when we want to say, for example, whether or not light is "real". Debates over the nature of light lead directly to the science of quantum physics and the attendant philosophical difficulties encountered in deciding whether or not elementary particles are "real" (for example, see Rae 1986). The reality, or otherwise, of light is far from unproblematic. Even if agreement about its existence can be reached, there is the problem of whether our ideas about these things are "real" or not.

It is possible to be a realist at a number of levels. The most moderate of realists, who are all but indistinguishable from idealists, maintain that there has to be a "reality" because if there was no "reality", then its negation would in itself be a reality! Furthermore, it is possible to be a realist about the "physical" world, but not about the social world. Here, the justification is that the social world consists of ideas that cannot be treated in the same way as physical objects. This view is, of course, held by many of those described above who view the social world in terms of representation. The difficulty with this subject-object dualism is that it entails the metaphysical belief that "mind" is somehow different from, and not reducible to, "matter" (Dennett 1991). If mind is not reducible to matter, then the difficulty arises in saying exactly what it is and where it

divides itself from the physical world? Although such discussions are important, our focus on realism will be confined to those who argue that the social world is "real" and exists independently of the ideas that we have of it. How is this view sustained?

The first thing to say is that realists, like the empiricists and positivists, are philosophical naturalists. In other words, they take the view that the structure of explanation in the physical and social sciences are not fundamentally different, though each must elaborate its explanations in ways appropriate to its subject matter (Bohman 1991). This means that realists believe that concepts such as causality, explanation and prediction are just as appropriate in the social sciences as in the physical sciences. In the previous chapter, we noted Hempel's idea of explanation and prediction as isomorphic: one implies the other. As Outhwaite notes, however, this is an unsatisfactory position taking the form of: X has happened because it has always happened!

> If I ask why my train is late, I may be partially reassured to be told that the 8.55 is always late, but even British Rail would hardly dare offer this as an explanation (Outhwaite 1987:21).

Given this, realists want more from an explanation. Empiricist concepts of explanation ultimately rest on a Humean view of what you see is what you get. This, of course, is exemplified in the idea of causality as constant conjunction. Yet, as we have pointed out, constant conjunction really depends on the level of description: that is, what you look at and how you look at it. Roy Bhaskar sums this up with clarity:

> Things exist and act independently of our descriptions, but we can only know them under particular descriptions. Descriptions belong to the world of society and of men; objects belong to the world of nature…Science, then, is the systematic attempt to express in thought the structures and ways of acting of things that exist and act independently of thought (Bhaskar 1975:250).

There is a problem here. Empiricist critics of realism maintain that we have no business to go around saying things are "real" when we have no way of demonstrating their existence. The empiricist can say if we claim our description of things, for example atoms, are real, how do we then change our descriptions? Surely, descriptions can only be derived from our experiences?

There are two responses to this issue. First, we can admit that science changes its formulations, but they are simply hypotheses that have been refuted. These hypotheses are what Bhaskar calls the "transitive objects of science" (1989:18–21) that are created to represent reality. Secondly, it is possible for philosophers to deduce that the world is structured and differentiated, but the kinds of structures and the way they exist are the subject matter of science. In this sense, recall Russell's argument about the existence of cats. The question of its existence is the province of the philosopher; the scientist focuses upon the properties of that existence.

Realists are saying that things have a real existence. Furthermore, this may be demonstrated by uncovering underlying causal mechanisms. However, the idea of causation employed here is different from that which we have come across before. For empiricists, causality amounts to a description of singular events, from which generalizations are built up via induction. Thus, if the 8.55 train has arrived late on a number of occasions, the explanation for it arriving late on a particular day is that it always does. Here, the explanation is built up of singular, but alike events. Yet the explanation is likely to be much more complex and dependent upon (perhaps) numerous causes that are dissimilar. For instance, on the first day the driver overslept. On the second day there were leaves on the line and on the third day, a signal failure at a station on a different line meant trains from that line were diverted, thus holding up normal traffic. In other words, things happen in open systems and causes are usually underdetermined. When the scientist in the laboratory carries out an experiment she is isolating a part of the world—or at least aims to. Observed regularities are the result of such isolation.

Add to the above discussion what we have noted in Chapter 3: that is, a core issue in the social sciences, and one for the physical sciences, lies in the difficulty of determining all of the conditions that comprise a cause. For realists, causes are regarded rather differently. If different sequences of events can produce the same outcome—for example, the train arriving late—then they are not, contra empiricism, dependent upon empirical regularities. Instead, causes must be understood as "tendencies". These "tendencies" may, or may not, react with other "tendencies" to produce effects. This does not mean that causes cease to exist. Causes are seen as necessary, but that necessity is not easily identified. This means that realism requires a sophisticated methodology that allows the investigator to postulate "transitive" objects. These are postulated in such a way that their mechanisms can be revealed in order to refine the original

postulation; the overall aim being to achieve a correspondence between the "transitive" objects of science and the "intransitive" objects of reality.

The above process has been described in a realist methodology for science (Harré & Secord 1972:125–47). This consists of empirical studies, whereby critical descriptions of non-random patterns are produced through observation and experiment, together with theoretical studies that aim to produce rational explanations of the non-random patterns in the data. On first glance this does not sound so very different to more traditional methodologies. Nevertheless, what is different are the underlying assumptions about the entities being studied. Some of these might be hypothetical entities and some of these may be candidates for real objects, or processes, in the world. Through a process of critical inquiry, the rest are eliminated.

In a similar fashion, Bhaskar 's view of scientific discovery is based upon the identification and description of effects, from which hypothetical mechanisms are postulated that, if they existed, would explain the effect. From this, attempts are then made to demonstrate the existence and the mode in which the mechanism operates via experimental activity and the elimination of alternative plausible explanations. It is important to remember at this point that ontological assumptions about the world drive the process of discovery. As such, while realists are naturalists, they are not reductionists. Therefore, they do not claim that human behaviour can be explained biologically for a mode of explanation that is suitable to social phenomena is required. Despite this, it still follows that social objects can be studied as scientifically as physical objects (Bhaskar 1979:26).

To admit that forms of explanation must be appropriate to the phenomena under consideration allows for an ontological differentiation between the social and physical sciences. Between these, Bhaskar notes three important differences. First, social structures, unlike natural structures, do not exist independently of the activities that they govern. Secondly, social structures, unlike natural structures, do not exist independently of the agents' conception of what they are doing in their activities and thirdly, social structures, unlike natural structures, may be only relatively enduring (1989:79). Therefore, social structures only exist by virtue of the activities they govern and cannot be identified independently of them (1989:78). People are "produced" by the structures and in turn they reproduce structures, or "transform" them. For example, national economies cannot exist independently of people who experience their effects and contribute to them.

From this, we can say that if a substantial proportion of the US population refused to recognize credit cards, or dollar bills, the economy would cease to exist in any recognizable form. As such, social structures are social products that are less enduring than "natural" structures and social systems are more "open" than physical ones. Nevertheless, it is claimed that social objects do have an independent existence of subjects while having real effects on their lives. At the same time, agents are able to act upon (transform) them. That said, the question remains as to whether we can successfully generate the transitive objects that represent aspects of social structures. In other words, how realistic are the methodological maxims of realism? This question also has an epistemological dimension to it.

Marx certainly thought it was possible to generate the transitive objects of realism. For this reason, he is often cited as the first realist social thinker (Keat & Urry 1975:96). Marx's aim can be said to analyze the dynamics of capitalism in order to expose its underlying mechanisms that, in turn, give rise to particular social relations. To talk of the causes and effects of political economy without identifying the underlying mechanisms is to elaborate a fiction. As Marx says:

> [political economy] explains nothing; it merely pushes the question away into the grey nebulous distance. The economist assumes in the form of a fact, of an event, which he is supposed to deduce—namely the necessary relationship between two things—between, for example, the division of labour and exchange (Marx 1977:62).

The form of explanation of which Marx complains is the same kind as that offered for the late train in Outhwaite's example; it is taken as fact without the need for further elaboration. Marx maintains that in order to understand the relationship between, say, exchange and the division of labour, it is necessary to understand the historical processes that have led to the current mode of production. Within capitalism, we can only account for the accumulation of capital when we understand the relationship that exists between constant and variable capital. These things are real because they have real effects on people. Capitalists and workers are the prisoners of these mechanisms. Capitalists must continue to accumulate if they are to remain in business. Workers, on the other hand, must sell their labour if they are to continue to live! The underlying mechanisms of political economy have real material consequence for people in their everyday

lives. Yet not all of these things are visible. Just as the effects of sub-atomic processes are not visible but require particular procedures to make them known, alienation is a condition not visible to the proletariat and requires a particular class consciousness to make it visible. Despite this, alienation is seen to have real consequences (Marx 1977:61–74).

Of course, Marx has been declared a realist *post facto.* Though we briefly describe one of the few recent research projects that are self declared as realist, for those who wish to find insights into just how a realist programme can be operationalized in social research, there will be some disappointment. Bhaskar lays out some ground rules for what a realist social science might look like, while Giddens's theory of structuration might be seen as an example of a realist social theory and Willis's *Learning to labour* is sometimes cited as an example of critical realist ethnography (Willis 1977, see also the example from Porter 1993). For Bhaskar, reality consists not only of events that are experienced, but also of events that happen even when they are not experienced. This has implications for the nature of the social scientific endeavour. Methodologically, we are led to an interpretative social science, but one based on what Bhaskar terms "retroduction" (Bhaskar 1979:15). This is necessary because a full explanation requires us to separate the meaning of an act and its intention. Meaning is social, whereas intention is personal. Social scientists are in the business of discovering social reality and this will have antecedents in individual realities, themselves shaped by social meanings. Retroduction then requires the construction of a hypothetical model that:

> if it were to exist and act in the postulated way would account for the phenomena in question (a movement of thought which may be styled "retroduction"). The reality of the postulated explanation must then, of course, be subjected to empirical scrutiny (Bhaskar 1979:15. Original italics).

This suggests that the strategy of a realist social science involves not only a description of social relations, but also accompanying explanations and re-descriptions; the overall aim is to uncover layers of social reality.

Giddens's structuration theory rests on the dynamic relationship of the agent with society. This he describes as a "duality of structure" (1976:121) in which social structures are constituted by human agency, but at the same time are the very medium of this constitution. Therefore, his views are similar to Bhaskar, but he would not accept the dualism of

RESEARCH EXAMPLE 6

Racism and professionalism in a medical setting

Sam Porter's research (1993) was directly informed by Bhaskar's critical realism. The focus of the study was on, "how racism affects occupational relationships between nurses and doctors, and how its effects are mediated by professional ideology" (Porter 1993:591).

The theoretical assumption of the study was that human action is both enabled and constrained by social structures, but in turn action will reproduce or transform those structures. Porter argues that racism involves enduring relationships between individuals, thus qualifying as a "structure". Two hypotheses were postulated. First, that the relationships between white health workers and members of racialized minorities would be informed by racism. Secondly, the way in which the racism was expressed would be affected by the occupational situation of the health workers. The study itself took place within a hospital and consisted of observations of interactions between nurses and doctors. It was intended not just to describe the events, but to explain their occurrence.

Six of the 21 doctors were from what Porter describes as racialized minorities. While there was little change in the nature of the balance of power between the "six" doctors and nurses, the latter expressing deference to the former, later "backstage" conversations between the nurses (out of earshot of the doctors) were found, on occasion, to be racist. Why, Porter asks, was this racism not more openly expressed in challenges to the doctors' authority? Citing Bhaskar (1989), he notes that, "the actual outcome of a tendency will generally be co-determined by the activity of other mechanisms" (Porter 1993:604). In this case, the other mechanism is professionalism. In other words, the structure of racism is being transformed by agents as a result of their being constrained by another structure—that of professionalism. Additionally, the doctors themselves used the strategy of occupational advantage to ensure that "the disempowering effects of racism were minimised" (Porter 1993:607). The complexity of the relationship between the structures described, and the actions of the nurses and doctors in transforming them, leads Porter to comment on the inadequacy of a causal model based upon constant conjunction. There is no straightforward one-to-one relationship between racism as a structural phenomena and its manifestation. Rather, it is a tendency that is realized under some circumstances, but not others.

Bhaskar in which social structure is said to have an existence that is potentially independent of its daily reproduction in everyday social relations. In Giddens's particular ontological focus, society is intentionally produced by agents who draw upon the rules and resources of social structure and, in so doing, their actions have unintended consequences; one of which is to reproduce society. Therefore, with Marx, he agrees that human beings make their own history, but not in the circumstances of their choosing (Giddens 1984). As such, social structures clearly have real consequences for individuals. Moreover, though these consequences are real, the mechanisms that produce them are not necessarily recognized by those experiencing their effects.

Knowing the social world

The emphasis in the first part of this chapter has been on the ontological suppositions underlying research strategies. So far, we have illustrated these through the strategies that ultimately rely upon such assumptions. However, the actual distinctions between the ontological, epistemological and methodological, are hard to sustain. The same is true when one shifts focus towards the epistemological. Here, we will find epistemological assumptions accompanied by existential implications and claims regarding social reality.

The approaches we examine in this section are not exhaustive, but serve as illustrations of philosophical and methodological views that place primary emphasis on the question of how we come to know the world—as opposed to starting from suppositions about what the world is actually like. All of the following belong to, or are informed by, the naturalistic tradition of philosophy. Implicit in all of these are the perennial questions we have found in philosophy: verification, falsification, induction and causality. For each approach it is a question of emphasis. For example, probabilists don't get too concerned about causality, for they would maintain it is not a soluble problem, whereas followers of Popper would claim that falsification renders the problem of induction harmless.

Critical rationalism

This view is usually associated with Popper and has, in its essentials, been described in Chapter 2. Popper's starting point was a desire to provide demarcation criteria between science and non-science. Although, unlike the logical positivists, he did not want to deny the role of metaphysical speculation in science, he did want to establish a more "rigorous" basis for scientific knowledge. Scientific knowledge must be testable. The best knowledge we can attain is that which is able to pass the most rigorous tests available to the researcher. As far as Popper was concerned, the principle of falsification was equally applicable in any area of investigation that called itself science. Clearly, then, the problems identified with this principle will occur equally in both the physical and social sciences.

As we have seen, falsification either collapses into induction, or is simply a very narrow view of science. Indeed, there is a tautology in Popper's idea of science. For claims about the world to be scientific, they must be falsifiable and if they are falsifiable then they are science. The process of falsification is enacted by the scientist who can then decide upon its criteria. It is simply a matter of adopting a convention, or set of conventions, as to what will count as a falsification. Furthermore, in the messy day-to-day business of science, or social science, test situations are enormously complex. In the latter, in particular, it is hard to conceive of any test situation as simple as "all swans are white", for example. In addition, scientists and for that matter social scientists, do not abandon a theory because of one disconfirming instance. Usually, modifications to the theory are made in the light of new findings and although this is "forbidden" by Popper's methodology, the history of science tells us otherwise.

Imre Lakatos (1970), although working within the Popperian tradition, recognized the tenacity with which scientists hang on to the key elements of their theories. He offers a conception of the growth of knowledge that might be described as midway between Popper and Bhaskar. He proposes, under what he calls "research programmes", that what actually happens is that researchers hang on to a "hard core" of theories that are not open to refutation. Around the hard core is a protective belt of auxiliary hypotheses, that are falsified and rejected, or modified (see Lakatos 1970:131–7). Research programmes are then assessed on the basis of how productive they have been. If they continue to make novel predictions, they are maintained. Alternatively, if they do not live up to expectations, they are said to be degenerative and are abandoned by scientists. On

RESEARCH EXAMPLE 7

The Frankfurt School as a research programme

There are few examples in social science of the kind of research programmes as described by Imre Lakatos in physics. One approximation, perhaps, is that of the Frankfurt School of social research during the 1930s and 1940s. The Frankfurt School was very eclectic in both its areas of interest and the style of its members. It could be said to include the psychoanalytic work of Erich Fromm, to some extent the literary criticism of Walter Benjamin, as well as the sociology and philosophy of Theodor Adorno, Herbert Marcuse and Max Horkheimer (Honneth 1993). Yet, in Lakatosian terms, it was defined by a hard core of theory. Though strongly influenced by Marxism, it was held that capitalism had succeeded in overcoming a number of contradictions and the working class had been incorporated into its dominant cultural and material mechanisms. Despite this pessimism, the School was motivated by a desire for political and social emancipation. In one form or another, these assumptions motivated its members:

> although there were marked differences in the way Horkheimer and the others conceived the political implications of their work most of the Institute's members hoped that their cumulative efforts would contribute to the making of history with will and consciousness. They intended their findings to become a material force in the struggle against domination in all its forms (Held 1990:35).

However, implicit in Lakatos is at least the spirit of Popperian falsification, if not its substance. Whether or not falsification should inform our research was, as we will note in Chapter 5, at the heart of the debate between Popper and Adorno. In the Frankfurt School the hard core might be said to have withered away as history unfolded, rather than being systematically, or decisively, refuted. Indeed, though critical theory lives on in the work of Habermas and others, it is doubtful if enough of the "hard core" remains for it to qualify as the same research programme.

occasion, discoveries of great magnitude will serve to damage even the "hard core". More usually, however, the programmes will wither and die.

As a means of describing what happens in science, or for that matter social science, "research programmes" may have some merit; although we should note that Lakatos was mostly concerned with physics. Marxism and psychoanalysis, for example, both condemned by Popper as unscientific because their central propositions were not falsifiable, can be seen to have a hard core of theory. In the first case, these can be seen as the central propositions of historical materialism. In the second, the role of unconscious processes as the underlying motivations of behaviour (in this sense Freud may be characterized as a realist). While a challenge to the "hard core" is not permissible, hypotheses within the two traditions are challengeable.

Operationalism

In critical rationalism, emphasis is upon the status of theories. In the case of Popper, each of these is falsifiable, whereas for Lakatos science is constituted by interlocking theories, some of which are challengeable and others are not. One of the difficulties, particularly in the social sciences, is that of definition. Even if we could think of critical tests of social scientific theories, we first would have to agree on what it is those theories describe. The difficulty, for example, of devising a test for class would lie in coming up with an adequate definition of class in the first instance. Different definitions would lead to different tests, some of which may falsify the theory, while others might not.

These definitional difficulties and their proposed solution underlie the aims of operationalism. Operationalists place emphasis back onto verification and observation by saying that, "every bona fide scientific concept must be linked to instrumental procedures that determine its values" (Losee 1980:175). For example, what counts as temperature is the measurement of it and what counts as class is what we use to measure it. This was a view, within social science, originally associated with the American sociologist George Lundberg (Blalock & Blalock 1971:8). He maintained that sociologists are mistaken in believing measurement can only be carried out after things are appropriately defined; for instance, the idea that we must have a workable definition of alienation before we can measure it. The difficulty in producing definitions of concepts such as

alienation has discouraged researchers from even attempting to measure them. Lundberg insisted that definition comes about through measurement, "A space is that which is measured by a ruler; time *is* that which is measured by a clock." (Lundberg quoted in Abrahamson 1981:256. Original italics). In this view, alienation would consist of measurable variables.

Lundberg illustrated this view by examining the notion of "values". He argued that values can be inferred from people's behaviour; they are empirically observable. Thus, if people attempt to obtain more of a thing—power, wealth, etc.—then that is because they value it. Therefore, the extent to which they have values can be known through an examination of the extent to which particular things are valued. Do people value X? If so, how much do they value X?

The methodological difficulty here lies in how we translate concepts, such as alienation, or values, etc. into operational indicators. Paul Lazarsfeld described a four stage process towards this end (Abrahamson 1981:257). A researcher begins with a vague concept. The concept is then further refined and specified in terms of components or dimensions. Next, indicators for each dimension are specified and these stand in for a probabilistic relationship to the concept. Finally, the researcher should formulate indices from the observed relationships among the indicators.

Offered as a methodology in its own right (Blalock & Blalock 1971), operationalism is very much associated with the positivistic tradition in social science. Its ontological premisses are diametrically opposed to realism. Realists, in particular Rom Harré (1972), have criticized the "operationalist" aspect of positivism for its inability to recognize entities other than those that are observable. The credo of operationalism may be summed up as, "if you can't measure it, it doesn't exist". Operationalism is fundamentally empiricist. At the very least, it leads to a division of labour between the task of theory construction and measurement, with those involved in the latter reducing theories to concepts in order to operationalize them; the defence being that in empirical research, operational definitions are unavoidable. In order to measure the amount of X, or to postulate its relationship to Y, it is necessary to define X and Y (Bryman 1988:22–3). Power, alienation, class and poverty will remain theoretical entities, with each just as good as the last, unless they can be translated into testable propositions.

The social scientist faces three difficulties in following an operationalist programme of research. First, there is a problem that is shared with the

physical sciences, which is best described in the form of a question: how do we know the testable propositions fully operationalize the theory? For example, if our theory is that the domestic division of labour is becoming more equitable between women and men, how can we know that questions about household tasks, or attitudes towards them, fully represent the theory? If the theory is about equity, do such questions form a suitable measurement? Secondly, as the phenomenologists have claimed, just how meaningful are our theories to those we research? Social scientists struggle to understand the concepts and ideas of the social world and convert them into sociological theories. However, there is a "slippage" between the discourse of sociology and that of the social world, which Giddens (1976) seeks to encapsulate in the idea of the "double hermeneutic". The solution to this difficulty lies in a hermeneutic approach to social research, whereby to understand a particular social group it is necessary to employ the same techniques to know that group as members of that society. Operationalism does not so much solve the question as side-step it. Finally, we should note that "there might be as many concepts of, say temperature, as there are methods of measurement" (Tudor 1982:59). Indeed, there are several—fahrenheit, celsius and kelvin.

RESEARCH EXAMPLE 8
Studying homelessness

In recent years, homelessness has become a major social problem for Western governments (Hutson & Liddiard 1994). One of the difficulties arises, however, in defining what is meant by homelessness. This can range from the very narrow definition of literally sleeping "rough" to a complex description such as that devised by Glen Bramley (1988). However, researchers must opt for one or other definition and by opting for that definition, they then set the parameters of "homelessness". In some studies, notably by Anderson et al. (1993), this definition was established by defining all those who were clients of hostels, those who were sleeping rough and attending day centres and users of soup runs, as "homeless". In other studies, such as that of Fisher et al. (1994), the definition is achieved by the adoption of categories in local official statistics. Operational definitions thus appear unavoidable. Nevertheless, the process of definition can be said to "create" what shall count as "homeless".

For the social scientist, this task is complicated by the degree of definitional disagreement.

Ironically, the latter point could be taken up by advocates of operationalism as evidence for its inevitability. Researchers must operationalize concepts in particular ways, where there is little agreement as to the form this should take in specific instances. While physical scientists may wrestle with three different definitions of temperature, there is no operational debate of the type or scale of that in social science around, for example, absolute versus relative poverty (Townsend 1979). Nevertheless, if research on poverty is to take place, researchers must define what they are to mean by poverty within a given study. In quantitative research this will take the form of a close specification of the meaning of a concept and although in some qualitative approaches this specification may be subject to modification, or be less specific in the first instance, it is still present.

Probability

Each of the above approaches are testament to the obsession in science with the pursuit of truth; mostly defined in terms of a correspondence with reality. Though in operationalism the reality becomes that which is measurable, the march towards truth is at least implicit. Probabilistic approaches also seek a correspondence with reality, but it suffices that this correspondence is "probably", rather than absolutely, true. Probability, because it relies on induction, can be seen as the opposite to critical rationalism. Quite simply, the probability of X being true is derived from the fact that X was true in the past, or put another way, the probability of a characteristic existing in a given population is derived from the fact of it existing in a large enough sample of the population.

We have noted the difficulties that this approach entails; in particular, that the prior probability of any generalization is zero (see Newton Smith 1981:49). Yet probability, in the form of inferential statistics, has played a central role in the social sciences. It is often held that an antidote to the more "open" nature of systems in the social world is to assign probabilities to an event occurring. The problem with open systems, it will be recalled, is that of linking causes with effects. In contrast, inference in social science rests upon association between events. Thus, it is not claimed that unemployment causes poverty, but that unemployment is associated with poverty. In other words, if instances *I* are taken to be representative of a

RESEARCH EXAMPLE 9
Probability

1—Sampling

A fairly straightforward example of how probability is used in research can be found in survey sampling. One of the commonest forms of sampling in quantitative research is that of the "random" or "probability" sample. Most large scale surveys, such as those commissioned by government (other than censuses), rely on some form of probability sampling. Rarely do researchers study a whole population, but instead require a sample that is "representative" of the population. A probability sample accords to each person in the population the same probability of being selected. The size of the sample proportionate to the population will determine its accuracy. In a sample size of 10,000, we might expect a sampling error of 1%, whereas in a sample of 100 this could be as high as 10%—assuming a 95% confidence interval (i.e. we are 95% confident that the results we get from the population will be the same as the sample plus or minus the sampling error (DeVaus 1991). The strategy is inductive and depends on the sample sufficiently resembling the population. The "sufficient resemblance" therefore takes the form of the probability we attach to the sample being accurate.

2—The survey

Probability in surveys will often take the form of the likelihood of an association between two variables occurring by chance. A null hypothesis is adopted that two variables are not related and that this occurred by chance. The statistical significance of the finding is then determined by using a test such as chi-square. The chi-square test allows: "the researcher to ascertain the probability that the observed relationship between the two variables may have arisen by chance" (Bryman & Cramer 1990:158). The null hypothesis is expressed as the expected frequency of something happening and this is compared with the actual observed frequency. The larger the latter, in comparison with the former, the larger the chi-square statistic and the greater the likelihood that the finding is statistically significant.

population P and in this sample "poverty" and "unemployment" are associated and the strength of that association can be established, then it is inferred that such a relationship will exist in P.

Probability appears to entail incompleteness, or even randomness. We do not know if X causes Y—the chain of causality may be much less direct. However, we can say that they are associated. It follows that if we knew more about the X—Y relationship, the less would be the need to make statistical inferences (Sayer 1984:174). This, in turn, begs the question of how we assign probabilities. The manner of assignment must depend ultimately not on definition, but ignorance. The more we know about the X-Y relationship, the better we will become in predicting outcomes. Of course, this is exactly what one wishes to achieve, but it remains that in terms of knowledge claims, statistical inference will remain a substitute for something better.

The kind of probability we describe here is objective probability. In this there is the assumption that, "a hypothesis or other proposition descriptive of the world has either a logical probability or a propensity of being true, or a relative frequency of truth" (Hesse 1974:105). In other words, a toss of a coin entails only two possibilities: that it will fall heads, or it will fall tails. When there are more than two possibilities and it is known what these are, then it is possible to talk of the propensity of one possibility, or another being true. The relative frequency of truth of past events can lead us to assign probabilities to future ones. This kind of probability, however, takes place in a closed system. Given *n* number of throws of two dice, it would be possible to elaborate all of the possible combinations that could ensue, though you could not know *a priori* which of these would be the actual combinations thrown.

The world is not like a die. As we have often remarked, it is "open" in character. This is reflected in another form of probability called "personalist" or "subjectivist". This often takes the form of "Bayesian theories" of probability. Thomas Bayes was an eighteenth century English cleric. He devised a theorem that was a statistical expression that describes the effect of some new evidence on the degree of probability of a hypothesis that had been allocated a previous probability on the basis of old evidence (Howson & Urbach 1989:26). Bayes's theorem is a form of personalist probability theory; it is essentially subjectivist in the assignment of probabilities. The philosophical claim is that human beings assign probabilities to events occurring and change these in the light of new evidence. In this way we learn from our environment. When we walk under ladders, we assign probabilities to the paint not being dropped on

our head and as we collect new evidence, we change the assignment of our probabilities.

The principal difficulty of Bayes's theorem is that it depends on how probabilities are assigned *a priori.* We can say that (a) new supporting evidence relates directly to the probability of original hypothesis *h* by making it more likely; (b) the new evidence is in itself more likely given its agreement with the old and (c) the new evidence will increase the probability of *h* if it was not anticipated, but if it could have been anticipated without *h,* then it will decrease it. Therefore, personalist probability measures degrees of belief in an event being true. It can be said to rest on the assumption that no rational person would accept betting odds on the assumption that they will lose. Clearly, you would not back a horse that you knew had no chance of winning a race. Similarly, you would not put to sea in a leaky boat. However, suppose you are being chased by a mad axeman and you reach a river where two possibilities present themselves. Either you fight it out, or you try to cross the river in a leaky boat. You will weigh the odds and assign a probability to your chances of success in each course of action. Suppose you then found the boat also contained a bucket for baling out. This changes the odds in favour of taking to the water. Nevertheless, suppose, further, that you find a suitably heavy branch that might be used in your defence. The odds now change again.

It is on the basis of the accretion of new evidence changing probabilities that advocates of a Bayesian approach say hypotheses are amended. Hypotheses are rarely shown to be conclusively true or false—depending on whether you are a verificationist or a falsificationist—but we do alter our degrees of belief about the relative frequency of events occurring and this, in turn, will change our views about the hypothesis. Thus, notwithstanding the difficulties in operationalizing the concept of homelessness, if in a given set of circumstances we observe only 12 cases of homelessness when 50 were expected, we do not say that an original hypothesis about there being homelessness is falsified, but we might say the odds of someone being homeless in these circumstances is less than we thought.

Despite these insights, an important difficulty remains with Bayesian probability. Although from an intuitive point of view we might accept that we subjectively calculate the probability of an event occurring, it is hard to translate that into prior possibilities, or degrees of belief, that have some comparative value. If these "priors" cannot be successfully assigned, then, of course, the effect of new evidence cannot be shown either. Bayes' theorem as an expression of the relationship between statistical terms is

uncontroversial, but its operationalization is highly problematic. For this reason, it is sometimes described as working back from an effect to a cause. This can be illustrated by a simple example.

If a group of people are defined as living in poverty and we wish to establish causes, working back to redundancy, or reduction in salary at particular points in their working life, would increase our confidence in the belief that we were closer to establishing causal relations. However, suppose that we discovered that this group had won the lottery. On the face of it, this would be much less likely to be a cause of poverty (it could of course have indirectly contributed, but it would not be an obvious candidate). Yet we can think of these putative causes as being part of a "network" of events, in which each event is strongly linked, or weakly linked, to the others. In this sense, poverty would be unlikely to be directly caused by redundancy, though the relationship between these two states is likely to be a strong one. From this we can note two points with regard to probability. First, the probability of links between some terms may actually be zero. Secondly, the strength of the link may depend on the direction one "moves" in the network (Law & Lodge 1984:56–7). In relation to the first point, Law & Lodge give an example in zoology whereby there is a zero chance of fishes breathing air, or being warm blooded. In terms of the second, again employing their zoological example, it is certain that a mammal will be an animal, but we would need to assign a probability to an animal being a mammal.

Network theory

Probability theory intersects with what has become known as "network theory". In the above examples, concepts, it is maintained, are linked by the probability of one causing another, or in Law & Lodge's zoological example, by virtue of their relationship within classes, or between classes. Exponents of network theory hold that the same may be said of theories, the language we use to describe them, or any other concept in the world.

It will be remembered that one criticism of naïve falsification was the idea that a theory could be falsified by one discomfirming instance. Naïve falsification would appear to propose a world in which the theory and its test somehow exist without linguistic, conceptual or logical connections to any other part of the world. The French philosopher Pierre Duhem and the American logician W.V.Quine both advanced arguments about the holistic nature of theories. What is now known as the Duhem-Quine thesis,

holds that scientific theories form an interconnected web. From this, it follows that any claim to have falsified a theory has implications for the rest of the web, or network. As Quine put it, "our statements about the external world face the tribunal of sense experience not individually but only as a corporate body" (1953:41).

From these insights we are left with a question: how can we be sure that it is the particular theory that is falsified and not the background or auxiliary hypotheses that the theory entailed? If, for example, we find that in a given society the direction and rate of mobility between classes was different to that envisaged by our theory, it may not be the specific theory that is wrong, but our background assumptions of what constitutes mobility in the first instance! Conversely, our negative findings may have implications for the assumptions we have about how our measuring instruments actually behave. At this point, it is important to note that the Duhem-Quine thesis is predicated on the view that theories are simply heuristic devices that help us to describe the world. In this sense, they are linguistic in content in that they do not refer to the "real" structures existing in the world. For Quine, it follows from this that single sentences in themselves have no meaning, but acquire meaning only in relation to other sentences. Rather like Wittgenstein, this leads him to the view that sentences can have many meanings and that context is all.

The implications of the "network" view are important to both the physical and social sciences. The most radical interpretations come from the ethnomethodologists and the sociologists of science. Steve Woolgar (1988), for example, argues that the existence and characteristics of objects will be determined by the *social* network within which they are defined. Thus, scientific theories are not simply social products with a discrete existence, but social products with complex and possibly diverse origins within the network. Because the social network is linguistic in its nature, theories, or descriptions, are practical expressions of phenomena that recreate and establish anew the phenomenon itself (Woolgar 1988:73). The conclusion, of course, is profoundly anti-realist and relativistic. The objects that theories describe exist only by virtue of the theories themselves existing and they are constructions of the social network. For this reason they can only be said to be true within the context of the network itself without reference to any "exterior" set of conditions. From this vantage point, we appear to have travelled from a correspondence to a congruence theory of truth as characteristic of the actual practice of science.

The relatedness of phenomena is so obvious that it seems hard to

RESEARCH EXAMPLE 10
Identity and networks in small scale enterprises in Mexico

Gerard Verschoor (1992) has conducted ethnographic research on the proliferation of small scale business enterprises in Latin America. He describes the relationships that exist between the network of, "friends, patrons, clients, compadres, transport operators or politico administrative authorities" (Verschoor 1992:184–5). In particular, the *tratada* networks are a diverse range of actors participating in a "deal" to purchase and subsequently resell a commodity outside of the network. He summarizes the complexity of the *tratada*

> the individual in question…makes a reasonable offer and pays cash for the good. Simultaneously word is spread informally about the characteristics of the commodity, and the possible amount of money that has to be put down for it. Meanwhile the item is sold…for a slightly higher price to someone else in the network. The second buyer never pays the full amount in cash: it is only a *trato* (deal). The new owner then speedily makes a deal with another member of the network and so on. This goes on until someone from outside of the *tratada* network gets wind of it and pays cash (Verschoor 1992:184–5).

Thus, for the researcher to understand the causal patterns in small scale economic enterprises of this kind, a knowledge of the diversity and complexity of the networks is required. He rejects what he calls the "totatalizing discourses" of the determinist and reductionist assumptions on small scale enterprises. Such discourses, it is maintained, reify the assumptions of economism and evolutionary necessity within a modernizing society. The argument is that single mono-causal theories produce inadequate understandings of the strength and direction of relationships within the networks.

conceive of a philosophy of science, or social science, that would ignore its implications. Indeed, Woolgar's talk of "networks" in science is not radical enough, implying that the networks themselves are discrete. Quine's

conclusion and it is one hard to avoid, is that the "unit of empirical significance is the whole of science [or social science!]" (quoted in Harding 1976: xi). Nevertheless, it does not follow from this point that any decision, or view about a proposition, is as good as any other, or that we cannot focus on one part of the world and learn of its characteristics. All theories entail presuppositions and these presuppositions may or may not be affected by what happens to a theory. As Alan Ryan notes, it is quite one thing to say that the facts of any case involve some presuppositions (thus implying a connectedness with other parts of a network) and quite another to say this prevents us from deciding between two theories (1970:236). While the falsification, or indeed conclusive verification, of a complex theory is difficult, or even impossible, it should not blind us to the possibility of being right, or wrong, about the world at a much simpler level.

Pragmatism

In the journey from "objective probability" across to network theory, there has been an important shift in what can count as "truth". We have moved from a correspondence theory of truth over to one of pragmatism. Truth is not fixed or immutable, but is something that happens to an idea itself, not the objects to which it refers. Thus, Quine's "web" of theories is informed by a pragmatic view of truth. For this reason we need to consider the idea of pragmatism as a strategy for knowing the social world.

Pragmatism stems from, and might be said to be reducible to, a view of truth. It has been viewed as a radical form of empiricism (Russell 1955). Such was the reaction to its ideas that Emile Durkheim perceived in its formulations an attack on the rationalist tradition and the possibility of discovering the "truth" (Durkheim 1983:1). These ideas maybe found in the work of three American thinkers: Charles Peirce (1839–1914), William James (1842–1910) and John Dewey (1859–1952):

> the basic idea of pragmatism, namely that it is actions rather than consciousness which are the foundations of thought, was developed in the 1870s by a group of young thinkers in Cambridge, Massachusetts, and was first publicly voiced by Charles Peirce in 1878 (Joas 1993:95).

The influence of these ideas on social science has been and continues to

be, very important, informing, via the work of George Herbert Mead (1863–1931), the development of Chicago School sociology and the tradition known as symbolic interactionism, as well as the work of the German philosopher and social theorist Jürgen Habermas (see May 1996). Another intellectual line may be traced to the work of the contemporary American philosopher Richard Rorty who, in turn, has influenced what has become known as anti-foundationalist views (see Chapter 7).

Peirce's epistemological starting point was the subject-object dichotomy in social and philosophical thought. Thus far, this has manifested itself as the idea that either reality is mind-dependent, or that the mind itself simply discovers an order that is already present in reality. Peirce's position is a rejection of the subject-object dichotomy and of an epistemology based solely on reason, or solely on experience. Although we do rely on our senses for an apprehension of the world, we are also creatures of habit who live in communities. To this extent, we need to adapt to the world, but at the same time produce meanings that orientate our conduct towards that world. Therefore, although we cannot be absolutely sure of our knowledge, we do not doubt it all simultaneously. What we are seeing here is a displacement of the relationship between thought and reality and how truthfully one may represent the other, to view thinking as a social, not solitary act, that takes place within a "community of others".

Rather like Lakatos, a generation after him, Peirce is describing a "core" of knowledge that is amended, but rarely refuted as a body of ideas. Unlike Lakatos and more like Duhem or Quine, he is describing a "web" of knowledge within a community. This community of, say, scientific inquiries, pursues an ideal, but it is one that they will never reach. That ideal is truth. Its pursuit requires honesty, integrity and self-discipline that has not only an intellectual, but also moral content. In this sense meaning is as important as truth. However, William James became more concerned with the psychological process of knowledge production. For him, "self correction" might be seen in an idealist sense of experience as a product of the mind's structuring activity. This psychologism takes him a step further to end up insisting upon the function of thought in scientific discovery being to satisfy its indigenous needs and interests. It is this that leads him to his controversial view of truth as instrumentalism which states that, "knowledge should be judged as more or less 'useful' rather than as true or false" (Sayer 1992:70). In response, Peirce was to call his latter work "pragmaticism" in order to differentiate it from such formulations.

We are left with an understanding of how people and societies construct truth from a pragmatic viewpoint. Of course, in terms of our chapter division, pragmatism is both a strategy and a perspective. For instance, Mead talks of a stone as having a number of objective perspectives that depend upon its social use, or how it is viewed, that will, in turn, have a strategic component to it. A stone becomes a chemical, thermal, gravitational, visual system as well as perhaps being an object of play for a child (Hammersley 1989:60). Similarly, the pragmatism of W.I.Thomas, though not the end of this intellectual journey, is certainly an important part of this tradition. However, Thomas's perspective was that of a realist who held that the world is experienced as a reality by those who comprise it, but who maintained a separation between the subjective nature of social experience and the objectivity of science. His methodological writings thus reflect both a subjective and objective view of the social world (see Thomas & Znaniecki 1958).

Summary

In this chapter we have been driven by the aim of clarifying what are a series of complicated views on the nature of social reality and the most appropriate strategies for coming to know that reality. To the first set of questions we appear to be left with idealism and materialism or a synthesis of the two, as represented by realism. The world is either taken to be a product of the mind and the meanings that people attach to their social circumstances or, alternatively, it is their social circumstances that structure the mind. Each of these positions finds itself buried deep within, but exemplified by, different perspectives on the social world that, in their turn, inform the programme of social investigation that each undertakes. Thus, ethnomethodology is concerned to render explicit the methods through which people construct social reality. Add to its phenomenological lineage the insight of ordinary language philosophy and we find that the social world may be treated as a series of language games that are inextricably linked to a social context. This, in its turn, opens up the possibility for the study of everyday conversations in order to reveal their reality producing properties. In this case, we travel from philosophy to methodology to method, ending up in an empiricist programme of investigation.

We also found an ontological realism that, contrary to idealism, asserts the existence of social structures independently of our perception of them and at the same time views such structures as ultimately dependent upon their reproduction in human actions. To this extent we should not confuse action and consciousness, as if the latter has some prior existence to the former. Actions may be informed by, but also produce, consciousness. Furthermore, our actions may not have the outcomes that we intended. It is for this reason that Anthony Giddens speaks of the unintended consequences of social action. In drawing upon the rules and resources that exist within society, we both produce, and reproduce, society. This is not an idealist formulation, but one that seeks to take account of the durability of social institutions across time. Material relations thus become of consequence in his ontological focus upon human being and doing in everyday life.

Our division certainly began to break down when we came to consider, in the second part of this chapter, the epistemological underpinnings and methodological strategies for knowing the social world. Here, our old friend the dualism in social thought comes to plague us once more. On this occasion, however, it is in the form of nominalism versus realism. For our purposes we can say that the former refers to the view that there is no arbitrator to the meanings of a concept, theory of word, etc. that unambiguously lies within an "external" world. The latter, on the other hand, holds to a modified correspondence theory of truth through its fusion of the theoretical and empirical. Empiricism is not sufficient in itself for there are underlying relations within society that are not amenable to simple observations. If this were the case, then what is the point of science? Therefore, and this is where we link directly into our discussion in the first part of this chapter, we require theoretical concepts that penetrate a given reality in order to reveal its underlying properties. This strategy necessitates a fusion of the perspectives of critical rationalism and empirical, but not empiricist, work.

In this second section we also found some sophisticated versions of the actual strategies that characterize science at work: from probability to network theory through to pragmatism, all perspectives having strategic consequences. Probability, as discussed, rests upon induction that, from the point of view of Popper's critical rationalism, is not an adequate form of science. However, it does have pragmatic connotations insofar as it can be viewed as a systematic attempt to apply those very principles that are used in everyday life.

Questions are thus begged as to the neat distinction that may be made between science and non-science. If the former is characterized as being more systematic in its formulations, then the manner in which it actually conducts itself is of primary interest. Here, network theory brings a social aspect to its practice by seeing concepts, theories and ideas as part of an overall framework. The idea that the concept-indicator link is adequately dealt with through operationalism is problematic according to this idea. It may not be our theories, of which concepts and indicators are a part, that are proved to be wrong, but the very foundations upon which our ideas are based. Yet, according to the Duhem-Quine thesis, these are only self-referential. In other words, once again, this contains the Wittgensteinian position that the correspondence theory of reality is no final arbitrator and in the hands of those such as Steve Woolgar, it is the social network that is responsible for concept formation, testing and the dissemination of results. Science, therefore, is a social phenomenon whose justifications do not reside in its appeal to accurately represent an object world separate from its practice, but whose practitioners appear as judge, jury, defence and prosecution.

Finally, the tradition of pragmatism represented a search for truth within a community of like-minded others, as well as the need for meaning in human affairs. To this extent the idea of objectivity, defined as a value-free scientific practice based upon universal principles of rational inquiry, is rendered problematic. Truth is an ideal that, for Peirce, was an orientating principle for scientists and one which they pursue, but will never attain. This opens up the whole question of the relationship between values and scientific practice. Can science free itself of value content? Aside from the technical issues that this question poses, there are also moral components. For example, is it desirable that science should be distinct from values? Traditional views have held onto the possibility of objectivity as defined in this manner. However, there are those who would regard a science in the service of human betterment as necessarily being informed by values. Therefore, we now turn our attention to this important issues in scientific practice.

Questions for discussion

1. Is it possible for explanations to be adequate at the level of cause and meaning?

2. Can we "know" other minds? To what extent is social research dependent upon our ability to do so?
3. To what extent can it be said that all social research is a form of operationalism?
4. What is the relationship between "truth" and social research?

Suggested reading

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