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1 Overview of the Book

By the end of this chapter you should have some idea of the contents of this book and of the major themes which run through it:

- The difference between an interest in causality and an interest in meaning
- The trade-off between control and naturalism
- Whether social phenomena are best described in terms of linear or non-linear (complex) dynamics
- The trade-off between finding out a great deal about a few people or a little about a lot of them
- The importance of representativeness
- The difficulties of making generalizations on the basis of research
- The difference between value-neutral and value-led research
- Accountability to research subjects as opposed to accountability to readers
- Research as the production of accountable knowledge.

You will encounter these ideas on and off throughout the book.

1.1 Introduction

Social scientists differ greatly in what they think they are studying, and the purpose of doing this. But, despite this diversity, there is only a limited tool kit for research. Different social scientists choose different tools from the kit, use them in different ways, and interpret the results of using them differently. Nonetheless, there is much which can be learned about social science in general from the tools themselves. The more important tools and the methods of using them are the topic of this book.

1.2 Looking for causes and looking for meanings

Two necessary assumptions for research are that there is something real to study, and that while we might never be sure about the truth, at least we can be fairly sure when we are wrong. This rules out the currently fashionable philosophies of post-modernism (Docherty 1993) as a basis for doing anything which can be called ‘research’. Since post-modernist philosophies deny the possibility of there being any means for judging knowledge as being more or less true, they at the same time make research a senseless activity (Hammersley 2008: chapter 7).

Among social scientists who do think that research is a sensible activity there are radically different assumptions about what there is which exists to be investigated. They take very different positions about the nature of reality and about the possibilities of knowing about this. The former topic is often called **ontology**; the latter **epistemology**. However, the term epistemology (the theory of knowledge) is often used to describe both. Nearly all social scientists, and most natural scientists too, take a **phenomenological** position, recognizing that we can never get in touch with raw reality (**noumena**) and can study only **phenomena** which are our perceptions of this (Thines 1987). Confusingly, the term **phenomenology** is usually used in a more limited sense in the social sciences to refer to the study of consciousness. Then it may imply that the most important matter to study is how people experience their lives and make sense of them.

If our perceptions are only a partial glimpse of reality, then the task of the social researcher is to manage perception so as to be able to see reality more clearly. I don't mean anything different in principle here from the example of using a microscope – and using it properly, on the assumption that what is important is very small. As in most fields of science, social scientists use instruments as aids to research: tests and observation schedules, questionnaires and attitude scales. As Gregory (1981) charts for science as a whole, these instruments are not passive and inert but actively shape the pictures of the world that researchers create. Chapter 2 of this book looks at the considerations that guide the construction of research instruments in the human sciences, and this theme reoccurs at various later points in the book.

This book is not the place for an extensive epistemological debate. Instead I will make a simple distinction between those researchers who think of the social reality to be captured as one of *cause and effect*, and those who think of it as a complex of *interpretations and meanings*. Some researchers think of these as mutually exclusive; others as different aspects of the same underlying reality.

1.3 Causal analysis

Causal models

Chapters 3–10 deal mainly with experiments, social surveys, computer simulations and some similar investigative strategies, and Chapter 2 with the instruments used in such research. These strategies are largely used by researchers whose basic question is 'What usually causes what to happen?' The 'usually' is important. Many historians are interested in documenting a unique set of circumstances leading to a unique event. But most social scientists, and some historians, are interested in what often, or generally, causes what. The model which lies behind these approaches is one of a network of **variables** connected together in cause–effect relationships: an electrical circuit or a plumbing system are not bad physical analogies for this. The term 'variable' means something which can vary: male *or* female, working class *or* middle class *or* upper class, percentages of people unemployed. The cause–effect relationship is such that if one variable changes, then other

variables will change too. A change in the variable ‘unemployment level’ will produce changes in the variables, ‘family income’, ‘consumer expenditure’, ‘average life expectancy’ and so on. What is of interest is exactly which down-stream variables do change, and by how much, when an up-stream one changes. For example, what are the ‘knock-on effects’ of unemployment, or how much change in life expectancy can be attributed to changes in the labour market, including rates of unemployment?

The complexity of causation

Causal investigation like this throws into sharp relief a set of researcher problems associated with the complexity of causation. First, anything previous might be among the causes of anything that comes later. Second, whatever happens is likely to have multiple causes. Third, under normal circumstances, a very large number of things are going on at the same time. All in all, it simply is very difficult to see what is causing what, or which past events are among the causes of some current state of affairs.

Experimental control and the study of cause and effect

Experimentation is one approach to these problems. A controlled experiment, as discussed in Chapter 3, is a simplified working model of reality, designed so that most cause–effect relationships are either insulated off, or are standardized, and only variables of interest are allowed to vary. If you wanted to see whether the gender of an examination candidate was among the causes of the different marks given to candidates by examiners, you might design an experiment where the *only thing* which could cause differences in the marks given would be the responses of the examiners to the gender of the candidates. That would mean excluding all other possibilities.

The term **control** is usually used for such exclusionary strategies. Sometimes people think that control has a sinister implication when applied to human affairs. It might at times, but usually in experiments it means something similar to controlling camera-shake by using a tripod; it means screening out whatever is irrelevant to the question being asked. In the research on gender-bias in exam marking, you might control for the effects of differences in the quality of the scripts, by arranging that for every examiner who got a script with a male name on it there would be another getting *the same* script with a female name on it. You might control for differences between examiners by making sure that there were two groups of them closely matched for age, gender and whatever other characteristics might be relevant, each group receiving the same permutations of scripts and genders. As Chapter 3 discusses, the design of a controlled experiment is one which attempts to exclude from influencing the results anything except that cause–effect relationship which the researcher is interested in investigating.

After the 1940s (Oakley 2000: 163–97) sociologists and anthropologists have rarely conducted controlled experiments of this kind, although they are stock-in-trade for psychologists. But today there is a strong demand for research to determine whether health care, or social work, educational or

criminal justice practices are effective or not. The most convincing evidence for this comes from controlled experiments. Chapter 4 includes sections on effectiveness research. The synthesis of many pieces of effectiveness research to create a broader basis for generalization is dealt with in Chapter 15.

More naturalism in experiments

For many topics in the social sciences, controlled experiments are either impracticable, or unethical, or both. Even when they might be conducted, they are vulnerable to the criticism that in producing a simplified environment in which to study cause and effect, experimenters create a situation which is so artificial that, whatever the results, they will have little bearing on what happens under ordinary circumstances. This is sometimes expressed by suggesting that controlled experiments have a low level of **external validity**. This is discussed at the end of Chapter 3 and again in Chapter 4.

Experimenters may attempt to meet this criticism by making their experiments more like real life: for example, by conducting them in settings such as schools or railway stations. Chapter 4 considers more naturalistic experiments. But the more naturalistic an experiment is, the less control the experimenter has over the situation, and the more possibilities there are for the results to be influenced by other factors in a way that might mislead the researcher as to what caused what. This is the first of two important **trade-offs** which you will encounter in this book. The *trade-off between control and naturalism* is between, on the one hand, being able to control the situation so as to draw confident conclusions about cause and effects, but at the cost of producing a result which might not apply outside the experimental situation and, on the other hand, researching naturally occurring situations, but being less able to draw confident conclusions as to what causes what.

Natural experiments

It is important not to confuse **experimentalism** with **experiments**. 'Experimentalism' or 'experimental design' refers to controlling variables, and this may be done for social surveys and other kinds of research as well as in experiments *per se*. The reason why controlled experiments are the topic of an early chapter of this book is because they illustrate the logic of control so well. Other researchers either have to find alternative means to achieve the controls achieved in a controlled experiment or, if they don't, their results may be impossible to interpret with any confidence at all if the topic is a causal one.

If researchers cannot set up the right conditions by mounting a controlled experiment, they may look around for some circumstances where the right conditions crop up naturally, and conduct a **natural experiment**. When astronomers say they are doing an experiment, this means they are either making some strategically planned observations, or adding a twist to their latest computer model. In a natural experiment the kind of control exerted is **statistical control** rather than experimental control. This means analysing

data to see what stays the same and what changes when the same data are classified in different ways. Chapter 7 illustrates some natural experiments including twin studies to investigate the relative contribution of heredity and environment and the investigation of what differences it makes for children to go to one school or another. Chapter 8 deals with the use of surveys in natural experiment approaches.

Linear and non-linear dynamics

Traditionally science has operated as if most phenomena obeyed the laws of **linear dynamics**, where outputs are proportional to inputs, where doing the same thing a second time has the same effect and where phenomena are neatly separated off from each other in relatively closed systems. Indeed the controlled experiment can be seen as an attempt to make reality behave like that. For a long time, scientists have known that the world isn't really like this, but have extracted a great deal of understanding of phenomena by making the simplifying assumptions that it is. More recently however, the **non-linearity** of most phenomena has come centre ground in the natural sciences with the development of **complexity theory**, of which the more highly profiled chaos theory is a branch. What 'complexity' means is described in Chapter 5. Here suffice it to say, that in complex phenomena everything prior influences everything subsequent, but not consistently, and that how things turn out depends on how things started – which means they usually turn out differently every time. If this is so then it further undermines claims that experiments conducted under highly controlled conditions can tell us what will happen on another occasion even when what appear to be the same actions are taken. The method of choice for studying complex phenomena is *computer simulation*. A brief introduction to that is also given in Chapter 5.

Surveys and representativeness

Many of the data for natural experiments come from social surveys. So do some of the parameters for computer simulations. Most surveys are **sample surveys**, where data are collected from some people selected to be **representative** of much larger numbers of people. The topic of **representativeness** is an important one for most research, since it is often an issue as to how far what is true for the people studied will be true of other people too. Chapter 6 looks in detail at the means used by sample survey researchers to ensure that the sample selected is *representative of some wider population*, such that the results of the survey can be grossed up and treated as a reasonably accurate estimate of the state of affairs in the larger population.

Chapter 6 also draws attention to the difficulties of making such generalizations where the sample has been small and/or unrepresentative. Small and unrepresentative samples are often characteristic of controlled experiments and of much **qualitative research** (see pp. 7ff) and are among the reasons why it may be difficult to base generalizations on the results of either. There is another trade-off here. This is between collecting a small amount of information from

a large number of people, as is in a social survey, and being to make confident generalizations because of the large size of the sample, but at the cost of not gaining any detailed understanding of these people's lives, as against collecting a large amount of information from a small number of people with the chance of gaining a good understanding of them, but at the cost of being uncertain as to how far they represent anyone but themselves. For the same quantum of effort researchers can do only one or the other.

Prospective data

One of the few certainties in research is that something which happened later cannot have caused something which happened earlier. Thus in studying cause and effect it is important to be able to *assign events in time*. In controlled experiments this means that the state of affairs prior to the experiment needs to be investigated and compared with the state of affairs at the end. The chronology of events is rarely a problem in controlled experiments. However, many social surveys give only a snapshot of the state of affairs at one point in time. Then it will not be clear whether, for example, the people who are unemployed were in a worse state of health than others before they became unemployed, or whether becoming unemployed undermined their health. To a point, this problem can be managed by collecting retrospective data: for example, asking people what happened to them at times earlier than the survey date. But **retrospective data** are notoriously unreliable. Human memories are very bad at storing accurate records of the past. Thus, for explaining cause and effect adequately, surveys and similar strategies need to be **longitudinal**, collecting data at various points in time so that what came before what can be clearly established. Taking a longitudinal approach in research is dealt with in Chapter 8.

Administrative data

Social scientists often have to use data collected for bureaucratic purposes – for example, medical records, death certificates, examination results, or police data on arrests. Such information is generated from the routine working practices of doctors, examiners, or police officers. It often tells us more about the way they think and work than about whatever it is that is being classified and counted. If researchers use such data without recognizing this, their results may be very misleading. The use of administrative data for research purposes is discussed in Chapter 9.

Control and naturalism

The route from Chapter 3 to Chapter 8 is the route of the trade-off between control and naturalism (see above). Chapter 3 represents the highly controlled world of the controlled experiment. This excludes nearly everything else in the quest for simplicity but at the risk of creating an entirely artificial picture. By the time we get to Chapters 7 and 8 researchers are again faced with the bewildering complexity of the real world over which they can

exert no direct control. They have to rely on what conceptual control they can exercise through making strategic decisions about what data to collect and what potential data to ignore (which is most of them), how to collect data and how to analyse them. While necessary in the pursuit of naturalism, this loss of control is something which is very worrying for researchers concerned with issues of cause and effect and wedded to a linear dynamic view of the world. By contrast, complexity theorists (Chapter 5) take some delight in the surprises which are generated by their computer models. Nonetheless, they still face a ‘control versus naturalism’ type of problem insofar as there is often a difficulty in bringing off claims that what was simulated by the computer is in some way identifiable with some mechanism which exists ‘for real’.

Control versus naturalism issues have been much less worrying for those who believe that the kind of reality which social science should be investigating is one composed of meanings, though it can be argued that it is something they ought to worry more about.

1.4 Research in pursuit of meaning

Qualitative and quantitative

The language of ‘quantitative’ and ‘qualitative’ has always been distinctly unhelpful as a technical guide to research methods, and we would be better off without it.

(Oakley 2000: 303)

It would be fortunate to be able to say that the distinctions ‘cause’ as against ‘meaning’ and ‘quantitative’ as against ‘qualitative’ mapped onto each other neatly. Unfortunately they do not. If ‘quantitative’ refers to research which counts things, analyses data statistically and quotes its results in numerical forms then, in psychology in particular, there are many researchers who both consider that their topic is how people make sense of their experience, and who do their research in numbers. Similarly, there are researchers who say that they are studying cause and effect and who do very little counting – for example, many who observe classrooms in order to explain what causes differences in educational achievement between, for example, boys and girls (see Chapter 14, Section 14.4). And, although the idea of cause and effect may be pushed into the background when the central interest is meaning, there is still an issue as to what causes people to make sense of the world in the way they do, and an issue as to what are the effects of their interpreting things this way rather than that way.

Most people who call themselves qualitative researchers are primarily interested in investigating how people experience the world and/or how they make sense of it. This is often indicated by terms such as ‘phenomenology’, ‘interpretivism’, ‘symbolic interactionism’, ‘interactionism’, ‘hermeneutics’ and ‘ethnomethodology’. Sometimes all of these are grouped together as **interpretive** approaches. Adding in selected elements from psychodynamic psychologies such as Freudian psychoanalytic theory or from socially critical sociology such as Marxism or feminism adds to the diversity. Philosophically

speaking, qualitative researchers are much more diverse than quantitative researchers and the diversity is often expressed in arcane philosophical discussions. For this book I will draw a distinction between, on the one hand, the dramaturgical approach of Erving Goffman (Burns 1992) together with ethnomethodological approaches and, on the other hand, all other qualitative approaches (Chapter 11). This marks a gap within qualitative approaches which is at least as large as that between qualitative and quantitative approaches.

Questions in surveys and questions in qualitative interviews

Chapter 10 extends the discussion in Chapter 2 about how instruments shape data; here by looking closely at questions and questioning. Much of the information in both quantitative and qualitative research comes from asking people questions and recording the results. But asking questions to produce numerical data is different from asking questions to produce the kind of data that the researcher will handle as words. Chapter 10 draws a contrast between questioning and answering in experimental and social survey research, on the one hand, and questioning and answering in qualitative interviews, on the other. The former is likely to involve forced choice questions because a major preoccupation will be to make precise point-by-point comparisons between respondents. Treating all the respondents in a similar way will also be an aim. Otherwise differences between their responses might not relate to differences between them, but to differences in the behaviour of the interviewer. In this, and in other ways, interviewing for social surveys shows many similarities with experimental procedures. This is described in Chapter 10, as are the problems which arise when survey researchers depart from these rules.

Just as experiments can be critiqued as artificial and unnatural, so also can the rather formal, structured and impersonal circumstances of a survey research interview. Such a critique backs the policy adopted by qualitative interviewers, who attempt to make the interview more like an ordinary conversation. Instead of adopting the impersonal stance of the survey interviewer they attempt to make more intimate relationships with the respondent. This is on the grounds that only through making such relationships will the researcher learn the important truths about the respondent. In Chapter 10 again we meet the trade-off between control and naturalism, since the qualitative interview is highly vulnerable to criticism that the results may tell us more about the interviewer than about the interviewees.

Two meanings of 'meaning'

The term 'meaning' is a difficult one. I shall suggest two different meanings for 'meaning' here. One of these is that the meaning of what people say or do is what is in their mind when they do so. The other is that the meaning of what people say or do is in whatever it is that they say or do which allows it to be seen as meaningful. The two renderings take analysis in two different directions (Table 1.1).

Two approaches to the meaning of what people say, or otherwise communicate

TABLE 1.1

	<i>The mind-reading approach</i>	<i>Dramaturgical and ethnomethodological approaches</i>
What people say is:	Evidence of what people think, feel, experience, how they make sense of and interpret the world	Evidence of how words (gestures and so on) are used to construct a situation at the time when they were used
Behind the words:	There are minds with knowledge, motives, ways of understanding, cognitive structures, interpretive schemes or some such (see below) which are in turn the product of past experiences	There is nothing researchable, the words represent a repertoire these people have for structuring situations.
The analysis of meaning is:	Modelling minds from the evidence of speech (gestures and so on)	Mapping utterances to the situations in which they were spoken

Suppose that we are trying to find the meaning of something someone said. Then the first approach takes us inwards to a private place which is very difficult to know about: the mind of the person who said it. But the second takes us outwards to the public realm, which is much easier to know about. The public question here is ‘What is it about that utterance that allows it to be meaningful to the person who uttered it and to the people who hear it?’ This must be a public matter because if it was not, communication between people would be impossible. We do not have to do research to know that communication between people is not impossible, though it can be problematic from time to time.

Mind-reading research

The first, ‘mind-reading’, approach to meaning is the more traditional and more commonsensical. It entails creating a picture of the mind that had to be there to have the experience the researcher says this person had and to contain the reasons which gave rise to the actions or the speech. What all versions of this approach have in common is that they involve constructing a picture of the mind behind the action, using as evidence for this the things that people say or do. But apart from this there is an enormous variety among exponents in their ideas as to what people’s minds can be like. In psychology, for example, pictures of people’s minds are drawn containing, perhaps some of, but rarely all of, conscious and unconscious sectors, defence mechanisms, complexes, self-serving biases, self-images, motivational sets, representational structures and other components. Sociology and psychology tend to merge

into each other in the enterprise of modelling minds. Between them they select from a huge vocabulary of terms for the structure of minds, including actor-theories, attribution sets, folk-theories, sub-cultural ideas, ideologies, perspectives, social theories, interpretive repertoires, typification schemes, schemes of relevance, world views, discourses and more. All of these express much the same idea, which is that people have ways of understanding the world. The object of research then is to produce descriptions of what that understanding is – what is in people’s minds. The research usually goes on to explain how people got their minds made up that way, and what are the consequences of people having the minds they do.

There are mind-modellers who believe that minds can be known about by using precisely designed instruments such as attitude scales or various other kinds of questionnaires, or from laboratory experiments generating numerical data for statistical analysis. But those who take the qualitative line would claim that this is a hopeless path to follow. Indeed, they would argue that the kind of questions asked in social survey research not only fail to capture any sense of what it is like to be people going about their daily lives but also grievously misrepresent this. The forced choice questions of the typical questionnaire used in an experiment or a survey are seen to force respondents to answer questions, which may be irrelevant to their lives in words they wouldn’t use themselves. On this basis, then, if the qualitative researcher is going to use interviews, he or she prefers them to be discursive and only loosely structured, as described in Chapters 10 and 11.

Thematic analysis

The qualitative interview generates a large amount of verbal data. The mind-reading qualitative researcher then has to analyse all this to find the structure of the mind behind it: the actor-theory, the actor-perspective, the typification scheme, the world view, or what have you. The usual way in which the data from qualitative interviews are analysed for this purpose is by **thematic analysis**. The researcher looks for what comes up in the data commonly and interestingly, calls these ‘themes’ (or sometimes ‘codes’) and then uses these as headings for writing up the research report. In some way or other the themes stand for the way ideas are organized in the minds of the people studied. Thematic analysis is illustrated in Chapter 11 with a transcript from a qualitative interview. Just as qualitative interviews are vulnerable to the criticism that they tell us more about the interviewer than about the interviewee, so thematic analysis, based already on the qualitative interview, is vulnerable to the criticism that it tells us more about what was in the mind of the *analyst* than about what was in the mind of the *interviewee*.

Ethnomethodological and similar approaches to meaning

The other approach to meaning in qualitative research (Table 1.1) derives from ethnomethodology and linguistics, or from the inspiration of Erving Goffman. If the data are derived from an interview, then they are not taken to stand for what is in the mind of the respondent, but for what is going on

in the interview. What is interesting is how the way people speak makes it clear that this was an interview, and not a chat, or a row, a valedictory oration, a seduction or a lecture. What the people were doing was producing an interview. To do that they must have known how to do 'interview talk'. They must each have known how to produce speech and other communicative action which was meaningful to the other as a contribution to an interview, and not a chat, a row and so on. From this viewpoint there is no need to delve into minds in order to study meanings, since meaning is out in the open for any competent member of a culture to see, including the sociological observer. Thus most British adults know how to recognize a queue when they see one, and know how to do queuing, and hence they know how to cooperate with others in order to organize themselves as a queue. Meaning is social organization and social organization is meaning. Moreover, who someone is (for that moment), and how they are appraised by others, depends on what kind of social organizing is taken to be going on. Queues are also moral orders, and have their own forms of deviance; queue-jumping for example. When queuing, people know that they are likely to be judged by others in terms of abiding by whatever it is that people like them should do in a queue.

Ethnomethodologists are not keen on the idea of rules, but here it will do no harm to say that a meaningful act or utterance is one which complies with some rules which people can follow in producing it, and in interpreting it. This includes finding the meaning of a frown by one person, in another person's queue-jumping. Meaning, of course, is in the minds of people, but equally it is out in the open in their observable doings and hearable sayings. That's where ethnomethodologists, and others of similar ilk, look for meaning.

Conversation Analysis (CA)

These considerations suggest a way of analysing speech which is radically different from that of thematic analysis. Chapter 11, which demonstrates thematic analysis, also subjects the same transcript to the kind of analysis which would be carried out by a **conversation analyst**. Conversation Analysis has its roots partly in ethnomethodology and partly in pragmatic linguistics. Analysing the same data thematically and by the methods of CA leads to two very different sets of conclusions.

From an ethnomethodological point of view, if you conduct interviews you will produce data which tell you about interviews, and perhaps about some more general features of communication and interaction. This is in contradistinction to other researchers who use interviews in order to find out about people's activities and thoughts as they are in circumstances *beyond the interview* situation. Ethnomethodologists take one step further the earlier criticism of experiments or social survey research as being artificial. Any attempt to find out about one kind of situation by interviewing people in an entirely different kind of situation makes no sense. Ethnomethodologists, however, would not use terms such as 'artificial'. Reasonably enough, they would say that any experiment is a real experiment; any interview is a real interview. They are as much part of social life as lying in bed in the morning, or making love in the back of a car. Everything is natural, all research is 'naturalistic' but

it is not necessarily in the nature of an interview situation to generate the kinds of thoughts, feelings and interactions that are generated in some other situation which is being discussed as a topic of the interview.

Chapter 13 is on the analysis of written documents. Again it draws a distinction between mind-reading approaches and approaches where what is of interest is how a communication is put together. For writing, the former is an interest in what the writing tells us about the understandings and experiences of the writer, while the latter is an interest in the way pieces of writing are structured. Some of the techniques for analysing writing can be used for analysing speech, but analysis should always take account of the way the data are produced. Speaking and writing are very different kinds of activity and generate data of different kinds (Chapter 13, Section 13.1).

Naturalistic observation

What makes it sensible to conduct interviews for researchers of the mind-reading kind is the idea that people carry around the *same mind* from situation to situation. Thus the person being interviewed is the same person who does whatever it is elsewhere that the researcher asks about, and can ‘bring to mind’ that other situation. This begs many questions as to how much people actually know about what they do and whether they are able to give accurate accounts of their own doings. And it raises concerns among mind-reading researchers as to whether people give honest accounts. Thus there is an attraction among such researchers for observing people going about their everyday activities. That is a preference for **naturalistic observation**, either as **participant observers**, to some extent acting like an ordinary member of the setting, or by **non-participant observation** – just observing.

Combining naturalistic observation with qualitative interviewing may look like the best of both worlds. The observation shows the researcher what people *actually do*. The interviews are designed to find out what those doings meant to the person concerned, since it would be disruptive of ordinary life for researchers to keep on asking ‘what did you mean by that?’ or ‘what does that mean to you?’. But this pairing of interviews with observation still assumes that what the person says in the interview about what he or she did at some other time was the meaning at the earlier time. For obvious reasons ethnomethodologists also favour observation studies – though, of course, for them an interview is an observation study: an observation of an interview. Chapter 12 deals with naturalistic observation, its problems and its potentials, and some of the differences between naturalistic observers of different kinds.

1.5 Validity and reliability

Together with objectivity (Section 1.8) **validity** and **reliability** are the main criteria by which research is judged. Validity means something like ‘truth’. Most researchers accept that we can never know the truth for sure, so in research what is valid is that which hasn’t as yet been invalidated, despite

attempts to do so. This is the so-called ‘**falsificationist programme**’ following the philosopher Karl Popper (1963) and is given lip service at least by most natural and social scientists. A ‘confirmationist programme’ would be one in which researchers specifically looked for evidence to prove a favoured theory and ignored evidence which threw doubt on it.

Internal validity refers to the truth of a claim made about the research itself. **External validity** or generalizability (Section 1.6) refers to whether what was found in the research can be generalized to other people, places and times.

Reliability refers to consistency, and applies particularly to research instruments with questions such as ‘would this instrument give the same result if measuring the same thing a second time, assuming it hadn’t changed in the interim?’ (Chapter 2, Sections 2.8–2.10).

Validity and reliability are introduced in relation to research instruments in Chapter 2, but they are concepts which appear also in every chapter in the book.

While, or because, validity and reliability are the criteria used in the natural sciences, some qualitative researchers have suggested that they are not appropriate for the study of the social world, which is made of meanings, rather than of materials and forces. Alternative terms have been proposed, for example by Guba and Lincoln (1985). Miles and Huberman (1994) provide a useful translation between the traditional and the alternatives (Table 1.2).

On close inspection, these alternatives do not seem to mean anything very different from the old ones except, of course, that the way qualitative researchers go about collecting and presenting evidence to accomplish, say, internal validity (aka credibility or authenticity) is different from the way in which a quantitative researcher would mobilize evidence to claim internal validity (Hammersley 2000b: Chapter 9). This difference is perhaps best illustrated in the discussion of the differences between social survey interviewing and qualitative interviewing in Chapter 10.

Traditional criteria for judging research compared with some alternatives proposed for qualitative social research

TABLE 1.2

<i>Traditional criteria</i>	<i>Alternatives for qualitative research</i>
Internal validity ^a	Credibility or authenticity
Reliability	Dependability or auditability
External validity or generalizability (Section 1.6)	Transferability or fittingness
Objectivity (Section 1.8)	Confirmability
Usefulness	Applicability or action orientation or catalytic validity

Note: ^a Includes ecological validity (see Chapter 12).

Source: After Miles and Huberman (1994: 278).

1.6 Generalization

Just as some historians do not seek to produce generalizable knowledge, some qualitative researchers make only limited claims that what they describe in their research will apply elsewhere. But most researchers, qualitative and quantitative, do make some claims as to the general currency of their ideas. Three kinds of generalization can be distinguished.

Empirical or statistical generalization

Empirical or statistical generalization refers to the kind of generalizability aimed for by survey researchers. Here the generalization is the claim that what is true of the *sample* is true of the *population* from which the sample was drawn, in some designated ways, and for some limited period of time. Making it possible to make such generalizations safely is what survey design is all about, as described in Chapter 6.

Theoretical generalization

Theoretical generalization refers to the applicability to other times, places and people of some theoretical idea which seemed to explain what happened in the research. If the interest is in cause and effect then this is researchers looking for cause – effect **mechanisms**: things that make things happen. The important mechanisms are the robust ones which make things happen in a wide range of circumstances. Natural science has many examples such as gravity, electricity, natural selection, or genes. The social sciences are less blessed in this regard. The same mechanism may not have the same effects in different contexts. For example, the mechanism which makes heroin an effective pain killer under one set of circumstances may lead to addiction under another; or, teacher expressions of disapproval might under some circumstances depress educational performance and under others encourage pupils to strive harder.

Generalizations along these lines claim that the same mechanism has an effect in a large number of different circumstances, but the effects may be different according to the context. The task here is to specify also the *contextual factors* which make a mechanism have a particular effect. The law-like statements characteristic of the natural sciences both say what does what, and specify the circumstances under which it will do it: water will freeze at 0 degrees Celsius only if it is of a specified purity, and at a certain barometric pressure. Social phenomena hardly ever allow for specifications of such precision. Specification is discussed in Chapter 4, Section 6.

Qualitative researchers have particular problems in deriving generalizations from their research. Given the way they use small and unrepresentative samples they cannot make empirical generalizations with any confidence at all. But in practice they actually do make such generalizations, as when they imply that the 6 teachers they studied in the school stand for, or represent, another 30 in the same school, or that the one school class they observed intensely represents other classes as well. More usually qualitative researchers

claim to be making theoretical generalizations, of a weak kind termed ‘sensitizing concepts’. These are the kinds of concepts which direct attention to interesting similarities between different aspects of life. For example Goffman’s term ‘total institution’ (Goffman 1968) gathers together under the same heading mental hospitals, boarding schools, military units, monasteries, merchant ships and so on. Looking at these all in the same way does throw interesting commonalities (and differences) into relief. Another concept which does similar work is the idea of a ‘career’ (Goffman 1968), when applied to criminals, mental patients, school pupils and so on. This implies that the trajectory taken by someone’s life is shaped by the assumptions people make about what normally, naturally, ought to be true of someone at that ‘stage in their career’. Although ideas like this lack the rigour of the kinds of mechanisms identified in natural science, they nonetheless point us in the direction of interesting features of social life which seem general in that they can be applied to a wide range of settings.

Naturalistic generalization

Some qualitative researchers claim that it is not the purpose of their research to produce generalizations. Rather their purpose is to produce rich, or ‘thick’ descriptions of social life, so that readers can understand what it would be like to be someone else and experience the world from their point of view (Geertz 1973). This is often the purpose stated for participant observation research as described in Chapter 12. This idea of doing research to provide readers with vicarious experience of other people’s lives is often associated with the idea of *naturalistic* generalization (Stake 1994). Here it is not the researcher who does the generalizing, but the readers. The research is presented as a resource for readers to extend their understanding of themselves and other people in the same way as they draw on and learn from direct experience, from plays, films, television documentaries and so on.

Meta-analysis and other syntheses

Chapter 15 is also about generalization in the sense that its topic is that of synthesizing research from different sources in an attempt to provide a broader basis for making generalizations. At this point the idea of generalization (here, theoretical generalization) elides with the idea of external validity (see p. 13).

For a long time social and behavioural scientists have worried that their research endeavours failed to ‘add up’ into coherent corpuses of knowledge by comparison with the natural sciences. In most English-speaking countries, and in the European Union (EU), there have been government sponsored initiatives to force practitioners in human services to adjust their practices in the light of research evidence: so-called evidence-based practice. Given the paucity of research available for this purpose, this has created a demand to make better use of what research does exist by synthesizing it, as well as to standardize research practices so that new research can be added more easily to old.

Chapter 15 deals with systematic reviews and statistical meta-analysis, which mainly apply to the synthesis of results from randomized controlled experiments. The issues here are causal ones, about the effectiveness of treatments, educational programmes and such like. In terms of the threefold classification above, the kinds of generalizations sought are ‘theoretical’; though theoretical in a very practical way.

Though there are many pitfalls, it is relatively easy to synthesize randomized controlled trials (RCTs), because they are very similar to each other. Synthesizing the results of other kinds of research is much more difficult. One approach growing rapidly in popularity is to use Bayesian statistics.

In various other chapters of the book the statistical techniques referred to are **frequentist statistics** (Chapter 2, Panel 2.8; Chapter 3, Panel 3.1; Chapter 6, Sections 6.10 and 6.11; Chapter 15, Section 15.3). These provide estimates of how frequently a result might have occurred by chance, as a benchmark against which to judge whether a result was due to something other than chance: how **statistically significant** it was. ‘Result’ here might be an experimental result, or the result of taking a population sample in a survey. **Bayesian statistics**, by contrast, provide a measure of how credible knowledgeable judges find some proposition according to the evidence cited in its favour. A brief introduction to Bayesian statistics is given in Chapter 15, Section 15.4.

Chapter 15 also deals with attempts to synthesize qualitative research. This introduces some new vocabulary such as meta-ethnography and qualitative comparative analysis (QCA). But the approaches so named do not seem substantially different from what has long been called ‘comparative method’ in sociology, anthropology and history, and more particularly, the thematic analysis referred to in Chapter 11.

1.7 Ethics and values

Chapter 14 is about evaluation and evaluation studies, and Chapter 16 is about ethics in research. Both deal with questions about the proper purpose of research, the proper relationships which should obtain between researcher and researched and between researchers and the various audiences for research, and the extent to which the values of the researcher should influence the research.

Value-relevant, value-neutral research

Researchers are pleased if their research has some beneficial outcome. Most would allow that there are no great problems arising from researchers choosing their research topics according to their own moral, political or career interests. It is legitimate then, for research to be **value relevant**. This is Max Weber’s term and he is widely quoted in this context (Bruun 1972; Hammersley 2000b: 18–19). Where matters become more controversial is over the issue of **value neutrality**. In Weber’s terms, value-neutral research means that, while the topic might be chosen according to the values of the researcher, thereafter the values of the researcher should be excluded from the conduct of the research, except the value of getting at the truth and the values

grounding the humane treatment of the people involved in and affected by the research. Value neutrality means not only preventing the personal preferences of the researcher influencing the result, but giving researchers significant freedom from those who employ them or who fund their research. Otherwise these might also exert an influence distorting the research away from the truth.

Chapter 3 describes how the controlled experiment is designed to exclude the influence of both the researchers' and the subjects' hopes, fears, desires and so on from producing misleading results. It draws attention to a large literature showing that people, including researchers, are very likely to see what they want to see. The most obvious way in which this potential for bias is managed in an experiment is through **blinding**: that is, depriving researchers and or subjects of knowledge which, if they had it, would allow their preferences to influence the results. This blinding is only a version of the widespread use of blind decision-making in other fields – for example, anonymizing examination scripts for marking, preventing a jury knowing about previous offences before reaching a verdict, or awarding prizes by lottery. Blinding is not the only device used, and is often impossible. In addition, various means are used to ensure that each subject for the experiment is treated the same. In systematic reviews of medical research, discussed in Chapter 15, blinding is often a quality criterion which determines whether a study is included or ignored, though this cannot be so in those fields where blinding is impossible.

In a similar way, most surveys are conducted so that the researchers' prejudices do not influence who gets selected as a respondent, and efforts are made to ensure that the questions are not written in such a way as to tilt the survey towards producing the results the researcher wanted to get (Chapters 6, 8 and 10).

Pressure groups do conduct 'surveys' which are in effect 'petitions', going out of their way to find the people and record the opinions favourable to their cause. And similarly, charities and other agencies will conduct surveys, and other kinds of research, designed precisely to produce campaign ammunition. This is value-led, rather than value-neutral research. This raises an important issue, and a point of divergence between researchers, and gives two different meanings to the term 'bias' (Hammersley and Gomm 2000).

The more orthodox, mainstream position in the social, as in the natural, sciences, is the Weberian prescription for value-relevant/value-neutral research. Here 'bias' means a deviation from the truth. A particularly powerful source of bias would be the uncontrolled values of politics or commerce impacting on the researcher and his or her own personal values as well. Guarding against these sorts of biases is shown clearly in those journals which require authors to report any 'conflicts of interest', such as sponsorship by an agency which might prefer one account of the truth rather than another, and attempts in systematic reviews to overcome the kind of 'publication bias' which arises, for example, when drug companies have prevented the publication of research conducted for them which does not show their products are effective (Chapter 15, Sections 15.2 and 15.3).

Value neutrality refers to an intention to avoid such bias. This very

frequently fails, but failure is taken as a case for trying harder, rather than for abandoning the attempt. It is also part of the Weberian argument that researchers' values, political preferences and so on should be excluded because being a researcher doesn't give anyone any particular expertise in making moral and political judgements.

The working out of this value-neutral position is illustrated by the kinds of evaluation studies explained in the first half of Chapter 14. For example, experimental designs (described in Chapter 3) are frequently used to investigate the **effectiveness** of a medical, social work, or educational intervention. Whether a treatment is effective is a causal issue and the experimental design is the most powerful way of investigating causality (Chapter 3, Chapter 4, Sections 4.4 and 4.5). The experimental design sets up a no-go area for values. If matters are arranged properly, a commercial company piloting the treatment is excluded from influencing the results. Even if it is the researchers themselves who have originated the treatment, the effects of their enthusiasm for it should be controlled through devices such as random allocation, blinding and independent scrutiny described in Chapter 3. The researcher's role as researcher is to decide on the effectiveness of the treatment. It is not to act as advocate for it or to decide whether the treatment should pass into general use. Either that is a decision to be taken by others mandated to make such decisions or, if the researcher is involved in this, it will be on the basis of a position as a doctor, or a social services administrator or some other role which gives someone a mandate for making ethical and political decisions affecting other people. Putting matters around the other way it would be a breach of trust for researchers, as researchers, to allow their desires to change the world, or their personal values or career interests to influence the outcome of the research.

These kinds of considerations raise another criticism of qualitative research: that it has insufficient safeguards for preventing the biases of the researcher influencing the results and that pressures towards bias are likely to arise from the more personal involvement with research subjects that qualitative researchers prefer (Chapter 10, Section 10.6; Chapter 14, Section 14.4).

Value-led or partisan research

However, there is another meaning of the term 'bias'. That is of some ideas or some state of affairs being against, or favouring, the *interests* of someone. Social scientists operate in a world in which it is very obvious that social arrangements favour some people and disadvantage others. It can, and is, argued that this bias extends to the state of knowledge in society, such that current knowledge is biased against women, against poor people, or against members of minority ethnic groups and in favour of white middle-class men and big business and so on. If this is the case it can be argued that what is needed is not 'value-neutral' research, but 'value-led' research where the object is to produce knowledge which redresses the bias.

As Chapter 14 points out, a great deal of social science is socially critical in this way. Varieties of **critical research** include the various Marxisms, the

various feminisms, anti-racist research, disability research and queer theory, and various right-wing doctrines too. Researchers of such persuasions regard it as quite proper to 'take sides' and to do research in such a way as to produce knowledge which is favourable to the interests of disadvantaged groups. In a similar way, party political researchers, conducting research to provide ammunition for party campaigns, will also argue that it is in the interests of society that their party is elected, and that for this it is necessary to counter ideas which are biased against them. To adopt such a position researchers must assume that they have a superior expertise in judging what is morally right and what is morally wrong, in discerning who deserves what and what would be to the benefit of which people. Value-neutral researchers do not feel that being a researcher gives them the right or the expertise to decide such matters.

Research ethics

The two positions also predicate different kinds of ethical relationships with the subjects of research, as described in Chapter 16. Researchers who follow the policy of value neutrality largely restrict ethical considerations to avoiding doing any harm to those they research. And they balance violations of privacy or of subjects' rights to make decisions for themselves, against the value of the research findings. Researchers who subscribe to a value-led approach usually believe that research is unethical if it does not do some tangible good to research subjects of selected categories. This leads to research programmes which are designed less to produce knowledge and more to produce change. This might be change in the public reputation of some group where, as it were, researchers act as their public relations consultants. Or it might be change in the way research subjects think and feel about themselves, or tangible changes in their life circumstances. It is often part of such programmes that research subjects are co-opted as partners in research, although the extent of the partnership may vary from one in which they are consulted to one in which they operate as fully fledged researchers themselves. Research of this kind often looks very much more like social work, or counselling or political activism. 'Research methods' which consist of social work skills or the techniques of political mobilization cannot be described in this book.

As discussed in Chapter 16 co-opting vulnerable people as co-researchers leads to another ethical problem, which has to do with the welfare of people encouraged to engage in a programme to change their lives. What are the ethics of researchers encouraging people to take risks with their own lives? What if it all goes horribly wrong? In addition, while professional researchers are usually accountable to university or professional codes of conduct, there are no powerful mechanisms constraining 'lay' co-researchers to behave ethically.

Stake holders for research

There are various groups towards which researchers might be said to be accountable. As noted already, value-neutral researchers try to truncate their

accountability towards those who employ them or fund their research. They are willing to take responsibility for doing the research properly but not for producing the results their paymasters would most like to see. Value-led researchers are inclined to say that their prime accountability is towards the subjects of the research. This is potentially in conflict with their accountability towards those who read the research. Readers may feel they have a right to receive an unbiased account. But the subjects of the research may feel that they have a right to determine what other people read about them and to make sure that this depicts them as they would wish to be depicted. In value-led research, subjects often are allowed to vet the research report prior to publication. From a reader's point of view this looks like a conspiracy between researchers and subjects against readers. However, not too much should be made of this. First, the kinds of people who choose to read critical social research are usually those who are pre-disposed to believe it anyway. Second, it is usually abundantly clear as to the partisan nature of such research, and therefore readers can read it with this in mind, just as they do with the output of political spin doctors. The employment title of many people who are called 'spin doctors' is often 'researcher'.

1.8 Research as producing accountable knowledge

Research is about producing knowledge. We usually think of 'knowledge' as something which is stored in the head, in books, or on CD-ROMs. And so it is. But a more useful way of thinking about knowledge is as a kind of claim. If I say I know something, I might be claiming that I can do something, such as ride a bike, or translate from Greek to English. Making such a claim I can be called out and asked to demonstrate that I can indeed do what I claimed. Or alternatively, saying 'I know' might be saying that I will vouch for the truth of this. For example, if I claim that 'Jesus loves me, this I know', I might vouch for this by saying I know 'because the Bible tells me so'. This would be quite appropriate since religious claims need to be vouched for in religious terms, and could never be vouched for by reference to empirical research.

One of the ways of vouching for the verity of knowledge is to say: 'It is known to be so, because research has demonstrated it to be so.' Phrases of this ilk litter social science texts, and you will find them on and off throughout this one too. Saying that 'research has shown that . . .' vouches for some claim, but how does research vouch for itself?

Objectivity

Research can claim to produce knowledge which is superior to other kinds because, and insofar as, and only insofar as, its credentials can be checked. This puts the emphasis on accountability in its traditional place, with the way that researchers make themselves accountable to their readers. This is another way of talking about **objectivity**. Objectivity has various meanings, and various opposites. I am inclined to use it in the ways in which it was used at the birth of modern science in the seventeenth century (Daston 1992), not as the

opposite of subjectivity meaning emotionality. My usage is sometimes referred to as **procedural objectivity**. Here objective knowledge primarily means knowledge which is public, open to scrutiny and discussion, auditable or accountable, as opposed to knowledge which is secret, private and requiring to be accepted on trust or having to be accepted on pain of punishment. The historical circumstance in which this meaning was shaped was one in which scientists – or, rather, ‘natural philosophers’ at the time – saw themselves as emancipating people from an irrational reliance on blind faith and from coercion and manipulation by religious dogmatists. Science, it seemed, allowed for a more ‘democratic’ way of producing knowledge as well as a more efficient way of getting at the truth: democratic in the sense that knowledge claims were based on evidence which, in principle, anyone could see, and arguments, which, in principle, anyone could follow and disagree with, though at that time ‘anyone’ was confined to a small male elite. At that time, then, the usual opposite of ‘objective’ was ‘dogmatic’. In addition, however, objectivity also carried the implication that the person making the knowledge claim ‘had no axe to grind’: that the knowledge was disinterested, personal interests and emotional involvements being seen to bias perception and to be a reason for trying to deceive other people. Researchers are rarely entirely disinterested. But again it is the accountability of the knowledge claim which is supposed to protect people from being misled by the personal interests of others. If the evidence is available to all and the argument followable by all, the influence of such distortions should be easy to detect. The various safeguards against bias built into experimental designs (Chapter 3, and Chapter 15, Sections 15.2 and 15.3), the requirement that researchers give a full account of their methods and the policy of value-neutral research (Chapters 14 and 16) can be seen in this light.

When scientists claim that they produce objective knowledge they do not necessarily mean that the knowledge they produce is true – or, at least, they shouldn’t mean this. What they should mean is that it is more likely that knowledge produced by research will be true because it is open to inspection so that any errors it contained are likely to have been detected and corrected. Research knowledge is objective to the extent that the researcher says, honestly:

- Here are the assumptions I made about the nature of reality and how it can be known about
- Here is the question I asked
- Here are the methods I used to collect the data relevant to an answer
- Here are the data I collected
- Here is the way I analysed the data
- This is the answer I came up with
- I think I’m right, but I’ve given you enough to check all this to see if you come to the same conclusions.

It is relatively easy for quantitative researchers to give an objective account of their research because their procedures are protocol-driven and numerical data isn’t particularly weighty. By contrast (Chapters 11 and 12) doing

qualitative research is often a hand-to-mouth, flying-by-the-seat-of-your-pants activity, where at the end of the day the researcher may not be very clear what she has done herself. Such researchers will have to make large numbers of *intuitive* analytic decisions on the spot, and it will be difficult to keep track of these, let alone tell other people about them. The sheer bulk of the data from qualitative research means that it can be shared only selectively with readers. It may be difficult for a researcher to persuade readers that data standing against the researcher's interpretations hasn't been conveniently left hidden in the filing cabinet. This problem is discussed in Chapter 15.

Again, the idea of objective knowledge grew up with, and better fits with, the idea of value-neutral research. There are problems in using it where the aims of researchers include changing the moral values or political ideas of their readers, or where the results of the research are crafted to give a favourable impression of some category of person. Being objective about this would rather give the game away in the same way that it would give the game away for an advertiser to draw attention to the persuasive techniques used in an advert (Chapter 13, Section 13.6). These problems are discussed in Chapter 14.

Many, if not most researchers, are careful to report their results objectively, drawing readers' attention to underlying assumptions which have to be taken on trust, and to the shortcomings of the methods used. But these provisions get stripped away as research findings are quoted from source to source and prefaced with the confident phrase: 'research shows that . . .'. Going back to the originals usually shows that research doesn't quite show that. Unpicking the originals, and seeing how they were made, usually shows that alternative interpretations were possible. Paying attention to the methodology of research studies gives the impression that the corpus of social research findings is based on a rather ramshackle foundation. This is not peculiar to social science, however. Go back twenty years in any field of science and, with the benefit of hindsight, you will find many truth claims which today are regarded as erroneous. The same will almost certainly be true twenty years hence. While most scientists would like to discover some eternal and absolute truths, the best any of them can do in practice is to offer up some possibilities for other people's consideration. As the philosopher Daniel Dennett (1995: 380) says, what makes science distinctive, and what makes scientific knowledge superior to other kinds, is that science is a process of making mistakes in public so that they can be corrected.

Further reading

Reading appropriate for most of this chapter will be found at the end of chapters which deal with each issue in more detail. Any standard sociology text book for AS/A2 level or undergraduate use will provide information about the diversity of theories held by social scientists which predispose them to use one investigative approach rather than another. Particularly lucid in this regard are Cuff, Sharrock and Francis (2006). Don't expect too close a match between theories and methods since the choice of method is often determined by what is possible rather than what is theoretically ideal, however Pryke,

Rose and Whatmore (2003) is an interesting discussion of the theory–method linkage. Gomm (2008) is a glossary of research terms.

An overview of causal thinking in social research is Hage and Meeker (1988), but this doesn't really get to grips with the revision of causal ideas associated with chaos and complexity theories. An easy introduction to this, across the sciences, is Buchanan (2000) – although irritatingly he terms complexity theory, 'ubiquity theory'. For complexity in the social sciences specifically, see Byrne (1998), or Eve, Horsfall and Lee (1997).

Gilbert (2001) contains papers on a wide range of research approaches and Hardy and Bryman (2004) is a collection of papers on different methods of data analysis, quantitative and qualitative.

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