7

Recording and organizing data

There is a sense in which it is impossible ever to record all the data acquired in the course of fieldwork. As Radcliffe-Brown notes:

> 'However exact and detailed the description of a primitive people may be, there remains much that cannot be put into such a description. Living, as he must, in daily contact with the people he is studying, the field ethnologist comes gradually to "understand" them, if we may use the term. He acquires a series of multitudinous impressions, each slight and often vague, that guide him in his dealings with them. The better the observer the more accurate will be his general impression of the mental peculiarities of the race. This general impression it is impossible to analyse, and so to record and convey to others. Yet it may be of the greatest service when it comes to interpreting the beliefs and practices of a primitive society. If it does not give any positive aid towards a correct interpretation, it at least prevents errors into which it is only too easy for those to fall who have not the same immediate knowledge of the people and their ways.'
>
> (Radcliffe-Brown 1948b:230)

In fact, such tacit knowledge is a ubiquitous phenomenon, extending even to physical science, as Michael Polanyi (1958) has shown. The existence of an inevitable residue of 'multitudinous impressions' or 'tacit knowledge' cannot be ignored. However, it does not negate the responsibility of the social scientist to be as explicit as possible about the data by means of which his or her theories have been generated, developed, and tested.

While it is possible to rely on memory to preserve this data over the course of the research, and some reliance on memory is unavoidable, there are limits to the amount of data that can be retained in this way. There is also a serious danger of distortion. We all know how memory can play tricks. A particular danger is that the data will be subconsciously transformed in line with emerging theory. In order to prevent this, it is essential to employ some system of recording data as, or soon after, they are collected.

There are several methods ethnographers use for recording their data, most notably fieldnotes, audio-taping, video-taping, and filming. Which of these is the most appropriate depends very much on one's purposes, the nature of the setting, and the financial resources available, though these techniques are not mutually exclusive. Their usefulness also varies according to the type of data to be recorded.

Observational data

Fieldnotes are the traditional means in ethnography for recording observational data. In accordance with ethnography's commitment to discovery, fieldnotes consist of relatively concrete descriptions of social processes and their contexts. The aim is to capture these in their integrity, noting their various features and properties, though clearly what is recorded will depend on some general sense of what is relevant to the foreshadowed problems of the research. As we noted in Chapter 1, while it is impossible to provide any description without some principle of selecting what is and is not important, there are advantages (as well as disadvantages) in adopting a wide focus. At least prior to the closing stages of data collection, then, there is no attempt to code systematically what is observed in terms of existing theoretical

categories. Indeed, the main purpose is to identify and develop what seem to be the most appropriate theoretical categories.

The construction and collection of fieldnotes is not something that is (or should be) shrouded in mystery: it is not an especially esoteric activity. On the other hand, it does constitute a central research activity, and it should be carried out with as much care and self-conscious awareness as possible. A research project can be as well organized and theoretically well informed as you like, but with inadequate note taking, the exercise will be like using an expensive camera with poor quality film. In both cases, the resolution will prove unsatisfactory, and the results will be poor. Only foggy pictures result.

The compilation of fieldnotes may appear to be a straightforward matter. However, like most aspects of intellectual craftsmanship, some care and attention to detail are prerequisites, and satisfactory note taking needs to be worked at. It is a skill demanding continual reassessment of purposes and priorities and of the costs and benefits of different strategies. Thus, the standard injunction, 'write down what you see and hear', glosses over a number of important issues. Among other things, the fieldworker will have to ask *what* to write down, *how* to write it down, and *when* to write it down.

Let us deal with this last point first: when to write notes? In principle, one should aim to make notes as soon as possible after the observed action that is to be noted. Most fieldworkers report that while they can train themselves to improve recall, the quality of their notes diminishes rapidly with the passage of time: the detail is quickly lost, and whole episodes can be forgotten or irreparably muddled.

The ideal would be to make notes during actual participant observation. But this is not always possible, and even when it is possible, the opportunities may be very limited. There may be restrictions arising from the social characteristics of the research setting, as well as from the nature of the ethnographer's social position(s) *vis-à-vis* the hosts.

If the research is covert, then note taking in the course of participation will often be practically impossible. In most settings, participants are not visibly engaged in a continual process of jotting down notes, seizing notebooks during conversations, and similar activities. In many circumstances, such activity would

prove totally disruptive to any 'natural' participation. It is hard to think of Laud Humphreys (1970), for example, taking copious notes while acting as 'watchqueen' in public lavatories and observing casual homosexual encounters. In a few contexts, of course, writing may be such an unremarkable activity that covert note taking is feasible. In a covert study of students' time-wasting strategies in a university library, spasmodic writing on the part of the ethnographer would be possible, though care would have to be taken not to appear too diligent!

However, overt research does not solve the problem of note taking. To some extent our comments concerning covert participation apply here as well. The conduct of note taking must be broadly congruent with the context of the setting under scrutiny. In some contexts, however well 'socialized' the hosts, open and continuous note taking will be perceived as threatening or inappropriate, and will prove disruptive to the action. In other contexts, fairly extensive notes can be recorded without undue disruption. Thus, for example, Whyte (1981) reports how he took on the role of secretary to the Italian Community Club because it enabled him to take notes unobtrusively in their meetings.

The possibility of on-the-spot note taking may vary across situations even within a single setting, as the case of studying a medical school illustrates:

> 'The quantity and type of on-the-spot recording varied across recurrent types of situation. During "tutorials", when one of the doctors taught the group in a more or less formal manner, or when there was some group discussion, and conducted in one of the teaching rooms, then it seemed entirely natural and appropriate that I should sit among the students with my notebook on my knee and take notes almost continuously. At the other extreme I did not sit with my notebook and pen whilst I was engaged in casual conversations with students over a cup of coffee. Whereas taking notes during a University class is a normal thing to do, taking notes during a coffee-break chat is not a normal practice. To have done so openly in the latter context would have been to strain the day-to-day relationships that I had negotiated with the students. Whilst I never pretended that everything I saw and heard was not

> "data", it would not have been feasible to make continuous notes. . . . Less clear-cut was my approach to the observation and recording of bedside teaching. On the whole I tried to position myself at the back of the student group and make occasional jottings: main items of information on the patients, key technical terms, and brief notes indicating the 'shape' of the session (e.g. the sequence of topics covered, the students who were called on to perform and so on). As I did this over a period I discovered that a substantial amount of the interaction could be recalled and summarised from such brief and scrappy jottings.'
>
> (Atkinson 1976:24–5)

Even in situations where note taking is 'normal', however, such as in tutorials, care must be taken if disruption is to be avoided:

> 'I feel it much easier to write when the students write, and listen when they do; I have noticed that when I attempt to write when the students are not, I attract (the tutor's) attention and on a few such occasions she seems to falter in what she is saying. . . . Similarly when all the students are writing and I am not, but rather looking at her, I again seem to "put her off". And so it is that I've become a student, sometimes slightly at the loss of my self-esteem when I find myself lazily inserting a pencil in my mouth. (Fieldnotes: February, third year.)'
>
> (Olesen and Whittaker 1968:28)

Many of the initial fieldnotes that ethnographers take, then, are jottings, snatched in the course of the observed interaction. A common joke about ethnographers relates to their frequent trips to the lavatory where such hasty notes can be scribbled in private soon after the action. Even the briefest of notes can be valuable aids in the construction of an account. As Schatzman and Strauss suggest:

> 'A single word, even one merely descriptive of the dress of a person, or a particular word uttered by someone usually is enough to "trip off" a string of images that afford substantial reconstruction of the observed scene.'
>
> (Schatzman and Strauss 1973:95)

Moreover, it is important to record even things that one does not

immediately understand because these might turn out to be important later. Even if it proves possible to make fairly extended notes in the field, they, like brief jottings, will need to be worked up, expanded upon, and developed.

Many social activities have a timetable of their own, and it may prove possible to match phases of observation with periods of writing up fieldnotes in accordance with such timetables. For instance, in the medical-school study referred to earlier, most of the clinical teaching that formed the main focus of the observation took place during the morning; the afternoon was devoted to laboratory work in the various medical sciences. Thus, it proved possible to undertake three or four hours of sustained observation before lunch, and to spend the afternoon and/or evening in writing up full notes. (The afternoon was also available for other forms of data collection such as interviewing and analysis.)

In other settings, the phasing of observation and writing will be much less straightforward to organize, but there are usually times when participants are engaged in activities that are not relevant to the research. At the very least, they sleep at regular times and at the risk of fatigue notes can be written up then. Carey (1972) reports a rare exception, that of 'speed freaks' (those addicted to amphetamines), who, under heavy doses, stay awake for several days in a hyperactive state:

> 'The peculiar round of life wherein people stay up for three, four, or five days at a time and then sleep for several days posed enormous practical difficulties for the research. Our conventional commitments (family, friends, teaching responsibilities) had to be put aside for a time so that we could adapt ourselves more realistically to this youthful scene. As we became more familiar with this particular universe, we developed a crude sampling plan that called for observations at a number of different gathering spots, and this relieved us somewhat from a very exacting round of life. If we were interested, however, in what happened during the course of a run when a small group of people started shooting speed intravenously, it meant that one or two fieldworkers had to be present at the beginning and be relieved periodically by other members of the team until the run was over. Fatigue was a

constant problem and suggests that more than one fieldworker is required in this type of research.'

(Carey 1972:82)

Clearly, in such cases, finding time to write up fieldnotes poses particularly severe problems. The problem remains serious, however, even with less exhausting schedules. But some time for writing up fieldnotes must always be set aside. There is no advantage in observing social action over extended periods if inadequate time is allowed for the preparation of notes. The information will quickly trickle away, and the effort will be wasted. There is always the temptation to try to observe everything, and the consequent fear that in withdrawing from the field, one will miss some vital incident. Understandable though such feelings are, they must, in most circumstances, be suppressed in the interests of producing good-quality notes. Nevertheless, the trade-off between data collection and data recording must be recognized and resolved continually in the manner that seems most appropriate given the purposes of the research. Thus, for example, the organization of periods of observation, with alternating periods of writing and other work, must be done with a view to the systematic sampling of action and actors (Chapter 2).

It is difficult to overemphasize the importance of meticulous note taking. The memory should never be relied on, and a good maxim is 'If in doubt, *write it down*'. It is absolutely essential that one keep up to date in processing notes. Without the discipline of daily writing, the observations will fade from memory, and the ethnography will all too easily become incoherent and muddled. The overall picture will become fuzzy.

What of the *form* and *content* of fieldnotes? One can never record everything; social scenes are truly inexhaustible in this sense. Some selection has to be made. However, the nature of this is likely to change over time. During the early days of a research project, the scope of the notes is likely to be fairly general, and one will probably be reluctant to emphasize any particular aspects; indeed, one will probably not be in a position to make such a selection of topics. As the research progresses, and emergent issues are identified, then the notes will become more restricted in subject matter. Moreover, features that

previously seemed insignificant may come to take on new meaning, a point that Johnson illustrates from his research on social workers:

> 'Gradually I began to "hear different things said" in the setting. This happened through a shift in attention from *what* was said or done to *how* it was said or done. The following excerpts from the fieldnotes illustrate several instances of my changing awareness. From the notes near the end of the sixth month of the observations:
>
> > "Another thing that happened today. I was standing by Bill's desk when Art passed by and asked Bill to cover the phone for a couple of minutes while he walked through a request for County Supp over to Bess Lanston, an EW supervisor. Now I don't know how many times I've heard a comment like that; so many times that it's not even problematic any more. In fact, it's so routine that I'm surprised that I even made any note to remember it. The striking feature about this is that in my first days at Metro [the social work agency] I would have wanted to know all about what kind of form he was taking over there, what County Supp was, why and how one used it, got it, didn't get it, or whatever, who and where Bess Lanston was, what she did and so on. But all the time I've missed what was crucial about such a comment, the fact that he was *walking* it through. Before I would have only heard what he was doing or why, but today, instead, I began to hear the how." '
>
> (Johnson 1975:197)

As theoretical ideas develop and change, what is 'significant' and what must be included in the fieldnotes also changes. Over time, notes may also change in *character*, in particular becoming more concrete and detailed. Indeed the preservation of concreteness is an important consideration in fieldnote writing. For most analytic purposes, compressed summary accounts will prove inadequate for the detailed and systematic comparison or aggregation of information across context or across occasions. As far as possible, therefore, speech should be rendered in a manner that approximates to a verbatim report and non-verbal behaviour in relatively concrete terms; this minimizes the level

of inference and thus facilitates the construction and reconstruction of theory.

Below we reproduce two extracts from notes that purport to recapture the same interaction. They are recognizably 'about' the same people and the same events. By the same token, neither lays any claim to completeness. The first obviously compresses things to an extreme extent, and the second summarizes some things, and explicitly acknowledges that some parts of the conversation are missing altogether:

'1. The teacher told his colleagues in the staffroom about the wonders of a progressive school he had been to visit the day before. He was attacked from all sides. As I walked up with him to his classroom he continued talking of how the behaviour of the pupils at X had been marvellous. We reached his room. I waited outside, having decided to watch what happened in the hall in the build up to the morning assembly. He went into his classroom and immediately began shouting at his class. He was taking it out on them for not being like the pupils at X.

2. (Walker gives an enthusiastic account of X to his colleagues in the staffroom. There is an aggressive reaction.)

GREAVES: Projects are not education, just cutting out things.

WALKER: Oh no, they don't allow that, there's a strict check on progress.

HOLTON: The more I hear of this the more wishy washy it sounds.

(. . .)

WALKER: There's a craft resources area and pupils go and do some dress-making or woodwork when they want to, when it fits into their project.

HOLTON: You need six week's basic teaching in woodwork or metalwork.

(. . .)

HOLTON: How can an immature child of that age do a project?

WALKER: Those children were self-controlled and well-behaved.

(. . .)

HOLTON: Sounds like utopia.

DIXON: Gimmicky.

(. . .)

WALKER: There's no vandalism. They've had the books four years and they've been used a lot and I could see the pupils were using them, but they looked new, the teacher had told them that if they damaged the books she would have to replace them herself.

(. . .)

HOLTON: Sounds like those kids don't need teaching.

((Walker and I go up to his room: he continues his praise for X. When we reach his room I wait outside to watch the hall as the build up for the morning assembly begins. He enters his room and immediately begins shouting. The thought crosses my mind that the contrast between the pupils at X he has been describing and defending to his colleagues and the "behaviour" of his own pupils may be a reason for his shouting at the class, but, of course, I don't know what was going on the classroom.))

(( )) = observer descriptions.

(. . .) = omission of parts of conversation in record.'

(Hammersley 1980)

The second version is much more concrete in its treatment of the events; indeed, much of the time the speech of the actors themselves is preserved. We can inspect the notes with a fair assurance that we are gaining information on how the participants themselves described things, who said what to whom, and so on. When we compress and summarize we do not simply lose 'interesting' detail and 'local colour', we lose vital information.

The actual words people use can be of considerable analytic importance. The 'situated vocabularies' employed provide us with valuable information about the way in which members of a particular culture organize their perceptions of the world, and so engage in the 'social construction of reality'. Situated vocabularies and folk taxonomies incorporate the typifications and recipes for action that constitute the stock-of-knowledge and practical reasoning of the members of any given culture. Arensberg and Kimball provide an example from their study of interpersonal relations among family members in rural Ireland:

'The relations of the members of the farm family are best described in terms of the patterns which uniformity of habit and association build up. They are built up within the life of the farm household and its daily and yearly work. The relations of the fathers to sons and mothers to sons fall repeatedly into regular and expectable patterns of this kind that differ very little from farm to farm.

If we are to understand them, then, we must trace them out of this setting and see in what manner they offer us explanation of Irish rural behaviour. In terms of a formal sociology, such as Simmel might give us, the position of the parents is one of extreme superordination, that of the children of extreme subordination. The retention of the names "boy" and "girl" reflects the latter position. Sociological adulthood has little to do with physiological adulthood. Age brings little change of modes of address and ways of treating and regarding one another in the relationships within the farm family.'

(Arensberg and Kimball 1968:59)

Recently, there has been increased attention to the significance of the terminologies used by participants. A number of classic ethnographic studies have included lexicons of local terms. Examples include the studies of prison inmates by Sykes (1958) and Giallombardo (1966), and Davis's (1959) account of cab-drivers' evaluations of their clients (their 'fares').

The potential richness and detail of the connotations of such members' terms can perhaps be illustrated by reference to just one term from one such collection. American hospital speech includes the term 'gomer', which is part of the rich and colourful situated vocabulary characteristic of most medical settings. George and Dundes summarize its use:

'What precisely is a "gomer"? He is typically an older man who is both dirty and debilitated. He has extremely poor personal hygiene and he is often a chronic alcoholic. A derelict or down-and-outer, the gomer is normally on welfare. He has an extensive listing of multiple admissions to the hospital. From the gomer's standpoint, life inside the hospital is so much better than the miserable existence he endures outside that he exerts every effort to gain admission, or rather readmission to the hospital. Moreover, once admitted, the gomer attempts to remain there as long as possible. Because of the gomer's desire to stay in the hospital he frequently pretends to be ill or he lacks interest in getting well on those occasions when he is really sick.'

(George and Dundes 1978:570)

Of course, this brief account glosses over a wide range of uses and connotations associated with this one folk term. In practice, the research worker will not be content simply to generate such a composite or summary definition, important though that may be in summing up one's understanding and cultural competence. The important task is to be able to document and retrieve the actual contexts of use for such folk terms.

In a study of tramps, Spradley (1970) identified a number of categories of actors who seemed to have their own languages: tramps themselves, social workers, police officers, counsellors, judges, court clerks, lawyers, guards, not to mention the ethnographer. Such languages are not, of course, totally self-contained and mutually unintelligible. However, they are major markers of cultural difference constitutive of differing, and differentially distributed, definitions of the situation. They include the specialized languages of occupational groups, underworld argot, local sayings, and regionally and class-based dialects.

Making fieldnotes as concrete and descriptive as possible is not without its cost, however. Generally the more closely this ideal is approximated, the more restricted the scope of the notes. Unless the focus of the research is extremely narrow, some concreteness and detail will have to be sacrificed for increased scope. Even in the relatively detailed fieldnotes on an incident in a school staffroom quoted earlier, the level of concreteness and detail varied somewhat within the account. Such variations will follow, among other things, current assessments of the relative importance for subsequent analysis of the various features of the scene. There is no neutral observation language in which any scene can be described completely and definitively. Even in the case of recording language 'word for word', interpretation plays its part. Not only is it usually impossible to record everything that is said, and indeed we generally 'tidy up' speech when we write it down, omitting repetitions, hesitations, false

starts, and so on, but accompanying non-verbal behaviour cannot usually be recorded unless its significance is of obvious importance. To one degree or another, then, selection, summary, and interpretation are always involved. That this involves dangers is clear, but so is the neglect of the wider context in which the events occurred. Some trade-off between detail and scope in note taking is inevitable and must be determined according to the priorities of the research.

Whatever the level of concreteness of fieldnotes, it is essential that direct quotations are clearly distinguished from summaries provided by the researcher, and that gaps or uncertainties in the quotations are clearly indicated. When we refer back to notes, there must be no ambiguity on that score. One should not have to puzzle 'Is that what they themselves said?' Even when only isolated or fragmented sequences can be recalled and noted, they should be kept typographically distinct from the observer's own descriptive glosses.

Equally important is that records of speech and action should be located in relation to *who* was present, *where*, at what *time*, and under what *circumstances*. When we come to the stage of analysis, when one will be gathering together, categorizing, comparing, and contrasting instances, then it may become crucial that one can distinguish the circumstances surrounding an activity, such as the audience, and the main participants (see Chapter 8).

Spradley suggests one elementary checklist that can be used to guide the making of field records, and adherence to which would normally allow one to approximate to the provision of context we have referred to:

> '1. Space: the physical place or places.
> 2. Actor: the people involved.
> 3. Activity: a set of related acts people do.
> 4. Object: the physical things that are present.
> 5. Act: single actions that people do.
> 6. Event: a set of related activities that people carry out.
> 7. Time: the sequencing that takes place over time.
> 8. Goal: the things people are trying to accomplish.
> 9. Feeling: the emotions felt and expressed.'
>
> (Spradley 1980:78ff)

Such lists are very crude and rest on arbitrary classifications such as that between acts, activities, and events. Nevertheless, they indicate a range of relevant features of context that might need to be noted.

We have seen, then, how the process of fieldnote writing is shot through with decisions about when and what to record. Indeed, very often these decisions take on the form of dilemmas: higher quality notes can often only be bought at the risk of missing important data; concreteness may sometimes have to be sacrificed to gain the necessary descriptive scope. However, there is one way in which it may seem that some of these dilemmas can be avoided: by the use of a tape recorder. The tension between note writing and observation can be eased, for example, by taping fieldnotes rather than writing them up. As Schatzman and Strauss (1973:97) note, this saves time. However, they also point to some problems, not the least of which is the temptation to generate a huge backlog of under-analysed tapes.

Even more tempting as a solution to the dilemmas involved in fieldnote writing is to resort to electronic recording techniques, audio or audio/visual, in the actual course of observation. While neither provides a complete record – selection is still involved in the placing of the cameras and/or microphones – clearly they provide a much more accurate and detailed account of events than can be provided in notes. And, indeed, these techniques are a very important resource especially where the research focuses on the details of social interaction. The work of McDermott (1976) provides an example. McDermott video-taped two reading groups in a first-grade classroom, looking at the detail of interpersonal interaction, verbal and non-verbal. He was able to show that while interaction in one group looked orderly and in the other disorderly, and was viewed as such by the teacher, what occurred was simply a different kind of order, in part sustained by the teacher's attitude, and that this had dire consequences for the achievement levels of the pupils. There has been similar detailed work on interactional processes by conversational analysts using audio-taping.

Where research is concerned with this level of detail, electronic recording is probably essential. Where the focus is wider, where every word spoken and gesture made is not relevant, such techniques are still useful because of the accuracy and

concreteness they provide. However, their advantages must be weighed against some important disadvantages.

Of course, permission will not always be given for their use and this may restrict the range of settings from which an appropriate site for the research can be chosen, or restrict the parts of a setting that can be studied. For example, while teachers will often permit their lessons, and even their staff meetings (Hargreaves 1981) to be tape-recorded or even video-taped, these techniques are unlikely to be allowed in staffrooms. Moreover, even where permission is given, awareness that proceedings are being recorded may significantly affect what occurs. This is particularly true where recorders are carried around and switched on and off to capture particular events, as Altheide illustrates from his research in a TV newsroom:

> 'I used a tape recorder mainly for debriefing, although I also used it for recording in the setting. In this way, data collection and data recording were combined. However, I found that, with some exceptions, the recorder disrupted the naturalness of the conversation. This occurred during a talk I was having with an anchorman who was making a documentary about alcoholism. His fascinating comments about using actors to play alcoholics because "real alcoholics talk too much", prompted me to ask him if he would mind if I got my recorder. When I turned it on, he cleared his throat and began lecturing me on the magnitude of alcoholism in Western City, never returning to the original topic.
>
> In other situations the recorder did not disrupt the event. One reporter's explanation about how he 'reduced' an interview was recorded without distortion. I know this to be true since I had watched him reduce other interviews in the same way. A few cameramen and reporters permitted me to routinely record their work and assessments of the news scene, while others, like the cameraman who threatened to throw me out of the car, did not approve. However, the recorder did have a situated significance for all workers.'
>
> (Altheide 1976:213)

The effects of audio- and audio-visual recording vary considerably across people and settings. We would expect TV workers to be particularly sensitive, for example, and recording may be

easier and less obtrusive where interaction is confined to a single, small setting, as in the case of school lessons or college tutorials. Moreover, the effects of the presence of recording equipment often dissipate over time.

The development of the cheap portable cassette recorder has made audio-recording relatively easy. Moreover, the small size of these machines makes them relatively unobtrusive. There are, of course, technical limitations on what can be recorded in this manner. It is an obvious point, but one of some significance, that only the soundtrack of a setting is recorded in this way, non-verbal behaviour and the physical environment of activities must still be recorded by fieldnotes. Indeed, sometimes this may have to be recorded in considerable detail if the audio-tape is to be comprehensible, as Walker and Adelman indicate in reporting their research on 'open' classrooms:

> 'Initially we experimented with sound tape recordings – keeping records over several weeks. These proved interesting in this context because, to a surprising extent they were incomprehensible. We do not mean this in the strictly technical sense of noise and distortion; we could hear the words but for much of the time we simply could not make complete sense of what was being said. We had previously made similar recordings in more orthodox classrooms and found them quite self-explanatory, even when reduced to transcript, but in this situation we were unable to apply any of the usual techniques of analysis. . . . For the most part transcripts prepared from tape recordings made of the teacher in this class revealed talk that was, for much of the time, fragmented, truncated, interrupted, unclear and cluttered with curious hesitations and pauses. Yet we knew from extensive observation that this class was one where a complex division of labour and considerable differentiation of tasks were in operation. From observation our impression was that talk in these classrooms was articulate and fluent, moreover, in all the time we had observed we could not recall any complaint that a child had been unable to understand the teacher, or misunderstood what she was saying. The transcripts came to us as something of a surprise.'
>
> (Walker and Adelman 1972:8–9)

It was in response to this experience that Walker and Adelman synchronized film records with sound recordings. They often discovered then that identifying who was being addressed allowed them to make sense of what was being talked about: 'The talk we found strangely frustrating in transcript because it seemed fragmented, awkward and illogical, often came alive when seen in context, seeming economical, vivid and apt' (1972:10).

There are also, of course, technical limits to the scope of the interactions that can be recorded. Walker and Adelman's example of school classrooms provides a striking example of this too. Where lessons are very formal and predominantly oral, the whole lesson can be captured on tape with high fidelity. As we move towards the progressive end of the specturm, however, not only does the quality and so the intelligibility of the recording decline, because of higher background noise produced by increased movement of pupils about the room, but the scope of the recording becomes more restricted. It is no longer possible to capture the whole lesson; one can only record fragments of it since the teacher and the pupils move about the room and the very organization of the lesson is decentralized. And there are many more social occasions that are like informal than formal teaching. Moreover, even in the case of recordings of traditional teaching, it is a mistake to assume that the whole event has been captured on tape. Not only is non-verbal behaviour – such as reading and written work – missing, but some talk may escape the recording, such as that between the teacher and individual pupils, or among pupils themselves. Similarly, in audio recordings of court proceedings, the public talk will be preserved, but not usually the private talk, between judge and counsel at the bench, among lawyers, and between them and their clients. How significant this is depends on the purpose of the research, of course, but the selectivity involved must not be forgotten since it may have implications for what conclusions can be legitimately drawn from the data.

While video-recording and filming avoid some of these problems, they are, of course, more expensive and likely to be more intrusive. Moreover, they share another somewhat ironic feature with audio-recording: they produce too much

data. Schatzman and Strauss's remarks about taping fieldnotes – that transcription still remains to be done and that keeping in touch with the data so that theoretical sampling can proceed becomes more difficult – are even more true where events in settings are recorded themselves. While transcription is not always essential – one can simply treat the tape as a document, indexing, summarizing, and/or copying sections of it (see p. 163) – even then a considerable amount of time is required, probably more than is involved in writing up extended fieldnotes. When using audio- and video-recording techniques, it is very easy to record more data than one can ever actually use. One may also find that one's purpose and findings are constrained by the very techniques used. The use of audio- and video-recording devices does not avoid the dilemma of detail versus scope, though it may obscure it. While they provide data of great concreteness and detail, precisely because of this they may obscure longer term patterns; detailed pictures of individual trees are provided but no sense gained of the shape of the forest.

We noted in Chapter 1 that in ethnography the ethnographer is the research instrument. What we have said about audio- and video-recording techniques should make clear that they are no replacement for the participant observer and his or her fieldnotes. They may, however, be a useful supplement, depending on the nature of the setting and the purposes of the research. Used selectively, to provide detailed data on particularly important events or a sample of events, or used as a check on fieldnotes, they can be very helpful.

Interview data

In the case of the highly structured interviews typical of survey research, the problem of recording responses is minimized because they are usually brief and generally fall into one or other pre-coded category. The interviewer simply rings one or other code, or at most writes in a few words in the space provided. With ethnographic interviews, on the other hand, generating lengthy responses not structured to fit a pregiven set of categories, the problem of recording looms large. It is, of course, possible to take notes and here much the same

considerations – what is to be noted, when, and how – arise as in the case of observational fieldnotes. Once again reliance will most likely have to be placed on jotted notes, and the dilemma of summarizing versus verbatim reporting is just as acute. Similarly, note taking can prove disruptive, much as in the tutorial cited by Olesen and Whittaker (1968), with the interviewee becoming self-conscious about what is being written down; though the effects are probably lessened because note taking is a standard feature of interviews. However, the need to take notes makes the kind of reflexive interviewing we advocated in Chapter 5 very difficult, if not impossible, since much of the interviewer's attention is taken up with recording what has been said; especially since not just the informant's responses, but also the interviewer's questions should be recorded.

Given these problems, the advantages of audio-recording are considerable. While interviewees will sometimes not give permission (because, for example, 'you can't argue with a tape'), agreement is generally forthcoming once it is explained that the purpose is simply to aid note taking and that confidentiality will be maintained. Moreover, tape-recording, particularly using a portable cassette recorder, may actually reduce reactivity rather than increase it. When the recorder is not in the informant's immediate line of sight, he or she is more likely to forget that the recording is being made than when the interviewer is hastily scribbling throughout the conversations. The tape recorder provides a more complete, concrete, and detailed record than fieldnotes, though once again non-verbal aspects and features of the physical surroundings are omitted. For this reason it is usually advisable to supplement the tape recording with jotted notes covering these matters.

Problems of processing the tapes arise, of course. Once again transcription may be necessary, though sometimes taking notes from the tape will prove adequate. Either way, rather more time is involved than simply filling out jotted notes, though the product is far more effective as a record of the interview.

Documents

Some documents are freely available and can be retained for later use. This is often true, for example, of such items as promotional material, guides of one kind or another, and circulars. Other documents can be bought relatively cheaply. Even where documentary sources are not produced in large numbers, the researcher may be able to produce copies for retention. Photocopiers are available in some settings, of course, and the ethnographer may be allowed access to them. Alternatively, it may sometimes be possible to borrow documents for short periods in order to copy them. Of course, there are constraints of time and finance here. Even if the copying can be done at no cost, time spent photocopying is time that otherwise might have been spent reading the documents, or in participant observation, or interviewing. For this reason, copying documents *in toto* is not necessarily the most effective recording strategy. While it avoids the dangers of omitting something important or losing the context of what is recorded, this has to be balanced against costs in time and money.

Frequently, because multiple copies are not available and photocopying is not possible, or is too costly, there is no alternative to note taking. Here too, though, there are different strategies available. One can index a document so that the relevant sections of it can be consulted as appropriate at later stages of the research. This can be done relatively quickly, but it requires easy and repeated access to the documentary sources. Alternatively, one may summarize relevant sections of material or copy them out by hand. The choice between summarizing and copying revolves around a dilemma that we have already met in recording observational and interview data. By summarizing one can cover much more material in the same time, thus releasing scarce time for work of other kinds. On the other hand, summarizing involves some loss of information and introduces interpretation. In producing a summary one must not only decide on the important points that require mentioning, but also translate these into general categories.

These three modes of note taking – indexing, copying, and summarizing – are not mutually exclusive, of course, and each should be used according to the accessibility of the documents

and the anticipated nature of the use to which the notes will be put. Both these considerations may vary across different documents or even sections of documents. Where access to the documents is difficult and the precise wording used is likely to be important, there is little alternative to making painstaking copies. Where the need is for background information, summaries might be sufficient. Incidentally, it should be noted that notes need not necessarily be written on the spot; where access to documents is restricted it may be more efficient to read the indexes, summaries, or relevant sections into a portable tape-recorder. In general, these will need to be written or typed out later and similar considerations arise as in the case of tape-recording fieldnotes.

Analytic notes and memos

While reading documents, making fieldnotes, or transcribing audio or video tapes, promising theoretical ideas often arise. It is important to make note of these because they may prove useful when analysing the data. At that stage any contributions should be gratefully accepted! It is important though, to distinguish analytic notes from accounts provided by participants and from observer descriptions. This can be done typographically by encasing them in square or double brackets, for example, or by labelling them in some way.

Equally important is regular review and development of analytic ideas in the form of analytic memos. These are not fully developed working papers, but periodic written notes whereby progress is assessed, emergent ideas are identified, research strategy is sketched out, and so on. It is all too easy to let one's fieldnotes, and other types of data, pile up day by day and week by week. The very accumulation of material usually imparts a very satisfactory sense of progress, which can be measured in physical terms, as notebooks are filled, interviews completed, periods of observation ticked off, or different research settings investigated. But it is a grave error to let this work pile up without regular reflection and review: under such circumstances that sense of progress may prove illusory, and a good deal of the data collection could be unnecessarily aimless.

As we have emphasized, the formulation of precise problems,

hypotheses, and an appropriate research strategy, is an emergent feature of the research programme itself. This process of progressive focusing means that the collection of data must be guided by the unfolding but explicit identification of topics for inquiry. The regular production of research memoranda will force the ethnographer to go through such a process of explication, and prevent any aimless drifting through the collection of data. Ideally, every period of observation should result in both processed notes, and reflexive monitoring of the research process. As such memoranda accumulate, they will constitute preliminary analyses, providing the researcher with guidelines through the corpus of data. If this is done there is no danger of being confronted at the end of the day with a more or less undifferentiated collection of material, with only one's memory to guide analysis.

The construction of such notes therefore constitutes precisely that sort of internal dialogue, or thinking aloud, that is the essence of reflexive ethnography. Such activity should help one avoid lapsing into the 'natural attitude', and 'thinking as usual' in the field. Rather than coming to take one's understanding on trust, one is forced to question *what* one knows, *how* such knowledge has been acquired, the *degree of certainty* of such knowledge, and what further lines of inquiry are implied.

These analytic notes may be appended to the daily fieldnotes, or they may be incorporated into yet a fourth variety of written account, the fieldwork journal. Such a journal or diary provides a running account of the conduct of the research. This includes not only a record of the fieldwork, but also of the ethnographer's own personal feelings and involvement. The latter is not simply a matter of gratuitous introspection or narcissistic self-absorption. As we point out elsewhere in this book, feelings of personal comfort, anxiety, surprise, shock, or revulsion are of analytic significance. In the first place, our feelings enter into and colour the social relationships we engage in during fieldwork. Second, such personal and subjective responses will inevitably influence one's choice of what may be noteworthy, what is regarded as problematic and strange, and what appears to be mundane or obvious. One often relies implicitly on such feelings, and their existence and possible influence must be acknowledged and, if possible, explicated in written form.

Similarly, feelings of anxiety can pose limitations on data collection, leading to a highly restricted sort of tunnel vision. Although some commentators have drawn attention to the importance of recording one's feelings (e.g. Johnson 1975), the following remark from Olesen and Whittaker remains broadly true: 'The reading of most fieldwork studies leaves the impression that fieldworkers glide silkily and gracefully through the process without a twinge of anxiety or a single *faux pas*' (1968:44). Yet it seems unlikely that the intense personal involvement and commitment called for by ethnography commonly proceeds in such a smooth and 'silky' manner.

One of us (Atkinson) found some explicit reference to personal feelings of some value, for instance, in studying the Edinburgh medical school. One's own personal reactions to clinical encounters – fascination, revulsion, and embarrassment for example – cannot simply be used to extrapolate to the feelings of others such as doctors and medical students. However, they can be used to alert one to possible issues, such as the process of socialization that has been referred to as 'training for detached concern', or the 'cloak of competence', whereby medical practitioners' most extreme feelings may be masked or neutralized. Participation can be used to simulate the experience of other participants, and thus the researcher's own feelings can be an important form of data in their own right:

> '(O.C. I feel quite bored and depressed on the ward tonight. I wonder if this has anything to do with the fact that there are only two attendants working now. With only two attendants on, there are fewer diversions and less bantering. Perhaps this is why the attendants always complain about there not being enough of them. After all, there is never more work here than enough to occupy two attendants' time so it's not the fact that they can't get their work done that bothers them.)
>
> (O.C. Although I don't show it, I tense up when the residents approach me when they are covered with food or excrement. Maybe this is what the attendants feel and why they often treat the residents as lepers.)'
>
> (Bogdan and Taylor 1975:67)

There is, then, a constant interplay between the personal and emotional on the one hand, and the intellectual on the other. Private response is thus transformed, by reflexive analysis, into potential public knowledge. The fieldwork journal is the vehicle for such transformation. At a more mundane level, perhaps, the carefully made fieldwork journal will enable the conscientious ethnographer painstakingly to retrace and explicate the development of the research design, the emergence of analytic themes, and the systematic collection of data. The provision of such a 'natural history' of the research is a crucial component of the final report.

Storing and retrieving data records

It is usual to organize written data records chronologically as a running record in which the data is stored by time of collection. Once analysis begins, however, reorganization of the data in terms of topics and themes generally becomes necessary. The first step here is to segment the data. Often there are 'natural' breaks in the material that can be used to break it up into chunks that can then be allocated to particular categories. This is usually the case with participant observation fieldnotes that often consist of notes on a sequence of incidents, each of which can be treated as a separate segment. Sometimes, particularly in the case of transcripts, 'natural' breaks are so few and far between that, simply for practical purposes, the data must be broken up in a more artificial way. Little seems to be lost by this.

The first categories in terms of which the data is normally reorganized are usually relatively descriptive, relating to particular people or types of people, places, activities, and topics of concern. The reorganization of the data in this way provides an important infrastructure for later data retrieval. However, it can also play an active role in the process of discovery, as the Webbs note:

> 'It enables the scientific worker to break up his subject-matter, so as to isolate and examine at his leisure its various component parts, and to recombine the facts when they have been thus released from all accustomed categories, in new and experimental groupings. . . .'
>
> (Webb and Webb 1932:83)

Moreover the selection of categories is of some significance:

> 'As I gathered my early research data, I had to decide how I was to organize the written notes. In the very early stage of exploration, I simply put all the notes, in chronological order, in a single folder. As I was to go on to study a number of different groups and problems, it was obvious that this was no solution at all.
>
> I had to subdivide the notes. There seemed to be two main possibilities. I could organize the notes topically, with folders for politics, rackets, the church, the family, and so on. Or I could organize the notes in terms of the groups on which they were based, which would mean having folders on the Nortons, the Italian Community Club, and so on. Without really thinking the problem through, I began filing material on the group basis, reasoning that I could later redivide it on a topical basis when I had a better knowledge of what the relevant topics should be.
>
> As the material in the folders piled up, I came to realize that the organization of notes by social groups fitted in with the way in which my study was developing. For example, we have a college-boy member of the Italian Community Club saying: "These racketeers give our district a bad name. They should really be cleaned out of here". And we have a member of the Nortons saying: "These racketeers are really all right. When you need help, they'll give it to you. The legitimate businessman – he won't even give you the time of day". Should these quotes be filed under "Racketeers, attitudes toward?". If so, they would only show that there are conflicting attitudes toward racketeers in Cornerville. Only a questionnaire (which is hardly feasible for such a topic) would show the distribution of attitudes in the district. Furthermore, how important would it be to know how many people felt one way or another on this topic? It seemed to me of much greater scientific interest to be able to relate the attitude to the group in which the individual participated. This shows why two individuals could be expected to have quite different attitudes on a given topic.'
>
> (Whyte 1981:308)

The allocation of data to categories in ethnography differs from the kind of coding typical in quantitative research and even some other qualitative research (Goode and Hatt 1952). Here there is no requirement that items be assigned to one and only one category, or that there be explicit rules for assigning them:

> 'We code (the fieldnotes) inclusively; that is to say if we have any reason to think that anything might go under the heading, we will put it in. We do not lose anything. We also code them in multiple categories, under anything that might be felt to be cogent. As a general rule, we want to get back anything that could conceivably bear on a given interest. . . . It is a search procedure for getting all of the material that is pertinent.'
>
> (Becker 1968:245)

Indeed, Lofland (1971) argues that in the case of analytic categories it pays to be 'wild', to include anything, however long a shot.

The identification of categories is a central element of the process of analysis. As a result, the list of categories in terms of which the data is organized generally undergoes considerable change over the course of the research. In particular, there is typically a shift towards more analytic categories as theory develops. In some research on staffroom talk in an inner-city secondary school (Hammersley 1980), the exchanges recorded in the fieldnotes were initially categorized according to whether they related to the teachers' views of pupils on the one hand, or to other aspects of teaching and the life of teachers on the other. As the analysis progressed, however, more refined and theoretically relevant categories were developed, concerning, for example, the 'crisis' that the teachers saw facing them, the way in which teachers traded 'news' about pupils, and how they sought to explain why pupil performances were so 'bad' despite their best efforts.

Organizing and reorganizing the data in terms of categories can be done in a number of different ways. The simplest is 'coding the record'. Here data is coded, that is assigned to a category, on the running record itself, or a copy of it. Comments relating the data to descriptive or analytic categories are written in the margin or on the back of each page. (Clearly, provision has to be made for this in the format employed for writing up notes

and transcribing tapes.) The advantage of this procedure is that it can be done relatively quickly and it allows analysis of an item in the immediate context in which it is recorded. On the other hand, the amount of time subsequently taken up with reading through the running record finding items relevant to a particular category may be prohibitive with anything but the smallest data sets.

In more sophisticated versions of 'coding the record', an analytic index is produced. Here each data segment is assigned an identifying mark: a number, or letter, or combination of the two. (It is often useful, where different types of data have been collected – for example, observational and interview fieldnotes – to distinguish between them so that the status of any data segment can be identified at a glance.) A list of categories is prepared, and constantly up-dated as new categories emerge, with the codes for the segments of data relevant to each category listed under it, these too being up-dated as new data comes in. This requires a little more time and effort than simply coding the record. However, it greatly facilitates the speed and rigour of data retrieval. Indeed, analytic memos can be combined with an index, a file card being prepared for each category, providing a definition, relevant further information, and discussion of the relationship of the concept to others, etc. At the same time, the items of data relevant to that category can be listed by number on the card. The cards would need to be kept in some kind of order, perhaps alphabetical, to facilitate ready access.

An alternative method of data organization, used by Whyte, the Webbs, and many other ethnographers, is physical sorting. Here, multiple copies need to be made of each segment of data and a copy is filed under all of the categories to which it is relevant. With this system, when it is time for detailed analysis of a particular category all the relevant data is readily available, there is no need to sift through the running record to find the relevant data segments. An additional advantage is that all the items relevant to the same category can be put side by side and compared. On the other hand, considerable time and expense may be involved in producing the number of copies of the data necessary (this number depends on the number of categories any particular segment is relevant to). Furthermore, a large number

of file folders and perhaps several filing cabinets may be required to store the data.

More recently, more sophisticated systems of data filing and retrieval have been developed. For example, punched cards have been used (Becker 1968:245–46). This is a development of physical sorting, but here only one copy of the data additional to the running record is required. Each segment of data is written on, or affixed to, a punched card. The holes around the edge of the card are used to represent the categories and an index noting which numbered hole relates to which category is maintained. Where a data segment is relevant to a particular category, the hole is clipped; the holes representing categories to which the item is not relevant are left intact, or vice versa.

With this system all the data can be kept together in the form of cards, in no particular order. When the materials relevant to a particular category are required a long needle pushed through the appropriate hole and lifted brings out or leaves the relevant cards (depending on whether the holes representing relevant categories have been clipped or left intact). Moreover, as with physical sorting, all the relevant data can be scanned simultaneously, but without the need for multiple copies and at a considerable saving in storage space. Furthermore, with this system sub-sorts identifying data relevant to two or more categories can be carried out. On the other hand, however, punched cards, needle, and clippers are fairly expensive and some time is taken in putting the data on the cards and punching them, though once this is done retrieval is easier than with any other system with the exception of physical sorting.

As one might expect, computers have also started to be used in data filing. Some ethnographers have used main frame computers to prepare analytic indexes. The advantage over manually prepared indexes is that the computer is able to carry out sub-sorts, listing items of data relevant to two or more categories. Of course, this requires computer time and an appropriate program. Alternatively, the data can be typed directly into the computer. Each segment is given an identifying number and an index is prepared on the computer listing the categories and the items relevant to each. With an appro-

priate program the computer is able to present all the material relevant to a particular category, sequentially on a video screen or to print it out. In principle this system is the one that gives most ready access to the data, especially given the declining cost of microcomputers. It combines the advantages of all the other systems. The disadvantages lie in the problems of expense and possible system breakdown, and in the fact that this strategy for handling data is still largely unproven. At the moment programs for filing, sorting, and retrieving ethnographic data are not easily available, but it is likely that they soon will be. An example of such a program is discussed in Drass (1980).

As with most other aspects of ethnographic technique, there is no ideal storage and retrieval system; the advantages and disadvantages of each strategy will take on varying importance according to the purposes of the research, the nature of the data, and the resources available to the researcher. Indeed, different methods may be appropriate for different data sets within the same research project. As a general guide, where the amount of data is relatively small, coding the record and analytic indexing are strong options. Where there is a large amount of data but each item is relevant to only one or two categories, physical sorting is probably the best technique. Where the amount of data is large and many items are likely to be relevant to a large number of categories (this depends on the categories as much as the data), punched cards have great advantages. With cheap and ready access to a microcomputer, and available back-up maintenance, computer filing is probably the best method all round, though as yet this possibility remains largely unexplored.

Conclusion

While it is probably impossible to render explicit all the data acquired in fieldwork, every effort must be made to record it. Memory is an inadequate basis for analysis. Of course, data recording is necessarily selective and always involves some interpretation, however minimal. There is no set of basic, indubitable data available from which all else can be deduced. What is recorded, and how, will depend in large part on the

purposes and priorities of the research, and the conditions in which it is carried out. Moreover, in using various recording techniques we must remain aware of the effects their use may be having on participants and be prepared to modify the strategy accordingly. Similarly, there is no single correct way of retrieving the data for analysis. The various systems differ in appropriateness according to one's purposes, the nature of the data collected, the facilities and finance available, as well as personal convenience. And here, too, their use must be monitored in terms of changing purposes and conditions.

As with other aspects of ethnographic research, then, recording, storing, and retrieving the data must be reflexive processes in which decisions are made, monitored, and, if necessary, re-made in light of methodological and ethical considerations. At the same time, however, these techniques play an important role in facilitating reflexivity. They provide a crucial resource in assessing typicality of examples, checking construct-indicator linkages, searching for negative cases, triangulating across different data sources and stages of the fieldwork, and assessing the role of the researcher in shaping the nature of the data and findings. In short, they facilitate the process of analysis, a topic to which we turn in the next chapter.