ANALYZING SOCIAL SETTINGS

A Guide to Qualitative
Observation and Analysis

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DEVELOPING ANALYSIS

In qualitative fieldstudies, analysis is conceived as an *emergent* product of a process of gradual induction. Guided by the data being gathered (as covered in Part One) and the topics, questions, and evaluative criteria that provide focus (as described in Part Two), analysis is the field-worker's *derivative ordering of the* data.

Because analysis is the product of an inductive and emergent process in which the analyst is the central agent, achieving this order is not simply a mechanical process of assembly-line steps. Even though there are several concrete and even routine activities involved in analysis (described below), the process remains, and is intended to be, significantly open-ended in character. In this way, analysis is also very much a creative act.

Because of these open-ended and creative dimensions of the analytic process, a description of the concrete operations composing it does not entirely capture what goes on. Indeed, while we do understand something of the concrete operations that facilitate analysis, the operation of the creative and open-ended dimensions is not well understood.

Referring to these open-ended and inductive features as "making it all come together," Paul Atkinson has reflected that

> Making it all come *together . . . is one of the* most difficult things of all. . . Quite apart from actually achieving it, it is hard to inject the right mix of (a) *faith* that it can and will be achieved; (b) recognition that it has to be *worked* at, and isn't based on romantic inspiration; (c) that it isn't like the solution to a puzzle or math problem, but has to be *created;* (d) that you can't pack *everything* into one version, and that any one project could yield several different ways of bringing it together. (Atkinson quoted in Strauss and Corbin 1990, p. 117; emphasis in the original)

Atkinson quite correctly stresses the role of *working at* analysis in the face of creative open-endedness and not succumbing to the notion that it will arise from "romantic inspiration." For, it is this "working at combined with the matters we have treated in previous chapters and one's own creative impulses—that culminate in analysis. In this chapter we want, therefore, to describe major and well-established ways of working at analysis, ways that we can think of as strategies of creating analysis.

We want also to stress that the six categories of strategies of developing analysis we detail are not used by every analyst and do not work for every analyst all the time. Instead, this array of strategies is a storehouse of possibilities from which to devise ways of working at analysis (and from which you might devise your own new ways). This being the case, you should employ a flexible and adaptive approach. These strategies are guidelines and pointers rather than exact specifications. Said differently, *there is no single way* to achieve analysis. Therefore, read what follows and select, adapt, and combine those parts that work for you in your project.

I. Strategy One: Social Science Framing

The matters we described in previous chapters come forward and inform analysis. Most particularly, this "bringing forward" can and should take the form of conceiving your goal as that of providing a *social science framing of* your data. As detailed in the previous chapter, this general approach itself centers on devising an analysis that is empirically true, new, and important (Chapter 8, Section I). Relative to the third of these three—importance—the goal is, specifically, to formulate *generic propositions* that sum up and provide order in major portions of your data.

As described in the previous chapter, a generic proposition is an *answer to* a *question* (as discussed in Chapter 7) posed about a *topic* (as described in Chapter 6). And, as we also indicated in the last chapter, there are many other ways to phrase the quest for generic propositions, so do not feel you need to think in terms of this phrasing alone. Other phrasings we gave before and that we want to repeat here in order to drive the point home include forming a *hypothesis,* developing a *thesis,* formulating a *concept,* making an *assertion,* putting forth an *idea,* propounding a *theme,* addressing a *problem,* specifying a *story line,* constructing general *principles,* and providing a general *interpretation.*

A. Eight Forms of Propositions

And again to stress that the matters we described in the previous chapters come forth into the task of working at analysis, we here repeat that the goal of formulating a proposition can refer to *eight different formal kinds of* propositions. We describe these in detail in Chapter 7 (where we treat them as questions) and summarize them in Chapter 8, but let us nonetheless—for emphasis and convenience of reference—state them here a third (and last!) time:

1. Type: *X exists.*
2. Frequencies: *X occurs in Y units in places 1, 2, 3, n over Z periods of time.*

3. Magnitudes: X is *of Y size, strength, or intensity.*

4. Structures: *X is structured in terms of 1, 2, 3, n.*

5. Processes: X *exhibits a process with the phases or cycles of 1, 2, 3,* n.

6. Causes: X is *caused by factors 1, 2, 3, n.*

7. Consequences: X *has consequences 1, 2,* 3, n.

8. Agency: *In X, people use strategies and tactics 1, 2, 3, n.*

Chapters 6 and 7 are replete with summaries of examples of all of these eight basic types of propositions. Scanning through those chapters as you are *also* thinking about your data in propositional terms can help you to discern how you can use one or more of these forms of basic propositions to organize your data.

B. A Third Way to Contrast Propositional with Other Writing

In the previous chapter, we contrasted generic propositional framing or writing with "subject" writing and with "historically particular" writing (Chapter 8, Sections I.C.2 and 3). Let us now add a *third* way in which to think of how propositional writing is different from other writing.

Undergraduate students, especially, are schooled in the writing of what we might call the "ordinary term paper." So trained, they sometimes approach fieldwork reporting as though it were the same as writing an ordinary term paper. We must emphatically declare that fieldwork reports and ordinary term papers are *not* the same. They *are* alike in that both are constructed of sentences, paragraphs, and sections set successively on sheets of paper, but the similarity of the two pretty much ends right there.

In our experience, at least, ordinary term papers are smorgasbord or cook's tours of miscellaneous facts about their topic. Indeed, ordinary term papers seem often to be modeled on encyclopedia or other reference book articles, the sources from which much of the information in these papers has often been taken.

The principle difference between them is summed up in the contrasts between these two two-word couplets:

1. analysis-report
   versus
2. review-summary.

The first couplet denotes a central focus on one or more concepts on which one is making a report. In the terminology of this guide, this analysis-report is a propositional answer to a question about a topic.

The second two-word couplet centers on surveying information available on a topic and presenting a summary of it. In the last chapter we used the terms "subject writing" and "historically particular writing" to refer to this kind of work.

The first two-word couplet denotes what one is doing in empirical inquiry and analysis—as in social science research more generally. Speaking of that more general context, Lee Cuba describes the task of the analysis-report as that of constructing "general principles from a set of observations" in which one "always sees the world in terms of the question: What is this an example of?" Such papers therefore begin with and treat some "broader, unifying theme," "general interpretation," or "larger question" (Cuba 1988, pp. 35, 36).

The moral is this: Put aside notions of ordinary term papers when starting to analyze data and develop analysis as a qualitative fieldworker.

C. Number of Propositions in a Single Fieldstudy

There is of course the question of how many propositions one ought to develop in a field project. The weaseling but accurate answer is: It depends. Among other factors, it depends on: (1) how long one is in the field and how much data one collects, (2) the stage of the project we are talking about, and (3) the number and scale of reports one plans and completes.

Brief projects, especially those done by students, quite reasonably result in but one report that centerpieces only one major proposition, with brief and subsidiary attention given to others. However, in the logic of the emergent induction of analysis, even quite small-scale projects generate, in undeveloped form, a great many possible propositions at the start and in the middle phases of the research process. These numerous propositional *possibilities are* the analytic aspects of what one's field-notes are about. They are what one creates in the coding and memoing operations to which we will come shortly. In this fashion, the single proposition or small number of propositions that your analysis finally comes down to result from a process of winnowing out of many other possible, central propositions.

Longer-term projects that collect more data and that are projected to result in several reports or a book tend to develop several (but commonly less than a half dozen) major propositions, and even books follow the model of the single report in tending to treat only one major proposition in a single chapter.

II. Strategy Two: Socializing Anxiety

As stressed in the opening paragraphs of this chapter, formulating potential major propositions from your data is an *emergently inductive* activity. You get *from* data, topics, and questions, on the one side, to answers or propositions, on the other, through intensive immersion in the data, allowing your data to interact with your intuition and sensibilities as these latter are informed by your knowledge of topics and questions. To

do inductive analysis (more recently called "grounded theory"), you begin with an open-ended and open-minded desire to know a social situation or setting; the data and yourself as an agent of induction guide you in the task of emergently formulating one or more propositions (Glaser and Strauss 1967, Strauss and Corbin 1990).

Just below, we describe concrete activities that can help give structure to this process of emergent induction, but before coming to those activities we want to recognize that, as an inherently open-ended process, the situation of emergent induction can produce frustration and anxiety—as well as exhilaration. That is, the openness of the situation calls on the researcher to *construct* social science order and, for some, that circumstance is fearsome. Success in forging such order in what at first can seem to be chaotic materials can seem impossible. In addition, there is almost always one or another problem in data collecting per se.

Fear not! Feelings of anxiety and difficulty in the face of open-ended tasks are common and quite normal. Happily, there are some basic and successful ways of dealing with these normal feelings and fears. Let us point out three of these here and deal with many others in the rest of this chapter.

The first and most important mode of management is to *recognize and accept*—consciously and unself-consciously—the mundane fact that emergent and inductive analysis is not a mechanical and easy task. *Of course,* such a task causes fear and anxiety. This recognition and acceptance serves to normalize the anxiety and associated concerns and emotions. Therefore, relax—you are like most everyone else.

A second mode of management is *persistently to work* at the task of collecting data with an eye to an emergent and inductive analysis which can take a propositional form. The sheer accumulation of information is in itself anxiety-reducing because it ensures that you will, at minimum, be able to say *something,* even if that something is not as analytic as you might like and is not known to you at the moment.

Based on these two modes of coping, you can, third, *have faith* that you will inductively generate an analytic statement (that is, a propositional answer to one or more questions regarding one or more topics in the social situation or setting you are studying). Participation in a group of people who are doing the same thing is, we think, one major way in which you can hope to have your faith sustained and your anxiety reduced. To use a "trendy" term, the class or seminar or study group in which you are likely doing your study is a "support group" in the quest for propositions. (If you are not now part of such a circle and are doing or plan to do a fieldstudy, we urge you to find or form one forthwith. A circle as small as two or three people can do the job.)

One aspect of this faith pertains to believing *that you will he successful* in your quest and that you will achieve a significant personal and emotional reward in the form of the *joy and exhilaration of discovery. Very* much like the satisfaction felt in solving any other puzzle, finding

one or more propositions in the chaos of "mere data" can be an enormously powerful and positive emotional experience—and even a "high." Reduced to a slogan, our suggestion is, "Go for the high!"

III. Strategy Three: Coding

What are commonly referred to as "coding" and "memoing" are the core physical activities of developing analysis. These are what Paul Atkinson is speaking about in the quote above in which he refers to the "recognition that [analysis] . . . has to be *worked* at, and isn't based on romantic inspiration." The most basic, continuing, concrete and mundane way one *works at* developing analysis is to ask these kinds of questions about discrete items in the incoming flow of data and about items in your corpus of information after data collection has stopped:

• Of what category is the item before me an instance?
• What can we think of this as being about?

More specific versions of these questions are:

• Of what *topic,* unit, or aspect is this an instance?
• What *question* about a topic does this item of data suggest?
• What sort of an *answer to* a question about a topic does this item of data suggest (i.e., what proposition is suggested)?

And, serving the same function, analysts ask themselves such questions as these:

• What is this? What does it represent? (Strauss and Corbin 1990, p. 63)
• What is this an example of? (Cuba 1988, p. 35)
• What do I see going on here? What are people doing? What is happening? What kind of events are at issue here? (Charmaz 1983, pp. 112, 113)

The *word* (or short *set of words)* you apply to the item of data in answering such questions is a *code.* These are labels that classify items of information as pertinent to a topic, question, answer, or whatever. Coding begins

> the process of *categorizing* and *sorting* data. Codes then serve as shorthand devices to *label, separate, compile,* and *organize* data. . . . Codes [also] serve to summarize, synthesize, and sort many observations made of the data. By providing the pivotal link between the data collection and its conceptual rendering, coding becomes the fundamental *means* of developing the analysis. (Charmaz 1983, pp. 111, 112; emphasis in the original)

Figure 9.1 Examples of Fieldnote Coding from the Charmaz Study of People
         with Chronic Illness

Codes	Interview Statements
	A *29-year-old man with renal failure was discussing his high school years and events that occurred long before he was diagnosed.*

Self-perception
Awareness of difference
Identifying self through
   ill health
Comparing health to
   others'
	I knew I was different. I caught colds very easily and my resistance was very low, and so I knew that generally speaking my health wasn't as good as everybody else's, but I tried to do all the things that everybody else was doing.

	A *young woman who had had a serious flare-up of colitis recalled:*
Identifying moment Critical failure of self	During this time I was under constant care by an intern who later thought I should see a different psychiatrist when I got out of the hospital because he thought I was coining on sexually to him and the odd thing about that was that I found him not sexually attractive at all—that was sort of an interesting twist to that thing. I mean when you are not in a very good place to be told that you have failed with your psychiatrist is like the parting blow. You know it was awful.

Sources: Charmaz 1983, pp. 116, 119; Charmaz 1991. Reprinted by permission of Kathy Charmaz.

As Miles and Huberman express it, "Coding is analysis. . . . Codes are tags or labels for assigning units of meaning to . . . information compiled during a study" (1994, p. 56).

In even small-scale projects, the researcher is likely to devise dozens or even hundreds of code categories. The point of them is, as Kathy Charmaz indicates, to group the flow of raw reality into packages of items that are related to one another. Or, as Miles and Huberman put it, "codes are efficient data-labeling and data-retrieval devices. They empower and speed up analysis" (1994, p. 65).

Examples of this *analytic* (explained below) coding are given in Figure 9.1, where the concrete data are shown in the right-hand column of the figure and the codes that Kathy Charmaz applied are given in the left-hand column.

A. Two Physical Methods of Coding

The *cognitive* act of assigning a code is the *first* step in disaggregating your data, but the act is not complete until you have performed a *second*

step, that of physically placing the coded data in the same place as other data that you have coded the same way. There are two major ways in which you can do this: filing and computerized, or PC, databasing.

1. Filing

Prior to the widespread availability of personal computers beginning in the late 1980s, coding frequently took the specific physical form of *filing.* The researcher established an expanding set of file folders with code names on the tabs and physically placed either the item of data itself or a note that located it in the appropriate file folder. As we noted in Chapter 5, before photocopying was easily available and cheap, some fieldworkers typed their fieldnotes with carbon paper, wrote in codes in the margins of the copies of the notes, and cut them up with scissors. They then placed the resulting slips of paper in corresponding file folders. After the advent of cheap and easily available photocopying, some fieldworkers simply made as many copies as they had codes on each fieldnote page and filed entire pages. Such physical operations created one or more file drawers of file folders containing coded data.

2. PC Databasing

As we mentioned briefly in Chapter 5, the cost and availability of appropriate hardware and software have recently made it possible for researchers to perform these same coding and filing operations on a computer. The logic of coding is the same, of course, with the possible added advantage of instantaneous "filing," thus eliminating the labor-intensive acts of physically placing items of data in different physical file folders.

PC databasing also increases the speed and complexity with which you can retrieve, recode, refile, and enumerate coded items and relate them to one another. For these reasons (and the advantages that PCs offer for data input, discussed in the context of fieldnotes in Chapter 5), we think that all fieldstudy investigators ought, at minimum, give serious consideration to employing one of the almost two dozen fieldstudy analysis programs now available. At the time of publication, the most detailed and comprehensive descriptions and discussions of these programs we have seen are Weitzman and Miles (1995) and Richards and Richards (1994). Tesch (1990) and Fielding and Lee (eds.) (1991) are earlier but continuingly helpful accounts.

We need to caution, however, that this is a very rapidly changing area and one should be alert to more recent reports of developments and experiences. In addition, some ordinary word-processing programs contain impressive coding and filing capabilities, perhaps obviating any necessity to acquire a special-purpose program. (See, for example, Hall and Marshall 1992, Ch. 9, on the use of "macros" in word-processing programs.)

Even though the use of PCs in fieldstudies has generated a great deal of interest and even enthusiastic promotion, in our view the virtues of

computerized *analysis* (as distinct from data storage) programs have yet to be proven. The litmus test we apply to scholarship generated with PC data analyzers is: Are these analyses different from and better than analyses done by conventional means? The first thing we have noticed in trying to answer this question is that while there are numerous enthusiastic demonstrations of what one *might do in* analysis, few published studies claim to have been performed with such programs. We cannot see how the studies that *have* been so generated are discernibly different from or better than other studies because of PC analysis programs. If the proof of the pudding is the eating, then, on this score, we are still waiting for someone to stop fooling around in the kitchen and serve up some tasty pudding.

Indeed, our experience is that people with the strongest enthusiasm for computer fieldwork programs tend not to be the same people who are most involved in doing fieldstudies. In our conversations with this latter group, we find that while almost all of them use PCs to store data, they also view analysis inside a computer as too confining, a point that we will elaborate below with respect to flexibility.

The conclusion to these observations on the PC and fieldstudies is, then: Be exploratory and definitely use a PC to store data, but do not feel you must necessarily employ a PC analysis program to develop your own analysis.

B. Types of Coding

Issues of file-folder versus PC databasing aside, many fieldworkers find it helpful to do three basic kinds of coding. In an older terminology, they maintain three different kinds of file systems, which we label housekeeping, analytic, and fieldwork.

1. Housekeeping

While social science analysis is one's goal and the object of much of one's coding, situations and settings are also complex entities that require considerable effort to learn and get right simply in their own mundane terms. In many studies, the fieldworker is meeting dozens of new people, visiting various new locales, learning many novel historical matters and so on regarding many informational areas in which he or she is trying simply to become a knowledgeable and competent person.

Further, aside from whatever analytic story you eventually elect to tell, there are quite conventional and commonsensical stories of the sorts of things that typically go on and have gone on "around here," wherever the "around here." These are the public and shared stories that "everyone" knows but that are not less complex and necessary to know simply because "everyone" knows them. Even a study of a highly limited setting with very few people can produce a very complex set of facts, activities, and so forth. Many fieldworkers also find they need written aids to keep even more simple matters straight.

Getting and keeping a handle on local life at this mundane level is greatly assisted if you develop, maintain, and review data organized in these mundane terms. In particular, fieldworkers find it helpful to code for—to have a file on—at least each major participant in a situation or setting. Even though individuals as such may not figure in one's eventual analysis, files on persons can be enormously helpful in simply keeping the facts straight. Codes for and files on organizations and regularized events and other such major features of the situation or setting likewise help in keeping abreast of the local lay of the land. Housekeeping files can also assist in the rapid location of information otherwise buried in the chronological notes or obscurely labeled in the analytic codes. And housekeeping codes provide another angle from which to stimulate analytic coding. Reviewing the content of such codes can sometimes bring to light crucial points or patterns that had not been clear in the analytically coded materials.

2. Analytic

Housekeeping coding and filing aim at getting and keeping order in the basic information. As such, housekeeping coding and filing is *not* an end in itself; rather, it supports the central coding task, the analytic.

Many fieldworkers report the following kinds of practices regarding their analytic coding.

- *Emergent and Experimental Posture:* While housekeeping coding tends toward mundane fact keeping, analytic coding is emergent, venturesome, and experimental (although the coder is also prepared to classify items of information in fairly obvious terms). Especially in the early stages of a project, the worker is not particularly concerned about the eventual viability of a code or whether it will ultimately make any kind of sense. The aim, instead, is to generate as many separate codes (and files) as one is prompted to and about which one can feel reasonably excited. The task of reckoning with these emergent and venturesome analytic impulses comes later, during the period of final analysis.

- *Multiple Coding of Single Items:* Also unlike coding for mundane fact keeping where you place items in only one code category—the most commonsensically obvious (e.g., a person's name)—in analytic coding the fieldworker is prepared to code any given item of information, incident or whatever in *several code* categories. (This is exemplified in Charmaz's coding shown in Figure 9.1.)

- Regular *Coding:* The requirements of interviewing and observation, as well as other facets of life, affect the frequency with which fieldworkers can engage in coding and filing. Whatever the interval, the field wisdom is to start coding quite early in the research process and to engage in it with as much regularity and frequency as possible. Miles

and Huberman go so far as to admonish: "Always code the previous set of field notes before the next trip to the site. Always—no matter how good the excuses for not doing it" (1994, p. 65). We would not be so extreme, but the spirit of their rule of thumb is well taken.

- *Amount of Coding: Since* coding is an emergent, open-ended, and, indeed, a creative activity, the question is raised of how much of it to do—how many codes should one generate overall and how many should one apply to, say, a single page of fieldnotes. Fieldworkers offer no pat answer to this question, save to counsel a "middle way" approach. If a worker finds analytic significance in only a very small part of the materials and therefore codes and files little, that fact itself ought to be made a central problem of the study. On the other hand, workers who spend an enormous amount of time coding and filing everything in sight in dozens of ways probably should ask themselves whether they have transformed a means into an end, with consequent negative effects upon the *real* end, which is to write an excellent analysis.

- *From Housekeeping to Analytic Coding:* Although there is no set pattern, some fieldworkers find they do more housekeeping than analytic coding early in a project. As time goes on and they get control of housekeeping facts, their mundane coding declines and their analytic coding increases.

- *Category* Saturation *and* Subdivision: Instances of some codes occur with such frequency and regularity that one develops a file with an enormous number of instances in it, far more than seem needed or manageable. Analysts proceed in one of two directions in this circumstance. On the one hand, you can inspect the instances in the code file more closely for how they vary among themselves in ways that make for more fine-grained analysis. That is, you can elaborate the code itself to identify subdivisions. On the other hand, such a closer inspection may lead to the conclusion that there is no closer analysis to do, or that what could be done is not important enough to do. In these events, you may assess the category as "saturated" and perform no further coding for it.

3. Fieldwork and Analysis

    As we discussed regarding "trueness" in Chapter 8 (and will further elaborate in Chapter 10), your report should contain an account of pertinent aspects of the fieldwork itself. Coding and filing for this topic over the course of the project will greatly assist in writing this part of your report. Moreover, some fieldworkers have begun to stress the importance of documenting and analyzing the process of analysis. In one recent effort, on the order of twenty percent of time spent on analysis was devoted to describing and analyzing the process of the analysis itself (Miles and Huberman 1994, p. 286).

4. Maintaining a Chronological Record

Splitting the materials into housekeeping, analytic, and fieldwork files helps you to stay "on top" of what is happening and to develop an analysis. But it also tends to obscure that nebulous quality called "context." When you scrutinize a particular piece of filed material, the question can arise: What else was happening at the time that seemed irrelevant then but now seems important? You want, that is, to be able to look back at the more general context, and to do this easily you need an intact chronological record of the past. You should therefore keep a full set of your materials in the order in which you originally collected them.

A chronological set of materials is also useful for locating information that is not readily available in one or another of the files. And it is useful simply for reading and reviewing from beginning to end, as a stimulus to thinking about larger patterns and larger units of analysis (as outlined in Chapter 6).

C. Stages of Analytic Coding

Some fieldworkers distinguish two or more stages of coding and even distinguish among several forms of analytic coding in what are developed as exceedingly complex processes (e.g., Strauss 1987, Strauss and Corbin 1990). For present purposes, however, it suffices to call attention to the basic distinction between *initial* and *focused* coding.

1. Initial Coding

In initial coding, "researchers look for what they can define and discover in the data" (Charmaz 1983, p. 113). This is the concrete specification of the abstract term, "the *emergent induction of* analysis." This is where the rubber hits the road, as is said, and you use yourself as an instrument of the research, informed, of course, by (1) your commitments, interests, expertise and personal history (Charmaz 1983, p. 112) *and (2)* your knowledge of and skill with the topics (units, aspects), questions, and interest-arousal considerations we have discussed (Chapters 6, 7, and 8). Examples of these "rubber hitting the road" codings are given in Figure 9.1. Drawn from Kathy Charmaz's study of people with a chronic illness, the examples in the top half of Figure 9.1 are initial codings, which are distinctive in being *numerous* and varied.

2. Focused Coding

As a corpus of initial coding accumulates, it becomes *itself* an object that you should review in terms of which codes are being used more than others and which topics and questions are being treated more than others. That is, one begins a process of winnowing out less productive and useful codes and of focusing in on a selected number.

This selected or focused set of codes is then applied to an increasing array of data. Categories within the selected codes are elaborated. Other codes are collapsed and yet others are dropped. Some codes begin to

assume the status of overarching ideas or propositions that will occupy a prominent or central place in the analysis. The bottom half of Figure 9.1 provides examples of such selected and focused codes in the Charmaz study. The two codings shown there—"identifying moment" and "critical failure of self"—are central concepts in Charmaz's published study (Charmaz 1991).

IV. Strategy Four: Memoing

Memos are the written-out counterparts or explanations and elaborations of the coding categories (i.e., the labeled ideas). Memos are prose that "tells what the code is about" (Charmaz 1983, p. 120). Miles and Huberman quote Glaser as providing the classic definition: "[A memo is] the theorizing write-up of ideas about codes and their relationships as they strike the analyst while coding. . . . [It] can be a sentence, a paragraph or a few pages. . . . [It] exhausts the analyst's momentary ideation based on data with perhaps a little conceptual elaboration" (Glaser 1978, pp. 83-84, as quoted and edited by Miles and Huberman 1994, p. 72).

Miles's and Huberman's own overview statement on memoing is equally classic in its elucidative breadth and incisiveness:

> Memos are primarily conceptual in intent. They don't just report data; they tie together different pieces of data into a recognizable cluster, often to show that those data are instances of a general concept. Memos can also go well beyond codes and their relationships to any aspect of the study—personal, methodological, and substantive. They are one of the most useful and powerful sense-making tools at hand. (Miles and Huberman 1994, p. 72)

As Glaser indicates, memos vary greatly in length. Many are simply a few sentences, others might run on for some pages; most are likely somewhere in between.

As we described in Chapter 5, codes and memos in the sense of ideas about patterns and meanings in the data appear in your fieldnotes from the very outset. As you code the data both before and after data collection has stopped, memo writing becomes a larger and larger feature of your work, even as the range of topics with which they deal becomes narrower (i.e., codes become more focused).

The effort in memoing is to develop what one hopes will eventually emerge as an interrelated set of memos that form a coherent analysis. In this spirit, some fieldworkers explicitly set out to distinguish among and to write three kinds of memos: elemental, sorting, and integrating (Charmaz 1983, pp. 121-124).

1. The *elemental or* "small piece" memo is often projected as being the lowest level of text that will appear in a final report. Running from one

to a few pages, it is a detailed analytic rendering of some relatively specific matter. Depending on the scale of the project, the worker may write from one to several dozen or more of these. Built out of selective codes and codings, these are the most basic prose cannon fodder, as it were, of the project.

It is in composing elemental memos that you come to appreciate the point of your prior codings and sortings (filings—either in folders or on a PC). For it is all these coded accumulations that provide the basis for having anything to say now.

Despite the enormous assistance of the PC in coding and filing, in coming to compose elemental memos many fieldworkers continue to print out materials and to lay out the piles of detailed codings on a table or whatever large, empty surface is available (such as the floor of a room). This makes it easier to pore over the coded data—arranging and rearranging, labeling and relabeling them. When a new piece of information or a small idea seems relevant to the current set of piles, you can retrieve it and add it. A pile that no longer seems relevant may be set aside. In poring over and thinking through such piles, analysts pose questions such as the following to themselves:

- Is this idea clear?
- Does it have a logical order?
- Which of these examples best illustrates this point?
- Is there some small scheme that would fit these piles of materials better?
- Should I recode these materials?
- Should I look at how well this projected section organization is going to fit with the next section? Will it dovetail?
- What is going to be the transition here?
- How does it fit with the previous section? Should I work more on the section preceding this one, which will make this section clearer?
- On second thought, is it possible this topic is not relevant at all and ought to be thrown out?
- Should I not work on this anymore today and work on_____ instead?

Composing elemental memos is, of course, the activity of writing, a topic we treat extensively in the first half of the next chapter. Therefore, for additional and more detailed guidance on the writing of elemental memos, also read the section of Chapter 10 titled "Writing Practices."

2. A second type of memo—the *sorting* memo—takes all (or many) of the elemental memos (and codings not yet developed as memos) as its topic of analysis. "By going through accumulated [elemental] memos and sorting them, researchers gain insight into . . . core variables, key phases in a process, . . . major issues" or whatever the emerging content (Char-

maz 1983, p. 122). The discoveries one makes in this sorting are then written up. As *analysis written on analysis,* these memos achieve a higher level of abstraction and generalization than do elemental memos.

This stage can be a quite critical one in the research process, for in it you are identifying the elements of a possible propositional organization for your report. This and the writing of integrating memos (described next) are likely among the hardest and most demanding of analytic tasks. While performing them, some people experience moodiness, irritability, despair, even existential crisis. But take heart! There is also the very real possibility of experiencing intense excitement over sudden insights and the rushing release and coalescence of ideas. Counterposed to analytic lows, there can be marvelous "analytic highs."

3. Third and last, this corpus of elemental and sorting memos sets the stage for *integrating* memos, which are explanations of connections and relationships among the sorting memos. Sometimes the connecting and relating integrations among sorting memos are evident, but sometimes not. Charmaz reports that "integration does not always occur spontaneously; often the researcher has to demonstrate the integration explicitly . . . [and some] analyses require the imposition of logical order" (1983, p. 123).

In many projects, the various codes and memos the fieldworker has developed may suggest *several possible modes of integration,* or, to use the terms of Part Two of this guide, several kinds of propositions that answer questions about topics. Within the limits of time and energy available, it may not be possible fully to develop and write up more than one or a very few of them. There is then a hard period of reckoning about which of several possible directions actually to take.

We must at this juncture repeat what we said at the start of this chapter on the theme we label *there* is *no single way.* What we have just reported about "coding" and "memoing" are elements of *one* way that some researchers get from data, topics, and questions to analysis. They are not practices that all researchers follow with great exactitude, even though many do so. Therefore, the foregoing charts strategic elements that are not the only possible such elements.

The strategies we have just reported are rendered in terms taken largely from the "grounded theory" approach to developing analysis. We need also to stress that this is not the only vocabulary and imagery that has been used to describe the process of developing analysis. Indeed, grounded theory terminology may not serve to crystalize understanding in all readers. To the end of reaching out to readers who may still not "get it" when so phrased, we now report a different linguistic and

Figure 9.2 Data-Theory Bootstrapping: Richards and Richards on Developing Analysis

We often get going by finding little things that relate in some meaningful way—perhaps, if our interest is in stress, that certain topics get discussed in anxious ways. ... So then we start looking for components in those topics that might cause anxiety. . . . We might on a hunch start looking at text passages on people's personal security and how they arrange it . . . to see if there is some possible connection between components occurring in the anxiety topics and security arrangements. If we find one, the theory is still thin, so we embark on a search for others, and thereby look for a pattern.

The result of this is a little group of chunked-together coded text, ideas and hypotheses that can become an ingredient in further more abstracted or wide-ranging explorations.

This chunk is ... of larger "grain size" than its component codings, and it may in turn become an ingredient of a later theorizing of larger grain size still that is built out of existing chunks. (Big fleas are made out of smaller fleas.)

And so the web—of code, explore, relate, study the text— grows, resulting in little explorations, little tests, little ideas hardly worth calling theories but that need to be hung onto as wholes, to be further data for further study.

Together they link together with other theories and make the story, the understanding of the text [that is, of one's data]. The strength of this growing interpretation lies to a considerable extent in the fine grain size and tight interknittedness of all these steps. . . .

This network of concepts, evidence, relations of concepts, coordinations of data, of hierarchies of grain size where the theory/data/explanation chunks of one grain size are the data for the work of the next grain size up [can be called] . . . *data-theory boot-strapping.*

Source: Adapted from Richards and Richards, "Using Computers in Qualitative Research," 1994, pp. 448-449. Reprinted by permission of Sage Publications, Inc.

cognitive depiction that might prompt a "click" of understanding. This is Thomas J. Richards's and Lyn Richards's insightful image of "data-theory boot-strapping," the main features of which are given in Figure 9.2. We stress, however, that when Richards and Richards speak of such things as "grain size" codes and "chunks" in Figure 9.2 they are referring to cognitive and physical operations that are, generically, much the same as coding and memoing. (We should also note that their conceptualization is informed by their intimate familiarity with PC programs for qualitative analysis, and, in particular, their own program called NUDIST.)

Moreover, in stressing "boot-strapping," Richards and Richards do not mean to imply that developing analysis is only "bottom-up," a one-way data-to-theory process. Instead,

[the] researcher uses at each stage expectations, prior theories, hunches, experience, and a good education (as with the theoretical determination of . . . codes). The network builds up from the bottom, guided by a vision of the structure of a larger-scale network into which . . . [the] smaller empirical gleanings must fit. When one gets there, the larger-scale structure is likely to be different in many ways from the early ghostly vision;

were it not so, the constructed theory would be quite unempirical, quite unconditioned by one's data. And if one's prior ideas are wildly out, then that will show up in the increasingly procrustean strains of trying to build the anticipated larger structures from the small, heavily data-conditioned ones. (Richards and Richards 1994, p. 449)

For yet other depictions of the process of developing analysis, see Barzun and Graff 1.977, Part II, and Huberman and Miles 1994, pp. 431-432.

V. Strategy Five: Diagramming

Generically, a *diagram is* a succinct visual presentation of the relationships among parts of something. Or, in the social science context, diagrams have been defined as "visual representations of relationships between concepts" (Strauss and Corbin 1990, p. 197). Roughly equivalent terms are chart, map, table, and design. Whatever the term, the key element is a succinct visual display of elements among which there is some kind of ordering line drawing or other use of physical space or distance to denote relationships. Another way to think of diagramming is as a display, which Miles and Huberman define as "a visual format that presents information systematically" (1994, p. 91).

The word *diagram* is both a noun and a verb. A diagram is an object or a product *of* analysis and to diagram is an activity or a process in analysis. For many fieldworkers, both *diagrams* and *diagramming* are integral and central to the analytic process.

Because we are describing the development of analysis in this chapter, we focus on diagramming as an activity and, therefore, strategy of analysis. We find many fieldworkers engaging in one or more of four major forms of it as an activity or strategy: typologizing, matrix making, concept charting, and flow charting.

A. Typologizing

In Chapter 7, we discussed typologizing, the most basic and ongoing of the four types of diagramming, as an aspect of asking and answering the question, "What are the topic's types?" Its central feature is the cross-classification of two or more ideas, concepts, variables, or whatever as a visual display. A basic "two-by-two" example of one appears as Figure 7.2 in Chapter 7 ("two-by-two" is jargon for a typology of two variables with two values each).

In Chapter 7, we stress typologies as products or end results, but here we want to emphasize that they are also, in the words of C. Wright Mills, "very often genuine tools of production. They clarify the 'dimensions' of the types [you are working on], which they also help you to imagine and build" (Mills 1959, p. 213). Indeed, Mills goes on to declare that

1 do not believe I have written more than a dozen pages first-draft without some little cross-classification [i.e., typology]—although, of course, I do not always or even usually display such diagrams. Most of them flop, in which case you have still learned something. When they work, they help you to think more clearly and to write more explicitly. They enable you to discover the range and the full relationships of the very terms in which you are thinking and of the facts with which you are working.

For a working sociologist, cross-classification is what diagraming a sentence is for a diligent grammarian. In many ways, cross-classification is the very grammar of the sociological imagination. (Mills 1959, p. 213; see also Miles and Huberman 1994, p. 184, on "substructing" variables)

B. Matrix Making

More complicated typologies or cross-classifications are also often re-ferred to as matrices, a term Miles and Huberman define as "the 'cross-ing' of two lists ... set up as rows and columns" (1994, p. 93). Indeed, these authors treat matrices as one of two major kinds of "displays" (the other being "networks," discussed below), and they have elaborated a wide array of types of such matrix displays (Miles and Huberman 1994, Chs. 5-9).

Figure 6.1 in Chapter 6 entitled "Units and Aspects Combine into Topics" is an example of such "'crossing' of two lists ... set up as rows and columns." In that case, the list of "units" we explain in that chapter is crossed with the list of "aspects" in order to produce a matrix display of patterns of topics.

C. Concept Charting

A third strategy of visualizing and, therefore, of developing analysis is to arrange all one's working elements on a single sheet of paper, often a very large piece of paper, for the purpose of more clearly envisioning the relations among the elements. Often this can be a simple but powerful exercise in comprehending some or much of one's data. Julius Roth reports a basic strategy of charting in which he begins by assigning letters of the alphabet to each of his major concepts.

[Then,] mechanically, [in developing a chart] this means taking a large sheet of paper, placing the letter A in the middle, examining the material under letter B and deciding whether that belongs before or after A (above and to the left or before; below and to the right or after), deciding on category C with respect to A and B and so on until all the categories have been listed. (Roth .1974, p. 354)

Concept charting need not be confined to a single sheet of paper. At what may be close to the practical limits of charting, Michael Agar reports this process of megacharting:

A couple of times during the early stages of an ethnography I'll find an empty classroom, usually in the evening when the building is deserted, a classroom with blackboards on several walls. I start writing things on the boards, erasing, and writing again, not data, but rather thought patterns. I'll stand in the middle of the room and turn slowly around, looking at the boards, then go to another board and write something else. . . . What's important is the large space that I can visualize all at once. . . . The large, simultaneously accessible visual space is critical for me in snapping the macro frame for an ethnography into focus (Agar 1991, p. 192)

In terms of the amount of physical space they use, most analysts probably fall somewhere between Roth's letters on a sheet of paper and Agar's classroom, as in Wiseman's case: "[At the point of] preliminary analysis ... I am usually working on a large table or, more likely, the floor (1974, pp. *322—323).* But in some instances, the diagramming task may make quite extraordinary demands on space. Speaking at a social science session on fieldwork in the early 1980s, Carol Stack reported that when doing the fieldwork for her classic *All Our Kin: Strategies for* Survival in a Black Community (1974), the need to keep her notes safe from her active child led her to pin notes on walls throughout her apartment. While the safety of her notes was the initial impetus for this, she discovered this practice was very useful in itself as a way to display her data in various configurations and to allow her easily to order and reorder them. The practice also had the benefit of exposing her to the information at various times of the day, even while she was engaged in other tasks.

Such charting adventures of course give rise to their own genre of humor, as in the "famous quote attributed to Levi-Strauss that if he had a card table big enough, he could figure out all of France" (Agar 1991, p. 192).

Often, such organizing concept charts do not appear in final reports, but sometimes the substance or complexity of the materials prompt their presentation. Such an instance is shown in Figure 9.3 (page 200), which displays forms of work behavior in a particular setting. (Figure 7.2 in Chapter 7, showing the relations among eight basic questions, is yet a further example of concept charting.)

D. Flow Charting

Flow charts, the fourth diagramming strategy, have the same basic features as concept charts except that they visualize an order of elements through time or in a *process* rather than as a *static structure.* The three-element chart with which we begin this guide (Figure 1.1 on p. 2) is an example of a simple flow chart of concepts.

In their detailed treatment of "data displays," Miles and Huberman (1994, p. 93) speak of flow charting as *networks,* which they define as "a
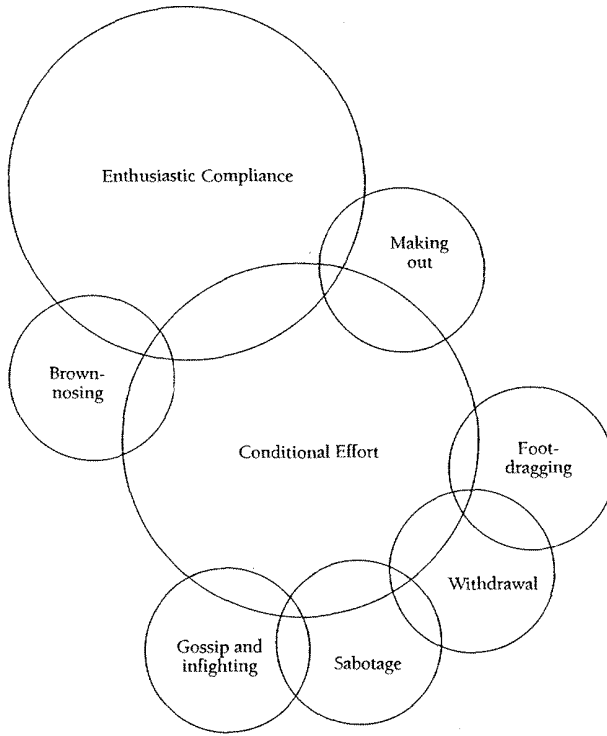
Figure 9.3 Example of a Concept Charting Diagram: Hodson on Behavioral Modes at the Workplace. *Source:* Hodson, "The Active Worker: Compliance and Autonomy at the Workplace," 1991, p. 53, Figure 1, "Behavioral Modes in the Workplace." Reprinted by permission of Sage Publications, Inc. © 1991 by Sage Publications, Inc.

series of 'nodes' with links between them." As mentioned, these researchers regard networks as the second of the two major forms of data display (the other being the matrix, as described above). As they do with matrices, Miles and Huberman depict many forms of network display that you might want to peruse for inspiration.

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The graphing software packages that are now so abundantly available make the kinds of diagramming we have described (as well as yet other forms of it) relatively easy. We. ought therefore to expect that diagrams

will figure ever more centrally in the analytic process and in reports of fieldwork (cf. Miles and Huberman 1994; Bernard 1994, Ch. 16).

VI. Strategy Six: Thinking Flexibly

The cognitive disposition to which we want to call attention as the strategy of "thinking flexibly" is best understood if framed by a key issue that the personal computer poses for fieldworkers.

The advent of the personal computer and its adoption in fieldstudies has forced fieldworkers to think ever more explicitly about their processes of data collection and analysis. In particular, the PC presses the question of the degree to which data collection and analysis can be codified as, or reduced to, mechanical—software driven—routines.

Following Michael Agar's reflections on this question, we can divide the answer into the two standard parts of data collection and storage versus data analysis. Much of data collection and storage does seem easily and appropriately computerized. Indeed, historically this has *always* been a mechanical process—a very labor intensive and tedious physical process. Computer applications are a great advance in this aspect of the craft. In particular, these applications offer the very useful operations of "segment-and-sort. ... At this they are without equal, and that task will remain a core part of ethnographic work" (Agar 1991, pp. 193-194).

But, the analytic part of fieldwork "has more to do with synthesis and pattern-recognition than with" the mechanical manipulation of data (Agar 1991, p. 193). As thus far developed, at least, computer programs and electronic displays seem often to hinder rather than to help the cognitive acts of synthesis and pattern-recognition. As experienced by Michael Agar, who is among the earliest and most accomplished users of the computer (Agar 1986), existing software and technology are too physically and intellectually *confining.* With regard to detailed, microanalysis, for example, Agar reports,

> In that phase I need to lay out a couple of stretches of transcript on a table so 1 can look at it all at once. Then I need to mark different parts in different ways to find that pattern that holds the text together and ties it to whatever external frame I'm developing. The software problem here would be simple to solve [if one wanted to computerize this task] . . . but. . . you'd need a much bigger screen [on a computer] because simultaneous visual access to materials is what makes the ideas happen. (Agar 1991, p. 193)

Moreover, as we noted in Chapter 5, computer applications are of necessity built on their author's conceptions of the nature of some problem to be solved. In fieldstudies, though, formulating the nature of "'the problem' is exactly where ethnography shines in comparison with

other social research frameworks. Figuring out the problem is part of the research process, often requiring most of the time and energy of a researcher, always involving more creativity than laying marks on a text and moving them around" (Agar 1991, p. 1.93). And, such creativity, Agar suggests, "comes out of numerous cycles through a little bit of data, massive amounts of thinking about that data, and slippery things like intuition and serendipity. An electronic ally doesn't have much of a role to play. . . . [Moreover,] some . . . ethnography emphasizes the interrelated detail in a small number of cases rather than the common properties across a large number. For that, you need a little bit of data and a lot of right brain" (Agar 1991, p. 193; see also Bernard 1994, p. 201).

This commentary on the cognitive and physical constraints of analysis programs sets forth both the basic limitation of the PC and of any mechanistic approach to data analysis. Computer applications and the five strategies we have described above can only take you so far. Beyond them there is, to recall Agar's terms, "intuition and serendipity." This is what we are trying to capture in the phrase "thinking flexibly." We counsel taking the foregoing five strategies *and* the PC seriously, but not *too* seriously, not seriously to the point of mechanical compulsion and ritualism. Diligence is always in order, but so is flexibility, open-mindedness, and even playfulness. Below, we enumerate some devices analysts have found helpful in encouraging their own flexible states of mind.

- *Rephrasing:* The sheer way a question (or answer) is *phrased* or worded can greatly facilitate or deter your thinking. When you are blocked, try using new words and new word orders. C. Wright Mills speaks of this as an "attitude of playfulness toward the phrase and words with which various issues are defined" (1959, p. 212). For example, instead of speaking of *causes,* you might use the related but different term *facilitants;* instead of the verb *functions,* perhaps the word *serves* might better capture the matter at hand. In this regard, a good dictionary of synonyms and antonyms is extremely useful (one of the best is Rodale 1978).

- *Changing Diagrams:* If you have already diagrammed an analysis in a form outlined above, but you do not like it, try a different form of representation, as in (1) a different kind of line drawing, (2) mathematical notations or their equivalents, or (3) physical objects from which you can construct three-dimensional models.

- *Constantly Comparing:* Constantly *comparing* items under analysis can stimulate ideas: How is this instance of X similar to or different from previous instances? How is X in this setting similar to or different from X in another setting? (Cf. Glaser and Strauss 1967, Ch. 5.)

- *Thinking in Extremes and Opposites:* Pressed fully, comparison leads to conceiving extremes and, specifically, of the extreme *opposite* of whatever is under study. C. Wright Mills counsels: "The hardest thing in the world is to study one object; when you try to contrast objects, you

get a better grip on the materials and you can then sort out the dimensions in terms of which the comparisons are made" (Mills 1959, p. 214).

• *Talking with Fellow Analysts:* As mentioned above regarding the management of anxiety, the process of developing analysis ought not take place in a social vacuum. You should be in face-to-face contact with others of a similar turn of mind who have interests in your project. Aside from, and in addition to, the morale *boosting* function of being with friendly fellow analysts (discussed above), such associates can, through talk, *stimulate your thinking.* Talking with others who are knowledgeable and supportive can help to clarify in your own mind what it is that you are trying to get at.

• Listening *to Fellow Analysts:* Talk, rightly done, is a two-way street. If talking to others can help, so can listening to others. Other people may be able to point out critical features you had not previously noticed, even though such features were "right in front of you." Other people may suggest metaphors, ironies, or comparisons that had not occurred to you. You need, therefore, to be an active listener as well as a talker.

• Drawing *Back: As we* have emphasized previously in this chapter and will stress in the next, keep *drawing back* in order to think about the total picture. Descend into detail, to be sure, but balance that descent with self-conscious efforts to perceive a general design, overall structure, or, as phrased above, a propositional answer to a question about a topic.

• *Withholding Judgment:* Similarly, you should *withhold judgment* about the final shape of an analysis as long as it is possible, in a practical way, to do so.

We divide the third major task of doing a field study—that of analyzing data—into the two subtasks of developing analysis (discussed in this chapter) and writing reports (treated in the next chapter). This division is in one sense artificial because the analyst is clearly doing an enormous amount of writing in pursuing one or more of the six strategies we describe in this chapter. But, in another sense, developing analysis and writing reports are different and require separate discussion. Developing analysis has to do with articulating a general approach from and toward one's data, whereas writing reports is more concerned with the social psychology of writing per se and with the specific design of written reports. We now turn to these and related aspects of writing reports.