8 Open Coding

In the chapter on microanalysis (Chapter 5), we demonstrated that coding is a dynamic and fluid process. In this chapter, we want readers to keep that image in mind as we break the coding process down into a series of activities. Breaking the analytic process down is an artificial but necessary task because analysts must understand the logic that lies behind analysis. That is what analysts are trying to

accomplish through the use of techniques and procedures. Without this comprehension, procedures and techniques are likely to be used in a rote manner, with no real sense of when, where, and how they are to be used; when they can be omitted; or how they may be modified. This chapter begins with a discussion of concepts and the act of conceptualizing. It goes on to explain how categories are discovered in data and developed in terms of their properties and dimensions (also derived from data). It ends with an overview of the different approaches to open coding.

SCIENCE AND CONCEPTS

Science could not exist without *concepts*. Why are they so essential? By the very act of naming phenomena, we fix continuing attention on them. Once our attention is fixed, we can begin to examine them comparatively and to *ask questions* about them. Such questions not only enable us to **systematically specify** what we see, but when they take the form of *hypotheses* or *propositions*, they suggest how phenomena might possibly be **related** to each other. In the end, communication among investigators, including the vital interplay of discussion and argument necessary to enhance the development of science, is made possible by the **specification of concepts and their relationships**. These points are discussed in greater detail in Blumer (1969, pp. 153-182).

The discovery of *concepts* is the focus of this chapter. Why, then, is this chapter titled "Open Coding"? Because to uncover, name, and develop concepts, we must open up the text and expose the thoughts, ideas, and meanings contained therein. Without this first analytic step, the rest of the analysis and the communication that follows could not occur. Broadly speaking, during open coding, data are broken down into discrete parts, closely examined, and compared for similarities and differences. Events, happenings, objects, and actions/interactions that are found to be conceptually similar in nature or related in meaning are grouped under more abstract concepts termed "categories." Closely examining data for both differences and similarities allows for fine discrimination and differentiation among categories. In later analytic steps, such as axial and selective coding, data are

reassembled through statements about the nature of relationships among the various categories and their subcategories. These statements of relationship are commonly referred to as "hypotheses." The theoretical structure that ensues enables us to form new explanations about the nature of phenomena.

This chapter builds on the previous chapters, especially Chapters 5 to 7. However, it focuses more on the discrete analytic tasks rather than on procedures and techniques as such. The analytic tasks include naming concepts, defining categories, and developing categories in terms of their properties and dimensions.

CONCEPTUALIZING

The first step in theory building is *conceptualizing*. A concept is a **labeled phenomenon**. It is an abstract representation of an event, object, or action/interaction that a researcher identifies as being significant in the data. The purpose behind naming phenomena is to enable researchers to group similar events, happenings, and objects under a common heading or classification. Although events or happenings might be discrete elements, the fact that they share common characteristics or related meanings enables them to be grouped.

Conceptualizing Leading to Classifying

Examples of concepts include a tornado, a flight, and a government agency. Each of these stands for a given phenomenon. When concepts are used in interaction, they often provoke a common cultural imagery. This is because concepts share certain properties. For example, the word "flight" has the same connotation whether we are speaking about a bird, a kite, or a plane. Although the objects might differ in form and size, each has the specific property of being able to fly. When we think about any of these objects, we imagine something soaring in the air. Therefore, a labeled thing is something that can be located, placed in a class of similar objects, or *classified*. Anything under a given classification has one or more "recognizable" (actually defined) properties (characteristics) such as size, shape, contour, mass, or (in this case) the ability to soar through the air. What is less apparent

when we classify objects is that a classification implies, either explicitly or implicitly, *action* that is taken with regard to the classified object. A flight consists of taking off and landing as well as moving through the air, either through self-propulsion (as with birds) or through assistance of persons and/or wind (as with planes and kites).

Objects Classified in Multiple Ways

Let us now look at a more extended example of classifying. Once we placed on the seminar table a small plastic box containing paper clips. We asked, "What is this object and what is it used for?" Naturally, everyone answered correctly. Then, we asked further, "What else is it?" There were blank stares from the students. So, we continued, "What else **could** it be? What else could it be used for?" The students quickly warmed to this imaginary game—a paperweight, a weapon, an element in a design, a toy, or an example of an efficient industrial product. They added that it also was an example of *multiple possible classifications.* Thus,

> Any particular object can be named and thus located in countless ways. The naming sets it within a context of quite differently related classes. The nature or essence of an object does not reside mysteriously within the object itself but is dependent upon how it is defined. (Strauss, 1969, p. 20)

But also,

> The direction of activity depends upon the particular ways that objects are classified. . . . It is the definition of what the object "is" that allows action to occur with reference to what it is taken to be. Mark Twain tells how, as an apprentice pilot, he mistook a wind reef (not dangerous) for a bluff reef (deadly dangerous) and, to the hilarity of his boss, who "properly" read the signs, performed miraculous feats of foolishness to avoid the murderous pseudo-bluff. (pp. 21-22)

For our analytic purposes, it also is important to understand that classified objects, events, acts, and actions/interactions have attributes and that how one defines and interprets those attributes (or the

meanings given to them) determines the various ways in which concepts are classified. For example, the paper clip box has sufficient weight for it to be used as a paperweight. It also has sharp edges, so it might function as a weapon. A ripe orange has some degree of juice as well as size, color, shape, weight, and perhaps cost when sold in the market.

Conceptualizing or Abstracting

Let us now look at the act of *conceptualizing.* In conceptualizing, we are abstracting. Data are broken down into discrete incidents, ideas, events, and acts and are then given a name that represents or stands for these. The name may be one placed on the objects by the analyst because of the imagery or meaning they evoke when examined comparatively and in context, or the name may be taken from the words of respondents themselves. The latter often are referred to as "in vivo codes" (Glaser & Strauss, 1967). As we continue with our data analysis, if we come across another object, event, act, or happening that we identify through *comparative analysis* as sharing some common characteristics with an object or a happening, then we give it the same name, that is, place it into the same code. (Another way of saying this is that particular properties of an object or event evoke a similar imagery in our minds, and because of that, we group them together. For instance, when we see a bird, a plane, or a kite, we might be struck by their common ability to remain in, and move through, the air; therefore, we classify these as examples of flight.) Thus, when we classify like with like and separate out that which we perceive as dissimilar, we are responding to characteristics, or properties inherent in the objects that strike us as relevant. The images that are provoked in our minds may or may not be different from common cultural perspectives or notions about things. If our imagery differs from the usual or standard ways of thinking about things and we are able to see objects, events, or happenings in new ways, then we can create novel theoretical explanations. That is why we, as theorists, are called on to do such detailed analyses of data. We want to see new possibilities in phenomena and classify them in ways that others might not have thought of before (or, if considered previously, were not systematically developed in terms of their properties and dimensions).

Illustration of Conceptualizing

In this second edition of *Basics of Qualitative Research*, we have chosen to use actual field notes to illustrate the analytic process. We do so because we believe that unaltered field notes more closely resemble the materials with which researchers are working. Excerpts from the same interview are used both in this chapter and in Chapter 9. This particular interview was done with a woman in her early 20s and is about drug use by teens. Notice that the respondent needed prodding in the form of direct questioning to verbalize her thoughts. With some respondents, one might be able to say "Tell me about teens and drugs," and the respondents would talk for hours. This was not the situation here. However, it is important to point out that the interviewer did not have a list of preset questions to ask. Rather, she asked the questions based on responses given to the previous queries. These field notes were obtained as part of a larger study by us looking at biographically relevant incidents in individuals' lives.

What we would like to illustrate in this first section of this chapter is the technique of *naming* or *labeling*. Contrary to what many persons think, conceptualizing is an art and involves some creativity, but it is an art that can be learned. Because our purpose is to illustrate the **act of naming and not how we actually analyze data,** only the first few pages of the interview are used. Not every possible phrase or idea is conceptualized. Also, the names that we use are arbitrary; other researchers might use other labels, depending on their foci, training, and interpretations. **Also note—and this is very important—that the conceptual name or label should be suggested by the context in which an event is located.** By "context," we mean the conditional background or situation in which the event is embedded. For example, we are talking about teen, rather than adult, drug use, and part of being a teen often is having an exploratory nature, a need or desire to challenge adult values and sometimes rebel against them; we get quite a different situation from that of adult hard-core drug use.

(Note: Conceptual names are in bold print.)

Interviewer: Tell me about teens and drug use.

Respondent I think teens use drugs as a release from their parents ["**rebellious act**"]. Well, I don't know. I can only talk for myself. For me, it was an experience ["**experience**"] [in vivo code]. You

hear a lot about drugs ["**drug talk**"]. You hear they are bad for you ["**negative connotation**" to the "**drug talk**"]. There is a lot of them around ["**available supply**"]. You just get into them because they're accessible ["**easy access**"] and because it's kind of a new thing ["**novel experience**"]. It's cool! You know, it's something that is bad for you, taboo, a "no" ["**negative connotation**"]. Everyone is against it ["**adult negative stance**"]. If you are a teenager, the first thing you are going to do is try them ["**challenge the adult negative stance**"].

Interviewer: Do teens experiment a lot with drugs?

Respondent: Most just try a few ["**limited experimenting**"]. It depends on where you are [and] how accessible they are ["**degree of accessibility**"]. Most don't really get into it hard-core [good in vivo concept] ["**hard-core use**" vs. "**limited experimenting**"]. A lot of teens are into pot, hash, a little organic stuff ["**soft core drug types**"]. It depends on what phase of life you're at ["**personal developmental stage**"]. It's kind of progressive ["**progressive using**"]. You start off with the basic drugs like pot ["**basic drugs**"] [in vivo code]. Then you go on to try more intense drugs like hallucinogens ["**intense drugs**"] [in vivo code].

Interviewer: Are drugs easily accessible?

Respondent: You can get them anywhere ["**easy access**"]. You just talk to people ["**networking**"]. You go to parties, and they are passed around. You can get them at school. You ask people, and they direct you as to who might be able to supply you ["**obliging supply network**"].

Interviewer: Is there any stigma attached to using drugs?

Respondent: Not among your peers ["**peer acceptance**"] If you're in a group of teenagers and everyone is doing it, if you don't use, you are frowned upon ["**peer pressure**"]. You want to be able to say you've experienced it like the other people around you ["**shared peer experience**"]. It's not a stigma among your own group ["**being an insider**"]. Obviously, outsiders like older people will look down upon you ["**outsider intolerance**"]. But within your own group of friends, it definitely is not a stigma ["**peer acceptance**"].

Interviewer: You say you did drugs for the experience. Do kids talk about the experience?

Respondent: It's a more of sharing the experience rather than talking about the experience ["**taking part in**" vs. "**dialoguing about**"]. You talk about doing drugs more than what it's like

when you take drugs ["drug talk"]. It depends upon what level you are into it ["hard core" vs. "limited experimenting"], I guess. Most kids are doing it because it is a trend in high school ["part of social scene"]. They are not doing it because of the experience in some higher sense ["not self-discovery"]. They are doing it because they are following the crowd ["peer mimicry" vs. "self-discovery"].

Interviewer: Did I hear you say teens were attracted to drugs because there was some element of risk, daring, [and] testing associated with them?

Respondent: It's like living in the fast lane ["tempting fate"]. You see all the people in Hollywood. Most teens idolize those people who have fame and are living a fast-paced life ["idol mimicry"]. Often, these people are on drugs.

Interviewer: Were you attracted to drugs because of the Hollywood scene?

Respondent: To some degree, I was. I thought it was pretty cool ["in thing"]. It was part of a dangerous fast-paced life ["tempting fate"]. To some degree, I too was following the crowd ["peer mimicry"]. I wanted to be like everyone else. But I also did it because I was sick of hearing people talk about the evils of drugs and not knowing anything about what they really did to you ["challenging the adult stance"]. I saw people all around me taking them with no long-lasting effects. They weren't evil or addicted ["fact discrepancy"]. I got sick of the adults lecturing about drugs when they had never tried them so that they could present them fairly ["presenting a one-sided view"]. All they talked about were the negative effects ["negative connotations"]. Yet, most of the people around you were not having those negative effects ["fact discrepancy"].

Interviewer: What did doing drugs do for you?

Respondent: It gave me a different perspective on drug taking ["experiential knowing"]. It opened my mind ["broadening experience"]. I think the preaching that they do totally blows the issue out of proportion ["addiction overblown"]. Not everyone who tries drugs will become addicted ["refuting the argument"]. I learned, yes, you can take them, and it is just like anything else; you can walk away from them ["self-control"]. There is more to addiction than just trying a drug ["addiction as a complex process"]. Not everyone that drinks is an alcoholic ["critical defining"]. If you were to drink all the time, it is just as bad as doing

drugs all the time ["comparative analysis"]. A lot of drugs are not as devastating to your body as alcohol. Pot, for example—yes, it affects you, but you are in a lot more control of yourself than if you are drunk or even have a couple of drinks ["control as a criterion"].

Interviewer: Getting back to your experience . . .

Respondent: I started with pot ["initiating experience"]. Pot, you don't get stoned the first time you try it ["delayed experiencing"]. Most people have to take it two to three times before they feel remotely high ["body adaptation"]. I did it five to six times ["repeated tries"] before I felt high ["being stoned"]. I tried it at a party ["social act"]. Kids break it out, [and] no one even questions it ["peer acceptance"]. It is just understood that it will be passed around and everyone will try it ["peer pressure"]. I was pretty young, 13 I guess. It turned out I was pretty allergic to pot ["negative reaction"]. It was never anything I took to ["negative reinforcement"].

Digging Deeper Into Analysis

At this point, we would like to stop the act of labeling. We have some concepts now, but as a result of our putting names on events, objects, and happenings, did we discover anything new or do we have any greater understanding of what the concepts stand for or mean? The answer to this question is **not really**. To discover anything new in data and to gain greater understanding, we must do more of the detailed and discriminate type of analysis that we call "microanalysis." This form of analysis uses the procedures of comparative analysis, the asking of questions, and makes use of the analytic tools to break the data apart and dig beneath the surface. We want to discern the range of potential meanings contained within the words used by respondents and develop them more fully in terms of their properties and dimensions. The act of labeling may do some of this. Any time one classifies, selects, or places a conceptual name on something, there is some degree of interpretation of meaning as derived from context; that is, there is some identification of property (or properties) that, in turn, stimulates the analyst to name an event and, in so doing, to classify it and define its use. (For example, if we see an object that has four legs, a flat surface, a back, and some padding, then we might label

it a "chair" and try sitting on it to see what happens. Other persons seeing the same object might call it a "piece of art" or a "stand," depending on their interpretations.) However, just naming objects does not always explain what is going on in any deeper or complete sense. **It is important to note that we do not go through an entire document, put labels on events, and then go back and do a deeper analysis. The labels that we come up with are, in fact, the result of our in-depth detailed analysis of data. Therefore, we would like to** take these same data and use them to demonstrate how we might open up the text. In this short analytic section, we do a microanalysis of data, which is much more reflective of how we do our early coding. We introduce the readers to some new terms such as "memos." This should not cause concern. What is important is for the readers to get the sense of what is going on. Memos are explained later in Chapter 14. Also take note of how we use the procedures and techniques introduced in previous chapters to open up the text. We present only a short example here.

Memos: The researcher's record of analysis, thoughts, interpretations, questions, and directions for further data collection

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We begin our analysis with the first paragraph by doing a line-by-line analysis.

1. **Interviewer:** Tell me about teens and drug use.
2. **Respondent:** I think teens use drugs as a release from their parents.

Memo. The first thing that strikes me in this sentence is the word "use." This is a strange term because, when taken out of the context of drug taking, the word means that an object or a person is being employed for some purpose. It implies a willful and directed act. In **making a comparison,** when I think about a computer, I think about employing it to accomplish a task. I think of it as being at my disposal. I am in control of when, where, and how it is used. I employ

it because it makes writing easier for me. It is a help, an object outside of me that I use under certain conditions. Now, when I go back and think about "using" drugs, the word might mean simply to "take" or "ingest." But it also might imply some of these other ideas too, for example, being used for some reason, having control over what one does, making things easier, or being used under certain conditions but not others. This opens up a broader interpretation of the term "drug use" because the connotation now is that it might mean more than just ingestion; it also might encompass issues such as self-control over use, a purposeful and directed act that serves an end and that has a desired effect, plus there are times and places when it is used or not used. Although none of this is evident yet in the data, I have something to keep in mind while I continue my analysis.

Memo. I think it would help me to think more about the word "use" if I **make another comparison closer in, this time with alcohol. If** one were to say "I use alcohol," then what could that mean? It could mean sometimes, such as on special occasions, or all of the time, such as every day. I could use a little or a lot. I could use different types of alcohol, such as beer and vodka. It could mean that I ingest it or that I use it to cook with, to keep around to offer to company, or to bring as gifts when I am invited out to dinner. Then, there is how long I have been using it—a long time or a short time. I might use it at home, at parties, or at bars. Perhaps it gives me confidence, helps me to relax after a hard day's work, or helps me to fall asleep when I am tense. Maybe I use it to forget or escape my daily worries. **What this tells me is that alcohol use has certain properties such as frequency, duration, degree, type, purpose, way of using, and place of use.** I could locate myself dimensionally along each of these properties. These properties also might have applicability to **drug use.** Therefore, when I go on with analysis of this interview and in subsequent interviews, I look for how often, how long, how much, for what purposes, when, where, and what types of drugs are used and by whom. In this way, I can begin to get some idea of how drug use varies across teens and to see whether any patterns of drug use emerge.

Memo. The next interesting word in this sentence is "release." The first thing that comes to mind is **"rebellion."** But the word could mean other things too, such as get away from, escape, let go of, be

different from, or not be under parental control. But in this case, it does not appear that it is the parent who is releasing the teen; rather, it appears that the teen is letting go of the parent. This is an interesting thought. When I think about "release" from jail, I think about being free, able to go and do **what I want, when I** want, and **how I** want. I served my time, paid a debt, gained or even earned my independence. I am in control of my destiny now; I no longer have to live by the jail's schedule. But what if I said I **escaped** from jail rather than being released. I still would be free, but now there is the fear of getting caught and having to go back. So, what are the similarities of and differences between being released from jail and our teen being "released" from her parent. One similarity is the ideas of freedom and control, the ability to make one's own life choices and do something on one's own initiative. One difference is that with jail, the higher authority is doing the releasing, whereas here it appears that the teen is taking the initiative or engaging in an act that distances her from the parent. This raises all sorts of questions such as the following. To teens, what does the term "parent" stand for? Is it authority, a lack of independence, or the inability to make one's own choices? Does release, then, imply a sort of gaining of independence, stepping out on one's own and making one's own choices? In a more profound sense, what implications does drug use have for identity issues in teens? Is the use of drugs or a comparable activity a stepping stone toward greater independence of thought and choice? What other activities besides drug taking might have the same outcome (after all, not all teens use drugs)? Also, why use drugs and not one of these other activities? Is it because drugs are accessible, or are there other connotations to their use that make them attractive to teens? These are questions that I might want to keep in mind to see whether they come up in further interviews and data analysis.

Memo. Now as an analyst, **I must go back and look at my original conceptualization of "release."** It initially was labeled as a "rebellious act." After thinking through many different possible meanings of the word, there is the question: Would I still label it the same way? When I think about "rebellious act," I translate that into defiance. Perhaps there is some defiance implied, and to defy their parents might be one reason why some teens take drugs. But after thinking through the "release" more thoroughly, I think that rebellion is just one part of what is going on. There is something much deeper going on, at least in this teen. Release also can mean letting go, going

forward, moving from dependence to independence both of thought and of action. It is one step on the path to growing up, although perhaps not the best choice or path. I think that through these analytic exercises, I now have a much more comprehensive insight into what the word "release" might mean. Even if one chooses to call this a "rebellious act," one has to ask the following questions. What does rebellion mean here? What are its properties? Against whom and what are teens rebelling? As I continue with my analysis, I will look for situations, events, and examples that will help me to better understand the meaning of the term "release."

DISCOVERING CATEGORIES

Once we have opened up text and have some concepts, where do we go next? In the course of doing analysis, an analyst might derive dozens of concepts. (It is not unusual for a beginning student to arrive at a teaching session with three to four pages of concepts.) Eventually, the analyst realizes that certain concepts can be grouped under a more abstract higher order concept, based on its ability to explain what is going on. For example, if a person observes 5 different objects and sky and labels them as "birds," then observes 7 more objects and calls them "kites," sooner or later, he or she might ask what these objects share in common and come up with the concept of "flight." This term not only allows the objects to be classified but also explains what they are doing (in terms of action). Grouping concepts into categories is important because it enables the analyst to reduce the number of units with which he or she is working. In addition, categories have analytic power because they have the potential to explain and predict. For example, when we talk about the concept of flight, we can ask the following. What makes birds, kites, and planes fly? What attributes do they have that enable them to lift off the ground, remain in the air, and come down without crashing? How long, how high, and how far can they fly? With this information, we can begin to explain what properties birds, planes, and kites have in common that enable them to fly and what might happen to that ability, say, if one of those properties were to change, such as a bird developing a broken wing.

Categories and Phenomena

Categories are concepts, derived from data, that stand for phenomena. One example is our category of "flight." *Phenomena* are important analytic ideas that emerge from our data. They answer the question, "What is going on here?" They depict the problems, issues, concerns, and matters that are important to those being studied. The name chosen for a category usually is the one that seems the most logical descriptor for what is going on. The name should be graphic enough to quickly remind the researcher of its referent. Because categories represent phenomena, they might be named differently, depending on the perspective of the analyst, focus of the research, and (most important) **the research context.** For example, whereas one analyst might label birds, planes, and kites as "flight," another might label them as "instruments of war" because the context is entirely different. In the latter case, the birds might be used as carrier pigeons delivering messages to troops behind enemy lines, the kites as signals of an impending attack, and the planes as troop and supply carriers bringing in much needed relief. Also, to return to our example of teens and drug use, if we look at the first paragraph that we analyzed, there are several different concepts (e.g., easy access, novel experience, rebellious act). However, if we stand back and ask what is going on, then we might say that teens are "experimenting" with drugs and the interviewee is providing us with some of the reasons why. In other words, all of the other concepts become properties or explanatory descriptors of the "experimenting" category.

The important thing to remember is that once concepts begin to accumulate, the analyst should begin the process of grouping them or categorizing them under more abstract explanatory terms, that is, categories. Once a category is identified, it becomes easier to remember it, to think about it, and (most important) to develop it in terms of its properties and dimensions and further differentiate it by breaking it down into its *subcategories,* that is, by explaining the when, where, why, how, and so on of a category that are likely to exist.

Naming Categories and Subcategories

Students often ask where names of categories come from. Some names come from the pool of concepts already discovered in data. As

the analyst examines the lists of concepts, one might stand out as broader and more abstract than the others. For example, the concept of "flight" is more comprehensive than "plane," "bird," or "kite" in the earlier example. Thus, broader or more comprehensive and more abstract labels can serve as headings for classes of objects that share some similar characteristics. Or, an analyst might be working with data when suddenly he or she has an insight that seems to explain what is going on. For instance, suppose that a researcher was studying children at play and noticed acts that he or she labeled as **"grabbing," "hiding," "avoiding,"** and **"discounting."** Then, on observing the subsequent incident, it suddenly dawns on the researcher that what the children are doing is trying to avoid something through those actions. Thus, grabbing, hiding, avoiding, and discounting are grouped under the more abstract heading of **"strategies."** But strategies for what? The most probable answer is to avoid "toy sharing." In this manner, it emerges that one of the important phenomena to study in relation to groups of children at play is **"toy sharing,"** with "strategies" for either sharing or not sharing being a subcategory of concepts under that larger heading.

Another source of concepts is the literature. Terms such as **"caretaker fatigue," "illness experience,"** and **"status passage"** all are strong concepts and come with established analytic meanings. If they have proven relevance to the present study by emerging from the data as well, then by using these established concepts rather than coining a new name, the analyst can extend development of concepts that already might be important to the discipline or profession. On the other hand, the use of established concepts might pose a serious problem. "Borrowed" concepts or names for phenomena often bring with them commonly held meanings and associations; that is, when we think about them, certain images come into our minds. These meanings might bias our interpretations of data and prevent analysts and their readers from seeing what is new in the data. Therefore, although it might be advantageous at times for the analyst to use concepts from the literature, he or she should do so with care, always making certain that they are embedded in these data and then being precise about their meanings (similarities, differences, and extensions) in the present research.

Another important source of category names is in vivo codes. When applied to categories, these are catchy terms that immediately

draw our attention to them (Glaser and Strauss, 1967; Strauss, 1987). Again, we illustrate this with an example from one of our research projects. The scene was a hospital ward, where we were doing a study of articulation of work by head nurses. While a head nurse and the investigator were discussing the policies and procedures of the unit, the head nurse pointed to one of the licensed vocational nurses (LVNs) and said, "She is the tradition bearer of the unit." The head nurse explained that the LVN had taken on the responsibility of initiating all new employees and patients to the traditions, rules, and policies of the unit. The LVN also acted as rule enforcer, reprimanding others whenever she noticed that the rules were broken. The term "tradition bearer" is a good name for a category. It is catchy and explains what is going on. We also know that it is likely that other units also must have tradition bearers, for every ward has its own policies, procedures, rules, and traditions that must be carried out and enforced for social order to prevail. If there is no tradition bearer, then what happens?

*Developing Categories in Terms of
Their Properties and Dimensions*

Once a category is identified, the analyst can begin to develop it in terms of its specific properties and dimensions. For example, we labeled "bird," "kite," and "plane" as objects that share the characteristic of flight because each could soar in the air. We came up with the word "flight" because as we compared each event against itself and other events in the data, we noted that these objects held the following trait in common: They remained in, and moved through, the air, whereas automobiles and bicycles remained on the ground. What we want to do now is define what we mean by "flight"—why, when, how long, how far, how fast, and how high. We want to give a category specificity through definition of its particular characteristics. We also are interested in how these properties vary along their dimensional ranges. For example, birds fly lower, slower, and for shorter lengths of time than do many planes. These different objects, although similar in the sense of having the ability to fly, are dissimilar when compared against each other for specific properties and dimensions of these, giving our concept of "flight" *variation*. We have identified that it can range from high to low along the property of height, it can

range from slow to fast along the property of speed, it can range from long to short along the property of duration, and so on. Notice that with each additional property and dimensional variation, we increase our knowledge about the concept of "flight."

Through delineation of properties and dimensions, we differentiate a category from other categories and give it precision. For example, if we take the concepts of "limited experimenting" with drugs versus "hard-core use" of drugs, we want to know what attributes distinguish each. Is it amount, duration, when used, and/or type of drug used?

To further clarify, whereas <u>properties are the general or specific characteristics or attributes of a category, dimensions represent the location of a property along a continuum or range.</u> For example, we might say that one of the properties that differentiates "limited experimenting" with drugs from "hard-core use" of drugs is "frequency" or the number of times a week the person is "stoned." We dimensionalize the property **frequency** by saying that with limited use, the user is stoned only *occasionally*. If we wanted to qualify or explain the term "limited experimenting" even further, then we could say that the teen uses drugs and gets stoned only when **at a party with other teens at which drugs are readily available and passed around**, whereas we might say that the hard-core user is stoned **very often**, using drugs three to four times a week, either when alone or when with selected others, and seeking out drugs on his or her own rather than having them passed around at a party. This qualifying of a category by specifying its particular properties and dimensions is important because we can begin to formulate *patterns* along with *their variations*. For example, we might say, based on frequency of use and the "type of drug used," that this situation can be classified into the pattern of "limited experimenting" with drugs. Perhaps if we do another interview and the pattern of drug use and getting stoned fits neither identified pattern, then the analyst can develop a third pattern such as the "recreational use" of drugs. **Patterns are formed when groups of properties align themselves along various dimensions. In the earlier example, we noted that patterns of drug use among teens can vary dimensionally from limited experimenting to hard-core use.**

To explain more precisely what we mean by properties and dimensions, we provide another example using the concept of "color."

Its properties include shade, intensity, hue, and so on. Each of these properties can be dimensionalized. Thus, color can vary in shade from dark to light, in intensity from high to low, and in hue from bright to dull. Shade, intensity, and hue are what might be called "general properties." They apply to color regardless of the object under investigation.

Whenever we come across a property of a category in the data, we attempt to locate it along a dimensional continuum. Because each category usually has more than one property or attribute, we would want to locate each property along its dimensions. For example, a flower not only has color, it also has size, shape, duration, and so on. Each of these attributes can be broken down into various dimensions. We might want to group flowers according to one specific attribute such as color qualified into subdimensions of shade, intensity, and hue. Or, we might want to do a more complex grouping, differentiating flowers not only according to color (shade, intensity, and hue) but also according to size (large, medium, and small), duration (long lasting vs. short lasting), height (tall vs. short), and shape (circular petals vs. oval petals). Once we have specified a pattern of combined attributes, we can group data according to those patterns. For instance, all flowers showing certain patterns of characteristics might be labeled as "roses" along with their variations (the different types of roses such as climbing and early blooming). **Note that when an analyst groups data into patterns according to certain defined characteristics, it should be understood that not every object, event, happening, or person fits a pattern completely.** There always are a few cases in which one or more dimensions are off slightly. This is okay within limits. People still are people, whether they have black, red, or yellow hair. It depends on how precise the analyst wants to be or to what degree he or she wants to break down the classifications into subtypes.

To summarize what we have been saying, when we compare incident to incident, we always compare according to the properties and dimensions inherent within the incident or event, grouping like with like. For example, if we take an incident of drug use, we examine it for frequency of use, type of drug used, perhaps duration of use, and then we label it as either an example of "limited experimenting"

with drugs or "hard-core use" of drugs, depending on the properties brought out in each situation. It is the properties of the drug use that enable us to place the incident into a larger, more abstract classification.

Subcategories

Little has been said, up to this time, about subcategories. These will become clearer as we continue with the explanations about category development under axial coding. Basically, subcategories specify a category further by denoting information such as when, where, why, and how a phenomenon is likely to occur. Subcategories, like categories, also have properties and dimensions. For example, one subcategory of "drug using" might be "types of drugs." It explains the "what" of "drug using." "Types of drugs might be classified according to the specific properties that they demonstrate such as the forms in which they come, the body's response to use, how they are used (e.g., inhaled, injected, ingested), and so on.

Variations on Ways of Doing Open Coding

There are several different ways of doing open coding. One way is *line-by-line analysis*. This form of coding involves close examination of data, phrase by phrase and sometimes word by word as demonstrated in the chapter on microanalysis (Chapter 5). This is perhaps the most time-consuming form of coding but often the most generative. Doing line-by-line coding is especially important in the beginning of a study because it enables the analyst to generate categories quickly and to develop those categories through further sampling along dimensions of a category's general properties, a process of sampling we call "theoretical sampling." Although theoretical sampling is explained in detail in Chapter 13, a short example is given here to illustrate our point. If a researcher is studying restaurants, then analysis of a very busy upscale restaurant with a large staff and a person to coordinate the work might lead the analyst to question what happens to the service in a very busy restaurant in which there are fewer staff members and no coordinator. (Notice that we are compar-

ing along dimensions—how busy, how many staff members, presence or absence of a coordinator.) If we then go out and look for a restaurant with fewer staff members, no coordinator, and heavy lunch traffic and observe what happens to the quality and quantity of service, then we are doing theoretical sampling. Notice that we are not sampling restaurants per se but rather sampling along the dimensions of the different properties of "service" (our category). We want to know what happens to service when the conditions under which it occurs vary.

Moving on with different ways of coding, the analyst also might code by analyzing a whole *sentence or paragraph*. While coding a sentence or paragraph, he or she might ask, "What is the major idea brought out in this sentence or paragraph?" Then, after giving it a name, the analyst can do a more detailed analysis of that concept. This approach to coding can be used at any time but is especially useful when the researcher already has several categories and wants to code specifically in relation to them.

A third way in which to code is to *peruse the entire document* and ask "What is going on here?" and "What makes this document the same as, or different from, the previous ones that I coded?" Having answered these questions, the analyst might return to the document and code more specifically for those similarities and differences.

Writing Code Notes

One way in which to begin coding is to write concepts down in the margins or on cards as they emerge during analysis. This suffices if one is just labeling. We find that we work better by putting our analysis immediately into memos, as illustrated earlier in the chapter. Some of the newer, more complex computer programs allow the analyst to move from text, to concepts, to integrating concepts, doing memos, doing diagrams, and so on in the process of theory development (Richards & Richards, 1994; Tesch, 1990; Weitzman & Miles, 1995). The writing of memos is discussed further in Chapter 14. There are many different ways of recording concepts and theoretical ideas (see, e.g., Dey, 1993; Miles & Huberman, 1994; Schatzman & Strauss, 1973). Each person must find the system that works best for him or her.

SUMMARY

The purposes of procedures and techniques discussed in previous chapters now become clear. They are designed to help analysts carry out the steps of theory building—conceptualizing, defining categories, and developing categories in terms of their properties and dimensions—and then later relating categories through hypotheses or statements of relationships. Conceptualizing is the process of grouping similar items according to some defined properties and giving the items a name that stands for that common link. In conceptualizing, we reduce large amounts of data to smaller, more manageable pieces of data. Once we have some categories, we want to specify their properties. We also want to show how our concepts (categories) vary dimensionally along those properties. Through specification and dimensionalization, we begin to see patterns such as patterns of flight and patterns of drug taking. Thus, we have the foundation and beginning structure for theory building.

9 Axial Coding

Axial coding: The process of relating categories to their subcategories, termed "axial" because coding occurs around the axis of a category, linking categories at the level of properties and dimensions

The paradigm: An analytic tool devised to help analysts integrate structure with process

Structure: The conditional context in which a category (phenomenon) is situated

Process: Sequences of action/interaction pertaining to a phenomenon as they evolve over time

Humans the world over cannot avoid giving explanations for events and happenings. The desire for understanding is universal, although the explanations may differ by person, time, and place. Whereas some lay explanations draw on religious or magical beliefs, others are derived from practical experience or science. Explanatory schemes not only guide behavior but also provide some control and predictability over events. Scientists operate with such schemes, often highly detailed and sophisticated ones. A quotation from the writing of

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sociologist Leonard Schatzman is very useful here in telling us what such explanations should contain:

An explanation... tells a story about the relations among things or people and events. To tell a complex story, one must designate objects and events, state or imply some of their dimensions and properties..., provide some context for these, indicate a condition or two for whatever action/interaction is selected to be central to the story, and point to, or imply, one or more consequences. (quoted in Maines, 1991, p. 308)

The *purpose of axial coding* is to begin the process of reassembling data that were fractured during open coding. In axial coding, categories are related to their subcategories to form more precise and complete explanations about phenomena. Although axial coding differs in purpose from open coding, these are not necessarily sequential analytic steps, no more than labeling is distinct from open coding. Axial coding does require that the analyst have some *categories*, but often a sense of how categories relate begins to emerge during open coding. As stated by Strauss (1987),

Among the most important choices to be made during even these early sessions is to code intensively and concertedly around single categories. By doing this, the analyst begins to build up a dense texture of relationships around the "axis" of the category being focused upon. (p. 64)

In this chapter, we describe the logic behind axial coding and demonstrate how to link data at the property and dimensional levels, forming dense, well-developed, and related categories.

THE CODING PROCESS

Procedurally, axial coding is the act of relating categories to subcategories along the lines of their properties and dimensions. It looks at how categories crosscut and link. As stated previously, a category stands for a *phenomenon*, that is, a problem, an issue, an event, or a happening that is defined as being significant to respondents. The

phenomenon under investigation might be as broad as negotiating a peace agreement between two nations or as narrow as self-perceived body image changes after an amputation. A phenomenon has the ability to explain what is going on. A *subcategory* also is a category, as its name implies. However, rather than standing for the phenomenon itself, subcategories answer questions about the phenomenon such as when, where, why, how, and with what consequences, thus giving the concept greater explanatory power. Early in the analysis, the researcher might not know which concepts are categories and which are subcategories. This usually becomes evident as coding proceeds.

For example, suppose that an analyst asks himself or herself, after each interview conducted with teens about drug use, "What seems to be going on here?" If the answer repeatedly is that most teens are "experimenting" with drugs and doing so mainly on a "limited basis," meaning they are trying drugs out only occasionally and restricting their use to less potent types, then "limited experimenting" with drugs might be designated as a *category*. Other categories such as "drug talk," "novel experience," "easy access," and "challenging the adult stance" help to explain why teens use drugs, how they go about sharing their experiences, and what they get out of using.

A major point must be made here. Although the text provides clues about how categories relate, the actual linking takes place not descriptively but rather at a conceptual level. To illustrate, let us return to the first paragraph of our interview with a teen about drug use. Notice that our respondent is giving us an explanation for why she experimented with drugs.

Respondent: I think teens use drugs as a **release** from their parents. Well, I don't know. I can only talk for myself. For me, it was an **experience.** You **hear** a lot about drugs. You hear they are **bad** for you. There is a **lot of them around.** You just get into them because they're **accessible** and because it's kind of a **new thing.** It's **cool!** You know, it's something that is bad for you, **taboo,** a "no." Everyone is **against it.** If you are a teenager, the **first** thing you are going to do is **try** them.

Whereas this teen is telling us **why** teens use drugs in **text** form, when we analyze data, we convert that text into **concepts** that stand

for those words such as **liberated self** (release from), **easy access, novel experience, negative drug talk,** and **challenging the adult stance.** It is by means of these concepts, which may be subcategories, that the analyst develops explanations about **why** some teens use drugs.

Procedurally, then, axial coding involves several basic tasks (Strauss, 1987). These include the following:

1. Laying out the properties of a category and their dimensions, a task that begins during open coding

2. Identifying the variety of conditions, actions/interactions, and consequences associated with a phenomenon

3. Relating a category to its subcategories through statements denoting how they are related to each other

4. Looking for cues in the data that denote how major categories might relate to each other

Crosscutting at the Dimensional Level

In axial coding, the analyst is relating categories at a dimensional level. Notice that all of the codes just listed are qualified dimensionally. For example, the self is **"liberated,"** access is **"easy,"** drug talk is **"negative,"** the experience is **"novel,"** and teens are **"challenging"** the adult stance. When we relate these codes to the category "experimenting with drugs," we actually are relating "limited experimenting" with the "liberating" in self, the "easy" in access, the "novel" of the "negative" of drug talk, the "challenging" of the adult stance, and so on. In this way, we can differentiate "limited experimenting" with drugs from, say, "hard-core use" of drugs, which might look quite different when compared dimensionally along these same subcategories.

Analysis at Two Levels

As readers might have noticed, when we analyze data, there really are two levels of explanations. These are (a) the actual words used by our respondents and (b) our conceptualization of these. "Limited

experimenting" is what the analyst is calling the type of drug use engaged in by most teens. The teens might refer to drug use as "trying just a few," being careful about "which drugs you use," using only at "parties" and with "friends" as part of a "social act," using the "less potent" drugs, and so on. In other words they tell us when, how, with whom, and where they are using. Our translation and definition of this phenomenon or what is going on in this situation is that teens are engaged in "limited experimenting" with drugs. It is our interpretation of events.

When analysts code axially, they look for answers to questions such as why or how come, where, when, how, and with what results, and in so doing they uncover relationships among categories. Answering these questions helps us to contextualize a phenomenon, that is, to locate it within a conditional structure and identify the "how" or the means through which a category is manifested. Put another way, by answering the questions of who, when, where, why, how, and with what consequences, analysts are able to relate structure with process. Why would one want to relate structure with process? Because structure or conditions set the stage, that is, create the circumstances in which problems, issues, happenings, or events pertaining to a phenomenon are situated or arise. Process, on the other hand, denotes the action/interaction over time of persons, organizations, and communities in response to certain problems and issues. Combining structure with process helps analysts to get at some of the complexity that is so much a part of life. Process and structure are inextricably linked, and unless one understands the nature of their relationship (both to each other and to the phenomenon in question), it is difficult to truly grasp what is going on. If one studies **structure** only, then one learns **why** but not **how** certain events occur. If one studies **process** only, then one understands **how** persons act/interact but not why. One must study both structure and process to capture the dynamic and evolving nature of events.

The answers to questions such as why, when, and where may be implicit or explicit in the field notes; that is, persons sometimes use

words that cue us, such as "since," "due to," "when," and "because," followed by some event or action, for example, "Because I did not like the look of the café [structural conditions], I left quickly" and "Then I decided to go to my usual hangout down the street" [action/inter-actional strategies for handling a problematic situation]. In their talk or actions, persons also provide us with consequences, for example, "There, I was able to get a good cup of coffee and sit down and think without all of the crowding and noise of the first café."

In the preceding example, the logic is quite easy to follow. How-ever, when working with actual data, the relationships between events and happenings are not always so evident. Because linkages among categories can be very subtle and implicit, it helps to have a scheme that can be used to sort out and organize the emerging connections. One such organizational scheme is what we call the **paradigm**. In actuality, the paradigm is nothing more than a perspec-tive taken toward data, another analytic stance that helps to system-atically gather and order data in such a way that structure and process are integrated. The terminology used in the paradigm is borrowed from standard scientific terms and provides a familiar language facili-tating discussion among scientists. In addition, the basic terms used in the paradigm often follow the logic expressed in the language that persons use in their everyday descriptions (e.g., "for that reason," "what happened was," "my reaction was to," "this is what resulted"). The basic components of the paradigm are as follows. There are *conditions*, a conceptual way of grouping answers to the questions why, where, how come, and when. These together form the structure, or set of circumstances or situations, in which phenomena are embed-ded. There are *actions/interactions*, which are strategic or routine re-sponses made by individuals or groups to issues, problems, happen-ings, or events that arise under those conditions. Actions/interactions are represented by the questions by whom and how. There are *conse-quences*, which are outcomes of actions/interactions. Consequences are represented by questions as to what happens as a result of those actions/interactions or the failure of persons or groups to respond to situations by actions/interactions, which constitutes an important finding in and of itself.

Take Note

Before proceeding with our discussion of the paradigm, there are some important points to be made.

1. During open coding, many different categories are identified. Some of these will pertain to a phenomenon. Other categories (later to become subcategories) will refer to conditions, actions/inter-actions, or consequences. The actual conceptual names placed on categories will not necessarily point to whether a category denotes a condition, an action/interaction, or a consequence. The analyst has to make this distinction. Also, every category and subcategory will have its own set of properties and dimensional qualifiers.

2. **An analyst is coding for explanations and to gain an under-standing of phenomena and not for terms** such as conditions, ac-tions/interactions, and consequences. This is a common misunder-standing among beginning analysts, who tend to be very dogmatic about their approach to analysis. They rigidly code for the paradigm components without having an understanding of the nature and types of relationships these denote. Then, they become confused when events or happenings are coded as a condition in one instance but as a consequence in another, such as how becoming ill from taking drugs at one party (a consequence) affects the willingness to try drugs at the subsequent party (another situational context), or when consequences of one set of actions become conditions in the subsequent ac-tion/interactional sequence. We realize that beginners need structure and that placing data into discrete boxes makes them feel more in control of their analyses. However, we want them to realize that such practices tend to prevent them from capturing the dynamic flow of events and the complex nature of relationships that, in the end, make explanations of phenomena interesting, plausible, and complete. Ana-lysts who rigidify the analytic process are like artists who try too hard. Although their creations might be technically correct, they fail to capture the essence of the objects represented, leaving viewers feeling slightly cheated. Our advice is to let it happen. The rigor and vigor will follow.

3. We are not talking a language of **cause and effect.** This is too simplistic. Easy access alone does not lead to drug use, although it might make drugs more readily available. Teens can make choices; thus, there are multiple factors operating in various combinations to create a **context** (sets of conditions that come together to produce a specific situation) that makes it more likely that certain teens will try drugs, but **only** certain teens, certain drugs, at certain times, and so on. Identifying, sifting through, and sorting through all of the possible factors showing the nature of the relationships does not result in a simple "if . . . then" statement. The result is much more likely to be a discussion that takes readers along a complex path of inter-relationships, each in its own patterned way, that explains what is going on. With this in mind, we now are ready to turn to a fuller discussion of the components of the paradigm.

Explanations of Components of the Paradigm

Phenomenon, as we have stated, is a term that answers to the question "What is going on here?" In looking for phenomena, we are looking for **repeated patterns of happenings, events, or actions/interactions that represent what people do or say, alone or together, in response to the problems and situations in which they find themselves.** In coding, *categories* stand for phenomena. For instance, "limited experimenting" with drugs is a category. It also is a phenomenon—in this case, a pattern of drug use among teens. Other patterns of drug taking might include "abstaining" and "hard-core use," which, in essence, represent different dimensional patterns of drug use among teens. Each pattern will have its own set of conditions that pertain to it.

Conditions are sets of events or happenings that create the situations, issues, and problems pertaining to a phenomenon and, to a certain extent, explain why and how persons or groups respond in certain ways. Conditions might arise out of time, place, culture, rules, regulations, beliefs, economics, power, or gender factors as well as the social worlds, organizations, and institutions in which we find ourselves along with our personal motivations and biographies. Any one

(or all) of these things is a potential source of conditions. (For further discussion on conditions, see Chapter 12.) Unless research participants are extremely insightful, they might not know all of the reasons why they do things, although they might give researchers some rationales for their behavior. Conditions must be discovered in data and traced for their full impact by analysts. Although researchers should seek to discover all relevant conditions, **they never should presume that they will discover all conditions or that any condition or set of conditions is relevant until proven so by linking up to the phenomenon in some explanatory way.**

Conditions have many different properties. Their path of influence on actions/interactions may be direct or indirect, more or less linear. Conditions may be micro (i.e., closer to the source of action/interaction such as peer pressure and wanting to defy parental authority) or macro (such as the degree of availability of drugs in the community and cultural attitudes toward drug use). To be complete, explanations must include both micro and macro conditions as well as indications of how these intersect with each other and with the actions/interactions (again, see Chapter 12).

Labeling Conditions

Conditions, as we have stated, may be micro or macro, shift and change over time, affect one another, and combine in various ways along different dimensions. In addition, there may be new ones added along the way. Labels placed on conditions such as *causal, intervening,* and *contextual* are ways of trying to sort out some of the complex relationships among conditions and their subsequent relation to actions/interactions.

Causal conditions usually represent sets of events or happenings that influence phenomena, for example, being at a party and being offered drugs. *Intervening conditions* are those that mitigate or otherwise alter the impact of causal conditions on phenomena such as a teen suddenly feeling that taking drugs is not right for him or her. The latter often arises out of contingencies (unexpected events), which in turn must be responded to through a form of action/interaction. For example, teens might purposefully attend a party knowing that drugs

will be passed around, so that they might try them. However, if the parents of the teen throwing the party return home unexpectedly, then the teens might have to change their plans. To circumvent this situation, they might go to an outdoor teen hangout and pass the drugs around there. Or, they might decide to forgo drug taking that night, putting off their experimenting to another time and place. Intervening conditions also can help explain why some teens continue to experiment, whereas others do not. Some teens might get invited to a party not knowing that there will be drugs, try them, decide that drug taking is fun, and continue to use them. Other teens might try drugs, get sick, and never try them again. Both causal and intervening conditions may arise from micro- or macro-level conditions. *Intervening conditions* are the specific sets of conditions (patterns of conditions) that intersect dimensionally at this time and place to create the set of circumstances or problems to which persons respond through actions/interactions. They explain why a phenomenon such as why the pattern of "experimenting with drugs" is "limited" for some teens, whereas it might lead to "hard-core use" of drugs for others. *Contextual conditions* have their source in causal (and intervening) conditions and are the product of how they crosscut to combine into various patterns dimensionally. For example, if we were to specify that "degree of accessibility of drugs" is one of the causal conditions related to teen drug use in general, and we know that this concept can vary dimensionally from "easy" to "difficult," then we might note that it is the "easy" dimension of accessibility that makes it one of the conditions for teens trying drugs. Usually, there are many different conditions that enter into a context, each having its own specific dimensions. By grouping conditions along their dimensions, the analyst is able to identify patterns or sets of conditions that create a context. (For an excellent example of contexts along with a discussion, see Strauss, 1978.) The important issue is not so much one of identifying and listing which conditions are causal, intervening, or contextual. Rather, what the analyst should focus on is the complex interweaving of events (conditions) leading up to a problem, an issue, or a happening to which persons are responding through some form of action/interaction, with some sort of consequences. In addition, the analyst might identify changes in the original situation (if any) as a result of that action/interaction.

Another point that can be made about conditions is that explanations require **assumptions about the relevance of causality.** However, what these assumptions are and just what the "nature" of causality is have been much debated by philosophers of science and some scientists. Different scientific disciplines and specialties differ considerably in what they consider causality, causal elements, and causal sequences. In evolutionary biology, causality is not the same as it is in genetic biology and certainly not much like sub-atomic physicists' ideas of probability. In social science and in many of the practice disciplines, there undoubtedly also are arguments and discussions regarding the nature of causality. Our concern, as analysts, is not so much with causality as with conditions of various types and the way in which they crisscross to create events leading to actions/interactions. When people act, we want to know why, how come, and to what situations, problems, or issues they are responding. This brings us to our next paradigmatic feature, which is action/interaction.

Strategic or routine tactics or the **how** by which persons handle situations, problems, and issues that they encounter are termed *actions/interactions*. These represent what people, organizations, social worlds, or nations do or say. **Strategic actions/interactions** are purposeful or deliberate acts that are taken to resolve a problem and in so doing shape the phenomenon in some way. For example, if the phenomenon or category we are studying is "keeping the flow of work going" on a hospital unit, and one of the problems that arises is that three of the five staff members assigned to that unit call in sick one day, then we would be interested in noting how the problem of understaffing was handled so that the work could go on. Did the head nurse call in extra staff members? Was patient care cut back to basic necessities? Were patients transferred to another unit?

Routines are actions/interactions that tend to more habituated ways of responding to occurrences in everyday life such as having an established protocol to follow when the number of staff members is low. In organizations, these would take the form of rules, regulations, policies, and procedures. Although researchers tend to focus their studies on the problematic, it is just as important to examine routine matters, for they demonstrate the actions/interactions (which have been previously worked out strategically) that tend to maintain the social order.

The term "action/interaction" is an important concept. It not only denotes what goes on among individuals, groups, organizations, and the like (e.g., the passing around and sharing of marijuana cigarettes by teens at some parties) but also includes matters such as discussions about drug experiences as well as the negotiations and other types of talk that occur in group situations such as peer pressure. In addition to the "goings on"—verbal and nonverbal—that take place among individuals, action/interaction refers to the discussions and reviews that go on within individuals themselves, for example, the weighing of the pros and cons of using drugs (warnings by teachers and parents to avoid the use of drugs measured against rejection by peers if they do not use) and the actual taking of a puff, which may be a deep drag or a symbolic gesture only.

Actions/interactions among individuals acting in groups **may or may not** be in **alignment**, that is, coordinated. Actions/interactions evolve over time as persons define or give meanings to situations. Under some conditions, alignment does not occur, and the situation turns into one of conflict and eventually breaks down completely.

The final paradigmatic term is *consequences*. Whenever there is action/interaction or a lack of it taken in response to an issue or a problem or to manage or maintain a certain situation, there are ranges of consequences, some of which might be intended and others not. Delineating these consequences, as well as explaining how they alter the situation and affect the phenomenon in question, provides for more complete explanations. For example, although in some cases using drugs on a "limited" basis might have a detrimental affect on some persons, our interviewee actually described experimenting with drugs as a **growth** experience. It might have been a **devastating** experience, a **terrifying** experience, and so on, but for her it was not. She was able to try drugs, define their meaning for her, learn what they were really all about, and when the time came, give up using them and move on with her life. Consequences, like conditions, have inherent properties. They may be singular (not usually) or many. They may be of varied duration. They may be visible to self but not to others or to others but not to self. They may be immediate or cumulative, reversible or not, foreseen or unforeseen. Their impact may be narrow (affecting only a small part of the situation) or widespread (with consequences bouncing off each other to create a trail of events that

completely alters a context). As analysts, we want to capture as much of this as possible in our analyses.

Relational Statements

Beginning with analysis of the first interviews, the researcher cannot help but notice how concepts relate to each other. In explicating these relationships, the researcher begins to link categories with their subcategories, that is, to notice that these seem to be conditions—these actions/interactions, these consequences. We call these initial hunches about how concepts relate "hypotheses" because they link two or more concepts, explaining the what, why, where, and how of a phenomenon. Examples of such statements include the following:

1. When drugs are *readily* available, there is *peer* pressure, drugs are considered a *novel* experience, and teens want to challenge the *adult negative* stance, teens are more likely to "experiment" with drugs.

2. "Drug talk" is the action/interactional means through which teens "acquire and dispense information" about drugs and their "experiences."

3. As a consequence of "limited experimenting" with drugs, teens are likely to acquire "firsthand knowledge" about drugs and gain "peer acceptance."

Although hypotheses are derived from data, because they are abstractions (i.e., statements made at the conceptual level rather than at the raw data level), it is important that these be validated and further elaborated through continued comparisons of data incident to incident. Incoming data sometimes seem to contradict a hypothesis. This does not necessarily mean that the hypothesis is wrong. When a contradiction is found, it is important to note whether the data represent a true inconsistency or whether they denote an extreme dimension or variation of the phenomenon in question. Discovering contradictions leads us to question our data further to determine what is really going on, whereas discovering variations extends the dimensional range of a category and gives it greater explanatory power (it accounts for differences). For example, a student in one of our seminars, who was studying the phenomenon of psychological pain in

caretakers of persons with Alzheimer's disease, was stunned when she came across one case in which very little psychological pain was expressed by one of the respondents. After hearing so much pain expressed by the other respondents, she was confused by this finding. Finally, she realized that this case represented an extreme dimension of "experiencing psychological pain" (in this case, low). What became important, then, was to determine the conditions that were operating in this particular situation to create that variation (Khurana, 1995).

Further Development of Categories and Subcategories

As mentioned in the beginning of this chapter, axial and open coding are not sequential acts. One does not stop coding for properties and dimensions while one is developing relationships between concepts. They proceed quite naturally together, as our chapter on microanalysis demonstrated (Chapter 5). Both dimensions and relationships add density and explanatory power to a theory and will continue to emerge during analysis.

A category is considered *saturated* when no new information seems to emerge during coding, that is, when no new properties, dimensions, conditions, actions/interactions, or consequences are seen in the data. However, this statement is a matter of degree. In reality, if one looked long and hard enough, one always would find additional properties or dimensions. There always is that potential for the "new" to emerge. Saturation is more a matter of reaching the point in the research where collecting additional data seems counterproductive; the "new" that is uncovered does not add that much more to the explanation at this time. Or, as is sometimes the situation, the researcher runs out of time, money, or both.

Moving Between Induction and Deduction

The concept of induction often is applied to qualitative research. Our position on the matter is as follows. Although statements of relationship or hypotheses do evolve from data (we go from the specific case to the general), whenever we conceptualize data or develop hypotheses, we are interpreting to some degree. To us, an interpretation is a form of deduction. We are deducing what is going

on based on data but also based on our reading of that data along with our assumptions about the nature of life, the literature that we carry in our heads, and the discussions that we have with colleagues. (This is how science is born.) In fact, there is an interplay between induction and deduction (as in all science). **We are not saying that we place our interpretations on the data or that we do not let the interpretations emerge. Rather, we are saying that we recognize the human element in analysis and the potential for possible distortion of meaning. That is why we feel that it is important that analyst validate his or her interpretations through constantly comparing one piece of data to another.**

Demonstration of Axial Coding

Next, we briefly demonstrate how we might code axially. The category we code around is "getting stoned." We use the same format as before, presenting a section of an interview note and then writing a memo about it. The notes were taken from the same interview about teens and drugs that we presented in Chapter 8. Notice that in axial coding, as in open coding, the analyst continues to ask all types of generative questions, makes constant and theoretical comparisons, and makes use of the analytic tools described previously. Also note that it is impossible to code around the category of "getting stoned" without bringing in concepts and ideas that evolved from the coding we did in the chapter on open coding (Chapter 8).

Respondent: I started with pot. Pot, you don't get stoned the first time you try it. Most people have to take it two to three times before they feel remotely high. I did it five or six times before I felt high. I tried it at a party. Kids break it out; no one even questions it. It is just understood that it will be passed around and everyone will try it. I was pretty young, 13 I guess. It turned out I was pretty allergic to pot. It was never anything I took to.

Memo. "Getting stoned" can be described as a strategic act, an *action/interaction*. It consists of the "ingestion of drugs" (a relationship between an individual and a substance) and also the "**bodily experience**" (both physical and mental) that results from ingesting. Getting stoned also is a *process*. It is a **learned experience** that evolves

over time. It took this teen five to six times of trying marijuana before she achieved a state of "being stoned"; you have to work with the drug or let the drug do its work. *Conditions* that are brought out in this paragraph pertain not so much to "getting stoned" as to another phenomenon, "experimenting with drugs." Her experimenting took place in the context of a "group situation." The conditions expressed were "peer expectation" and "easy availability." What is not expressed is that she went to this party willingly, apparently knowing that drugs would be there. Although age is mentioned, it is unclear what role this concept plays in drug experimentation. The relationship of age to "experimenting with drugs" will have to be explored in subsequent interviews. *Consequences* of "getting stoned" are expressed here. In her case, these include "having an adverse reaction," which probably *in turn* contributed to her experimenting only on a "limited" basis, at least with this drug. Also brought out in this paragraph is the relationship between the two phenomena of "getting stoned" and "experimenting with drugs." One has to ingest a substance or experiment with drugs to get stoned.

Interviewer: Explain.

Respondent: It made me nauseous and I threw up. At first, it was a challenge. I tried it five to six times and nothing happened. You begin to wonder what is wrong with you. You want to feel it like everyone else. I figured, I had already come this far; I want to finish it and get high. The first time I felt high, it was really fun. I felt giddy. I was with a friend. I felt I was in another world. It was fun. I have a pretty strong reaction to pot. Most people handle themselves well. For me, it is like being intoxicated with alcohol. The second time, I also was with my friend. We both laughed a lot and really let go and had fun. After that time, it stopped being fun because it started making me sick. Occasionally after that, I would try it just to see what would happen, and it always has the same reaction for me.

* * *

Memo. Some of the properties of "getting stoned" are brought out in these next sentences. She is telling us that "getting stoned" can be a pleasant experience (it was fun) or an unpleasant experience. Also, she explains that the process of experiencing a high might be **slow** or **fast**. For her, it was slow, and with that came certain conse-

quences—"feeling different or apart from peers"—which, in turn, became part of the next set of *contextual conditions* for her wanting to continue to try pot so that she might experience a high like her peers. What is not directly said but is implied is that other teens share their experience or discuss "getting stoned" through "drug talk." Another property brought out is that one's reaction to drug taking might be **strong or weak**. Hers was a strong one. She also is telling us that *consequence* can evolve over time, can change from being fun (wanting to do this again) to making her sick (not wanting to take this drug again). Becoming sick is an unanticipated *consequence* that then becomes part of the next set of contextual conditions affecting willingness to experiment with marijuana again, although she would, on occasion, try it to determine whether the unpleasant effects would continue. Another aspect of the property "reaction" is that it might be **repeated** (every time) or **not repeated** (sometimes or never again). Also, we might add to our list of conditions that make up the context for experimenting with drugs that of "peer mimicry," that is, the desire to experience a high like the others.

Interviewer: Tell me more about when it was fun.

Respondent: Well, you are in a different state of mind, a different state of consciousness. You've got something in you that is kind of controlling the way you think, how you see the world. You have this foreign substance in you that is tampering with your mind. It's different from the usual good time when you are not on drugs. Instead, you are letting yourself be influenced by this substance, letting it guide you. Most people can get out of that state and be in control really fast if they want or need to. It's just that they let themselves relax, be happy. We would just sit around and talk. Sometimes, we would say off-the-wall things. It just kind of opens up your perspective on life, lets you look at things in new ways—ways that you never looked at them before. It enhances your thinking, lets you perceive things differently. You let your hair [and] your biases down. I don't know exactly how to explain it.

* * *

Memo. Here our respondent is describing the actual experience of "getting stoned" to us, enabling us to define the concept in terms of its properties. She is telling us that "getting stoned" is like being in

"an altered state" of mind. It is a process of "letting go," of letting the drug have its influence over you. This probably is why "getting stoned" is a learned experience; one has to learn how to work with the drug and to let go. She also states that individuals have some degree of control over this altered state in that they can move out of the state if it is necessary to do so. One also can describe the situation as "being relaxing," as "mind opening," as "encouraging exploration," and as "transforming perceptions."

Interviewer: Go on. You're doing very well.

Respondent: Whereas alcohol breaks down your inhibitions, pot doesn't break them down. You do not tell people your darkest, deepest secrets when you're high like you might with alcohol. With alcohol you lose your inhibitions, but with pot you retain them. Most people, when they are high, are in control. They know exactly what they are saying and doing. Like I said, my reaction to pot is rather rare. I have a strong reaction. [Fully] 90% of the people are in control and have no problem. It makes me nauseous. It doesn't take much for me to get super stoned. Then, I'm out of it. I'm not much in control of what I am doing; I'm in a daze. I throw up. It is not a very pleasant experience for me.

* * *

Memo. Remaining "in control," both over the self and over the drug experience, seems to be an important *property* of "getting stoned." She tells us that being "in control" for her has to do with not "losing your inhibitions" or "revealing secrets" and "knowing" what one says and does. She also gives us another concept, "super stoned," with "super" being a dimension of degree of "getting stoned," which seems to vary from being "super stoned" to "being in control," adding greater definition to our category. Some of the *consequences* of being "super stoned" (relating dimension of "super" with the consequences) are having "an unpleasant experience versus a pleasant experience." The specifics of this for her were "being dazed, not in control, and ill."

The Use of Mini-Frameworks and Other Recording Techniques

Keeping a record of one's analysis during axial coding is important. Two recording devices that we introduce here include the use of
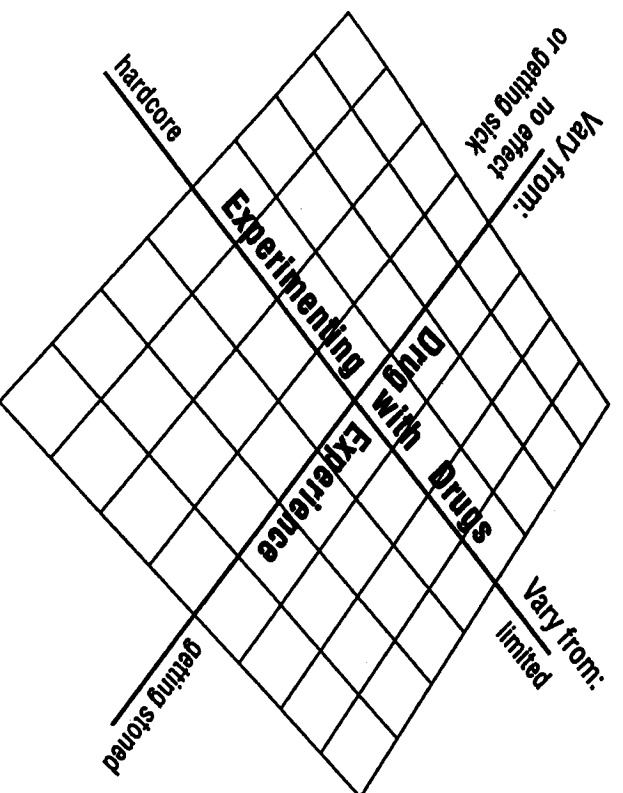
Figure 9.1. Mini-Framework Showing Cross-Cuts Between Two Major Concepts

NOTE: Heavy lines represent the intersection of major categories. Light lines represent the intersection of lesser categories with major categories and with each other.

mini-frameworks and conceptual diagrams, both of which are designed to show relationships between concepts. *Mini-frameworks* are the small, diagrammatic theoretical structures that arise as a result of our coding around a concept. Diagrams are very important devices. Their use should begin early in the analysis because they help the analyst think through possible relationships. Dey (1993) made this point very clearly when he stated, "Diagrammatic displays are not just a way of decorating our conclusions; they also provide a way of reaching them" (p. 192). More is said about memos and diagrams in Chapter 14.

Having reached this point in our analysis, we could summarize our findings using a mini-framework (Figure 9.1). This would help us to keep our relationships among concepts in mind as we proceed with our analysis. It also would point to gaps in our evolving theory and

indicate what further data we should gather to more fully develop the categories. Notice how in this mini-framework, we are putting together two major concepts—"experimenting with drugs" and "getting stoned"—and are indicating how these cross-cut at a dimensional level.

This chapter discussed how we code around the axis of a category to add depth and structure to it. It introduced the paradigm as a conceptual analytic device for organizing data and integrating structure with process. In axial coding, our goal is to systematically develop and relate categories. This step of analysis is important because we are building theory. Sorting out the relationships between concepts and subconcepts can be difficult. Beginning analysts should keep in mind that it is not the notion of conditions, actions/interactions, and consequences that is significant; rather, what is important is discovering the ways that categories relate to each other. The paradigm is just one device that analysts can use to think about such relationships. Although helpful, the paradigm never should be used in rigid ways; otherwise, it becomes the end rather than the means.

Also important for analysts to remember is that insights about how concepts relate can come at any time and place—in the middle of the night, while reading the newspaper, or while talking with colleagues. Keep a pencil and paper handy; jot down these "aha experiences," and bring them into the analysis. (Strauss always referred to this process as our subliminal minds at work.) Some researchers find it helpful to keep journals in which they record their thinking processes and how their concepts evolved and were transformed over the course of their research projects. These journals are referred to during the writing phase and help explain to an audience how the researchers reached their conclusions.

10 Selective Coding

Selective coding: The process of integrating and refining the theory

Theoretical saturation: The point in category development at which no new properties, dimensions, or relationships emerge during analysis

Range of variability: The degree to which a concept varies dimensionally along its properties, with *variation* being built into the theory by sampling for diversity and ranges of properties

In open coding, the analyst is concerned with generating categories and their properties and then seeks to determine how categories vary dimensionally. In axial coding, categories are systematically developed and linked with subcategories. However, it is not until the major categories are finally integrated to form a larger theoretical scheme that the research findings take the form of *theory*. Selective coding is the process of integrating and refining categories. This chapter describes these processes.

INTEGRATION

Data Become Theory

Watching theory evolve is a fascinating process. It does not happen overnight (although one might have a sudden "insight"). It does not arise like magic out of the page. Rather, integration is an ongoing process that occurs over time. One might say that it begins with the first bit of analysis and does not end until the final writing. As with all phases of analysis, integration is an interaction between the analyst and the data. Brought into that interaction is the analytic gestalt, which includes not only who the analyst is but also the evolution of thinking that occurs over time through immersion in the data and the cumulative body of findings that have been recorded in memos and diagrams. Although the cues to how concepts are linked can be found in the data, it is not until relationships are recognized as such by the analyst that they emerge. Also, whenever there is recognition, there is some degree of interpretation and selectivity. But above all, integration is hard work. As Paul Atkinson, coauthor of an excellent textbook on field research (Hammersley & Atkinson, 1983), wrote in a personal communication,

This aspect—making it all come together—is one of the most difficult things of all, isn't it? Quite apart from actually achieving it, it is hard to inject the right mix of (a) faith that it can and will be achieved and recognition (b) that it has to be worked at and isn't based on romantic inspiration, (c) that it isn't like a solution to a puzzle or math problem but has to be created, (d) that you can't always pack everything into one version, and (e) that any one project could yield several different ways of bringing it together.

This chapter presents several analytic techniques designed to facilitate integration. The techniques are especially useful when an analyst is perplexed, sensing that the data are beginning to "gel" but not quite sure how to explicate those intuitive feelings. It also discusses procedures for refining the theory once an analyst has committed to theoretical scheme.

Important Points

There are several important ideas to keep in mind while reading this chapter. As stated earlier in the book, concepts that reach the status of a category are abstractions; they represent not one individual's or group's story but rather the stories of many persons or groups reduced into, and represented by, several highly conceptual terms. Although no longer the specific data of an individual, group, or organization, categories are derived by comparing data from each case; therefore, they should, in a general sense, have relevance for, and be applicable to, all cases in the study. It is the details included under each category and subcategory, through the specification of properties and dimensions, that bring out the case differences and variations within a category.

Second, if theory building is indeed the goal of a research project, then findings *should* be presented as a set of interrelated concepts, not just a listing of themes. Relational statements, like concepts, are abstracted from the data. However, because they are interpreted abstractions and not the descriptive details of each case (raw data), they (like concepts) are "constructed" out of data by the analyst. By "constructed," we mean that an analyst reduces data from many cases into concepts and sets of relational statements that can be used to explain, in a general sense, what is going on. Rarely are these concepts or statements the exact words of one respondent or case, although they could be (e.g., in vivo codes). Usually, they represent the voices of many.

Third, there is more than one way of expressing relational statements. In our own publications, they are not presented as explicit hypotheses or propositions. Rather, they tend to be woven innocuously into the narrative, as is demonstrated in the integrative memo on drug taking in teens that follows. However, there is no reason why one could not be more specific and make use of explanatory statements such as "under these conditions," "then," and "when this set of events occurs." It is a stylistic matter, largely the result of the theoretical perspective and the discipline for which the researcher is writing. There is *not* just *one* correct way of stating relationships. The

essential element is that categories are interrelated into a larger theoretical scheme.

DISCOVERING THE CENTRAL CATEGORY

The first step in integration is deciding on a central category. The central category (sometime called the core category) represents the main theme of the research. Although the central category evolves from the research, it too is an abstraction. In an **exaggerated** sense, it consists of all the products of analysis condensed into a few words that seem to explain what "this research is all about." For example, returning to our hypothetical study of drug use by teens, we might conceptualize the essence of that piece of research as being "Teen Drug Taking: A Phase of Experimentation." This explanation is *our interpretation of what the research is all about*, what the salient issues or problems of the participants seem to be. Another researcher, coming from a different theoretical orientation and having another research question, might arrive at quite another interpretation. However, once an analyst explains in detail how he or she arrived at a conceptualization, other researchers, regardless of their perspective, should be able to follow the analyst's path of logic and agree that it is one plausible explanation for what is going on.

Criteria for Choosing a Central Category

A central category has analytic power. What gives it that power is its ability to pull the other categories together to form an explanatory whole. Also, a central category should be able to account for considerable variation within categories.

A central category may evolve out of the list of existing categories. Or, a researcher may study the categories and determine that, though each category tells part of the story, none captures it completely. Therefore, another more abstract term or phrase is needed, a conceptual idea under which all the other categories can be subsumed. Strauss (1987) provided a list of criteria that can be applied to a category to determine whether it qualifies:

CRITERIA FOR CHOOSING A CENTRAL CATEGORY

1. It must be central; that is, all other major categories can be related to it.

2. It must appear frequently in the data. This means that within all or almost all cases, there are indicators pointing to that concept.

3. The explanation that evolves by relating the categories is logical and consistent. There is no forcing of data.

4. The name or phrase used to describe the central category should be sufficiently abstract that it can be used to do research in other substantive areas, leading to the development of a more general theory.

5. As the concept is refined analytically through integration with other concepts, the theory grows in depth and explanatory power.

6. The concept is able to explain variation as well as the main point made by the data; that is, when conditions vary, the explanation still holds, although the way in which a phenomenon is expressed might look somewhat different. One also should be able to explain contradictory or alternative cases in terms of that central idea. (p. 36)

Choosing Between Two or More Possibilities

Analysts sometimes identify what could be two central themes or ideas in the data. Our suggestion, especially for beginning analysts, is to select one idea as the central category and then to relate the other category (or categories) to that central idea. For example, although "body" emerged as an important concept in our study of patients with chronic illness and their spouses, we focused on the work of illness management by couples. It was not until later that we took up the concept of "body" and, through analysis of other data, developed our ideas into a theoretical scheme about body.

Difficulty Deciding on a Central Category

Sometimes students, especially those in practitioner fields, become caught up in the descriptive details of a study, become flooded with data that they are unable to obtain the distance necessary to commit to a central idea. To them, every idea in the data has equal

importance. Reading memos does not help; the analyst only becomes more confused by all the information contained in them. When this happens, it is time to seek consultation from either a teacher, a colleague, or some other knowledgeable person who is willing to sit down with the analyst and help him or her brainstorm. Sometimes, students are insecure and just need reassurance that they are on the right path. Other times, they need help with distancing themselves from the details of data. The "outside person" can ask a series of directed questions, forcing the analyst to reply with abstract yet direct comments. Just having someone else listen often helps the analyst gain that distance.

TECHNIQUES TO AID INTEGRATION

There are several techniques that can be used to facilitate identification of the central category and the integration of concepts. Among these are writing the storyline, making use of diagrams, and reviewing and sorting of memos either by hand or by computer program (if one is being used).

Writing the Storyline

By the time the researcher starts to think about integration, he or she has been immersed in the data for some time and usually has a "gut" sense of what the research is all about, although the researcher might have difficulty articulating what that is. One way in which to move beyond this impasse is to sit down and write a few descriptive sentences about "what seems to be going on here." It make take two, three, or even more starts to be able to articulate one's thoughts concisely. Eventually, a story emerges. Often, returning to the raw data and rereading several interviews or observations helps to stimulate thinking. This tends to work **if one reads them not for detail but rather for the general sense**, standing back and asking the following questions. What is the main issue or problem with which these people seem to be grappling? What keeps striking me over and over? What comes through, although it might not be said directly?

To understand what a descriptive story might look like, consider the following example. The story arises from a hypothetical study on teen drug use.

Memo: Identifying the story. This study consisted of 100 interviews with young adults in their 20s who used drugs during their teenage years. We were interested in finding out why teens used drugs and how they perceived or described that experience now that they are past being teenagers. They are looking back retrospectively; thus, they have more distance or perspective of what it was all about, and because of that distance, they are able to present their story with more insight than they probably would have if interviewed during their actual teenage years. Their looking back and talking about it from a "present" perspective is perhaps why we have come up with the following story:

Descriptive story. What keeps striking us about these interviews is that, although many teens use drugs, few go on to become hard-core users. It seems to be a kind of teenage experimentation, a developmental phase in their lives that marks the passage from child to teen and from teen to adult. They learn about drugs and also themselves, gain acceptance from their peers, and challenge adult authority through using drugs. It is a very specific behavior that sets them apart from family but, at the same time, makes them one of the teen group. They experiment with drugs in order to discover for themselves what they are all about and learn that they can control their own behavior in relationship to drug taking. Then, when they move into more adult roles, they discover that they no longer have any desire to use drugs, or if they do, they use them recreationally. It was a teen thing that no longer interests them. Teen drug use for most teens is part of a transitional phase—a time of passage between child and adult life marked by potential experimentation with many types of behaviors, using drugs being one of these. Most limit their use of drugs to parties or when with friends.

Moving From Description to Conceptualization

Once the analyst has a grasp on the essence of the research, he or she is ready to give that central idea a name and relate other concepts to it. If no existing category seems to capture the substance entirely,

then another broader concept should be used. Because we had threads about the experimental nature of drug use in teens in our memos but no real name for it, we had to come up with a concept that captured the essence of this process. We decided to conceptualize our central idea as "Teen Drug Use: A Rite of Passage." To us, this indicates that drug use was mainly limited and experimental and served as a process that marked the transition from teen to adult. Of course, this central idea must fit the data, so the next step is to write the story again but this time using the existing categories. By using concepts, we also build the *linkages* among them. The following is an example of a *storyline memo* or a memo that tells the story using concepts and their linkages. Note the statements by which the concepts are connected and their similarity to the features of the paradigm introduced in the chapter on axial coding (Chapter 9). Although not necessarily written as "these conditions are associated with this phenomenon or process" or "this action leads to this outcome," relationships such as these are implied. Also, notice that the relationships are not written in a cause-and-effect fashion. The paths of associations are more convoluted than direct, with all sorts of intervening variables entering into the analytic picture to influence the path of action (type of user that one becomes).

A storyline memo might look something like this:

Storyline memo. Although many teens try drugs, few of them go on to become hard-core users. Most of those we interviewed used drugs for a limited time and in limited quantities and then, when the novelty wore off, they stopped using. For them, it seemed more like a transitional period during their teenage years in which they experimented with different and sometimes "risky" behaviors, which they discarded when the behavior no longer held their interest or it finished serving their purpose. This was an important step in their development, for it enabled them to *challenge authority* and *take control* of events in their lives during a time when they were trying to define "who they were" as separate beings from their parents, yet very much needing the support and acceptance of their peer group because they were not ready to stand on their own as adults. They used drugs as a sort of experiment or rite marking this time in their life. That is, they usually started experimenting with drugs at a party or with friends, indicating its social interactional nature (except for those who went on to hard-core use). By taking

drugs, teens showed solidarity with peers and a **willingness** to defy authority. It provided a way of **gaining** acceptance and, for the most part, was a **pleasurable** experience. Looking back now as young adults, they can say that it also demonstrated their **ability** to make choices and **take measures** to contain risks. They perceive that they **grew** emotionally from the experience. Conditions leading to drug use were that *access was easy*, there was *peer pressure* to use, and they *gained peer acceptance* by doing so. Most **did** not use drugs to **escape** from the realities of life, to **get better** or **give** them **courage**; these reasons were most often given by those who went on to become hard-core users. The amounts and types of drugs used by these teens varied. By grouping them according to their dimensions, four types or patterns of users emerged: the *nonusers*, the *limited experimenters*, the *recreational users*, and the *hard-core users*. For each type of user, the passage was different. A critical condition that determined the type of user and nature of the passage was the drug-taking experience, which we conceptualized as *"getting stoned."* "Getting stoned" created the context out of which the different types of users emerged. It was the "rite" that marked their passage, kind of initiated them into the group and determined outcome. A teen either did or did not take drugs, did and did not *get stoned*. Those who got stoned did so to various degrees with various results and varying frequencies. How a person experienced getting stoned, in turn, influenced whether and to what degree he or she continued to use drugs. Getting stoned is a learned process. One of its properties is the degree of control one retains over behavior. *Control over behavior* is a property and, at the same time, a subcategory of *getting stoned*. Getting stoned and retaining control over behavior vary, depending on the **type** of drug ingested, how **often** a drug is used, **previous** experiences, **personal** motivations, **perceptions** of what the drug seems to do for that person, **amount ingested**, and so on. Getting stoned was viewed as a *positive or negative experience*. Even when getting stoned was experienced as negative, some persons continued to use because they could not say "no," wanted to be like the others, felt that this was just a bad trip, or became physically and pyschologically dependent on the drug. Long-term consequences have to do with the looking back and perception that this was simply a phase in their lives, a behavior that was important then but that they had now outgrown. They never became physically or psychologically addicted. Those that expressed that this was a growth phase stated they felt this way because they learned that they could *retain control over*

their behavior, minimize the risks through cautious behavior, and learn for themselves what drugs and getting stoned were all about. It was risky behavior, but most did not become addicted. The action/interactional means through which teens learned about drugs, the types of drugs, where to buy them, how to use them, and their dangers, and through which teens shared their drug experiences with their peers, was termed *"drug talk."* This talk was a very important part of the "rite of passage." However, drug talk did not occur only among teens. There was also drug talk by authority figures. Drug talk could take many forms. It could be *informative, negative, pressuring, or boasting.*

For the nonusers, not succumbing to peer pressure, being able to say "no" to drugs, and not being willing to experiment on even a limited basis marked their rite of passage. The ceremonial "no" was proof that they could stand up to peer pressure and gain acceptance without taking drugs. So for them, nonexperimentation and not getting stoned were as much a rite of passage as was getting stoned for those who experimented with drugs. For those who became "hard-core users," early experimentation with drugs was a rite of passage, but a passage into addiction (although not always irreversible). For the "limited experimenters," drug taking and getting stoned were part of a rite or ceremonial marker that served a specific purpose during a transitional period in life. For those who went on to become "recreational users," the drug taking was an initiation into a pleasurable social process that continued into later life, but only occasionally and never interfering with daily life.

Although perhaps there might be a better explanation, our conceptualization of what is going on (i.e., drug use by teens as a rite of passage) seems to fit the data and offers one interpretation of what the research was all about. Other categories logically fit with our major category. The conceptualization also provides an explanation for our dimensional extremes: the nonusers and the hard-core users. One also could use the concept to study other types of behaviors (e.g., unsafe sex) among teens. Viewing teen drug taking as a rite of passage is an interesting idea. It takes away some of the negativity and accusatory tone associated with teen drug taking. Perhaps by understanding the meaning of drug taking to teens, adults can help teens find acceptable substitutes or other more acceptable behaviors that can serve as a rite of passage.

Using Diagrams

There are times when, either through preference or because the analyst is more of a visual person, diagrams are more useful than storytelling for sorting out the relationships among concepts. Although the subject of diagrams is taken up in depth in Chapter 14, a few words here are relevant. Diagrams can be valuable tools to integration. Diagramming is helpful because it enables the analyst to gain distance from the data, forcing him or her to work with concepts rather than with details of data. It also demands that the analyst think very carefully about the logic of relationships because if the relationships are not clear, then the diagrams come across as muddled and confused. If the analyst has made use of diagrams throughout the research process, then the succession of operational diagrams should lead up to the integrative story. However, if the analyst has few diagrams or if, after reviewing previous diagrams, he or she still is unclear about the nature of relationships among concepts, then sitting down with a teacher, consultant, or colleague to explain what is going on diagrammatically can facilitate the integrative process. Again, asking directed questions or "running" through a few representative cases can stimulate thinking about relationships. Sometimes, there are several attempts before a diagram "feels right."

Integrative diagrams are very abstract representations of data. They need *not* contain every concept that emerged during the research process, but they should focus on those that reach the status of major categories. Diagrams should flow, with the logic apparent, without a lot of explanation. Also, integrative diagrams should not be too complicated. Diagrams with too many words, lines, and arrows make it difficult for viewers to "read" them. The details should be left to the writing (see Figure 10.1).

Reviewing and Sorting Through Memos

Memos are a running log of analytic sessions. They are a storehouse of ideas. Although there are many different types of memos (these are discussed in greater depth in Chapter 14), generally as the research proceeds, memos become more abstract. They also contain the clues to integration, especially if the analyst has systematically identified the properties of concepts along with their dimensions. For
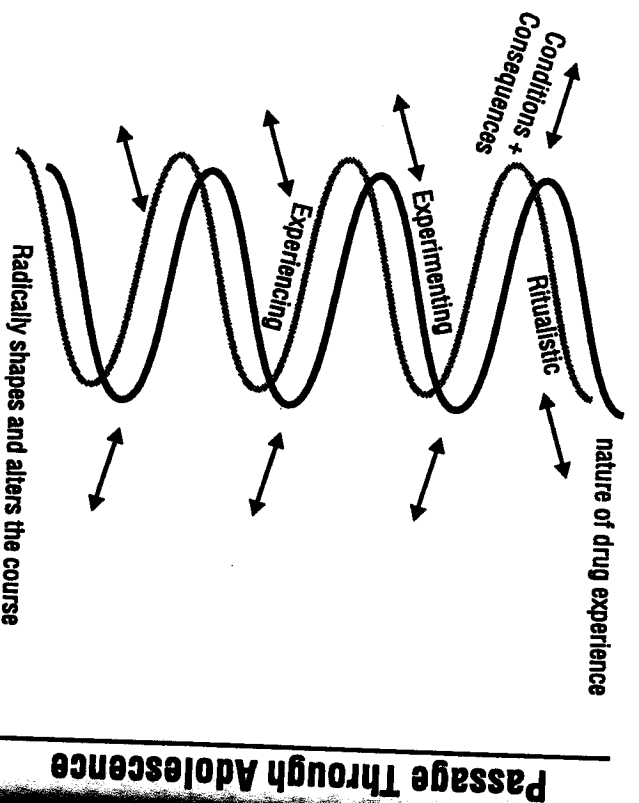
example, researcher awareness of the different patterns of drug use emerged first by noting dimensional differences in types of drug use such as why, how often, where, with whom, what drugs, with what results, and so on. Looking at the differences across dimensions enabled us to identify different patterns of "types of users." By looking at the "getting stoned" experience dimensionally (how often, where drugs were used, when, where, with whom, what the drug talk was about, degree of control maintained, etc.), we were able to connect the category with type of user. We noted that the "hard-core users" used drugs more frequently, used harder drugs such as amphetamines and heroin, and used mostly alone, compared to the "limited experimenters," who tended to get stoned only occasionally, used marijuana and psychedelic drugs rather than harder drugs, and tended to use only at parties or when with friends as part of a social act.

Memos usually are sorted by categories. However, sorting by categories becomes more and more difficult as cross-relationships

Figure 10.1. Experimenting With Drugs: A Rite of Passage

Passage Through Adolescence

Conditions + Consequences

Experimenting

Ritualistic

nature of drug experience

Experiencing

Radically shapes and alters the course

among categories evolve. The analyst can become confused about appropriate placement of a memo and become concerned about "which pile do I put it in?" If one has multiple copies of each memo, then a copy can be placed into the pile of each category to which it seems to apply. (It always can be pulled out later.) Once memos are sorted, they can be reviewed. It can be fun to go back and reread memos and, thereby, watch a concept evolve (and to note our false starts and leads). By reviewing and sorting memos according to categories and then for their cross-dimensional linkages, researchers should be able to arrive at a considerable amount of integration.

It is our experience that students do quite well with their memo writing up to the point of integration. They might have identified one or more patterns (e.g., "types of users") and a process (e.g., "getting stoned") and even perhaps some relationships among these. The difficulty students seem to have is coming up with the more abstract theoretical scheme that explains all of their data. It is with final integration that most beginning analysts seem to need help. Yet, final integration is necessary. Without it, there might be interesting description and some themes but no theory because there are no statements telling us how these themes relate to each other. Of course, if one's ultimate research goal is to arrive at a set of findings rather than theory development, then integration is not as relevant.

Some researchers turn to the literature to look for a unifying concept that might fit their data. They do this when they have sorted through and reread all their memos and have an intuitive sense of what the central idea is but have no name for it. Sometimes, they attempt to locate a concept that is similar in nature to the central idea identified in their research (see, e.g., Miles & Huberman, 1994). This system helps analysts to locate their findings in the larger body of professional knowledge and to contribute to further development and refinement of existing concepts in their field.

However, this is not our usual approach because, more often than not, existing concepts only partially fit the data. It might also prevent researchers from arriving at new perspectives and approaches, and these are important to the advancement of knowledge in every field. We prefer that students be more creative, that they provide their own names for what is going on and then describe their conceptualizations in terms of the particular properties and dimensions that were evident

in their data. Later, in writing up their findings, they can make comparisons describing how their conceptualizations of data extend or fit with the existing literature. Sometimes, however, an existing concept so aptly describes what is going on that it is fortuitous to use it. For example, the concept of "trajectory," which evolved out of earlier studies of chronic illness management (Fagerhaugh & Strauss, 1977; Glaser & Strauss, 1975; Strauss, Fagerhaugh, Suczek, & Wiener, 1985), was so pertinent to our study of chronic illness in couples (it was found in every interview) that we decided to use it as our central organizing concept, although modifying and extending it (Corbin & Strauss, 1988). Or, a researcher may embark on a study with the intent of examining a concept under different sets of conditions; for example, he or she might use the concept of "awareness" (developed during a study of dying [Glaser & Strauss, 1965]) to do research on spies, thereby increasing the concept's generalizability. All of these are variations on approaches to naming the central integrative concept. Whatever method the analyst chooses, the unifying concept should meet the criteria of a core category described earlier in this chapter.

REFINING THE THEORY

Once the researcher has outlined the overarching theoretical scheme, it is time to refine the theory. Refining the theory consists of reviewing the scheme for internal consistency and for gaps in logic, filling in poorly developed categories and trimming excess ones, and validating the scheme.

Reviewing the Scheme for
Internal Consistency and Logic

A theoretical scheme should flow in a logical manner and should not have inconsistencies. If the story line memo and diagrams are clear, then consistency and logic should follow. However, sometimes during the final writing, the researcher senses that something is not quite right and still needs to be worked out. Under these conditions, the researcher should go back and once more make use of diagrams and review the memos. But unless the analyst knows what he or she is looking for or what is missing, diagramming will not help.

A place to begin is with the central category itself. A central category, like any category, must be defined in terms of its properties and dimensions. If we call teen drug taking a "rite of passage," then we must define what we mean by the terms "rite" and "passage." Like all categories, the definition comes out of the properties and their dimensions. Even if the central category was not named in earlier memos, when the analyst reviews the memos, he or she should find references to the idea in the data along with properties and dimensions. For example, although the term "rite of passage" was not used earlier in the research, the memos were replete with references to the social aspects of drug taking and its meaning to teens, the discovery about self, and the maturational process that occurred. In the memos, we were able to identify that the passage varied in **nature, type, duration, form, and outcomes** (i.e., the properties of this passage). Therefore, we might define "rite of passage" as an interactive social process that will vary according to type of user and that is marked by "getting stoned" or not and having certain outcomes in terms of growth. We go on to further explicate the definition when we write up the rest of the theory showing how the passage varied dimensionally according to type of user and by relating "types of users" to "getting stoned" and then tracing out the consequences, a major one being becoming more adult-like in making choices and handling peer pressure.

To check for consistency and logical development, the analyst can stand back and ask himself or herself (because by now the analyst is so immersed in the data) what he or she thinks the properties are and then go back and see how much of this has been built into the scheme. If it still is not clear, or if there are areas that seem to be missing, then the analyst should go back to data and sort this out. Sometimes, it is simply that the analyst is almost there but, without realizing it, has taken the wrong stance toward the data; that is, it is easy to look at the data from the perspective of the analyst and not the respondents while thinking that he or she is doing just the opposite. For example, while one of us (Corbin) was writing her dissertation, which looked at management by women of high-risk pregnancies, something seemed awry with the logic; it just did not seem to fit; that is, the behaviors of the women did not always match with perceptions of risks, which varied from high to low, changing sometimes over the course of their

pregnancies. Finally, it dawned on her that although she thought she was being impartial, in reality when she was classifying incidents, she was defining degree of risk from the perspective of a health pro fes sional rather than from the perspectives of respondents, who some times viewed the risk quite differently from health professionals and then acted on the basis of those perceptions.

Filling in Poorly Developed Categories

In theory building, the analyst aims for density. By "density," we mean that all (within reason) the salient properties and dimensions of a category have been identified, thereby building in variation, givi ng a category precision, and increasing the explanatory power of the theory. Poorly developed categories usually become evident when making diagrams and sorting memos. For example, if we went back and found that we had written many memos about "limited exper i menters" but few on "hard-core users" of drugs, then we would have to return to the field to gather more data about this category to fill in that gap.

Filling in can be done through review of memos or raw data, looking for data that might have been overlooked. Or, the analyst can go back into the field and selectively gather data about that category through theoretical sampling (see Chapter 13). Filling in often contin ues into the final writing phase. The analyst always will find gaps when he or she begins to write. The problem is deciding when to let go. Not every detail can be well developed or spelled out. Of course, large gaps should be filled in. A category should be sufficiently developed in terms of properties and dimensions to demonstrate its *range of variability* as a concept. In the previous example, achieving variation would mean being able to show that even within a category, there are differences in how one experiences a rite of passage and that such differences can be accounted for by examining the dimensions of what types of drugs were used, how often, and so on.

The ultimate criterion for determining whether or not to finalize the data-gathering processes still is *theoretical saturation*. This term denotes that during analysis, no new properties and dimensions emerge from the data, and the analysis has accounted for much of the possible variability.

Trimming the Theory

Sometimes, the problem is not insufficient data but rather an excess of data; that is, some ideas do not seem to fit the theory. These usually are extraneous concepts, that is, nice ideas but ones that never were developed, probably because they did not appear much in data or seemed to trail off into nowhere. Our advice is to drop them. If they are interesting, then the analyst can pursue them at a latter date, but there is no reason to clutter a theory with concepts that lead nowhere or contribute little to its understanding.

Validating the Theoretical Scheme

When we speak of validating, we are not talking about testing in the quantitative sense of the word. This can be left to future studies, if desired. What we mean by "validating" is the following. The theory emerged from data, but by the time of integration, it represents an abstract rendition of that raw data. Therefore, it is important to determine how well that abstraction fits with the raw data and also to determine whether anything salient was omitted from the theoretical scheme. There are several ways of validating the scheme. One way is to go back and compare the scheme against the raw data, doing a type of high-level comparative analysis. The theoretical scheme should be able to explain most of the cases. Another way to validate is to actually tell the story to respondents or ask them to read it and then request that they comment on how well it seems to fit their cases. Naturally, it will not fit every aspect of each case because the theory is a reduction of data, but in the larger sense, participants should be able to recognize themselves in the story that is being told. They should be able to perceive it as a reasonable explanation of what is going on even if not every detail quite fits their cases. In this short section, we have taken up only one aspect of validating theory. This topic is discussed further in Chapter 16.

What if a Case Does Not Fit

It is not unusual to find outlying cases, those that fall at either extreme dimensional range of a concept or that seem quite contrary to what is going on. For the most part, these outliers represent vari-

ations of the theory or present alternative explanations. For example, in the study example about teens and drug use, suppose that we found cases in which participants became addicted to drugs and dropped out of school. How does our explanation of drug taking as a rite of passage fit with them? It was a passage for them too, but a passage into addiction rather than a step toward adulthood. They started out like other teens, being ceremoniously introduced to drugs at a party. However, getting stoned became an end unto itself rather than remaining a social act through which they shared an experience with other teens. The difference lies in where the passage led rather than in whether or not it was a passage per se. Sometimes, a case represents a state that is in transition between types or phases. For example, a teen might not fit the profile of either a recreational or a hard-core user; that is, he or she might have some properties of both. When an odd event arises in the data, there usually are intervening variables or conditions that explain that variability. These too must be identified. Discovering these outlying cases (sometimes referred to as "negative cases") and building explanations into the theory for them increases its generalizability and explanatory power.

Building in Variation

One of the problems with some theoretical schemes is that they fail to account for variation. This is problematic because it makes the theory appear artificial, as though every person or organization falls into these neat and distinct types or steps in a process. We know that life does not fit into neat little boxes. There always are variations of every process. Some persons move slower, some move faster, some drop out, and some take a different passage. This means that even within patterns and categories, there is variability with different people, organizations, and groups falling at different dimensional points along some properties. For example, if we were to take the category of "limited experimenters," there could be many variations within this category, with some teens limiting their use to only one type of drug, other teens trying drugs but getting stoned once or twice, others trying five different drugs but each drug only once, others engaging in a lot of drug talk with their peers about their experiences, and still others keeping their experiences personal. In writing about

our theory, we want to bring out the variations both within and between categories.

SUMMARY

Selective coding is the process of integrating and refining the theory. In integration, categories are organized around a central explanatory concept. Integration occurs over time, beginning with the first steps in analysis and often not ending until the final writing. Once a commitment is made to a central idea, major categories are related to it through explanatory statements of relationships. Several techniques can be used to facilitate the integration process. These include telling or writing the storyline, using diagrams, sorting and reviewing memos, and using computer programs.

Once the theoretical scheme is outlined, the analyst is ready to refine the theory, trimming off excess and filling in poorly developed categories. Poorly developed categories are saturated through further theoretical sampling. Finally, the theory is validated by comparing it to raw data or by presenting it to respondents for their reactions. A theory that is grounded in data should be recognizable to participants, and although it might not fit every aspect of their cases, the larger concepts should apply.