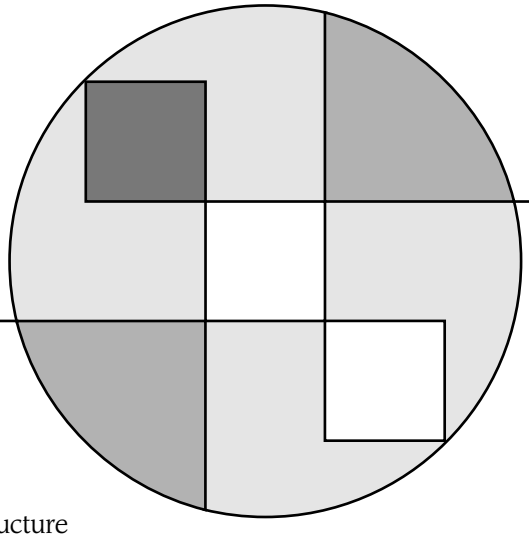
CHAPTER 3

Paradigms of Knowing in Communication Research



What You'll Learn in This Chapter

You'll see some of the basic theoretical points of view that structure social scientific inquiry about communication. This chapter will lay the groundwork for your understanding of the specific research techniques discussed throughout the rest of the book.

Introduction

Four Social Science Paradigms: An Overview

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INTRODUCTION

Imagine Researcher A, who is interested in finding out why people differ in their anxiety levels when they speak in public. She wonders whether early life experiences with adult caregivers have anything to do with anxiety levels experienced later in life. She locates a prominent theory of caregiver–child interaction, attachment theory. After reading about early-life attachment, she predicts that people with secure early-life attachment experiences are likely to be characterized by less communication anxiety in public than will characterize people with insecure attachment experiences. In order to test this prediction, she locates a group of 200 first-year university students on the first day of their required class in public speaking and collects quantitative data from them using already established measures of speaking anxiety when speaking in public and early-life attachment. She examines statistically the extent to which people with secure and insecure early-life attachment experiences vary in their speech anxiety levels.

Now imagine Researcher B, who is also interested in people's anxiety levels when they speak publicly. He is interested in how the communication system functions for people who are very high in speaking anxiety. In particular, he wants to know how the verbal, or linguistic, communication of such speakers functions in conjunction with their nonverbal communication (for example, their body movements, their eye contact, and their facial expressions). He videotapes speakers known to be high in public speech anxiety and examines whether the verbal and nonverbal messages are synchronized and consistent with one another.

Now imagine Researcher C, who is also interested in learning more about people's anxiety levels when they speak in public. This researcher takes out an ad in a local newspaper, seeking volunteers who perceive themselves to experience high anxiety when they speak in public. He interviews each volunteer in depth, seeking to understand, from their point of view and in their own words, what anxiety feels like to them. Do their palms sweat? Do they feel nauseated? He looks for commonalities among his interviewees in what anxiety means to them as they experience it. He writes up his findings by describing these common themes in detail, quoting from his interviews in order to illustrate these themes.

Researcher D also has an interest in public speaking anxiety. She spends a year in a kindergarten classroom, observing the details of when and how children talk aloud. For example, she notes how these children come to understand the boundary between "private talk" (for example, whispering with the child seated in the adjacent chair) and "public talk" (talking in front of the whole class). She comes to understand that a key marker of this boundary, to the children and the teacher alike, is whether hand raising is required in order to speak. She notices who is encouraged and allowed to talk "privately" and "in public," and who is discouraged from doing so. Over the course of the year, she talks with the children about their anxieties in talking in various ways and in various contexts in the classroom. She writes up her observations in the form of a critique of the early-education system, arguing that it systematically silences girls more so than boys in speaking in public, citing her observations as supporting evidence for her claims.

You may be wondering how we can describe these four researchers as interested in the same general topic when their research inquiries appear so different! These four examples illustrate typical kinds of research you are likely to find in communication studies. Taken as a set, these four examples illustrate the four basic research traditions, or paradigms, that dominate social scientific research about communication: the positivist tradition, the systems tradition, the interpretive tradition, and the critical tradition. The purpose of this chapter is to introduce you to these four paradigms, traditions that can be identified within most social scientific fields, not just communication.

Why is it important for you to understand these research traditions? Several reasons come to mind. First, we want you to appreciate the diversity of approaches that communication researchers can take in studying what is seemingly the same general topic of interest. Second, the criteria by which we determine valid research vary somewhat from tradition to tradition. It is important to know which tradition grounds a particular study in order to know the criteria by which we can appropriately evaluate its knowledge claims. Third, different paradigms of knowing are associated with different methods of research. When you read about a particular method, it is important to understand the tradition of knowing typically associated with it.

FOUR SOCIAL SCIENCE PARADIGMS: AN OVERVIEW

Because theories organize our observations and make sense of them, there is normally more than one way to make sense of things. Different points of view usually

yield different explanations and understandings. This is true in daily life: Liberals and conservatives, for example, often explain the same phenomenon quite differently; so do atheists and fundamentalists.

We begin our examination, then, with some of the major points of view that communication researchers employ in the search for explanation and understanding. Thomas Kuhn (1970) refers to the fundamental points of view characterizing a science as its **paradigms.** In the history of the natural sciences, major paradigms include Newtonian mechanics, Einsteinian relativism, Darwin's evolutionary theory, and Copernicus's heliocentric theory of heavenly motion, to name a few.

While we sometimes think of science as developing gradually over time, marked by important discoveries and inventions, Kuhn says that it was typical for one paradigm to become entrenched, resisting any substantial change. Eventually, however, as the shortcomings of that paradigm became obvious, a new paradigm would emerge and supplant the old one. Thus, the view that the sun revolves around the earth was supplanted by the view that the earth revolves around the sun. Kuhn's classic book on this subject is titled, appropriately enough, *The Structure of Scientific Revolutions.*

Social scientists have developed several paradigms for understanding social behavior. However, the fate of supplanted paradigms in the social sciences has differed from what Kuhn has observed in the natural sciences. Natural scientists generally believe that the succession from one paradigm to another represents progress from a false view to a true one. No modern astronomer believes that the sun revolves around the earth.

In the social sciences, on the other hand, theoretical paradigms may gain or lose popularity, but they're seldom discarded. As you'll see shortly, the paradigms in communication research offer a variety of views, each of which offers insights that the others lack—but ignores aspects of communication that the others reveal.

Thus, each of the paradigms we're about to examine offers a different way of looking at communication. Each makes certain assumptions about the nature of social reality. We advise you to examine each in terms of how it might open up new understandings for you, rather than to try to decide which is true and which is false. Ultimately, paradigms cannot be true or false; as ways of looking, they can only be more or less useful. Try to find ways that these paradigms might be useful to you. We'll return to this point at the end of the chapter.

THE POSITIVIST PARADIGM

When the French philosopher Auguste Comte (1798–1857) argued that society could be studied in the same way that scientists studied natural phenomena, he launched an intellectual adventure that is still unfolding today. (Initially, he wanted to label his enterprise "social physics," but that term was co-opted by another scholar.)

Prior to Comte's time, society simply *was.* To the extent that people recognized different kinds of societies or changes in society over time, religious paradigms generally predominated in explanations of the differences. The state of social affairs was often seen as a reflection of God's will. Alternatively, people were challenged to create a "City of God" on earth to replace sin and godlessness.

Comte separated his inquiry from religion. He felt that society could be studied scientifically, that religious belief could be replaced with scientific objectivity. His "positive philosophy" postulated three stages of history. A "theological stage" predominated throughout the world until about 1300. During the next five hundred years, a "metaphysical stage" replaced God with ideas such as "nature" and "natural law."

Finally, Comte felt he was launching the third stage of history, in which science would replace religion and metaphysics—basing knowledge on observations through the five senses rather than on belief. Comte felt that society could be studied and understood logically and rationally, and that such study could be as scientific as biology or physics.

Comte's view came to form the foundation for subsequent development of the social sciences. In his optimism for the future, he coined the term *positivism* to describe this scientific approach—in contrast to what he regarded as negative elements of the Enlightenment.

The **positivist paradigm** has undergone many refinements, revisions, and criticisms since its articulation by Comte in the mid-19th century. This tradition is one of the mainstays of communication research today.

Positivist research is marked by certain features: the belief in an objective reality knowable only through empirical observation; the study of variables; the development of theories that enable prediction, explanation, and control; the search for generalized laws; and observations in the form of quantitative data. Researcher A in our opening section illustrates someone grounded in the positivist research tradition. She was interested in identifying the underlying causes of speech anxiety, focusing in

particular on early-life attachment experiences with adult caregivers such as parents.

An Objective Reality

In Chapter 1 we note that researchers hold different beliefs about reality. Positivist researchers believe that there is an objective reality "out there," independent of the researcher. Knowledge claims about this reality rest on empirical observations. Positivist researchers place an emphasis on objective ways to gather empirical observations in order to minimize the subjectivity of the researcher. We will return to this point in greater detail in Chapter 6. Furthermore, reality is characterized by a pattern of relations between phenomena such that everything can be explained as a result (effect) of a real cause that precedes it. This reality is fragmentable, which means that a researcher can discover one cause-and-effect law at a time. These laws are discoverable through the use of systematic, rigorous methods that minimize the subjective biases of the researcher. Communication researchers who adopt the positivist tradition believe that communication practices and patterns have an objective reality to them that awaits discovery through valid methods. The primary methods used by positivist researchers are surveys (Chapter 8), experiments (Chapter 9), and quantitative text analysis (Chapter 10).

The Study of Variables

Positivist researchers don't study individuals or other social phenomena per se; instead, they study features or characteristics about individuals or phenomena. These features or characteristics are known as variables.

In the instance of Researcher A in the introduction to this chapter, the variables under study were speech anxiety and early-life attachment. People vary in their level of speech anxiety, just as they vary in the kinds of early-life attachment experiences they had with their adult caregivers.

Because the idea of variables may be foreign to you, here's an analogy to demonstrate what we mean. The subject of a physician's attention is the patient. If the patient is ill, the physician's purpose is to help that patient get well. By contrast, a medical researcher's subject matter is different: a disease, for example. The medical researcher, adopting the positivist tradition, may study the physician's patient, but for the researcher that patient is relevant only as a carrier of the disease. The disease would be the variable for the medical researcher.

That is not to say that medical researchers don't care about real people. They certainly do. Their ultimate purpose in studying diseases is to protect people from them. But in their actual research, patients are directly relevant only for what they reveal about the disease under study. In fact, when they can study a disease meaningfully without involving actual patients, medical researchers do so.

Positivist communication research involves the study of variables and the attributes that compose them. Positivist theories are written in a language of variables, and people get involved only as the carriers of those variables. Here's a closer look at what positivist communication researchers mean by variables and attributes.

Attributes or values are characteristics or qualities that describe an object or phenomenon—in this case, the communicative behaviors of a person. Examples include *chatty, high-pitched,* and *rapid.* Anything you might say to describe how you communicate or how someone else communicates involves an attribute.

Variables, on the other hand, are logical groupings of attributes. Thus, for example, *chatty* and *reticent* are attributes, and *level of talkativeness* is the variable composed of these two attributes. The variable *pitch level* is composed of attributes such as *high, moderate,* and *low.* And the variable of *rate of speaking* is composed of attributes such as *rapid* and *slow.* Instead of using adjectives such as *rapid* or *slow,* we might want to substitute the number of words spoken per minute, with each number representing a possible attribute for the speaking rate variable. Sometimes it helps to think of attributes as the "categories" or "quantities" that can make up a variable. Figure 3-1 provides a schematic review of some sample variables often studied by communication researchers. Figure 3-1A provides a list of some concepts you might encounter in communication research. Figure 3-1B indicates whether the elements in this list are variables or attributes. For each variable identified in 3-1B, Figure 3-1C indicates its possible attributes. For each attribute identified in 3-1B, Figure 3-1C indicates the underlying variable. Thus, for example, *advice* is an attribute of the underlying variable *kind of social support,* along with such other attributes as *monetary assistance.* However, the designation of variables and attributes is not absolute. To the researcher interested in discovering all of the kinds of social support, advice is an attribute. However, to the researcher interested in studying advice as a variable, the attributes might be whether the form of the advice was direct or indirect, or whether the advice was transmitted in face-to-face or mediated channels.

A. Some Communication Concepts

Advice
Indirect
Nonverbal
Verbal
Violent acts per hour
E-mail
Face-to-face
Speech anxiety
Conflict style
Submissive
% Female characters

B. Different Kinds of Concepts

Variables	**Attributes**
	Advice
	Indirect
	Nonverbal
	Verbal
Violent acts per hour	
	E-mail
	Face-to-face
Speech anxiety	
Conflict style	
	Submissive
% Female characters	

C. The Relationship between Variables and Attributes

Variables	**Attributes**
Kind of social support	Advice, monetary assistance . . .
Directness of talk	Direct, indirect
Channel of communication	Verbal, nonverbal
Violent acts per hour	0, 1, 2, 3, 4 . . .
Medium of communication	E-mail, face-to-face, telephone, letter . . .
Speech anxiety	Low, medium, high . . .
Conflict style	Competitive, submissive, collaborative . . .
% female characters	0%, 10%, 20%, . . . 100%

FIGURE 3-1 **Variables and Attributes**

The relationship between attributes and variables lies at the heart of description in positivist science. For example, we might describe television shows in terms of the variable *sex* by reporting the observed frequencies of the attributes *male* and *female:* "Prime-time television shows for the Monday–Friday period were composed of 60 percent male and 40 percent female characters." We might also describe television shows in terms of their portrayal of violence. If we summarized our observations by saying that "TV show X portrayed 15 acts of physical violence, and TV show Y portrayed 5 acts of physical violence," the numbers *15* and *5* are attributes of the *violence* variable.

Sometimes, the meanings of the concepts that lie behind social scientific concepts are pretty clear. Other times, they aren't. This is discussed in the box "The Hardest Hit Was . . ."

The relationship between attributes and variables is more complicated in the case of explanation and gets to the heart of the variable language of positivist social scientific theory. Here's an example involving two variables, *sex of speaker* and *level of self-disclosure.* For the sake of simplicity, let's assume that the self-disclosure variable has only two attributes: *high* and *low* (Chapter 6 will address the issue of how such things are defined and measured). And sex of speaker also has two attributes: *female* and *male.*

Now let's suppose that 90 percent of the females are high in self-disclosure and the other 10 percent are low in self-disclosure. And let's suppose that 30 percent of the males are high in self-disclosure and the other 70 percent are low in self-disclosure. This is illustrated graphically in Figure 3-2A.

Figure 3-2A illustrates a *relationship* or *association* between the variables *sex of speaker* and *level of self-disclosure.* This relationship can be seen in terms of the pairings of attributes on the two variables. There are two predominant pairings: (1) females who are high in self-disclosure and (2) males who are low in self-disclosure. Here are two other useful ways of viewing that relationship.

First, let's suppose that we play a game in which we bet on your ability to guess whether a person is high or

THE HARDEST HIT WAS . . .

In early 1982, a deadly storm ravaged the San Francisco Bay Area, leaving an aftermath of death, injury, and property damage. As the mass media sought to highlight the most tragic results of the storm, they sometimes focused on several people who were buried alive in a mud slide in Santa Cruz. Other times, they covered the plight of the 2,900 made homeless in Marin County.

Implicitly, everyone wanted to know where the worst damage was done, but the answer was not clear. Here are some data describing the results of the storm in two counties: Marin and Santa Cruz. Look over the comparisons, and see if you can determine which county was "hardest hit."

	Marin	Santa Cruz
Businesses destroyed	$15.0 million	$56.5 million
People killed	5	22
People injured	379	50
People displaced	370	400
Homes destroyed	28	135
Homes damaged	2,900	300
Businesses destroyed	25	10
Businesses damaged	800	35
Private damages	$65.1 million	$50.0 million
Public damages	$15.0 million	$56.5 million

Certainly, in terms of the loss of life, Santa Cruz was the "hardest hit" of the two counties. Yet more than seven times as many people were injured in Marin as in Santa Cruz; certainly, Marin County was "hardest hit" in that regard. Or consider the number of homes destroyed (worse in Santa Cruz) or damaged (worse in Marin): It matters which you focus on. The same dilemma holds true for the value of the damage done: Should we pay more attention to private damage or public damage?

So which county was "hardest hit"? Ultimately, the question as posed has no answer. While we and you both have images in our minds about communities that are "devastated" or communities that are only "lightly touched," these images are not precise enough to permit rigorous measurements.

The question can be answered only if we can specify what we mean by "hardest hit." If we measure it by death toll, then Santa Cruz was the hardest hit. If we choose to define the variable in terms of people injured and/or displaced, then Marin was the bigger disaster. The simple fact is that we cannot answer the question without specifying exactly what we mean by the term *hardest hit.* This is a fundamental requirement that will arise again and again as we attempt to measure social science variables.

Data source: San Francisco Chronicle, January 13, 1982, p. 16.

low in self-disclosure—that is, a guess about whether the person is likely to reveal a lot or a little personal information about himself or herself. We'll pick the people one at a time from Figure 3-2A (not telling you which ones we've picked), and you have to guess whether each person is likely to be high or low in self-disclosure. We'll do it for all 20 people in Figure 3-2A. Your best strategy in this case would be to guess highly self-disclosive each time, since 12 out of the 20 are categorized that way. Thus, you'll get 12 right and 8 wrong, for a net success of 4.

Now let's suppose that when we pick a person from the figure, we have to tell you whether the person is a male or a female. Your best strategy now would be to guess high in self-disclosure for each female and low in self-disclosure for each male. If you followed this strategy, you'd get 16 right and only 4 wrong. Your improvement in guessing level of self-disclosure by knowing the sex of the person is an illustration of what we mean by the variables being related. (This procedure, by the way, provides the basis for the statistic known as *lambda.*)

Second, by contrast, let's consider how the 20 people would be distributed if sex of speaker and level of self-disclosure were *unrelated* to each other. This is illustrated in Figure 3-2B. Notice that half the people are female and half are male. Also notice that 12 of the 20 (60 percent) are high in self-disclosure. If 6 of the 10 people in each group were high in self-disclosure, we would conclude that the two variables were unrelated to each other. Knowing a speaker's sex would not be of any value to you in guessing whether that person was likely to be high or low in self-disclosure.

You'll be looking at the nature of relationships among variables in some depth in a later section of this book. In particular, you'll see some of the ways relationships can

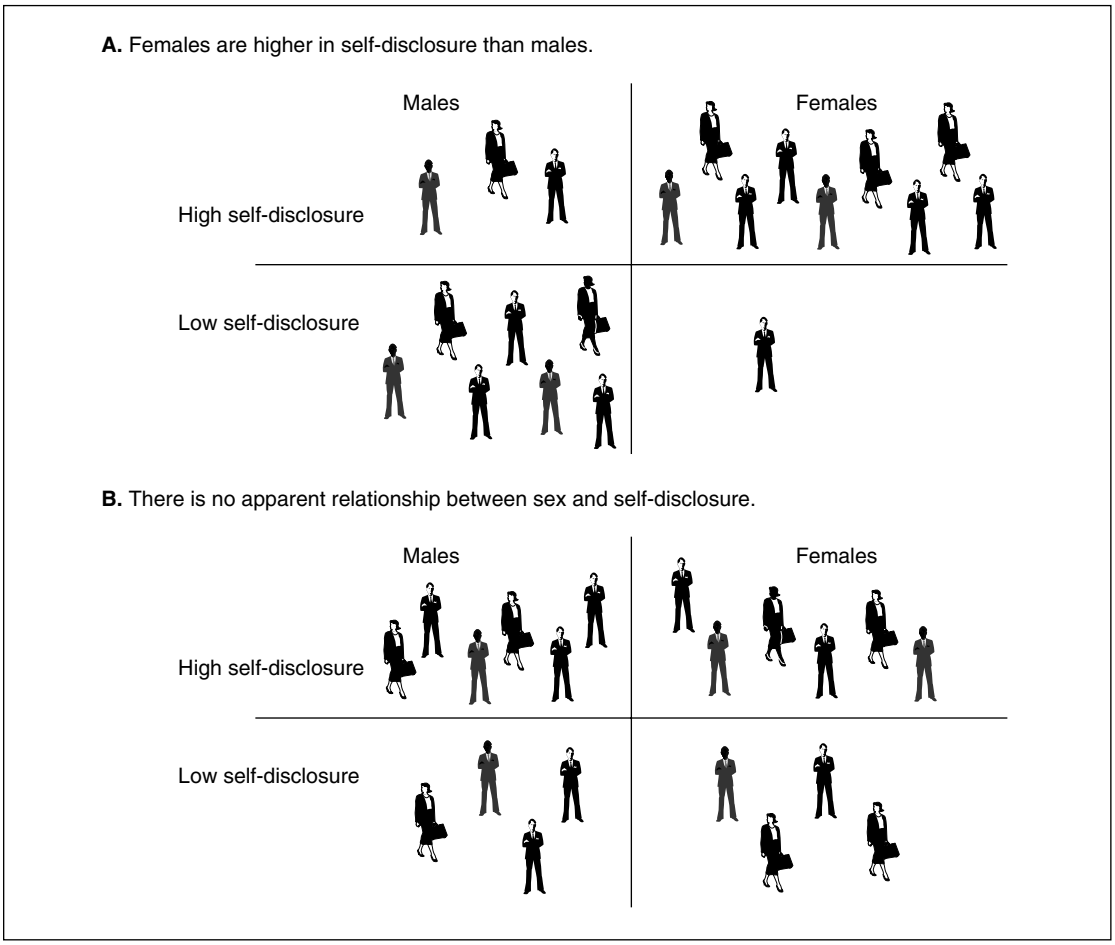

FIGURE 3-2 **Illustration of Relationship between Two Variables (Two Possibilities)**

be discovered and interpreted in research analysis. However, you need a general comprehension of the relationship between variables to appreciate the logic of positivist communication theories.

Positivist Theory

In the positivist tradition of social scientific research, *theories* describe the relationships we might logically expect among variables. When variables are related, we have the ability to predict one variable with knowledge of the other variable. Usually, however, positivist researchers have a goal greater than prediction. They seek to explain the cause–effect relationship between variables. A person's attributes on one variable are expected to cause, predispose, or encourage a particular attribute on another variable. In the example just illustrated, it appeared that a speaker's sex predisposed that person to be high or low in self-disclosure. It seems that there is something about being male or female that leads people to be less disclosive if they are male, or at least this is the pattern presented in Figure 3-2A.

As we'll discuss in more detail later in the book, sex of speaker and level of self-disclosure in this example would be regarded as the **independent variable** and the **dependent variable,** respectively. In the example of Figure 3-2A, we assume that the likelihood of disclosing personal information is determined or caused by something. Self-disclosure depends on something; hence, it is called the dependent variable, which depends on an independent variable, in this case the speaker's sex. Although people's sex varies from one person to another, such variation is independent of their level of self-disclosure.

The discussion of Figure 3-2A has involved the interpretation of data. We looked at the distribution of the 20 people in terms of the two variables. In constructing a

positivist theory, we would derive an expectation regarding the relationship between the two variables based on what we know about each. We know, for example, that in U.S. society males and females are socialized to different kinds of behaviors. Females are socialized more so than males to share their emotions and innermost feelings. Females are portrayed on the media as "relationship specialists" more so than males are portrayed, and they are shown engaged in self-disclosure as a kind of "social glue" that builds and sustain personal intimacy. When people are high in self-disclosure, they are involved in sharing their emotions and innermost feelings, often for purposes of creating or maintaining intimacy with others. Logically, then, we would expect that a person's sex and likelihood of high self-disclosure would be related. This expectation would be tested by observations of the communicative behaviors of males and females in real-life settings.

Whereas Figure 3-2 illustrates two possibilities—(a) that one's sex is related to one's level of self-disclosure or (b) that there is no relationship between a person's sex and level of self-disclosure—you might be interested in knowing what actual research has found. According to Kathryn Dindia and Mike Allen (1992), who conducted a meta-analysis (a statistical analysis of the findings across several research studies) of over 205 studies on sex differences in self-disclosure, females are slightly more likely than males to be high in self-disclosure. However, they found that this slight difference is moderated by the sex of the person to whom the speaker is talking, the closeness of the personal relationship between them, and how the researcher chose to measure self-disclosure. In other words, our theory that links sex of speaker with level of self-disclosure is probably too simplistic. If we are trying to create a theory that enables us to predict and explain people's levels of self-disclosure, we probably need to take into account several independent variables, including, at a minimum, the variables of speaker sex (with attributes female and male), the sex of the interaction partner (with attributes female and male), and the closeness of the relationship between the speaker and his or her partner (with attributes such as "close" and "distant").

Remember Researcher A, with whom we began this chapter? She was interested in the two variables of speech anxiety and early-life attachment. Her theory of speech anxiety led her to predict a relationship between level of speech anxiety and type of early-life attachment, and she explained this relationship as a causal one. Her expectation was that early-life attachment experiences caused a person to experience more or less comfort, and thus anxiety, when speaking in public to others. That is, Researcher A thought that early-life attachment was the independent variable and that speech anxiety was the dependent variable. To our knowledge, this theory has not yet been put to the test through empirical observation. Thus, we don't know whether Researcher A's theory of speech anxiety adequately fulfills our criteria of prediction and **causal explanation.** Demonstrating causality is a complicated business.

Paul Lazarsfeld (1959) suggested three specific criteria for demonstrating causality among variables. *The first requirement in a causal relationship between two variables is that the cause precede the effect in time.* It makes no sense in positivist science to imagine something being caused by something else that happens later on. A bullet leaving the muzzle of a gun does not cause the gunpowder to explode; it works the other way around.

As simple and obvious as this criterion may seem, you'll discover endless problems in this regard in the analysis of communication data. Often, the order of two variables is simply unclear. In a study to examine the relationship between marital satisfaction and the expression of negativity, which comes first? Dissatisfied marital partners might express more negativity toward each other than would their satisfied counterparts, to be sure. But it is also quite possible that when negativity is expressed, satisfaction dwindles in marital couples.

Even when the time order seems essentially clear, exceptions can often be found. For example, in a study to examine the effects of parenting style on child behavior, it is easy to assume that the parental behavior is the cause of the child's behavior. But, as any parent can tell you, the causal direction may go in reverse: how the parent behaves may be the result, not the cause, of the child's behavior.

The second requirement in a causal relationship is that the two variables be empirically related to each other. It would make no sense to say that exploding gunpowder causes bullets to leave the muzzles of guns if, in observed reality, bullets did not come out after the gunpowder exploded.

Again, communication research has difficulties in regard to this apparently obvious requirement. At least in the probabilistic world of explanations, there are few perfect relationships. Most of the time, the amount of studying for an exam is related to exam performance, but not always. Therefore, we are forced to ask how great the empirical relationship must be for that relationship to be considered causal.

The third requirement for a causal relationship is that the observed empirical correlation between two variables cannot be explained in terms of some third variable

related to both of them. For example, there is a positive relationship between ice cream sales and deaths due to drowning: the more ice cream sold, the more drownings, and vice versa. The third variable at work here is season or temperature. Most drowning deaths occur during summer—the peak period for ice cream sales. There is no direct causal relationship between ice cream sales and drowning, however.

Any relationship satisfying all three of these criteria is causal, and these are the only criteria. To emphasize this point more strongly, let's briefly examine some inappropriate criteria sometimes employed, especially by nonscientists. In this discussion, we are indebted to Travis Hirschi and Hanan Selvin for an excellent article on this subject and its later expansion in their book *Principles of Survey Analysis* (1973, pp. 114–136).

First, to review a point made earlier, a perfect relationship between variables is not a criterion of causality in communication research (or in science generally, for that matter). Put another way, exceptions, although they do not prove the rule, do not necessarily deny the rule either. In probabilistic models, there are almost always exceptions to the posited relationship. If a few people got higher exam scores in the absence of studying and a few people who studied hard received lower exam scores, that would not deny the general causal relationship between amount of studying and exam grade.

Within this probabilistic model, it is useful to distinguish two types of causes: necessary and sufficient. A *necessary cause* represents a condition that must be present for the effect to follow. For example, it is necessary for you to take college courses in order to get a degree, but simply taking the courses is not sufficient. (You need to take the right ones and pass them.)

A *sufficient cause,* on the other hand, represents a condition that, if it is present, will pretty much guarantee the effect in question. Thus, for example, getting married is a sufficient cause for becoming sex partners, though it's not the only way. Or skipping an exam in this course would be a sufficient cause for failing it, though you could fail it other ways as well.

The discovery of a necessary and sufficient cause is, of course, the most satisfying outcome in communication research. If marital satisfaction were the dependent variable or the effect under examination, it would be nice to discover a single communication behavior between spouses that (1) had to be present for satisfaction to occur and (2) always resulted in satisfaction. In such a case, you would surely feel that you knew precisely what caused marital satisfaction.

Unfortunately, we never discover single causes that are absolutely necessary and absolutely sufficient when analyzing the relationships among variables. However, it is not uncommon to find causal factors that are either 100-percent necessary (for example, you must be female to become pregnant) or 100-percent sufficient (pleading guilty in a court of law will result in your conviction).

In communication research, either necessary or sufficient causes—even imperfect ones—can be the basis for concluding there is a causal relationship between variables. However, in order to claim that one variable causes another, the researcher must be able to demonstrate that (1) the cause precedes the effect in time, (2) there is an observed empirical relationship between them, and (3) the relationship is not found to be the result of some third variable.

Generalized Laws

Notice that our theory of speaker sex and level of self-disclosure had to do with two variables, not with people per se. People are, as we indicated before, the carriers of these two variables, so the relationship between the variables can be seen only when we observe people. Ultimately, however, the theory uses a language of variables. It describes the associations we might logically expect to exist between particular attributes of different variables, and it explains why those associations exist. Our theory illustrates a **nomothetic** type of explanation, in contrast to an **idiographic** explanation.

We actually use both nomothetic and idiographic types of explanations as we go through life explaining things around us every day. You explain why you did poorly or well on an exam, why your favorite team is winning or losing, why you may be having trouble getting dates you enjoy.

Sometimes, we attempt to explain a single situation exhaustively. Thus, for example, you may have done poorly on an exam because (1) you had forgotten there was an exam that day, (2) it was in your worst subject, (3) a traffic jam made you late for class, (4) your roommate had kept you up the night before the exam with loud music, (5) the police kept you until dawn demanding to know what you had done with your roommate's stereo—and with your roommate, for that matter—and (6) a wild band of coyotes ate your textbook. Given all these circumstances, it is no wonder that you did poorly.

This type of causal explanation is called an idiographic explanation. *Idio* in this context means unique, separate, or distinct, as in the word *idiosyncrasy.* When we have

completed an idiographic explanation, we feel that we fully understand the causes of what happened in this particular instance. At the same time, our explanation is limited to the case at hand. While parts of the idiographic explanation might apply to other situations, our intention is to explain one case fully.

Now consider a different kind of explanation. (1) Every time you study with a group, you do better on the exam than if you study alone. (2) Your favorite team does better at home than on the road. (3) Athletes get more dates than members of the Biology Club. This type of explanation—labeled nomothetic—seeks to explain a class of situations or events rather than a single one. Moreover, it seeks to explain "economically," using only one or just a few explanatory factors. Finally, it settles for a partial rather than a full explanation.

In each of these examples, you might qualify your causal statements with such words or phrases as *on the whole, usually,* or *all else being equal.* Thus, you usually do better on exams when you've studied in a group, but not always. Similarly, your team has won some games on the road and lost some at home. And the good-looking head of the Biology Club may get lots of dates, while the defensive lineman Pigpen-the-Terminator may spend a lot of Saturday nights alone punching heavy farm equipment. Such exceptions are acceptable within a broader range of overall explanation.

Both the idiographic and nomothetic approaches to explanation can be useful to you in your daily life. The nomothetic patterns you discover might offer a good guide for planning your study habits, but the idiographic explanation is more convincing for your parents when you account for your failing grade on an exam.

By the same token, both idiographic and nomothetic explanation have their place in social scientific communication research. The researcher who seeks an exhaustive explanation of the communication breakdown that led a particular company to recall a product from the market is engaged in fruitful idiographic research. She or he is trying to understand one incident in one company as comprehensively as possible.

In the positivist tradition, however, researchers usually aim at a more generalized explanation across an entire class of events, even though the level of explanation is inevitably more superficial. For example, positivist researchers might seek to understand the primary communication variables implicated in product recalls. They might discover, for example, that product recalls are more likely when there is limited lateral communication across the various divisions or departments of corporations. Although this explanation would extend well beyond a single organization and a single instance of a product's recall, it would do so at the expense of a complete explanation.

Returning to our Researcher A, we would describe her goal as that of nomothetic explanation. She is not interested in understanding the speech anxiety of a single person in light of everything about that person's background and life experiences, as would a researcher with an idiographic goal. Instead, she is seeking to explain a primary cause of speech anxiety in general by positing early-life attachment as her independent variable.

Similarly, in our example above of speaker sex and level of self-disclosure, we were interested in understanding the relationship between these two variables for all males and females. Our goal was nomothetic explanation because we were seeking to explain self-disclosure levels in general, in light of a person's sex. If, instead, we had been trying to understand all of the reasons why Cousin Juan is never forthcoming about the personal details of his life, we would have been engaged in an idiographic enterprise.

In general, then, positivist research seeks to predict and explain variables in a way that maximizes generalization to the largest possible class of phenomena. Researchers who subscribe to the positivist tradition strive to discover **laws** that generalize beyond particular instances to encompass the entire class of phenomena of relevance. Sometimes, scholars refer to this feature of positivist research as a "covering law" approach, meaning that the laws that are theorized are intended to "cover" or "include" the broadest possible range of phenomena. Probability sampling is the key way researchers attempt to generalize to a broad class of phenomena by collecting data from a representative sample of those phenomena. We'll have more to say about sampling in Chapter 7.

Quantitative Data

Most simply put, the distinction between **quantitative data** and **qualitative data** in communication research is the distinction between numerical and nonnumerical data. When you say someone is beautiful, you've made a qualitative assertion. When you say he or she is a "9" on a scale of 1 to 10, you are attempting to quantify your qualitative assessment.

Every observation is qualitative at the outset, whether it be your experience of someone's beauty, the location of a pointer on a measuring scale, or a check mark entered

on a questionnaire. None of these things is inherently numerical or quantitative, but sometimes it is useful to convert them to a numerical form. Joel Smith (1991, p. 3) describes the distinction between qualitative and quantitative data in terms of uniqueness and categorization:

> No one seriously argues that events or groups or people are not unique in at least some minor detail. Rather, the issue is whether objects share attributes so important for one's concerns that their unique features can be ignored. The real issue is whether we can categorize. After all, categorizing permits grouping, grouping permits case enumeration, and counts are intrinsically quantitative.

Quantification can make our observations more explicit. It can also make it easier to aggregate and summarize data. Further, it opens up the possibility of statistical analyses, ranging from simple frequency counts to simple averages to complex formulas and mathematical models.

Thus, our Researcher A, with interests in studying speech anxiety, might ask people to indicate their degree of felt anxiety on a 1 to 10 scale. Or she might hook the speaker up to a heart-rate monitor and gauge anxiety with a measure of heartbeats per minute.

Our interest in self-disclosure among males and females might measure self-disclosure as the number of times in an hour that a person expresses personal information about himself or herself—that is, information not readily known to others. If Jake and Tyler are in a conversation and Jake spends the entire conversation discussing the basketball game televised on TV the night before, we would probably give him a self-disclosure score of "0." By contrast, if over the course of the conversation Tyler mentions that he tried out for basketball in junior high but was told he would always be too short to make the grade, if he shares that this incident was so ego crushing that it makes him uneasy when he approaches a taller female to ask for a date, and if he shares that all of his siblings are at least 4 inches taller than he is, we might give him a self-disclosure score of "3" because of his revelation of three personal bits of information about himself.

Now, researchers may quibble over whether we quantified self-disclosure in the best way. One researcher might give males and females a questionnaire and ask them to circle on a 1 to 5 scale how often they talk about various topics that ranged in disclosiveness, such as politics, sexual exploits, greatest fears, and career goals. Another researcher might assess disclosiveness by asking the partner of the speaker to rate the speaker's disclosiveness during their conversation on a scale of 1 to 10.

The challenge of sorting out which way to quantify a given variable is a complicated matter and the subject of Chapter 6. For our purposes now, however, the important point to note is that the positivist tradition usually emphasizes a quantitative approach to variables, rather than a qualitative approach.

Researchers grounded in the positivist tradition seek to study variables objectively through quantitatively based empirical observations for purposes of nomothetic prediction and explanation that take the form of cause-and-effect laws. How do you know a positivist study when you see one? Let's consider an example, a study titled "The Impact of an Adult Parent on Communicative Satisfaction and Dyadic Adjustment in the Long-Term Marital Relationship: Adult-Children and Spouses' Retrospective Accounts" conducted by Lisa Bethea (2002). The title alone gives us a hint of the positivist assumptions that guide the study. We are told that the study focuses on the impact of one variable on another—this suggests an interest in cause–effect relations. The independent variable in the study was whether an elderly parent lived with a marital couple in order to be cared for. The dependent variables in the study were the marital partners' reports of their satisfaction with their communication (communication satisfaction) and their overall satisfaction with their marriage (dyadic adjustment). The study has a nomothetic goal; although the researcher studied only about 60 couples, she was interested in making generalized claims about all marital couples who care for an elderly parent. The researcher used survey research, asking married partners to fill out quantitatively oriented questionnaires about their degree of satisfaction.

But the positivist paradigm is only one way that social scientific communication research gets done. We started our discussion of paradigms with the positivist tradition, because it was the first to stake a foothold in the social sciences. Subsequent paradigms emerged in response to the positivist paradigm.

THE SYSTEMS PARADIGM

The social **systems paradigm** grows out of a notion pioneered by a Viennese professor of biology named Ludwig von Bertalanffy. In his statement of general systems theory, von Bertalanffy argued that a social entity, such as a social group, an organization, or a whole society, can be viewed as an *organism.* As a biologist, von Bertalanffy understood that organisms are dynamic wholes

that function through the organized interaction of their parts. For example, the human body is an organism that sustains itself through the ongoing interaction of its various body organs. When something happens to challenge the well-being of the body system—for example, invasion by a virus—the body's various parts marshal a united front to restore the body to its normal state. Like an organism, a social system is made up of parts, each of which contributes to the functioning of the whole. By analogy, consider an automobile, composed of tires, steering wheel, gas tank, spark plugs, and so forth. Each of the parts serves a function for the whole; taken together, that system can get us across town. None of the individual parts would be of much use to us by itself, however.

Researcher B in the introduction to this chapter was grounded in the systems paradigm. He viewed an individual's communication as a system composed of two parts—the verbal or linguistic part and the nonverbal part. His research purpose was to examine how these parts fit together for people high in speech anxiety. Of course, each of these two parts is, in turn, made up of subsystems: nonverbal communication, for example, includes body gestures, facial expressions, vocal characteristics, and so on.

Characteristics of Systems

Communication researchers presume that communication is a *system:* a group of interrelated parts that functions as a whole. We cannot study an individual's words in isolation of his or her nonverbal actions, nor can this individual's words and actions be understood outside of the larger interactional system of which he or she is a part—that is, the communication behavior of the other people with whom our individual is speaking.

Similarly, we cannot understand, say, the popular music industry without recognizing its interdependence with the radio industry and now the industry of Web-based music: All of these parts are interdependent with one another.

When researchers adopt a systems perspective, they recognize that the parts of the system are characterized by **interdependence.** This means that a change in one part results in changes elsewhere in the system. As a student, you probably have often been graded "on the curve." "Curve grading" is a system. If one person's score on an exam gets changed because of an error in reading a certain answer, this change affects the overall class average, and this in turn could affect the cut-offs for who receives an A, a B, and so forth.

Communication systems, like all systems, are *organized wholes.* This means that researchers cannot understand one part in isolation of other parts; the system must be studied as a whole. Anyone who has ever been a member of an athletic team understands this feature of wholeness very well. It is impossible to understand the actions of one player on the team without taking into account the actions of fellow teammates. The team functions as a totality, a whole.

Researchers of communication systems appreciate that *the whole is more than the sum of its parts.* Two atoms of hydrogen added together with one atom of water do not sum to three atoms. Instead, they form one molecule of water. The whole—the water—is a new characteristic that emerged out of the relation of the constituent parts. Similarly, a family's communication system is more than the sum of the individual communication characteristics of each family member; the family system is the synergy that comes from their interactions together.

Communication systems, like all systems, are characterized by *dynamic equilibrium.* This means that the various system parts function to sustain the system in a state of balance. When a family has a big argument over something—say, whether to go to a fancy resort or camping on its vacation—its communication system is probably thrown out of kilter to some extent. After heads cool off and family members calm down, they probably say and do things to make amends and to repair damaged feelings so that the family can get back to things the way they were prior to the big argument. Equilibrium is not the absence of change; rather, it means ongoing adjustment to sustain the system's balance. Family members never go back to exactly where they were before their big fight; they always have a memory of the fight and may act differently in subsequent family arguments because of what happened in the "vacation fight." Thus, the family system is dynamic, not static. But it strives to sustain itself on an even keel, a condition of equilibrium.

Systems vary in their *openness* to external influences. For the most part, social systems are open systems, meaning that the system is constantly responding to external factors that can influence what happens to it.

When communication researchers adopt the systems tradition, then, they ask these questions: What is the system? What are the boundaries of the system? That is, what is considered "outside" the system, and what is "inside" the system? What are the parts of the system? How do the parts function interdependently? What is equilibrium for the system? How do the system parts function jointly in response to external factors in order to sustain dynamic equilibrium for the system?

A Comparison of Systems and Positivist Paradigms

Researchers who adopt the systems paradigm share some features in common with the positivist tradition, yet significant differences exist as well. Systems researchers, like positivist researchers, believe in an objective reality. However, the reality they examine is not the patterned relationships of causes and effects among variables. Instead, systems researchers believe that the social world is organized into systems composed of parts. The research agenda is that of discovering how the parts function together to sustain the system.

Most systems researchers use the language of variables. Equilibrium states are usually defined in terms of variables. For example, equilibrium for a marriage might be conceived as a couple's satisfaction with their bond. Disruptions to equilibrium would be reflected in lowered levels of satisfaction.

The interdependence of system parts and the functioning of these parts are also described in the language of variables. For example, the communication of marital partners can be described with respect to its degree of symmetry. If a husband makes a controlling statement (e.g., "Get your coat; let's go!"), which is met with another controlling statement by the wife (e.g., "Calm down! There's no hurry!"), the communication system in the marriage is high in symmetrical, or matching, responses.

Systems researchers, like positivist researchers, often work with quantitative data, relying on a quantitative text analysis method known as interaction analysis (see Chapter 10). Thus, to continue our example of the husband–wife pair, we could describe the percentage of times that the wife responds to her husband's control efforts through symmetrical control statements of her own. Sometimes, however, systems researchers prefer to describe functional interdependencies among system parts nonnumerically, through words. For example, we might find this qualitative summary of our husband–wife communication system: "The husband and the wife tend to mirror each other in their talk, particularly when it comes to utterances that have implications for power and control."

Some research from the systems tradition is idiographic in nature. For example, a researcher might be interested in studying the U.S. television industry as a system composed of economic, legal, and artistic components. Such a research project focuses on one system, not all television industries in the world.

However, much systems research features a nomothetic approach. For example, family communication researchers often adopt a systems perspective with the goal of explaining how all families function, not just one particular family.

The positivist and systems traditions differ in their approaches to explanation. Whereas the positivist researcher explains something by identifying generalized laws of cause and effect, the systems researcher explains something by identifying how it functions. The positivist researcher believes that one can discover reality variable by variable, whereas a systems researcher is committed to understand phenomena more holistically.

How can you spot a systems study when you see one? Let's consider an example: Paul Taylor's (2002) descriptive study of hostage negotiations between hostage suspect and police negotiator. The researcher tells us in the Abstract to the article that his purpose was to "formulate a comprehensive definitional model of the interrelationships among communication behaviors in crisis negotiation" (p. 7). Utterances were coded into several behavioral types to enable Taylor to examine patterns of sequencing and interrelationship between behavioral types. His focus was not on hostage suspects and police negotiators per se; rather, he was interested in the interaction between suspects and negotiators. His results pointed to an unfolding cylindrical structure in the interactions that characterize hostage negotiations. Although the term *system* does not feature prominently in the study, it is grounded in the systems paradigm nonetheless. Taylor is interested in describing a communication system—the interaction between suspects and negotiators in hostage situations. His focus is not on the separate parts (e.g., suspect talk and negotiator talk) but rather on the interrelationships between these interaction parts. He examines how utterances function in producing the model of unfolding that he identified. The study relied on quantitative text analysis (interaction analysis, to be exact), and the system's functioning was described by applying statistical tests to the quantitative data.

Although they have some differences, systems and positivist traditions can be viewed as close cousins, at least in communication research. A radically different tradition is the interpretive paradigm.

THE INTERPRETIVE PARADIGM

In contrast to both systems and positivist researchers, who believe that the social world is basically similar to the natural world, interpretive researchers believe that the human experience is profoundly different from the natural world. The **interpretive paradigm** encompasses a

broad range of orientations, each with its own historical roots. However, in general, researchers who embrace the interpretivist tradition believe that human action stands apart from the rest of the physical and biological world because of the reflective capacity of human beings.

Human action is purposive; it is action intended to accomplish some purpose. Humans act based on the social web of meanings in which they are embedded, and their actions are attributed meaning by others from within that same system of meaning. Humans are accountable for their actions to others in their shared social world, and they make sense (to others and to themselves) on the basis of their capacity to render their actions intelligible.

Think of the last time you did something that you regard as less than healthy for your body. Perhaps you overindulged with a wickedly sweet dessert at dinner last night. Perhaps you broke your training regimen and skipped a day of jogging. Why did you do this? As you answered this question, you probably found yourself in the meaning-laden world of purposive action: "I earned that dessert as a reward because of all my hard work this week." "I skipped jogging because I faced an important deadline at school and didn't have time." These expressed reasons are intelligible to us because we share, at least to some extent, a system of meanings as members of the U.S. society at the beginning of the 21st century. You acted purposively, and your actions were guided by the webs of meaning to which you have been socialized.

To interpretivists, thus, humans act not because some external variable caused them to behave a certain way. Similarly, humans act not because they occupy a certain niche in a bigger social system of which they are an interdependent part. Humans act the way they do because they are attempting to do something purposive, and such action is made intelligible or meaningful in this light. Human action is meaning-making activity.

Given this orientation to human action, the primary goal of the interpretive researcher is to understand the web of meanings in which humans act. Because people from different cultures or social groups are embedded in different systems of meaning, the researcher must attempt to understand the particular systems of meaning of those whose actions are being understood. Key to such understanding is the capacity to "walk a mile in their shoes." That is, interpretive researchers embrace the subjective world of the people they are studying, and they try to see the world through their eyes. Interpretive researchers rely on the qualitative methods of participant observation (Chapter 13), qualitative interviewing (Chapter 14), and qualitative text analysis (Chapters 15 and 16).

Recall Researcher C in the introductory section of this chapter. His research typifies work in the interpretive tradition. He was interested in finding out what speech anxiety meant to those who experienced it. By gaining an in-depth understanding of how his interviewees made sense of their experience, he hoped to gain insights into why they took the actions they did, such as avoiding situations where they might be called upon in public.

Key markers of the interpretive paradigm are meanings, rules, an idiographic focus, and use of qualitative data.

The Study of Meanings

Because of their belief that human action is centered in meaning, not in causes or functions, the goal of interpretive researchers is to understand what action means to people. That is, they seek to render human action intelligible. In contrast to positivist and systems researchers, who use the language of variables, interpretivist researchers think and write in terms of what something means to those whose actions they are trying to understand.

The interpretive counterpart to the variable is the **semantic relationship.** A semantic relationship can be thought of as a unit, kernel, category, or "chunk" of meaning. The ethnographer James Spradley (1979, p. 111) has identified several basic types of semantic relationships that collectively represent a system of meaning:

- Strict inclusion: "X is a kind of Y."
- Spatial: "X is a place in Y"; "X is a part of Y."
- Cause–effect: "X is a result of Y"; "X is a cause of Y."
- Rationale: "X is a reason for doing Y."
- Location for action: "X is a place for doing Y."
- Function: "X is used for Y."
- Means–end: "X is a way to do Y."
- Sequence: "X is a step or stage in Y."
- Attribution: "X is an attribute or characteristic of Y."

Let's imagine that we didn't know what an "apple" was, and we asked you to help us understand what it meant. You might start off describing what an apple looks like—it can be red, yellow, green; its size is kind of roundish with a diameter of about 3 to 4 inches, on average; its taste can range from sweet to tart; its meat is white and juicy. You have helped us understand what an apple is by relying largely on the semantic relationship of *attribution*—you have told us what an apple ("Y") means by describing its various attributes ("X's").

But you probably wouldn't stop here, especially if we still seemed confused or curious. You might go on to tell us that an apple is a kind of fruit and belongs to the same food group as oranges, strawberries, bananas, and so forth. You have added to our understanding of what an apple is by invoking the semantic relationship of *strict inclusion:* An apple ("X") is a kind of fruit ("Y"). You might tell us about places in the United States where apples are a primary agricultural product, say, the Yakima Valley in the state of Washington. You've just added to our understanding of what an apple is by using the *spatial* semantic relationship: The Yakima Valley ("X") is a place where apples are grown ("Y"). How do farmers grow apples, we might inquire? You would invoke the *means–end* semantic relationship to describe for us all the steps in growing an apple. You might distinguish organic from nonorganic apples at this point in the tutorial (calling upon another *strict inclusion* semantic relationship) and tell us your views on the results of pesticide use in apple growing (invoking the *cause–effect* semantic relationship in the process). "So why are apples so popular?" we ask. You might answer our question by telling us all the things you can do with apples—eat them raw, bake an apple pie, give one to your favorite teacher, make cider—and thereby use the *function* semantic relationship. And so on.

In other words, the meaning of an "apple" is pretty complex, particularly if we want to understand it as completely as possible. Every time you uttered a statement about apples, you gave us a "chunk" of meaning. And these various kernels of meaning informed us about different facets of what an apple is.

All meaning making is similarly complex. In order to understand something comprehensively, we weave together all of the bits of knowledge we can that tell us about it.

But meaning making varies depending on whom you talk to. If you asked an apple grower to tell you what an apple is, he or she would probably rely on different kernels of meaning than someone who was not an expert in apples. One of us has a six-year-old, and when asked what an apple was, this little girl said simply "You send them in my lunch sometimes. I like the red ones, but the green ones are yucky."

Whose meaning of an apple is right, and whose is wrong? Obviously, neither meaning is right or wrong; the two attempts to tell us about apples are merely different from each other. And so it is with all meanings. To interpretivist researchers, there is no single reality, because there are different meanings that can guide different people's actions. The goal of an interpretivist researcher is to understand the web of meanings that characterize a given group of people or a given situation or setting. Interpretivist researchers seek to understand this web of meanings by describing its component semantic relationships.

You probably noticed that two of the semantic relationships identified by Spradley appear similar to issues we have discussed for the positivist and the systems paradigms: cause–effect and function. Although the words are the same, these semantic relationships are quite different from the approaches to causation and function that we discussed above. Interpretive researchers are interested in people's subjective perceptions of cause and effect and of function, whereas positivists assume an objective reality of cause-and-effect relations and systems researchers assume an objective reality of system functions.

The Study of Rules

Meanings, and actions, are inherently social in nature. Although part of your meaning for an apple no doubt rests on your own experience eating apples, you certainly can't describe that experience to us without relying on language. Language is acquired through others—it is social. Even if you are thinking silently to yourself about apples, your silent thoughts are probably put into words; thus, even thinking is a social activity because it is language based. Furthermore, much of what you know about apples you probably learned from others or read about or watched on TV—all social ways that you arrived at your current understanding of what an apple is.

Human actions are also social in nature. Even actions that we execute in private are social in that their meanings stem from our experiences in the social world.

Because meanings and human actions are social, they are guided by rules. If people did not have agreement on what things meant and how to communicate meanings through words and actions, the social world would be utter chaos. Thus, in the interpretive tradition, the study of meanings is closely linked to the study of rules.

But what exactly is a rule in the interpretive tradition? A **rule** is a commonly shared belief among members of a group or subculture about appropriate action. Rules inform us about what is prohibited, allowed, encouraged, or required in the social worlds in which we occupy membership.

For example, we have rules of language use that we all learned through our years of formal schooling. We

learned requirements of expression—how to write and talk in grammatical ways, which vocabulary words hold what meanings, and so forth. We also learned at school and in our everyday lives how to communicate with others beyond the technicalities of vocabulary and grammar. We learned rules of politeness, rules of greeting, rules for delivering "bad news" to others, rules of being supportive—in short, all of our communication practices are guided by what we know about appropriate or required social conduct.

The rules of conduct that guide our communication behaviors are part of the meaning-making process. At a minimum, rules of appropriate and required action provide a moral backdrop against which others evaluate our actions as "good," "bad," "correct," "inappropriate," and so forth. Such judgments form part of the meaning of our actions.

Rules that guide communication behavior obviously differ from setting to setting and from social group to social group. It is OK to yell at a soccer match but not in a public library. It is probably acceptable among some friendship cliques to engage in verbal teasing, whereas this practice may be frowned upon in other friendship groups. It may be expected in one organization to employ "team talk"—that is, to talk in ways that emphasize the organizational members as team players—whereas another organization's culture may view "team talk" as hokey.

The goal of interpretive communication researchers is to identify the rules that guide communicative actions in a given setting or social group. In identifying the rules that guide communication, interpretive researchers render those actions intelligible.

Interpretive Theory

Theory occupies an important place in the interpretive tradition, just as it does in the positivist and systems traditions. However, the kinds of theory valued by interpretive researchers are different from those valued by positivist and systems researchers. Both positivist and systems researchers are interested in abstract theories of explanation—either cause-and-effect explanation or functional explanation. And both positivist and systems researchers are interested in generalized claims—about relations among variables or about systems. By contrast, interpretive researchers are interested in theories of understanding.

In the interpretive tradition, theories of understanding take one of two forms. One form of interpretive theory is *local knowledge*. Because rules and meanings are specific to the setting or social group under study, it is impossible to generalize. Instead, the goal of some interpretive researchers is to give us a comprehensive understanding of meaning making in that single setting or group.

For example, Gerry Philipsen (1975) provided us with a local-knowledge theory of talk among working-class males in a southside Chicago neighborhood that he called "Teamsterville." Talking (as opposed to other forms of action) was allowed only among males who were friends or same-status peers. Deviations from this rule meant that a male's masculinity was challenged by fellow Teamsterville residents. For example, if a bully from outside the neighborhood insulted the girlfriend of a Teamsterville male, he should not try to talk rationally to the bully and ask him to stop. Instead, he needed to act, probably with a physical threat in this circumstance. By providing us with detailed insight into the code of communication that guided Teamsterville males, Philipsen provided us with a theory of communication—claims about local knowledge in Teamsterville.

A second form of interpretive theory is the *heuristic framework*. A heuristic framework is a set of statements designed to guide our efforts to understand meaning making regardless of the specific setting or group. For example, the ethnographer Dell Hymes (1972) developed a heuristic theory of communication codes that can usefully be summarized in the acronym SPEAKING. For example, Hymes suggests that all communication codes are organized, in part, around rules organized by situation (S rules)—what kinds of talk are encouraged or required in specific settings or situations—and participant rules (P rules)—what kinds of talk are encouraged or required between people depending on their relationship to one another. (We'll return in greater detail to the theory of SPEAKING in a later chapter.)

Regardless of the setting or group one is studying, Hymes's theory is a useful tool that guides the researcher in how to look. Guided by the "S" and the "P" components of Hymes's theory, for example, a researcher would ask "How does communication vary by the situation for this cultural group?" and "How is communication organized depending on who is involved in the interaction?" An interpretive theory is heuristic if it is useful in guiding the researcher's attempt to understand a specific setting or social group. Of course, the specific answers to these heuristic questions will differ locally.

Local-knowledge theories are obviously idiographic in nature. By contrast, heuristic frameworks operate at a nomothetic level.

Qualitative Data

Interpretive researchers generally prefer to work with nonnumerical data, typically words or visual images. Their goal is to provide understanding in as rich and detailed a manner as possible; in the interpretive tradition, this is usually referred to as *evocativeness.* Interpretive researchers strive to paint a verbal picture so rich that readers of the study feel as if they had walked that mile in the shoes of the group members.

It's not that you can't summarize meanings quantitatively. As we will see in a later chapter devoted to surveys and questionnaires, positivist researchers often solicit numerical data from study participants on their beliefs and perceptions about any number of things. For example, researchers could ask study participants to circle a number from 1 to 5 indicating the extent to which they believe that "When people tell lies, they don't look you squarely in the eye." The circled number—and the average of circled numbers across a group of participants—provide a numerical summary of what averted eye contact means. Typically, positivist researchers are interested in determining whether people's perceptions are caused by antecedent, independent variables of one kind or another. For example, a positivist researcher might want to know whether people with different family backgrounds (divorced versus intact, for example) vary in their belief that averted eye contact means that a person is lying.

However, interpretive researchers generally believe that numerical data are relatively "thin" compared to the evocativeness of words. To interpretive researchers, a circled number on a questionnaire is but the tip of the iceberg; they prefer to describe in detail the rest of the iceberg. An interpretive researcher might give us this rendering of a social group's strong belief that eye aversion means lying: "To members of this community, the failure to 'look someone in the eye' is a sure give-away that a lie is being told. Children are often told by their elders 'Look me in the eye when you talk to me,' and a failure to comply is often punished. When people are gossiping about others, they often refer to tongue–eye images to comment on whether the person being gossiped about was lying; e.g., 'His tongue said one thing, but his eyes told the truth.' However, there's a fine line between 'looking someone in the eye' and 'staring down' someone. If a person 'stares down' someone, the truth of their words is also questioned." This qualitative description is an attempt to flush out in greater depth the meaning of eye aversion. This description is certainly compatible with a quantitative statement that "On average, '4.9' was circled by the group of participants." The two kinds of claims—qualitative and quantitative—simply provide us with different kinds of information about the participants.

Interpretive research reveals its paradigm through several clues. Let's consider the clues in a study one of us recently published along with several co-authors (2002): "Contradictions of Interaction for Wives of Elderly Husbands with Adult Dementia." We were interested in understanding, and describing richly, wives' communication experiences with their elderly husbands who were in nursing homes because of dementia-related illnesses, typically Alzheimer's. We relied on open-ended qualitative interviews with several wives in order to hear their reports in their own words of how they experienced communication with a husband who was physically present yet often cognitively and emotionally absent. We found that these wives experienced communication in contradictory ways, and the results were presented in prose form by quoting extensively from the wives. This study was interpretive for several reasons. First, it was interested in the subjective experiences of the wives; the goal of the study was to attempt to "walk a mile in their shoes" by conducting in-depth interviews with them. Our purpose was thus understanding, not prediction, causal explanation, or functional explanation. We weren't interested in variables; instead, we were interested in meanings and the rules that guided these wives' communication encounters with their husbands.

The interpretivist tradition differs substantially from the positivist and systems traditions. But there's a fourth paradigm in communication research—the critical.

THE CRITICAL PARADIGM

Historical roots of the **critical paradigm** are several, and they are diverse in origin. However, critical scholars share in common two beliefs. First, they challenge the presumption that empirical observation is the only pathway to knowledge, believing instead that reflection can produce knowledge. In fact, when critical researchers gather data, whether quantitative or qualitative, they do not accept the data and their analysis as sufficient grounds for knowledge claims. Rather, it is the critical reflection on those data that enables knowledge.

Critical Reflection

What is "critical reflection"? It is not the mere interpretation of the data with a goal of providing an accurate and complete summary of them. Instead, it refers to an interrogation of a data set with an eye toward identifying its

ideological bias and the implications of this bias for power relations.

Scholars who endorse the critical paradigm believe that **ideology** and power characterize the social experience. Critical scholars engage in critical reflection with a goal of exposing the values implicit in social practices in order to enlighten and emancipate members of a society or group. Typical questions asked by critical scholars include "What are the underlying values of a given communicative practice?" and "Whose interests are served (and whose interests are not served) by this ideological practice?"

By unmasking implicit ideologies and power imbalances, critical scholars believe that they are functioning to liberate all social agents from the oppression of the status quo. Critical scholars, thus, are committed to emancipatory social change.

Let's return to the introduction to this chapter for one final visit, this time to researcher D. Researcher D gathered empirical data about talk and silence patterns in a classroom context. However, her task as a scholar was not done when she collected and analyzed her data. Instead, she took the next step of criticizing the gender ideology of that classroom for its bias against girls. In mounting this critique, researcher D was attempting to emancipate all members of society—both males and females—from an ideology that she had unmasked.

Scholars who align with the critical paradigm believe that the scientific enterprise is part of the social world, not removed from it. Thus, the practices of science are subject to the same critical reflection as other facets of the social world. In the past 20 years in particular, critical scholars have been active in unmasking the ideological biases they see in the conduct of social scientific research.

For example, in an intriguing 1991 essay titled "Interpersonal Research as Ideological Practice," John Lannaman critiqued scholars of interpersonal communication for their implicit endorsement of individualism and their systematic denial of the communal and social bases of face-to-face interaction. The study of interpersonal communication, he argued, is steeped in the ideology of a capitalist society.

Some Critical Approaches

Critical scholars approach the task of ideological critique from any number of perspectives. Some ground their critical reflection in the work of Karl Marx (1818–1883), who suggested that social behavior could best be seen as a process of conflict—the attempt to dominate others and to avoid being dominated. Marx primarily focused on the struggle among economic classes. Specifically, he examined the way capitalism produced the oppression of workers by the owners of industry. A communication researcher from this tradition might examine how social class is reproduced in the communication practices of working-, middle-, and upper-class persons. For example, Michael Huspek (1989) examined the power implications of "You know" and "I think" expressions in working-class speech.

Other critical scholars ground their critiques in feminist theory. In part, feminists (of both sexes) have focused on gender differences and how these relate to the rest of social organization. This body of work has drawn attention to the oppression of women in society. Researcher D was engaged in this kind of feminist critique.

Because men and women have had very different communication experiences throughout history, they have come to see things differently, with the result that their conclusions about communication may vary in many ways. In perhaps the most general example, feminist scholars have challenged the prevailing notions concerning consensus in society. Most descriptions of the predominant beliefs, values, and norms of a society are written by people representing only portions of society. In the United States, for example, such analyses have typically been written by middle-class white men—not surprisingly, they have written about the beliefs, values, and norms that they share.

Our growing recognition of the intellectual differences between men and women led the psychologist Mary Field Belenky and her colleagues to speak of *Women's Ways of Knowing* (1986). In-depth interviews with 45 women led the researchers to distinguish five perspectives on knowing that should challenge the view of inquiry as obvious and straightforward:

- *Silence:* Some women, especially early in life, feel themselves isolated from the world of knowledge, their lives largely determined by external authorities.
- *Received knowledge:* From this perspective, women feel themselves capable of taking in and holding knowledge originating with external authorities.
- *Subjective knowledge:* This perspective opens up the possibility of personal, subjective knowledge, including intuition.
- *Procedural knowledge:* Some women feel they have mastered the ways of gaining knowledge through objective procedures.
- *Constructed knowledge:* The authors describe this perspective as "a position in which women view all knowledge as contextual, experience themselves as

> creators of knowledge, and value both subjective and objective strategies for knowing." (Belenky et al., 1986, p. 15)

"Constructed knowledge" is particularly interesting in the context of our previous discussions. For example, the positivist paradigm of Comte would have a place neither for "subjective knowledge" nor for the idea that truth might vary according to its context. The interpretive paradigm, on the other hand, would accommodate these notions easily.

The critical paradigm is centered in reflection and critique rather than empirical observation. However, when critical scholars engage in empirical work, they typically use the methods of qualitative research.

PARADIGMS REVISITED: SOME CONCLUDING REMARKS

We began with Comte's assertion that an objective reality exists and that we can discover its laws of cause and effect through systematic and rigorous empirical observation. Since his time, social scientists have reacted to this position in different ways. In this chapter, we have discussed the primary paradigms that organize these reactions in communication research. Let's discuss two of the main issues or fault lines that distinguish the paradigms from one another.

Objectivity and Subjectivity

To begin, *all our experiences are inescapably subjective.* There is no way out. You can see only through your own eyes, and anything peculiar to your eyes will shape what you see. You can hear things only through the way your particular ears and brain transmit and interpret sound waves.

Despite the inescapable subjectivity of our experience, we humans seem to be wired to seek an agreement on what is *really real,* what is *objectively* so. Objectivity is a *conceptual* attempt to get beyond our individual views. It is ultimately a matter of communication, as we attempt to find a common ground in our subjective experiences. Whenever we succeed in our search, we say we are dealing with objective reality. This is the *agreement reality* discussed in Chapter 1.

While our subjectivity is individual, our search for objectivity is social. This is true in all aspects of life, not just in science. While we prefer different foods, we must agree to some extent on what is fit to eat and what is not, or else there could be no restaurants, no grocery stores, no food industry. The same argument could be made regarding every other form of consumption. There could be no movies or television, no sports.

From the 17th century through the middle of the 20th century, the belief in an objective reality that people could see predominated in science. For the most part, it was not simply held as a useful paradigm but as *The Truth.* This is the view challenged today by many scholars.

Some say that the ideal of objectivity conceals as much as it reveals. As we saw earlier, much of what was agreed on as scientific objectivity in years past was actually an agreement primarily among white, middle-class, European men. Subjective experiences common to women, to ethnic minorities, or to the poor were not necessarily represented in that reality.

The early anthropologists are now criticized for often making modern, Westernized "sense" out of the beliefs and practices of nonliterate tribes around the world—sometimes portraying their subjects as superstitious savages. We often call nonliterate tribal beliefs about the distant past "creation myths," whereas we speak of our own beliefs as "history." Increasingly today, there is a demand to find the native logic by which various peoples make sense out of life.

Ultimately, we'll never know whether there is an objective reality that we experience subjectively or whether our concepts of an objective reality are illusory. So desperate is our need to know just what is going on, however, that both the positivists and the nonpositivists are sometimes drawn into the belief that their view is real and true. There is a dual irony in this. On the one hand, the positivist's belief in the reality of the objective world must ultimately be based on faith; it cannot be proven by "objective" science, since that's precisely what's at issue. And critics, who say nothing is objectively so, do at least feel that the absence of objective reality is *really* the way things are.

The Nature of Explanation

Three basic types of explanation have been advanced in these paradigms: cause-and-effect explanation, function explanation, and reason explanation. The cause-and-effect explanation of positivism is a popular one in the natural sciences. For example, growth is caused by several factors. We can affect the growth of plants by varying the amount of light, water, and nutrients they receive. Similarly, positivist researchers seek to identify the causes of human behavior through rigorous empirical observation.

Sometimes, people protest cause-and-effect explanations of human behavior by arguing that individuals have free will and make choices about how they will behave. Didn't you choose to go to school? No set of factors forced your presence in school, right? You are in school because you want to be there. That is, your actions can be explained by your reasons.

But we suspect that you wouldn't be in school unless you had enough money to pay the tuition. If you hadn't had enough money to pay your tuition, that factor would have forced you to stay out of school. But then suppose your desire to learn about the world around you was so powerful that you overcame the lack of money—maybe you got a scholarship or went to work for a while or took out loans. In that case, we're back to your powerful desires and goals as reasons you are in school.

Ah, argue positivists, but why do you have a desire to go to school? Perhaps you grew up in a family where everyone had gone to college and you felt you were letting your family down by not attending college yourself. Or perhaps you came from a family where nobody had ever gone to college before, and they were all proud of the fact that you might be the first. That is, family background factors caused, or predisposed, you to have certain goals and desires. Well, yes, you might agree, you certainly faced family pressures of one kind or another, but in the end the choice was yours—your family didn't force you to attend school.

Positivists do not believe that all human actions, thoughts, and feelings are determined, nor do they lead their lives as though they believed it. Furthermore, the tradition of cause-and-effect explanation does not assume we are all controlled by the same factors and forces: Your reasons for going to college surely differed somewhat from ours. Moreover, cause-and-effect explanation does not suggest that we now know all the answers about what causes what or that we ever will.

Finally, positivists operate on the basis of a probabilistic causal model, not an absolute causal model. Rather than predicting that a particular person will attend college, they say that certain factors make attending college more or less likely within groups of people. Thus, high school students whose parents attended college are more likely to attend college themselves than those students whose parents did not attend college. This does not mean that all of the former and none of the latter will attend college. Thus, cause-and-effect explanation does not deny free will on the part of human actors.

Although interpretive scholars embrace the notion that humans are capable of choosing their actions, they seek to answer a different question from that of cause and effect. Interpretive scholars are interested in meanings. They would be much more interested in finding out what a college education means to students as a way of understanding why they are attending.

Systems scholars would intersect with the discussion of explanation in yet another way. They might be interested in the functions of a college education for individuals as members of society. Individuals would be viewed as parts of a larger societal system. For example, college education might function to enhance lifetime earning power, which has implications for the society's economic growth.

Critical scholars would introduce yet a different question. They might critique the fact that success in U.S. public education is predicated on a communication code that favors people from white, middle-class backgrounds. Persons socialized to different codes of communication would thus be handicapped. Shirley Heath (1983) made exactly this argument in noting that formal education is oriented to a code of literacy rather than orality, thereby positioning lower-working-class whites and African Americans to be evaluated less favorably in school.

So which approach to explanation is correct? The answer is "none." Cause–effect, function, and reason explanations are not right or wrong; they are simply very different ways to approach human activity.

The Advantages of Multi-Method Research

Rather than align yourself with any of the approaches discussed in this chapter, we encourage you to treat them as distinct tools in your communication inquiry tool kit. Each approach brings special strengths, and each compensates for the weaknesses of the other. Why choose? Work both sides of the street.

Communication researchers often work both sides of the street when they conduct **multi-method research.** As we indicated in the prior chapter, multi-method research is research in which the researcher uses more than one methodological tool from his or her inquiry kit in conducting a study. Sometimes, multi-method research draws on tools that share grounding in the same paradigm. More relevant to the point we are making here, however, is multi-method research in which the researcher employs tools drawn from different paradigmatic backgrounds. Such work usually mixes both quantitative and qualitative data in a single research project. This can be done in several ways. Sometimes, researchers start with quantitative data and supplement them with qualitative data in order to "flesh out" in a more detailed manner some of the quantitative findings they have

uncovered. This is exactly what Dawna Ballard and David Seibold (2000) did in their study of how orientations toward time were related to group communicative practices. The researchers developed a quantitatively based survey measure to assess different orientations toward time—for example, whether a group regarded time as flexible or rigid. Discussions with work group members were relied on to elaborate on the various orientations, supplementing the quantitative portion of the study with qualitative insights.

Other times, qualitative data are gathered initially and followed up with quantitative methods designed to provide numerical precision for the qualitative findings. For example, Daena Goldsmith (2000) employed this combination in studying the sequence of communicative acts in advice-giving episodes. She used the qualitative method of participant observation to take careful field notes on advice-giving sequences. From these data, she identified six different types of sequences. Then Goldsmith asked a sample of participants to quantitatively rate sample dialogues illustrating these six types on their facework implications.

Sometimes, quantitative and qualitative methods are used simultaneously. For example, when Michael Papa and his colleagues (2000) studied how a radio soap opera resulted in social change in an Indian village, they gathered quantitative survey data, quantitative content analysis data, and qualitative interview data.

The advantage of quantitative–qualitative multimethod research is that it provides a more complete picture of the phenomenon under study. However, a cautionary note is in order. As we have seen in this chapter and will realize again in Chapter 4, the different paradigms make different assumptions about reality and knowledge claims about it. It is important to evaluate each method in a manner consistent with its paradigmatic background.

This chapter on paradigms of knowing is intended to illustrate the rich variety of theoretical perspectives that can be brought to bear on the study of communication. But regardless of which tradition frames a given study, all researchers employ the logic systems of deduction and induction in the task of constructing theory. This is the topic of our next chapter.

Main Points

- A paradigm is a fundamental model or scheme that organizes our view of something.
- Communication researchers use a variety of paradigms to organize how they understand and inquire into communication.
- Positivism assumes we can scientifically discover through objective empirical observation the laws of cause and effect that determine communication.
- The systems paradigm seeks to discover what functions the many elements of a communication system perform for the whole system.
- The interpretive paradigm seeks to understand the webs of meaning that guide human communication.
- The critical paradigm seeks to unmask the ideological practices and sources of domination in communication, thereby emancipating the oppressed.
- The basic conceptual units of study for communication researchers are variables (positivists), systems (systems researchers), semantic relationships and rules (interpretivists), and ideologies (critical communication researchers).
- The goals of communication research are to predict and causally explain (positivists), to explain function (systems researchers), to understand meanings and meaning making (interpretivists), or to emancipate (critical communication researchers).
- Communication researchers construct either idiographic or nomothetic knowledge claims.
- The research task is that of quantitative observation (positivists or systems researchers), qualitative observation (systems researchers, interpretive researchers, critical researchers), or critical reflection (critical researchers).

Key Terms

paradigm
positivist paradigm
attributes
variables
independent variable
dependent variable
causal explanation
nomothetic
idiographic
laws
quantitative data
qualitative data
systems paradigm
interdependence
interpretive paradigm
semantic relationship
rule
critical paradigm
ideology
multi-method research

Review Questions and Exercises

1. Peruse an issue of one of the communication journals listed in Appendix A and locate a social scientific study. Try to identify the paradigm that frames the researcher's study. What about the article led you to align the study with your selected paradigm?
2. Go to an issue of one of the communication journals listed in Appendix A and locate a social scientific study. After trying to identify the paradigm in which the study is positioned, ask yourself how researchers whose assumptions reflect the alternative paradigms might study the phenomenon differently.
3. Using one of the many search engines (such as Lycos, WebCrawler, Excite, Google, and Infoseek), find information on the Web concerning some of the paradigms or concepts discussed in this chapter. Record the web site and what you found there.

Continuity Project

Show how the four paradigms discussed in this chapter might structure your inquiry into the topic of gender/sex and communication. What aspects of the subject would the paradigm lead you to focus on? How might you interpret observations within each paradigm?

Additional Readings

Bochner, A. P. (1985). Perspectives on inquiry: Representation, conversation, and reflection. In M. L. Knapp and G. R. Miller (Eds.), *Handbook of interpersonal communication* (pp. 27–58). Beverly Hills, CA: Sage. This book chapter offers a concise discussion of the primary paradigms that organize communication research. The discussion speaks to all areas of communication and is not limited to interpersonal communication.

Burrell, G., & Morgan, G. (1988). *Sociological paradigms and organizational analysis.* Portsmouth, NH: Heinemann. Although this book is grounded in organizational sociology, it offers a quite readable discussion of the same paradigm issues addressed in this chapter. However, Burrell and Morgan provide a different organizational framework for paradigms than what is provided in this chapter.

Casmir, F. L. (1994). The role of theory and theory building. In F. L. Casmir (Ed.), *Building communication theories* (pp. 7–41). Hillsdale, NJ: Erlbaum. A useful discussion of what a communication theory is and why it is important to understand theory in a course in research methods.

Denzin, N. K., & Lincoln, Y. S. (Eds.) (1994). *Handbook of qualitative research.* Newbury Park, CA: Sage. Various authors discuss the process of qualitative research from the perspective of various paradigms, showing how they influence the nature of inquiry. The editors also critique positivism from a postmodern perspective.

Kuhn, T. (1970). *The structure of scientific revolutions.* Chicago: University of Chicago Press. An exciting and innovative recasting of the nature of scientific development. Kuhn disputes the notion of gradual change and modification in science, arguing instead that established "paradigms" tend to persist until the weight of contradictory evidence brings their rejection and replacement by new paradigms. This short book is at once stimulating and informative.

Polkinghorne, D. (1983). *Methodology for the human sciences: Systems of inquiry.* Albany, NY: State University of New York Press. A classic book on the paradigms that organize the social scientific enterprise.

Putnam, L., & Pacanowsky, M. (Eds.) (1983). *Communication and organizations: An interpretive approach.* Newbury Park, CA: Sage. Although this book deals with organizational communication, its discussion of interpretive approaches is excellent and applies to interpretive approaches in contexts other than organizations.

Reinharz, S. (1992). *Feminist methods in social research.* New York: Oxford University Press. This book explores several social research techniques (such as interviewing, experiments, and content analysis) from a feminist perspective.

Wood, J. (1997). *Communication theories in action: An introduction.* New York: Wadsworth. A very readable introduction to some of the primary theories that organize communication research. These theories reflect basic paradigm differences as discussed in this chapter.

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- paradigms
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- interpretive research
- systems research
- critical theory
- causality
- functionalism
- rules
- power