

The Meanings of Methodology

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The confusion in the social sciences—it should now be obvious—is wrapped up with the long-continuing controversy about the nature of Science.

—C. Wright Mills, *The Sociological Imagination*, p. 119

Many people ask whether the social sciences are *real* science. They think only of the natural sciences (e.g., physics, chemistry, and biology). The meaning of *science* significantly shapes how we do social scientific research. We can define science in two ways: (1) what practicing scientists actually do and how the institutions of science operate and (2) what philosophers have dissected as the core meaning of twenty-first-century science. One thing is clear. The many studies in the sociology and philosophy of science tell us that the practice and meaning of social science are more nuanced and complex than what most people think. As Collins (1989:134) remarked, “Modern philosophy of science does not destroy sociological science; it does not say that science is impossible, but gives us a more flexible picture of what science is.”

The question regarding *what makes social science scientific* has a long history of debate and is relevant for learning about social research. It bridges across the various social sciences and considers whether a disjuncture or unity exists between natural and human sciences. Philosophers and great social theorists such as Auguste Comte, Émile Durkheim, David Hume, Karl Marx, John Stuart Mill, and Max Weber have pondered this question. Despite more than two centuries of discussion and

debate, the question is still with us today. Obviously, it does not have one simple answer.

The question does not have one answer because there is no one way to do science; rather, there are multiple sciences, or several *alternative approaches*. “Approaches is a general term, wider than theory or methodology. It includes epistemology or questions about the theory of knowledge, the purposes of research, whether understanding, explanation, or normative evaluation . . .” (Della Porta and Keating, 2008:1). Each approach to social science rests on philosophical assumptions and has a stance on what constitutes the best research. The approaches are found in social science fields across nations, although as Abend (2006) has argued, very different approaches to social research may predominate in different nations. More specifically, the prevailing approach found in the United States may not be widely accepted or used among social scientists elsewhere.

You may find the pluralism of approaches confusing at first, but once you learn them, you will find that other aspects of research and theory become clearer. Specific research techniques (e.g., experiments and participant observation) make more sense if you are aware of the logic and assumptions on which they rest. In addition, the approaches will help

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you understand the diverse perspectives you may encounter as you read social research studies. Equally important, the approaches give you an opportunity to make an informed choice among alternatives for the type of research you may want to pursue. You might feel more comfortable with one approach or another.

Learning about the approaches is not simple. When you read reports on research studies, the author rarely tells you which approach was used. Many professional researchers are only vaguely aware of the alternatives. They learn an approach's principles and assumptions indirectly as they receive training in research methods (Steinmetz 2005a:45). The approaches operate across the social sciences and applied areas and make a very big difference in the way to do research.¹

The major approaches I present here are ideal types, and I have highlighted their differences so that you can see what each is about more clearly. Although the approaches operate relying on different core assumptions, competing principles, and contrasting priorities, a person could conduct research studies using more than one approach and learn a great deal. Each approach makes significance advances to knowledge on its own terms. As Roth and Mehta (2002) argued, we can study the same social events using alternative approaches and learn a great deal from each approach used. Each offers a different perspective or viewpoint not only on the social event we wish to study but also on the most important questions, the types of relevant data, and the general way to go about creating knowledge.

PHILOSOPHICAL FOUNDATIONS

In this chapter, we link abstract issues in philosophy to concrete research techniques. The abstract issues proscribe what good social research involves, justify why we do research, relate moral-political values to research, and guide ethical research behavior. The alternative approaches are broad frameworks within which all researchers conduct studies. Couch (1987:106) summarized the different approaches as follows:

The ontological and epistemological positions of these . . . research traditions provide the foundation

of one of the more bitter quarrels in contemporary sociology. . . . Each side claims that the frame of thought they promote provides a means for acquiring knowledge about social phenomena, and each regards the efforts of the other as at best misguided. . . . They [the positions] differ on what phenomena should be attended to, how one is to approach phenomena, and how the phenomena are to be analyzed.

The quote mentions two areas of philosophy, ontology and epistemology. All scientific research rests on assumptions and principles from these two areas whether or not a researcher acknowledges them. We do not need a deep discussion over philosophical assumptions to conduct research; however, we make choices implicitly among them when we do a study. Most of us accept assumptions without question. However, by becoming aware of the assumptions, you can better understand what underlies your choices about research. Different philosophical assumptions highlight how and why the approaches to social research differ.

This is not a text about the philosophy of science, but research methodology rests on a foundation of ontological and epistemological assumptions. Once you learn them, you can start to recognize the bases of many disputes and differences among social scientists. You will become a better researcher by considering assumptions and being explicit about them. This is so because being reflexive and aware of assumptions—rather than accepting them without awareness—will help you to think more clearly. As Collier remarked (2005:327),

existing sciences, particularly social sciences, are not innocent of philosophy. Many of them from their onset assumed some philosophical position about what a science should look like, and tried to imitate it. Further, their practitioners have often forgotten their philosophical premises . . . thereby turning these premises into unchallengeable dogmas.

A division of labor between the practical activity of doing research and being aware of the root philosophical issues in science has had unfortunate consequences. Most practicing researchers focus on mastering specific research techniques. This has left “the question of what empirical research might be

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or entail to philosophers of social science,” and this gap “obscured what might otherwise be a more accurate picture of the range of extant research practices: the actuality of divergent approaches . . .” (Mihic, Engelmann, and Wingrove 2005:483).

We now turn to the two areas of philosophy and some basic divisions within them that relate directly to the major approaches to social science research.

Ontology concerns the issue of what exists, or the fundamental nature of reality. When we do a study, we are making assumptions about what we will study and its place in the world. Two basic positions within ontology are the realist and nominalist. Realists see the world as being “out there.” The world is organized into preexisting categories just waiting for us to discover. A realist assumes that the “real world” exists independently of humans and their interpretations of it. This makes accessing what is in the real world less difficult. To use a cliché, “What you see is what you get.” A subgroup of realists, critical realists, modify this assumption. They say that it is not easy to capture reality directly and that our inquiry into reality “out there” can easily become distorted or muddled. Our preexisting ideas, subjectivity, or cultural interpretations contaminate our contact with reality. The critical realist adds a few safeguards or adjustments to control the effect of such interpretations.

The nominalist assumes that humans never directly experience a reality “out there.” Our experience with what we call “the real world” is always occurring through a lens or scheme of interpretations and inner subjectivity. Subjective-cultural beliefs influence what we see and how we experience reality. Our personal biography and cultural worldview are always organizing our experiences into categories and patterns. They do this without our realizing it. Nominalists recognize that some interpretative schemes are more opaque than others, yet they hold that we can never entirely remove the interpretative lens. We are always limited in how far we can reach

beyond our inner thoughts, cultural background, and subjectivity.

Let us make this abstract distinction between realists and nominalists more concrete. A realist sees a rug. She says reality presents her a rug—something to cover a floor and walk upon. She looks at a person’s facial features, hair, and skin tone and recognizes that the person belongs to one of the world’s racial groupings. She examines a person’s body in depth—such as skeleton, genitals, breasts, results of chemical tests for hormones, and hair coverage—and sees that the person is a biological male or female. By contrast, a nominalist looks at a rug and asks what might this be. He asks what is it made of, how was it created, in what ways is it used, why is it here, and how does a specific historical-cultural setting and people’s practices with it shape what we see. Is it only something to wipe his feet on and walk upon? Do some people sit, sleep, and eat on the rug all day? Do people hang it on walls to keep a room warm? Can it be a work of art to be admired and provide aesthetic pleasure? Do people see the rug as a religious object and worship it? When the nominalist sees a person’s skin tone and facial features, he is perplexed. Why are there categories of racial distinction? What might such categories contain when the entire idea of race varies greatly by culture and historical era? Likewise, a nominalist looks at a human body and worries about ambiguities in the physical differences. Is everyone clearly one or another of the biological sexes? How well do biological-physical differences match the gender-social differences of a society? As with racial categories, the number of gender categories and what distinguishes one from another varies greatly by culture and era. What a nominalist sees largely comes from imposing a subjective viewpoint onto the visible physical appearances, and what other people might see could be very different.

We can put realist-nominalist ontological assumptions on a continuum (see Figure 1). A hardcore realist says we see what exists, and we can easily capture it to produce objective knowledge. A critical realist is more cautious and recognizes that subjective-culture interpretations may color some of our experiences with reality. A moderate

Ontology An area of philosophy that deals with the nature of being, or what exists; the area of philosophy that asks what really is and what the fundamental categories of reality are.



FIGURE 1 Ontological Assumptions

nominalist says subjective-cultural factors greatly shape all of our experiences with the physical and social world, and we can never totally remove such factors. An extreme nominalist says our basic understanding of every physical-social experience depends so heavily on interpretative-cultural factors that the experiences make no sense without these factors and any form of objective knowledge is impossible.

Epistemology is the issue of how we know the world around us or what makes a claim about it true. How we can learn about or know the world is rooted in our ontological assumptions. Epistemology includes what we need to do to produce knowledge and what scientific knowledge looks like once we have produced it.

If we adopt a realist position, we can produce knowledge and learn about reality by making careful observations of it. A realist says there is an empirical world “out there” that exists apart from our inner thoughts and perceptions of it. As we gather empirical evidence we find that some of our ideas about reality can be verified or found consistent with the evidence, while other ideas are false because they lack supporting empirical evidence. As we investigate empirical reality, we can distinguish truth from myth or illusion and produce objective knowledge. After we pull together and organize the ideas that have been verified, we will discover broad principles or laws to explain what reality contains and how it works. We produce new knowledge deductively by testing preexisting ideas and conjectures about reality against empirical data. We can also work inductively to gather together and organize empirical evidence into higher order generalizations. Working inductively and deductively, over time we can distinguish true from false ideas about broad areas of reality.

If we adopt a nominalist position, making observations will not lead to knowledge about reality

because interpretations and subjective views greatly influence all observations. The same holds true for people we might observe—their interpretations and subjective views shape all they say and do. What we and other people experience as reality is constructed from the outcome of a constant process of actions and interpretations that take place in particular locations and times. It is impossible to separate an objective “out there” reality from interpretations or effects of the time/place in which it occurs. The best we can do is to recognize our own viewpoints and interpretations. We might try to discover other people’s inner, subjective views and interpretations as they carry out their daily lives. General laws of social life, laws that hold across all people and places, are not possible to create. The best knowledge about the world that we can produce is to offer carefully considered interpretations of specific people in specific settings. We can offer interpretations of what we think other people are doing and what we believe to be their reasons in specific settings. To produce social science knowledge, we must inductively observe, interpret, and reflect on what other people are saying and doing in specific social contexts while we simultaneously reflect on our own experiences and interpretations.

THE THREE APPROACHES

Science is a human creation. It is not something handed down like a sacred text written in stone. Until the early 1800s, only philosophers and religious scholars engaging in armchair speculation wrote about human behavior. Early social thinkers argued that we could study the social world using principles from science. These thinkers held that rigorous, systematic observation of the social world combined with careful, logical thinking could provide a new, valuable form of knowledge.

Slowly the idea that we could examine the social world by using scientific principles gained

Epistemology An area of philosophy concerned with the creation of knowledge; focuses on how we know what we know or what are the most valid ways to reach truth.

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broad acceptance. The next issue was how to conduct scientific research to study social reality. A simple answer was to borrow from the natural sciences (e.g., physics, biology, and chemistry) and copy/adapt their assumptions and research methods as much as possible.

Many social researchers embraced this answer, but it posed several difficulties. First, even natural scientists debate the meaning of science. The so-called *scientific method* is little more than a loose set of abstract, vague principles that offer limited guidance, and working scientists use several methods. Second, some people said that human beings have qualitative differences from the types of objects studied in natural science (stars, rocks, plants, chemical compounds, fish, etc.). Humans have the ability to think and learn. They are aware of themselves as well as their past and possess motives and reasons. Some asked whether such human characteristics require only some adjustments to the natural science approach or require an entirely separate, special kind of science.

The three approaches in this chapter are core ideas distilled from many specific arguments.² They are ideal types. In practice, we as social researchers may mix elements from each approach, yet these approaches represent differences in outlook and alternative assumptions about doing social science research.³ The approaches are evolving positions that offer different ways to observe, measure, and understand social reality.

To simplify the discussion, the assumptions and ideas of the three approaches have been organized into answers to ten questions (see Chart 1).

The three approaches are *positivist social science*, *interpretive social science*, and *critical social science*. Most ongoing social research is based on the first two. Positivism is the oldest and the most widely used approach. The other two nonpositivist alternatives represent a different outlook and

Paradigm A general organizing framework for theory and research that includes basic assumptions, key issues, models of quality research, and methods for seeking answers.

CHART 1 Ten Questions

1. What is the ultimate purpose of conducting social scientific research?
 2. What is the fundamental nature of social reality?
 3. What is the basic nature of human beings?
 4. What is the view on human agency (free will, volition, and rationality)?
 5. What is the relationship between science and common sense?
 6. What constitutes an explanation or theory of social reality?
 7. How does one determine whether an explanation is true or false?
 8. What does good evidence or factual information look like?
 9. What is the relevance or use of social scientific knowledge?
 10. Where do sociopolitical values enter into science?
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assumptions about social science research that go back more than a century.

Each approach is associated with different social theories and diverse research techniques. Connections among the approaches to science, social theories, and research techniques are not strict. The approaches are similar to a research program, research tradition, or scientific paradigm. A **paradigm**, an idea made famous by Thomas Kuhn (1970), means a basic orientation to theory and research. There are many definitions of *paradigm*. In general, a scientific paradigm is a whole system of thinking. It includes basic assumptions, the important questions to be answered or puzzles to be solved, the research techniques to be used, and examples of what good scientific research is like. Positivism has been a dominant paradigm in social science, especially as practiced in the United States since 1945. Anthropology and history are the least positivist fields and economics and experimental psychology the most positivist with political science and sociology somewhat mixed. Several paradigms compete in sociology,⁴ but it “has been

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predominantly positivist since 1945, aside from a brief period of epistemological turmoil . . ." (Steinmetz, 2005a:25).

POSITIVIST SOCIAL SCIENCE

Positivist social science (PSS) is used widely, and *positivism*, broadly defined, is the approach of the natural sciences. In fact, most people assume that a positivist approach *is* science. Many versions of positivism exist and it has a long history within the philosophy of science and among researchers.⁵ Yet for many researchers, positivism has come to be a pejorative label to be avoided. Turner (1992:1511) observed, "*Positivism* no longer has a clear referent, but it is evident that, for many, being a positivist is not a good thing." Varieties of PSS go by names such as logical empiricism, the accepted or conventional view, postpositivism, naturalism, the covering law model, and behaviorism. Steinmetz (2005b:227) calls "the special cluster of ontological, epistemological and methodological assumptions that has prevailed in U.S. sociology for the past half century" *methodological positivism*.

Western European philosophers developed positivism in the late eighteenth and early nineteenth centuries. Two British philosophers, David Hume (1711–1776) in *A Treatise of Human Nature* (1739–1740) and John Stuart Mill (1806–1873) in *A System of Logic* (1843), outlined the fundamentals of positivist science. The French founder of sociology—Auguste Comte (1798–1857)—wrote *Cours de Philosophie Positivistic (The Course of Positive Philosophy)* (1830–1842), which elaborated principles of social science positivism. French sociologist Émile Durkheim (1858–1917) used positivist assumptions in his *Rules of the Sociological Method* (1895), a core text for early social researchers.

Positivism sets up a certain model of science as value-free, atomistic; discovering causal laws. . . . These are supposed to be characteristic of the natural sciences that have made them so successful, and the assumption is that if the social sciences could only imitate them, they would achieve similar success. (Collier 2005:328)

Positivism is associated with several social theories and structural-functional, rational choice, and exchange-theory frameworks. PSS researchers prefer precise quantitative data and often use experiments, surveys, and statistics. They seek rigorous, exact measures and "objective" research. They test causal hypotheses by carefully analyzing numbers from the measures. Researchers in many fields (public health administration, criminal justice, market research, policy analysis, program evaluation) rely on positivist social science.

PSS dominated the articles of major sociology journals in Britain, Canada, Scandinavia, and the United States during the 1960s and 1970s. By the 1980s and 1990s, it had declined sharply in European journals but remained dominant in North American journals.⁶

In positivism, "there is only *one* logic of science, to which any intellectual activity aspiring to the title of 'science' must conform" (Keat and Urry, 1975:25, emphasis in original). Thus, the social sciences and the natural sciences use the same method. In this view, any differences between the social and natural sciences are due to the immaturity of the social sciences and their subject matter. There is an assumption that eventually all science, including the social sciences, will become like the most advanced science, physics. Some differences remain among the sciences because of the subject matter (e.g., studies of geology require techniques different from astrophysics or microbiology because of the objects being examined), but all sciences share a common set of principles and logic.

Positivist social science is an *organized method for combining deductive logic with precise empirical observations of individual behavior in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activity*.

Positivist social science (PSS) One of three major approaches to social research that emphasizes discovering causal laws, careful empirical observations, and value-free research.

The Questions

1. *What is the ultimate purpose of conducting social scientific research?*

The ultimate purpose of research is to obtain scientific explanation—to discover and document universal **causal laws** of human behavior. As Turner (1985:39) stated, the “social universe is amenable to the development of abstract laws that can be tested through the careful collection of data” and researchers need to “develop abstract principles and models about invariant and timeless properties of the social universe.” Scientists engage in a never-ending quest for knowledge. As we learn more and discover new complexities, we still have more to learn. Some versions of PSS maintain that humans can never know everything: Only God possesses such knowledge; however, God gave humans the capacity for knowledge, and we have a duty to discover as much as we can.

2. *What is the fundamental nature of social reality?*

Modern positivists adopt a realist ontology. They hold that reality exists “out there” and is waiting to be discovered. Human perception and intellect may be flawed, and reality may be difficult to pin down, but it exists, is patterned, and has a natural order. Without this assumption (i.e., if the world were chaotic and without regularity), logic and prediction would be impossible. Science lets humans discover this order and the laws of nature. “The basic, observational laws of science are considered to be true, primary and certain, because they are built into the fabric of the natural world. Discovering a law is like discovering America, in the sense that

both are already waiting to be revealed” (Mulkay, 1979:21).

The assumptions of realist ontology (also called *essentialist, objectivist, or empirical realist*) about reality prevail in commonsense thinking, especially in Anglo-European societies. The assumption is that what we can see and touch (i.e., empirical reality) is not overly complex. What we observe reflects the deeper essence of things, people, and relations in the world. It is a “what-you-see-is-what-you-get” or “show-me” type of stance. Things are as they appear, created out of a natural order of the world. Thus, race, gender, and measurements of space and time just “are.” This view has many implications. For example, males commit more crime than females do because of something involving their “maleness.” A related assumption about time is that it is linear or flows in a straight line. What happened in the past always differs somewhat from the present because time flows in only one direction—forward to the future.

Other PSS assumptions are that social reality is stable and our knowledge about reality is additive. While time flows, the core regularity in social reality does not change, and laws we discover today will hold in the future. The additive feature of knowledge means we can study many separate parts of reality one at a time, then add the fragments together to get a picture of the whole. Over time, we add more and more knowledge, ever expanding our understanding of the world.

3. *What is the basic nature of human beings?*

PPS assumes that humans are self-interested, pleasure-seeking/pain-avoiding, rational mammals. A cause will have the same effect on everyone. We can learn about people by observing their behavior that we see in external reality. This is more important than what happens in internal, subjective reality. Sometimes, this is called a **mechanical model of man** or a behaviorist approach. It means that people respond to external forces that are as real as physical forces on objects. Durkheim (1938:27) stated, “Social phenomena are things and ought to be studied as things.” This emphasis on observable, external reality suggests that researchers do not have to examine unseen, internal motivations.

Causal laws General cause–effect rules used in causal explanations of social theory and whose discovery is a primary objective of positivist social science.

Mechanical model of man A model of human nature used in positivist social science stating that observing people’s external behaviors and documenting outside forces acting on them are sufficient to provide adequate explanations of human thought and action.

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4. *What is the view on human agency (free will, volition, and rationality)?*

PSS emphasizes the **determinism** of relationships and looks for determining causes or mechanisms that produce effects. PSS investigates how external forces, pressures, and structures that operate on individuals, groups, organizations, or societies produce outcomes (e.g., behaviors, attitudes). PSS downplays an individual's subjective or internal reasons and any sense of free choice or volition. Mental processes are less central than the structural forces or conditions beyond individual control that exert influence over choices and behavior. While individual people may believe that they can act freely and can make any decisions, positivists emphasize the powerful social pressures and situations that operate on people to shape most if not all of their actions. Even positivists who use rational choice explanations focus less on how individuals reason and make choices than on identifying sets of conditions that allow them to predict what people will choose. Positivists assume that once they know external factors, individual reasoning largely follows a machinelike rational logic of decision making.

Few positivists believe in a strict or absolute determinism in which people are mere robots or puppets who must always respond similarly. Rather, the causal laws are probabilistic. Laws hold for large groups of people or occur in many situations. Researchers can estimate the odds of a predicted behavior. In other words, the laws enable us to make accurate predictions of how often a social behavior will occur within a large group. The causal laws cannot predict the specific behavior of a specific person in each specific situation. However, they can say that under conditions *X*, *Y*, and *Z*, there is a 95 percent probability that one-half of the people will engage in a specified behavior. For example, researchers cannot predict how John Smith will vote in the next election. However, after learning dozens of facts about John Smith and using laws of political behavior, researchers can accurately state that there is an 85 percent chance that he (and people like him) will vote for candidate C. This does not mean that Mr. Smith cannot vote for whomever he wants. Rather, his voting behavior is patterned and shaped by outside social forces.

5. *What is the relationship between science and common sense?*

PSS sees a clear separation between science and nonscience. Of the many ways to seek truth, science is special—the “best” way. Scientific knowledge is better than and will eventually replace the inferior ways of gaining knowledge (e.g., magic, religion, astrology, personal experience, and tradition). Science borrows some ideas from common sense, but it replaces the parts of common sense that are sloppy, logically inconsistent, unsystematic, or full of bias. The scientific community—with its special norms, scientific attitudes, and techniques—can regularly produce “Truth,” whereas common sense does so only rarely and inconsistently.

Many positivist researchers create an entirely new vocabulary that is more logically consistent, carefully considered, and refined than terms of everyday common sense. The positivist researcher “should formulate new concepts at the outset and not rely on lay notions. . . . There is a preference for the precision which is believed possible in a discipline-based language rather than the vague and imprecise language of everyday life” (Blaikie, 1993:206). In his *Rules of the Sociological Method*, Durkheim warned the researcher to “resolutely deny himself the use of those concepts formed outside of science” and to “free himself from those fallacious notions which hold sway over the mind of the ordinary person” (quoted in Gilbert, 1992:4).

6. *What constitutes an explanation or theory of social reality?*

A PSS explanation is **nomothetic** (*nomos* means *law* in Greek); it is based on a system of general laws. Science explains why social life is the way it is by discovering causal laws. Explanation takes this form: *Y* is caused by *X* because *Y* and *X* are specific instances of a causal law. In other

Determinism An approach to human agency and causality that assumes that human actions are largely caused by forces external to individuals that can be identified.

Nomothetic A type of explanation used in positivist social science that relies heavily on causal laws and lawlike statements and interrelations.

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words, a PSS explanation states the general causal law that applies to or covers specific observations about social life. This is why PSS is said to use a **covering law model** of explanation.

PSS assumes that the laws operate according to strict, logical reasoning. Researchers connect causal laws and can deductively connect the many facts that they observe. Many positivists believe that it may be possible eventually to express the laws and theories of social science in formal symbolic systems with axioms, corollaries, postulates, and theorems. Some-day social science theories could look similar to those in mathematics and the natural sciences.

The laws of human behavior should be universally valid, holding in all historical eras and in all cultures. As noted before, the laws are in a probabilistic form for aggregates of people. For example, a PSS explanation of a rise in the crime rate in Toronto in 2010 refers to factors (e.g., rising divorce rate, declining commitment to traditional moral values) that could be found anywhere at any time: in Buenos Aires in the 1890s, Chicago in the 1940s, or Singapore in the 2020s. The factors logically obey a general law (e.g., the breakdown of a traditional moral order causes an increase in the rate of criminal behavior).

7. *How does one determine whether an explanation is true or false?*

Positivism developed during the Enlightenment (post–Middle Ages) period of Western thinking.⁷ It includes an important Enlightenment idea: People can recognize truth and distinguish it from falsehood by applying reason, and, in the long run, the human condition can improve through the use of reason and the pursuit of truth. As knowledge increases and ignorance declines, conditions will improve. This optimistic belief that knowledge accumulates over time plays a role in how positivists sort out true from false explanations.

PSS explanations must meet two conditions: They must (1) have no logical contradictions and (2) be consistent with observed facts, yet this is not

sufficient. Replication is also needed.⁸ Any researcher can replicate or reproduce the results of others. This puts a check on the whole system for creating knowledge. It ensures honesty because it repeatedly tests explanations against hard, objective facts. An open competition exists among opposing explanations. In the competition, we use impartial rules, accurately observe neutral facts, and rigorously apply logic. Over time, scientific knowledge accumulates as different researchers conduct independent tests and add up the findings. For example, a researcher finds that rising unemployment is associated with increased child abuse in San Diego, California. We cannot conclusively demonstrate a causal relationship between unemployment and child abuse with just one study, however. Confirming a causal law requires finding the same relationship elsewhere with other researchers conducting independent tests and careful measures of unemployment and child abuse.

8. *What does good evidence or factual information look like?*

PSS adopts a dualist view; it assumes that the cold, observable facts are fundamentally distinct from ideas, values, or theories. Empirical facts exist apart from personal ideas or thoughts. We can experience them by using our sense organs (sight, smell, hearing, and touch) or special instruments that extend the senses (e.g., telescopes, microscopes, and Geiger counters). Some researchers express this idea as two languages: a language of empirical fact and a language of abstract theory. If people disagree over facts, the dissent must be due to the improper use of measurement instruments or to sloppy or inadequate observation. “Scientific explanation involves the accurate and precise measurement of phenomena” (Derksen and Gartell, 1992:1714). Knowledge of observable reality obtained using our senses is superior to other knowledge (e.g., intuition, emotional feelings); it allows us to separate true from false ideas about social life.

Positivists assign a privileged status to empirical observation. They assume that we all share the same fundamental experience of the empirical world. This means that factual knowledge is not based on just one person’s observations and subjective reasoning. It must be communicated to and

Covering law model A positivist social science principle that a few high-level, very abstract theories cover and allow deducing to many low-level, more concrete situations.

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shared with others. Rational people who independently observe facts will agree on them subjectively. This is called **intersubjectivity**, or the shared subjective acknowledgment of the observable facts.

Many positivists also endorse the falsification doctrine outlined by the Anglo-Austrian philosopher Sir Karl Popper (1902–1991) in *The Logic of Scientific Discovery* (1934). Popper argued that claims to knowledge “can never be proven or fully justified, they can only be refuted” (Phillips, 1987:3). Evidence for a causal law requires more than piling up supporting facts; it involves looking for evidence that contradicts the causal law. In a classic example, if I want to test the claim that all swans are white, and I find 1,000 white swans, I have not totally confirmed a causal law or pattern. Locating one black swan is all it takes to refute my claim—one piece of negative evidence. This means that researchers search for disconfirming evidence, and even then, the best they can say is, “Thus far, I have not been able to locate any, so the claim is probably right.”

9. *What is the relevance or use of social scientific knowledge?*

Positivists try to learn about how the social world works to enable people to exercise control over it and make accurate predictions about it. In short, as we discover the laws of human behavior, we can use that knowledge to alter and improve social conditions. This instrumental form of knowledge sees research results as tools or instruments that people use to satisfy their desires and control the social environment. Thus, PSS uses an **instrumental orientation** in which the relevance of knowledge is its ability to enable people to master or control events in the world around them.

PSS has a **technocratic perspective** to the application of knowledge. The word *technocratic* combines *technology* and *bureaucracy*. PSS says that after many years of professional training, researchers develop in-depth technical expertise. As an expert, the researcher tries to satisfy the information needs of large-scale bureaucratic organizations (e.g., hospitals, business corporations, government agencies). The questions such organizations ask tend to be oriented to improving the efficiency of operations and effectiveness of

reaching organizational goals or objectives. In a technical expert role the researcher provides answers to questions asked by others but *not* to ask different questions, redirect an inquiry into new areas, challenge the basic premises of questions, or defy the objectives set by leaders in control of the bureaucratic organizations.

10. *Where do sociopolitical values enter into science?*

PSS argues for objectives of **value-free science**. The term *objective* has two meanings: (1) that observers agree on what they see and (2) that scientific knowledge is not based on values, opinions, attitudes, or beliefs.⁹ Positivists see science as a special, distinctive part of society that is free of personal, political, or religious values. Science is able to operate independently of the social and cultural forces affecting other human activity because science involves applying strict rational thinking and systematic observation in a manner that transcends personal prejudices, biases, and values. Thus, the norms and operation of the scientific community keep science objective. Researchers accept and internalize the norms as part of their membership in the scientific community. The scientific community has an elaborate system of checks and balances to guard against value bias. A researcher’s

Intersubjectivity A principle for evaluating empirical evidence in positivist social science stating that different people can agree on what is in the empirical world by using the senses.

Instrumental orientation A means–end orientation toward social knowledge in which knowledge is like an instrument or tool that people can use to control their environment or achieve some goal. The value of knowledge is in its use to achieve goals.

Technocratic perspective An applied orientation in which the researcher unquestioningly accepts any research problem and limits on the scope of study requested by government, corporate, or bureaucratic officials, uncritically conducts applied research for them, and obediently supplies the officials with information needed for their decision making.

Value-free science A positivist social science principle that social research should be conducted in an objective manner based on empirical evidence alone and without inference from moral-political values.

proper role is to be a “disinterested scientist.”¹⁰ PSS has had an immense impact on how people see ethical issues and knowledge:

To the degree that a positivist theory of scientific knowledge has become the criterion for all knowledge, moral insights and political commitments have been delegitimized as irrational or reduced to mere subjective inclination. Ethical judgments are now thought of as personal opinion. (Brown, 1989:37)

Summary

Positivist social science is widely taught as being the same as science. Few people are aware of the origins of PSS assumptions. Scholars in western Europe during the eighteenth and nineteenth centuries who developed these assumptions had religious training and lived in a cultural-historical setting that assumed specific religious beliefs. Many PSS assumptions will reappear when you read about quantitative research techniques and measurement in later chapters. A positivist approach implies that a researcher begins with a cause–effect relationship that he or she logically derives from a possible causal law in general theory. He or she logically links the abstract ideas to precise measurements of the social world. The researcher remains detached, neutral, and objective as he or she measures aspects of social life, examines evidence, and replicates the research of others. These processes lead to an empirical test and confirmation of the laws of social life as outlined in a theory. Chart 2 provides a summary of PSS.

When and why did PSS become dominant? The story is long and complicated. Many present it as a natural advance or the inevitable progress of pure knowledge. PSS expanded largely due to changes in the larger political-social context. Positivism gained dominance in the United States and became the model for social research in many nations after World War II once the United States became the leading world power. A thrust toward objectivism—a strong version of positivism—developed in U.S. sociology during the 1920s. Objectivism grew as researchers shifted away from social reform-oriented studies with less formal or precise techniques toward rigorous techniques in a “value-free” manner modeled on the natural sciences. Researchers

CHART 2 Summary of Positivist Social Science

1. The purpose of social science is to discover laws.
 2. An *essentialist* view is that reality is empirically evident.
 3. Humans are rational thinking, individualistic mammals.
 4. A *deterministic* stance is taken regarding human agency.
 5. Scientific knowledge is different from and superior to all other knowledge.
 6. Explanations are *nomothetic* and advance via deductive reasoning.
 7. Explanations are verified using *replication* by other researchers.
 8. Social science evidence requires *intersubjectivity*.
 9. An *instrumental orientation* is taken toward knowledge that is used from a *technocratic perspective*.
 10. Social science should be *value free* and objective.
-

created careful measures of the external behavior of individuals to produce quantitative data that could be subjected to statistical analysis. Objectivism displaced locally based studies that were action oriented and largely qualitative. It grew because competition among researchers for prestige and status combined with other pressures, including the need for funds from private foundations (e.g., Ford Foundation, Rockefeller Foundation), university administrators who wanted to avoid unconventional politics, a desire by researchers for a public image of serious professionalism, and the information needs of expanding government and corporate bureaucracies. These pressures combined to redefine social research. The less technical, applied local studies conducted by social reformers (often women) were often overshadowed by apolitical, precise quantitative research by male professors in university departments.¹¹ Decisions made during a large-scale expansion of federal government funding for research after World War II also pushed the social sciences in a positivist direction.

INTERPRETIVE SOCIAL SCIENCE

We can trace **interpretive social science (ISS)** to the German sociologist Max Weber (1864–1920) and German philosopher Wilhelm Dilthey (1833–1911). In his major work, *Einleitung in die Geisteswissenschaften (Introduction to the Human Sciences)* (1883), Dilthey argued that there were two fundamentally different types of science: *Naturwissenschaft* and *Geisteswissenschaft*. The former rests on *Erklärung*, or abstract explanation. The latter is rooted in an empathetic understanding, or *verstehen*, of the everyday lived experience of people in specific historical settings. Weber argued that social science should study social action with a purpose. He embraced *verstehen* and felt that we must learn the personal reasons or motives that shape a person’s internal feelings and guide decisions to act in particular ways.

We shall speak of “social action” wherever human action is subjectively related in meaning to the behavior of others. An unintended collision of two cyclists, for example, shall not be called social action. But we will define as such their possible prior attempts to dodge one another. . . . Social action is not the only kind of action significant for sociological causal explanation, but it is the primary object of an “interpretive sociology.” (Weber, 1981:159)

Interpretive social science is related to **hermeneutics**, a theory of meaning that originated in the nineteenth century. The term comes from a god in Greek mythology, Hermes, who had the job of communicating the desires of the gods to mortals. It “literally means making the obscure plain” (Blaikie, 1993:28). The humanities (philosophy, art history, religious studies, linguistics, and literary criticism) use hermeneutics. It emphasizes conducting a very close, detailed reading of *text* to acquire a profound, deep understanding. *Text* can mean a conversation, written words, or pictures. We conduct “a reading” to discover deeper, richer meanings that are embedded within the text. Each reader brings her or his subjective experience to the text. When studying the text, the researcher/reader tries to absorb or get inside the viewpoint the text presents as a whole and then to develop an understanding of

how each of the parts relates to the whole. In other words, true meaning is rarely obvious on the surface. We can reach it only through a detailed examination and study of the text, by contemplating its many messages, and seeking the connections among its parts.¹²

Interpretive social science (ISS) has several varieties: hermeneutics, constructionism, ethnomethodology, cognitive, idealist, phenomenological, subjectivist, and qualitative sociology.¹³ An interpretive approach is associated with the symbolic interactionist Chicago school in sociology of the 1920s–1930s. Often people just call ISS qualitative research because most interpretive researchers use participant observation and field research. These techniques require researchers to devote many hours in direct personal contact with the people they study. Other ISS researchers analyze transcripts of conversations or study videotapes of behavior in extraordinary detail, looking for subtle nonverbal communication to understand the details of interactions in their context. The positivist researcher may precisely measure selected quantitative details about thousands of people and use statistics whereas an interpretive researcher may live for a year with a dozen people to gather mountains of highly detailed qualitative data so that he or she can acquire an in-depth understanding of how the people create meaning in their everyday lives.

Interpretive social science concerns how people interact and get along with each other. In general, the interpretive approach is *the systematic*

Interpretive social science (ISS) One of three major approaches to social research that emphasizes meaningful social action, socially constructed meaning, and value relativism.

Verstehen A word from German that means empathetic understanding (i.e., a deep understanding with shared meaning) and that is a primary goal for social research according to interpretive social science.

Hermeneutics A method associated with interpretive social science that originates in religious and literary studies of textual material in which in-depth inquiry into text and relating its parts to the whole can reveal deeper meanings.

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analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds.

The Questions

1. *What is the ultimate purpose of conducting social scientific research?*

For interpretive researchers, the goal of social research is to develop an understanding of social life and discover how people construct meaning in natural settings. The ISS researcher wants to learn what is meaningful or relevant to the people he or she is studying and how they experience everyday life. To do this, he or she gets to know people in a particular social setting in great depth and works to see the setting from the viewpoint of the people in it. He or she tries to know in the most intimate way the feelings and interpretations of people being studied, and to see events through their eyes. Summarizing the goal of his ten-year study of Willie, a repair shop owner in a rural area, interpretive researcher Harper (1987:12) said, “The goal of the research was to share Willie’s perspective.”

ISS researchers study **meaningful social action**, not just people’s visible, external behavior. Social action is the action to which people attach subjective meaning and is activity with a purpose or intent. Nonhuman species lack culture and the reasoning to plan things and attach purpose to their behavior; therefore, social scientists should study what is unique to human social behavior. The researcher must take into account the social actor’s reasons and the social context of action. For example, a physical reflex such as eye blinking is

human behavior that is rarely an intentional social action (i.e., done for a reason or with human motivation), but in some situations, it can be such a social action (i.e., a wink). More than simply having a purpose, the actions must also be social and “for action to be regarded as social and to be of interest to the social scientist, the actor must attach subjective meaning to it and it must be directed towards the activities of other people” (Blaikie, 1993:37).

Most human actions have little inherent meaning; they acquire meaning in a social context among people who share a meaning system. The common system of meaning allows people to interpret the action as being a socially relevant sign or action. For example, raising one finger in a situation with other people can express social meaning; the specific meaning it expresses (e.g., a direction, an expression of friendship, a vulgar sign) depends on the cultural meaning system that the social actors share.

2. *What is the fundamental nature of social reality?*

ISS sees human social life as an accomplishment. People intentionally create social reality with their purposeful actions of interacting as social beings. In contrast to the positivist view that social life is “out there” waiting to be discovered, ISS adopts a more nominalist ontology. Social reality is largely what people perceive it to be; it exists as people experience it and assign meaning to it. Social reality is fluid and fragile, and people construct it as they interact with others in ongoing processes of communication and negotiation. People rely on many untested assumptions and use taken-for-granted knowledge about the people and events around them. Social life arises in people’s subjective experiences as they interact with others and construct meaning. Capturing people’s subjective sense of reality to really understand social life is crucial. In ISS, “access to other human beings is possible, however, only by indirect means: what we experience initially are gestures, sounds, and actions and only in the process of understanding do we take the step from external signs to the underlying inner life” (Bleicher, 1980:9).

A **constructionist orientation** in ISS assumes that people construct reality out of their interactions and beliefs. No inner essence causes the reality

Meaningful social action Social action in social settings to which people subjectively attach significance and that interpretive social science treats as being the most important aspect of social reality.

Constructionist orientation An orientation toward social reality that assumes the beliefs and meaning that people create and use fundamentally shape what reality is for them.

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people see. For example, when you see a chair, there is no “chairness” in it; rather, what you see to be a chair arises from what the people of particular society and time define, accept, and understand to be a chair. Yes there is a physical object of wood or metal or cloth configured in a particular shape, but what you see as the empirical reality of a chair arises out of cultural-social processes that tell you to define the object as a chair.

In general, what people see and experience in the social world is socially constructed. Just because people’s experiences are socially constructed does not make them illusionary, immaterial, or unimportant. Once people accept social creations as being facts, or as real, the creations have very real consequences. For example, if socially constructed reality tells me that the person moving into an apartment next to mine has committed violent crimes and carries a gun, I will behave accordingly whether or not my constructed belief fits actual physical reality. For the constructionists, people live in, believe, and accept the constructed reality that has links to but is somewhat distinct from physical reality.

A constructionist notes that people take the social world around them “for granted” and behave as if the social world were a natural, objective, part of fixed reality. For example, people accept that a week has 7 days. Very few people realize that a week could be very different. Cultures have had 3-day, 5-day, and even 10-day weeks. The 7-day week is not a physical reality, but people take it for granted and treat it as a natural, fixed part of reality. The week that we now accept is a social construction. People created it in particular places and under specific historical circumstances.

PSS language connects directly to reality, and there is an attempt to make language as pure, logical, and precise as possible so that it accurately reflects reality. By contrast, the constructionist sees language as comprising social constructions. As we learn language, we learn to think and see the world in certain ways. Language has little direct connection to essential reality; it contains a worldview that colors how we see and experience the world. The difference continues to affect others’ social concepts, such as gender and race. For example, Anglo-European society divides gender into two categories and race into

six categories, primarily based on shades of skin color. The PSS realist ontology suggests that genders and races are real (i.e., males and females or races are essential distinctions in reality). In contrast, the constructionist says that language and habitual ways of thinking dictate what people see. They might see a world with two genders and six races, but other cultures see more than two genders or a different number of races and base racial differences on something other than skin color. In contrast to the PSS demand for “cold hard facts,” constructionists emphasize the processes by which people create social construction and use them as if they were real “things.”¹⁴

PSS assumes that everyone experiences the world in the same way. The interpretive approach questions whether people experience social or physical reality in the same way. These are key questions for an ISS researcher: How do people experience the world? Do they create and share meaning? Interpretive social science points to numerous examples in which several people have seen, heard, or even touched the same physical object yet come away with different meanings or interpretations of it. The interpretive researcher argues that positivists impose one way of experiencing the world on others. In contrast, ISS assumes that multiple interpretations of human experience, or realities, are possible. In sum, the ISS approach defines social reality as consisting of people who construct meaning and create interpretations through their daily social interaction.

3. *What is the basic nature of human beings?*

Ordinary people are engaged in an ongoing process of creating systems of meaning through social interaction. They then use such meanings to interpret their social world and make sense of their lives. Human behavior may be patterned and regular but this is not because of preexisting laws that are waiting for us to discover them. The patterns result from evolving meaning systems or social conventions that people generate as they interact socially. Important questions for the interpretive researcher are these: What do people believe to be true? What do they hold to be relevant? How do they define what they are doing?

Interpretive researchers want to discover what actions mean to the people who engage in them. It

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makes little sense to try to deduce social life from abstract, logical theories that may not relate to the daily feelings and experiences of ordinary people. People have their own reasons for their actions, and we need to learn the reasons that people use. Individual motives are crucial to consider even if they are irrational, carry deep emotions, and contain mistaken beliefs and prejudices. Some ISS researchers say that the laws sought by positivists may be found only after the scientific community understands how people create and use meaning systems, how common sense develops, and how people apply their common sense to situations. Other ISS researchers do not believe that such laws of human social life exist, so searching for them is futile. For example, an ISS researcher sees the desire to discover laws of human behavior in which unemployment causes child abuse as premature at best and dangerous at worst. Instead, he or she wants to understand how people subjectively experience unemployment and what the loss of a job means in their everyday lives. Likewise, the interpretive researcher wants to learn how child abusers account for their actions, what reasons they give for abuse, and how they feel about abusing a child. He or she explores the meaning of being unemployed and the reasons for abusing a child in order to understand what is happening to the people who are directly involved.

4. *What is the view on human agency (free will, volition, and rationality)?*

Whereas PSS emphasizes deterministic relations and external forces, ISS emphasizes voluntary individual free choice, sometimes called *human agency*. ISS adopts **voluntarism** and sees people as having volition (being able to make conscious choices). Social settings and subjective points of view help to shape the choices a person makes, but

Voluntarism An approach to human agency and causality assuming that human actions are based on the subjective choices and reasons of individuals.

Natural attitude An idea used in ISS that we assume that the world of commonsense understanding is stable and real and continues from the past into the future without dramatic change; we do this from the practical need to accomplish everyday tasks.

people create and change those settings and have the ability to develop or form a point of view. ISS researchers emphasize the importance of considering individual decision-making processes, subjective feelings, and ways to understand events. In ISS, this inner world and a person's way of seeing and thinking are equally if not more significant for a person's actions than the external, objective conditions and structural forces that positivists emphasize.

5. *What is the relationship between science and common sense?*

Positivists see common sense as being inferior to science. By contrast, ISS holds that ordinary people use common sense to guide them in daily life. Common sense is a stockpile of everyday theories that people use to organize and explain events in the world. It is critical for us to understand common sense because it contains the meanings that people use when they engage in everyday routine social interactions.

ISS says that common sense and the positivist's laws are alternative ways to interpret the world; that is, they are distinct meaning systems. Neither common sense nor scientific law has all of the answers. Instead, interpretive researchers see both scientific laws and common sense as being important in their own domains; we create scientific laws and common sense in different ways for different purposes. Ordinary people could not function in daily life if they tried to base their actions on science alone. For example, to boil an egg, people use unsystematic experiences, habits, and guesswork. A strict application of natural science would require people to know the laws of physics that determine heating water and the chemical laws that govern the changes in an egg's internal composition. Even natural scientists use common sense when they are not "doing science" in their area of expertise.

Common sense is a vital source of information for understanding people. A person's common sense emerges from a pragmatic orientation and set of assumptions about the world. People assume that common sense is true because they need to use it to accomplish anything. The interpretive philosopher Alfred Schutz (1899–1959) called this the **natural attitude**. It is the assumption that the world existed before you arrived and it will continue to exist after

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you depart. People develop ways to maintain or reproduce a sense of reality based on systems of meaning that they create in the course of social interactions with others.

6. *What constitutes an explanation or theory of social reality?*

PSS theory tries to mimic theory in natural science. It may have deductive axioms, theorems, and interconnected causal laws. Instead of interconnected laws and propositions, theory for ISS tells a story. ISS describes and interprets how people conduct their daily lives. While it may contain social science concepts and limited generalizations, it does not dramatically depart from the lived experiences and inner reality of the people being studied.

ISS is idiographic and inductive. **Idiographic** means that the approach provides a symbolic representation or “thick” description of something else. An interpretive research report may read like a novel or a biography. It is rich in detailed description and limited in abstraction. Like the interpretation of a literary work, it has internal coherence and is rooted in the text, which here refers to the meaningful everyday experiences of the people being studied.

The purpose of ISS theory is to provide an interpretative explanation. ISS attempts to provide readers a deep feeling for another person’s social reality by revealing the meanings, values, interpretive schemes, and rules of daily living. For example, ISS theory may describe major typifications that people use in a setting to recognize and interpret their experiences. A **typification** is an informal model, scheme, or set of beliefs that people use to categorize and organize the flow of the daily events they experience.

ISS theory resembles a map that outlines a social world and describes local customs and norms. For example, an interpretive report on professional gamblers tells the reader about the careers and daily concerns of such people. The report describes the specific individuals studied, the locations and activities observed, and the strategies used to gamble. The reader learns how professional gamblers speak, how they view others, and what their fears or ambitions are. The researcher provides some generalizations and organizing concepts, but the bulk of the

report is a detailed description of the gambling world. The theory and evidence are interwoven to create a unified whole; the concepts and generalizations are wedded to their context.

7. *How does one determine whether an explanation is true or false?*

PSS logically deduces from theory, collects data, and analyzes facts in ways that allow replication. For ISS, a theory is true if it makes sense to those being studied and if it allows others to enter the reality of those being studied. The theory or description is accurate if the researcher conveys a deep understanding of the way others reason, feel, and see things. Prediction may be possible but it is a type of prediction that occurs when two people are very close as when they have been married for a long time. An interpretive explanation documents the actor’s point of view and translates it into a form that is intelligible to readers. Smart (1976:100) calls this the **postulate of adequacy**:

The postulate of adequacy asserts that if a scientific account of human action were to be presented to an individual actor as a script it must be understandable to that actor, translatable into action by the actor and furthermore comprehensible to his fellow actors in terms of a common sense interpretation of everyday life.

Like a traveler telling about a foreign land, the researcher is not a native. Such an outside view never equals the insider account that people who are

Idiographic A type of explanation used in interpretive social science in which the explanation is an in-depth description or picture with specific details but limited abstraction about a social situation or setting.

Typification An informal model or scheme people use in everyday life to categorize and organize the flow of the events and situations that they experience; often part of common knowledge or common sense, it simplifies and helps to organize the complexity and flow of life.

Postulate of adequacy An interpretive social science principle that explanations should be understandable in commonsense terms by the people being studied.

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being studied might give; however, the closer it is to the native's account, the better. For example, one way to test the truthfulness of an ISS study of professional gambling is to have professional gamblers read it and verify its accuracy. A good report tells a reader enough about the world of professional gambling so that if the reader absorbed it and then met a professional gambler, the understanding of gambling jargon, outlook, and lifestyle might lead the gambler to ask whether the reader was also a professional gambler.

8. *What does good evidence or factual information look like?*

Good evidence in positivism is observable, precise, and independent of theory and values. In contrast, ISS sees the features of specific contexts and meanings as essential to understand social meaning. Evidence about social action cannot be isolated from the context in which it occurs or the meanings assigned to it by the social actors involved. As Weber (1978:5) said, "Empathic or appreciative accuracy is attained when, through sympathetic participation, we can adequately grasp the emotional context in which the action took place."

For ISS, facts are fluid and embedded within a meaning system; they are not impartial, objective, or neutral. Facts are contingent and context specific; they depend on combinations of specific events with particular people in a specific setting. What PSS assumes—that neutral outsiders observe behavior and see unambiguous, objective facts—ISS takes as a question to be addressed: How do people observe ambiguities in social life and assign meaning? Interpretive researchers say that social situations are filled with ambiguity. Most behaviors or statements can have several meanings and can be interpreted in multiple ways. In the flow of social life, people are constantly "making sense" by reassessing clues in the situation and assigning meanings until they

Bracketing A strategy of interpretive social science researchers to identify the taken-for-granted assumptions of a social scene and then set them aside or hold them in temporary abeyance. By recognizing and separating the ordinary, "obvious" meanings people use in daily life, researchers can better understand their role.

"know what's going on." For example, I see a woman holding her hand out, palm forward. Even this simple act carries multiple potential meanings; I do not know its meaning without knowing the social situation. It could mean that she is warding off a potential mugger, drying her nail polish, hailing a taxi, admiring a new ring, telling oncoming traffic to stop for her, or requesting five bagels at a deli counter.¹⁵ People are able to assign appropriate meaning to an act or statement only if they consider the social context in which it occurs.

ISS researchers rarely ask survey questions, aggregate the answers of many people, or claim to obtain something meaningful to the questions. To ISS researchers, each person's interpretation of the survey question must be placed in a context (e.g., the individual's previous experiences or the survey interview situation), and the true meaning of a person's answer will vary according to the interview or questioning context. Moreover, because each person assigns a somewhat different meaning to the question and answer, combining answers produces only nonsense.

When studying a setting or data, interpretive researchers of the ethnomethodological school often use **bracketing**. It is a mental exercise in which the researcher identifies and then sets aside taken-for-granted assumptions used in a social scene. ISS researchers question and reexamine ordinary events that have an "obvious" meaning to those involved. For example, at an office work setting, one male co-worker in his late twenties says to the male researcher, "We're getting together for softball after work tonight. Do you want to join us?" What is *not said* is that the researcher should know the rules of softball, own a softball glove, and change from a business suit into other clothing before the game. Bracketing reveals what "everyone knows": what people assume but rarely say. It makes visible significant features of the social scene that make other events possible and is the underlying scaffolding of understandings on which actions are based.

9. *What is the relevance or use of social scientific knowledge?*

Interpretative social scientists want to learn how the world works so they can acquire an in-depth

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understanding of other people, appreciate the wide diversity of lived human experience, and better acknowledge shared humanity. Instead of viewing knowledge as a type of tool or instrument, ISS researchers try to capture the inner lives and subjective experiences of ordinary people. This humanistic approach focuses on how people manage their practical affairs in everyday life and treats social knowledge as a pragmatic accomplishment.

According to the ISS **practical orientation**, the relevance of social science knowledge comes from its ability to reflect in an authentic and comprehensive way how ordinary people do things in commonplace situations. ISS also emphasizes incorporating the social context of knowledge creation and creates a reflexive form of knowledge.

ISS researchers tend to apply a **transcendent perspective** toward the use and application of new knowledge. To *transcend* means to go beyond ordinary material experiences and perceptions. In social research, it means not stopping at the surface or observable level but going on to an inner and subjective level of human experience. Rather than treating people as external objects that a researcher studies, the transcendent perspective urges researchers to examine people's complex inner lives. Also, rather than study social conditions as they now appear, researchers should examine processes by which people actively construct and can transform existing conditions. ISS researchers try to engage and participate with the people being studied as a way to gain an intimate familiarity of them. A transcendent perspective emphasizes that researchers and people being studied should work together to create mutual understandings and affect conditions.

10. *Where do sociopolitical values enter into science?*

The PSS researcher calls for eliminating values and operating within an apolitical environment. The ISS researcher, by contrast, argues that researchers should reflect on, reexamine, and analyze personal points of view and feelings as a part of the process of studying others. The ISS researcher needs, at least temporarily, to empathize with and share in the social and political commitments or values of people

whom he or she studies. This is why ISS adopts the position of **relativism** with regard to values.

ISS questions the possibility of being value free because interpretive research sees values and meaning infused everywhere in everything. What PSS calls value freedom is just another meaning system and value—the value of positivist science. The interpretive researcher adopts relativism and does not assume that any one set of values is better or worse. Values should be recognized and made explicit.

Summary

ISS existed for many years as the loyal opposition to positivism. Although some positivist social researchers accept the interpretive approach as being useful in exploratory research, few positivists consider it as being scientific. You will read again about the interpretive outlook when you examine field research and, to a lesser degree, historical-comparative research in later chapters. The interpretive approach is the foundation of social research techniques that are sensitive to context, that get inside the ways others see the world, and that are more concerned with achieving an empathic understanding than with testing laws such as theories of human behavior. Chart 3 provides a summary of the interpretive approach.

Practical orientation A pragmatic orientation toward social knowledge in which people apply knowledge in their daily lives; the value of knowledge is the ability to be integrated with a person's practical everyday understandings and choices.

Transcendent perspective The researcher develops research together with the people being studied, examines people's inner lives to gain an intimate familiarity with them, and works closely with people being studied to create mutual understandings.

Relativism A principle used in interpretive social science that no single point of view or value position is better than others, and all are equally valid for those who hold them.

CHART 3 Summary of Interpretative Social Science

1. The purpose of social science is to understand social meaning in context.
2. A *constructionist* view is that reality is socially created.
3. Humans are interacting social beings who create and reinforce shared meaning.
4. A *voluntaristic* stance is taken regarding human agency.
5. Scientific knowledge is different from but no better than other forms.
6. Explanations are *idiographic* and advance via *inductive reasoning*.
7. Explanations are verified using the *postulate of adequacy* with people being studied.
8. Social scientific evidence is contingent, context specific, and often requires *bracketing*.
9. A *practical orientation* is taken toward knowledge that is used from a *transcendent perspective*.
10. Social science should be *relativistic* regarding value positions.

CRITICAL SOCIAL SCIENCE

Versions of **critical social science (CSS)** are called *dialectical materialism*, *class analysis*, and *critical structuralism*.¹⁶ CSS mixes nomothetic and ideographic approaches. It agrees with many of the criticisms the interpretive approach directs at PSS, but it adds some of its own and disagrees with ISS on some points. We can trace this approach to the writings of Karl Marx (1818–1883) and Sigmund Freud (1856–1939). Later, Theodor Adorno (1903–1969), Erich Fromm (1900–1980), and Herbert Marcuse (1898–1979) elaborated on it. Often CSS is associated with conflict theory, feminist analysis, and radical psychotherapy and is tied to critical theory first developed by the Frankfurt School in Germany in the 1930s.¹⁷ Critical social science criticized positivist science as being narrow, antidemocratic, and

Critical social science (CSS) One of three major approaches to social research that emphasizes combating surface-level distortions, multiple levels of reality, and value-based activism for human empowerment.

nonhumanist in its use of reason. This was outlined in Adorno's essays "Sociology and Empirical Research" (1976a) and "The Logic of the Social Sciences" (1976b). A well-known living representative of the school, Jürgen Habermas (1929–), advanced CSS in his *Knowledge and Human Interests* (1971). In the field of education, Paulo Freire (1921–1997) and his *Pedagogy of the Oppressed* (1970) also falls within the CSS approach.

Another example is the French sociologist Pierre Bourdieu (1930–2002) with his writings such as *Outline of A Theory of Practice* (1977).¹⁸ Bourdieu rejected both the objective, lawlike quantitative empirical approach of positivists and the subjective, voluntarist approach of ISS. He argued that social research must be reflexive (i.e., study and criticize itself as well as its subject matter) and is necessarily political. He also held that a goal of research is to uncover and demystify ordinary events.

ISS criticizes PSS for failing to deal with the meanings of real people and their capacity to feel and think, for ignoring social context, and for being antihumanist. CSS agrees with most such criticisms of PSS and believes that PSS defends the status quo. CSS criticizes ISS for being too subjective and relativist, treating people's ideas as more important than actual conditions (e.g., real poverty, oppression, violence). CSS also says that ISS focuses too much on localized, microlevel, short-term settings while ignoring the broader and long-term structural conditions. To CSS, ISS is amoral and passive. ISS fails to take a strong value position or actively help people to see false illusions around them. CSS does become involved so that ordinary people can improve their lives. In general, CSS defines social science as a *critical process of inquiry that goes beyond surface illusions to uncover the real structures in the material world in order to help people change conditions and build a better world for themselves*.

The Questions

1. *What is the ultimate purpose of conducting social scientific research?*

In the CSS view, the primary purpose of research is not simply to study the social world but to change

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it. CSS researchers conduct studies to critique and transform social relations by revealing the underlying sources of social control, power relations, and inequality. By uncovering conditions, CSS empowers people, especially those in society who are less powerful and marginalized. More specifically, CSS wants to expose myths, reveal hidden truths, and assist people in improving their lives. For CSS, the purpose of doing research is “to explain a social order in such a way that it becomes itself the catalyst which leads to the transformation of this social order” (Fay, 1987:27).

A CSS researcher asks embarrassing questions, exposes hypocrisy, and investigates conditions to stimulate grassroots action. “The point of all science, indeed all learning, is to change and develop out of our understandings and reduce illusion. . . . Learning is the reducing of illusion and ignorance; it can help free us from domination by hitherto unacknowledged constraints, dogmas and falsehoods” (Sayer, 1992:252).

For example, a CSS researcher conducts a study concerning racial discrimination in rental housing: Do White landlords refuse to rent to minority tenants? A critical researcher does not just publish a report and then wait for the fair housing office of the city government to act. The researcher gives the report to newspapers and meets with grassroots organizations to discuss the results of the study. He or she works with activists to mobilize political action in the name of social justice. When grassroots people picket the landlords’ offices, flood the landlords with racial minority applicants for apartments, or organize a march on city hall demanding action, the critical researcher predicts that the landlords will be forced to rent to minorities. The goal of research is to empower. Kincheloe and McLaren (1994:140) stated:

Critical research can be best understood in the context of the empowerment of individuals. Inquiry that aspires to the name critical must be connected to an attempt to confront the injustice of a particular society or sphere within the society. Research thus becomes a transformative endeavor unembarrassed by the label “political” and unafraid to consummate a relationship with an emancipatory consciousness.

2. *What is the fundamental nature of social reality?*

CSS shares aspects of PSS’s premise that there is an empirical reality independent of our perceptions and of ISS’s focus that we construct what we take to be reality from our subjective experiences, cultural beliefs, and social interactions. CSS adopts a critical realist ontology that views reality as being composed of multiple layers: the empirical, the real, and the actual.¹⁹ We can observe the empirical reality using our senses. However, the surface empirical layer we experience is being generated by deeper structures and causal mechanisms operating at unobservable layers. Theories and research over time can help us to understand structures operating at the real level and causal mechanisms at the actual level that generate and modify structures.

We can directly observe structures at the real level. Such structures are not permanent but can evolve, and we can modify them. For example, gender structures at the real level shape the specific actions of people at the surface level that we can observe. With theoretical insight and careful investigation, researchers can slowly uncover these deep structures, but the task is complicated because the structures can change. Structures at deeper levels do not produce a direct and immediate surface appearance at the empirical level. They can lie inactive or dormant and then become activated and emerge on the surface. Also, various structures are not insulated from one another. Counteracting structures may suppress or complicate the surface appearances of another structure.

Causal mechanisms operating at the actual level can have internal contradictions and operate in a paradoxical manner creating structural conflicts. These mechanisms may contain forces or processes that appear to be opposites or to be in conflict but are actually parts of a single larger process. A biological analogy helps illustrate this idea. We see birth and life as the opposites of death, yet death begins the day we are born and each day of living moves us toward death as our body ages and decays. There is a contradiction between life and death; to live, we move toward life’s opposite, death. Living and dying appear to be opposites, but actually they are two parts of a single process. Discovering and understanding

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such paradoxical processes, called the **dialectic**, is a central task in CSS.

CSS says that our observations and experiences with empirical reality are not pure, neutral, and unmediated; rather, ideas, beliefs, and interpretations color or influence what and how we observe. Our knowledge of empirical reality can capture the way things really are, yet in an incomplete manner because our experiences of it depend on ideas and beliefs. CSS states that our experiences of empirical reality are always theory or concept dependent. Our theories and concepts, both commonsense and scientific, sensitize us to particular aspects of empirical reality, inform what we recognize as being relevant in it, and influence how we categorize and divide its features. Over time, new theoretical insights and concepts enable us to recognize more aspects in the surface, empirical reality and to improve our understandings of the deeper levels of reality.

In sum, PSS emphasizes how external reality operates on people whereas ISS emphasizes the inner subjective construction of reality. CSS states that there is a deeper reality that is prestructured, not invented by us. It existed before we experience or think about it and has real effects on people. At the same time, we construct ways of seeing and thinking that shape our experience of empirical reality. Our thinking can lead to us to take actions that will change the structures in deeper levels of reality. CSS views our ability to understand reality as an interactive process in which thoughts, experiences, and actions interact with one another over time.

CSS notes that social change and conflict are not always apparent or easily observable. The social world is full of illusion, myth, and distortion. Initial observations of the world are only partial and often misleading because the human senses are limited. The appearances in surface reality do not have to be based on conscious deception. The immediately perceived characteristics of objects, events, or social relations rarely reveal everything. These

illusions allow some groups in society to hold power and exploit others. Karl Marx, German sociologist and political thinker, stated this forcefully (Marx and Engels, 1947:39):

The ideas of the ruling class are in every epoch the ruling ideas; . . . The class which has the means of material production at its disposal, has control at the same time over the means of mental production, so that . . . the ideas of those who lack the means of mental production are subject to it.

CSS states that although subjective meaning is important, real, objective relations shape social relations. The critical researcher probes social situations and places them in a larger historical context.

For example, an ISS researcher studies the interactions of a male boss and his female secretary and provides a rich account of their rules of behavior, interpretive mechanisms, and systems of meaning. By contrast, the CSS researcher begins with a point of view (e.g., feminist) and notes issues that an interpretive description ignores: Why are bosses male and secretaries female? Why do the roles of boss and secretary have unequal power? Why do large organizations create such roles throughout society? How did the unequal power come about historically, and were secretaries always female? Why can the boss make off-color jokes that humiliate the secretary? How are the roles of boss and secretary in conflict based on the everyday conditions faced by the boss (large salary, country club membership, new car, large home, retirement plan, stock investments, etc.) and those of the secretary (low hourly pay, children to care for, concerns about how to pay bills, television as her only recreation, etc.)? Can the secretary join with others to challenge the power of her boss and similar bosses?

3. *What is the basic nature of human beings?*

PSS sees humans as mammals and focuses on their behavior as rationally acting individuals. ISS sees humans as fundamentally social beings defined by their capacity to create and sustain social meanings. CSS recognizes that people are rational decision makers who are shaped by social structures and creative beings who construct meaning and social structures. Society exists prior to and apart from people, yet it can exist only with their active

Dialectic A change process emphasized in critical social science in which social relationships contain irresolvable inner contradictions; over time they will trigger a dramatic upset and a total restructuring of the relationship.

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involvement. People create society and society creates people, who in turn create society in a continuous process.²⁰ Thus, human beings exist within an ongoing relational process.

CSS notes that humans can be misled and have unrealized potential. One important way this happens is through **reification**, which occurs when we become detached from and lose sight of our connection or relationship to something that we created ourselves. By severing connections to our own creations, we no longer recognize ourselves in them but treat them as being alien, external forces that have control over us. By “forgetting” and not seeing connections, we lose control over our creations. Humans have tremendous potential that often goes unrealized because we find breaking free from beliefs, conditions, and situations largely of our own making difficult. To realize their full potential, people must look beyond immediate surface appearance and break through what they reified to see how they possess the capacity to change situations.

4. *What is the view on human agency (free will, volition, and rationality)?*

CSS blends determinism and voluntarism to emphasize **bounded autonomy**, or how agency and structure cooperate. Bounded autonomy suggests that free will, choices, and decision making are not unlimited or open ended; rather, they either must stay within restricted boundaries of options or are confined within limits, which can be cultural or material boundaries. A CSS researcher identifies a range of options, or at least what people see as being realistic alternatives, and allows for some volition among those options. People make choices, but the choices are confined to what they believe is possible. Material factors (e.g., natural resources, physical abilities) and cultural-subjective schemes (e.g., beliefs, core values, deeply felt norms) set what people believe to be possible or impossible, and people act based on what they believe is possible.

Sewell (1992) observed that social structures are simultaneously cultural and material. What a person sees, thinks, or feels (i.e., culture) shapes a person’s action in the material world. Material objects, conditions, and resources depend on the cultural schemas. Researchers recognized that “so-called hard data were themselves cultural products that required

interpretation” (Sewell, 2005:190). If a person’s worldview defines an action as being impossible, a material resource as being unavailable, or a choice as being blocked, his or her “free will” choices are limited. If for reasons of culture a person does not see an insect as a source of food or having three wives simultaneously as morally possible, cultural beliefs restrict the use of material resources and make some actions impossible. Material and subjective-cultural factors interact. Cultural-subjective beliefs that define material resources as available restrict volition, and material conditions can shape people’s cultural-subjective experiences and beliefs. Under certain conditions, collective human actions can alter deep structures of the material conditions and cultural beliefs, and this can expand the range of volition.

5. *What is the relationship between science and common sense?*

CSS sees common sense as containing **false consciousness**: the idea that people are often mistaken and act against their own true best interests as defined in objective reality. Objective reality lies behind myth and illusion. False consciousness is meaningless for ISS because it implies that a social actor uses a meaning system that is false or out of touch with objective reality. ISS states that people create and use such systems and that researchers can only describe such systems, not judge their value. CSS states that social researchers should study subjective ideas and common sense because these shape human behavior, yet they contain myth and illusion that can mask an objective world in which there is unequal control over resources and power.

The structures that critical researchers talk about are not easy to see. Researchers must first

Reification An idea used in critical social science referring to when people become detached from and lose sight of their connection to their own creations and treat them as being alien, external forces.

Bounded autonomy An approach to human agency and causality used in critical social science that assumes human action is based on subjective choices and reasons but only within identifiable limits.

False consciousness An idea used by critical social science that people often have false or misleading ideas about empirical conditions and their true interests.

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demystify them and pull back the veil of surface appearances. Careful observation is not enough. It does not tell what to observe, and observing an illusion does not dispel it. A researcher must use theory to dig beneath surface relations, to observe periods of crisis and intense conflict, to probe interconnections, to look at the past, and to consider future possibilities. Uncovering the deeper level of reality is difficult but is essential because surface reality is full of ideology, myth, distortion, and false appearances. “Common sense tends to naturalize social phenomena and to assume that what is, must be. A social science which builds uncritically on common sense . . . reproduces these errors” (Sayer, 1992:43).

6. *What constitutes an explanation or theory of social reality?*

Beyond deduction and induction, CSS uses abduction to create explanatory critiques. American philosopher Charles S. Peirce (1839–1914) developed **abduction** by extending the other forms of reasoning. Instead of beginning with many observations or with a theoretical premise, abduction “tries on” a potential rule and asks what might follow from this rule. Both ideas and observations are placed into alternative frames and then examined, and the “what-if” question is asked. A researcher using abduction applies and evaluates the efficacy of multiple frameworks sequentially and creatively recontextualizes or re-describes both data and ideas in the process.

Abduction rarely produces a single, definitive truth; instead, it eliminates some alternatives as it advances a deeper understanding. In certain ways, it is an aspect of all human perception. Abduction is similar to how an insightful, creative detective might solve a crime—by taking the data (clues) and putting them into alternative possible scenarios

(what might have caused the crime). Considering alternative scenarios gives the same observations new meanings. Thus, abduction means making repeated reevaluations of ideas and data based on applying alternative rules or schemes and learning from each.

Explanatory critique begins with the premise that when we study social life, we study both the thing “itself” and how people think about or understand the “thing” we are studying. Actual conditions and people’s beliefs about conditions are both relevant, and the two may not match. An explanatory critique has practical, moral, and political implications because it can differ from the prevailing beliefs. The explanation simultaneously explains conditions (or tells why events occur) and critiques conditions (or points out discrepancies, reveals myths, or identifies contradictions).

When we render social conditions in an explanatory critique, we often enlighten and help to emancipate people. As the explanation reveals aspects of reality beyond the surface level, people may awaken to the underlying structures of society. The explanatory critique reveals deep causal mechanisms and once exposed, people can learn how to influence the mechanisms to change larger social structures. In this way, explanatory critiques show a pathway for taking action and achieving social change.

7. *How does one determine whether an explanation is true or false?*

PSS deduces hypotheses, tests hypotheses with replicated observations, and then combines results to confirm or refute causal laws. ISS asks whether the meaning system and rules of behavior make sense to those being studied. CSS tests theory by accurately describing conditions generated by underlying structures and then by applying that knowledge to change social relations. A CSS theory teaches people about their own experiences, helps them understand their historical role, and can be used to improve conditions.

CSS theory informs practical action; at the same time CSS theory is modified on the basis of using it. A CSS theory grows and interacts with the world it seeks to explain. Because CSS tries to explain and change the world by penetrating hidden structures,

Abduction An approach to theorizing in which several alternative frameworks are applied to data and theory, which are re-described in each and evaluated.

Explanatory critique A type of explanation used in critical social science in which the explanation simultaneously explains conditions (or tells why) events occur and critiques conditions (or points out discrepancies, reveals myths, or identifies contradictions).

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the test of an explanation is not static. Testing theory is a dynamic, ongoing process of applying and modifying theory. Knowledge grows with the use of an ongoing process of eroding ignorance and enlarging insights through action.

CSS separates good from bad theory by putting the theory into practice and then uses the outcome of these applications to reformulate theory. **Praxis** means that explanations are valued when they help people understand the world and to take action that changes it. As Sayer (1992:13) argued, “Knowledge is primarily gained through activity both in attempting to change our environment (through labor or work) and through interaction with other people.”

Critical praxis tries to eliminate the division between the researcher and the people being studied, the distinction between science and daily life. For example, a CSS researcher develops an explanation for housing discrimination. He or she tests the explanation by using it to try to change conditions. If the explanation says that underlying economic relations cause discrimination and that landlords refuse to rent to minorities because it is profitable to rent only to nonminorities, then political actions that make it profitable to rent to minorities should change the landlords’ behavior. By contrast, if the explanation says that an underlying racial hatred causes landlords to discriminate, then actions based on profit will be unsuccessful. The critical researcher would then examine race hatred as the basis of landlord behavior through new studies combined with new political action.

8. *What does good evidence or factual information look like?*

PSS assumes that there are incontestable neutral facts on which all rational people agree. Its dualist doctrine says that social facts are like objects. They exist separately from values or theories. ISS sees the social world as made up of created meaning with people creating and negotiating meanings. It rejects positivism’s dualism, but it substitutes an emphasis on the subjective. Evidence is whatever resides in the subjective understandings of those involved. The critical approach bridges the object–subject gap. It says that the facts of material conditions exist

independently of subjective perceptions, but that facts are not theory neutral. Instead, facts require an interpretation from within a framework of values, theory, and meaning.

For example, it is a “fact” that the United States spends a much higher percentage of its gross national product (GNP) on health care than any other advanced industrial nation, yet it ranks as the twenty-ninth lowest for infant death rate (7 deaths per 1,000 live births). A CSS interprets the fact by noting that the United States has many people without health care and no system to cover everyone. The fact includes the way the health care is delivered to some through a complex system of for-profit insurance companies, pharmaceutical firms, hospitals, and others who benefit greatly from the current arrangement. Some powerful groups in the system are getting rich while weaker or poor sectors of society are getting low-quality or no health care. CSS researchers look at the facts and ask who benefits and who loses.

Theory helps a critical researcher find new facts and separate the important from the trivial ones. The theory is a type of map telling researchers where to look for facts and how to interpret them once they are uncovered. The critical approach says that theory does this in the natural sciences, as well. For example, a biologist looks into a microscope and sees red blood cells—a “fact” based on a theory about blood and cells and a biologist’s education about microscopic phenomena. Without this theory and education, a biologist sees only meaningless spots. Clearly, then, facts and theories are interrelated.

CSS notes that only some theories are useful for finding and understanding key facts. Theories rest on beliefs and assumptions about what the world is like and on a set of moral–political values. CSS states that some values are better than others.²¹ Thus, to interpret facts, we must understand history, adopt a set of moral–political values, and know where to look for underlying structures. Different

Praxis A way to evaluate explanations in critical social science by putting theoretical explanations into real-life practice and the subsequent outcome is used to refine explanation.

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versions of critical science offer different value positions (e.g., Marxism versus feminism).

9. *What is the relevance or use of social scientific knowledge?*

As CSS researchers learn how the world works, they link subjective understandings with ways to analyze objective conditions to reveal unseen forces and unrecognized injustices. This spurs people to take action. For CSS, knowledge is not an instrument for people to manipulate, nor is it a capturing and rendering of people's inner, subjective experiences; instead, knowledge means active involvement in the world. Knowledge can free people from the shackles of past thinking and help them take control of events around them. It is not a thing to be possessed but a process that combines increased awareness with taking action.

CSS researchers blend aspects of the instrumental and practical orientations and bridge duality of the positivist's external, empirical reality and the inner, subjective reality emphasized in ISS. CSS uses reflexive knowledge to offer a "third way," **reflexive-dialectic orientation**. This third way is "not a conflation of, or compromise between these perspectives; it represents a standpoint in its own right" (Danermark et al., 2002:202). Instead of treating external and internal reality as being opposites, a reflexive-dialectic orientation sees them as two sides of a single dynamic whole that is in a process of becoming. An external or internal orientation alone is incomplete. The two sides work together as one and are interwoven to affect each other.

Reflexive-dialectic orientation An orientation toward social knowledge used in critical social science in which subjective and objective sides are blended together to provide insights in combination unavailable from either side alone; the value of knowledge as a process that integrates making observations, reflecting on them, and taking action.

Transformative perspective The view that the researcher probes beyond the surface level of reality in ways that can shift subjective understandings and provide insights into how engaging in social-political action may dramatically improve the conditions of people's lives.

CSS adopts a **transformative perspective** toward applying knowledge. To *transform* means to *change fundamentally, to reorganize basic structures, and to breach current limits*. The perspective goes beyond a surface level of reality to realign subjective understandings with the external reality and then uses renewed consciousness as a basis for engaging in actions that have the potential to modify external conditions and future consciousness. The relevance of knowledge is its ability to connect consciousness to people engaging in concrete actions, reflecting on the consequences of those actions, and then advancing consciousness to a new level in an ongoing cycle.

10. *When do sociopolitical values enter into science?*

CSS has an activist orientation. Social research is a moral-political activity that requires the researcher to commit to a value position. CSS rejects the PSS value freedom as a myth. It also attacks ISS for its relativism. In ISS, the reality of the genius and the reality of the idiot are equally valid and important. There is little, if any, basis for judging between alternative realities or conflicting viewpoints. For example, the interpretive researcher does not call a racist viewpoint wrong because any viewpoint is true for those who believe in it. CSS states that there is only one, or a very few, correct points of view. Other viewpoints are plain wrong or misleading. All social research *necessarily* begins with a value or a moral point of view. For CSS, being objective is not being value free. Objectivity requires a nondistorted, true picture of reality; "it challenges the belief that science must be protected from politics. It argues that some politics—the politics for emancipatory social change—can increase the objectivity of science" (Harding, 1986:162).

CSS holds that to deny that a researcher has a point of view is itself a point of view. It is a technician's point of view: Conduct research and ignore the moral questions, satisfy a sponsor, and follow orders. Such a view says that science is a tool or instrument that anyone can use. This view was strongly criticized when Nazi scientists committed inhumane experiments and then claimed that they were blameless because they "just followed orders"

EXPANSION BOX 1**The Extended Case Method and CSS**

Michael Burawoy's (1998) extended case method is an example of critical social science. He says it applies *reflexive science* to ethnography or field research. Reflexive science is a type of CSS that states social research should be a dialogue between the researcher and the people being studied. Thus, intersubjectivity is not only among scientists, as in positivism; rather, it occurs between the researcher and people under study. Burawoy identifies four features of reflexive science:

1. The researcher interacts with subject-participants. Disruptions or disturbances that develop out of their mutual interaction help to expose and better illuminate social life.
2. The researcher adopts the subject-participant's view of the world in specific situations, but does not stop there. The researcher adds together many views from individual subjects and specific situations, aggregating them into broader social processes.
3. The researcher sees the social world simultaneously from inside outward (i.e., from the subjective

viewpoint of the people being studied) and from the outside inward (i.e., from the viewpoint of external forces that act on people).

4. The researcher constantly builds and rebuilds theory. This takes place in a dialogue with the people studied and in a dialogue with other researchers in the scientific community.

Burawoy used the extended case method to study mine workers in Zambia. He argued that positivist social science best fits situations in which people are "powerless to resist wider systems of economy and polity" (p. 30)—in other words, situations in which people are dominated and have little control over their lives. The CSS approach strives in contexts in which people try to resist or reduce power distinctions and domination. It highlights conditions of emancipation in which people come to question or challenge the external forces of power and control under which they live.

and were "just scientists." PSS adopts such an approach and produces technocratic knowledge—a form of knowledge best suited for use by the people in power to dominate or control other people.²²

CSS rejects PSS and ISS for being detached and concerned with studying the world instead of acting on it. CSS holds that knowledge is power. Social science knowledge can be used to control people, it can be hidden in ivory towers for intellectuals to play games with, or it can be given to people to help them take charge of and improve their lives. What a researcher studies, how he or she studies it, and what happens to the results involve values and morality because knowledge has tangible effects on people's lives. The researcher who studies trivial behavior, who fails to probe beneath the surface, or who buries the results in a university library is making a moral choice. The choice is to take information from the people being studied without involving them or liberating them (see Expansion Box 1, The Extended Case Method and CSS). CSS questions the morality of such a choice, even if it is not a conscious one.

Summary

Although few full-time academic researchers adopt CSS, community action groups, political organizations, and social movements often follow a CSS approach. It only rarely appears in scholarly journals. CSS researchers may use any research technique, but they tend to favor the historical-comparative method. This is so because of its emphasis on change and because it helps researchers uncover underlying structures. CSS researchers differ from the others less in the research techniques they use than in how they approach a research problem, the types of questions they ask, and their purposes for doing research. Chart 4 provides a summary of CSS.

FEMINIST AND POSTMODERN RESEARCH

Two additional, less well-known approaches are feminist and postmodern social research. Both criticize PSS and offer alternatives that build on

CHART 4 Summary of Critical Social Science

1. The purpose of social science is to reveal what is hidden to liberate and empower people.
 2. Social reality has multiple layers.
 3. People have unrealized potential and are misled by reification; social life is relational.
 4. A *bounded autonomy* stance is taken toward human agency.
 5. Scientific knowledge is imperfect but can fight *false consciousness*.
 6. *Abduction* is used to create *explanatory critiques*.
 7. Explanations are verified through *praxis*.
 8. All evidence is theory dependent, and some theories reveal deeper types of evidence.
 9. A *reflexive-dialectic orientation* is adopted toward knowledge that is used from a *transformative perspective*.
 10. Social reality and the study of it necessarily contain a moral-political dimension, and moral-political positions are unequal in advancing human freedom and empowerment.
-

emphases on individual competition, on dominating and controlling the environment, and on the “hard facts.” It reflects a patriarchal orientation that emphasizes finding forces that act on the world rather looking for ways to interact with and cooperate within the world.

In contrast, women emphasize accommodation and gradually developing human bonds. They see the social world as a web of interconnected human relations, full of people linked together by feelings of trust and mutual obligation. Women emphasize the subjective, empathetic, process-oriented, and inclusive sides of social life. Feminist research is also action oriented and seeks to advance feminist values (see Expansion Box 2, Characteristics of Feminist Social Research).

Feminist researchers argue that much of non-feminist research is sexist. This largely happened as a result of broader cultural beliefs and a preponderance of male researchers. The research generalizes from the experience of men to all people, ignores gender as a fundamental social division, focuses on men’s problems, uses males as points of reference, and assumes traditional gender roles. For example, a traditional researcher would say that a family has a problem of unemployment when the adult male in

ISS and CSS. They have gained visibility only since the 1980s.

Feminist Research

Feminist research is conducted by people, most of them women, who hold a feminist self-identity and consciously use a feminist perspective. They use multiple research techniques, attempt to give a voice to women, and work to correct the predominant male-oriented perspective. Works such as *Women’s Ways of Knowing* (Belenky et al., 1986) argue that women learn and express themselves differently than men do.

Feminist research assumes that the subjective experience of women differs from that of men.²³ Many feminist researchers see PSS as presenting a male point of view; it is objective, logical, task oriented, and instrumental. It reflects masculine

EXPANSION BOX 2

Characteristics of Feminist Social Research

- Advocacy of a feminist value position and perspective
 - Rejection of sexism in assumptions, concepts, and research questions
 - Creation of empathic connections between the researcher and those he or she studies
 - Sensitivity to how relations of gender and power permeate all spheres of social life
 - Incorporation of the researcher’s personal feelings and experiences into the research process
 - Flexibility in choosing research techniques and crossing boundaries between academic fields
 - Recognition of the emotional and mutual-dependence dimensions in human experience
 - Action-oriented research that seeks to facilitate personal and societal change
-

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it cannot find stable work. When a woman in the same family cannot find stable work outside the home, it is not considered an equal family problem. Likewise, traditional researchers often use the concept *unwed mother*; but it is not a parallel of *unwed father*.

The feminist approach sees researchers as fundamentally gendered beings. Researchers necessarily have a gender that shapes how they experience reality, and therefore it affects their research. In addition to gender's impact on individual researchers, basic theoretical assumptions and the scientific community appear as gendered cultural contexts. Gender has a pervasive influence in culture and shapes basic beliefs and values that cannot be isolated and insulated in the social processes of scientific inquiry.²⁴

Feminist researchers are not objective or detached; they interact and collaborate with the people they study. They fuse their personal and professional lives. For example, feminist researchers will attempt to comprehend an interviewee's experiences while sharing their own feelings and experiences. This process may give birth to a personal relationship between researcher and interviewee that might mature over time. Reinharz (1992:263) argued, "This blurring of the disconnection between formal and personal relations, just as the removal of the distinction . . . between the research project and the researcher's life, is a characteristic of much, if not all, feminist research."

The impact of a woman's perspective and her desire to gain an intimate relationship with what she studies occurs even in the biological sciences. Feminist researchers tend to avoid quantitative analysis and experiments. They use multiple methods, often qualitative research and case studies. Gorelick (1991) criticized the affinity of many feminist researchers for interpretive social science. ISS is limited to the consciousness of those being studied and fails to reveal hidden structures. Gorelick wants feminist researchers to adopt a critical approach and to advocate social change more assertively.

Feminist researchers reject the value-neutral claim of positivists. For example, Risman (2001) criticized a study that tried to explain gender

differences almost entirely with biological factors. She argued (p. 606) that "the positivist model of science not only failed in this particular instance to recognize and exclude the expression of particular political values, but that value-free science as such is not only an impossible goal but it is an inappropriate one that distorts the research and publication." She noted (p. 609) that "value-neutrality can be a cloak that hides (perhaps even from scientists themselves) values that are so embedded in the folk wisdom of our culture so as to be invisible. Researchers who believe they are working within an apolitical, value-neutral version of science are, often without any conscious decision at all, simply ignoring the ways in which dominant presumptions frame their questions."

Postmodern Research

Postmodern research is part of the larger postmodern movement that includes art, music, literature, and cultural criticism. It began in the humanities and has roots in the philosophies of existentialism, nihilism, and anarchism and in the ideas of Martin Heidegger (1889–1976), Michel Foucault (1926–1984), Friedrich Nietzsche (1844–1900), Jean-Paul Sartre (1905–1980), and Ludwig Wittgenstein (1889–1951). Postmodernism is a rejection of modernism. *Modernism* refers to basic assumptions, beliefs, and values that arose in the Enlightenment era. Modernism relies on logical reasoning; it is optimistic about the future and believes in progress; it has confidence in technology and science; and it embraces humanist values (i.e., judging ideas based on their effect on human welfare). Modernism holds that most people can agree about standards of beauty, truth, and morality.²⁵

Postmodern researchers see no separation between the arts or humanities and social sciences. They share the critical social science goal of demystifying the social world, and want to deconstruct or tear apart surface appearances and reveal the hidden structure. Like extreme forms of ISS, postmodernism distrusts abstract explanation and holds that research can never do more than describe and that all descriptions are equally valid. A researcher's description is neither superior nor inferior to anyone

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else's and describes only the researcher's personal experiences. Going beyond interpretive and critical social science, modernism attempts to dismantle social science. Extreme postmodernists reject the possibility of a science of the social world, distrust all systematic empirical observation, and doubt that knowledge is generalizable or accumulates over time. They see knowledge as taking numerous forms and as unique to particular people or specific locales. Rosenau (1992:77) argued,

Almost all postmodernists reject truth as even a goal or ideal because it is the very epitome of modernity. . . . Truth makes reference to order, rules, and values; depends on logic, rationality and reason, all of which the postmodernists question.

Postmodernists object to presenting research results in a detached and neutral way. The researcher or author of a report should never be hidden when someone reads it, but his or her presence needs to be unambiguously evident in the report. Thus, a postmodern research report is similar to a work of art. Its purpose is to stimulate others, to give pleasure, to evoke a response, or to arouse curiosity. Postmodern

EXPANSION BOX 3

Characteristics of Postmodern Social Research

- Rejection of all ideologies and organized belief systems, including all formal social theory
- Strong reliance on intuition, imagination, personal experience, and emotion
- Sense of meaninglessness and pessimism; belief that the world will never improve
- Extreme subjectivity in which there is no distinction between the mental and the external worlds
- Ardent relativism in which there are infinite interpretations, none superior to another
- Espousal of diversity, chaos, and complexity that is constantly changing
- Rejection of studying the past or different places because only the here and now is relevant
- Belief that causality cannot be studied because life is too complex and rapidly changing
- Assertion that research can never truly represent what occurs in the social world

reports often have a theatrical, expressive, or dramatic style of presentation. They may be in the form of a work of fiction, a movie, or a play. The postmodernist argues that the knowledge about social life created by a researcher may be better communicated through a short story, a skit, or a musical piece than by a scholarly journal article. The value of the skit, story or music lies in telling a story that may stimulate experiences within the people who read or encounter it. Postmodernism is antielitist and rejects the use of science to predict and to make policy decisions. Postmodernists oppose those who use positivist science to reinforce power relations and bureaucratic forms of control over people (see Expansion Box 3, Characteristics of Postmodern Social Research).

CONCLUSION

This chapter has presented two important concepts. First, there are competing approaches to social research based on philosophical assumptions about the purpose of science and the nature of social reality. Second, the ideal-type approaches answer basic questions about research differently (see Table 1). Most researchers operate primarily within one approach, but many also combine elements from the others.

Remember that you can study the same topic from any of these approaches, but each approach implies going about it differently. This can be illustrated with the topic of discrimination and job competition between minority and majority groups in four countries: aborigines in the Australian outback, Chinese in western Canada, African Americans in the midwestern United States, and Pakistanis in London.

PSS researchers first deduce hypotheses from a general theory about majority–minority relations. The theory is probably in the form of causal statements or predictions. The researchers next gather data from existing government statistics or conduct a survey to precisely measure the factors that the theory identifies, such as the form of initial contact, the ratio of numbers in majority versus minority groups, or the visibility of racial differences. Finally, PSS researchers use statistics to formally test the theory's predictions about the degree of discrimination and the intensity of job competition.

TABLE 1 A Summary of Differences among the Three Approaches to Social Research

	POSITIVISM	INTERPRETIVE SOCIAL SCIENCE	CRITICAL SOCIAL SCIENCE	FEMINIST	POSTMODERN
1. Reason for research	To discover natural laws so people can predict and control events	To understand and describe meaningful social action	To smash myths and empower people to change society	To empower people to advance values of nurturing others and equality	To express the subjective self, to be playful, and to entertain and stimulate
2. Nature of social reality	Stable preexisting patterns or order that can be discovered	Fluid definitions of a situation created by human interaction	Multiple layers and governed by hidden, underlying structures	Gender-structured power relations that keep people oppressed	Chaotic and fluid without real patterns or master plan
3. Human nature	Self-interested and rational individuals who are shaped by external forces	Social beings who create meaning and who constantly make sense of their worlds	Creative, adaptive people with unrealized potential, trapped by illusion.	Gendered beings with unrealized potential often trapped by unseen forces	Creative, dynamic beings with unrealized potential
4. Human agency	Powerful external social pressures shape people's actions; free will is largely illusion	People have significant volition; they develop meanings and have freedom to make choices	Bounded autonomy and free choice structurally limited, but the limits can be moved	Structural limits based on gender confines choices, but new thinking and action can breach the limits	People have great volition, and all structures are illusory
5. Role of common sense	Clearly distinct from and less valid than science	Powerful everyday theories used by ordinary people	False beliefs that hide power and objective conditions	False beliefs that hide power and objective conditions	The essence of social reality that is superior to scientific or bureaucratic forms of reasoning
6. Theory looks like	A logical, deductive system of interconnected definitions, axioms, and laws	A description of how a group's meaning system is generated and sustained	A critique that reveals true conditions and helps people take action	A critique that reveals true conditions and helps people see the way to a better world	A performance or work of artistic expression that can amuse, shock, or stimulate others
7. An explanation that is true	Is logically connected to laws and based on facts	Resonates or feels right to those who are being studied	Supplies people with tools needed to change the world	Supplies ideas/tools to help liberate people from oppressive relations	No one explanation is more true; all are true for those who accept them
8. Good evidence	Is based on precise observations that others can repeat	Is embedded in the context of fluid social interactions	Is informed by a theory that penetrates the surface level	Is informed by theory that reveals gender structures	Has aesthetic properties and resonates with people's inner feelings
9. Relevance of knowledge	An instrumental orientation is used; knowledge enables people to master and control events	A practical orientation is used; knowledge helps us embrace/share empathetically others' life worlds and experiences	A dialectical orientation is used; knowledge lets people see and alter deeper structures	Knowledge raises awareness and empowers people to make change	Formal knowledge has no special value; it can amuse or bring personal enjoyment
10. Place for values	Science is value free, and values have no place except when choosing a topic	Values are an integral part of social life: no group's values are wrong, only different	All science must begin with a value position; some positions are right, some are wrong	Values are essential to research, and feminist ones are clearly preferred	Values are integral to research, but all value positions are equal

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An ISS researcher personally talks with and observes specific people from both the minority groups and the majority groups in each of the four countries. His or her conversations and observations are used to learn what each group believes to be its major problem and whether group members feel that discrimination or job competition is an everyday concern. The researcher puts what people say into the context of their daily affairs (e.g., paying rent, getting involved in family disputes, having run-ins with the law, getting sick). After he or she sees what the minority or majority people think about discrimination, how they get jobs, how people in the other group get jobs, and what they actually do to get or keep jobs, he or she describes findings in terms that others can understand.

A CSS researcher begins by looking at the larger social and historical context. This includes factors such as the invasion of Australia by British colonists and the nation's history as a prison colony, the economic conditions in China that caused people to migrate to Canada, the legacy of slavery and civil rights struggles in the United States, and the rise and fall of Britain's colonial empire and the migration of people from its former colonies. He or she inquires from a moral-critical standpoint: Does the majority group discriminate against and economically exploit the minority? The researcher looks at many sources to document the underlying pattern of exploitation and to measure the amount of discrimination in each nation. He or she may examine statistical information on income differences between groups, personally examine living situations and go with people to job interviews, or conduct surveys to find out what people now think. Once the researcher finds out how discrimination keeps a minority group from getting jobs, he or she gives results to minority group organizations, gives public lectures on the findings, and publishes results in newspapers read by minority group members in order to expose the true conditions and to encourage political-social action.

What does all of this about three approaches mean to you in a course on social research? First, it means that there is no single, correct approach to social science research. This does not mean that anything goes, nor that there is no ground for

agreement (see Expansion Box 4, Common Features of the Three Major Approaches to Social Science). Rather, it means that the basis for doing social research is not settled. In other words, more than one approach is currently "in the running." Perhaps this will always be the case. An awareness of the approaches will help you to read research reports. Often researchers rely on one approach, but rarely do they tell you which one they are using.

EXPANSION BOX 4

Common Features of the Three Major Approaches to Social Science

1. *All are empirical.* Each is rooted in the observable reality of the sights, sounds, behaviors, situations, discussions, and actions of people. Research is never based on fabrication and imagination alone.
2. *All are systematic.* Each emphasizes meticulous and careful work. All reject haphazard, shoddy, or sloppy thinking and observation.
3. *All are theoretical.* The nature of theory varies, but all emphasize using ideas and seeing patterns. None holds that social life is chaos and disorder; all hold that explanation or understanding is possible.
4. *All are public.* All say a researcher's work must be candidly expressed to other researchers; it should be made explicit and shared. All oppose keeping the research processes hidden, private, or secret.
5. *All are self-reflective.* Each approach says researchers need to think about what they do and be self-conscious. Research is never done in a blind or unthinking manner. It involves serious contemplation and requires self-awareness.
6. *All are open-end processes.* All see research as constantly moving, evolving, changing, asking new questions, and pursuing leads. None sees it as static, fixed, or closed. Current knowledge or research procedures are not "set in stone" and settled. They involve continuous change and an openness to new ways of thinking and doing things.

Thus, despite their differences, all of the approaches say that the social sciences strive to create systematically gathered, empirically based theoretical knowledge through public processes that are self-reflective and open ended.

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Second, the three approaches mean that what you try to accomplish when you do research (i.e., discover laws, identify underlying structures, describe meaning systems) will vary with the approach you choose. For example, PSS is likely to conduct cost-benefit analysis, ISS researchers tend to do exploratory research, and CSS researchers favor action-oriented research. By being aware of the approaches when you do social research, you can make an informed decision about the type of study to conduct.

Third, the various techniques used in social research (sampling, interviewing, participant observation, etc.) are ultimately based on assumptions and ideas from the approaches. Often you will see

a research technique presented without the background reasoning on which it was originally based. By knowing about the approaches, you can better understand the principles on which the specific research techniques are based. For example, the precise measures and logic of experimental research flow directly from positivism whereas field research is based on an interpretive approach.

So far, we have looked at the overall operation of the research process, different types of studies and theory, and the three fundamental approaches to social research. By now, you should have a grasp of the basic contours of social research. In the next chapter, you will see how to locate reports of specific research projects.

KEY TERMS

abduction	idiographic	practical orientation
bounded autonomy	instrumental orientation	praxis
bracketing	interpretative social science (ISS)	reflexive-dialectic orientation
causal laws	intersubjectivity	reification
constructionist orientation	meaningful social action	relativism
covering law model	mechanical model of man	technocratic perspective
critical social science (CSS)	natural attitude	transcendent perspective
determinism	nomothetic	transformative perspective
dialectic	ontology	typification
epistemology	paradigm	value-free science
explanatory critique	positivist social science (PSS)	<i>verstehen</i>
false consciousness	postulate of adequacy	voluntarism
hermeneutics		

REVIEW QUESTIONS

1. What is the purpose of social research according to each of the three approaches?
2. How does each approach define social reality?
3. What is the nature of human beings according to each approach?
4. How are science and common sense different in each approach?
5. What is social theory according to each approach?
6. How does each approach test a social theory?
7. What does each approach say about facts and how to collect them?

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8. How is value-free science possible in each approach? Explain.
9. In what way(s) are the criticisms of positivism by the interpretive and critical science approaches similar?
10. How does the model of science and the scientific community relate to each of the three approaches?

NOTES

1. This book is primarily concerned with sociology (Steinmetz, 2005a). For anthropology, see Kean (2005); for educational research, see Bredo and Feinberg (1982) and Guba and Lincoln (1994); for psychology, see Harré and Secord (1979) and Rosnow (1981); for political science, see Hauptmann (2005) and Sabia and Wallulis (1983); and for economics, see Hollis (1977), Mitchell (2005), and Ward (1972). A general discussion of alternatives can be found in Nowotny and Rose (1979).
2. See especially Friedrichs (1970), Giddens (1976), Gouldner (1970), and Phillips (1971). General introductions are provided by Harré (1972), Suppe (1977), and Toulmin (1953).
3. Divisions of the philosophies of social science similar to the approaches discussed in this chapter can be found in Benton (1977), Blaikie (1993), Bredo and Feinberg (1982), Fay (1975), Fletcher (1974), Guba and Lincoln (1994), Keat and Urry (1975), Lloyd (1986), Miller (1987), Mulkay (1979), Sabia and Wallulis (1983), Smart (1976), and Wilson (1970).
4. For discussions of paradigms, see Eckberg and Hill (1979), Kuhn (1970, 1979), Masterman (1970), Ritzer (1975), and Rosnow (1981).
5. In addition to the works listed in note 3, Halfpenny (1982), Steinmetz (2005), and Turner (1984) have provided overviews of positivism in sociology. Also see Giddens (1978). Lenzer (1975) is an excellent introduction to Auguste Comte.
6. See Gartell and Gartell (1996, 2002).
7. From Bernard (1988:12–21).
8. See Hegtvedt (1992).
9. For a discussion, see Derksen and Gartell (1992:1715).
10. See Couch (1987). Also see Longino (1990:62–82) for an excellent analysis of objectivity in positivism.
11. For a discussion, see Bannister (1987), Blumer (1991a, 1991b, 1992), Deegan (1988), Geiger (1986), Gillespie (1991), Lagemann (1989), Ross (1991), Schwendinger and Schwendinger (1974), Silva and Slaughter (1980), and Smith (1996).
12. For a further discussion of hermeneutics see Bleicher (1980) and Schwandt (1994; 1997). Sewell (1996; 2005) also discusses the significance of “reading” text.
13. In addition to the works in note 3, interpretive science approaches are discussed in Berger and Luckman (1967), Bleicher (1980), Cicourel (1973), Garfinkel (1967, 1974b), Geertz (1979), Glaser and Strauss (1967), Holstein and Gubrium (1994), Leiter (1980), Mehan and Wood (1975), Silverman (1972), and Weber (1974, 1981).
14. See Roy (2001:7–13) on the essentialist versus constructionist orientation.
15. See Brown (1989:34) for more examples and explanation.
16. In addition to the works in note 3, critical science approaches are discussed in Burawoy (1990), Dickson (1984), Fay (1987), Glucksmann (1974), Harding (1986), Harvey (1990), Keat (1981), Lane (1970), Lemert (1981), Mayhew (1980, 1981), Sohn-Rethel (1978), Veltmeyer (1978), Wardell (1979), Warner (1971), and Wilson (1982).
17. For a discussion of the Frankfurt School, see Botto-more (1984), Held (1980), Martin (1973), and Slater (1977). For more on the works of Habermas, see Holub (1991), McCarthy (1978), Pusey (1987), and Roderick (1986).
18. See Swartz (1997) on Bourdieu.
19. For discussions of realism, see Bhaskar (1975), Miller (1987), and Sayer (1992).
20. For discussions of critical realism, see Archer et al. (1998), Bhaskar (2003), Danermark et al. (2002), and Groff (2004).
21. See Sprague and Zimmerman (1989) on feminists’ privileged perspectives of women and see Rule (1978a, 1978b) on constituencies that researchers favor.
22. See Habermas (1971, 1973, 1979) for a critical science critique of positivism as being technocratic and used for domination. He has suggested an emancipatory alternative.
23. See Olsen (1994).
24. See Evelyn Fox Keller’s (1983) biography of Barbara McClintock and her other essays on gender and science (1985, 1990). Also see Longino (1990), Chapters 6 and 7.
25. From Brannigan (1992).