1 RESEARCH PROCESS

INTRODUCTION

What Is Social Research?

You are a curious person. That is why you are studying social research. You want to find out about the world, society, and human behavior. Research can be fun, but it is not just spinning out ideas from the comfort of an easy chair. Research is also a dynamic process that is more rigorous and complicated than many people realize. It is part perspiration and part inspiration. Learning the rules and principles of understanding that guide research is part of the challenge, but using our imagination and creativity is also essential for success. This book has been

written in that spirit, to provide a foundation from which you can make sense of the world.

This chapter focuses on the promise of social research, the goals of the scientific method, and the differences between science and common sense. The standards by which social researchers evaluate their own work and the work of others are also described.

Data Collection and Analysis

Systematic research in any field of inquiry involves two basic operations. The first is ***to observe, measure, and record information*** – in other words, **DATA COLLECTION**. The second is ***to arrange and organize these data so that we may discover their significance, generalize about them, or tell what they mean***. This exercise is called **DATA ANALYSIS**. If you write down the weather in your hometown every day for one year, then that would be data collection. If you then divide this information into three categories: "fair," cloudy," and "stormy," then you will have performed a simple data analysis.

If, say, 70 percent of the days were either cloudy or stormy, it would be justifiable to conclude that the weather is not very pleasant where you live. A less superficial finding, and a practical recommendation, would be that a solar-powered electrical system would not be feasible there. No matter what interpretation is made, however, it must be "grounded"; that is, it must be related to, and follow logically from, the evidence collected. The conclusions of a reputable study are not merely the first thoughts or ideas that occur to the researcher; they are the ones supported and sustained by the data at hand.

ADDING TO KNOWLEDGE

The goal of social research is to add to what is already known about individuals in society and about the behavior and composition of human groups. This may be accomplished in three major ways: exploration, description, and explanation. **EXPLORATION** is ***finding out about some previously unexamined phenomenon***. Often its purpose is to discover what is most significant or useful about the research setting, first by gaining a general overview. **DESCRIPTION** is ***noting in meticulous detail how something or someone looks and acts***, both as a separate entity and in combination with other things or people. Finally, **EXPLANATION** is ***telling why something or someone behaves as it does***.

As an example, let us take an issue from newspaper headlines. Suppose we are doing a study of terrorist organizations that train suicide bombers and this study will combine exploration, description, and explanation (Pape, 2005; Gambetta, 2006). After doing some reading on the subject, we would then carefully catalog these organizations and the behaviors associated with suicide missions. Perhaps we would decide that it is important to know what sorts of people belong to the groups, how they are recruited, and what they are taught to believe. If we are able, we might even interview members of terrorist organizations and the families of suicide bombers. We could also contact individuals and groups who are repelled by the suicide missions and who are trying to prevent them. If we gathered enough data, we might then be able to explain why people join violent terrorist organizations and how these groups inspire so much loyalty from their members.

Sources of Data

The data that are discovered and analyzed in social research may originate anywhere people interact. Some important sources of information about society are the home (Goodnow and Bowes, 2006), the workplace (Nippert-Eng, 1996; Hochschild, 2001), schools (Carter, 2005), and business corporations and other bureaucracies (Battelle, 2005). Other observation and listening posts may be voluntary associations – recreational and charitable groups (Mechling, 2001). In addition, data are generated from political parties, states, nations, and international organizations (Hatzfeld, Sontag, and Coverdale, 2006). Another fertile source of data is "everyday life" settings such as parks, streets, and other elements of the public realm (Lofland, 1998).

Researchers want to discover how these groups change and the extent to which they get along with one another. Thus, they might examine whether the increasing number of working women has influenced child-rearing practices in

the United States. Or they might study the effect of the conservation movement on the enactment of laws to reduce air pollution. The area covered by an investigation may be relatively restricted or very broad. Thus, the research may concentrate on trying to understand the interplay between two people at a cocktail party or the conflict between a rich country and a poor one.

Social Significance

Over the past several decades, social researchers have become more visible to the public than ever before. It is not unusual to find sociologists, psychologists, or political analysts as guests on television and radio talk shows. This publicity reflects the importance of social science data in forming government policy, evaluating legislation, and even guiding judicial decisions. In fact, the social and psychological evidence contained in the plaintiffs' argument in the famous 1954 U.S. Supreme Court case *Brown v. Board of Education* helped usher in an era of civil rights legislation and an awakening of social concern. The data from social surveys helped justify the War on Poverty of the 1960s and the plans for affirmative action in employment that were developed in the 1970s. In the 1980s and 1990s, decisions to continue Project Head Start and Welfare to Work programs have often hinged on the recommendations of fact-finding research. Most recently, the courts have relied on the conclusions of researchers in making rulings that affect us all as citizens, for example, in deciding whether the death penalty is really a deterrent to crime.

What Is Methodology?

Because of the Internet and the explosion of knowledge that reaches us through the media and our educational institutions at all levels, our familiarity with findings and recommendations of social research has rapidly increased. For example, newspapers and magazines have popularized the work of Alfred Kinsey, who, as early as 1948, claimed that 13 percent of men and 5 percent of women in the United States were homosexuals (Kinsey, Pomeroy, and Martin, 1948/1998; Laumann and Michael, 2000).[1] More recently, a review of research over the past twenty years reported contradictory and ambiguous findings: Between 1 percent and 10 percent of Americans were found to be gay (Frankowski et al., 2004). How can we determine which findings are most reliable? We need to look at the methodology used to produce them!

Knowledge about the research process – about how studies are actually conducted – is much less widely disseminated than the research findings. It is easy to ignore some critical questions, such as

- What questions were these people asked, and who asked them?
- How many individuals provided the answers on which the researcher's conclusions were based?
- What categories were used for data analysis?

These are questions of **METHODOLOGY**; they explore ***the principles, procedures, and strategies of research***. They are often thought to be too technical to sustain the interest of the public. This is unfortunate because the data that makes up any study, and the conclusions that are based on these data, are only as good as the methods of investigation that were used to obtain them. As one observer (Gottschalk, 1993:6–7) explained about data collected in 1991 that showed only a small percentage of gay Americans:

> The surveys were conducted door to door, largely by female interviewers. Thirty percent of those polled refused to participate, and those that did were asked for their name, Social Security number and employer before being asked to reveal intimate details about their sexual behavior. The 1 percent "exclusively homosexual" figure also effectively rules out bisexual men as well as men who were involved with women before "coming out." Clearly, some men are going to be inclined to withhold some aspects of their sexuality from a strange woman who has just asked for his employer's name. But the questionable methodology has not been referred to in many of the media reports.

One of our goals is to increase the awareness of how research is done. After reading this book, you will have an understanding of the nature

[1] This debate is reviewed in Richard Lewontin's "Sex, Lies, and Social Science" (1995).

and complexities of the process. Even if you are not a future social worker, probation officer, educational specialist, or other professional-in-training, you will be able to critique research and to begin to recognize faulty conclusions that are based on poor evidence or that are unsupported by the data.

There are many different techniques for gathering information and a variety of procedures for analyzing data. These alternatives are explored in later chapters of the book. Researchers may contact a handful of people or thousands of people, in person or by sending a list of questions through the mail. They may use categories of analysis identical to those that have been used in previous studies, or they may use their imagination to develop a new set of concepts to make sense of the data collected. Research strategy is influenced by the questions that must be asked, the time and resources available to the researcher, and the purpose of the work, that is, whether it is primarily exploratory, descriptive, or explanatory. In most cases, several choices of technique are open to the researcher, regardless of the subject of the investigation. In her book *Tangled Lives: Daughters, Mothers, and the Crucible of Aging*, Rubin (2000) analyzed the process of growing old, the mother–daughter relationship, and the "sandwich generation" – those who feel obligated to care both for their own children and aging parents. She describes a pivotal period in her own life and conducts a series of intimate interviews and observations. Instead, she might have relied on census data showing the health, income, and family living arrangements of much larger numbers of elderly people. Her conclusions might have been less poignant and dramatic but no less informative and original.

The principles of research methodology are flexible. There are many more general guidelines and suggestions than specific dos and don'ts. Although the application of the principles of scientific knowledge to the investigation of human behavior has been subjected to criticism over the past twenty years (Harding, 1992; Lather, 1993; Law, 2004; Alexander, 2005), most social research remains self-consciously scientific. However, as you read the following explanation of the scientific method, keep in mind that science has not eliminated choice making, intuition, and imagination from social research. Rather, it has made us more aware of the necessity for choosing wisely our techniques of data collection and analysis.

THE SCIENTIFIC METHOD

The **SCIENTIFIC METHOD** is ***a general model for inquiry in the physical and natural sciences, such as chemistry and biology, and in the social sciences, such as psychology and sociology***. It is, of course, possible to study human behavior within the framework of history, philosophy, or theology, but these disciplines do not use the language and procedures of science. When researchers claim to be scientists, they subject themselves and their work to scrutiny and judgment according to the standards and canons of scientific investigation. In this section, we will present these criteria, explain how the scientific method came to be applied to social research, and examine the differences between scientific and nonscientific research and modes of explanation.

The Research Cycle – Theory

A central goal of social science research is to make generalizations about human behavior. A general explanation is called a **THEORY** (see Figure 1.1). It is ***a set of principles that tells why people do what they do*** in a variety of contexts. Labeling theory, for example, addresses many kinds of deviant behavior, including both mental illness and criminality, by proposing that people act as society expects them to act (Shoemaker, 2006). For example, once the courts or the medical establishment label a person a "mental incompetent" or "felon," it is difficult to remove that label. The theory maintains that an individual who has been labeled will accept the label and behave in such a way as to deserve it.

A **HYPOTHESIS** is ***a specific prediction that follows directly from a theory***. For example, we might predict that once people are negatively labeled, they will be more likely to get into trouble. However, fully elaborated theories are

rarely created all at once. Often they begin as **HUNCHES**, ***less formalized ideas or guesses that may eventually be refined into a theory***. One might suspect, for example, that the procedures for diagnosing and keeping records on mental patients hamper their reintegration into society after confinement. Or one might speculate that patients' knowledge of the diagnosis affects their self-concept. If these hunches are confirmed as data are collected, we might be encouraged to devise a more comprehensive theory along with specific hypotheses dealing with more kinds of labeling and deviance.

A good reason for conducting a scientific study is to find out whether an already existing theory makes sense in light of new observation. Therefore, when scientists do research, they are not merely adding to the storehouse of descriptive information about the world; they may also be making additions and corrections to theory. One such modification is called **VERIFICATION**. ***A theory is verified when hypotheses that follow from the theory are supported, or the generalizations the theory makes are found to be accurate in several different settings***. Thus, labeling may be discovered outside the courts and mental hospitals (Rosenhan, 1973/2004), perhaps within the welfare system (Zucchino, 1999), or even on a Little League baseball team (Fine, 1987). Labeling theory may help us appreciate that welfare recipients and third-string, 8-year-old athletes can have something in common, namely, a relatively low level of self-confidence, as well as performance consistently below expectations. The theory explains these commonalities. One might conclude that the welfare system labels its clientele as inferior by making them wait for benefits, subjecting them to personal investigations, not paying them very much, and doing little to help them improve their position in life. The coach may constantly berate marginal ballplayers, subjecting them to humiliation or negative comparison with peers.

As labeling theory is verified in these and other examples, we move beyond the specific context of the welfare office or the baseball diamond to generalize about people everywhere. For the same purposes of generalization, scientific discoveries in atomic physics concerning the construction of matter are useful per se to the chemist, biologist, and astronomer. However, a theory does not have to be verified in order for research to be useful. It may be **DISCONFIRMED**: ***found to be inaccurate, at least within a particular setting***. This is also valuable because it may lead to the reformulation of the theory.

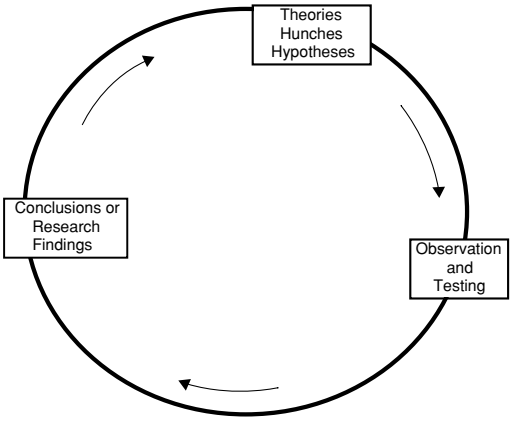

Figure 1.1. The research cycle.

Observation and Testing

In science, no theory may be either accepted or rejected without obtaining relevant information. This is accomplished during the field, or data collection, phase of research. The investigator uses data (1) to verify or disconfirm an already existing theory or hunch or (2) to establish, from observation, some new, general principle of behavior. The scientific method is shown as a circle in Figure 1.1 to illustrate that the research cycle may be entered at any point. One may begin with a theory or a hunch and then test it. Or one may begin with observation and construct theory bit by bit, much as a bricklayer adds to a wall.[2] In either case, the research process is, in reality, continuous. One study merely lays the groundwork for the next.

Conclusions and Findings

As Figure 1.1 implies, theory is never static in science; it changes constantly. The conclusions or **FINDINGS**, ***what we have learned about the***

[2] See the discussion of induction and deduction in Chapter 2.

world as a result of the research, always carry implications for the endless process of theory creation and alteration. Theories are rarely completely proved or disproved. Often they are merely made more specific, in that the particular conditions under which they apply are stated explicitly. Therefore, findings influence theory by refining it, sharpening it, and making it a more precise tool of explanation.

The scientific method is a system for keeping track of the accumulation of theoretical generalizations and data in the physical and social sciences. This model for research is designed to be efficient. It makes us aware of theories that were disconfirmed, or of findings that were not fruitful for the creation of new theory, so that we are able to avoid the mistakes of previous investigators. The scientific method does not guarantee success; the results of many studies are inconclusive. Despite this, the scientific method has brought about unprecedented advances in medicine, space travel, and agricultural and manufacturing productivity.

These technological triumphs have led some to believe that there are scientific solutions to many of our problems of social disorganization: crime, political apathy, and the declining authority of school and church. Thus far, breakthroughs in the social sciences have been perhaps less dramatic than in the natural and physical sciences. Systematic research has, however, brought the world many fascinating and useful insights about human behavior.

A Short History of Social Science

As a basic model for asking questions about humankind and its environment, the scientific method is a relatively recent historic occurrence. The idea of the research cycle was first formalized in the eighteenth century, when the modem study of the natural sciences was initiated and the search for laws, axioms, and principles of the physical world was developed. To this end, the science laboratory was created. This work space, isolated from the outside world, served as a sanctuary where the scientist could test theories in a controlled setting. **EXPERIMENTATION** then, as today, involved ***keeping records of everything that occurred and repeating procedures again and again, perhaps each time changing only one small aspect of the environment*** – temperature, space, light, or the amount of materials used in testing.

Early social thinkers were encouraged by the successes in physics, genetics, and medicine. They tried to develop laws and theories of human behavior, but the full significance of scientific methodology for social investigation was not to be immediately realized. The first pseudoscientific theorizers about society were really social philosophers, whose work held more in common with the speculations of classical Greek and Roman authors than with the experimenters in the new physical and natural sciences. The major reason for the comparative backwardness of social investigation until well into the nineteenth century was the tendency to avoid systematic observation. The first psychology laboratory was not established until 1879, in Germany.

Few investigators actually engaged in **FIELDWORK** – ***the examination of what people say and do in their own natural surroundings***. A rare exception was Alexis de Tocqueville, a French researcher whose analysis of the United States, *Democracy in America*, written in 1835, is still considered a classic in both political science and sociology. Its scope and careful attention to detail, combined with sensitivity to theory, were unique. Auguste Comte (1798–1857), the originator of the term *sociology*, set the tone for much of the pioneering social investigation. Comte imagined a "positivist" science of society that would study social reality as distinct from the perceptions and biases of those who studied it. We still use the term **POSITIVISM** today to refer to ***the presumption that the principles of inquiry embedded in physical and natural sciences may productively be applied to the study of human behavior in society***. Ironically, Comte's writings were an armchair treatise on how society *ought* to be organized rather than a description of how it *was* structured, and why. Comte wanted social analysis to be separated from the theological and metaphysical explanations of an earlier era, but

he did not actually subject his theories to the test of data collection.

A major turning point in the application of scientific techniques to the study of society was the publication of Charles Darwin's *Origin of Species* (1859/2003). Darwin, of course, became famous for his theory of evolution, but it is essential to realize that he was, first and foremost, an astute and thorough observer. The records he kept as a naturalist aboard the HMS *Beagle* as it made its voyage became both the inspiration and evidence for his theories. Darwin brought together and reconciled two major strands of nineteenth-century thought: the ideas of the natural sciences and those of human development and progress. Subsequently, such thinkers as Herbert Spencer (1820–1903) made the analogy between the growth of society and the evolution of the biological organisms that Darwin had described. This prepared the way for Emile Durkheim (1858–1917), Max Weber (1864–1920), and other theoreticians who were highly skilled in techniques of observation and cross-cultural comparison. Similar developments were occurring in psychology. The theories of Sigmund Freud (1856–1939) and his disciples were tested continually in the context of psychiatric treatment. Other psychologists began to study learning and perception following the studies of biology and physiology.

Social science entered the twentieth century with the traditions of laboratory and field research firmly established and with a degree of theoretical sophistication. However, in an age in which the prestige of physical science reached new heights because of its explanatory and predictive powers, social scientists were often preoccupied with trying to convince others that their disciplines were legitimate and that they were truly engaged in building a cumulative body of knowledge. During World War II, the power of newly perfected computers and data sorters was combined with improvements in survey research methods to produce an unprecedented growth in the number and influence of quantitative social research projects. Although by 1970 large-scale survey research was the most influential method for data collection (measured by the research dollars it attracted), the last few decades have seen a rebirth of interest in fieldwork and a greater diversity of methodological approaches.

The efforts to make all social research "scientific" have met with only partial success. Some still argue that despite their claims to scientific stature, disciplines such as political science, sociology, and social psychology cannot easily meet the standards of scientific investigation. Moreover, others take a philosophical position of **POSTPOSITIVISM** (Haack, 1993; Guba and Lincoln, 2005), which claims that ***social scientists can never be certain that their techniques will allow them to see objective reality***. We will examine the postpositivism argument carefully in Chapter 10. Now, we will consider some of the technical demands of science and how science is distinguished from common sense. Are social scientists unjustifiably trying to share the spotlight with their more "exact" and well-respected cousins?

Common Sense and Social Science

When we search out bargains in the supermarket, describe how our favorite football team won the big game, or speculate about the causes of pollution or high taxes, we are attempting the same intellectual tasks that social researchers set for themselves: exploration, description, and explanation. These activities are as essential for human survival in society (for obtaining food, clothing, and shelter) as they are for leading a productive and satisfying existence. It is therefore not surprising that the public's reverence for physical science has exceeded its acceptance of social science. Biologists and physicists also describe and explain phenomena, but their subject matter has a mysterious quality. By contrast, many people believe they are familiar with and able to perform the same operations for which professional social researchers are paid a salary.

It is difficult for most of us to have our own ideas about the causes of cancer or the logistics of space travel, but it is relatively easy to feel expert about social life. If you doubt this, the next time you attend a gathering of friends

or acquaintances, listen for "theories" about the causes of crime, poverty, prejudice, emotional problems, or political conflict. Many people believe that when it comes to social issues, one person's opinion is as good as another's. To support this contention, some individuals, who may think they understand science but who really do not, may cite the disagreements among sociologists, psychologists, and educators regarding fundamental social processes. However, genuine science is not merely opinion; it is opinion supported by data and connected to a body of theory.

The scientific method does not guarantee consensus in research findings, and this is no less true in the chemistry laboratory than in social analysis. Nevertheless, it does guide the attempt to move beyond the relatively restricted world of our own personal experience. If two social researchers disagree about the ethics of big business in America, it will not be because one has been a worker and the other a factory owner. They will both have made observations according to the canons of scientific research – viewing the world from unfamiliar perspectives, talking with people with whom they would never otherwise associate, and taking seriously and addressing directly many possible objections to their findings. These activities are rarely, if ever, done systematically in daily life. Therefore, **COMMON SENSE** is really ***unsupported opinion, or attitudes inspired by insufficient and unreliable information***. We are not saying that a trained social researcher never makes an error in observation or judgment. Rather, the scientific method decreases the *probability* of error.

WHY COMMON SENSE FAILS US. "There's more crime in rich neighborhoods than in poor neighborhoods," said Uncle Ed, puffing on his cigar. "How do you know?" I asked. "Cause crooks aren't stupid," said he. "They know there's nothing to steal in poor neighborhoods!" In contrast to Uncle Ed's commonsense view of the world, the poor and racial minorities are victims of crime more often than any other segments of our society, and lower-class individuals are less safe from crime than members of the middle class. According to the U.S. Bureau of Justice Statistics, 44 of 1,000 black households and 28 of 1,000 white households experienced burglaries in 2004. Households with an annual income below $7,500 were burglarized at rates higher than those of households with larger incomes (Bureau of Justice Statistics, 2005). How is it that these unambiguous research findings appear so different from the layperson's conventional wisdom?

DISTANCE. First, most people *think* they are accurate observers. They are frequently deceived by the unfamiliar or the remote. Stand far enough away, and skimmed milk looks like heavy cream; in baseball, a scratch hit tonight will look like a line drive in tomorrow's box score. To the middle-class observer, poverty sometimes is seen as moral degeneracy and lack of education is seen as laziness. The roots of much prejudice and stereotyping may be found in overgeneralizations that people make from a distance. If Uncle Ed had lived in a poor neighborhood, he might have been better able to appreciate how dangerous it can be. His commonsense view of crime is neither an accurate description nor an accurate explanation; he is just too distant to see the problem clearly.

FAMILIARITY, NOT UNDERSTANDING. Second, we may be quite familiar with a phenomenon, yet not understand how it works. We ride in an elevator or we watch television, but we are powerless to fix these machines if they break down. Most of us do not know the principles of electricity by which they operate. Yet they are very much a part of our lives. We act as consumers without understanding the social economy, obey laws while ignorant of theories of social control, and try to learn from our teachers without necessarily appreciating the process of learning, and we may be the victims of crime without realizing what motivates the criminal. In sum, we are never quite as knowledgeable about society as we may think.

Human behavior is so diverse and complex that systematic research is required to determine the norms and social regularities of society.

Our personal experiences do not necessarily give us an accurate view of behavior in general because we rarely move beyond our own awareness. If the thief who is caught removing Uncle Ed's flat screen television turns out to be from a rundown neighborhood, it would be natural for Ed to see crime as a social problem through the prism of his personal involvement with it. It is easier for him to imagine millions of other victims who are also in his relatively comfortable position than to imagine victims who themselves are poor. His experience may reinforce the idea that criminals are economically desperate individuals, a generalization that ignores so-called respectable, or white-collar, crime in business or government.

A related point is that we often make assumptions about our immediate environment that other people, equally experienced, would not make. The movie industry appears differently to performers, producers, and technicians, depending in part on their function and status within it. Authoritarian parents may describe their family as being free of conflict whereas their outwardly compliant children view it as a prison. In short, our perception of society is usually limited and shaped by the demographic categories into which we fall, including our age, sex, income, ethnicity, religion, occupation, and educational level. Our economic behavior, our political attitudes, and our sense of what is normal psychologically – are all dependent in large measure on our membership in these kinds of social groupings.

The arena with which most of us are familiar is limited and relatively simple, when compared to the multiple realities that social researchers must understand if they are to obtain a comprehensive view of social relations. People often lack the skill, or the desire, to expand their horizons in a way that would let them appreciate the world as others see it.

EMOTIONS. Another reason that common sense fails us is that our everyday observations are colored by our emotions (Turner and Stets, 2005). Feelings are not bad in themselves, but their effect on our powers of judgment may go unrecognized. Some of us feel uncomfortable around people with disabilities; they may act in unexpected ways or appear different, and this makes us feel embarrassed and self-conscious. If we have to decide whether students with disabilities should attend classes with nondisabled children, we may find ourselves saying that their disabilities will prevent them from profiting from the experience. However, is it their lack of skill or our discomfort that prompts this assessment?

Many of us fail to recognize our negative reactions to others. People may profess love for humanity in general although they may actually have great difficulty relating to specific individuals who deviate from their norms of behavior. In addition, most of us find it difficult to overcome negative feelings toward others. Prejudice against African Americans, Jews, Italians, or any other racial or ethnic group will not necessarily be reduced by exposure to favorable evidence about them (Adams, Blumenfeld, and Castaneda, 2000). Through **SELECTIVE OBSERVATION**, ***data that might disconfirm negative stereotypes can be screened out***. The data may prove to be too much of a challenge to the observer whose favorable self-image is intimately connected with a poor view of others. How many times, in polite conversation, do we say, "Well, let's drop the subject"? The feeling of being bored or otherwise dissatisfied with an encounter may result from having heard an argument that is threatening to one's ego or worldview.

Thus, our commonsense notions of how society works are often inaccurate or incomplete because we are either too distant from the data, or too close, or because our emotions act as a smokescreen. Despite these barriers to understanding, we may still believe that we are astute observers because we are rarely forced to recognize our mistakes. Prejudice, ignorance, and fear may be perpetuated generation after generation. People in everyday life are usually not held responsible for their opinions and may not always appreciate the far-reaching consequences of the domestic and foreign policies that they favor. It is much easier to advocate "bombing the enemy into the Stone Age" than to drop the bomb oneself or to cope with the human suffering that results from it.

Principles of Scientific Investigation

Although we may make many errors of omission and commission as we judge and observe, we may nonetheless function acceptably as private citizens in society. A scientist, however, is not allowed this luxury. Before research findings and procedures are scrutinized by outsiders, they are rigorously monitored by researchers themselves. A good scientist is a self-critic who wants to eliminate, or at least to reduce as much as possible, biased, prejudiced, or incomplete observation. Of course, this does not mean that creativity is lost in the process!

OBJECTIVITY. Some scientists assert that their work is objective, meaning that their own private values never intrude in determining their findings. In other words, the researcher's race, creed, color, or political beliefs have absolutely no significance in determining the outcome of a study. The canon of **OBJECTIVITY** maintains that, ***ideally, any two researchers who study the same behaviors, processes, or phenomena should arrive at identical findings***.

Objectivity, so-called, is perhaps approached more closely in the physical science laboratory than in most social research because, in the laboratory, it is easier to control the environment for the collection of data. In all fields of systematic inquiry, however, objectivity remains an ideal. That most research reports in the natural sciences ignore the personal motives of investigators does not mean the reports really were completely objective. When a renowned biochemist lets us glimpse what goes on behind the scenes (Watson, 1969/1997), we discover that the background, personality, financial needs, and career interest of scientists do influence their work. The orderly accumulation of knowledge may be upset by professional rivalry and jealousy, sexism, or racism.

Recognizing that researchers in all fields, because they are human, cannot be wholly objective, many social scientists in recent years have given up chasing the ghost of objectivity. The investigator is not like a robot that works the same way in every case. Each person observing a social phenomenon will inevitably exercise some selective observation and memory. Even in choosing a topic for study, a researcher is indicating certain value biases; our perception of what constitutes a social problem may depend, to some degree, on our own position in society. Moreover, it is virtually impossible to keep from taking sides in studying some social phenomena (Becker, 1971). How would a study of the criminal justice system avoid adopting the perspective of the courts and police, or the criminal, or the innocent accused of crime? Can an analysis of the social welfare bureaucracy really be written from the point of view both of social workers and clients?

As the twenty-first century began, many researchers as well as philosophers of science were rethinking the issues surrounding objectivity (see Hammersley and Gomm, 1997). These writers have been influenced by the postmodern school of philosophy and sociology. Most of them believe that the people, events, and institutions that researchers study do have an existence "in reality," independent of the accounts of these phenomena that investigators create. But they also insist that the language used to construct these accounts becomes a part of that reality. Thus, the explanations developed in social research make the conventional canon of objectivity impossible to achieve. Even when a number of researchers agree to identical explanations of the same phenomenon, their arguments are socially constructed; that is, their accounts represent these phenomena from one or another point of view. Therefore, researchers are constantly "under the constraint of not producing an account that is at odds with the evidence available" according to established knowledge (Hammersley and Gomm, 1997:4.2). This constraint raises the likelihood of unconscious error resulting from the production of knowledge. According to this critique, researchers need to remain more skeptical than those working in other areas of social life because it is they who are primarily concerned with avoiding the danger of accepting as true what is in fact false.

Because objectivity is an elusive concept, some scholars believe that all investigation should stem from a clearly enunciated value position. They claim that little or no effort need