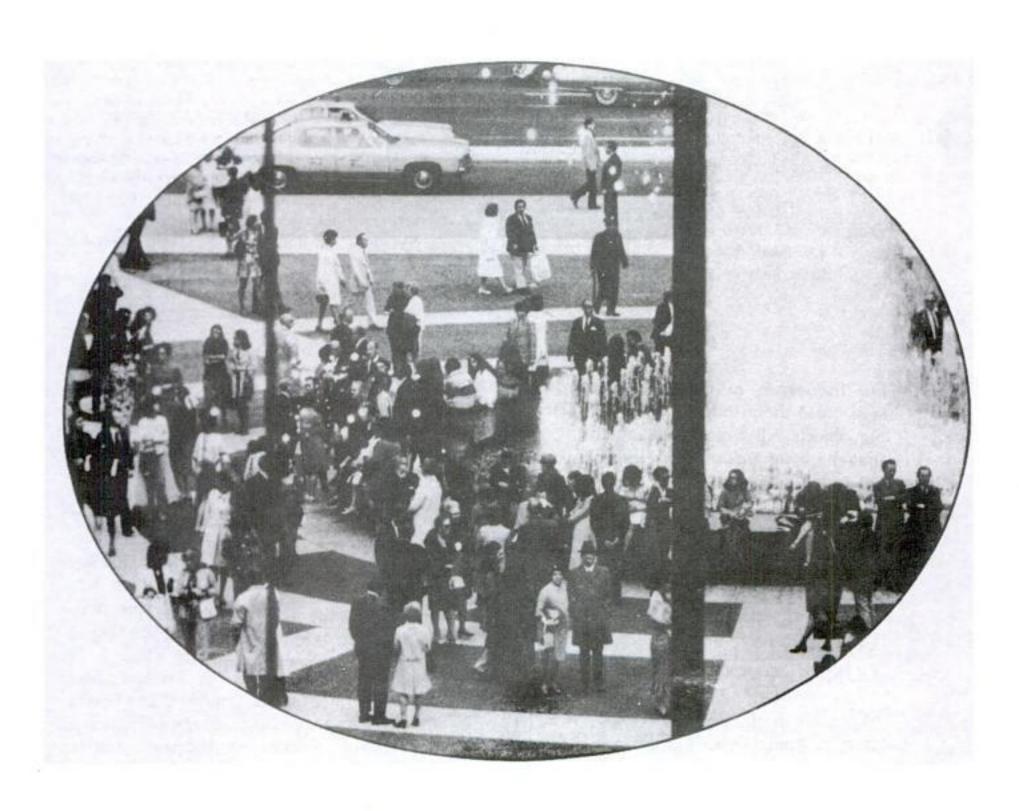


We are uncertain whether our prehistoric human ancestors knew that they lived in a society, but we suspect that they did. From cave excavations and rock paintings we know that they lived in family groups, laid out their dead for burial, and apparently believed in an afterlife. But of the rest of their social life, we know practically nothing.

For at least as long as we have had written language, we have speculated about the

nature of the human animal and the societies it builds. But only within the past few generations has there been any systematic study of human societies, ancient or modern. Social scientists have developed a number of procedures through which they try to find verifiable knowledge about the social behavior of the human animal. People have sought knowledge from many sources, some dependable, some undependable. Sci-

ence as a method of finding dependable knowledge about society is discussed in Chapter 1, "Sociologists Study Society." All phenomena can be studied scientifically, but the techniques of study must be fitted to the materials studied. Just how sociologists use scientific methods in sociological investigation is discussed in Chapter 2, "Fields and Methods of Sociology."



1 Sociologists Study Society

SOCIAL SCIENCE AND
COMMON SENSE
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Sociology: The intellectual discipline concerned with developing systematic, reliable knowledge about human social relations in general and about the products of such relationships. . . .

(Thomas Ford Hoult, Dictionary of Modern Sociology, Littlefield, Adams & Co., Totowa, New Jersey, 1969, p. 307.) Sociologists study human society and social behavior by examining the groups that people
form. These groups include
families, tribes, communities,
and governments, as well as a
great variety of social, religious,
political, business, and other organizations. Sociologists study
the behavior and interaction of
groups; trace their origin and
growth; and analyze the influ-

ence of group activities on individual members.

(Occupational Outlook Handbook, 1980-1981, U.S. Department of Labor, 1980:431)

Sociology is the taking of what everyone knows and putting it into words that nobody can understand.

(Anonymous)

For thousands of years people's common sense told them that the earth was flat, that big objects fell faster than small ones, and that character was revealed in facial features; yet today we know none of these is true. Today, science is replacing common sense as a source of dependable knowledge.

SOCIAL SCIENCE AND COMMON SENSE

When we do not know where our ideas come from or what they are based on, we sometimes call them "common sense." If we call them common sense, we do not have to prove they are true, for then others will join us in the collective self-deception of assuming they have already been proved. If one presses for proof, one is told that the idea has been proved by experience. The term "common sense" puts a respectable front on all sorts of ideas for which there is no systematic body of evidence that can be cited.

What often passes for common sense consists of a group's accumulation of collective guesses, hunches, and haphazard trial-anderror learnings. Many common-sense propositions are sound, earthy, useful bits of knowledge. "A soft answer turneth away wrath," and "birds of a feather flock together," are practical observations on social life. But many common-sense conclusions are

based on ignorance, prejudice, and mistaken interpretation. When medieval Europeans noticed that feverish patients were free of lice while most healthy people were lousy, they made the common-sense conclusion that lice would cure fever and therefore sprinkled lice over feverish patients. Common sense thus preserves both folk wisdom and folk non-sense, and to sort out one from the other is a task for science.

Only within the past two or three hundred years has the scientific method become a common way of seeking answers about the natural world. Science has become a source of knowledge about our social world even more recently; yet in the brief period since we began to use the scientific method, we have learned more about our world than had been learned in the preceding ten thousand years. The spectacular explosion of knowledge in the modern world parallels our use of the scientific method. How does this scientific method operate?

SCIENTIFIC OBSERVATION— THE BASIC TECHNIQUE OF SCIENTIFIC METHOD

Science is based upon verifiable evidence. By "evidence" we mean factual observations other observers can see, weigh, count, and check for accuracy. Scientific observation is not the

Common sense tells us:

Men survive hardship and exposure better than women. Colds are caused by chills and wet feet.

One's character shows in one's face.

A person who cheats at cards will cheat in business.

Spare the rod and spoil the child.

The genius or near-genius is generally delicate, impractical, unstable, and unsuccessful.

Blacks are especially talented in music but inferior in intellect.

Scientific investigation finds that:

Women survive hardship as well as or better than men. Coids are caused by viruses, although exposure may lower resistance.

There is no dependable association between facial features and personality characteristics.

Honesty in one situation tells little about one's behavior in a different situation.

Serious delinquents usually have been punished more severely than most nondelinquents.

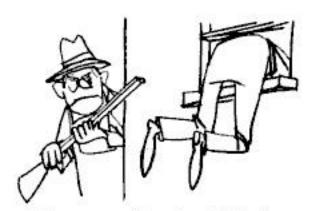
The genius and near-genius group is above average in health, emotional adjustment, and income.

There is no convincing evidence of racial differences in innate capacities.

same as just "looking at things." We have all been looking at things all our lives, but this does not make us scientific observers, any more than a lifetime of swatting flies makes us entomologists. How does scientific observation differ from just looking at things?

Scientific observation is accurate. The scientific observer tries to make sure things are exactly as described and avoids jumping to conclusions. Novelists may fantasize and politicians may exaggerate, but the scientist must try to be accurate.

Scientific observation is precise. While accuracy refers to the truth or correctness of a statement, precision refers to degree or measurement. No respectable social scientist would say, "I interviewed a lot of people, and most of them feel that things are terrible," and claim this was a scientific investigation. (How



Evidence consists of verifiable facts.

many people? What measuring instruments? How "terrible"?)

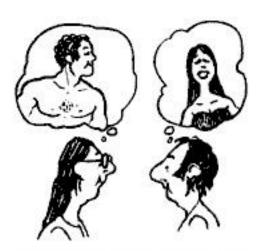
Since scientific writing is precise, scientists avoid colorful literary extravagances. Tennyson's lines, "Every moment dies a man; every moment one is born," is literature not science. If written with scientific precision it might read, "Every 0.596 seconds, on the average in 1980, died a person; every 0.2448 seconds an infant was born." Literary writing may be intentionally vague, stimulating the reader to wonder what is meant (e.g., was Hamlet insane?), but the dramatic sweep of the novelist and the provocative imagery of the poet have no place in scientific writing.

How much precision is needed? A billionth of an inch is too large an error for a nuclear physicist; for a social scientist studying crowded housing, a measure to the nearest square foot is satisfactory. Scientists seek as much precision as the situation requires. If conditions of observation do not permit such precision, the scientist must qualify judgment until more precise observations can be collected.

Scientific observation is systematic. Conclusions based on casual recollections are unreliable. Judgments which begin with, "I've talked to a lot of people and . . ." should be classed as conversation not as research. Unless observations have been collected in an







Objectivity is the ability to see and accept facts as they are, not as one might wish them to be.

organized, systematic program, they are likely to be spotty and incomplete.

Scientific observation is recorded. Human memory is notoriously fallible. Suppose a professor says, "Women usually don't do as well in this course as men." Unless this professor has computed average scores for men and women students, he is saying, "I have recalled the grades of hundreds of students, mentally computed averages, and found the male average score to be higher." The utter absurdity of such a statement shows how untrustworthy are all conclusions based upon recalling unrecorded data.

Scientific observation is objective. This means that, insofar as is humanly possible, observation is unaffected by the observer's own belief, preferences, wishes, or values. In other words, objectivity means the ability to see and accept facts as they are, not as one might wish them to be. It is fairly easy to be objective when observing something about which we have no preferences or values. It is fairly easy to study objectively the mating practices of the fruit fly, but less easy to view the mating practices of the human being with objective detachment. On any matter where our emotions, beliefs, habits, and values are involved, we are likely to see whatever agrees with our emotional needs and values.

To be objective is perhaps the most taxing of all scientific obligations. It is not enough to be willing to see facts as they are. We must know what our biases are if we are to guard against them. A bias is simply a tendency, usually unconscious, to see facts in a certain way because of one's habits, wishes, interests, and values. Thus, a "peace demonstration" is seen by some as a courageous effort to save the world from collective suicide, while others see it as a misguided effort to replace hardheaded realism with idealistic mush.

Seldom are "the facts" so undebatable that bias does not distort them. Selective perception is a tendency to see or hear only those facts which support our beliefs and overlook others. Many experiments have shown that most people in a social situation will see and hear only what they expect to see and hear. If what we expect to see isn't there, we see it anyway! This is dramatically shown in a famous experiment [Allport and Postman, 1947] in which observers were shown a picture of a roughly dressed white man holding an open razor and arguing violently with a well-dressed black man who was shown in an apologetic, conciliatory posture; then the observers were asked to describe the scene. Some of them "saw" the razor in the black man's hand, where they expected it to be. Others perceived it correctly, but in passing on a description of the scene (A described it to B, who described it to C, and so on), they soon had the razor in the black man's hand, where it "belonged." Even though they were not emotionally involved in the situation, had ample time to study it, and were making a conscious effort to be accurate in what they saw and reported or heard, the observers' unconscious biases still led many of them to "see" or "hear" a fact that wasn't there.

Some common threats to objectivity, then, are vested interest, habit, and bias. Objectivity does not come easily to an observer, but it can be learned. One can become more objective as one becomes aware of personal biases and makes allowance for them. Through rigorous training in scientific methodology, through studying many experiments and not-

ing many examples of objective and nonobjective uses of data, an observer may eventually develop some ability to cut through many layers of self-deception and to perceive facts with a greater degree of scientific objectivity. The scientist also has another powerful ally—the criticism of colleagues. The scientist publishes research so that it may be checked by other scientists who may not share the same biases and who come to the problem with a different point of view. This process of publication and criticism means that shoddy work is soon exposed, and scientists who let bias dictate the uses of data are open to severe criticism.

Scientific observations are made by trained observers. A billion people watch the sun and moon sweep across the sky, but more sophisticated observers know that is not exactly what happens. Untrained observers do not know what to look for or how to interpret it. They do not know the pitfalls which lead to inaccurate observation, nor are they fully aware of the tricks their own limitations and biases may play on them. Startling reports of weird phenomena generally come from uneducated, unsophisticated persons, and are discounted by the experts. When some remarkable observations are reported, the scientist will want to know: (1) What is the observer's general level of education and sophistication? Is this person a member of a superstition-ridden folk group, or of a well-informed and somewhat skeptical population? (2) What is his or her special knowledge or training in this particular field? Does this observer have the knowledge to tell whether this event has a perfectly natural explanation? Thus, the biologist among the ship's passengers is less likely to see a sea monster than are the members of the crew, and the meteorologist sees fewer UFOs than people with no special knowledge of atmospheric phenomena.

In recent years public interest in psychic and occult phenomena has exploded. A book claiming that plants have consciousness and are responsive to human feelings has been a best-seller [Tompkins and Bird, 1973], although scientists are generally unimpressed [First, 1973], and there are no authenticated reports that anyone has yet "hated" the crabgrass out of the lawn. A one-time stage magician, Uri Geller, has attracted great attention as a psychic and has even impressed a team of physicists at Stanford Research Institute [Science News, July 20, 1974, p. 46]. But physicists and other scientists, whatever their credentials as scientists, are not trained observers of sleight-of-hand deception. Stage

We have reported before on Bigfoot and Bighead, and now it is Skunkfoot who joins the company. A 7-foot monster, described by *The Globe* as having "an unbelievably bad case of body odor," has reportedly been terrifying the residents of Chesapeake, Virginia, near the Great Dismal Swamp, where the creature presumably resides. One man who claims to have seen it a dozen times says, "To give you an idea of how bad it smells, imagine falling into a cesspool up to your shoulders." To make matters worse, the tabloid *Weekly World News* adds that the creature is "amorous," causing local women to "live in terror." One witness, Sherry Davis, says that she

thinks the creature is attracted to women. "Maybe it oozes out of the swamp at night and goes prowling the woods looking for a female," hypothesized another terrified resident. Almost all of the witnesses have been women, prompting Mrs. Davis to add that she is afraid to walk alone now, for fear of being "carried off into the woods by that thing."

(The Skeptical Inquirer, Vol. VI, No. 3, Spring 1982, p. 13.

How should the critical student evaluate such popular sensationalist accounts as this? Why are they so readily believed by many people?





magicians consider scientists as easy to fool as anyone else, and generally dismiss Geller and other psychics as showmen with no psychic powers [Weil, 1974; Randi, 1975, 1982; Gardner, 1981]. Obviously, a "trained observer" must be trained in the particular kind of observation he or she is conducting.

Many events happen without any scientific observer on the sidelines. If each sea monster broke water before a panel of ichthyologists, and each revolution were staged before a team of visiting sociologists, our knowledge would be far more complete. But for many phenomena the only reports we have are the casual impressions of untrained observers who happened to be there; these reports may be interesting and possibly useful, but must be interpreted most cautiously by scientists.

Scientific observations are made under controlled conditions. Laboratories are popular with scientists because they are handy places to control variables such as heat, light, air pressure, time intervals, or whatever is important. A variable is anything which varies from case to case. For example, people vary in height, weight, age, sex, race, religion, education, occupation, income, health, behavior characteristics, and many other things.

We have a scientific experiment when we control all important variables except one, then see what happens when that one is varied. Unless all variables except one have been controlled, we cannot be sure which variable has produced the results. If we wish to study, say, the effects of phosphates on plant growth, all other factors—seed, soil, water, sunlight, temperature, humidity—must be the same for all the sample plots; then the varying amounts of phosphates on different test plots can be held responsible for different growth rates. This is the basic technique in all scientific experimentation—allow one variable to vary while holding all other variables constant.

There are complicated statistical procedures for multivariate analysis which enable the researcher to work with two or more variables at a time. But this is only a refinement of the basic procedure of holding all other variables constant in order to measure the impact of the one (or more) under study.

Failure to control all variables is a most common error in scientific method and accounts for most false conclusions. For example, a number of studies several decades ago concluded that the employment of mothers increased child delinquency. But these studies failed to control for the variables of social class and family composition. A sample of working mothers who were mostly poor, uneducated, often widowed or separated, and living in wretched neighborhoods, was compared with a sample of nonworking mothers who were more prosperous, better educated, and living with their husbands in good neighborhoods. No wonder they found strong association between maternal employment and child delinquency which more recent research does not fully confirm (See Chapter 10). Failure to control some variable—social class, education, age, and occupation are common ones-has invalidated many research studies.

Since laboratories are such convenient places to control the conditions of observation, scientists use them whenever possible. But much that is important cannot be dragged into a laboratory. Volcanoes and earthquakes can-



Spiritualists can conduct a very convincing seance in their own stage setting.

not be staged in a test tube, nor can we study the courtship process very realistically by herding couples into a laboratory. Both physical and social scientists frequently must observe phenomena in their natural setting. Techniques may range from lowering a bathysphere to the ocean floor to giving a questionnaire to a group of army recruits. If we remember that the basic scientific procedure is the conducting of accurate observations, while laboratories, instruments, and computers are merely tools of observation, this difference in technique will not confuse us.

The scientific critic will trust a reported observation only insofar as the conditions of observation have been controlled. On this basis scientists are skeptical of the claims of spiritualism and mind reading. Spiritualists can conduct a very convincing séance in their own stage setting but are loath to attempt a séance where the room, furnishings, and lighting are controlled by the scientist. The professional mind reader is very convincing in a theater setting but is unwilling to attempt a reading under scientifically controlled conditions. Until spiritualists and mind readers make demonstrations under conditions which preclude the possibility of deception, scientists should dismiss them as either entertainers or frauds.

Is it not strange that most of those who claim to foresee the future are performing in shabby carnivals and nightclubs instead of raking in millions in Wall Street? Why has no professed mind reader ever won a world chess or bridge championship? Although there are occasional newspaper reports of some psychic having "solved" a crime, is it not significant that police departments and intelligence agencies do not routinely employ psychic detectives? Although many exposés of the tricks of psychics, mentalists, fortune tellers, astrologers, and spiritualists have been published [Barber and Meeker, 1974; Abell and Singer, 1981], their popular following today

seems greater than at any time in recent history.1

In these several respects, then, scientific observation differs from looking at things. We spend our lives looking at things, and this activity brings us much information, many impressions, and numerous conclusions. But these conclusions are clouded by accident of coincidence, by selective memory, and by personal bias. Therefore, before accepting any generalization as true, the critical observer wants to know what it is based upon. Is a conclusion based upon a systematically collected body of scientific evidence, or is it an offhand reaction to haphazard observation?

THE SCIENTIFIC METHOD OF INVESTIGATION

The scientific method (some would prefer to say scientific methods) includes a great deal. The scientist must accumulate considerable background information on the problem. Then he or she formulates a hypothesis. This is a carefully considered theoretical statement which seeks to relate all the known facts to one another in a logical manner. The hypothesis is then tested by scientific research. For example, the hypothesis that cancer is a virus disease is based upon a great deal of observation; it relates known facts in a logical manner, and is now being tested through many research projects. Eventually a hypothesis is confirmed, rejected, or revised, and in this manner a science grows.

There are several steps in scientific research. They are easy to list but not always easy to follow:



An academic journal, The Skeptical Inquirer, founded by the Committee for the Scientific Investigation of Claims of the Paranormal (Box 29, Kensington Station, Buffalo, N.Y. 14215), accepts articles which either attack or defend astrology, psychic phenomena, and other exotic belief systems. Since it accepts only articles which meet acceptable scientific standards of evidence and logic, most of its articles are critical rather than supportive.





Sociologists may observe social events as they are taking place. (United Press International)

- 1 Define the problem. We need a problem which is worth study and which can be studied through the methods of science.
- 2 Review the literature. It would be a waste of time to repeat the errors of other research scholars. A survey of whatever research has been done on this problem is in order.
- 3 Formulate the hypotheses. Develop one or more formal propositions which can be tested.
- 4 Plan the research design, outlining just what is to be studied, what data will be sought, and where and how they will be collected, processed, and analyzed.
- 5 Collect the data in accordance with the research design. Often it will be necessary to change the design to meet some unforeseen difficulty.
- 6 Analyze the data. Classify, tabulate, and compare the data, making whatever tests and computations are necessary to help find the results.

- 7 Draw conclusions. Was the original hypothesis confirmed or rejected? Or were the results inconclusive? What has this research added to our knowledge? What implications has it for sociological theory? What new questions and suggestions for further research have arisen from this investigation?
- 8 Replicate the study. The seven steps above complete a single research study, but research findings are confirmed by replication. When another scholar repeats the study, using a different sample, the original findings may or may not be confirmed. Only after several confirmations, and no disconfirmations, can a research conclusion be accepted as generally true.

A Research Exercise

Let us see how a research study might be designed and completed. First, we need a

AN EXAMPLE OF A REPLICATION STUDY

Recent research by Phillips suggested that publicized suicide stories triggered a rise in suicides, some of which were disguised as motor vehicle fatalities (MVF). The most striking finding of his research was a 31% jump in California MVF on the third day after publicized suicide stories. Yet, until they are replicated, we do not know whether these results are limited to: (1) California, (2) the time period studied (1966–73), or (3) the method of analysis used. In this research note we replicate Phillips's California analysis with Detroit metropolitan data for 1973–76. We use two

different statistical techniques to insure that Phillips's findings are not an artifact of his method of analysis. We find a 35%—40% increase in Detroit MVF on the third day after the publicized suicide story. Our replication suggests that Phillips's most striking result—the third-day peak in MVF is not limited to a particular geographic region, time period, or technique of analysis.

This is a research abstract, a very condensed summary of a research study which immediately precedes the full article in many research journals. This one preceded Kenneth A. Bollen and David P. Phillips, "Suicidal Motor Vehicle Fatalities in Detroit: A Replication," American Journal of Sociology, 87:404–412, September 1981. Copyright © by the University of Chicago. Reprinted by permission of the American Journal of Sociology and the author.



research problem. How about, "Does the commuting student miss much by not being on campus?"

As stated, this question covers too many topics. We need something more limited and more specific. How about, "Do commuting students suffer academically by not living on or near campus?"

The review of the literature, the second step, may turn up very little, but the card catalog and the relevant indexes should be checked. For this question the Education Index, Social Science Index, index to the Chronicle of Higher Education, and possibly the New York Times Index would be good prospects, also Sociological Abstracts. Every possible heading should be checked, such as higher education, colleges and universities, college students—housing, academic progress, and any others that turn up as likely subheadings. This search of the literature is extremely important.

The third step is to formulate one or more hypotheses. One might be, "Commuting undergraduate students receive lower grades than undergraduate students living on campus" or "living off but within one mile of the campus." Other hypotheses might be that commuting students "earn fewer credit hours per year," or "take part in fewer college activities," or "have fewer friends among other students."

Planning the research design is the fourth step. All terms and categories must be designed. The variables to be controlled must be decided. We must be sure that the two groups we compare are similar in all important respects except residence. We must select sources of data, kinds of data sought, and procedures for collecting and processing them. If a research grant is to be sought, all this information must be included in the grant application.

The fifth step, the actual collecting and processing of data according to the research design, is often the most exciting part of the project. In this instance the data on each person would be made "computer sensible" (prepared for computer processing) and fed through the computer, which is programmed to make the desired computations and comparisons.

The sixth step is to analyze the data. What contrasts between the two groups appear on the printout? Often, during this stage, some unexpected surprises will suggest additional hypotheses, and the data will be fed through





Personal interviews are one kind of sociological data. (Teri Leigh Stratford/Photo Researchers, Inc.)

the computer again for additional computations.

The seventh step is the drawing of conclusions. Were the hypotheses confirmed or disconfirmed? What further study is suggested by this research? What difference does it all make? Finally, other scientists will undertake replication studies.

This basic procedure is the same for all scientific research. Techniques used will vary according to the problem studied, but the same basic method is central to all sciences.

Not all research involves this formal model of hypothesis framing and testing. Some research involves analysis of data already collected, and some involves library research of published sources. But anything involving the careful, objective collecting of verifiable evidence in the search for knowledge is scientific research.

NORMATIVE METHODS OF INVESTIGATION

The term normative means "conforming to or supporting some norm or pattern." The scientific method of investigation consists of stating a question, collecting evidence, and drawing conclusions from the evidence, however surprising or unwelcome they may be. The normative method, by contrast, states the question in such a way that the conclusion is implied, and then looks for evidence in support of this conclusion. This is the method of "investigation" which most people use most of the time, and which even scientists sometimes fall into. For example, the question, "How does the traditional family thwart emotional growth?" (or, conversely, "How does the traditional family promote emotional growth?") really states a conclusion and asks for evidence to support it. Most popular thinking and a good deal of scientific research is normative, for it is a search for evidence to support a conclusion already assumed. Much Marxian scholarship is normative, for it begins with the conclusion that class oppression is the cause of most social ills. Much conservative scholarship is equally normative, for it begins with the conclusion that most social ills stem from the personal defects and failings

No crank wants, or will accept, an honest criticism of anything. He has solved the "problem," whatever it is, and is looking for an endorsement. . . Whatever else cranks may be up to, after one deals with several it becomes clear that they are not really interested in doing science. They are not prepared to accept the rough-and-tumble of scientific criticism; any criticism is regarded as provocation and a threat.

(Jeremy Bernstein, "Scientific Cranks: How to Recognize One and What to Do Until the Doctor Arrives," American Scholar, 47:13, Winter 1977–1978.)



Studies of twins are one way of separating what is inherited from what is learned. (Rita Freed/Nancy Palmer Photo Agency)

of the individuals involved, and the actual "research" consists of an effort to identify these failings. The findings of normative research are not necessarily "wrong," but they are always incomplete, because the researcher looks for only the kinds of evidence which support the preconceived conclusion.

SOCIOLOGY AS A SCIENCE

A science may be defined in at least two ways: (1) a science is a body of organized, verified knowledge which has been secured through scientific investigation; (2) a science is a method of study whereby a body of organized, verified knowledge is discovered. These are, of course, two ways of saying much the same thing.

If the first definition is accepted, then sociology is a science to the extent that it develops a body of organized, verified knowledge which is based on scientific investigation. To the extent that sociology forsakes myth, folklore, and wishful thinking and bases its conclusions on scientific evidence, it is a science. If science



is defined as a method of study, then sociology is a science to the extent that it uses scientific methods of study. All natural phenomena can be studied scientifically, if one is willing to use scientific methods. Any kind of behavior—whether of atoms, animals, or adolescents—is a proper field for scientific study.

During human history, few of our actions have been based on verified knowledge, for people through the ages have been guided mainly by folklore, habit, and guesswork. Until a few centuries ago, very few people accepted the idea that we should find out about the natural world by systematic observation of the natural world itself, rather than by consulting oracles, ancestors, or intuition. This new idea created the modern world. A few decades ago we began acting on the assumption that this same approach might also give useful knowledge about human social life. Just how far we have replaced folklore with knowledge in this area will be explored in the chapters which follow.

THE DEVELOPMENT OF SOCIOLOGY

Sociology is the youngest of the recognized social sciences. Auguste Comte in France coined the word "sociology" in his Positive Philosophy, published in 1838. He believed that a science of sociology should be based on systematic observation and classification, not on authority and speculation. This was a relatively new idea at that time. Herbert Spencer in England published his Principles of Sociology in 1876. He applied the theory of organic evolution to human society and developed a grand theory of "social evolution" which was widely accepted for several decades. Lester F. Ward, an American, published his Dynamic Sociology in 1883, calling for social progress through intelligent social action which sociologists should guide. All these founders of sociology were basically social philosophers. They proclaimed that sociologists should collect, organize, and classify factual data, and derive sound social theories from these facts, but very often their own method was to think out a grand system of theory and then seek facts to support it. So while they called for scientific investigation, they did relatively little of it themselves. Yet they took the necessary first steps, for the *idea* of a science of sociology had to precede the building of one.

A Frenchman, Émile Durkheim, gave the most notable early demonstration of scientific methodology in sociology. In his Rules of Sociological Method, published in 1895, he outlined the methodology which he pursued in his study Suicide, published in 1897. Instead of speculating upon the causes of suicide, he first planned his research design, and then collected a large mass of data on the characteristics of people who commit suicide, and then derived a theory of suicide from these data.

Courses in sociology appeared in many universities in the 1890s. The American Journal of Sociology began publication in 1895, and the American Sociological Society (now the American Sociological Association) was organized in 1905. Whereas most of the early European sociologists came from the fields of history, political economy, or philosophy, many of the early American sociologists had been social workers, ministers, or ministers' sons; and nearly all were from rural backgrounds. Urbanization and industrialization were creating grave social problems, and these early sociologists were groping for "scientific" solutions. They saw sociology as a scientific guide to social progress. The early volumes of the American Journal of Sociology contained relatively few articles devoted to scientific description or research but carried many sermons filled with exhortation and advice. For example, a fairly typical article in 1903, "The Social Effects of the Eight Hour Day," contains no factual or experimental data but is entirely devoted to a recital of all the social benefits

which the writer assures us will follow from the shorter working day [McVay, 1903]. But by the 1930s the several sociological journals were well filled with research articles and scientific descriptions. Sociology was becoming a body of scientific knowledge, with its theories based upon scientific observation rather than upon armchair speculation or impressionistic observation.

PERSPECTIVES IN SOCIOLOGY

In order to study anything, one must begin by making some assumptions about the nature of what is studied. For example, the ancient Greeks believed that the universe was run according to the whims of the gods. By contrast, all scientists assume that the universe is orderly, and operates in certain regular ways which we may be able to discover. Thus, Newton developed the laws of gravity after observing that apples always fall down, never up. A working set of assumptions is called a "perspective," an "approach," or sometimes a "paradigm." What are some of the perspectives used in sociology?

The Evolutionary Perspective

The evolutionary perspective is the earliest theoretical perspective in sociology. Based on the work of August Comte (1798–1857) and Herbert Spencer (1820–1903), it seemed to offer a satisfying explanation of how human societies originate and grow. After a few decades it fell from favor, and is now once again becoming fashionable.

Sociologists using the evolutionary perspective look for patterns of change and development appearing in different societies, to see whether any general sequences can be found. They might wonder, for example, whether Chinese Communism will develop in the same way as Russian Communism, which gained power three decades earlier, or whether industrialization will have the same effects upon the family in developing countries that it seems to have had in Western nations. While not the major perspective in sociology, the evolutionary perspective is an active one.



The Interactionist Perspective

The interactionist perspective suggests no grand theories of society, since "society," "the state," and "social institutions" are conceptual abstractions, while only people and their interaction can be studied directly.

Symbolic interactionists such as G. H. Mead (1863–1931) and C. H. Cooley (1846–1929) concentrate upon this interaction between individuals and groups. They note that people interact mainly through symbols, which include signs, gestures, and most importantly, through written and spoken words. A word has no inherent meaning. It is simply a noise, but it becomes a word when people reach agreement that this noise carries a special meaning. Thus "yes," "no," "go," "come," and thousands of other sounds became symbols as a meaning is attached to each. Although some meanings can be exchanged without words, as all lovers know, most meanings are exchanged through spoken or written words.

People do not respond to the world directly; they respond to meanings they impute to the things and happenings around them: a traffic light, a lineup at a ticket window, a police officer's whistle and hand signal. An early sociologist, W. I. Thomas (1863-1947), coined the phrase, definition of the situation, noting that we can act sensibly only after we decide what kind of situation it is [Thomas, 1937, p. 9]. If a man approaches with right hand extended, we define this as a friendly greeting; if he approaches with clenched fists, we define the situation differently. The person who misdefines situations and tries to run when he should make love, or vice versa, is a stock comic figure. But in real life, failure to define behavior situations correctly and



make appropriate responses can have unhappy consequences.

As Berger and Luckmann state in their Social Construction of Reality [1966], society is an objective reality, in that people, groups, and institutions are real, regardless of our perceptions of them. But society is also a subjective reality, in that for each person, the other persons, groups, and institutions are whatever that person perceives them as being. Whether most people are pretty nice or pretty nasty, whether the police are protectors or oppressors, whether corporations serve common interests or selfish interests—these are perceptions which persons form from their own experiences, and these perceptions become "the way it is" for persons holding them.

Modern interactionists such as Erving Goffman [1959] and Herbert Blumer [1962] emphasize that people do not respond to other people directly; instead, they respond to whatever they imagine other people to be. In human behavior, "reality" is not something that is just "out there" like the curbs and sidewalks along the street; "reality" is constructed in peoples' minds as they size one another up and guess at the feelings and impulses of one another. Whether a person is a friend, an enemy, or a stranger is not a characteristic of the person; that person is, to me, whatever I perceive him as being, at least until I change my perception. Whether he is good or bad is measured by my perception of him. Thus, I create reality about him in my own mind, and then I react to this reality that I have constructed. This "social construction of reality" proceeds continuously as people define the feelings and intentions of others. Thus the "people" with whom we interact are, to some extent, creatures of our own imagination. Whenever two groups, such as workers and management, arrive at sets of firmly held opinions about each other, such a "social construction of reality" has taken place. In like manner, situations are defined by us, and become part of the "reality" to

which we respond. Whether a new rule is a protection or an oppression is measured by our definition of it.

This does not mean that all reality is subjective—that it exists only in the mind. There are objective facts in the universe. The sun, moon, and stars are real, and still would be "out there" even if there were no humans to see them. Human beings are real; they get born and they die; they take actions which have consequences. But a fact has no meaning of itself. Meanings are given to facts and to human actions by human beings. The symbolic interactionist perspective concentrates upon what meanings people find in other people's actions, how these meanings are derived, and how others respond to them. The interactionist perspective has brought a great deal of insight into personality development and human behavior. It has been less helpful in the study of large groups and social institutions.

The Functionalist Perspective

In this perspective a society is seen as an organized network of cooperating groups operating in a fairly orderly manner according to a set of rules and values shared by most members. Society is seen as a stable system with a tendency toward equilibrium, that is, a tendency to maintain a balanced, harmoniously operating system.

In the functionalist perspective, with Talcott Parsons [1937], Kingsley Davis [1937], and Robert Merton [1957] as the most prominent spokesmen, each group or institution fulfills certain functions and persists because it is functional. Thus, the school educates children, prepares workers, takes children off their parents' hands for part of the day, and provides spectator sports events for the community, among other things.

Behavior patterns arise because they are functionally useful. On the American frontier, where there were few inns and fewer people with money for them, a hospitality pattern developed. The traveling family were welcome guests of the nearest settlers wherever night fell upon them. The travelers brought news and a break in monotony; the host provided food and shelter. As the frontier became settled, the hospitality pattern became unnecessary and it declined. Thus patterns arise to meet needs and pass when the needs change.

Social change disrupts the stable equilibrium of the society, but before long a new equilibrium is regained. For example, large families were desired throughout most of history. Death rates were high, and large families helped to ensure some survivors. Especially in America, with a continent to fill, and with never enough hands to do the work, large families were functionally useful. They provided workers, companionship, and oldage security and were good for both the individual and the society. Today, in a crowded world with a lower death rate, large families are no longer a blessing. In other words, large families have become dysfunctional and threaten the welfare of the society. So a new equilibrium is approaching in which, instead of high death rates and high birth rates, we shall (hopefully) have low death rates and low birth rates. Thus, a value or practice which is functional at one time or place may become dysfunctional-interfering with the smooth operation of society—at another time or place.

If a particular social change promotes a harmonious equilibrium, it is seen as functional; if it disrupts the equilibrium, it is dysfunctional; if it has no effects, it is nonfunctional. In a democracy political parties are functional while bombings, assassinations, and political terrorism are dysfunctional, and changes in political vocabulary or party insignia are nonfunctional.

Functionalists ask such questions as, "How does this value, practice, or institution help meet the needs of the society?" "How does it fit in with the other practices and institutions of the society?" "Would a proposed change make it more or less useful to the society?"

Sociologists Study Society

The Conflict Perspective

Although it stems from the work of many scholars, the conflict perspective is most directly based upon the work of Karl Marx (1818-1883), who saw class conflict and class exploitation as the prime moving forces in history. Largely ignored by sociologists for many years, the conflict perspective has recently been revived by C. Wright Mills [1956, 1959], Lewis Coser [1956], and others [Aron, 1957; Dahrendorf, 1959, 1964; Chambliss, 1973; Collins, 1975]. Where functionalists see the normal state of society as one of stable equilibrium, conflict theorists see society as in a continuous state of conflict between groups and classes. Although Marx concentrated upon conflict between classes for ownership of productive wealth, modern conflict theorists take a less narrow view. They see the struggle for power and income as a continuous process but one in which many categories of people appear as opponents-classes, races, nationalities, and even the sexes.

Conflict theorists see a society as held together through the power of dominant groups or classes. They claim that the "shared values" which functionalists see as the glue holding society together do not really form a true consensus; instead this is an artificial consensus in which the dominant groups or classes impose their values and rules upon the rest of the people. According to conflict theorists, functionalists fail to ask the question, "functionally useful to whom?" Conflict theorists accuse functionalists of a conservative bias, in that functionalists assume that this "harmonious equilibrium" is beneficial to everyone, whereas it benefits some and penalizes others. Conflict theorists see the harmonious equilibrium of society as an illusion held by those who fail to see how the dominant groups have silenced those whom they exploit.



TABLE 1-1
TWO MAJOR PERSPECTIVES IN SOCIOLOGY

Perception of:	Functionalist theory	Conflict theory
Society	A stable system of cooperating groups.	An unstable system of opposing groups and classes.
Social class	A status level of persons sharing similar incomes and life-styles. Develops from different roles persons and groups fill.	A group of people sharing similar economic interests and power needs. Develops from the success of some in exploiting others.
Social inequality	Inevitable in complex societies. Due largely to different contributions of different groups.	Unnecessary and unjust. Due largely to power differences. Avoidable through so- cialist reordering of society.
Social change	Arises from changing functional needs of society.	Imposed by one class upon another in its own interest.
Social order	An unconscious product of people's efforts to organize their activities productively.	Produced and maintained by organized coercion by the dominant classes.
Values	Consensus on values unites the society.	Conflicting interests divide society. Illusion of value consensus maintained by domi- nant classes.
Social institutions: churches, schools, mass media	Cultivate common values and loyalties which unite society.	Cultivate values and loyalties which protect the privileged.
Law and government	Enforce rules reflecting value consensus of the society.	Enforce rules imposed by dominant classes to protect their privileges.

Conflict theorists ask such questions as, "How have the present patterns emerged from the contest between conflicting groups, each seeking its own advantage? "How do the dominant groups and classes achieve and maintain their position of privilege?" "How do they manipulate the institutions of society (schools, churches, mass media) to protect their privileges?" "Who benefits and who suffers from the present social arrangements?" "How can society be made more just and humane?"

Comparison of the Perspectives

Which is the best perspective? This question cannot be answered, for none is "right" or "wrong," but each is a different way of looking at society. Just as international relations can be viewed either as a state of war interrupted by intervals of peace or as a state of peace interrupted by intervals of war, so society may be viewed either as a condition of cooperation containing elements of conflict or as a condition of conflict containing elements of cooperation. Thus each perspective views society from a different vantage point, asks different questions, and reaches different conclusions. Evolutionists focus upon the similarities in changing societies; interactionists focus upon the actual social behavior of persons and groups; functionalists focus more heavily upon value consensus, order, and stability; conflict theorists focus more heavily upon inequality, tension, and change. For example, in the study of class inequality, evolutionists look at the historical development of class inequalities in different societies; interactionists study how classes are defined and how people perceive and treat members of their own class and of other classes; functionalists note how class inequality operates in all societies to distribute tasks and rewards and to keep the system operating; conflict theorists focus upon how class inequality is imposed and maintained by dominant classes

DISORDER AT CEREBELLUM UNIVERSITY

Last week a faculty-administration committee, without any consultation with students, issued a new set of grading procedures. After several days of grumbling, an angry mass of students gathered yesterday on the commons, surged into the administration building, ushered out the president, deans, and other officers, told the secretarial staff to take a holiday, and barricaded the doors. The police were called and . . .

How to study this social event from-

The evolutionary perspective:

What is the history of student-administration confrontations?

What established patterns, if any, does this follow?

How is this event an outgrowth of earlier situations?

The interactionist perspective:

How do rules get made and changed?

Who gets the authority to change the rules, and how?

How do the "good guys" and the "bad guys" in this confrontation get named?

How did tension build, and what roles were played as the confrontation spirit developed?

The functionalist perspective:

What are the reasons for this policy change?

What purposes might it serve for the university? For the students?

What purposes does this confrontation serve for the student activists?

What will be the effects of this confrontation?

The conflict perspective:

Why was student input not invited before this policy change?

Who benefits and who is penalized by this policy change?

Why do faculty and administration want this change, and why do students oppose it?

for their own advantage and at the expense of the less privileged.

For most topics of study, there are some aspects for which each of the perspectives can be useful. For example, consider the development of the modern university. The evolutionary perspective might focus upon the procession of scholarly needs and arrangements, extending over several thousand years, which eventually led to the development of the modern university. The interactionist perspective would note the ways in which scholarly needs have been defined at different times and the ways in which persons and groups dealt with one another in creating the university. The functionalist perspective would conflict perspective is not very helpful in

concentrate upon what changes made universities seem to be necessary, what purposes they fulfilled for the society, and what effects universities have upon their students and upon societies. The conflict perspective would concentrate upon which groups and classes benefit from the university and how access to higher education operates to preserve the position of the privileged groups. For some problems, one perspective may be more useful than another. The development of the hospitality pattern, mentioned earlier, is neatly described in terms of the functionalist perspective as a custom which arose to meet a special need at a special time and place. The





understanding the rise and decline of the hospitality pattern, but the rise of labor unions (to advance workers' interests against those of management) is nicely analyzed within the conflict perspective.

There are many other perspectives in sociology—resource theory, systems theory, social learning theory, exchange theory, phenomenology, ethnomethodology, and othersbut to inflict all of them upon introductory sociology students might convince them that they were in the wrong course! On some topics, different perspectives are so sharply opposed to each other that they cannot possibly be reconciled. On social class and social inequality, for example, the functionalist and conflict perspectives flatly contradict each other about the sources of inequality and the possibilities of attaining social equality. Conflict theorists emphatically deny much of what functionalists say about inequality, and vice versa (as shown in Chapter 14).

More often, however, the different perspectives are complementary, with one pointing out what another slights or ignores. The different perspectives overlap, and all are used by most sociologists but in different mixtures. Thus, no functionalist denies the reality of class exploitation, and no conflict theorist argues that all the interests of rich and poor are opposed (e.g., pure drinking water and clean air are good for both). These are differences in emphasis, and most sociologists would refuse to be classified under any of these labels. Many sociologists, however, have their favorite perspectives, upon which they rely most heavily. But all perspectives are useful and necessary for a complete understanding of society.

SOME STUDY SUGGESTIONS

A common complaint of sociology students is, "I read the book and I know the material, but I can't seem to figure out the tests."

Naturally enough, students who have studied

are puzzled and frustrated when their test scores do not reflect what they feel they have learned. Why does this happen?

The textbook material in an introductory sociology course is not entirely unfamiliar and reads quite easily. The student can read through a chapter without finding anything that seems hard to understand. At the end, having found nothing very difficult, the student lays the book aside, feeling this assignment is finished.

Because the material is often familiar and not difficult to read, a student may have the illusion of having fully understood the assignment but have only a vague idea of the meaning of the concepts presented. Each paragraph has one or more main ideas, together with illustrative material intended to explain and clarify them. For example, turn back to the section on "Social Science and Common Sense" at the beginning of this chapter. This section contains only one major idea: Common sense includes both folk wisdom and folk nonsense, and scientists try to tell us which is which. All the rest is illustration and explanation.

The student should underline and remember the main ideas and concepts, not the illustrative material. After reading a paragraph, it is a useful habit to raise one's eyes and ask, "What must I remember from that paragraph?" If nothing very clear can be recited, the paragraph needs to be studied again. After reading a section, look at the heading again and try another recitation for the complete section. Again, if one cannot give in one's own words a decent summary of the section, it has not really been "studied" enough.

Many students have trouble with tables, graphs, and figures. The secret in understanding them is to read everything around the edges before studying the body of the figure. For example, look at Figure 13-1 on p. 319. First, read the title, "Total Federal, State and Local Government Spending as Percent of GNP" (gross national product). Read the

"Source" credit at the bottom, which is often followed by some explanatory notes. Check the vertical axis showing percentages, and the horizontal axis showing dates. After reading this, study the main body of the figure. What conclusions can you now draw? Most figures are not difficult if one simply takes time enough to study all the edges of the figure first.

Additional study suggestions are given at the opening of the Study Guide and Source Book to Accompany Horton and Hunt, Sociology (which is generally available in the bookstores handling this textbook).

SUMMARY

Sociology is the scientific study of human social life. Today science is replacing common sense as a source of dependable knowledge about human behavior. All science is based on verifiable evidence. The basic technique of scientific investigation is observation. Scientific observation differs from just looking at things in that scientific observation is: (1) accurate, seeking to describe what really exists; (2) as precise and exact as necessary; (3) systematic, in an effort to find all the relevant data; (4) recorded in complete detail as quickly as possible; (5) objective, in being as free from distortion by vested interest, bias, or wishful thinking as is humanly possible; (6) conducted by trained observers, who know what to look for and how to recognize it; (7) conducted under controlled conditions which reduce the danger of fraud, self-deception, or mistaken interpretation. The steps in a scientific research project are: (1) define the problem, (2) review the literature, (3) formulate the hypotheses, (4) plan the research design, (5) collect the data, (6) analyze the data, (7) draw conclusions, and (8) replicate the study. Remember that before the conclusions can be accepted as established, replication, in which these conclusions are confirmed by repeated research, is needed. While the scientific method proceeds from evidence to conclusion, the popularly used normative method starts with a conclusion and hunts for evidence to support it.

Whether the study of our social relationships is a science is often debated. Sociology is a very new discipline, recently emerged from the speculations of nineteenth-century social philosophers and social reformers. To the extent that human social life is studied through scientific methods so that a body of verified knowledge is developed, these studies become social sciences.

Several perspectives are used in sociology. Each views society from a different outlook. The evolutionary perspective concentrates upon the sequences through which changing societies pass; the interactionist perspective focuses on actual day-to-day communication and behavior of persons and groups; the functionalist perspective sees society as an interrelated system in which each group plays a part and each practice helps the system to operate; the conflict perspective sees continuous tension and group struggles as the normal condition of society, with stability and value consensus being carefully contrived illusions which protect privileged groups. Each perspective is used, to some degree, by most sociologists, and is needed for a full understanding of society.





GLOSSARY

conflict perspective the view that society is in a continuous state of conflict between groups and classes, and tends toward dissent, tension, and change. evolutionary perspective the view that different societies show many similarities in their development.

functionalist perspective the view that society is an organized network of cooperating groups tending toward consensus and stability.

hypothesis a tentative, unverified statement of the possible relationship between known facts; a reasonable proposition worthy of scientific testing. interactionist perspective the view of society that concentrates upon interaction between persons and groups.

normative investigation research which seeks to confirm a conclusion already held. objectivity the quality of observing and accepting facts as they are, not as one might wish them to be.

replication repetition of studies by other researchers to confirm findings.

science a body of organized, verified knowledge; a set of methods whereby a body of verified knowledge is obtained. sociology the scientific study of human social life.

variable anything which varies from case to case, such as age, sex, and education among human beings.

verifiable evidence factual observations which other trained observers can see, weigh, count, and check for accuracy.

QUESTIONS AND PROJECTS

- 1 What is the difference between sociology and plain old-fashioned common sense?
- 2 Can scientists prove that ghosts and spirits do not exist or that fortune telling and mind reading do not work? Why are scientists so skeptical?
- 3 Suppose a supervisor says, "I've hired all kinds of workers, and school dropouts don't work out as well as high school graduates." What would be necessary for this statement to be a scientifically justified conclusion?
- Suppose you were a reporter for the campus paper, writing a news account of a violent confrontation between students and police. Should you try to write it with strict objectivity, or should you "slant" it, using polemical language and omitting certain facts while emphasizing others in order to support the side you felt to be morally right?
- 5 What proportion of the general statements made in the course of an evening's conversation are based upon informal recollection and what proportion make reference to some systematic, recorded observations? Test your estimate by keeping count of each in a conversational group.
- 6 Read Sinclair Lewis's novel Arrowsmith. What are some

- of the difficulties Martin had to meet in becoming rigorously scientific?
- 7 Why do you think a pseudoscience such as astrology, which has repeatedly been shown to have no predictive value, has so large a following, even among well-educated people?
- 8 Books of unscientific sensationalism, such as Charles Berlitz's The Bermuda Triangle, often become best-sellers, while competent debunking books, such as Lawrence Kusche's The Bermuda Triangle Mystery—Solved (New York, Warner Books, 1975) sell poorly. Why?
- 9 Write three statements of some event or issue, one written as a neutral observer, another as a supporter, and the third as an opponent.
- 10 Formulate some testable hypothesis such as, "Male students collect more parking tickets on campus than female students," or, "Entrance examination scores are not predictive of college graduation." Outline the research design, showing data to be sought and variables to be controlled.

SUGGESTED READINGS

Bell, Colin, and Howard Newby: Doing Sociological Research, The Free Press, New York, 1977. Two British sociologists tell what actually happens in social research, including value clashes, government interference, and problems of sampling at a time of racial unrest.

Blume, Stuart S.: Toward a Political Sociology of Science, The Free Press, New York, 1974. A discussion of how science is influenced by politics and of how science may be used in making political decisions.

*Chase, Stuart, with Edmund de S. Brunner: The Proper Study of Mankind; An Inquiry Into the Science of Human Relations, 2d ed., Harper & Row, Publishers, Inc., New York, 1962. A highly readable little book on the contribution of social science to the solution of human problems.

*Cuff, E. C., and G. C. F.
Payne (eds.): Perspectives in
Sociology, George Allen &
Unwin, Ltd., London, 1979.
Presents the major perspectives used in sociology. For
the advanced student.

*Gardner, Martin: Science: Good, Bad and Bogus, Prometheus Books, Buffalo, N.Y., 1981. A readable, entertaining book showing the differences between science and pseudoscience. Homans, George E.: The Nature of Social Science, Harcourt, Brace & World, Inc., New York, 1967. A brief philosophical discussion of what social science is all about.

*Inkeles, Alex: What is Sociology: An Introduction to the Discipline and the Profession, Prentice-Hall, Inc., Englewood Cliffs, N.J., 1964. A brief description of what sociology is and what sociologists do.

Reiser, Martin et al.: "An Evaluation of the Use of Psychics in the Investigation of Major Crime," Journal of Police Science and Administration, 7:18– 25, March 1979. A research study finding that psychics are useless in crime detection.

Wilson, Everett K, and Hanan Selvin: Why Study Sociology? A Note to Undergraduates, Wadsworth Publishing Company, Inc., Belmont, Cal., 1980. A brief pamphlet explaining what sociology is and what it is good for.

Following is a series of readable books, some of which are accounts of frauds and hoaxes, and others of which are critical appraisals of cultist ideas and theories:

Milbourne Christopher, Mediums, Mystics and the Occult; *L. Sprague DeCamp and Catherine C. DeCamp, The Ancient Engineers; *Barrows Dunham, Man Against Myth; *Bergen Evans, The Natural History of Nonsense; Christopher Evans, Cults of Unreason; *Martin Gardner, Fads and Fallacies in the Name of Science; *C. E. Hansel, ESP: A Scientific Evaluation; Harry Houdini, Miracle Mongers and Their Methods: Joseph Jastrow, Error and Eccentricity in Human Belief; *Philip J. Klass, UFOs Explained; *Lawrence D. Kusche, The Bermuda Triangle-Solved; *Curtis D. MacDougall, Hoaxes; Norman Moss, The Pleasures of Deception; *The Amazing Randi (James A. Randi), The Magic of Uri Geller; D. Scott Rogo, In Search of the Unknown: The Odyssey of a Psychic Investigator; Robert Silverberg, Scientists and Scoundrels: A Book of Hoaxes; *Barry Thiering and Edgar Castel (eds.), Some Trust in Chariots: Sixteen Views on Erich von Däniken's Chariots of the Gods; any issue of The Skeptical Inquirer, quarterly journal published by the Committee for the Scientific Investigation of Claims of the Paranormal.

