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Chapter

1

Everybody Is a Social Scientist!

People do not think of themselves as astrophysicists. No one, that is, save those specially trained in astrophysics. And only those few among us with the necessary training regard ourselves as biochemists, mathematicians, or neurosurgeons.

Most people, however, can fancy themselves social scientists. After all, we are all human beings. Each day we observe and interact with other human beings. So we can regard ourselves as lay-psychologists. Moreover, we all participate daily in social institutions and live out our lives in human societies. So we also can claim to be lay-sociologists. We also exist embedded in our own cultures. We can sample other cultures through travel and at ethnic restaurants. So we are lay-anthropologists as well.

Consider, too, our participation in politics. Political news from the mass media bombards us daily; we try to vote in elections regularly. So are we not also lay-political scientists? Finally, we deal daily with money. Unlike neutrons, synapses, and laser beams, money is something we have to think about often—to make, spend, and save. So do we not also qualify as lay-economists?

In short, social science deals with the social lives we all lead. So we naturally come to think we know a lot about it. In varying degrees, maybe we do. If so, what makes social scientists different from the rest of us?

The most obvious difference is that social scientists have had specialized training. They have learned particular bodies of collected knowledge; they have learned special methods to test new ideas and gain new knowledge. Social scientists have also developed special ways of thinking about social life, of how to approach new problems, and what patterns to look for in new events. In fact, experts in many areas are distinguished by their skill at detecting common patterns in their specialties (Dawson, Zeitz & Wright, 1989).

The knowledge bases of the social sciences, organized and expanded by computers, are now so vast that no would-be Leonardo da Vinci could master them all. So, as in other areas, social scientists increasingly become narrow specialists. Hence, most social psychologists know little of economics, or economists of anthropology. Even within a discipline, few can encompass the entire range of their field.

The methods that the various social sciences use to explore new ideas have also expanded. And methods have also become more specialized. Quantitative approaches have advanced rapidly—with economics setting the pace. Qualitative approaches have also advanced in those social sciences that employ them.

Weighty textbooks in each discipline introduce students to these exciting stores of theories, facts, and methods. This thin volume, however, focuses on the third difference between social scientists and others—the type of critical thought used to understand social life. To be sure, the disciplines differ markedly in their approaches. Yet there are basic principles that underlie social scientific thinking that contrast sharply from popular thought. These basic principles are the focus of this volume.

1.1 FIRST, A LITTLE TRUE/FALSE QUIZ

How easily do you think in social science terms? Take a few minutes and try using “common sense” to determine whether each of the findings in italics is largely *true* or largely *false*. Try also to think about the underlying factors that support your choice. Each of these descriptions derive from American research conducted in the various social sciences over the past half-century. They vary widely to provide a flavor of the vast range of interesting topics studied across the social sciences.

[1] *Black Soldiers' Satisfaction* A major sociological study during World War II studied the morale of black American soldiers. *These black soldiers were more satisfied with Army life when stationed at a military base in the northern United States than at a base in the then-tightly segregated southern United States.* TRUE OR FALSE?

[2] *Promotions and Satisfaction* The same World War II investigation also looked at differences in morale among various branches of the Army. It noted that members of the Army Air Corps received promotions far more rapidly than those in the Military Police. *So the airmen were much more satisfied with their promotions than were the Military Police.* TRUE OR FALSE?

[3] *Religious Voting and Kennedy's Election* A political science study of the 1960 presidential election found that voting along religious lines was intense that year. Many Protestants cast anti-Catholic ballots. They opposed John Kennedy because of his religion, as he was only the second Roman Catholic

ever to run for President. So, *while President Kennedy barely won, religiously-oriented voting nearly cost him the election.* TRUE OR FALSE?

[4] *Dr. King's Murder and Attitude Change* After a white gunman in 1968 assassinated Dr. Martin Luther King, Jr., the major black leader of the Civil Rights Movement, a curious phenomenon occurred among white Texans. *Surveys found that many of those whites who had most strongly opposed Dr. King and racial justice now felt especially guilty. And it was these whites who, following the assassination, changed their attitudes the most toward favoring racial change.* TRUE OR FALSE?

[5] *Lonely, Isolated Inventors* An anthropologist looked at when and where major inventions, such as the telescope and the telephone, occurred. He found that *developing new inventions is largely an act of individual geniuses working alone. Typically one person creates inventions largely apart from other influences.* TRUE OR FALSE?

[6] *Post-War Homicide Rates* A sociological study of homicide throughout the world noted an interesting trend in murders following wars. *Homicide rates within countries throughout the world fall sharply following their participation in war. War brings unity to the population. Perhaps, too, killing the enemy exhausts the total potential for homicide.* TRUE OR FALSE?

[7] *Birth Rates and Prosperity* Demography is the social science that studies populations. Americans know it best for its work on the mammoth U.S. Census, but it also studies population issues around the globe. In these investigations, demographers repeatedly find that one of the strongest correlates of birth rates is economic prosperity. *When families can better afford to have more children, they do.* TRUE OR FALSE?

[8] *Economic Development and Poverty* Economists who study the economic progress of developing nations uncovered an encouraging phenomenon. In the past, these countries have typically had small, rich elites with the rest of their populations in dire poverty. *When modern development brings some prosperity, it opens new job opportunities for those who had lived at the subsistence level. Thus, the poorest segments soon benefit from development, and a more equitable social class system begins to take shape.* TRUE OR FALSE?

[9] *Payment and Lying* In a famous social psychological experiment at Stanford University, researchers asked college students to do a boring task. Then the researchers paid them either \$20 or \$1 to tell the next student subject that the task was actually interesting and stimulating. *Rewarded handsomely, those subjects paid \$20 later came to think the task they had performed really had been interesting. Those paid the miserly \$1 did not.* TRUE OR FALSE?

10] *Finding Good Jobs* How do people find out about suitable employment—especially highly-skilled jobs that pay well? The research of labor economists and sociologists shows that *people typically locate good jobs through normal channels, such as newspaper advertisements and employment agencies. Others find out about these employment openings through close friends and relatives.* TRUE OR FALSE?

12. ANSWERS TO THE QUIZ

Here are the correct answers to these items with brief descriptions of how the social scientists who uncovered these findings explained them.

1] *Black Soldiers' Satisfaction* FALSE. Black American soldiers in northern camps were in fact *objectively* much better off than those in southern camps in World War II. Yet objective status does not necessarily translate into *subjective* feelings. Human beings are too complicated for such simple assumptions. This famous sociological investigation of Army morale found the black troops in *southern* camps to be more satisfied (Stouffer, Suchman, DeVinney, Star & Williams, 1949).

The tricky element here concerns with whom the soldiers were *comparing* themselves. Or, as sociologists prefer to ask, what group is their *reference group*? (*All terms in bold letters throughout the book are defined in the Glossary.*) "Common sense" leads us to think that the black troops in northern camps would compare themselves with their black counterparts in southern camps. Think about that a minute. Few of these soldiers knew of conditions in other types of camps. How could they have made that comparison to determine how satisfied they should be in relative terms?

Stouffer and his colleagues who conducted this study reasoned differently. They suggest the comparisons the soldiers knew and used were the black civilians who lived near the camps. As soon as you frame the problem this way, the surprising finding makes sense. Black civilians in the South in the 1940s endured intensive segregation and discrimination. Black soldiers in southern camps had their difficulties. Yet, in comparison with the black civilians they saw regularly, their Army life seemed much better.

By contrast, black civilians in the North were experiencing wider opportunities with new, higher-paying jobs opening in the war industry. Using this reference group, black troops in the North felt relative deprivation and hence were less satisfied with Army life.

This example introduces us to the importance of *relative* comparisons in social life. They are more typical than absolute comparisons, and social scientists must always compare their results relative to some benchmark. The benchmark chosen can determine the conclusions drawn. We will consider this point in detail in Chapter 3.

11] *Promotions And Satisfaction* FALSE. The same study of Army morale

tions than the airmen were with their rapid promotions. Again, the key point is with whom each group was comparing its promotions. It was not with each other. The two groups had minimal contact and knew little of the other group's promotion rates. Hence, they could not serve as reference groups for each other.

This time Stouffer reasoned that the soldiers of these two U.S. Army branches were comparing *within* their groups. A military policeman worked hard and long to move up in the ranks. When he succeeded, he took satisfaction in knowing that his hard earned promotion was comparable to that of his colleagues in the Military Police. However, the high-flying airmen typically had many comparisons of colleagues who had received promotions even more rapidly than they. Surrounded by comparisons of extremely fast promotions, many airmen were dissatisfied with their own fast gains.

[3] *Religious Voting and Kennedy's Election* FALSE. If you thought this item true, you are in good company. Most of the American mass media thought heavy anti-Catholic voting had almost cost John Kennedy the presidency in 1960. A careful simulation of the election using massive amounts of survey data, however, showed that actually the opposite was true (Pool, Abelson and Popkin, 1964). Religiously-motivated voting helped Kennedy *win* the election of 1960!

The best-fit simulation showed Kennedy did indeed lose popular votes from this divisive religious voting. The study indicated he lost about 4.3 million Protestant votes that otherwise would have been cast for a Protestant running as the Democratic Party candidate. This suggests a staggering amount of religious bigotry at the polls in 1960. At least it appears staggering today, for the religious backgrounds of candidates in American elections is now of little interest.

Overlooked by many observers at the time was that Kennedy also *gained* votes by being a Roman Catholic. The simulation estimated that he garnered about 2.8 million Catholic votes that otherwise would have gone for the Republican Party candidate. Overall, then, Pool and his colleagues estimated Kennedy had lost about 1.5 million votes on the religious issue (4.3–2.8 million).

What these researchers remembered, and the media forgot, was that direct popular votes do not win American presidential elections. The Electoral College decides the victor by a winner-take-all principle of casting electoral votes by state. Here lies the reason for the surprising result of the religious issue actually aiding Kennedy's election.

Kennedy lost most of the 4.3 million Protestant Democrats in the South and West. He would have lost some of these states anyway. Other states he lost because these voters had few electoral votes. Montana, Idaho, and Utah, for instance, had only four electoral votes each. Hence, the anti-Catholic voting against Kennedy cost him only about 110 votes in the Electoral College.

The 2.8 million pro-Catholic votes, however, were another story. These

Pennsylvania, and Illinois. These states were critical for Kennedy; without them he would not have become President. He won each by only a whisker. Hence, the pro-Catholic votes made the difference in these swing states. Together these states contributed about 132 electoral votes. All told, then, Kennedy *gained* about 22 electoral college votes from the religiously-motivated voting of 1960 (132–110).

The larger issue here involves multiple levels of analyses. Popular analyses often err by focusing on just the level of individual people—such as individual citizens voting on their religious prejudices. The problem is cast in an entirely new light when the issue is placed in a larger structural context—such as state-by-state voting in the Electoral College. We shall return to this issue in Chapter 6 on “Keeping Our Levels Straight.”

[4] *Dr. King's Murder and Attitude Change* FALSE. Those types of white Texans who were already the *most* favorable to racial change became even more favorable after the murder of Dr. King. Those types initially most unfavorable to racial change revealed no feelings of guilt after the tragedy. On the contrary, they became still more resistant to racial change.

These are the findings from a study by Robert Riley and the author (Riley & Pettigrew, 1976). We had sampled white Texans' opinions toward race relations for another project during November 1967 and February 1968. Then bullets struck down Dr. King in April of 1968. So we rushed back to Texas to conduct two more surveys during May and August of 1968.

We could not secure interviews with the same respondents on each occasion. Hence, we analyzed our data by types of people—such as young working-class whites from rural East Texas. When we did this, we discovered two opposite trends. Those types of respondents open to racial change before the assassination became still more open after it. Those closed to change earlier became more closed.

We interpreted these results as showing that white Texans viewed the slaying of the black leader within the perspectives of their prior racial views. Those types responsive to King's message for racial justice during his lifetime saw in his death further need for such justice. Similarly, those types who had rejected his message earlier saw in his death the disproof of his views.

This investigation used a longitudinal research design. Such a design collects data at different points in time and compares them across time to search for changes. More common are cross-sectional research designs which collect the data at one time. Though expensive and time-consuming, longitudinal research is important for all social sciences. Many questions, especially those that demand causal explanations (and most do), require some form of a longitudinal design. Longitudinal studies are important, because they provide another type of comparison—one made across time. We will return to this topic in Chapter 4 on “Searching for Causes and Changes.”

[5] *Lonely, Isolated Inventors* FALSE. The popular conception of lonely inventors locked up in their laboratories and conducting their work apart from outside influences is incorrect. According to Alfred Kroeber (1948), the distinguished anthropologist, the timing and location of major inventions is anything but random.

In fact, different people independently discover most major inventions within a few years of each other. The famous Alexander Graham Bell and the forgotten Elisha Gray filed patent petitions for the telephone within hours of one another in 1876. The following year, Thomas Edison in America and Charles Cros in France introduced the phonograph. Similarly, four people working in four countries invented the steamboat between 1783 and 1788. Louis Daguerre, the Frenchman, and William Talbot, the Englishman, introduced photography six months apart in 1839. Five inventors from Great Britain and the United States developed the telegraph around 1837. Today we remember only one of these men, Samuel Morse, for the telegraph code named for him.

Kroeber discerned a similar pattern for scientific discoveries—which, like inventions, are innovative cultural creations. Thus, four different scientists, including Galileo, reported sunspots in 1611. John Napier and Joost Burgi each introduced logarithms between 1614 and 1620. Isaac Newton and Gottfried Leibnitz each introduced the calculus in the 1670s. Major achievements in chemistry—nitrogen (1772–73), oxygen (1774), that water equals H_2O (1781–83) and the Periodic Law of Elements (1869)—were also multiply discovered. So too were such achievements in biology as the theory of natural selection (1858) and the rediscovery of Mendel's laws of genetics (1900).

From many such examples, Kroeber concluded that inventions were not just the creations of individual inventors. They were also part of the *zeitgeist*—the spirit of the times. The basic antecedent ideas, as well as the need, for the invention had entered the inventors' cultures. This is not to deny their genius. It does suggest, however, that had they not stepped forward when they did, others would have done so soon after.

[6] *Post-War Homicide Rates* FALSE. Again the answer is false, although “common sense” dictates that homicide rates would decline after wartime. Dane Archer and Rosemary Gartner (1984), in their prize-winning volume *Violence and Crime in Cross-National Perspective*, found that murder rates typically *rise* after wars compared to a similar pre-war period. In a control group of nations that did not go to war during these years, no rise in murders occurred. We can be confident of this surprising result. The two sociologists diligently pursued the finding across 110 countries, 14 wars, and two different measures of change in violence rates. The result replicated repeatedly. We shall see in Chapter 4 that such **replication** is a major means social science has of gaining confidence in the validity (soundness) of its results.

Like the notion of an invention *zeitgeist*, Archer and Gartner explain their finding as reflecting a cultural rise in the acceptance and legitimization of vio-

ence during wartime. That is, violence against the enemy legitimizes violence in general—even against your own group. The further finding that post-war homicide rates rose especially in those countries that won their wars yet suffered high percentages of battle deaths supports this interpretation of a *violent culture*.

Their idea of a culture that legitimizes homicide fits with other analyses. For example, both a historian (Franklin, 1956) and social psychologists (Pettigrew & Spier, 1962) have demonstrated such a culture in the southern United States. The concept becomes important in such heated debates as those concerned with capital punishment. Can, as its advocates claim, the legal killing of convicted murderers actually deter homicide? Or does capital punishment itself, as its opponents claim, lend further support for a violent culture?

Archer and Gartner also provide worldwide data on these questions. They uncover no data to support the deterrence effect of capital punishment. Actually, they found the opposite. Consistent with their emphasis on the legitimization of violence, homicide rates decline on average following the abolition of capital punishment. This finding reveals how scholarly work in social science is often relevant to controversial public issues.

[7] *Birth Rates and Prosperity* FALSE. Speaking of controversial issues, birth control is a topic of focal interest for demography. Writers often cite studies of birth rates as evidence that greater birth control is necessary if the world is to avert a disastrous population explosion in the making.

One consistent result of this demographic work is that economic prosperity is a strong predictor of birth rates. Yet prosperity acts in precisely the opposite manner from the reasonable sequence offered in the item. It is the poor of the world living in the poorest nations who have the most children. As prosperity comes to an area, birth rates begin to *decline*.

Why should families have fewer children just when they can provide them with a better life? There are many reasons behind this interesting phenomenon. We shall cite two major ones. First, families have many births in poor regions because wretched health conditions create tragically high rates of infant mortality. One must have many births to assure enough surviving children to aid family subsistence. Prosperity improves health conditions and care, and reduces the subsistence value to families of extra children.

Second, expectations for the future are important. As times improve, parents begin to dream of a better life for their children—and a better life requires investments in education and other previously unattainable opportunities. So such dreams for the future are only practical when there are fewer children in whom to invest.

Thus, one way to motivate families to have fewer children is to bring economic prosperity to these nations. Yet it is not the only way. Even the poorest of the world's countries can still mount effective family-planning programs. In Bangladesh, for example, such programs achieved a 21% de-

cline in fertility rates between 1970 and 1991—from seven to five-and-a-half children per woman of child-bearing age (Robey, Rutstein & Morris, 1993).

[8] *Economic Development and Poverty* FALSE. If only it were true that development aids the poorest citizens the most! Albert Hirschman (1981), the distinguished economist, notes that precisely the opposite happens in the initial stages of economic development. The rich elite gets richer, maximally benefiting from the new development. The poor see little “trickle-down” from the new prosperity. Hence, the social class patterns of these nations become even more inequitable. The disparity between the haves and the have-nots grows even larger.

Why does this situation, Hirschman (1981:39–58) wonders, not rapidly trigger revolutions throughout the developing world? He likens the situation of the poor in these nations to that of an automobile driver stuck in unmoving traffic in a two-lane, one-way tunnel. (The idea actually occurred to Hirschman while he was stuck in Boston's Sumner Tunnel. Note how social scientists usefully spend their spare moments!) After both lanes have stopped for some time, one rejoices to see the next lane begin to move. You expect that means the traffic is finally opening, and your lane will soon proceed. Suppose, however, your lane fails to budge, while cars in the adjoining lane continue to rush past. After a while, your mood shifts from relief to anger over the unfairness. You may suspect foul play, and even consider illegally crossing over into the other lane.

Applied to the poor of developing countries, Hirschman's analogy predicts calm in the initial stages of development. Then it predicts growing unrest in later stages as the unequal economic situation worsens. In fact, this is precisely the pattern that we have often witnessed in developing countries during the past half-century of “rising expectations.”

[9] *Payment and Lying* FALSE. If you thought this item correct, you should know that so did some psychologists at the time of the study. In simple reward-and-punishment terms, one would predict the \$20 subjects would change their minds more than the \$1 subjects. However, on average, it was the \$1 subjects who more often changed their minds. This famous experiment by Festinger and Carlsmith (1959) offers support for Festinger's theory of *cognitive dissonance*. This theory holds that certain conditions reverse reward-and-punishment predictions.

The researchers reasoned that the subjects who had received \$20 for lying could later easily explain to themselves why they had done it. They did it to earn the \$20 (over \$100 today when corrected for inflation). The \$1 subjects had no such easy explanation. Their memory for the event was in “dissonance.” That is, their knowledge that the task was quite dull conflicted with what they had said to the next subject. The theory of cognitive dissonance predicts that such a situation sets up a tension that people need to resolve. To ease

the discomfort of this cognitive dissonance, many of the \$1 subjects later remembered the task as fairly interesting after all.

[10] *Finding Good Jobs* FALSE. While some people secure high-paid employment through formal channels, even fewer secure it through close friends and relatives.

So how do qualified people find out about good jobs? Mark Granovetter (1973, 1982, 1983) discovered it was through word of mouth from distant acquaintances. He called the phenomenon “the strength of weak ties.” With this finding, Granovetter helped to open an exciting new area of sociology called *network theory*.

The basic idea is that information flows through loose networks of people who do not know each other well. Maybe they were classmates in high school or college, but not close friends. Relatives and friends are of limited help, Granovetter found, because they know about the same information as you do. “Weak ties,” however, indicate the two people are in different social locations. Therefore, they have access to different flows of information. So, in chance meetings, your old acquaintances can tell you about new openings at their firms that require the skills you possess.

This network analysis is an intriguing example of social structure in action—a topic we will discuss throughout the book. It has direct implications for understanding how society filters opportunities by social class, race, and sex. These networks with critical employment information were in the past largely upper-middle class, white, and male in America.

This network perspective offers one reason African Americans who attend interracial schools as children get better jobs than comparable African Americans who attend all-black schools (Braddock, 1989; Braddock, Crain & McPartland, 1984). Integrated education enables them to break through the white monopoly and gain access to critical information about jobs and other opportunities. This explanation does not require that the blacks actually learned more in the interracial schools, or even had particularly close white friends.

In sum, false is the correct response for all ten items of the quiz. If you correctly thought most of the items were false, then three possible conclusions arise. Perhaps you have already taken social science courses. Maybe you have a genuine talent for social science thinking. You will make a prudent consumer of social science findings, and you might even consider specializing in one of these fields. Possibly you shrewdly detected that the context of this opening chapter was to show that social science findings are not as obvious as many think, so you responded accordingly. Such sensitivity to social context suggests you have a talent for thinking like a social scientist.

If, however, you thought many of these items were true, then you share this with most people. You can take heart that I purposely selected tricky items. Not all social science results are so surprising. Yet “conventional wisdom,” a less polite term for “common sense,” often leads one astray in understanding the complexities of social life. For the fact remains: social life is complex.

1.3 THE COMPLEXITIES OF STUDYING SOCIAL LIFE

There are many reasons social life is so complex and difficult to study. Here we shall describe five of the most important reasons.

1.3.1 Multiple Causation

Few events in the social world are caused by only one factor. Multiple factors shape most phenomena, especially the important ones. Popular analyses often search for the *one* key factor to explain an entire social phenomenon. For example, research in criminology (the study of crime) shows that many factors contribute to America’s high rates of crime today. Yet many in political life act as if it were caused by only one simple factor—the so-called “breakdown in family values,” or not enough fear of punishment by criminals, or whatever. Social scientists have learned not to expect the social world to be so simply constructed. An important part of thinking like a social scientist is to expect and search for multiple causal agents.

Making it more complicated, the many causal, **independent variables** used to predict a phenomenon (the **dependent variable**) are often tightly interrelated themselves. The difficult problem for the social analyst in interpreting such data is how to extract the causal relationships from a mass of possibilities. While this exercise is usually painstaking and time-consuming, it also can be great fun. It is not unlike Sherlock Holmes solving a baffling mystery, so it is my favorite task as a social scientist.

The difference between this situation and that of much research in chemistry and physics is striking. Social science, even in laboratory experiments, must work in **open systems**—situations in which the key **variables** under test are not the only ones operating. Physical science can often approximate **closed systems** for its research. Such closed systems isolate the few variables of interest from contaminating external variables.

1.3.2 Multilevel

As noted in the presidential vote example, significant aspects of social life occur on different levels of analysis. Popular analyses often stay at only the best known and most immediate level of the individual. Yet this is not enough to capture the complexity of social life. All the social sciences have found it necessary to work at higher levels as well.

Hence, macroeconomics considers the economy from the broadest structural perspective. Political science views the entire political system, not just individual voters. Cultural anthropology treats whole cultures and societies, not just the individuals within them. Demography studies whole populations. Sociology looks at whole societies, as well as institutions within societies. Social psychology is the most individually oriented of all. Yet it also specializes in groups of people, particularly in face-to-face situations where people interact.