2

✴

Political Science and Scientific Methods in Studying Politics

A recent CNN report disclosed that, unknown to many parents, babies in the United States are regularly tested for genetic disorders. During the testing, DNA information is obtained and stored for use, in some cases, in later scientific experiments. Medical authorities support these practices in the interest of public health and scientific research. Some parents oppose the testing—as well as the fact that prior parental consent is not universally required—in the name of privacy and individual rights. What do you think?

This chapter will provide you with analytical concepts and approaches to assess such questions from the standpoint of traditionalist, behavioralist, and postbehavioralist political science models. This chapter also examines the nature of science itself and discusses some of the key historical debates over the ethics of scientific research and thus helps you evaluate the DNA testing controversy in a broader context.

Source: Elizabeth Cohen, "The Government Has Your Baby's DNA," CNN Health, February 4, 2010 (http://www.cnn.com/2010/HEALTH/02/04/baby.dna.government/index.html?hpt=Sbin)

Political science's identity as a social science was both celebrated and challenged to an extraordinary degree in 2009. On the one hand, political scientist Elinor Ostrom was named a recipient of the Nobel Prize, a recognition that signified international acknowledgment of the intellectual contributions that a discipline like political science could offer. Yet, in the same year, Oklahoma Senator Tom Coburn argued for the termination of U.S. National Science Foundation funding for political science

research. According to Senator Coburn, U.S. federal dollars should be awarded to scientific projects seeking more meaningful solutions to human problems than those typically studied by political science researchers and routinely included in political science textbooks.

Senator Coburn's criticism attracted national attention, but political science's potential to raise controversy was nothing new. Political science—like other social sciences—seeks to study human behavior through the use of a scientific method that, at times, can prompt objections and debate.

Perhaps no example in recent decades has more vividly conveyed science's capacity to engender ethical controversy than the Zimbardo prison experiment at Stanford University in 1971. In this experiment, university students were recruited by Stanford Psychology Professor Philip Zimbardo to participate in a research project. All the students were in good mental and physical condition, all were well-adjusted (for example, none had a record of criminal or disorderly conduct), and all were male. Professor Zimbardo was interested in exploring the interactions between individuals in situations wherein some had authority over others; to accomplish this objective, he set up a mock prison in the basement of the Psychology Department and he randomly assigned some of the student participants to be "guards" in this prison and others to be "inmates." He intended for the experiment to last 2 weeks. However, by the end of the second day, "guards" were acting aggressively toward "inmates." By the fifth day, "guards" were forcing "inmates" to surrender their clothing, to wear head coverings, to endure sleep deprivation, and to submit to sexual humiliation. Upon the urging of a former graduate student, Professor Zimbardo called an end to the experiment after 6 days rather than allow the physical, sexual, and verbal taunts to continue.

In 2007, Professor Zimbardo reflected on this experiment. He shared his conviction that his research could offer insights into the abuses that had taken place at Abu Ghraib Prison in Iraq and that had been revealed to the public in 2004; at Abu Ghraib, a group of U.S. military and intelligence agency personnel engaged in acts of physical abuse and sexual humiliation of Iraqi detainees. In the Stanford prison experiment, Professor Zimbardo explained, students succumbed to situational cues (for example, acting the role of "guard" over submissive "inmates" in a pretend-prison) permitting of abusive behavior after only a few days; consider how much stronger the temptation toward aggressive action against submissive populations in an actual prison facility under the stress of war could become, Professor Zimbardo noted. Science—in this case, a social science experiment—revealed uncomfortable truths about human psychology, truths relevant to both citizens and political leaders struggling to understand how the abuses at Abu Ghraib could have happened.[1]

If Professor Zimbardo is correct—if science can provide reliable information about the ease with which power can be abused by otherwise "good" people—should science be accorded special claims to authority when studying politics? Should those investigating the political world scientifically have a greater voice than others on matters pertaining to politics? If scientists make claims to having a reliable and disinterested expertise, should you believe them?

This chapter seeks to help you sort through such questions by exploring what political scientists mean when they present their findings as scientific. Chapter 2

points out that political science has changed over the centuries; the chapter further analyzes relationships between political science and science, scientific processes, the use of scientific processes in analyzing political data, and limitations of science.

THE RANGE OF POLITICAL SCIENCE: HISTORICAL DEVELOPMENTS

Political science often traces its beginnings to ancient Greece and the teachings of political thinkers such as Socrates, Plato, and Aristotle.[2] Political science as an academic field, however, is much newer. In the United States, the first political science department was organized at Columbia University in 1880, and in 1903 the American Political Science Association (APSA) was formed. At the turn of the twentieth century, probably no more than a couple of hundred people in the entire United States thought of themselves as political scientists.[3] In fact, fewer than 500 doctoral degrees in political science were awarded between 1936 and 1942, a number all the more striking when one realizes that—according to the U.S. Department of Education—more than 600 PhDs in Political Science were recently awarded in a single year (2003–2004).[4]

From these beginnings, political science has developed different subfields (areas of specialization) and research methods, and the discipline has grown to include more than 15,000 political scientists in the APSA alone. In 2010, APSA reported members in more than 80 countries.[5] Some political scientists focus on studying **normative** issues (issues involving value judgments and ethics), others concentrate on **empirical** (observable and factual) investigations, and still others study both. Whatever the focus, political science begins by asking questions. Why do people vote as they do? Why are some people conservative and others not? Does money buy elections? The subject matter of politics is varied and complex, and political science is no less so. In this chapter, we will see that political scientists use a wide range of research methods and analytical approaches.

In its early years, political science generally involved the analysis of formal, legal, and official sides of political life.[6] This approach is known as traditionalism. **Traditionalists** tried to understand politics by examining laws, governmental offices, constitutions, and other official institutions associated with politics; they tried to describe how institutions operated by formal rules and publicly sanctioned procedures. A traditionalist, for example, who wished to understand the U.S. Supreme Court might study the official rules the Court followed in making judicial decisions, or, perhaps, the formal/legal basis of the Court's authority as spelled out in the U.S. Constitution.

Traditionalists often tended to focus on what was going on inside government as opposed to looking at social and economic processes in the country.[7] Traditionalist approaches were often both historical and normative: historical in outlining the processes by which the formal rules of politics were modified over time through court decisions, laws, executive orders, and the like, and normative in the sense of hoping to provide information for improving these rules.[8] Although traditionalist approaches are still present in political science research, additional approaches have supplemented traditionalism.

Behavioralism is one alternative to traditionalism. Behavioralism became popular in political science after World War II. The roots of behavioralist political science have been traced back to the 1920s and the works of political scientists such as Charles Merriam. Merriam asserted the usefulness of looking at the actual *behavior* of politically involved individuals and groups, not only the formal/legal rules by which those individuals and groups were supposed to abide.[9] Thus, a behavioralist approach to the study of Congress might include an examination of how members of Congress actually behave in their positions. For example, a behavioralist might ask the following type of question: How much time is devoted by members of Congress to such tasks as writing laws, interacting with lobbyists, raising money for reelection, giving speeches, studying domestic issues, attending committee and subcommittee meetings, casting votes, meeting with foreign dignitaries, and the like? The behavioralist, therefore, is less interested in how Congress looks officially "on paper" (for example, what the U.S. Constitution says about Congress) and more interested in how Congress becomes an arena of actions, the origins and motivations of which may be found outside the formal sphere of government. That is, a behavioralist may look for informal sources of power emanating from economics, ethnic cleavages, and social relationships.[10] Thus, to a behavioralist, traditionalist approaches, focused so exclusively on government per se, were inadequate for understanding the larger context of political life.[11]

Behavioralist approaches stress the importance of empirical analysis. Behavioralists ask how better to study behavior than through careful observation of specific actions. Indeed, behavioralism is almost synonymous with empiricism, according to many political scientists.[12] Empiricism is a means of collecting data based on observation. From an empirical standpoint, X is a fact if X is observed.[13] Behavioralists often favor statistical, mathematical, and economic models of analysis, insofar as they allow for a more minute empirical investigation of phenomena than would be provided by assessing the content of constitutions, laws, and governmental procedures. Given its focus on empiricism, behavioralism tends to reject historical analysis, finding little reason to explore the past (for interpretations, insights, and opinions on matters of politics) when observation is viewed as the most reliable route to knowledge.[14] The empirical orientation toward the analysis of what is (observable) also stands in contrast to an orientation that asks what *should be*. Indeed, one of the defining attributes of behavioralism is its rejection of the normative questions associated with traditionalism.[15] A behavioralist studying Congress does not ask how a senator or representative *should act*. Rather, a behavioralist examines how a senator or representative *does* act.

Postbehavioralism is an alternative to both traditionalism and behavioralism. In 1969, David Easton announced that a postbehavioral orientation had arrived in political science.[16] What had inspired it? Easton was very explicit in his answer: Postbehavioralism emerged as a reaction against the empirical orientation of behavioralism by political scientists who found such an orientation excessive and irresponsible. Empiricism, if taken to the extremes of denying the importance of values and ethics and encouraging a narrowing of research questions to only those matters self-evidently observable, could undermine political science. In such cases, postbehavioralists warned, political science would produce data that were scientifically reliable (empirically observed) but irrelevant. Moreover, postbehavioralists asserted that behavioralism is not *truly*

CONCEPT IN DEPTH

Box 2.1   Some of the Subfields in Political Science

Political science has a variety of subfields. Each subfield focuses on a particular set of questions. The major subfields include

- Comparative politics, *focusing on examining how different political systems operate. It can include comparisons of systems at a macro or micro level, that is, comparing general political structures or focusing on individual elements of political systems. For example, comparative politics can include a comparison of how democratic and authoritarian political structures differ, as well as a comparison of how specific rules governing campaign contributions differ from one country to the next.*
- American politics, *consisting of an analysis of government and politics in the United States. This subfield encompasses studies of federal, as well as state and local, politics and government. Some political scientists view it as an element of comparative politics.*
- International relations, *focusing on relationships between and among states. Unlike comparative politics, which zeroes in on how government or politics operates within a country, international relations studies what transpires between states. Its subject matter includes war, regional integration, international organizations, military alliances, economic pacts, and so on.*
- Public policy, *studying how laws, regulations, and other policies are formulated, implemented, and evaluated. This subfield looks closely at such questions as "What makes a new policy necessary?" How can policies be designed to meet specific needs effectively? What contributes to a policy's effectiveness? Why are ineffective policies sometimes continued rather than discontinued? What should be the standards for evaluating policies?*
- Political research methods, *focusing on a study of the many details of empirical social science. Data collection, measurement, and analysis are key areas of inquiry in this subfield. The study of political methods seeks to understand the empirical research process in all its complexity and to develop means of achieving scientific rigor in the collection and interpretation of data.*
- Political theory, *in some ways unique among the subfields of political science insofar as it is concerned with normative questions. Political theory includes the study of the history of political philosophy, philosophies of explanation or science, and philosophical inquiries into the ethical dimensions of politics.*

In addition to these historical subfields, political science is organized into a number of more specialized groups. For instance, in 2010, the APSA provides numerous specialized sections, including

- *Federalism/Intergovernmental Relations*
- *Law/Courts*
- *Legislative Studies*
- *Public Policy*
- *Political Organizations/Parties*
- *Conflict*
- *Representation/Election Systems*
- *Presidency*
- *Political Methodology*

(Continued)

- *Religion/Politics*
- *Politics/Technology/Environment*
- *Urban Politics*
- *Women/Politics*
- *Information Technology*
- *International Security/Arms Control*
- *Comparative Politics*
- *Politics/Society Western Europe*
- *Political Communication*
- *Political Economy*
- *Political Psychology*
- *Politics/Literature/Film*
- *Foreign Policy*
- *Elections/Opinion/Voting*
- *Race, Ethnicity, and Politics*

SOURCES: APSA Executive Director's Report, Reported July 12, 2000, Catherine E. Rudder, PS Online (http://www.apsanet.org/PS/sept00/rudder.cfm); David M. Ricci, The Tragedy of Political Science: Politics, Scholarship, and Democracy (New Haven, CT: Yale University Press, 1984), p. 9; APSA Organized Sections (http://apsanet.org/content_4596.cfm/)

value free because it implicitly affirms that understanding comes from observation, not ethical assessments. Behavioralism is not in opposition to values, but is itself a value statement, insofar as it upholds as reliable what is observable and distrusts as unreliable what is intuited as ethical or moral. In other words, behavioralism values the observable and devalues the unobservable. Thus, if the postbehavioralists are correct, behavioralism is as normative as traditionalism.[17]

Postbehavioralists argue that political science should be relevant as well as empirically reliable, and that the information produced by political science has ethical implications. Easton tried to remind political scientists that political phenomena were often matters of life and death—matters pertaining to war, population growth, environmental degradation, and racial and ethnic conflict. Political scientists have a responsibility to acknowledge that what they *choose* to investigate through the empirical methods of political science and what they *discover* by means of these methods affect the lives of women and men.[18]

We can see the influence of postbehavioralism in Lucius J. Barker's presidential address to the APSA in 1993. Barker challenged political scientists to be engaged citizens, actively taking part in reforming their own societies. Barker specifically recommended that political scientists promote civil rights for all citizens through such measures as the recruitment of African-Americans into the discipline of political science.[19] Note the remarkable difference between Barker's view of the responsibilities of the political scientist and the view of the behavioralists who rejected normative judgments.

The debates among traditionalists, behavioralists, and postbehavioralists are important not only for illustrating the tensions and conflicts within the discipline of political science as it evolved, but also in raising questions at the center of political science today:

- *What is the nature of scientific inquiry? How is science different from ethical and/or religious perspectives on truth?*
- *How can political science be scientific? How can anyone study complex political phenomena in a scientific manner? What are the methods of the scientific study of politics?*
- *Should science be value free? Will science be corrupted by bias if it is not value free?*
- *How relevant is political science? What are other sources of knowledge about politics?*

The questions are difficult ones, and political scientists often disagree on how best to answer them. In fact, one student of the discipline of political science has suggested that the discipline's history has been tragic: Political scientists have often failed to integrate the demands of science and humanity, falling short of Easton's plea for relevance and reliability, even as the discipline has opened up to include multiple research and analytical approaches.[20] It seems that the historical debates refuse to die, as we will see as we examine the preceding questions in greater detail.

THINKING SCIENTIFICALLY: SOME FOUNDATIONS OF SCIENTIFIC INQUIRY

In 2009, political scientist Robert O. Keohane summarized the process of political science inquiry as the following: As scientists, Keohane asserted, political scientists identify complex "puzzles," use clear language in describing the process of trying to solve them, and offer conclusions based on their interpretations of documented facts relating to that which was puzzling. Professor Keohane's observations recall the earlier teachings of Albert Einstein.

Einstein believed that science put forward concepts for elucidating reality.[21] Scientists search for ways to identify, define, analyze, clarify, and understand the world. Religion, art, and philosophy also seek to produce languages and models to make the universe comprehensible.[22] Each of these pursuits—science, spirituality, religion, art, and philosophy—may be conceptualized as ways of coming up with names and categories for what is considered to be real. Spirituality may name as real what is known by faith; some philosophies may name as real what is known through reason. Science differs from these two endeavors in terms of **what** and **how** it goes about naming phenomena as real, but, like spirituality and philosophy, science can be thought of as a type of naming system connecting what we think of as mind and world.[23]

To illustrate this point, we can look to the writings of Phillip Converse. Converse was president of the APSA in the early 1980s. According to Converse, science uses names to point to what it sees as truth. That is, science tells us that its names truly correspond to reality. However, science by its very nature is a process of continuously

renaming and improving on older naming schema. Science is therefore premised on the understanding that truth, at any particular time, is incompletely named (and incompletely known). Religion, according to Converse, is premised on an understanding that there is a truth outside that which is capable of being named by science, even by a science so rigorous as to overcome its own errors of naming. Converse's discussion is valuable in highlighting the similarities of science and religion (both are naming systems), as well as their dissimilarities (they name different phenomena as real, and they rest on different understandings of the nature of truth).[24]

Science can name reality by means of a **scientific method**, a set of procedures (for gathering information) resting on certain epistemological assumptions. **Epistemology** is a branch of philosophy that examines evaluations of what constitutes truth; thus, epistemological assumptions are assumptions about the essence of truth. Scientific method is characterized by epistemological *empiricism* (insofar as it is based on the assumption that what is true is what is observable). Its procedures reflect this epistemological assumption, for pursuing truth by means of the scientific method entails the collection of data. The data selected for collection are the set of data observed (not what is assumed, intuited, revealed by faith, or judged to be good or bad on normative grounds). In this manner, scientific method's epistemological empiricism is reflected in its methodological (procedural) empiricism.

Once collected, the sets of data are analyzed, and when the analysis leads to assertions concerning the nature of the data, these assertions are subject to *testing*. The testing of assertions provides verification (acceptance of the assertions) or falsification (rejection of the assertions). Through these steps of data collection, analysis, testing, verification, and falsification, the scientific method offers explanations of reality. Science's explanations are necessarily incomplete and tentative, insofar as they are always subject to falsification at a later time.

Political scientists use science's methods to study questions as diverse as the causes of war and the origins of public opinions. Studying political questions in a scientific manner often involves the following:

- *Formulating hypotheses*
- *Operationalizing concepts*
- *Identifying independent and dependent variables*
- *Clarifying measurement criteria*
- *Distinguishing between causation and correlation*
- *Developing scientific theories*

Formulating a **hypothesis** can be a key step in the application of the scientific method to the study of politics. A hypothesis is a statement proposing a specific relationship between phenomena.[25] A hypothesis puts forward an idea that X and Y are connected in a certain, identifiable way.[26] An example can help illustrate the different dimensions of hypothesis formulation. A political scientist may be intrigued by the following question: Is voting in U.S. elections related to age? The political scientist may suspect that younger adults are less likely to vote than are middle-aged adults. This suspicion may be articulated as a hypothetical statement such as "U.S. citizens 18–24 years of age will vote in lower numbers than will U.S. citizens

45–55 years of age." This hypothesis exemplifies the definition just noted—two phenomena (age and voting) are posited as having a specific relationship.

Once formulated, hypotheses are tested. Data collection proceeds according to the logic of the **operational definitions** contained in the hypothesis. An operational definition is a definition so precise that it allows for empirical testing.[27] Unless a hypothesis defines the phenomenon in question precisely enough to measure that phenomenon, the hypothesis cannot be tested empirically. We cannot confirm/verify or falsify if we cannot measure degrees of correspondence between what a hypothesis states as a relationship and what we observe as actual facts. This is very important because verification often involves multiple tests of a hypothesis.[28]

For example, "youth" is a general concept. We turn the concept into an operational definition when we define youth as "those who are 18–24 years of age." Once we have thus operationalized "youth," youth is something that we can observe with clarity and specificity. We can measure the correspondence between what we expect to see this group doing (as stated in our hypothesis) and what we actually see it doing.

Scientists often refer to the phenomena linked together in a hypothesis as **variables**. In our example, age is one variable and voting is a second variable. A variable is something that varies, changes, or manifests itself differently from one case to another. **Independent variables** are presented as those that act on or affect something. **Dependent variables** are what the hypothesis presents as being acted on by the independent variable. Which is the independent variable and which is the dependent in our example? Age is put forth as having an impact on voting. Age, therefore, is the independent variable, which has an effect on levels of voting (the dependent variable).[29]

As scientists proceed to test hypotheses (with the operationalized variables), they must clarify their means of testing, or measuring, the correspondence between hypothetical relationships and what is observable empirically. This clarification involves specifying what is taken as an *indicator* of the variable. An indicator is evidence. How could we obtain evidence regarding our variable of voting? We could poll individuals and ask about their voting behavior. Their responses would provide evidence. As noted, operationalizing concepts and determining measurement (indicator) criteria are closely related. In our example, we could change our dependent variable from voting to political participation; our operationalizations and indicators would also change. How could we operationalize and identify indicators for political participation? We could poll individuals and inquire about not only such activities as voting, but also joining interest groups, identifying with a political party, writing petitions, attending demonstrations, debating political issues, and the like.

In addition to testing hypothetical relationships, political science also points to the importance of understanding the difference between correlation and causation. **Correlation** is a relationship in which changes in one variable appear when there are changes in another variable (for example, lower voting appears with younger age groups). Correlation is not the same as ultimate, indisputable causation (one variable absolutely causing or creating the other). Were we to confirm our hypothesis on age and voting, for instance, we could not say that we have *proven* that age absolutely determines whether someone will vote. Perhaps additional variables (income, educational level, or mobility) are associated with this person's voting behavior.

As political scientist Duncan MacRae, Jr., has noted, there is often an alternative explanation for what we think we have confirmed.[30] MacRae's insight points back to the usefulness of Converse's assertion—that science can name reality, but only in an incomplete, conditional, partial, and tentative manner.

Scientific research often involves the construction of scientific theories based on empirically verified hypotheses. Although based on observable data, scientific theory attempts to transcend the limits of the observable. Scientific theories seek to offer explanations about *why* and *how* correlations occur. In this manner, scientific theory also seeks to predict.[31] For example, after having found a relationship between age and voting, the political scientist might theorize that this relationship is related to different mobility patterns among groups. Perhaps younger people move more often than other groups and do not always register to vote after moving to new cities.

Theory building can be one of the most interesting aspects of science because it takes the political scientist beyond the task of merely describing and observing. Descriptions alone may offer little in the way of meaningful additions to our understanding of politics. Explanations delving into the why and how of politics seek a more profound level of understanding. In fact, the search for such explanations can be one of the most productive sources for generating new hypotheses.

The processes associated with different usages of the scientific method—hypothesis formulation, operationalization, and so on—can be fascinating. Political scientist James Rosenau has described his own experience with the excitement of scientific research by noting the intense anticipation, curiosity, and expectation one feels while testing hypotheses and seeking out correlations.[32] Moreover, although the method of science is orderly, often the actual practice of science is not. The lack of regimentation can be part of the fun. Political scientist Thomas Dye has described the scientific method as something of an adventure.[33] Science is not so boring as to be thoroughly predictable because scientists often encounter the unexpected and the unusual.[34]

Rosenau and Dye are not alone in being surprised by the direction in which science sometimes takes them. Indeed, one offering of science is the promise of seeing the world differently, of coming to name and interpret perceptions in ways that may depart radically from our commonplace assumptions. In the 1600s, Francis Bacon pointed to this dimension of science by arguing that science can free us from various "idols" (errors, misconceptions, and distorted views). Bacon categorized these misconceptions:

- Idols of the marketplace: *Errors based on misunderstanding and faulty communications; errors related to our inexact use of language.*
- Idols of the tribe: *Errors related to the flaws of human nature; errors caused by the human tendency to be quick to judge and to be superficial in our assessments.*
- Idols of the den: *Errors caused by our inability to see beyond our own particular surroundings; errors related to our nearsightedness and proclivity for viewing our particular way of life as the standard for judging all others.*
- Idols of the theater: *Errors based on our beliefs in dogmatic teachings; errors caused by believing in systems of thought characterized by inflexibility and closed off to questioning and critical analysis.*[35]

Bacon's insights have remained relevant over the centuries. Consider the following examples of misconceptions assumed by many at the time to be "facts." In the 1800s, U.S. women who demanded the right to vote were not infrequently described as abnormal. In short, such women were likely to be seen as freaks. For example, opponents of women's suffrage sometimes charged that because such women were acting like men in terms of wanting to vote, they must be like men in other ways; they must be, the argument continued, hermaphroditic (half female and half male).[36] In the same century, a number of scholars misused Charles Darwin's theories of evolution to claim that some races were superior to others. Ernst Haeckel, for one, argued that white Europeans were superior to other peoples.[37]

These examples illustrate the significance of Bacon's teachings. Idols can be powerful—seductive to those who use them in a self-justifying manner and oppressive to those whose lives are circumscribed by their claims. Idols can form the basis of a society's discriminatory treatment of groups deemed unworthy of equal rights. Idols come in many forms—stereotypes, prejudices, and biases among them. By contrast, science, with its empiricism and logical methods of data analysis, can offer an alternative to such distortions.

THINKING SCIENTIFICALLY ABOUT POLITICS

Political scientists can use the scientific method in a variety of ways. A political scientist interested in international politics may wish to find out how countries become democratic. Or a political scientist may be curious about how U.S. presidents develop strategies for managing unruly press conferences, or how a member of Congress can sabotage a bill he or she opposes. These questions can be explored through such means as case studies, survey research, experiments, quasi-experiments, and quantitative analysis.

CASE STUDIES

A **case study** is an investigation of a specific phenomenon or entity. A case study might examine a single country, law, governmental office, war, riot, president, political decision, or other phenomenon. Case studies have a major benefit over other research approaches: They allow for in-depth examination of the phenomenon selected. Because the research focuses on a narrowly defined topic, the research can be thoroughly detailed in bringing to light all kinds of information pertaining to that topic. Imagine, for example, the difference between doing research on a single country as opposed to conducting research on 50 or 100 countries; using the former method, all the researcher's time, energy, and creativity are devoted to a single case and this facilitates uncovering minute, specific facts, which might be overlooked in the second approach of dividing the researcher's efforts across so many countries.

Case studies are not without problems, however. First, a case study alone does not allow for empirically verified generalizations beyond the entity studied. It tells us about the particular entity comprising the case but not about other entities. For example, research about one country may produce information that does not apply beyond that country. Second, case studies typically examine an entity or event in a

Concept in Depth

Box 2.2   Case Studies

Suppose you are a political scientist wishing to describe the impact of poverty on individuals. Surveys, quantitative analysis, experiments, and case studies could be used. How would you select among these approaches? If you wish to show depth and intensity, a case-study approach might be the logical choice.

Consider the picture Barbara Robinette Moss presents. In her autobiography, she describes the following event from her childhood. It was 1962, and she was living with her mother and six siblings in Eastaboga, Alabama. Her father had traveled to another town in search of work. Everyday, she and her family watched for the mail and hoped that money from her father would be delivered.

As days passed and the family's food and money were used up, her mother became desperate. At one point, the only food left in the home was a container of corn and beans. The problem, however, was that this food had been soaked with pesticides so that the beans and kernels of corn could be planted as seeds the following spring. The pesticides were highly toxic. The mother faced a very difficult decision: Should she feed her children poisoned food or let them continue to go hungry? She decided to use herself as a test subject. She washed and cooked the beans and corn, ate a portion of them, and informed her children that they were to observe her for 2 hours and, if she turned out to be still alive and well, they too could eat the poisoned food. In the event that she lost consciousness, they were to call a relative living in Birmingham and explain what had happened. At the end of 2 hours, she felt well, so she offered her kids the remaining beans and corn. Moss recalls that she and her sisters and brothers took the food gratefully. Their hunger pains were stronger than their fears of the poison. Their mother read them a fairy tale while they had the best meal they had eaten in days.

Could impersonal statistics and poll results describe poverty in such vivid terms? Sometimes case studies not only instruct. They haunt.

SOURCES: Barbara Robinette Moss, Change Me into Zeus's Daughter (New York: Scribner's, 2000), pp. 19–34.

given time period but do not provide data beyond that time period. In other words, case studies often have a time-bound limitation. For these reasons, it is difficult to construct scientific theories and to make predictions on the basis of single case studies.[38]

Still, case studies can provide fascinating information. For example, case studies of Spanish politics have provided data on the process of building a democratic society in the aftermath of authoritarianism. Spain had an authoritarian government, headed

by Francisco Franco, from 1939 to 1975. Since 1975, Spain has democratized its society, replacing the previous dictatorship with political parties and elections. What makes such an astounding transition possible? Studies focusing on Spain have pointed to a number of factors crucial to the democratization process: Franco's withdrawal from politics prior to his death (which made possible the entry of competing political groups into politics), the existence of a growth-oriented economic structure, the existence of a stable middle class supportive of democratic processes, and the forging of cross-class alliances for democratization (such as support for democracy from labor and management groups in Spanish society).[39] A case study of Spain alone cannot, however, determine how many of these factors are also associated with democratization in other countries at other times and how many are unique to Spain's democratization.

Case studies have also provided a much deeper understanding of the legislative process and the civil rights movement in the United States. For instance, case studies of the U.S. Civil Rights Act of 1964 have pointed out the lengths to which politicians were willing to go in trying to kill proposed civil rights laws in the 1960s. As originally written, the Civil Rights Act of 1964 called for federal protection against discrimination directed toward minority groups. Opponents of the measure fought hard against it. When it appeared that passage was inevitable, opponents scrambled to find a way to stop this bill. An ingenious strategy struck them. What if the law were rewritten to include a provision calling for protection against discriminatory treatment directed toward women as well as minorities? Wouldn't that be so outrageous as to ensure defeat for the entire law? Assuming the answer to that question was yes, opponents introduced such a provision. The act passed, however. With its passage, civil rights for minorities and women were upheld, and although the opponents failed to achieve their goal of sabotaging the Civil Rights Act, their actions revealed volumes of information relating to U.S. cultural assumptions. A great irony stems from this episode: A measure that has subsequently served to uphold the legal rights of women was introduced by opponents of *both* the women's movement and the civil rights movement. Although it is clear that we cannot generalize beyond this study without stretching the scientific method too far, it is also obvious that a case-study approach uncovering such counterintuitive facts pertaining to this particular legislation broadens our understanding of recent American politics.[40]

Case-study information has also enriched our understanding of presidential politics. By looking at individual presidents, political scientists have learned of astoundingly clever ways used by presidents to maneuver through press conferences. Looking to the right rather than the left sounds harmless, doesn't it? In fact, it was a strategy employed by the Reagan administration to manipulate press conferences. Although the television-viewing public watched the former president Reagan answer questions from reporters in an apparently unorchestrated fashion, a very meticulously thought-out orchestration program was in effect. What was hidden from the viewers watching television? The fact that Reagan's staff had consciously and carefully seated pro-Reagan press representatives in the front of the presidential podium and to Reagan's immediate right. If questioning from hostile reporters raised difficult or embarrassing issues, Reagan knew he could halt these questions by calling on reporters seated to the right in the "easy" section of the audience.[41] Of course, case-study materials delving into the dynamics of press conferences of a single president do not generate data sufficient

for constructing a scientific theory about all presidents, but these materials disclose a reality the president himself tried to conceal. From the standpoint of democracy, that alone makes this information relevant.

SURVEY RESEARCH

In March 2003, a majority of U.S. citizens (approximately 64 percent) supported the invasion of Iraq. In December 2006, approximately 60 percent of citizens called the invasion a mistake. Yet, in March 2009, the number of citizens believing the war to have been a mistake had dropped to 53 percent. What makes accurate knowledge of public opinion on the Iraq war or on other public policy questions possible? Scientific survey research provides a basis for such knowledge. Political scientists use **survey research** (questionnaires and/or interviews) to gather data. Surveys usually consist of closed questions (questions with a range of optional answers provided). Survey research is one of the most popular research approaches in political science, in part because survey questions may be administered to large numbers of people and the results may be tabulated by means of precise statistical measurements.[42] In other words, surveys are useful because they make it possible to study populations larger than one can examine using the case-study approach. In this manner, survey research provides greater *breadth* than that presented in single case studies. Insofar as surveys provide data that can be measured mathematically, they allow researchers to test their findings for *statistical significance* (testing to determine if a finding is likely to have occurred randomly or by chance; if the finding is not likely to have occurred by chance, then the finding is considered statistically significant).

Survey research is invaluable but complex. In using survey findings, it is important to understand the limitations of this approach. First, surveys are not designed to provide detailed probing of *individual* entities. Surveys identify patterns pertaining to large numbers of individuals, but not the idiosyncratic, unique, quirky details associated with single case studies. Second, *when surveys identify patterns, they are not necessarily identifying individuals organized into groups*. However, survey findings are sometimes (mis)read so that patterns are assumed to be identical to groups. An example can help clarify this distinction. Imagine that a survey reveals that individuals with traits X, Y, and Z tend to feel favorably toward candidate N. This survey has revealed a *pattern* involving individuals exhibiting X, Y, and Z, but these individuals may or may not represent an actual self-identified group (a group of people connected together in an organized manner at some point in space and aware of themselves as group members).[43] That is, a hypothetical survey might suggest that women earning more than $100,000 and living in urban areas strongly support candidate Mary Smith. If these women do not consciously associate among themselves in an organization with membership reflecting these traits (female, earning more than $100,000, and living in urban areas), then this hypothetical survey has identified a pattern but not a group. This is important because if the pattern is not present in an organized group, the pattern may be short term (not sustained over time by an ongoing organization). In this manner, survey research findings may be as time bound as single case studies.[44]

In addition, a number of specific difficulties may arise as the researcher is developing the questions for the survey, selecting the population to whom the survey will be administered, and carrying out the survey. First, if the population chosen to participate

CONCEPT IN DEPTH

Box 2.3   Are Surveys Good for Democracy?

Survey research can be controversial. If one changes the wording of a question, one can alter the results of a survey. In 2010 researchers conducting a New York Times/CBS News poll found that more people expressed support for allowing "gay men and lesbians" to serve in the armed forces than for allowing "homosexuals" to serve in the armed forces. By using the word *homosexual* rather than referring to "gay men and lesbians," one could create a question that produced a result that appeared to be less supportive of removing barriers to openness for gays and lesbians in the military.

This raises the possibility that public opinion surveys can be used to confuse and mislead and, in so doing, to subvert democratic decision making. Political scientist Sidney Verba offers a very different view of surveys. Aware of the potential abuses of surveys, Verba, nonetheless, insists that they can promote democracy. Consider, Verba tells us, the difference between elections and surveys. Both are means of expressing the popular will. In elections, people vote and the most popular candidate wins. In polls, people express their will by answering questions administered in the survey; the results are tabulated and the most popular response is noted as such. In elections, however, an unrepresentative sample participates. As we will see in later chapters, some people are more likely to vote than others. Therefore, the results of an election are skewed in favor of the opinions of the people most likely to vote. Elections do not truly reflect the *people's will*. They reflect the voters' will. However, a well-administered survey does not produce skewed results. Because the survey is administered to a random sample of people— with no group having a greater or lesser likelihood of participation than any other group—it reflects the will of the *entire* people. Therefore, surveys are more accurate reflections of the popular will than are elections.

Verba's comments are intriguing. Would it be more democratic to decide key debates—abortion, gun control, taxes, affirmative action, and so on—by basing our laws on public opinion surveys rather than the decisions of politicians selected through elections?

SOURCES: Dalia Sussman, "New Poll Shows Support For Repeal of 'Don't Ask, Don't Tell,'" The New York Times, *The Caucus (http://the caucus.blogs.nytimes.com/2010/02/11-new-poll-shows-support), February 11, 2010, 1:58 PM; Daniel Goleman, "Pollsters Enlist Psychologists in Quest for Unbiased Results,"* The New York Times *(September 7, 1993): B5, B8; Christopher Hitchens, "Voting in the Passive Voice,"* Harper's *(April 1992): 45–52; Sidney Verba, "The Citizen as Respondent: Sample Surveys and American Democracy. Presidential Address, American Political Science Association, 1995,"* American Political Science Review *90 (March 1996): 1–7.*

in the survey is not randomly selected, the findings of the survey will be unreliable. Random selection requires that each person in the population to be studied must have an equal chance (compared to all others in the population) of being selected. Thus, if a political scientist wishes to study the population of registered Republicans, he or she must ensure that each registered Republican has an equal chance of being chosen to participate in the survey. Because it is difficult (and expensive) to get a random sample of a very large group (such as Republicans), researchers often use a variant of random sampling—either stratified sampling (random samples of demographic subgroups within the population to be studied) or cluster sampling (random samples of geographic subgroups within the population to be studied). In our example, a stratified random sample would randomly select Republicans in various age, sex, ethnic, occupational, religious, and other demographic categories, whereas a cluster sample would obtain random samples from various geographic communities of Republicans.[45]

Sometimes even the most conscientious efforts to ensure randomness can fall short and create erroneous results. For example, in the 1984 presidential election, Republican pollsters experienced mild panic when their polling began to suggest that Reagan was beginning to trail behind Democratic candidate Walter Mondale. Republicans had been confident of Reagan's lead over Mondale until polling data signaled Mondale gains. Interestingly, they noticed that they tended to pick up this Mondale surge in surveys conducted on Friday nights. Then it occurred to them to ask, "What if Republicans are more likely to go out on Friday nights than are Democrats?" If so, polling on Friday nights is not truly random (it is skewed in favor of finding more Democrats than Republicans at home to answer survey questions, so it is not an accurate sample of the population—voters—it is seeking to study).[46]

Second, if questions in a survey are leading or ambiguous, this compromises the reliability of survey research. Researchers have found, for instance, that a word such as *few* is very ambiguous. Different people have different notions of what a *few* consists of, so survey researchers must be careful in wording questions. Third, responses to questions in a survey can be affected by the organization of the questions in a survey. Both the order of questions and the possible answers to a question can affect how people answer the questions. Why would this be so? In terms of the order of questions, one question can trigger a thought or idea that influences the way someone thinks about another question. "Should governments provide health care benefits to poor residents?" Consider how you might answer that question differently if it is preceded by either of the following questions: "Do you support raising taxes to fund health care programs for the poor?" or "If you had a sick relative who lacked money for health care, would you hope to see a state program in place to provide health care for the poor?" Moreover, if people are given the option of answering "I don't know" to a question, this can lead to responses different from those when they are given only "yes" or "no" options.[47]

The information levels of respondents can also seriously affect the results of a survey. Political scientists have long known that a respondent may give an opinion on a subject whether or not that respondent actually has any information on that subject. Studies asking respondents about their opinions on bogus laws often elicit opinions on the laws, even though the laws do not exist. Similarly, surveys asking for opinions about imaginary ethnic groups have produced answers giving detailed opinions on

these groups even though the groups were nonexistent.[48] In fact, it is sometimes startling to consider how serious a potential problem this lack of information can be. After the 1992 election to the U.S. Congress, a group of freshmen representatives were asked their opinions on the conflict in Fredonia. They gave various opinions, including support for U.S. involvement in the country's internal affairs. Where is Fredonia? It does not exist. None of these newly elected representatives knew that, however. Whether you consider these results amusing or frightening, they illustrate the limitations of the survey method.[49] When presented with survey results, political scientists must always be aware that the opinions recorded may reflect low levels of knowledge.

Finally, survey findings may be compromised by the comfort level of respondents. In short, people may not be comfortable answering a question honestly. They may lie. Burns W. Roper, former chair of the public opinion polling firm Roper Starch, has commented on this problem. His experience has suggested that Roper survey results were affected by dishonest answers on more than one occasion. For example, he believes that white respondents may be less than candid when surveyed about issues pertaining to race. In addition, he suspects that survey questions about AIDS have sometimes elicited dishonest answers because the people in the survey were uncomfortable talking about certain sexual practices.[50]

Despite such limitations, survey research has provided enormously useful data to political scientists. Presidential politics is one area in which survey research has been highly successful in increasing our knowledge. For example, surveys of U.S. voters have shown that presidential popularity tends to decline over a president's first year in office; interestingly, such declines affect Republicans as well as Democrats and seem to occur regardless of the personal decisions, management styles, and policy proposals of presidents. President Obama's approval rating illustrates this pattern: When he began his presidency, his approval rating was measured at 69 percent, but as his first year progressed, he averaged only 57 percent approval ratings. At the beginning of 2010, President Obama's approval rate had dropped to 50 percent. As alarming as the declines in popularity might appear to Obama supporters, a look at recent public opinion history reveals that President Obama's average ratings were no lower than the popularity rankings of two-term Republican president Ronald Reagan and were actually higher than those of two-term Democratic president Bill Clinton. In fact, public opinion research has indicated that presidents should not be surprised to see their support levels diminish by as much as 15 percent at the end of their first year. This finding is very significant—it suggests that we should be cautious in predicting doom for new presidents whose popularity slips. To take a final example, one-term president Jimmy Carter's approval rating (45.5 percent) in his second year was only slightly different from two-term president Ronald Reagan's approval rating (43.7 percent) during Reagan's second year. As you can see, the actual numbers captured by the survey research are virtually identical, although the general assumption (the idol, in Bacon's terminology) is typically that Reagan was one of the most enduringly popular presidents in recent history and Carter was one of the most enduringly unpopular ones.[51]

In addition, survey research has shown that presidential popularity is correlated with certain types of events. For example, a president's approval rating is likely to rise if the United States becomes involved in a short-term military conflict, as when

the former president George Bush enjoyed higher than usual approval ratings during the Gulf War and the former president Clinton did so during U.S. intervention in Haiti. Some studies have suggested that presidents benefit from higher approval ratings simply by traveling abroad. However, presidential approval ratings may decline radically with longer-term military involvement, as was the case during the final years of the George W. Bush presidency. For example, Bush's average 2007 approval rating was only 35 percent and citizens rated him most negatively for his Iraq War policy. Only two previous presidents—Truman (1950–1952) and Nixon (1973–1974)—had longer periods during which less than 40 percent of the American public approved of the president's leadership.[52]

EXPERIMENTS AND QUASI-EXPERIMENTS

An **experiment** investigates a hypothesis by using a test group and a control group. The test group is exposed to a variable, whereas the control group is not. The researcher then observes whether the variable produces the hypothesized effect. In medicine, for example, researchers may test the effects of an experimental drug by comparing the progress of a test group (taking the drug) with that of a control group (not taking the drug). Clearly, the control group is a vital element in the experiment; used as a reference point, it allows the researcher to more accurately examine the effects of a variable (such as a drug). In the social sciences, experiments have been used to test a variety of hypotheses, ranging from ones postulating the negative effects of authoritarian situations (confirmed in the Stanford Prison Experiment discussed earlier in this chapter) to the examination of the tendency of negative campaign advertising to reduce voter turnout (confirmed by Stephen Ansolabehere et al.).[53]

In medicine and social science, experiments can go awry. The **Hawthorne effect** is one danger that researchers must avoid. Named after a series of experiments involving the Hawthorne Works of the Western Electric Company, this effect appears when members of a test group modify their behavior because they know they are in an experiment. Subjects who know they are being observed may not act according to their usual behavioral mode. The **Rosenthal effect** can also undermine an experiment's integrity. This effect is produced when investigators unwittingly convey their expectations to the subjects in the experiment. Double-blind experiments (in which neither researcher nor subject knows pertinent details relating to the experiment) can protect against these effects.[54]

Quasi-experiments are also known as *field experiments*. Quasi-experiments are investigations in which the effect of a variable is studied by comparing different groups, even though the investigator knows that neither group completely meets the criteria of a control group, or in which an investigator studies a group before and after an occurrence to observe the effects of the occurrence, although the "before" group fails to fully meet the criteria of a control group. That is, quasi-experiments are experiments "in the real world," in which laboratory conditions and perfect control groups do not exist. The quasi-experiment replicates the logic of the experiment, but only imperfectly.

Sometimes quasi-experiments are the most obvious way to study certain questions. Suppose a political scientist wished to determine whether local immunization programs help contain the spread of infectious diseases. The political

scientist could conduct a quasi-experiment to compare infection rates of "before groups" (preimmunization populations) and "after groups" (postimmunization populations).[55] Data based on these studies could help confirm or falsify hypotheses concerning the effectiveness of immunization policies, even though no perfectly defined control group existed.

QUANTITATIVE ANALYSIS

Quantitative analysis applies mathematical approaches to the examination of political phenomena.[56] It seeks to assess quantitative (that is, mathematical and statistical) information to discover empirically verifiable patterns. For example, political scientists and other researchers might study data compiled by the World Bank and other international organizations to find patterns on life expectancy, infant mortality, and literacy levels in different countries. This approach formed the basis of many of the findings in the study titled *The Material World: A Global Family Portrait.* In this study, investigator Peter Menzel compared quantitative data on population density, population growth, energy consumption, income levels, daily caloric consumption, life expectancy, major causes of death, and other variables across 30 countries to provide an overview of family well-being in the late twentieth century. Menzel's study found that high-income societies tend to have certain types of families (for example, having low birth rates), whereas low-income societies tend to have other types (characterized by high birth rates and low status for women relative to men).[57]

Quantitative analysis is a very useful research strategy providing a means of interpreting information on a variety of empirically based political topics. A recent study of articles published between 1906 and 2006 in the *American Political Science Review* found that 60 percent of all articles were based on empirically oriented/quantitative scientific approaches. Quantitative analysis is especially important given the possibilities for data maintenance and transmissions through recent advances in information technology. With the Internet, it is increasingly possible to use data already collected and stored by previous investigators. However, as political scientist Frank L. Wilson has noted, this research strategy is not without potential problems, for political scientists relying on data collected by a variety of investigators may encounter problems arising from different standards of collection and measurement. That is, information collected under vastly different conditions in multiple settings may generate ambiguous results. Wilson offers the example of voter turnout. If we compare 20 countries on the issue of voter turnout, we can discover how they rank in terms of high or low turnout relative to one another; however, low turnout in one country may be suggestive of something entirely unrelated to low turnout in another country. Thus, merely comparing existing quantitative figures on voting levels provides an ultimately limited picture of comparative patterns of voting.[58]

What does each of these research approaches have in common? Each approach—from case studies to quantitative analysis—proposes to use science to help us better understand politics, with its manifold changes and its fluctuating resources (as discussed in the introductory chapter). However, how much can any of these approaches tell us? How far can political science extend our understanding? Science cannot transcend its own limitations. As a result, thinking scientifically about politics involves knowing the limits of science. It involves realizing how much we may not know.

CONCEPT SUMMARY

Box 2.1   CHOOSING RESEARCH STRATEGIES IN THE STUDY OF POLITICS

Case Studies

- *Strength:* Case studies allow for in-depth study of people, events, countries, elections, or other political questions.
- *Weakness:* Information may not apply to other cases.

Survey Research

- *Strengths:* Large amounts of information can be gathered and quantitatively assessed; information is more general in application than in case studies.
- *Weaknesses:* Wording, sampling, and other problems with surveys may compromise results; survey does not provide up-close, in-depth details of a case study.

Experiments and Quasi-Experiments

- *Strength:* Experimental conditions allow researchers to carefully test hypotheses.
- *Weaknesses:* Participants may alter their behavior because of the conditions of the experiment; many questions cannot be tested by experiments; in quasi-experiments, researchers lack perfect control groups.

Quantitative Analysis

- *Strength:* Researcher builds on findings of others and extends and applies large amounts of quantitatively tested data.
- *Weakness:* It is often difficult to compare findings observed in different research projects under different conditions and through studies asking different questions.

SCIENCE: LIMITATIONS

Recent decades have given students of science many reasons to reflect on the nature of scientific analysis. More than half of the cosmos has remained unclassified and unknown, even while, in 2010, astronomers reported the discovery of five new planets.[59] A new life-form unlike any other species—the tiny Cycliophora—has been documented.[60] A professor at Harvard Medical School drew the public's attention for studying humans who claimed to have had sex with aliens from outer space,[61] and psychologists published findings suggesting that human brains apparently cannot operate without bias.[62]

As these examples illustrate, science is sometimes routine and sometimes amazing. What appears bizarre to one person can seem to be a perfectly logical research question to another person. Science has limits, both in terms of what it has produced in the way of knowledge and in terms of the logic by which it operates. Some of these limits are more obvious in political science (and the social sciences generally) than in the natural sciences (for example, biology, chemistry, and physics), whereas others apply to all sciences. We can begin thinking about these limits by considering a number of questions.

HOW CAN WE HAVE A SCIENCE OF HUMAN BEHAVIOR WHEN HUMAN BEHAVIOR IS OFTEN UNIQUE?

What if behavior does not repeat itself? If behavior does not repeat, it is difficult, if not impossible, to observe empirically a sufficient number of instances of a particular behavior to provide confirmation or falsification of that behavior. This would imply that an empirically based science of politics is limited by the essence (nonrepeatability, or low levels of repeatability) of the subject matter (human behavior) under observation. Social scientists and philosophers have often pointed to this problem.[63] For example, comparative studies of democracy find that a particular type of democracy rarely "repeats" itself cross-culturally, and consequently our understandings of the nature of democracy are not as clear as they might be were political life less varied and nuanced. As you will see in later chapters, democracies can have parliamentary or presidential structures, two political parties or multiple political parties, a written constitution or no written constitution, and judicial review or the absence of judicial review. Democracy does not "repeat" perfectly from one system to the next. This makes a science of democracy more tentative than sciences of matter, which can be studied under laboratory conditions.

A similar problem of limited repeatability plagues political science studies that attempt to make precise predictions of political outcomes. For example, political scientists have struggled for years to develop a means of predicting the winners of presidential elections. Some have looked for correlations with economic indicators; others have labored over public opinion polls searching for the key variable that would allow us to know ahead of time who would be the next president. Although numerous formulas have been put forth (with varying ranges of error), a review of these attempts at forecasting presidential election winners left its readers with this question: Can science offer better predictions than provided by hunches, reading the stars, interpreting Tarot cards, or consulting fortune tellers? The basic question is reasonable, in that presidential elections are often complicated by many factors specific to a single election. Like democratic governments, presidential elections do not perfectly repeat. By the way, the review found that political scientists and psychics were similarly divided on who would win the next presidential election.[64]

HOW DO WE KNOW OUR FINDINGS ARE CORRECT?

We have seen that science is based on empiricism, that science does not accept as correct what is not observable, and that science rejects what has been falsified. Such is the very logic of science itself. However, a number of problems may complicate this

logic. Specifically, observation implies some degree of interpretation. Observation is never "purely" observation. Even as we observe and mentally record data, we are imposing meaning on it (that is, interpreting it). Observation rests on our ability to put facts together, to make sense of them, to interpret them.[65] Because interpretation is an inevitable part of observation, personal bias or opinion in the process of interpreting may be unavoidable.

Thus, no matter how hard we try to be scientific, we may be viewing the world in a biased manner. As a consequence, falsification is a complex matter. If we fail to falsify our hypothesis, our failure may not indicate the ultimate falsifiability of the matter in question; it may be caused by our interpretation of the facts we are recording. Our interpretative mode may conceal the means of falsification from us.[66] We may be victims of the Baconian idols, viewing the world in terms of misconceptions, prejudices, and stereotypes; the means of falsification may exist, but they may be outside our field of vision and imagination. Consider the Harvard scientist studying human–alien sex contacts. Perhaps this scientist has escaped our interpreting biases (which, for some of us, would deny outright the existence of aliens). Maybe aliens do exist and do enjoy sex with human beings, but our bias makes us interpret away all the empirical evidence pointing to such "facts." Or maybe it is thoroughly ludicrous to talk about aliens from outer space. How do we ever know? We return to what has been a recurring theme of this chapter: the tentative nature of scientific knowledge.

DOES THE PURSUIT OF SCIENCE LEAD US TO IGNORE IMPORTANT QUESTIONS?

If the scientific method of empirical-based data collection and analysis is to be our means of pursuing knowledge, we are limited in terms of what we can study. What is unobservable is outside our range of inquiry. For political scientists comfortable with the scientific method, this is not a problem. Dye, for one, believes that this is in fact a strength of political science.[67] However, other political scientists have suggested that what is *most* important to most citizens is exactly what science finds difficult to measure. What about a good life, fairness, justice, decency, political parties that serve the public good, and politicians interested in the welfare of all citizens? These are things that are difficult to operationalize, turn into hypotheses with independent and dependent variables, test for correlations, and use as a basis for scientific theory construction. Yet these questions may be more interesting to citizens than any hypotheses tested in any single issue of the *American Political Science Review*. If we avoid such questions—preferring others that are easier to operationalize and study empirically—we may be upholding scientific canons but removing ourselves from a discussion of what people actually find important. As you will recall, this worry inspired the postbehavioralist critique of pure behavioralism.[68] This worry seems to haunt successive generations of political scientists.[69]

DOES SCIENCE CONTRADICT ITS OWN LOGIC?

Scholars studying the history of science have sometimes raised this question in relation to two issues. First, does science really operate according to the scientific method? For instance, history holds many examples of scientists who were unorthodox to the point of being unscientific in their methods. Louis Pasteur, the developer of the rabies vaccine, apparently failed to specify his data collection methods (making verification extremely problematic) and made false claims about

CONCEPT IN DEPTH

Box 2.4   Science Redraws Its Boundaries as It Responds to Its Rivals: The Scopes and Creationist Cases

From the 1920s to the present, many scientists have participated in refining the definition of their practice in response to what has been perceived as an assault on science by religious authorities upholding a literalist reading of the Christian Bible. Debates over the teaching of evolution and creationism in the public schools can become occasions for exploring the differences in the way some scientists and some of their religious critics understand the role of science itself. A close look at such debates reveals how science can redefine itself in order to better compete with alternative naming systems (as Converse might call them) or myths (as Spence might suggest).

In 1925, Tennessee biology teacher John Scopes was brought to trial for teaching evolutionary science in violation of a state law prohibiting instruction in any doctrine contrary to the Christian Bible. The case became a forum for discussing the nature of science itself. Scientists came forward in defense of Scopes and explained their view that science was a discipline thoroughly distinct from religion but entirely compatible with it; they said science was a discipline dealing with the domain of here-and-now facts, whereas religion consisted of faith and spirituality. Neither should be construed as precluding the need for the other, according to the scientists giving testimony.

In 1981, court challenges to an Arkansas law mandating the teaching of creationism in the state's public schools brought scientists forward again to defend science. Interestingly, in this case, scientists emphasized that science and religion were *contradictory*, not compatible. They defined science as a profession confined to experts who, unlike religiously minded folk, were trained to distrust any perspective grounded in concepts of eternal truth. They presented science as consisting of "facts" proven by meticulous research methods and put forth these facts as superior to the untenable claims of religious authorities.

Why did the definition of science change? Some scholars believe it was a matter of politics. In the 1920s, religious authorities were too influential to challenge directly, so scientists claimed that science could coexist with religion. By contrast, by the 1980s scientists as a group were more powerful than their 1920s counterparts, so scientists did not need to defer to religious authority on the matter of scientific education.

If science's definition is as contextually influenced as these two examples suggest, what does this imply about the logic of scientific processes? Is science defined by its search for empirical data, its competition with its rivals (such as religion), or both?

SOURCES: Thomas Gieryn et al., "Professionalization of American Scientists: Public Science in the Creation/Evolution Trials," American Sociological Review 50 (June 1985): 392–409.

his anthrax vaccine.[70] Second, does science truly differ from dogmatic beliefs? Is science a closed system of thought?

Thomas S. Kuhn's work is considered a classic in terms of addressing the first question. In *The Structure of Scientific Revolutions*, Kuhn points out that scientists have often violated the canons of empiricism. Scientists have often been slow to accept empirical data capable of falsifying scientific hypotheses and theories. Rather than rejecting a theory that some newly discovered observable facts would disprove, scientists have been more likely to come up with exceptions explaining away such facts. The inconvenient facts are judged to be exceptions, not falsifications. In such cases, Kuhn points out, scientists make judgments having nothing to do with scientific methods of empiricism. Generally, not until a competing theory (what Kuhn terms a *paradigm*) is conceptualized to make sense of such facts are the facts judged as valid (rather than as exceptions).[71]

This consideration leads to the second question. Is science dogmatic? That is, is science closed, inflexible, and hostile to competing ways of naming reality? Paul Feyerabend has suggested that science does have this tendency. Feyerabend has asked us to consider the possibility that science can be as closed to nonscientific explanations of reality as religion can be closed to nonspiritual explanations of reality. As some religions would deny scientific narratives of what is real (for example, the origins of the Earth and what happens after death), so does science rejects spiritual narratives. What is important to keep in mind is that science is not generally viewed this way. Science is often seen as being more open, less rigid, and more progressive than religion. Suppose, however, that a freshman college student went into an astronomy class on the first day of the semester and, when the professor began discussing planetary and galaxy formations, he or she raised a hand and stated that Earth was created in so many days by God Almighty. Would that student fare better—in terms of being given serious consideration and intellectual respect—than a Darwinist raising issues of evolution in a Sunday school class at a fundamentalist church? Is science truly open to any possibility?[72] Would you want to be the student in this example?

Pondering similar questions, Larry Spence has argued that social science is, in many cases, little different from myth: It is closed, idiosyncratic in its selection of "facts," and unempirical. Only the naive and the uninitiated really believe its tales of empiricism, careful operationalization, and falsifiability. Those close to it know better because social science is replete with instances in which it summarily dismisses what it does not wish to admit as fact. The dismissals are not based on empiricism but on the upholding of Baconian idols. It has become an idol of social science, Spence teaches, that hierarchy and power are inevitable in human society. Evidence to the contrary (altruism, relationships of affection rather than power, and so on) is dismissed as trivial and irrelevant. Thus, Spence charges, social science is not really a narrative of observable facts but rather a set of myths proffering supports for socially held maxims and competing with what it regards as rival myths.[73]

CAN SCIENCE AVOID COMING INTO CONFLICT WITH ETHICS?

Insofar as the scientific method upholds the distinction between normative and empirical issues and calls on scientists to avoid making judgments about facts (pronouncing that the facts are good or bad), science proclaims the importance of

value neutrality. However, a growing number of scholars have raised questions about this aspect of scientific inquiry. Two issues are involved. First, science often affects our lives; therefore, do scientists not have an ethical obligation to weigh the consequences of these effects and determine whether the effects serve the common good? How is the common good to be understood, and how are our conceptions of the common good affected by our circumstances as members of powerful or powerless constituencies? Second, science seeks knowledge, but what if the pursuit of knowledge causes suffering? In such instances, is the pursuit of knowledge unethical?[74]

Political scientists cannot escape these questions. It is clear to traditionalists, behavioralists, and postbehavioralists that political science is a discipline with the potential to change lives even as it searches for knowledge. We can consider the example of survey research. As discussed previously, survey research is one of the most popular information-gathering tools of political science, in part because it can provide statistically significant scientific data. Surveys can also influence elections. Indeed, they have the power to alter reality. Burns Roper believes that polling results made available prior to the 1948 presidential election between Republican Thomas Dewey and Democrat Harry Truman helped swing the election to Truman. Why? Roper explains that polling results showed Dewey beating Truman; seeing these results, Republicans became overconfident and Democrats grew scared and went into a frenzy of activity to get out the vote. The surveys shaped the actual voting behavior, as Roper sees it.[75] Working especially hard because they feared defeat, the Democrats mobilized their supporters and ended up with the victory.

In more recent decades, surveys have been used to decide elections, according to Patrick Caddell. In 1988, Caddell was a polling expert for Alan Cranston, a Democratic senator from California. Cranston was in a close race with Republican Ed Zschau. Caddell and colleagues studied surveys of California voters and discovered an intriguing bit of data: Voters were tiring of negative campaign ads and were ready to ignore the election altogether if the ads continued. This finding became the basis for devising a successful reelection strategy for Cranston. Cranston's team decided to run negative ads to annoy people so much that they would become sickened by the very thought of politics and would not want to make the effort to vote. Caddell believed that low voter turnout would help Cranston because, as the incumbent senator, he had higher name recognition than Zschau. It worked. Turnout dropped, and Cranston edged out the lesser known Zschau.[76]

These uses of survey results represent possible harm to the principles of democratic decision making and fair competition in elections. But what of actual harm to human lives? Political scientists have also been forced to confront this question. The Tuskegee study and the Cincinnati study illustrate issues pertaining to science and ethics. Both studies deal with policies that were designed to provide knowledge but pursued knowledge through a process involving physical pain and death.

The Tuskegee study began in the 1930s, when medical researchers, under the sponsorship of the U.S. Public Health Service, carried out an experiment for observing the effects of untreated syphilis. Syphilis is a contagious disease that produces very painful ailments, such as skin ulcers, bone deterioration, liver failure,

CONCEPT IN DEPTH

Box 2.5   Should Smallpox Be Destroyed?

A fascinating example of how science, the pursuit of knowledge, ethics, and the concern for helping humanity can run counter to one another is provided by the case of the smallpox virus. This virus is disfiguring and potentially deadly. As recently as the 1960s, smallpox was infecting up to 15 million people in approximately 30 countries per year. As many as 2 million of those infected by the virus were dying from it. An extensive vaccination effort brought smallpox under control by the late 1970s. The World Health Organization (WHO) pronounced it eradicated from the world population in 1980. This was cause for jubilation and for laudatory comments regarding the power of medical science to better the lives of people throughout the world. Science could work wonders, this example proved. Disturbing questions about the nature of science would soon follow, however.

Although smallpox, as a viral agent occurring naturally within human populations, was wiped out by 1980, the virus itself was not destroyed. Samples of the virus remained in scientific laboratories in the United States and Russia. The obvious question arose, Should these samples be preserved or destroyed? Scientists and policy makers were divided. The task of weighing the consequences of killing or saving the laboratory samples was potentially overwhelming to even the most knowledgeable of decision makers. Nobody could afford to forget how deadly this virus was. Smallpox would once again pose a danger to public health if it were somehow re-released into the human population. Terrorists who could access the virus would have a frightening weapon capable of threatening millions of people. Yet, were smallpox to be destroyed, its demise would constitute the first deliberate extinction of a species of life. Should humans consciously and intentionally cause an entire species to die? Moreover, some scholars believed the virus should be saved in hopes that it could be studied as part of a process of more fully understanding other viruses (such as HIV).

How was the quest for scientific knowledge reconciled with the ethical claims of protecting public health? In January 1996, WHO voted to support the position of killing the laboratory samples by June 30, 1999. In May 1999, WHO representatives determined that the virus supply should be retained until 2002. In March 2003, WHO again determined to delay the destruction of the smallpox samples to provide additional time for study and analysis. At present, researchers are still divided over the question of whether the smallpox should eventually be destroyed.

SOURCES: Charles Siebert, "Smallpox Is Dead, Long Live Smallpox," The New York Times Magazine (August 21, 1994), Section 6: 31–37, 44, 52, 55; Lawrence K. Altman, "Stocks of Smallpox Virus Edge Nearer to Extinction," The New York Times (January 25, 1996): A1, A5; WHO 56th World Health Assembly, Provisional Agenda Item 14.6, March 13, 2003, "Smallpox Eradication: Destruction of Variola Virus Stocks. Report by the Secretariat," "He Helped Rid the World of Smallpox: Henderson led WHO's Effort," USA Today (June 30, 2009): 5D; Peter Singer, The Life You Can Save: Acting Now to End World Poverty (New York: Random House, 2009), p. 85.

CONCEPT IN DEPTH

Box 2.6   Science and the Public Good: Who Decides What the Public Good Is?

Dr. Marion Sims is generally regarded as a scientist whose research has promoted human betterment and public health. He practiced medicine in a number of states, including South Carolina, Alabama, and New York, in the nineteenth century. Much of his research took place in the South in the years before the Civil War. Sims developed surgical techniques that advanced the field of modern gynecological science. In fact, he is regarded by some as a founder of this medical subfield.

However, Sims's research agenda was carried out at the expense of the slave women who served as his experimental subjects. To obtain subjects, he sought out slave owners who would allow him to operate on their slaves as long as he promised not to undertake any procedure so dangerous as to risk a slave's life. He also entered into financial agreements with the owners to pay for the upkeep of the slave women in his experiments, as long as the owners provided clothing and paid all state taxes on the slave subjects. Records indicate that some slave women were successfully treated for vaginal ailments and returned to their owners, whereas others remained with Dr. Sims for extensive periods. One slave woman named Anarcha endured 30 surgical procedures and numerous public displays of her body during lectures and surgical demonstrations given by Sims. At least one woman died from his experiments.

Sims considered himself a scientist contributing to the public's storehouse of knowledge. It would be instructive to have a record of Anarcha's candid assessment of the doctor's work.

SOURCES: John Langone, "Trying to Bridge the 'Death Gap' Confronting Minority Groups," The New York Times (December 19, 2000): D7; Todd L. Savitt, "The Use of Blacks for Medical Experimentation and Demonstration in the Old South," Journal of Southern History 48 (August 1982): 344–346.

intestinal failure, aneurysms, dementia, and eventual death. When the study began, safe and effective treatments for syphilis were unavailable. This study recruited syphilis-infected men from rural areas in eastern Alabama. Researchers offered the participants free meals, free transportation, free medical care (although the care would not extend to treating the syphilis itself), and burial funds. The recruitment

process produced a group of 399 syphilis-infected men who agreed to participate in the study. These participants were very poor, and most were illiterate. For the most part, they had never received medical treatment of any kind at any time in their lives. They were also African-American.

As the study progressed in the 1940s, an important ethical issue arose: Penicillin became available as a safe and effective treatment for syphilis. The question confronting the researchers at that point was, Should they give the men in the study penicillin, or should they withhold the penicillin so that the study could continue? The researchers chose to pursue knowledge. They reasoned that given penicillin's effectiveness, syphilis would soon be eradicated, and therefore the Tuskegee test group was likely to be the last group of known syphilitics; to the researchers, this meant that the study was too important to discontinue. Thus, they withheld the treatment, the men continued to suffer and die, and the researchers studied sufferings and deaths empirically. Did the pursuit of science conflict with the values of humanity? Had the scientists been more concerned with ethics, would they have chosen to treat the men and end their suffering even at the cost of knowledge?[77] These questions prompted the former president Clinton to offer an official apology for the government's participation in the Tuskegee study in May 1997.[78]

These questions reappear in the radiation experiments conducted at the University of Cincinnati during the Cold War. Between 1960 and 1971, in this study 88 cancer patients were exposed to high doses of full-body radiation. The Pentagon sponsored the study to collect information on the probable effects of exposing military personnel to areas contaminated by radiation. Cancer patients became the test group for satisfying the Pentagon's curiosity. The researchers presented full-body radiation to these patients as an experimental treatment for controlling their cancer. They did not tell the patients that the study was funded by the Pentagon, that the levels of radiation put them in danger, or that the type of radiation they were receiving was not generally seen as effective for treating their forms of cancer. A 1972 study of the patients revealed that as many as one-fourth of the patients died from the radiation, not the cancer.[79]

Did the Pentagon and the researchers violate basic values associated with a society's obligation to promote public health? Did science contradict ethics? Political scientists may see in these two cases the difficulties of separating science and ethics. In fact, the individual questions we have explored in this section are interrelated, highlighting similar concerns about the costs associated with science as a method of inquiry. Some readers may conclude that although limited, science is still the most reliable route to knowledge. Others may adopt a different opinion, seeing the scientific method as insufficient, believing that science can help us gather data, but feeling, perhaps, that we need something beyond science—empathy, ethics, religion, humanism, and so on—to teach us how to use those data responsibly. As you examine some of the key concepts in political science in the next chapter, you will continue to see the difficulties and challenges of answering these questions. You will continue to see the possibilities and the limits of political science as you investigate power, nations, states, sovereignty, legitimacy, and other vital areas of political life.

SUMMING UP

- Political science is an academic discipline that seeks to study politics scientifically and to address **empirical** (factual) and **normative** (ethical) questions about politics. Political scientists have disagreed over the years as to how to best study politics; hence, disputes among **traditionalists**, **behavioralists**, and **postbehavioralists** have divided the discipline.
- Political scientists use the *scientific method* of empirical data collection in a number of ways—**case studies**, **survey research**, **experiments**, **quasi-experiments**, and **quantitative analysis**.
- Although the scientific collection of data has enriched human understanding of many aspects of politics—by providing an approach to study that emphasizes hypothesis formation, clear **operational definitions** of **independent** and **dependent variables**, careful analyses of indicators, and strict attention to the difference between ultimate causation and **correlation**—science is not without limits. Human behavior is sometimes unique and not entirely susceptible to scientific classification. Science is difficult to practice in a manner that is thoroughly untouched by bias and interpretative assumptions. Not all questions about politics can be answered scientifically. Moreover, when science investigates humans, as in the Tuskegee and Cincinnati studies, it conceptualizes humans as subjects—that is, as testable "objects"—and, as such, runs the risk of violating ethical principles. After all, when you use humans as test subjects, you may well change their lives in ways they cannot imagine and might not choose for themselves. Should science (and political scientists) have that power?

STUDY QUESTIONS

1. What are the differences separating traditionalists, behavioralists, and postbehavioralists? How would traditionalists, behavioralist, and postbehavioralists differ in their assessments of the Stanford prison experiment and Professor Zimbardo's obligations as a scientist?

2. Discuss hypothesis formation, operationalization, independent variables, dependent variables, and indicators as elements of the process of studying politics scientifically.

3. Do you agree or disagree with Senator Coburn's call for reducing federal funding of political science research? What are the different "idols" Francis Bacon identified, and how can the use of scientific procedures help free people from such idols? Do you believe idols are affecting our views of politics today? Do you believe Dr. Sims was following idols or science?

4. What is a case study? What are the strengths and weaknesses of case studies?

5. What is survey research? What potential problems are associated with surveys? What have surveys suggested about U.S. presidential popularity patterns?

6. Discuss experiments and quasi-experiments, including any difficulties or limitations. Do you believe one could make a plausible case against using humans in experiments and quasi-experiments?

7. What is quantitative analysis? What are its strengths and weaknesses?

   Would you be more inclined to view Anarcha as a subject of science or a victim of crime?

Go Beyond Class: Resources for Debate and Action

Political Science as a Scientific, Academic Discipline

- American Political Science Association (APSA) (http://www.apsanet.org). An overview of the organization's activities, schedules, mission, and history.

Public Opinion Polls and the Scientific Study of Attitudes

- The Gallup Organization (http://www.gallup.com). Provides links to actual survey results

Human Radiation Experiments

- Department of Energy Office of Health, Safety and Security (http://www.hss.energy.gov/healthsafety/ohre/). Information on human radiation experiments funded by the U.S. government.

The Tuskegee Study

- Centers for Disease Control and Prevention (CDC). *The Tuskegee Syphilis Study: A Hard Lesson Learned* (http://www.cdc.gov/nchstp/od/tuskegee/). Overview of the Tuskegee study.

3

⭐

Key Concepts in Political Science

Is the U.S. government playing "terrorball?" University of Colorado Law Professor Paul Campos believes the answer is yes. Terrorball, he asserts, is a game in which a terrorist wins if he or she scares or harms U.S. citizens and, in so doing, makes it appear that the United States has failed to protect its people. However, Professor Campos points out that the chance of any individual U.S. citizen being killed by a terrorist is so miniscule as to be virtually zero. Statistically, Americans are at a greater risk of being killed in an automobile wreck (120 people die daily in traffic accidents) than in a terrorist attack, and the U.S. homicide rate is six times higher than that of similar countries, but neither automobile deaths nor homicide rates elicit the emotional responses of the far lower risk of terrorism. If the U.S. government wished to respond to authentic risks with the same zeal with which it has been fighting a so-called war on terror, rather than instituting programs like intrusive airport security screenings—that is, terrorball defense—it might consider enacting such policies as lowering the speed limit and reducing the number of individually owned guns to some figure lower than the current number of 200 million, Professor Campos notes. If you were an elected official, would you try to stop the game of "terrorball" or is it an unavoidable reality for the United States in the twenty-first century?

This chapter will help you analyze terrorism as one of many expressions of power. Not only will you read about some historical examples of terrorism, but you will also be introduced to different nonviolent types of power. You will also see how sovereign states use their resources to respond to a variety of global challenges and international actors.

Source: Paul Campos, "Undressing the Terror Threat."
The Wall Street Journal 9 January 2010, p. 3W.

In the seventeenth century, hundreds of U'wa people committed suicide as a means of resisting Spanish colonizers. Rather than submit to occupying powers, they threw themselves off a mountain.

In the late twentieth century, the U'wa people were once again talking about suicide—this time in opposition to their government (Colombia) and a multinational oil company (Occidental Petroleum). In 1995, Occidental obtained exploration rights from the Colombian government to develop petroleum resources in land historically claimed by the U'wa. The U'wa regarded Occidental as the new occupier. They used public appeals, demonstrations, pickets, blockades, and international pressure in their efforts to oust Occidental. Knowing their own history, the U'wa understood that, when it looks as if there is nothing else left to do, people can sometimes find a source of power more compelling than the militaries of governments and the profit motives of business interests. The threat of ritual mass suicide slowed Occidental's project, and, in May 2002, Occidental announced plans to terminate its operations in U'wa territory. However, Occidental and other oil companies remained in Colombia and, as late as 2008, Occidental continued to enjoy its position as one of the major foreign oil and gas firms in the region.

This chapter examines how individuals, groups, and organizations use power; how states and nations define themselves; and how complex interactions among states, nations, cultures, and groups can be assessed by using some of the scientific tools of analysis discussed in Chapter 2. The chapter focuses on an examination of basic political concepts, such as power, state, and nation. Although no discipline as large and varied as political science exhibits unanimity in terms of defining these concepts, certain definitions are widely accepted. As the U'wa struggle in Colombia suggests, power struggles often raise normative and empirical questions and often involve multiple governmental and nongovernmental participants.[1]

POWER

Power is one of the most important concepts in political science. In fact, some political scientists see it as a defining element of the discipline.[2] Power affects how resources are distributed, how countries interact, whether peace or war prevails, and how groups and individuals pursue their interests; that is, power affects the myriad of topics studied by political scientists. Ironically, however, power is one of the most difficult concepts to define.[3]

At its most fundamental level, **power** can be defined as an ability to influence an event or outcome that allows the agent to achieve an objective and/or to influence another agent to act in a manner in which the second agent, on its own, would not choose to act.[4] In terms of the first meaning, an interest group, for example, could be said to have power if it succeeded in reaching its policy goals. The interest group, in this case, would have achieved its objective if its policy preferences were enacted. Significantly, this type of power may or may not involve exercising power over another agent. However, in regard to the second meaning, having power means having power over another agent.[5] For example, one country can be viewed as exercising power over another if it can influence the second country to act in a manner favored by the first country but not favored by the second country.

These meanings become clearer when you recognize that the word *power* stems from the older Latin term *potere*, defined as an ability to affect something else.[6] Thus,
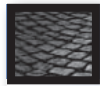
Concept Summary

Box 3.1   POWER: DEFINITION AND CHARACTERISTICS

- *Power is the ability to influence an outcome to achieve an objective or the ability to influence someone to act in a way contrary to the way he or she would choose to act.*
- *Power involves the exercise of volition (will).*
- *Power over someone else involves altering his or her volition (will).*
- *Power can be latent or manifest.*
- *Different types of power are generally blended together when power is made manifest.*

for example, a person was said to possess *potere* if that person had some attribute allowing him or her to cause an effect on someone else. The word *power*, with its present spelling, has been in use since the fourteenth century.[7] In our two examples, agents (an interest group and a country) have acted to bring about effects; thus, both agents have wielded *potere/*power, with the interest group affecting policy outcomes and the country affecting a second country.

A closer examination of power reveals that its exercise by an agent involves **volition** (will or choice). In terms of power as the achievement of an objective, clearly the objective attained must be one that the agent wills or desires; otherwise, the agent is not said to possess power. If, for example, an interest group obtains a benefit but has not sought out this benefit, we would not attribute attaining benefit to the interest group's power. We might attribute it to chance. Volition is also central to the second meaning of power, as influence over another agent. For instance, we would not view an interest group as exercising power over a politician if the interest group does not compel the politician to act contrary to the politician's own volition or desire. Similarly, if one country ordered another country to perform an act the second country wanted to do anyway, this would not represent an act of power because the first country has not actually influenced the second country.[8] Power can either be held in reserve or deployed. That is, it can be *latent* (inactive) or *manifest* (active). You can imagine how the possession of latent power by one agent can be highly effective in producing changes in a second agent. In such cases, the mere possibility that the first agent will activate power can be feared by the second agent and elicit changes in the second agent's actions. Indeed, this is the idea behind military deterrence: A country's stockpile of weapons may be enough to preclude aggression by its enemies, who know that the weapons can be changed from a latent power to a manifest power at any time.[9]

Political scientists have often tried to sort out the many different forms power can assume. This is useful in allowing us to analyze the implications of using one type of power rather than another. However, in actual political relationships one type of power is rarely found in isolation from other types. In practice, power generally possesses a blended quality, with one type of power *blending* into and being used simultaneously with another.[10]

TYPES OF POWER

Force is the exercise of power by *physical means*.[11] Force can include acts of physical violence and acts of physical obstruction. For example, one agent can use force over another by restraining, assaulting, raping, assassinating, impeding access to an object, or other types of physical actions. Force can include physical sabotage of resources, as well as conducting war. It can be carried out in the form of embargoes and boycotts (which deny physical access to resources), blockades and barricades (which deny physical access to a place), or revolutions and riots (which physically mobilize groups in support of or opposition to a government or policy). It can involve physically blocking access to a courthouse, voting booth, public school, or abortion facility. It can entail physically incapacitating a machine or, by introducing steel spikes, physically rendering a tree too dangerous to cut down. It can involve no violence (a boycott) or extreme levels of violence (a bombing). In sum, whenever people use physical means to pursue power, *force* is the term that designates this display of power.

Perhaps for many U.S. readers of this text, to reflect upon force in relation to politics is to find one's thoughts going immediately to the wars in Iraq and Afghanistan, or to the 2009 Christmas day attempt to blow up an American airplane over Detroit just as previous U.S. readers might have thought immediately of the 9/11 Al Qaeda attacks, which killed thousands of people, or of Oklahoma City bomber Timothy McVeigh's violent attack in April 1995, which killed more than 160 people when McVeigh blew up a government building in order, he stated, to show opposition to the U.S. government. Reading about the use of force in politics may also bring to mind the violent conflict in the eastern section of the Democratic Republic of Congo (DRC), wherein, since 1998, more than 5 million deaths, according to estimates of the International Rescue Committee, have resulted from fighting involving the Congolese Army and militia groups like the Democratic Front for the Liberation of Rwanda and the Ugandan Lord's Resistance Army. In 2010, the International Rescue Committee pointed to this conflict in the DRC as the deadliest example of violent force since the end of World War II, and the United Nations and international human rights groups have called attention to the fact that, in addition to killing civilians, various parties to this fighting have committed torture and rape and have forced children into militia membership. In January 2010, the United Nations estimated that more than 2 million people had been displaced from their homes as a result of the violence.
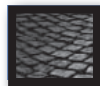
CONCEPT SUMMARY

Box 3.2   TYPES OF POWER

- *Force is power involving* physical *means.*
- Persuasion is nonphysical power in which the agent using power makes its *use of power* clear and known *to the agent over whom power is exercised.*
- *Manipulation is nonphysical power in which the agent using power* conceals *the use of power.*
- *Exchange is the use of power through* incentives.

CONCEPT IN DEPTH

Box 3.1 Violent Force: Assassination

In September 1980, a small group of individuals associated with the Argentinian Revolutionary Workers' Party (PRT) assassinated Anastasio Somoza, who had relinquished the presidency of Nicaragua in July 1979. Somoza's tenure as Nicaraguan president had been characterized by human rights abuses, the denial of civil liberties, political repression, and economic corruption. A broad-based opposition movement had forced him from power, and when the Sandinista revolutionary leaders, who had struggled against the Somoza regime for years, marched triumphantly into the country's capital in the summer of 1979, many observers looked with hope to Nicaragua's post-Somoza future. Somoza himself fled the country—first to Miami and later to Asuncion, Paraguay.

Why did PRT activists decide to assassinate Somoza? Among their reasons was the belief that Somoza would finance a counterrevolution against the new Nicaraguan leaders as part of a plan to restore his own power. Thus, the PRT activists began a long, arduous process of planning for Somoza's execution as a means of supporting the new Nicaragua. An examination of the details of their preparation reveals a fascinating—some would say blood-chilling—example of calculated, deliberate violent force as a type of political power.

The assassins began schooling themselves on Somoza as an individual. They had to learn his habits, his likes, and his dislikes. They read newspaper articles and did research on Somoza at public libraries. Then they traveled to his new home country of Paraguay. Knowing his neighborhood but not his actual house, one of the activists devised an ingenious plan to discover his address. She booked a hair/manicure appointment at a plush beauty parlor in the neighborhood known to be Somoza's. Afterward she hailed a cab and, during the ride, casually asked the driver if he knew the Somoza residence. The driver responded with the address.

The assassins proceeded to rent a house conveniently located for the execution. However, they needed a cover story to ensure that the owner did not appear unexpectedly or reveal too much about her new tenants. So they concocted the story that they were renting the house on behalf of the singer Julio Iglesias, who would soon be visiting Paraguay. Iglesias, they explained, needed his privacy and preferred that his whereabouts remain hush-hush. At the time, Julio Iglesias was a major celebrity, and the owner was beside herself with excitement at the thought of Iglesias staying in *her* house. Yes, she assured the assassins, she would be discreet about their presence.

With these steps taken, the activists were ready to carry out their task. They had skilled themselves in maneuvers involving secret communications, explosives and weapons use, surveillance, disguises, and document forgery. They were ready to defend Nicaragua's future. On September 16, 1980, they executed Nicaragua's former president.

As you think about this historical example, reflect on the public's demand for bin Laden "dead or alive" after September 11, 2001. In your estimation, could political assassination ever be justified?

SOURCE: Claribel Alegria and Darwin Flakoll, Death of Somoza: The First Person Story of the Guerrillas Who Assassinated the Nicaraguan Dictator *(Willimantic, CT: Curbstone Press, 1996).*