Political scientists Jeffrey Winters and Benjamin Page wonder if the United States, despite being a nominal democracy, is not in fact governed by an oligarchy, a relatively small number of very wealthy individuals and families. Their work leads them to conclude:

We believe it is now appropriate to . . . think about the possibility of extreme political inequality, involving great political influence by a very small number of wealthy individuals. We argue that it is useful to think about the US political system in terms of oligarchy.

What are we to make of a (perhaps startling) claim such as this? How do we know it’s true? Should we accept it?

As the title of our book and this chapter suggest, we have confidence in a statement like Winters and Page’s if they arrive at their (tentative) conclusion through empiricism. This term is perhaps best explained by reference to an old joke.

Three baseball umpires are discussing their philosophy of calling balls and strikes. The first umpire says, “I call ‘em as I see ‘em.” The next one replies, “That’s nothing. I call ’em as they are.” Finally, the third chimes in, “Oh yeah! Well, they ain’t nothing until I call ’em.”

We put aside Umpires 1 and 3 until later in the chapter. For now, let’s concentrate on the second one. We call him a strict or strong empiricist. He believes there are in fact things like balls and strikes, and he can always tell the difference by merely looking at the pitches as they are thrown. He believes no interpretation is necessary; the facts (the pitches) speak for themselves, and the umpire simply reports on where the ball travels, nothing more, nothing less. Importantly, this umpire believes that his observations are accurate and objective. The teams, players, managers, and fans have no bearing, he believes, on his judgments.

An empiricist, in other words, uses impartial observation to judge the tenability of arguments. A political science “umpire” demands that data and measurements support whatever point is being made. Statements can be believed and accepted to the extent that they are derived from empirical or observational evidence. If, on the other hand, their “truthfulness” depends on belief, authority, or faith instead of “hard data,” they are set aside for philosophers and others to evaluate.
Empiricism is an ideal. Most who adopt this methodology would admit that personal judgment plays a part in their research—they are perhaps closer to the first umpire, who calls the game as he “sees it.” But so important is empiricism that we need to take a detour to clarify why many political scientists prefer this methodology to other ways of obtaining knowledge. Although not everyone agrees, it does seem to have a “privileged” place in the discipline, and we need to explore its philosophical basis. This leads us to a discussion of the scientific method.4

Although empiricism does have a dominant place in contemporary political science, we stress that it has its share of critics, and we certainly don’t maintain that it is the only or even the best way to study politics. There is plenty of room, we believe, for different research stances. Proponents of alternatives work under many different labels, so we simply classify them as nonempiricists.5 Furthermore, there are substantial debates among empiricists over appropriate methods and approaches, particularly over the advantages of quantitative versus qualitative analysis.6 We’ll have more to say about this in chapters 7 and 9.

ELEMENTS OF EMPIRICISM

What, then, distinguishes the empirical or scientific approach? In our daily lives, we “know” things in many different ways. We know, for example, that water boils at 212 degrees Fahrenheit and that a virus causes Ebola. We also may know that democracy is “better” than dictatorship. In some cases, we know something because we believe what we read in the newspaper or heard on the radio or what a trusted authority told us. In other cases, we know things based on personal experience or because they appear to be consistent with common sense.

Modern political science, though, relies heavily on one kind of knowledge: knowledge obtained through objective observation, experimentation, and logical reasoning.7 This way of knowing differs greatly from information derived from myth, intuition, faith, common sense, sacred texts, and the like. It has certain characteristics that these other types of knowledge do not completely share. The ultimate goal of scientific research, which is not always attained, is to use its results to construct theories that explain political phenomena.8

Scientific knowledge exhibits several characteristics. Most important, scientific knowledge depends on verification. That is, our acceptance or rejection of a statement regarding something “known” must be influenced by observation.9 Thus, if we say that people in the upper classes have more political power than members of the lower strata, we must be able to provide tangible evidence to support this statement.

A contention cannot be accepted simply because someone said so or our instinct tells us so. It must be supported by evidence. The empirical nature of scientific knowledge distinguishes it from mystical knowledge. In the latter case, only “true believers” are able to observe the phenomena that support their beliefs, and observations that would disprove their beliefs are impossible to specify. Knowledge derived from superstition and prejudice is usually not subjected to accepted methods of empirical verification, either. Superstitious or prejudiced persons are likely to note only phenomena that reinforce their beliefs, while
ignoring or dismissing those that do not. Thus, their knowledge is based on selective and biased experience and observation.

On the flip side, some philosophers of science insist that a key characteristic of scientific claims is falsifiability, meaning the statements or hypotheses can in principle be rejected in the face of contravening empirical evidence. A claim not refutable by any conceivable observation or experiment is nonscientific. In this sense, the findings of science are usually considered tentative, because they are “champions” only so long as competing ideas do not upend them. Indeed, the philosopher Karl Popper argued that scientists should think solely in terms of invalidating or falsifying theories, not proving them.

In view of the importance of verification and falsification, researchers must always remain open to alterations and improvements of their research. To say that scientific knowledge is provisional does not mean that the evidence accumulated to date can be ignored or is worthless. It does mean, however, that future research could significantly alter what we currently believe. In a word, scientific knowledge is tentative, and because of this property, empirical research is thought to be self-corrective.

Scientific knowledge is supposedly “value-free.” Empiricism addresses what is, what might be in the future, and why. It does not typically address whether or not the existence of something is good or bad, although it may be useful in making these types of determinations. Political scientists use the words normative and nonnormative to express the distinction. Knowledge that is evaluative, value-laden, and concerned with prescribing what ought to be is known as normative knowledge. Knowledge that is concerned not with evaluation or prescription but with factual or objective determinations is known as nonnormative knowledge. Most scientists would agree that science is (or should attempt to be) a nonnormative enterprise.

This is not to say that empirical research operates in a valueless vacuum. A researcher’s values and interests, which are indeed subjective, affect the selection of research topics, periods, populations, and the like. A criminologist, for example, may feel that crime is a serious problem and that long prison sentences deter would-be criminals. He or she may therefore advocate stiff mandatory sentences as a way to reduce crime. But the researcher should test that proposition in such a way that personal values and predilections do not bias the results of the study. And it is the responsibility of other social scientists to evaluate whether or not the research meets the criteria of empirical verification. Scientific principles and methods of observation thus help both researchers and those who must evaluate and use their findings. Note, however, that within the discipline of political science, as well as in other disciplines, the relationship between values and scientific research is frequently debated. We have more to say about this subject later in the chapter.

An additional characteristic of scientific knowledge helps to identify and weed out prejudices (inadvertent or otherwise) that may creep into research activities. Scientific knowledge must be transmissible—that is, the methods used in making scientific discoveries must be made transparent so that others can analyze and replicate findings. The transmissibility of scientific knowledge suggests “science is a social activity in that it takes several scientists, analyzing and criticizing each other, to produce more reliable knowledge.” To accept results, people must know what data were collected and how they were analyzed.
A clear description of research procedures allows this independent evaluation. It also permits other scientists in some cases to collect or obtain access to the same data and test the original propositions themselves. If researchers use the same procedures but do not replicate the original results, something is amiss, and the reasons for the discrepancy must be found. Until then, both sets of results are suspect.

In an effort to improve the transparency in political science research, in 2012 the American Political Science Association adopted a set of data accessibility and research transparency (commonly referred to as DA-RT) principles as part of its Guide to Professional Ethics. The guidelines declared that “[r]esearchers have an ethical obligation to facilitate the evaluation of their evidence-based knowledge claims . . . so that their work can be tested or replicated.” Researchers are expected to meet this obligation in three aspects:

1. Data access: Researchers making evidence-based knowledge claims should reference the data they used to make those claims. If these are data they themselves generated or collected, researchers should provide access to those data or explain why they cannot.

2. Production transparency: Researchers providing access to data they themselves generated or collected should offer a full account of the procedures used to collect or generate the data.

3. Analytic transparency: Researchers making evidence-based knowledge claims should provide a full account of how they draw their analytic conclusions from the data (i.e., clearly explicate the links connecting data to conclusions).

Adherence to and implementation of these principles is not without controversy and debate among political scientists. In later chapters in which we address data collection and analysis, we will discuss how these principles can be met. In some cases, this may pose substantial challenges and raise other research ethics issues.

HELPFUL HINTS
TYPES OF ASSERTIONS

Empirical arguments, by contrast, often use variations of to be or direct verbs to convey the idea that “this is the way it really is in the world.” Naturally, people occasionally believe that their values are matters of fact, but scientists must be careful to keep the types of claims separate. Finally, people often state opinions (beliefs) as if they were a matter of fact in rhetorical sentences, as in “No tax
This idea of transmissibility leads to another characteristic of empirical knowledge: it is cumulative, in that both substantive findings and research techniques are built upon those of prior studies. As Isaac Newton famously observed of his own accomplishments, “I have stood on the shoulders of giants.” He meant that the attainment of his revolutionary insights depended in part on the knowledge other scientists had generated in the previous decades and centuries. The process of constantly testing and refining prior research produces an accumulated body of knowledge. (You’ll see examples of this fact in chapter 3, which explains literature reviews.)

Another important characteristic of scientific knowledge is that it is general, or applicable to many rather than just a few cases. Advocates of the scientific method argue that knowledge that describes, explains, and predicts many phenomena or a set of similar occurrences is more valuable than knowledge that addresses a single phenomenon or case. For example, the knowledge that states with easier voter registration systems have higher election turnout rates than do states with more difficult systems is preferable to the knowledge that Minnesota has a higher turnout rate than does Alabama, for example. Knowing that party affiliation strongly influences many voters’ choices among candidates is more useful to someone seeking to understand elections than is the simple fact that John Doe, a Democrat, voted for a Democratic candidate for Congress in 2018. The empirical approach thus strives for empirical generalizations, statements that describe relationships between particular sets of facts. For example, the assertion that positive campaigns lead to higher voter turnout than do those that are characterized by mudslinging and name-calling is intended to summarize a relationship that holds in different places and at different times. Furthermore, many political scientists would assert that insofar as it is possible, it is important to quantify the relationships—for example, by how much do more difficult voter registration systems depress voter turnout, or how many fatalities might be avoided on average by states adopting stringent vehicle safety inspection programs? Another characteristic of scientific knowledge is that it is explanatory; that is, it provides a systematic, empirically verified understanding of why a phenomenon occurs. In scientific discourse, the term explanation has various meanings, but when we say that knowledge is explanatory, we are saying that a conclusion can be derived (logically) from a set of general propositions and specific initial conditions. The general propositions assert that when things of type X occur, they will be followed by things of type Y. An initial condition might specify that X has in fact occurred. The observation of Y is then explained by the conjunction of the condition and the proposition. The goal

hike ever created a job.” Without verification, this is not an empirical statement.

When reading research reports or (even more important) when following political discussions in the media, on the internet, or on the campaign trail, try to keep in mind that statements that seem to be of the same type can be surprisingly different:

- Empirical: A verifiable assertion of “what is”
- Normative: An assertion of “what should be”
- Rhetorical: A statement to the effect that “my belief is a fact”
of explanation is, sometimes, to account for a particular event—the emergence of terrorism, for example—but more often it is to explain general classes of phenomena such as wars or revolutions or voting behavior.

Explanation, then, answers “why” and “how” questions. The questions may be specific (e.g., “Why did a particular event take place at a particular time?”) or more general (e.g., “Why do upper-class people vote more regularly than, say, blue-collar workers?”). Observing and describing facts are, of course, important. But most political scientists want more than mere facts. They are usually interested in identifying the factors that account for or explain human behavior. Studies of turnout are valuable because they do more than simply describe particular election results; they offer an explanation of political behavior in general.

An especially important kind of explanation for science is that which asserts causality between two events or trends. A causal relationship means that in some sense, the emergence or presence of one condition or event will always (or with high probability) bring about another. Causation implies more than that one thing is connected to or associated with another. Instead, it means one necessarily follows the other. Chapter 1 touched on the issue of why economic inequality appears to be increasing in the United States. Some political scientists, for instance, believe that “de-unionization” (the weakening of organized labor) has led to (caused) an increase in inequality in the United States. But is there, in fact, a causal connection, or is the relationship merely fortuitous? Statements asserting cause and effect are generally considered more informative and perhaps more useful than ones simply stating that an unexplained connection exists. But they are difficult to establish. The issue of how to design a research strategy in which an investigator is intending to demonstrate causality is discussed in chapter 6.

Explanatory knowledge is also important because, by offering systematic, reasoned anticipation of future events, it can be predictive. Note that prediction based on explanation is not the same as forecasting or soothsaying or astrology, which does not rest on empirically verified explanations. An explanation gives scientific reasons or justifications for why a certain outcome is to be expected. In fact, many scientists consider the ultimate test of an explanation to be its usefulness in prediction. Prediction is an extremely valuable type of knowledge, since it may be used to avoid undesirable and costly events and to achieve desired outcomes. Of course, whether or not a prediction is “beneficial” is a normative question. Consider, for example, a government that uses scientific research to predict the outbreak of popular unrest but uses the knowledge not to alleviate the underlying conditions but to suppress the discontented with force.

In political science, explanations rarely account for all the variation observed in attributes or behavior. So exactly how accurate, then, do scientific explanations have to be? Do they have to account for or predict phenomena 100 percent of the time? Most political scientists, like scientists in other disciplines, accept probabilistic explanation, in which it is not necessary to explain or predict a phenomenon with 100 percent accuracy.

Scientists also recognize another characteristic of scientific knowledge: parsimony, or simplicity. Suppose, for instance, two researchers have developed explanations for why some people trust and follow authoritarian leaders. The first account mentions only the immediate personal, social, and economic situation of the individuals, whereas the second account accepts
these factors but adds deep-seated psychological states stemming from traumatic childhood experiences. And imagine that both provide equally compelling accounts and predictions of behavior. Yet, since the first relies on fewer explanatory factors than does the second, it will generally be the preferred explanation, all other things being equal. This is the principle of Ockham’s razor, which might be summed up as “keep explanations as simple as possible.”

THE IMPORTANCE OF THEORY

Theory plays an important role in research. The accumulation of observed relationships sometimes leads to the creation of a theory—that is, a body of statements that systematize knowledge of and explain relationships between phenomena. The process of reasoning going from specific observations to a general explanation or theory is known as induction. Two crucial aspects of empirical theory are that (1) it leads to specific, testable predictions, and (2) the more observations there are to support these predictions, the more the theory is confirmed. You will notice that many, if not most, published examples of empirical research are theory-driven; that is, the predictions or propositions about the relationships under investigation are based on what a theory or theories would lead us to expect. The process of deduction entails reasoning from a general theory to a specific expectation.

An Example: Proximity Theory of Voting

To clarify some of these matters, let us take a quick look at an example. The “proximity theory of electoral choice” provides a concise explanation for why voters choose parties and candidates. Superficially, the theory may seem simplistic. Its simplicity can be deceiving, however, for it rests on many years of multidisciplinary research and involves considerable sophisticated thinking. But essentially the theory boils down to the assertion that people support parties and candidates who are “closest” to them on policy issues. Furthermore, this theory would predict that candidates will try to position themselves so that they are closer to more voters than are their opponents.

Take a particularly simple case. Suppose we consider the immigration debate. Positions on this issue might be arrayed along a single continuum running from, say, “All undocumented immigrants should have a path to citizenship” to “All undocumented immigrants should be deported” (see figure 2-1). Proximity theorists believe that both voters and candidates (or parties) can be placed or located on this scale and, consequently, that the distances or proximities between them (voters and candidates) can be compared. The theory’s prediction is straightforward: an individual votes for the candidate to whom he or she lies closest on the continuum.

To expand a bit, theorists in this camp argue that (1) analysts using proper measurement techniques can position both issues and candidates on scales that show how “close” they are to each other and to other objects, and (2) voters vote for candidates who are closest (most proximate) to themselves on such scales. People choose nearby candidates out of their desire to maximize utility, or the value that results from one choice over another. Knowing this fact, candidates adjust their behavior to maximize the votes they receive. Adjusting behavior
means not only taking or moving to positions as close as possible to those of the average or
typical voter (the so-called median voter) but also, if and when necessary, obscuring one’s
true position (that is, following a strategy of ambiguity). Figure 2-1, for instance, shows
that Voter 1’s position is closest to Candidate B’s; therefore, Voter 1 would presumably vote
for that person. Similarly, Voter 2 would prefer Candidate C. Note also that Candidate A
could attract Voter 1’s support by moving closer to the middle, perhaps by campaigning on
an “amnesty-only-for-children-of-illegal-immigrants” platform.

The proximity theory has many of the characteristics of an empirical theory. Note that it
does not take a stance for or against one side or the other in the immigration debate. Rather,
it explains why things happen as they do, and it offers specific and testable predictions. It
is also an implicitly causal theory in that it hypothesizes that the desire to maximize utility
“causes” voters to vote for specific candidates. It is general since it claims to apply to any
election in any place at any time. As such, it provides a much more sweeping explanation
of voting than a theory that uses time- and place-bounded terms such as “the 2014 guber-
natorial election in Pennsylvania.” In addition, it provides a parsimonious or relatively simple
account of candidate choice. It does not invoke additional explanatory factors such as
psychological or mental states, social class membership, current economic conditions, or
even partisanship to describe the voting act. Most important, although the proximity the-
ory rests on considerable formal (and abstract) economic and decision-making reasoning,
it puts itself on the line by making specific empirical predictions, which can be checked by
asking voters (1) their positions on immigration and (2) how they voted.

As a theory, it incorporates or uses numerous primitive or undefined terms such as issue,
candidate, and utility. These words and concepts may have well-accepted dictionary mean-
ings, but the theory itself takes their common understanding for granted. When a theory
is challenged, part of the dispute might involve slightly divergent interpretations of these
terms. At the same time, the theory makes explicit various other assumptions. It assumes,
among other things, that a researcher can place individuals on issue dimensions, that people occupy these positions for reasonably long time periods, that voters are rational in that they maximize utility, and that candidates have objective positions on these issues. Moreover, by assumption, certain possibilities are not considered. The theory does not delve into the question of whether or not a person holds a “correct” position on the scale, given his or her objective interests. Finally, to test the proximity or spatial idea, researchers assume that one can assign individuals meaningful spatial positions by asking certain kinds of questions on surveys or polls. This may be a perfectly reasonable assumption (we touch on that matter in chapter 10), but it is an assumption nevertheless. Still, spatial modelers, as those who use proximity theory are called, go to great lengths to define and explain key concepts. How distance is defined is a serious matter because different definitions can lead to different substantive conclusions.

The Explanatory Range of Theories

Theories are sometimes described by their explanatory range, or the breadth of the phenomena they purport to explain. Usually, one does not have a theory of “why Donald Trump won the election in 2016.” (It is, of course, possible to find several theories that account for this particular outcome. But note that the 2016 election results are an instance, or “token,” of the kind of event with which these theories deal.) Instead, a good theory of electoral outcomes presumably pertains not only to a specific presidential contest but also to other presidential elections or other types of elections in other times and places.

In the social sciences, so-called narrow-gauge or middle-range theories pertain to limited classes of events or behaviors, such as a theory of voting behavior or a theory about the role of revolution in political development. Thus, a theory of voting may explain voter turnout by proposing factors that affect people’s perceptions of the costs and benefits of voting: socioeconomic class, degree of partisanship, the ease of registration and voting laws, choices among candidates, availability of election news in the media, and so forth. Global or broad-range theories, by contrast, claim to describe and account for an entire body of human behavior. A theory of federalism might explain why subnational governments do not adopt redistributive programs (those that redistribute wealth from wealthier residents to poorer ones) as much as one might expect based on need. A really general theory, for example, might attempt to account for increases or decreases in economic inequality in any society at any time. In short, theories play a prominent role in natural and social sciences because they provide general accounts of phenomena. Other things being equal, the broader the range of the things to be explained, the more valuable the theory.

A BRIEF OVERVIEW OF THE EMPIRICAL RESEARCH PROCESS

So what exactly is the empirical or scientific research process? In reality, no scientist in the field or laboratory adheres to a prescribed set of steps like someone following a script. Scientists rely not just on formal procedures but also on intuition, imagination, and even
luck at times. Nevertheless, we may conceptualize what they do by identifying the underlying logic of their activities. Here is an idealization of a scientific research program.

**Development of an Idea to Investigate or a Problem to Solve**

A scientist gets topics from any number of sources, including literature about a subject, a general observation, an intuition (or hunch), the existence of conflicts or anomalies in reported research findings, and the implications of an established theory. For example, a report on income inequality may indicate that it varies considerably from country to country or that it is increasing. A logical response would be to ask why. As another instance, consider newspaper accounts that suggest that evangelical Christians tend to support conservative candidates because of “moral values.” Several research questions are raised by these accounts: Do evangelicals base their choices of candidates on their proximity to candidates’ positions on moral issues while other voters base their choices on other types of issues such as economic issues? Is turnout among evangelicals higher in elections where there are distinct differences between candidates on moral issues than in elections where the differences are small?

**Hypothesis Formation**

After selecting a topic, an investigator tries to translate the idea or problem into a series of specific hypotheses. As we see in chapter 4, hypotheses are tentative statements that, if confirmed, show how and why one thing is related to another or why a condition comes into existence. These statements have to be worded unambiguously and in a way that their specific claims can be evaluated by commonly accepted procedures. After all, one of the requirements of science is for others to be able to independently corroborate a discovery. If assertions are not completely transparent, how can someone else verify them? In the preceding example, we might hypothesize that evangelical Christians are more likely than others to base their vote on candidates’ positions on moral issues.

**“Data” Collection**

This is where the rubber meets the road: the essence of science comes in the empirical testing of hypotheses through the collection and analysis of data. Consider the case of religion and voting just mentioned. We need to define clearly the concepts of moral values and evangelical Christian. We might, for instance, tentatively identify evangelicals as people who adhere to certain Christian denominations and moral values as attitudes toward abortion and same-sex marriage. A researcher could write a series of questions to be administered in a survey or a poll to elicit this information. Only when concepts are defined and decisions made about how to measure them can data collection and analysis begin.

**Interpretation and Decision**

At some point, the investigator has to determine whether or not the observed results are consistent with the hypotheses. Though simple in principle, judging how well data support
scientific hypotheses is usually not an easy matter. Suppose, for example, we find that 75 percent of evangelical Christians opposed same-sex marriage and 90 percent of these individuals voted for a House candidate in 2014 who opposed same-sex marriage. So far, so good. But suppose, in addition, that 70 percent of nonevangelicals also opposed same-sex marriage and that more than 90 percent of these people also voted for House candidates opposed to same-sex marriage in the same election. It appears that attitudes might be affecting voting, but the data do not necessarily establish a connection between religious preference and whether or not votes are based on moral issues. Weighing quantitative or statistical evidence requires expertise, practice, and knowledge of the subject matter, plus good judgment (and this skill is often difficult to teach). Still, chapters in this book are devoted to showing ways to make valid inferences about tenability of empirical hypotheses.

Modification and Extension

Depending on the outcome of the test, one can tentatively accept, abandon, or modify the hypothesis. If the results are favorable, it might be possible to derive new predictions to investigate. If, however, the data do not or only very weakly support the hypothesis, it will be necessary to modify or discard it. Let us stress here that negative results—that is, those that do not support a particular hypothesis—can still be both interesting and beneficial. As we suggested earlier, some scholars, such as Popper, believe that science advances by disproving claims, not by accepting them. Consequently, a valuable contribution to science can come from disconfirming widely held beliefs, and the only way to do that is to replicate or reinvestigate the research upon which the beliefs rest. The key is not so much the result of a hypothesis test but how substantively important the hypothesis is to begin with.

REACTIONS TO THE EMPIRICAL APPROACH: PRACTICAL OBJECTIONS

Empirical research problems arise because many important concepts are abstract or have many meanings or are value-laden. Chapter 1 showed that a concept such as “talking like a man” needs to be defined carefully and clearly, and that finding an adequate definition of “economic inequality” can be difficult. Should we be looking at individuals or households? Should we use annual income—calculated before taxes, after taxes, or after adding to individual or household income publicly supplied in-kind benefits such as health care or job retraining? Or should we try to measure net wealth (assets minus debts)? The following chapters take up some of these questions.

Furthermore, political scientists must face the fact that human behavior is complex, perhaps even more complex than the subject matter of other sciences (genes, subatomic particles, insects, and so on). Complexity has been a significant obstacle to the discovery of general theories that accurately explain and predict almost every kind of behavior. After all, developing a theory with broad applicability requires the identification and specification of innumerable variables and the linkages among them. Consequently, when a broad theory is proposed, it can be attacked on the grounds that it is too simple or that too many exceptions
to it exist. Certainly, to date no empirically verified generalizations in political science
match the simplicity and explanatory power of Einstein’s famous equation $E=mc^2$.31

There are still other obstacles. The data needed to test explanations and theories may be
extremely hard to obtain. Indeed, often the potentially most informative data are totally
unavailable. People with the needed information, for example, may not want to release it for
political or personal reasons. Pollsters, for instance, find refusal to answer certain questions,
such as those designed to measure attitudes toward ethnic groups, to be a major problem in
gauging public opinion. Similarly, some experiments require manipulation of people. But
since humans are the subjects, the researchers must contend with ethical considerations
that might preclude them from obtaining all the information they want. Asking certain
questions can interfere with privacy rights, and exposing subjects to certain stimuli might
put the participants at physical or emotional risk. Tempting someone to commit a crime, to
take an obvious case, might tell a social scientist a lot about adherence to the law but would
be unacceptable nevertheless.

**Self-Reflection and Individuality**

Like any other organisms, humans are aware of their surroundings. They have the addi-
tional ability to empathize with others and frequently attempt to read others’ minds. As John
Medearis put it, “human beings—individually, but especially jointly—are self-interpreting
and reflective, capable of assigning meanings to their actions and revising these meanings
recursively.”32 Observations of this sort led many social scientists and philosophers to question
whether or not the scientific method can be applied to the study of something as intrinsically
language based as politics. This doubt appears later in the chapter, when we discuss interpre-
tation versus explanation. In the meantime, let us point to a practical problem. Since humans
are self-reflective and empathetic creatures, they often anticipate a researcher’s goals and
adjust their actions accordingly (e.g., “The investigator seems to favor immigration reform,
so I will too”).

When it comes to studying political behavior such as voting or decision making, another
difficulty arises. Many experiments in science assume that the entities under investigation are
for all intents and purposes identical and, hence, can be interchanged without fear of compro-
mising the conclusion. An iron ion (Fe+) from one source is as good as another from somewhere
else (no matter where in the universe) when it comes to studying iron’s reaction with oxygen.
But can the same be said of humans? Consider a political scientist who wants to investigate the
effects of negative campaign advertising on attitudes. Suppose Jane and Mary are subjects in a
study. We cannot assume that they will react to the experimental stimuli exactly the same way,
even though they are the same age, gender, political persuasion, and so forth.

Social scientists have to get around this problem by using groups or samples of individu-
als and then examining the average effect of the stimulus. Any generalization that results has
the form: given subjects with characteristics A, B, . . ., $X$ (the stimulus) on average affects $Y$
(the response) by approximately $N$ units. In other words, sometimes the basic units under the
scientist’s microscope can be considered pure, even if they are complex molecules, but not
so in political science. The objects political scientists study are multifaceted and conscious
beings with volition of their own who often change opinions and behaviors; thus, state-
ments about them must necessarily be tentative, general, and time bound.

Finally, there is the inescapable subjectivity of politics. We provide an example that
bedevils research into the studies of power. Most political scientists would agree that, if an
oligarchy exists in the United States, it should at a minimum make or heavily influence key
policy decisions. The problem is, how does one objectively identify "key" policies? Should
the choice be left to the judgment of the researcher or knowledgeable/informed experts?
Or are there concrete indicators or measures of importance? Suppose we want to classify
decision A as "important." On what grounds do we make the assignment? The number of
people A affects? Its cost? The number of times it is mentioned in the press? Its length in
legal codes? The number of times it is litigated? Any or all of these might be useful. But for
a variety of reasons, none of these may capture the significance (or lack of significance) of a
decision. Importance often comes from how people interpret or understand policy A, and
understanding of this sort, many assert, lies beyond the scope of empirical sciences.33

All of these claims about the difficulty of studying political behavior scientifically may
have merit. Yet they can be overstated. Consider, for example, that scientists studying natural
phenomena encounter many of the same problems. Physicists cannot directly observe ele-
mentary particles such as quarks. Nor can astronomers and geologists carry out experiments
on most of the phenomena of greatest interest to them. Indeed, they cannot even visit many
of the places they study most intensively, like other planets or the center of the Earth. And
what can be more complex than biological organisms and their components, which consist of
thousands of compounds and chemical interactions? Stated quite simply, it is in no way clear
that severe practical problems distinguish political science from any of the other sciences.

Is Political Science Trivial or Irrelevant?

The empirical approach in political science, with its advent in earnest in the 1960s, seemed
to bring with it all the accoutrements of rigorous natural sciences: equations and math-
ematical models, statistical analysis, instrumentation and quantification, computers and
electronic databases, esoteric concepts (e.g., "multidimensional issue spaces"). Yet practi-
cally from the moment the empirical or scientific perspective arrived on the scene, doubters
and skeptics appeared. In the late 1960s and later in 2000, well-publicized "revolts" against
hard-core empiricism took place. Among other complaints, critics pointed to the trivial
nature of some of the "scientific" findings and applications. Common sense would have
told us the same thing, they argued. Of course, as we explained earlier, there is a difference
between intuition or common sense and scientific knowledge. To build a solid base for fur-
ther research and accumulation of scientific knowledge in politics, commonsense knowl-
edge must be verified empirically and, as is frequently the case, discarded when wrong. Still,
"scientism" left many political scientists dismayed.

A more serious criticism of the scientific study of politics is that it leads to a failure to
focus enough scholarly research attention on important social issues and problems. Some
critics contend that, in the effort to be scientific and precise, political science overlooks the
moral and policy issues that make the discipline relevant to the real world. Studies rarely
address the implications of research findings for important public policy choices or political reform. In other words, the quest for a scientific knowledge of politics has led to a focus on topics that are quantifiable and relatively easy to verify empirically but that are not related to significant, practical, and relevant societal concerns. A related criticism is that researchers are using increasingly sophisticated statistical methods to investigate politics. Understanding these methods, and hence being able to discuss results, is beyond the reach of many political scientists, not to mention students and the general public. This has deleterious effects on the level of discourse about what is known about important political and social issues. These considerations take us back to our umpires. Can researchers really emulate Umpire 2 (the strict empiricist) who claims to “call ’em as they are”? Many think not. Political scientists, having been exposed to decades of philosophizing about limitations and problems of the “scientific method,” probably now admit to being like Umpire 1 and call balls and strikes as they see them. This doesn’t mean their research is totally subjective or a matter of opinion; but it is, they realize, so contingent on time, place, language, and culture that finding scientific laws and truths of politics is problematic. Instead of calling them hard-nosed empiricists, we might better call today’s political scientists modest or constrained empiricists.

COMPETING POINTS OF VIEW

As widely accepted and useful as science has become in modern times, serious philosophers and social scientists have challenged these premises. We cannot explain all of their objections here, but the essence of their argument is that certain aspects of human life are simply not amenable to systematic and objective analysis. More important, an uncritical faith in realism, objectivity, and material causality is unwarranted. We concentrate on two points:

1. Human actions cannot be explained scientifically but must be interpreted from the point of view of the actors. Meaning and understanding are the proper goals.
2. Social scientists have to realize that the world, far from having an independent existence that they observe directly, is partly constructed by observers themselves.

To oversimplify, we shall say these two viewpoints constitute “nonempiricism.”

HELPFUL HINTS

ASSUMPTIONS OF EMPIRICAL RESEARCH

- **An empiricist (“I-call-’em-as-they-are” umpire) makes assumptions about methodology.**
- **Realism**: There is a real world that exists independently of observers. (It’s there even if we aren’t there to see it.)
- **Materialism**: Only concrete and observable (if only indirectly) entities have causal efficacy.
- **Denial of supernatural causes**: Explanations of phenomena based on mysterious,
Interpretation

Some people question the empirical strategy because the subject matter, human institutions and activities, differs from the behavior of material objects such as atoms or stars, and these differences raise all sorts of complexities. One indicator of the inapplicability is that progress in developing and testing contingent causal laws has been agonizingly slow. Moreover, both the methods and the content of the discipline have not come close to the exactitude and elegant sophistication of sciences such as biology or physics, and, consequently, nowhere can we find empirical generalizations with the level of precision and confirmation enjoyed by, say, the theories of relativity and evolution.

Skeptics argue that there are good reasons for this outcome. Since politics inescapably involves actions—that is, behavior that is done for reasons—and not mere physical movement, analyzing it brings up challenges not encountered in the natural sciences. Opponents of the empirical approach claim that scientific methods do not explain nearly as much about behavior as their practitioners think. The problem is that to understand human behavior, one must try to see the world the way individuals do. And doing so requires empathy, or the ability to identify and in some sense experience the subjective moods or feelings or thoughts of those being studied. Instead of acting as outside, objective observers, we need to “see” how individuals themselves view their actions. Only by reaching this level of understanding can we hope to answer “why” questions such as “Why did John still vote in the last election even though he was bombarded by countless attack ads on television, the internet, radio . . . everywhere he turned?” The answers require the interpretation of behavior, not its scientific explanation in terms of general laws. In short, interpretation means decoding verbal and physical actions, which is a much different task than proposing and testing hypotheses.

Given this way of looking at the research task, some social scientists advocated stressing the interpretation or empathetic understanding of actions and institutions. One of the earliest and best-known proponents of this methodology was Clifford Geertz, an anthropologist, who felt that “man is an animal suspended in webs of significance he himself has spun. I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law but an interpretive one in search of meaning.” As a simple example of the difference between empirical and interpretative approaches, take journalist James O’Toole’s analysis of a close Pennsylvania U.S. Senate election in 2010: “it’s now a pretty

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close race, according to the polls and the body language of the campaigns.” Here he relies on both an empirical tool (polling) and intuition (the “body language of the campaigns”). Those who closely follow electoral politics would perhaps agree that a minimum of interpretation and subjective analysis is always helpful.

Another way of looking at interpretation is to consider the concept of social facts. What exactly are things like political parties, elections, laws, and administrative regulations? In what sense are they real? They do not have the same kind of material existence as atoms, bacteria, and mountains, but have an entirely subjective existence only in the minds of people living in a particular culture. One philosopher remarks that “minds create institutions. There would be no money or marriage or private property without human minds to create these institutions.” How, then, should they be studied? The sociologist Émile Durkheim told his students to take them seriously: “the first and most basic rule [of social inquiry] is to consider social facts as things.” And many political scientists almost instinctively adhere to that principle. Nonetheless, the notion that much of what is studied is socially constructed raises some thorny epistemological issues.

**Constructionism and Critical Theory**

Most political scientists take reality pretty much as a given. That is, they posit that the objects they study—elections, wars, constitutions, government agencies—have an existence independent of observers and can be studied more or less objectively. But an alternative perspective, called the social construction of reality or constructionism, casts doubt on this uncritical, perhaps blasé attitude. According to constructionism, humans do not simply discover knowledge of the real world through neutral processes, such as experimentation or unbiased observation; rather, they create the reality they analyze. This position is perhaps another way of saying, “Facts do not speak for themselves but are always interpreted or constructed by humans in specific historical times and settings.” This stance may be likened to Umpire 3, who you may recall says the phenomena under investigation “ain’t nothing until I call ‘em” as though the very act of umpiring creates its own reality.

One version of this position admits that entities (for example, molecules, planets) exist separately from anyone’s thoughts about them, but it also insists that much of what people take for granted as being “real” or “true” of the world is built from learning and interaction with others and does not have an existence apart from human thought. Consider the term Democratic Party. Instead of having an independent, material existence like an electron or a strand of DNA, a political party exists only because citizens behave as if it exists. This means that two individuals who come from different social, historical, and cultural backgrounds may not comprehend and respond to the term in the same way. What is important in studying, say, individuals’ responses to Democratic candidates is fathoming their personal beliefs and attitudes about the party.

Constructionist thinking now plays a strong role in international relations theory, where a concept such as anarchy is not considered a “given and immutable” cause of the behavior of states (for example, their desire for security through power politics). Rather, concepts like this one have to be understood in terms of what actors (individuals, states) make of them.
The constructionist viewpoint, which comes in innumerable varieties, challenges the idea of an objective epistemology, or theory of knowledge. Such ideas, however, are of a deeply methodological nature and raise deep philosophical issues that go well beyond the task of describing the empirical methods used in the discipline. We thus acknowledge that the scientific study of politics is controversial but nevertheless maintain that the procedures we describe in the chapters that follow are widely accepted and can in many circumstances lead to valuable understandings of political processes and behaviors. Moreover, they have greatly shaped the research agenda and teaching of the discipline, as can be seen by looking at the evolution of the field in the twentieth century.

The emergence and domination of the empirical perspective have also brought about renewed interest in normative philosophical questions of “what ought to be” rather than “what is.” Part of the discipline has become receptive to variations of critical theory, or the belief that a proper goal of social science is to critique and improve society (by making it more just and humane) rather than merely understand or explain what is going on. Critical theorists feel, in other words, that simply analyzing a polity as it is amounts to a tacit endorsement of its institutions and the distribution of power. Contrary to the idea that science should be value-free, critical theorists argue that proposing and working for reforms are legitimate activities for the social sciences. They therefore analyze institutions, practices, ideologies, and beliefs not only for their surface characteristics but also for their “hidden meanings” and implications for behavior.

Take, for example, the statement “I’m just not interested in politics.” An empirical political scientist might take this simply as a cut-and-dried case of apathy. He or she might then look for variables (e.g., age, gender, ethnicity) associated with “not interested” responses on questionnaires. A critical theorist, by contrast, might ask, “Does this person really have no interest in current events? After all, isn’t everyone affected by most political outcomes, like decisions about taxes, war and peace, and the environment, and thus in fact have an interest in politics? So perhaps we have a case of, say, ‘false consciousness,’ and it is crucial to uncover the reasons for lack of awareness of one’s ‘real’ stake in politics. Is the indifference a matter of choice, or does it stem from the (adverse) effects of the educational system, the mass media, modern campaigning, or some other source?”

Here is another case. An important challenge to research in political science (as well as in other social science disciplines, such as sociology) has come from feminist scholars. Among the criticisms raised is that “the nature of political action and the scope of political research have been defined in ways that, in particular, exclude women as women [emphasis added] from politics.” Accordingly, “what a feminist political science must do is develop a new vocabulary of politics so that it can express the specific and different ways in which women have wielded power, been in authority, practiced citizenship, and understood freedom.” Even short of arguing that political science concepts and theories have been developed from a male-only perspective, it is all too easy to point to examples of gender bias in political science research. Examples of such bias include failing to focus on policy issues of importance to women, assuming that findings apply to everyone when the population studied was predominantly male, and using biased wording in survey questions.
A related complaint is that political science in the past ignored the needs, interests, and views of the poor, the lower class, and the powerless and served mainly to reinforce the belief that existing institutions were as good as they could be. Those who agree with this complaint are called “critical theorists.” Concerns about the proper scope and direction of political science have not abated, although nearly all researchers and teachers accept the need to balance the scientific approach with consideration of practical problems and moral issues.

Let’s wrap up our discussion so far before returning to the all-important question: What difference does all this philosophizing make? Table 2-1 lists some of the key differences between what we have been calling the empirical and nonempirical schools.

| **TABLE 2-1 Methodological Perspectives in Political Science** |
|-------------------|-------------------|
| **Goals** | **Nonempirical** | To understand behavior  
To interpret actions |
| **Assumptions** | Social facts (at least) are “constructed.”  
Institutions are social creations.  
Objective observation is not generally possible because our very senses are affected by culturally defined and imposed prior beliefs.  
Totally value-free research is impossible. |
| **Empirical** | Causal explanations and predictions of individual and institutional behaviors  
General theory and laws  
Information of practical use  
“Value-free” knowledge |
| **Assumptions** | Realism (appearance and reality are the same).  
Independent, objective observation is possible.  
Behavior and, implicitly, institutions exhibit regularities.  
Claims about the real world must be verified.  
Attitudes (values, biases, beliefs) must not affect observation and analysis.  
There are no causeless effects. |
| **Basic tool kit** | Qualitative | Primarily quantitative |
| **Methods** | Qualitative analysis (e.g., ethnography, content and document analysis, study of discourse)  
Case studies and comparisons |
| **Empirical** | Field studies and observation, content and document analysis  
Case studies and comparisons  
Experiments and field experiments  
Mathematical models  
Surveys  
Statistical analysis of data  
Simulations |
CONCLUSION

In this chapter, we described the characteristics of scientific knowledge and the scientific method. We presented reasons why political scientists are attempting to become more scientific in their research and discussed some of the difficulties associated with empirical political science. We also touched on questions about the value of the scientific approach to the study of politics. Despite these difficulties and uncertainties, the empirical approach is widely embraced, and students of politics need to be familiar with it. In chapter 3, we begin to examine how to develop a strategy for investigating a general topic or question about some political phenomenon scientifically.

TERMS INTRODUCED

**Actions.** Human behavior done for a reason. 39

**Constructionism.** An approach to knowledge that asserts humans actually construct—through their social interactions and cultural and historical practices—many of the facts they take for granted as having an independent, objective, or material reality. 40

**Critical theory.** The philosophical stance that disciplines such as political science should assess society critically and seek to improve it, not merely study it objectively. 41

**Cumulative.** Characteristic of scientific knowledge; new substantive findings and research techniques are built upon those of previous studies. 29

**Deduction.** The process of reasoning from general theory to making predictions about events or behavior in specific situations. 31

**Empiricism.** Relying on observation to verify propositions. 25

**Explanatory.** Characteristic of scientific knowledge; signifying that a conclusion can be derived from a set of

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**Table:**

<table>
<thead>
<tr>
<th>Objections</th>
<th>Nonempirical</th>
<th>Empirical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation is impressionistic, subjective, and nonsystematic.</td>
<td>Takes “politics out of political science.”</td>
<td></td>
</tr>
<tr>
<td>Knowledge is “nontransmissible.”</td>
<td>Concentration on formalism, quantitative measurement, and mathematical analysis leads to trivial and practically meaningless results.</td>
<td></td>
</tr>
<tr>
<td>Findings are tainted by the investigator’s values and biases.</td>
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<td></td>
</tr>
</tbody>
</table>

** Alleged biases**

<table>
<thead>
<tr>
<th>Nonempirical</th>
<th>Empirical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusions are affected by political and social ideologies.</td>
<td>Inherently favors the status quo and existing power structures.</td>
</tr>
</tbody>
</table>

general propositions and specific initial considerations; providing a systematic, empirically verified understanding of why a phenomenon occurs as it does. 29

**Falsifiability.** A property of a statement or hypothesis such that it can (in principle, at least) be rejected in the face of contravening evidence. 27

**General.** A characteristic of scientific knowledge is that it be applicable to many rather than just a few cases. 29

**Induction.** The process of reasoning from specific observations to theories about behaviors or events in general. 31

**Interpretation.** Philosophical approach to the study of human behavior that claims that one must understand the way individuals see their world in order to truly understand their behavior or actions; philosophical objection to the empirical approach to political science. 39

**Nonnormative knowledge.** Knowledge concerned not with evaluation or prescription but with factual or objective determinations. 27

**Normative knowledge.** Knowledge that is evaluative, value-laden, and concerned with prescribing what ought to be. 27

**Parsimony.** The principle that among explanations or theories with equal degrees of confirmation, the simplest—the one based on the fewest assumptions and explanatory factors—is to be preferred; sometimes known as Ockham’s razor. 30

**Social facts.** Values and institutions that have a subjective existence in the minds of people living in a particular culture. 40

**Theory.** A statement or series of related statements that organize, explain, and predict phenomena. 31

**Transmissible.** Characteristic of scientific knowledge; indicates that the methods used in making scientific discoveries are made explicit so that others can analyze and replicate findings. 27

**Verification.** The process of confirming or establishing a statement with evidence. 26

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**SUGGESTED READINGS**


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**NOTES**


2. Ibid., 744 (emphasis in original). Also see Jeffrey A. Winters, *Oligarch* (New York: Cambridge University Press, 2014).
During his Senate confirmation hearing, Chief Justice John Roberts came close to capturing the essence of the empirical viewpoint when he told the committee, “Judges and justices are servants of the law, not the other way around. Judges are like umpires. Umpires don’t make the rules; they apply them.” He added, “My job is to call balls and strikes and not to pitch or bat.” CNN.com, September 12, 2005. Accessed June 3, 2015. Available at http://www.cnn.com/2005/POLITICS/09/12/roberts.statement. In other words, judges “see” the law and the facts of a case as they are. Judiciary Committee chair Joe Biden, however, challenged Justice Roberts on his umpire analogy: “So, as much as I respect your metaphor, it’s not very apt, because you get to determine the strike zone. . . . Your strike zone . . . may be very different than another judge’s view.” Washington Post, “Transcript: Day Two of the Roberts Confirmation Hearings,” September 13, 2005. Accessed January 10, 2015. Available at http://www.washingtonpost .com/wp-dyn/content/article/2005/09/13/AR200 5091300979.html. In other words, the senator believes judges may act like Umpire 3, who in a sense “constructs” reality in his own way.

4. It might be more accurate to use the words “scientific methods,” since to define what is and what is not science is a notoriously tricky task, and not everyone agrees on an exact definition.

5. Those who follow the philosophy of social science, or epistemology, know that naming the sides in these methodological debates is virtually impossible. Someone we might label a nonempiricist might very well foreswear the tag. We are just attempting to sort out tendencies.


7. Careful readers will note that we are combining all sorts of activities under one label. Specialists in one method or another often call themselves different things to emphasize the kind of research they do. For instance, those who rely on deductive reasoning and do not spend much time observing the world often refer to themselves as “formal modelers” or “rational choice theorists.”

8. Whether or not political science or any social science can find causal laws is very much a contentious issue in philosophy. See, for instance, Alexander Rosenberg, The Philosophy of Social Science, 3rd ed. (Boulder, CO: Westview, 2007).

9. Ibid., 107.

10. The most ardent proponent of the idea that science really amounts to an effort to falsify (not prove) hypotheses and theories is Karl Popper. See, for example, The Logic of Scientific Discovery (New York: Basic Books, 1959).


12. Ibid., 31.


15. It may be tempting to think that historians are interested in describing and explaining only unique, one-time events, such as the outbreak of a particular war. This is not the case, however. Many historians search for generalizations that account for several specific events. Some even claim to have discovered the “laws of history.”

16. Isaak, Scope and Methods, 103.

17. Many varieties of this theory exist, but they share the components presented here.

18. Anthony Downs, an economist, provided one of the first explications of the theory in An Economic Theory of Democracy (New York: Harper & Row, 1957). His ideas in turn flowed from earlier economic analyses. See, for example, Harold Hotelling, “Stability in
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20. This expectation assumes that immigration is important to the voter—that there is not some other issue that is more important that may cause the voter to prefer another candidate.


23. Here is an example: “Please look at . . . the booklet. Some people believe that we should spend much less money for defense. Suppose these people are at one end of a scale, at point 1. Others feel that defense spending should be greatly increased. Suppose these people are at the other end, at point 7. And, of course, some other people have opinions somewhere in between, at points 2, 3, 4, 5 or 6 . . . Where would you place YOURSELF on this scale, or haven't you thought much about it?” See variable v3142 in the 2004 National Election Study. Accessed February 11, 2019. Available at the Survey Documentation and Analysis, University of California–Berkeley, website: http://sda.berkeley.edu/D3/NES2004public/Doc/nes0.htm.


25. A good example is Theda Skocpol, States and Social Revolutions: A Comparative Analysis of France, Russia, and China (New York: Cambridge University Press, 1979).


29. Isaak, Scope and Methods, 167.

30. An often-remarked-on characteristic of scholarly journals is that they tend to report mostly positive findings. An article that shows “X is related to Y” may be more likely to be accepted for publication than one that asserts “X is not related to Y.” Whether or not a “negative result” makes a significant contribution to knowledge depends on the importance of the original claim. Suppose that a team of psychologists found that “love and marriage” really do not “go together.” That would be worth publishing.

31. For further discussion of complete and partial explanations, see Isaak, Scope and Methods, 143.


35. See Isaac, “For a More Public Political Science.”


41. The term *constructionism* encompasses an enormous variety of philosophical perspectives, the description of which goes far beyond the purposes of this book. The seminal work that brought the ideas into sociology and from there into political science is Peter L. Berger and Thomas Luckmann, *The Social Construction of Reality* (New York: Doubleday, 1966). An excellent but challenging analysis of constructionism is Ian Hacking, *The Social Construction of What?* (Cambridge, MA: Harvard University Press, 1999). Equally important, members of this school have widely varying opinions about the place of empiricism in social research. Many constructivists feel their position is perfectly consistent with the scientific study of politics; others do not.


44. For an excellent collection of articles about the pros and cons of studying human behavior scientifically, see Michael Martin and Lee C. Anderson, eds., *Readings in the Philosophy of Social Science* (Cambridge, MA: MIT Press, 1996).


46. This example is based on an article by Isaac D. Balbus, “The Concept of Interest in Pluralist and Marxist Analysis,” *Politics & Society* 1, no. 2 (1971): 151–77.


