# CHAPTER 1

## A Philosophy of
## Social "Science"

Doing research about anything is an exciting journey of discovery. Media messages themselves help us see this, not just through programs about research like *NOVA* or science magazines like *Discover* but also in films like the Indiana Jones movies, which turn archaeology into an exotic adventure, or television series like *CSI: Crime Scene Investigation*, in which laboratory science plays the key role in solving crime mysteries. This book will help you start doing research about the media and its influences on society. But just what is "scientific" about social science, and where does media research fit into this picture?

Some controversy exists about whether social science is actually "science" at all. One of the earliest sociologists was the 19th-century scholar Auguste Comte, who first thought of society as being like a biological organism—divided into parts that function together. (We can think of our media institutions as one of these parts.) This was an analogy derived directly from biological science. Strict reliance on an **empirical**[1] (or data-based) **research method** in social science continues to be associated with Comte's **positivist** philosophy, which held that it was both possible and desirable to develop a "science" of society.

As the social sciences developed, the argument that society could best be understood by applying the methods of science, based on systematic direct observation, continued to be made. Science had come to be thought of as

objective (free from opinion, prejudice, and outside influence)—at least ideally. Social science has often aspired to copy this by concentrating on collecting objective data about observable phenomena. Historically, the emphasis in science on using evidence from direct observations to settle issues of truth had arisen in part as a reaction against reliance on traditional beliefs, intuition, or personal opinion. Surely, social science could develop most fruitfully by relying on the same approach, or so many social scientists believed.

Over time, though, others began to question the usefulness of the scientific model for social science. Some began to see the positivist position as a weak point or limiting factor rather than a strength of social scientific inquiry. How is it possible, these scholars asked, to study important social phenomena "objectively" when "subjective" individual thought and interpretation are so characteristically human? Can social science researchers ever really claim to be doing anything other than personal interpretation? How can they be sure they are actually measuring abstractions like attitudes and beliefs in the same sense that a physicist might measure the strength of an electric field or a chemist might assess the acidity of a compound? The study of human activity by human beings has a special dimension called **reflexivity**, the particular challenge of turning the lens of scientific inquiry inward to make one's own species the object of study.

The assertion that it is possible and desirable to measure or assess, in a scientifically accurate way, *everything* that is of interest to a social scientist is still controversial but probably cannot be supported. Some **quantitative** research in mass communication—that is, research that uses numerical measures to investigate social phenomena—has been criticized for making just this positivistic assertion. A quantitative approach limits investigation to factors that can be measured; this can mean ignoring important aspects of human social behavior, such as meaning itself, that may be difficult or impossible to quantify.

For these reasons, mass communication researchers sometimes question the field's past overreliance on quantitative methods. In practice, these methods are excellent choices for some types of problems but less useful for others. Today, researchers are more likely to recognize that **interpretive** methods— that is, methods that make use of (rather than seek to eliminate) the human feelings, reactions, and insights of the researcher—also have value. Interpretive methods, sometimes called naturalistic methods, are generally **qualitative**; the results are expressed in language rather than in numbers. Both qualitative social science work and quantitative social science work are empirical in the sense that they rely on systematic observations. Further, *both* kinds of data actually require interpretation. What most clearly distinguishes any social science from the humanities is the systematic reliance on data, whether qualitative or quantitative.

Scientific thinking actually changes in revolutionary leaps and bounds, not just evolutionary increments, as Thomas Kuhn (1970) was the first to point out. Today's truth may be rejected tomorrow. The instruments and techniques available to scientists affect the kinds of experiments they can do and therefore have powerful effects on what kind of new knowledge is created. So do politics, history, and culture. Media research is no different.

For example, just as nuclear weapons were created by a society desperate to win a war, while the new science of ecology has emerged in an era of concern over environmental problems, concern with propaganda during World War II set the research agenda for much of the pioneering early work in the field of mass communication. Then, in the 1950s and 1960s, concern over the effects of television, especially televised violence, became more important as society's interests and priorities shifted from winning a war and toward understanding internal conflict and other domestic problems. Earlier work on persuasion and propaganda was put to new uses in political communication, public relations, and advertising.

Regardless of the extent to which social and political factors influence the choice of research problems or what methodological approaches are used to study these problems, the underlying strategies that have made science so useful in modern societies have not changed. *Good science uses theory well, gathers evidence systematically, and contributes to the accumulation of knowledge.* This continues to be the basis of good science—and of good social science. Good social scientists, whether positivists or interpretive researchers, using qualitative or quantitative methods, follow these same principles.

The best social science often sounds like common sense when it's finished. If it doesn't "ring true," there's likely a false assumption somewhere. However, this doesn't mean that we can jump to good social scientific conclusions based solely on our intuition. Good researchers gather empirical evidence carefully, evaluate it systematically, and present it cautiously.

## QUALITATIVE VERSUS QUANTITATIVE METHODS

A research **method** is a general approach to a research problem; a **technique** is a more specific procedure that is part of a particular method. The distinction between qualitative and quantitative methods is important, although it is often overemphasized. Nevertheless, a majority of social science researchers, including those that study the mass media, tend to be specialists who use one of these types of methods more regularly than the other.

### *The Argument for Qualitative Methods*

Qualitative methods are designed to explore and assess things that cannot easily be summarized numerically. Descriptive observations of conditions and practices in another culture, interviews that use open-ended questions, and analysis of the structure or the arguments in a set of newspaper editorials are all examples of qualitative research. Many of the most important methods discussed in this book are qualitative—that is, they rely on the interpretation and analysis of what people do and say without making heavy use of measurement or numerical analysis as quantitative methods do.

Qualitative researchers may actively reject the positivist assumption that everything of interest can be measured. Their training and experience have taught them the value of looking at subtle aspects of human social life that are best described in words; furthermore, there is not necessarily a single, accurate description that we'd all agree on. The use of language and symbols is a key characteristic of human beings. How can people and their communication be studied in a meaningful way if we limit ourselves to looking at only those aspects that can be captured by numerical representations? Qualitative social science researchers may see quantitative research as flawed by a tendency toward **reductionism**, or artificially simplifying complex social phenomena.

Instead of seeing investigators' personal insights and responses to what goes on around them as interfering with accurate observation, qualitative researchers doing interpretive research try to make use of those insights and responses in a systematic way. They may also argue that quantitative researchers tend toward **reification** of the objects of their study—that is, they trick themselves into thinking that abstractions like attitudes, values, and content themes are objectively real when they are actually just convenient categories invented by the researcher. Qualitative researchers generally look for truth in the development of insightful descriptions of how something in social life works, rather than statistics or equations.

### *The Argument for Quantitative Methods*

Quantitative methods, simply put, use numbers. Most public opinion research, many kinds of psychological experiments, and studies that count the different sources quoted in newspaper stories or the exact proportion of entertainment versus educational programming on television are all examples of quantitative research.

You've already learned that quantitative methods are associated with the positivist assumption that the things scientists (including social scientists) are interested in can always be measured. From this viewpoint, the accuracy and

adequacy of scientific measurement instruments (whether survey question-naires or laboratory equipment) is a central focus of concern. An important underlying assumption here is that, if only those instruments could be made powerful enough, we could determine an exact value for anything we might want to measure—*a number we could all agree on.* This is how quantitative methods are sometimes argued to be more objective than qualitative ones, which leads to the criticism that qualitative methods are too subjective, depending too much on the individual researcher's point of view.

Numerical methods are an extremely useful tool for summarizing a large quantity of data and establishing relationships among different factors with a known degree of certainty, whether the topic is the relationship between read-ing a particular magazine and buying certain products or the relationship between the hours spent watching television and obesity. Human society invented numbers over thousands of years because of their usefulness in keep-ing track of large groups of items, whether migrating herds of game animals or money in a bank account. Research often benefits by making use of these valuable tools.

## *Combining Methods and Achieving Consensus*

While the world of social science sometimes seems rather sharply divided between proponents of qualitative methods and proponents of quantitative methods, in fact both are useful in particular cases, and the two types of methods can be combined. Many of the best studies, often done by teams of researchers rather than individuals, combine quantitative and qualitative methods.

Different researchers do come to different conclusions at times, regardless of what methods are used. This happens in science as well as social science. Scientists may have different answers to questions ranging from how quickly the globe is really warming to how likely it is that we will find life on other planets. Social scientists continue to disagree over what really causes crime and just how powerful the media are in shaping children's beliefs and behavior.

Over time, many such differences are resolved by the emergence of a "sci-entific consensus" reflecting the results of many studies and the outcome of ongoing conversations and discussions among researchers about the meaning of these results. For example, thousands of studies suggest that mediated violence may influence people to engage in violence in real life, although researchers continue to disagree about the strength of this relationship. It is very rare for any single study, using whatever methods, to provide the final solution for such a complex problem.

BOX 1.1

## Mixing Methods

Let's say you are interested in how the images of gender roles—expectations for how women and men are expected to behave and what kinds of jobs they are likely to have—presented in children's television programming might influence young minds. In a quantitative approach, one researcher might propose that children's attitudes and beliefs about gender be measured and related to the type and amount of television they watch. As you'll see later on, establishing causation for this kind of problem is quite difficult. Nevertheless, this quantitative study could certainly yield important insights. Another researcher might prefer to talk to children individually about what they watch, who their heroes are, and why. This qualitative approach could yield a rich understanding of their world that numerical measures would be unlikely to capture—but possibly at some loss of precision. For this problem, the best solution may be to combine quantitative and qualitative methods. If both studies showed the same sorts of influence taking place, or if neither showed any influence taking place, that would provide especially powerful evidence on which to base a conclusion. The use of multiple methods in a single study is called **triangulation.**

## DEDUCTIVE VERSUS INDUCTIVE LOGIC

Another distinction useful in understanding the forms that social science research can take is the distinction between **deductive** and **inductive** logic (that is, reasoning). What many people first think of as "scientific" research uses a deductive model in which the researcher *reasons from the general to the specific.* This means that the researcher begins with a **theory,** an abstract **explanatory** idea that the researcher believes can predict what will happen in a new situation. Working from such a theory, or general proposition, the researcher derives a **hypothesis,** or specific proposition, that can be tested by collecting a certain kind of data. If the new data support the hypothesis, the theory is upheld. If the data suggest the hypothesis is wrong, questions are raised about the adequacy of the theory.

"Cultivation theory" is an important example of a general theory in media studies; this theory, from the work of George Gerbner and his colleagues, states that our perceptions of reality are "cultivated" or encouraged to grow in a certain direction by what we read or see in the media (Gerbner, Gross, Morgan, & Signorielli, 1986). A hypothesis that came from this theory is the assertion that the more violent television we watch, the more we believe that the world is a violent place. This hypothesis has been tested extensively by

collecting data on television-viewing habits, media content, and people's beliefs about the world and then looking for a relationship among these.

For the most part, the hypothesis, and therefore cultivation theory in general, has been supported by investigations of this relationship, although some questions certainly remain about the adequacy of the methods used by cultivation researchers (Potter, 1994). The proliferation of new media will be a major challenge to future researchers trying to clarify this question, since almost every viewer can now access different content through cable or satellite television and the Internet. As a practical matter, measuring the types of material people have been exposed to, necessary to testing the cultivation hypothesis, has become enormously more complicated.

Inductive logic, on the other hand, involves reasoning from data on a specific case or situation to a general theoretical conclusion. A researcher who begins with only a general theoretical understanding to guide the development of specific questions is using an inductive approach. Perhaps the researcher believes that media are important to developing a strong sense of community identity but does not really have a specific hypothesis about how this works. He or she might gather data on media use and community identity without a clear preconception of the relationship between them. This type of work, sometimes called **exploratory** research, is common when a new area of research is developing. Sometimes it is difficult to determine whether this type of **case study** might apply in other situations (such as another community). It can remain simply a **descriptive** study that does not make a contribution to general theory.

Often, however, the study of data from a particular case will stimulate thinking that will result in the formation of a new theory, even though the researcher began with only a general question—not with one or more specific, well-defined hypotheses. The researcher in this example might discover that media use in the community being studied seems to vary a great deal depending on ethnic group membership. This could lead to the development of a new theory that would explain media use in terms of cultural identity rather than identification with a particular geographic community. This would be an example of inductive reasoning in research. The new theory could then be tested in additional communities—deductively.

The inductive-deductive distinction is not as clear-cut as the preceding examples may make it sound, though. Most good research, even exploratory research, begins with at least a general notion of the kinds of explanation the researcher thinks are likely (theory) and asks whether the data found fit those expectations or not (hypothesis testing). Conversely, strict adherence to the logic of the deductive model is probably not the norm. Observations gathered to test a hypothesis can send the researcher off in a new direction entirely. If the data do not support the hypothesis, an explanation might be found that is

consistent with both the theory and the new data, or an error may be identified in the original logic or the data gathering itself. So out-and-out rejection of a theory on the basis of a single study is rare. Nevertheless, the distinction between deduction and induction is still useful in trying to grasp the underlying logic of any research. Deductive, hypothesis-testing research is almost always quantitative, whereas inductive, theory-generating research can be either qualitative or quantitative.

## APPLIED VERSUS BASIC RESEARCH

A final distinction that is very important in mass communication studies is one between **applied** and **basic research**. Basic research is driven primarily by interest in a theory or theoretical idea. It is research undertaken to improve our general understanding of how something works rather than in response to an immediate practical need. The research testing cultivation theory discussed in the previous section is an example of basic research. Applied research is designed to find answers to questions that have arisen when making immediate, practical decisions. Since mass communication is in large part a professional discipline, a good share of our research is applied. Examples include everything from questions about readership that might be asked by a newspaper editor to questions about the effectiveness of children's educational programming that might be asked by members of the U.S. Congress. This is a continuum, not a strict division. Basic research can have important implications for policy or practice, while good applied research almost always uses some theory.

In applied research, using theory well helps the researcher design a useful project. For example, a newspaper editor interested in readership for his or her publication might want primarily to increase the paper's circulation but could still make good use of a theory that suggested that readership has something to do with cultural or community identity, and a congressional committee interested in the educational value of children's television might make good use of cultivation theory in understanding how TV can modify our perceptions of the world. Applied research that uses theory can also help refine the theory and add to our accumulated stock of scientific knowledge.

*The best media research almost always has both applied and basic elements;* it may be inspired by a practical problem but draws from theory and contributes to our accumulated knowledge. Unfortunately, applied researchers sometimes think that basic researchers don't understand the importance of solving real-world problems, whereas basic researchers may believe that applied researchers ignore the importance of theory. The truth is that both are necessary and important, and the best of one is not so different from the best of the other.

## THE LIMITS OF SOCIAL SCIENCE RESEARCH

Throughout this book, you'll learn to take these abstract distinctions—qualitative versus quantitative methods, "objective" versus interpretive research, inductive versus deductive logic—and apply them to both theoretical and applied research about real-world questions and problems. But there is always a certain level of frustration built into attempts to tease apart the relationship between mass media and society, no matter how simple the question and how well developed the research technique. This is because the mass media are, of course, *a part* of that society, and it is very hard to separate one part of a complex system for study. The extent of Comte's commitment to positivism may be outdated, but his recognition that societies are complex wholes has withstood the test of time.

Each particular piece of research that a social scientist completes can provide only a partial answer, and each has limits. Further, some of the questions we would most like research to answer may never be settled by the evidence. They remain matters of social conscience and collective judgment. It is a characteristic of our culture that we would like scientific answers to important social questions, but that doesn't mean they are always available. Many issues are more a matter of what we as a society value than things social science can fully illuminate for us. Others depend heavily on the context. For instance, whether television or the Internet helps children learn or warps their perspectives probably depends on other elements of their lives, such as the influences of friends, family, and teachers. Social science cannot provide definitive answers to all social questions.

As the issues that we as a society consider most important shift over time, and as social scientists gain new insights and develop new tools for understanding them, new research questions are constantly being invented. We can see this very dramatically right now as the media landscape shifts from the "mass" media of a few years ago to the myriad of new technological choices now before us. Even though social science cannot usually provide complete answers, it can almost always provide useful insights. The process of creatively asking and answering new questions is ongoing; no one can expect the underlying issues to be settled "once and for all," but for those of us who have learned that social scientific research can be a lot of fun, perhaps this is not such a bad thing.

### Important Terms and Concepts

| | |
|---|---|
| Applied research | Deductive |
| Basic research | Descriptive |
| Case study | Empirical |

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|---|---|
| Explanatory | Quantitative |
| Exploratory | Reductionism |
| Hypothesis | Reflexivity |
| Inductive | Reification |
| Interpretive | Research method |
| Method | Technique |
| Positivist | Theory |
| Qualitative | Triangulation |

## Exercise

In some ways, journalism is like social science; in other ways, the two fields are quite different. To better understand the points of this introductory chapter, think through the answers to these questions. Your instructor may want to use some of these as the basis for a class discussion.

1. Does the idea of "journalistic objectivity" sound like the same sort of "objectivity" we are concerned with in science? How are they alike, and how are they different?

2. In gathering information, when do journalists rely on quantitative information, and when do they rely on qualitative information? What are the advantages and disadvantages of each? Give specific examples.

3. Editorials are obviously interpretations of a situation, not objective accounts, but they are not the only form of interpretive journalism. Can you think of some other situations to which this term (*interpretive*) applies?

4. How do journalists make use of theories or hypotheses? What about triangulation (or the use of multiple methods) in journalism? How do these uses seem to parallel and not parallel what social scientists do?

## Note

1. Terms appearing in **boldface,** which are also listed in the "Important Terms and Concepts" section at the end of each chapter, are defined in the Glossary at the end of the book.