

# *Approaches to* Social Research

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## Research Using Available Data

As different as experiments, surveys, and field studies may seem, they do have one common feature that distinguishes them from the methodological approach described in this chapter: each involves the firsthand collection of data. Doing any of these three kinds of research entails gathering information, either by questioning or direct observation, from the people and groups who are the objects of study. Thus the data originate with the research; they are not there before the research is undertaken.

By contrast, the fourth general strategy for doing social research is to make use of available data. Sometimes the researcher uses data that were produced by another investigator for a completely different research purpose. At other times, one may use available data that were not produced for any research purpose at all. The variety of such data is tremendous; it is limited only by the researcher's imagination. As you will see in this chapter, that imagination has found sources of data in letters and diaries, government and court records, newspapers and magazines. Even tombstones and graffiti have been used as the raw material for social research.

We begin this chapter by considering several studies that suggest the sources of and possibilities for using available data. With reference to these studies, we discuss major advantages, limitations, and methodological issues related to this approach. While we identify common issues, this discussion glosses over some important variations in the use and analysis of secondhand data. The diverse data sources give rise to very different forms of analysis, with distinctive research purposes. Therefore, we also take a brief but closer look at two of these approaches to available-data research: historical analysis and content analysis.

### Sources of Available Data

The sources of available data may be placed in five broad categories: (1) public documents and official records, including the extensive archives of the Census Bureau; (2) private documents; (3) mass media; (4) physical, nonverbal materials; and (5) social science data archives. These categories provide a useful summary of data sources, although they do not constitute a mutually exclusive typology. Any data source may be placed in one or more of these categories. Also, analysts may draw on more than one data source in any given study.

### Public Documents and Official Records

Exemplifying the available-data approach is the historian who searches for traces of events and processes from the past. More than any other source of evidence, the historian relies on the written record. Writing is regarded as a mark of civilization. The ubiquity of the written record is easily demonstrated. Just attempt to compile a list of all the different written materials that you encounter on a given day. This book is one example; so is the bookstore receipt that you received with its purchase, or the checkout slip filed in order to remove a copy from the library. The advertising brochure that first brought this book to the attention of your instructor is part of the written record; so is your grade for the course in which the book is being used. Each of these could find its way into the hands of a researcher using available data. The researcher could be studying anything from the reading level of textbooks to the costs of higher education; from the marketing strategies of textbook publishers to the achievement of students in different types of schools.

A great deal of the written record is public. Documents created to ensure the normal functioning of offices and departments are maintained at every level of government (not to mention by virtually every private business and organization) in every society throughout the world. These include the proceedings of government bodies, court records, state laws, and city ordinances. Many government agencies, most notably the Bureau of the Census, also maintain numerous volumes of official statistics. Add to this birth and death certificates, directories, almanacs, and publication indexes such as the *New York Times Index* and *Reader's Guide to Periodical Literature*, and one can imagine the massive information available from public records.

An especially rich data source is **vital statistics**: data on births, deaths, marriages, divorces, and the like. By state law, all births must be recorded, and death records must be filed before burial permits can be obtained. Birth records provide information not only on the child born but also on the parents, including father's full name, address, age, and usual occupation. These data make possible research ranging from a study of social class and fertility to a study of maternal age and the incidence of twin births. Similarly, death records contain, in addition to the usual biographical information, data on cause of death; length of illness (where applicable); whether injuries were accidental, homicidal, or self-inflicted; and the time and place of death. With such data all sorts of demographic and epidemiological studies (studies dealing with the incidence or prevalence of disease in an area) are possible. Indeed, much of what we know about death has come from the analysis of death records. Ordinarily, the researcher obtains these records from an agency such as the National Center for Health Statistics in Washington, D.C., which compiles data for the nation as a whole, or from international organizations such as the United Nations, which compile such statistics for the world.<sup>1</sup>

One of the earliest sociological studies to make use of official records—in this case, death records—was Emile Durkheim's classic *Suicide* (1951), first published in 1897. Using statistics on suicides from official publications in several European countries, Durkheim related suicide rates to such variables as religion, season of the year, gender, and marital status. With these data, he rejected several hypotheses

popular at the time, such as that suicide was the result of mental illness and that the incidence of suicide increased with the temperature. Ultimately, he arrived at his influential theory that a lack of social integration contributes to suicides. Supporting his theory were data showing that suicide rates were lowest when social ties were strong (as among persons who are married and members of religions that emphasize social cohesion) and highest when social ties were weak (as among the divorced and members of religions that emphasize individualism).

Another early example of the use of public data sources is Sanford Winston's study (1932) of the sex ratio at birth (the ratio of males born alive to females born alive) among upper-class families in the 1920s. Winston hypothesized that upper-class families, because of social factors and their knowledge of methods of birth control, would show a strong preference for male children that would be evident in the sex ratio. He obtained data on 5466 families from genealogical records published in the *Abridged Compendium of American Genealogy*. First he identified the sex of each child in each birth order (first child, second child, etc.). Then he computed sex ratios (the number of males divided by the number of females multiplied by 100) for three groups: (1) for last-born children in families estimated to be complete (e.g., where the mother was 45 years old or had been childless for at least nine years), (2) "for all children of incomplete families," and (3) "for all children of completed families, omitting the last child" (p. 228). In comparison with the latter two groups, the sex ratio of last-born children in completed families was higher (117.6 versus 108.8 and 109.3), indicating a preference for males and a concomitant decision to practice birth control when that preference was realized. Interestingly, when family size was controlled, the ratio of males to females among last-born children was highest in completed two-child families (sex ratio = 133.1).

Kai Erikson (1966) used several public documents to study deviance in Puritan New England. As a way of examining how the community defined deviance and, in so doing, defined its moral boundaries, Erikson examined three "crime waves" among the Puritans over a sixty-year period. The first wave, called the antinomian controversy of 1636–38, developed over a conflict concerning who was qualified to preach the Gospel in Boston and culminated in a civil trial for sedition and the banishing of two prominent citizens from the colony. The second wave involved violent, court-ordered persecutions of the Quakers from the 1650s to the 1660s, and the third wave consisted of the famous witchcraft hysteria centered in Salem in 1692. To analyze these events, Erikson relied on the extensive records of the Essex County Court and on the writings of some principals in these conflicts, such as Anne Hutchinson and the Puritan ministers John Winthrop and Cotton Mather. He concluded, in support of his hypothesis, that these historical events were in effect created by the community in order to establish its moral boundaries.

Stephen Sales (1973) made use of multiple sources of available data, including official statistics, in his study of threat and authoritarianism. Authoritarianism is a personality pattern characterized by a tendency to be unduly respectful of those in positions of authority. Authoritarians tend to admire power and toughness; to be superstitious, cynical, and opposed to introspection; and to believe in harsh treatment of those who violate group norms. Sales tested the hypothesis that these tendencies would be especially likely to occur in response to a threatening environment, such

as exists in a period of economic depression. He compared existing data from the 1920s, a period of low economic threat in the United States, with data from the 1930s, the time of the Great Depression. For example, given that authoritarians wish to condemn and punish violators of in-group values, Sales expected an increase in support for police forces during the 1930s. He therefore examined the city budgets of two cities, New York and Pittsburgh, which were readily available to him. When he calculated the proportions of the budget devoted to the police force and the fire department (which he used as a control), he found that appropriations were higher for the police and lower for the fire department in the 1930s than in the 1920s. Moreover, this increase in budgeting for the police did not result from an increase in crime. For when Sales consulted the *Uniform Crime Reports for the United States*, he found a decline in crime from the 1920s to the 1930s.

Sales also found a variety of other data from public records consistent with the hypothesis that authoritarianism increased in the 1930s. For example, as indicated by the *United States Catalog*, *Cumulative Book Index*, and *Reader's Guide to Periodical Literature*, there were more books and articles published on astrology (authoritarians are superstitious) and fewer books and articles on psychoanalysis and psychotherapy (authoritarians are opposed to introspection).

Perhaps the most widely used public storehouse of data is that collected and maintained by the U.S. Bureau of the Census. The bureau gathers an enormous amount of information. According to the Constitution, every person in the nation must be counted at least once every ten years. Data from these decennial censuses, which began in 1790, are made available in two different forms: aggregate and individual. Aggregate data are released within months of their collection and describe various characteristics of the population of the states, counties, metropolitan areas, cities and towns, neighborhood tracts and blocks. The censuses of population and housing gather detailed information on the composition of every household in the country, including data on the age, gender, race, and marital status of each person, and numerous household characteristics, such as value of home or monthly rent, number of rooms, and presence of telephone.<sup>2</sup> Social scientists have used these data to study everything from the ecology of cities to residential mobility to racial inequality and segregation.

Using the 1980 Census of Population and other census reports, Reynolds Farley and Walter Allen (1987) examined the difference that race makes in the lives of Americans. How does racial identity influence opportunities and outcomes for blacks and whites? Overall, their data showed "that for the *majority* of black Americans life continues to be experienced as 'separate and unequal'" (1987: 410). While there has been undeniable progress for blacks since mid-century, with the gap between blacks and whites narrowing on many indicators, there are still substantial racial differences. They found, for example, that (1) whites live on average six years longer than blacks; (2) black-white residential segregation remains very high, which perpetuates segregation in the schools; (3) the unemployment rate for black men remains twice the level for white men; and (4) black men in 1980 earned 38 percent less than white men overall and 14 percent less when controlling for educational attainment, years of work experience, and region of residence.

More recently Farley and Frey (1994) used 1990 and 1980 census data to trace trends in racial segregation in 232 metropolitan areas with substantial black populations. Although blacks continued to be highly racially segregated, there were small declines in segregation in the 1980s. Young, southern and western areas were the least segregated and also showed the largest decreases in segregation in the 1980s.<sup>3</sup>

By aggregating data before release, the Census Bureau protects the privacy of individual persons, which the bureau is sworn to do. However, after a period of seventy-two years, individual census records—known as the **manuscript census**—are released to the general public (Kaplan and Van Valey, 1980:78-79). (See Box 12.1 for an example of research using the manuscript census.) Beginning with the 1960 census, the bureau also has made available individual-level data (actual census responses) on a sample of the population, called the **Public Use Microdata Sample** (PUMS). To ensure confidentiality, the bureau removes names, addresses, and all other personal identifying information from these sample files. In addition, the bureau conducts a monthly survey of over 63,000 households sampled in 461 places throughout the fifty states. Known as the *Current Population Survey* (CPS), this provides, among other information, the monthly unemployment figures published by the government. (Farley and Allen drew on both the PUMS and the CPS in their analyses.) Finally, there are regular censuses of business, manufacturers, agriculture, and other institutions.<sup>4</sup>

An interesting application of census data is suggested by Marcus Felson (1983), who recommends using diverse available data sets, including the Census of Manufacturers, to measure social and cultural change. The *1977 Census of Manufacturers*, for example, shows that during the 1970s increases in sales of electronic musical instruments did not result in reduced sales of traditional acoustical instruments; the shipment of neckties sharply declined while shipments of baseballs, softballs, and baseball mitts increased; and shipments of girdles declined while shipments of women's and girl's athletic shoes increased.

### *Private Documents*

A less accessible but no less important data source is **private documents**: information produced by individuals or organizations about their own activities that is not intended for public consumption. Diaries and letters long have been a favorite data source for the historian; other examples would be businesses' personnel and sales records, inventories, and tax reports; hospital patient records; and college transcripts.

Perhaps the best-known research using letters is W. I. Thomas and Florian Znaniecki's classic 1918 study, *The Polish Peasant in Europe and America*. The study dealt broadly with problems of immigration and assimilation into American society. The authors drew on several sources of information, including newspaper accounts, autobiographies, and the records of social agencies such as the Legal Aid Society. But by far their largest single data source was a collection of over 750 personal letters exchanged between Polish immigrants in America and their relatives and friends in Poland. Thomas and Znaniecki's analysis of these materials was

**BOX 12.1****Using the Manuscript Census in Social Research:  
Nineteenth-Century Shaker Demographics**

Social scientists have been interested for many years in a religious group that has almost disappeared. The Shakers developed in England as a branch of the Quakers around the middle of the eighteenth century. In 1774 the group's prophetess Ann Lee came to America with eight others to start one of the most interesting chapters in the history of American religion. The Shakers lived a rigidly communitarian life, requiring that new members give up all personal property. They also did not believe in marriage, cohabitation, sex, or procreation. Men and women lived in different houses, and members of the opposite sex were prohibited from talking to one another in the halls or crossing one another's paths.

As celibates, the Shakers' principal means of gathering new members was voluntary joining. Yet, in spite of their austere living conditions, the sect survived for over 200 years and even thrived for a time, growing from the nine members who immigrated to America to a population that standard reference works estimate at 17,000 at the height of the movement. Some believe that this is an underestimate; indeed, the director of the Shaker Museum and Library at Sabbathday Lake, Maine, estimates that "total membership ran to about sixty-four thousand" (Kephart, 1982:208). Other estimates are more modest; Mark Holloway (1966:70) claims that in 1830, 5000 members were scattered among eighteen different Shaker communities. What was the actual popular success of the Shaker experiment? How many Shakers were there? The fragmentary and scattered nature of the data make all of the foregoing estimates very rough guesses. However, William Sims Bainbridge (1982) put the original enumeration schedules of the U.S. census to good use in estimating the Shaker population in the latter half of the nineteenth century. In so doing, he also provides insights into the nature of recruitment, defection, and the gradual decline of this sect.

Seventy-two years after each census, the original schedules on which census enumerators recorded their data are released to the general public. These data are available on microfilm in twelve regional archives around the country. The organization of the data files facilitates the location of individuals by persons interested in learning more about their ancestors. In fact, the 1900 census files have a "soundex" system that allows the genealogist to trace the location of heads of households by identifying their names phonetically. The social scientist faces several problems in using these data. For the first six censuses, 1790–1840, relatively little information was collected on individuals, as only heads of households were identified by name. For later censuses the sheer volume of data presents a barrier to many researchers. Recently, methods have been developed for sampling census records (see Johnson, 1978). But the small population of Shakers made sampling inappropriate.

From historical accounts, Bainbridge first identified twenty-two colonies of Shakers in the period 1840–1900. These colonies were located in eight states (five in Massachusetts, four each in New York and Ohio, three in Maine, two each in New Hampshire and Kentucky, and one each in Connecticut and Florida). Since Bainbridge could not know in advance the last names of Shakers, he was forced to search through some 150 rolls of microfilm reporting data for these eight states. And because the

manuscript schedules for 1890 do not exist, having been destroyed in a fire, he decided to examine the data for every other census in the period 1840–1900. Describing the difficulties in researching the census of 1840, Bainbridge (1982:354) says that

when one is scanning through a town which is supposed to contain a Shaker colony, and finds a household with 215 members, one may guess the Shakers have been located. But this presumption is not good enough. For one thing, Shaker colonies were divided into "families," sometimes as many as six of these subunits composing a colony, and some of the smaller families could be mistaken for other kinds of groups, and vice versa. Some families in 1840 were labeled "Shakers," but most were not. Many could be identified because the "head of household" whose name was recorded was a prominent Shaker mentioned in published histories.

Through painstaking cross-checking (e.g., using the 1850 census to identify some names listed in 1840), Bainbridge estimated the Shaker population at 3489 in 1840 and 855 in 1900. By analyzing the age and sex distributions of Shakers, he also showed that the proportion of females always was greater than in the general population and increased substantially over time, from 58 percent in 1840 to 72 percent at the turn of the century. Contributing to this transformation to a female society was "the defection of males, recruitment of destitute young mothers with children, and intentional differential acceptance of female children" (p. 363).

mainly descriptive. It consisted largely of introductions to sets of letters, commentaries on individual letters, and the letters themselves, nearly all of which were published as part of their study.

A second example of research using personal documents is Jerry Jacobs's analysis of suicide notes (1967). To understand how individuals justify their actions to themselves and others, Jacobs analyzed 112 notes left by persons who committed suicide in the Los Angeles area. He was able to place nearly all of the notes in six general categories: "first form notes," "sorry illness notes," "not sorry illness notes," "direct accusation notes," "will and testament notes," and "notes of instruction." The largest category, "first form notes," pertains to accounts in which the person faced an intolerable problem for which death was seen as the only possible resolution.

Victoria Swigert and Ronald Farrell's study (1977) of the effects of a criminal stereotype on the adjudication of homicide defendants combined the use of both public and private documents. Swigert and Farrell's data came from two sources in the jurisdiction of a large northeastern city: publicly accessible indictment files of the office of the clerk of courts and confidential diagnostic records from a clinic attached to the court. All persons arrested for murder were seen in the clinic; and so Swigert and Farrell were able to relate the clinical diagnoses and background characteristics of defendants to legal data on prior convictions, access to legal resources such as a private counsel, and conviction severity. They found that the use of a diagnostic category of the violent offender had important consequences for the course and the outcome of the judicial process. Defendants labeled "normal primitives" by

the clinic were more likely than other defendants to be denied bail and access to trial by jury and, as a result, were likely to receive more severe sentences.

### Mass Media

Also constituting part of the written record (as well as an oral and nonverbal record) are the **mass media**—newspapers, magazines, television, radio, films. By analyzing the content of these sources, social researchers have addressed a variety of issues.

In the aforementioned study of threat and authoritarianism, Sales (1973) also did a very simple analysis of comic strips. Because authoritarians tend to admire power and strength, Sales expected that popular fictional protagonists would become stronger and more powerful in the threatening 1930s than they had been in the relatively nonthreatening 1920s. Searching through Stephen Becker's *Comic Art in America*, Sales identified twenty comic strips that first appeared in the 1920s and twenty-one comic strips introduced in the 1930s. He and two other coders then judged whether the main character in each strip was either (1) "physically powerful or controlled great power, or (2) not particularly powerful." Supporting his hypothesis, Sales found that only two of the strips started in the 1920s emphasized the power of the main character ("Buck Rogers" and "Tarzan"), whereas twelve of the strips started in the 1930s were about powerful men (e.g., "Joe Palooka," "Dick Tracy," and "Superman").

While most research on the media has analyzed verbal content, one can also analyze visual content. Erving Goffman (1979) looked at hundreds of pictures from advertisements in newspapers and magazines to see what these pictures revealed about the meaning of gender in American society. One image he identified was that of women as subordinate and dependent. This was evidenced by pictures consistently showing women bowing or otherwise on a lower plane than men, in a recumbent or reclining position, displaying a "bashful knee bend," canting (lowering) the head or upper part of the body, being victimized by men in playful games of "mocked assault," and in childlike, playful, or unserious poses.

Goffman provided a provocative description of "gender displays," but he neither chose nor analyzed his photographs in a systematic fashion. By contrast, Dane Archer and colleagues (1983) used more rigorous techniques to study one aspect of the stylistic representations of men and women in the media. They hypothesized that men and women differ in "facial prominence": the face and head—symbolizing intellect, character, wit, and other dimensions of mental life—are more prominent in depictions of men, and the body—symbolizing nonintellectual qualities like weight, physique, attractiveness, and emotion—are more prominent in depictions of women. Thus facial prominence may both reflect and influence societal images of men and women with regard to intellectual qualities. To measure facial prominence, Archer and his associates created an index consisting of the ratio of two linear measurements: the distance from the top of the head to the lowest point of the chin divided by the distance from the top of the head to the lowest visible part of the subject's body. They then calculated this index for men and women depicted in 1750 photographs from five American periodicals (e.g., *Time* and *Newsweek*), in 3500 pictures from thirteen periodicals in eleven other nations, and in 920 portrait and self-portrait paintings spread across six centuries. Except for the fifteenth and six-

teenth centuries, every comparison showed a significantly higher facial prominence score for men than for women.

Finally, we mention research using newspapers and television as data sources. Contrary to popular opinion, research does not support the conclusion that capital punishment deters homicides. William Bailey examined this issue in two separate studies (Bailey and Peterson, 1989; Bailey, 1990). Both studies used monthly homicide figures issued by the U.S. Department of Health, Bureau of Vital Statistics. In the first study, Bailey and Peterson measured the effects of execution publicity, as found in newspapers, on the homicide rate between 1940 and 1986. Executions were classified as high in publicity if they appeared in *Facts on File* (a national index of major news stories) and the *The New York Times*; as moderate in publicity if they appeared in the *Times* but not in *Facts on File*; and as low in publicity if they did not receive coverage in either of these sources. In the second study, Bailey examined the effects of televised execution publicity on homicide rates from 1976 to 1987. In this case, both the extent of television coverage and the type of publicity (e.g., artist drawings, witness accounts) were measured after viewing ABC, CBS, and NBC evening news programs located in the Vanderbilt Television News Archives. The findings of both studies supported the same conclusion: "Capital punishment does not provide an effective deterrent to murder."

### Physical, Nonverbal Evidence

Although seldom used in the social sciences, nonverbal materials such as works of art, clothing, household items, and various artifacts constitute a rich source of evidence. Cave paintings, tools, and other artifacts are important data to archaeologists studying past civilizations, and historians find invaluable evidence in sculpture and other works of art. Furthermore, as seen in the work of Archer and colleagues (1983), social scientists also make use of paintings. A study of tombstones provides a further example.

Between 1690 and 1765 the Puritans, in the words of historian Richard Bushman (1967), became Yankees. This historic transformation is evident in changes in attitudes toward death, available for all to see in the tombstones of New England's colonial cemeteries. Observing engravings on gravestones, David Stannard (1977) found that throughout the late seventeenth and early eighteenth centuries, stones invariably bore some version of the "death's-head" carving of a winged skull, representing the Puritans' rather grim vision of death. This visage dominated until the 1730s, when the death's-head motif and accompanying epitaphs steadily gave way to more romantic and optimistic designs of cherubs and angels. As this shift occurred, Stannard notes (1977:157), "the cemeteries in which those gravestones were placed began to become overcrowded while simultaneously falling into neglect and disarray. The Puritan community was becoming a relic of history. . . ."

### Social Science Data Archives

Over the last twenty to twenty-five years, the social sciences have seen a tremendous proliferation of **data archives**, repositories of data collected by various agencies and researchers that are accessible to the public. Most of these archives con-

tain survey data, but archives also exist for collections of ethnographies, in which the whole society is the unit of analysis. Thus the use of data archives is an extension of both survey research and field research. As such, each archival data source has advantages and disadvantages associated with two different approaches to social research.

We already discussed and provided examples of the analysis of available survey data, called secondary analysis, in chapter 9. A noteworthy example, you may recall, is the General Social Survey (GSS), whose data are deposited in two main archives: the ICPSR (Inter-University Consortium for Political and Social Research) and the Roper Center for Public Opinion Research. Social scientists also analyze data derived from studies of whole societies. One valuable archive of such data, called the Human Relations Area Files (HRAF), contains information recorded on microfiche on over 300 societies. These files are in "raw data" form, with pages from ethnographic reports organized by topic. Another type of cross-cultural data is available in "coded" form, with numeric codes on several variables for each society. Examples of these sources are the *Ethnographic Atlas* (Murdock, 1967), containing codes on approximately forty variables for over 1100 societies, and the Standard Cross-Cultural Sample (SCCS) (Murdock and White, 1969), containing more extensive data on a smaller sample of 186 societies. The following study used all three of these sources.

Obtaining data from a sample of forty-eight tribal societies, Willie Pearson and Lewellyn Hendrix (1979) tested the hypothesis that divorce increases as the status of women increases. This follows from the reasoning that as women gain economic resources they become more autonomous and less dependent on their husbands. Pearson and Hendrix's findings showed that divorce rates were moderately correlated with female status even when theoretically relevant variables such as community size, marital residence, and descent rules were controlled.

### Advantages of Research Using Available Data

The foregoing studies suggest several advantages as well as some problems with research using available data. Here we discuss the principal advantages, and in the following section we address some general methodological problems. The first two advantages listed pertain to sources other than survey data archives. The remaining five benefits originally were outlined by Herbert Hyman (1972) with reference to the secondary analysis of survey data, but also apply to most other available-data research.

#### *Nonreactive Measurement*

As we saw in our previous discussion of research strategies, a major problem in much social research is reactive measurement: changes in behavior that occur because of subjects' awareness that they are being studied or observed. Research with available data also encounters this problem to the extent that the data sources are surveys or documents like autobiographies in which the author is clearly aware that

what is said will be in the public domain. Still, many available-data sources are **nonreactive**. With physical evidence and many other available-data sources, there is simply no reasonable connection between a researcher's use of the material and the producer's knowledge of such use. By analyzing genealogical records, Winston's study of the preference for male children is completely nonreactive. Imagine, however, the kind of self-censorship that might have occurred if he had interviewed prospective mothers in their homes or expectant fathers in waiting rooms (Webb et al., 1981). Needless to say, we would be much less confident in this kind of evidence.

The risk of reactivity is so high in some areas of study that available data may provide the only credible evidence. Consider, for example, studies of illegal activities such as consumption of illegal drugs. Survey evidence is likely to be contaminated by concealment and underreporting; police records such as number of arrests for controlled substances may be distorted by differential efforts at law enforcement. An ingenious use of available data, however, can provide nonreactive evidence on drug use. Noting that the federal government imposes a tax and keeps a record of taxes collected on cigarette papers and tubes, Marcus Felson (1983) observed that federal taxes collected on these items changed little during the 1950s and 1960s but jumped about 70 percent over 1960s levels in 1972. Meanwhile, loose tobacco sales declined during this same period. The conclusion Felson reached is that a new market had been created for cigarette papers in the production of marijuana "joints." That market, it would appear, opened up in 1972.

#### *Analyzing Social Structure*

Despite the avowed focus of the social sciences on properties and changes in social structure, much of social research generates data on individual attitudes and behavior. Surveys are of individuals, and very few surveys utilize contextual or social network designs, which provide direct measures of social relations; experiments rarely study the group as the unit of analysis; and field studies are based on the observation of individual behavior. Available data, however, often enable the researcher to analyze larger social units. In many of the studies reviewed above, the unit of analysis was not the individual nor was the focus on individual behavior. For Durkheim and Pearson and Hendrix, the unit was the whole society; for Erikson, the community; for Farley and Frey, the metropolitan area; and for Winston, the family. Even the studies by Sales and Bailey on individual propensities toward authoritarianism and homicidal behavior, respectively, investigated these phenomena with societal-level data in terms of large-scale social processes.

#### *Studying and Understanding the Past*

Available data provide the social researcher with the best and often the only opportunity to study the past. To study some aspect of American society fifty or more years ago, it might be possible to conduct a survey of people who were alive at the time. But to do so presents several methodological problems, from the inaccuracy of respondents' memories to survivor bias in the sample. To study periods before

this century necessitates the search for available data. Documentary records and other archival evidence have therefore been a favorite source of data for historians, as we saw in Erikson's and Stannard's studies of the Puritans. More recent events also can be investigated with the aid of survey data archives. In fact, many social scientists see surveys from the past as a primary data source for historians of the future (see Hyman, 1972). But studies of the past are not limited merely to understanding the past. They also can be done to test general propositions about social life, as we saw in Erikson's study, Bailey's research on the deterrent effect of capital punishment, and Sales's research on threat and authoritarianism.

### *Understanding Social Change*

Because of the commitment and cost involved, social scientists rarely conduct longitudinal surveys or do field research over long spans of time. The analysis of available data, however, is well suited to studies of social and cultural change. Trend studies, such as Farley and Allen's analysis of black-white inequalities and Farley and Frey's study of racial segregation, have a long tradition among social demographers who rely on the census and other demographic data. Stannard's analysis of the carvings on gravestones provides an example of another source of evidence on social change. Moreover, the establishment of data archives has resulted in a marked increase in the number of studies that trace relatively recent changes in various attitudes, opinions, and behaviors (see Glenn and Frisbie, 1977). The General Social Survey was designed partly to measure trends in social conditions. And as we noted, Felson has suggested a similar use for other available data sources such as the Census of Manufacturers.

### *Studying Problems Cross-culturally*

In 1984, the International Social Survey Program was formed to provide cross-national survey data similar to that from the General Social Survey (Smith, 1990). By 1997 eighteen collaborating nations were supplementing regular national surveys with a common core of questions, with these data pooled and made available to the social science community. This is an important development, since there have been few cross-cultural surveys. In fact, Hyman (1972:17) estimated "about ten documented examples of comparable large-scale multinational surveys of the general population [existed] as of 1970." In spite of this development, however, other sources of available data—for example, national censuses and vital statistics as well as ethnographies—will continue to provide the primary data for cross-national studies. Pearson and Hendrix's investigation of the relationship between divorce and the status of women is but one of numerous examples.

### *Improving Knowledge through Replication and Increased Sample Size*

Experiments and field studies use samples of very limited size, and most surveys of local populations are relatively small. Similarly, historical document analysis often focuses on a small number of cases. The use of available data, however, may

afford the opportunity to generate unusually large samples. Winston obtained data on 5466 families; Archer and colleagues measured facial prominence in over 5000 photographs in eighteen diverse periodicals from twelve nations. Sample size is important for two reasons. First, large samples generally enhance our confidence in study results; with random sampling, increases in sample size increase the reliability of findings, as we saw in chapter 6. Second, by increasing sample size we may gain access to specialized problems and smaller populations that otherwise could not be studied. One reason for using census data, including sample-based data, is that the huge samples provide reliable estimates for small segments of the population. Farley and Allen based their study of black-white differences on a large sample, 450,000, which was necessary to provide a reliable comparative analysis.

Increasing sample size in effect replicates observations. Although replications are relatively rare in the social sciences, they often may be carried out easily with available data. A good example is Sales's research on threat and authoritarianism. Sales used diverse sources. We mentioned his use of municipal budgets, listings of books on astrology and psychotherapy, and comic strips. But he used several other sources that we did not mention and also analyzed changes in similar indicators for two later periods in the United States: 1959-64 and 1967-70. And that is not all. Two other researchers (Padgett and Jorgenson, 1982) replicated part of Sales's analyses for Germany in the 1920s and 1930s, using, for example, the German equivalent of the *Reader's Guide* to chart the number of articles that appeared on astrology, mysticism, and cults. The data consistently supported the thesis that threat increases authoritarianism.

### *Savings on Research Costs*

Insofar as research using available data bypasses the stage of data collection, it can economize greatly on cost, time, and personnel. Whereas this is especially true of the secondary analysis of surveys, other sources of available data also tend to be less costly than experiments, surveys, and field studies. These costs vary depending on the nature of the data source and the time, money, and personnel required to obtain and to analyze the data. The tasks of the researcher using available data, such as searching for and coding relevant information, often are tedious and time consuming. Imagine, for example, the efforts of Archer and co-workers in obtaining periodicals, identifying eligible pictures, and measuring facial dominance and gender for some 5000 pictures, or the job faced by Swigert and Farrell in sampling and coding the information contained in court and clinic records for 444 cases of persons charged with murder. Yet, the cost per case in such studies is generally quite small compared with the cost of interviewing a respondent or running a single subject through an experiment.

## **General Methodological Issues in Available-Data Research**

The four basic approaches to social research differ according to the stages that require the greatest labor and creativity on the part of the researcher. In experimen-

tation, experimental design (e.g., number of conditions, measurement of key variables, instructions to subjects) is crucial; therefore, much of the effort goes into perfecting the design and preparing for its implementation (pretesting), and the data analysis is simple and straightforward. When the design is not experimental, the data analysis requires great effort and skill. And when the data were collected for another purpose, and investigators cannot directly oversee the procedures producing the data, a search for appropriate measures and the evaluation of data quality are extremely important research phases.

### *Searching for and Procuring Available Data*

As the aforementioned studies reveal, the use of available data is a flexible and powerful approach to social research. Still, a major problem with this approach is finding and procuring relevant information. While the material to study a given topic may exist, how do you know what to look for? And how do you find it, acquire it, and/or gain permission to use it?

Perhaps the best advice is to let the research problem or hypothesis serve as a guide to appropriate sources. In one sense, this is obvious. For example, researchers like Swigert and Farrell who are interested in the adjudication of criminals will readily entertain the possibility of using judicial records. But this advice holds true in another way. Aimlessly searching through records or dredging up data from survey archives is unlikely to yield anything of value. Even though the data pre-exist, that does not mean the researcher should reverse the research process by analyzing the data and then developing some post hoc rationale for the analysis. More than likely, the outcome of such an approach will be a trivial and flawed study. It is far better to let your research problem dictate your methodology than to let your method override the substantive and theoretical focus of your research.

A second guide to locating pertinent data is to search the literature for studies by previous investigators. No doubt Erikson's study of deviance in Puritan New England was aided by the mounds of data already uncovered by earlier historians who investigated this era. It also helps to know where to go for tips on locating available data. You can learn about the location of many data sources by consulting a librarian. Robert Shafer (1980) provides a long list of bibliographic aids and sources of documentary data for historical research. In addition, there are various listings of social science data archives and other publicly available data sets (e.g., *The Federal Database Finder*, *American Public Opinion Index*). But nowadays the most up-to-date lists and raw data files can be found on the Internet, which we discuss in chapter 18.

Access to public sources varies among the archives and agencies holding the data. Many of these data, such as those compiled by the Census Bureau and other government agencies, are mandated for public use without restrictions. The greatest access problems pertain to private documents and confidential records. Obtaining such data may require a little ingenuity, such as Thomas and Znaniecki used in their study of letters written to and from Polish immigrants. They acquired the letters through advertisements in a Polish-language newspaper that offered to pay 10 to 20 cents per letter. Gaining access also may depend on the permission and cooperation

of others. Jacobs, for example, collected his suicide notes with the aid of an acquaintance who was a deputy coroner in the Los Angeles County Coroner's Office.

### *Measurement of Key Concepts*

Using available data is a bit like wearing someone else's shoes. They may fit perfectly well. But more likely they will either be too small, pinching your toes, or too large, causing you to stumble. Seldom will available data be ideally suited to the purposes the researcher has in mind. At best, the data may require the creative construction of measures that provide indirect evidence of a given variable. At worst, the data may be inadequate to address the research question.

In much available-data research, the investigator must develop creative measures that approximate variables of interest. Taxes collected on cigarette paper and tubes cannot be considered a direct measure of marijuana consumption. But taken in the context of loose-tobacco sales, they do provide a useful surrogate or proxy indicator, especially given the reactivity of other measures. Many of the measures in Sales's research on authoritarianism are similarly indirect. Unable to question individuals directly about their attraction to powerful people, Sales relied on the popularity of comic strip characters as an indicator of such attraction. And when no reference work covering new comic strips was available for the later periods he investigated, he speculated that individuals "attracted to strength and power in times of stress . . . might be more inclined to purchase strong and powerful dogs" (1973:52). Sure enough, an examination of American Kennel Club (AKC) registrations of some 116 breeds showed that 9.8 percent of all dogs registered by the AKC in the low-threat period (1959-64) were in the attack-dog classes (German shepherds, Doberman pinschers, Great Danes), whereas these dogs accounted for 13.5 percent of the registrations in the relatively threatening period (1967-70).

Sales's measurement of threat also is somewhat indirect, since it depends on the tenor of the times rather than on the measurable feelings of individuals. More direct measures of threat can be found in experiments where individuals have been "threatened" by being told that they have failed tests of intelligence (see Sales and Friend, 1973) or by being led to anticipate receiving electrical shocks. Sales, on the other hand, identified contiguous historical periods that appeared to pose contrasting environmental threats for the population as a whole. He ended up comparing periods marked primarily by differences in economic prosperity: the 1920s versus the 1930s, and 1959-64 versus 1967-70. These contrasts do not unambiguously represent low- versus high-threat conditions. For example, as Sales (1973:51) himself noted, the presumed "low-threat" period of 1959-64 "included the abortive Bay of Pigs invasion, the Cuban missile crisis, and the assassination of J. F. Kennedy." But the facts that he used two sets of contrasting historical periods and that the relationship between threat and authoritarianism was so consistently demonstrated lend considerable credibility to his measurement of "threat." Indeed, Sales's historical measure would appear to provide a much more powerful test of his hypothesis than weak and short-lived, albeit direct, experimental manipulations of threat.

As we argue in the next chapter, the use of several different measures of a given variable is always a good practice in social research. This is even more im-

perative in available-data research that uses indirect and approximate indicators. The use of multiple indicators, however, is not a panacea for inappropriate measures. One problem with available data is that their mere availability may lead researchers to use measures that are inadequate for research purposes. This is especially apparent in secondary analyses of survey data. For example, a question first asked in 1973 and now repeated each year in the GSS is, "Is there an area right around here—that is, within a mile—where you would be afraid to walk alone at night?" This has been identified in many studies as a measure of fear of crime. Yet the item makes no reference to crime or any other object of the fear, and it is entirely hypothetical, which may overestimate the individual's actual experience of fear in day-to-day situations (Ferraro and LaGrange, 1987). The point is that available data, like any tool, should be appropriate for the task at hand.

### *Evaluation of Data Quality*

Perhaps the most important general rule that applies to the use of available data, irrespective of the source, is that the researcher must reconstruct the process by which the data were originally assembled (Riley, 1963:252). If you gather the data yourself, you generally are aware of their limitations, possible errors, and biases and you can adapt your analyses accordingly. But such adaptations also may be required of available data. Therefore, it is crucial to try to determine, so far as possible, how, when, where, and by whom the data were collected. Only then can you begin to assess the validity of the data.

Researchers using historical documents must be especially concerned about their authenticity. Authentication is a highly technical matter that requires a thorough knowledge of the historical period from which the documents are purported to originate. Besides checking the logical consistency of the content, one must examine handwriting, writing style, and even the chemical composition of ink and paper. Historian Louis Gottschalk (1969) notes that doubts about authenticity arise frequently, and if they seem not to, it is only because a skilled historian has already authenticated the sources. For this reason, social researchers like Kai Erikson usually are spared the task of authentication. Assuming authenticity, however, one must still ask how the data were collected. Is the available evidence accurate, complete, and reliable? A series of studies of colonial Boston illustrate how easy it is to be misled if you do not have a thorough knowledge of the conditions of data collection.

According to historian G. B. Warden (1976), the traditionally accepted view of colonial Boston was that of a basically egalitarian community with a town-meeting democracy and a relatively equitable distribution of wealth. These egalitarian conditions, moreover, are believed to have made the city a center of radical political agitation before the Revolution. In the 1960s this position was challenged by a group of scholars (see, for example, Henretta, 1965) who advanced the view that Boston experienced dramatic increases in social and economic inequality in the eighteenth century. Indeed, these scholars claim that it was the resulting socioeconomic tensions that contributed to radical political agitation. The rather extensive arguments supporting the latter view are based largely on evidence from tax as-

sessments in 1687 and 1771 (unfortunately, tax records for the intervening years are not available).

For example, one of the propositions put forth was that Boston experienced extraordinarily rapid economic growth in the eighteenth century, which increased stratification and the maldistribution of wealth. Evidence of this came from an observed increase in the total assessed wealth of Boston from 16,591 pounds in 1687 to 460,493 pounds in 1771, which translates into an annual growth rate of 33 percent per year. As Warden points out, however, these figures do not take into account how property was estimated for tax purposes. In 1687 all property was estimated for tax purposes at about one-twentieth of its true market value, whereas in 1771 real property (land and house) was estimated at about one-twelfth of its market value, and personal property (e.g., stock in trade) was estimated at close to its actual value. If appropriate adjustments are made, the estimated "simple annual growth rate is only about 2.3 percent which is relatively low compared with other colonial communities" (Warden, 1976:589).

Warden shows how similar problems exist with other interpretations of these data. Another proposition was that the richest Bostonians possessed an increasingly disproportionate share of the wealth. But once again, the data purported to support this proposition are flawed by inconsistencies. The different assessments of real and personal property in 1771, for example, magnifies the difference between the actual taxable wealth of property holders in the bottom and top halves of the distribution. As a consequence,

there appears to be a heavy concentration of wealth in the upper half of the group; the apparent concentration occurred, however, not because the retailers and merchants were all that much richer than those in the bottom half but because the wealth of those in the top was estimated at a much higher rate than the wealth of those in the bottom half. (Warden, 1976:604)

Even for more recent data sources, the same general rule of carefully assessing the accuracy and consistency of the data applies. Consider, for example, the unwary user of crime statistics. There are two major sources of crime data: (1) self-report data from the National Crime Survey, in which people are asked to indicate crimes in which they have been personally victimized, and (2) data from official reports of crimes known to the police, which are compiled in the *Uniform Crime Reports* by the Federal Bureau of Investigation. These two sources clearly offer very different operational definitions of crime; one focuses on the victim and the other on the offense. And as it turns out, there is no simple relationship between the two measures. A single offense (e.g., a robbery of several persons in an establishment) may have more than one victim. Some offenses (murder) have no victims who can be interviewed, and other offenses (e.g., prostitution and gambling) have no victims in that the "victims" are also the offenders. Each of these measures also suffers from other methodological problems. Victimization is limited to persons over the age of 12. Not all crimes are brought to the attention of the police (e.g., burglaries of uninsured items); also, the police themselves may fail to record incidents.

Such problems do not render crime statistics useless or totally invalid. They do, however, force the researcher to focus on a particular definition of crime—either offenses or victimizations—and to consider the implications of using data with a relatively large measurement error (Jacob, 1984). More generally, the flawed nature of these data points to the need for every researcher using available data to become acquainted with the process by which the information was gathered. How did the data collectors define categories (e.g., “crime” and “tax assessments”)? If the data were collected repeatedly over time, have there been changes in record-keeping or data-collection procedures? In the case of the media and first-person documents, how might the writer’s ideological position have affected his or her interpretation of events? Without recourse to the usual checks on validity, knowing how the data were collected is often the only way to determine the authenticity and accuracy of available data.

Another procedure that is especially useful for evaluating reliability is the use of several different sources of evidence. As a rule, historians do not accept an account of an event as reliable unless it is confirmed by two or more independent sources. Demographers, who analyze population statistics, often use several data sources and different estimation procedures. To estimate the annual net number of undocumented (“illegal”) Mexican immigrants to the United States, David Heer (1979) used several reports of the CPS and came up with seven different estimates, each based on different assumptions about the data. Heer’s estimates for the period from 1970 to 1975 ranged from 82,300 to 232,400, figures that are well below estimates of the gross flow of illegal aliens.<sup>5</sup>

Once the data have been evaluated, it may become necessary to refine measures. If measurement errors or changes in definitions are detected, the researcher must make the necessary adjustments to allow for proper interpretation. The historian Warden’s reanalysis of tax assessments in Boston offers one example of this.

### *Assessment of Data Completeness*

In addition to evaluating the quality of existing measures, it is essential to assess the adequacy of the existing sample of information. Consider, for example, the U.S. census. Despite the effort and cost of conducting the U.S. census, there has been much discussion in recent years of census undercount. Analyses indicate that the overall undercount is quite low—only 1.4 percent in 1980—but that it varies by race and gender. That is, blacks are more likely than whites and males more likely than females to be omitted. K. K. West and D. J. Fein (1990) claim that the effects of such undercount are rarely considered by census data users. One possible effect, for example, is that the number of female-headed households among blacks is overestimated as a result of the census undercount of black males. On the other hand, Farley and Allen’s analysis of the potential effects of differential undercounts indicated that this did not seriously distort their conclusions about racial differences.

In contrast to the generally high quality of census and survey archival data, cross-cultural data banks constitute nothing more than availability samples; they do not contain data on modern industrialized societies or even a representative sample of nonindustrial societies. This limits generalizations as well as the types of re-

search that can be undertaken. Cross-cultural researchers using these data cannot make predictions or estimate worldwide societal characteristics. But they can provide limited tests of hypotheses (Lee, 1984). In their study of divorce and the status of women, Pearson and Hendrix were forced to use only those societies—forty-eight in all—for which they could obtain adequate measures on key variables. Their rationale for this data set was that it included societies from all continents except Australia and contained sufficient variation in the key variables.

The representativeness of the data is even more problematic for researchers studying the more remote past who must rely on whatever traces of information they can find. These data are certain to be incomplete and are probably biased. This is especially true of physical evidence, which invariably is subject to selective survival and selective deposit. **Selective survival** refers to the fact that some objects survive longer than others. The fact that pottery and bone survive the elements better than wood and paper has long been a problem for the archaeologist. A graver problem for users of the written record is **selective deposit**—systematic biases in the content of the evidence that is available. Records may be selectively destroyed; other information may be edited.

Eugene Webb and co-workers (1981) note that members of Congress are allowed to edit proofs of the *Congressional Record*, a transcript of the speeches and activities of the U.S. Congress, which means that this document hardly serves as a spontaneous account of events. As another example, these authors cite a study of the longevity of the ancient Romans based on evidence from tombstones. Wives who died after their husbands may have been underrepresented insofar as they were less likely to get a tombstone than wives who died before their husbands. Also, middle-class and upper-class Romans were probably more likely to have tombstones than the lower classes of Roman society. And the fact that mortality rates are likely to have varied across classes could bias estimates of longevity.

Similar problems may exist in studies of the written record. Only about 10 to 20 percent of those who commit suicide leave notes. The question that must be asked of the Jacobs’ study, therefore, is whether the rational and coherent character of the notes he observed describes the mental condition of suicide victims *not* leaving notes. In other words, are persons who leave notes representative of the entire population of persons who commit suicide? More generally, Kenneth Bailey (1982:305–6) observes that documents may be biased by educational level. Not only are poorly educated people much less likely to write documents, but the mass media are likely to be aimed at and to be more representative of well-educated people.

For many sources of available data, there is no choice in the selection of information. Researchers simply use all the data they can obtain, and then attempt to account for sample selection bias. On the other hand, for studies of the more recent past, probability sampling of time and space are not only feasible but often necessary because of the massiveness of the information. For example, a major data source for Farley and Allen’s study was the 1980 Public Use Microdata Sample File A, a 5-percent sample of the nation’s households. Budgetary constraints, however, prevented them “from tabulating and analyzing data for the entire 5 percent sample—approximately 11.5 million people—contained on 26 reels of computer

tape." They therefore "selected a smaller sample [of 450,000] which could be analyzed more economically" (Farley and Allen, 1987:431). Other data sources also lend themselves to probability sampling: actuarial, political, and judicial records usually may be sampled over time; voting records may be sampled across precincts (Webb et al., 1981); and documents and the mass media may be sampled in various ways (see discussion of content analysis below).

### Historical Analysis

The analysis of available data takes as many forms as the data themselves. In part, the type of analysis is a function of research purposes and research design. Descriptive accounts of a single event or historical period differ from tests of general hypotheses, which differ from trend studies. The analysis also depends on data sources. Researchers use very different techniques for analyzing population statistics, mass media communications, and historical documents. In this section and the next, we briefly discuss aspects of two sharply different approaches to the analysis of available data: historical analysis and content analysis.

#### *Descriptive and Analytical History*

The word "history" has several meanings. It refers, for example, to (1) actual events or happenings of the past, from the recent past, such as the 1996 presidential election, to the remote past, such as the assassination of President Lincoln; (2) a record or account of what has or might have happened; and (3) a discipline or field of study (Shafer, 1980:2). One type of historical analysis refers to the set of methods that historians [represented by (3)] apply when they gather and evaluate evidence in order to describe specific moments of the past. This form of analysis stresses the accuracy and completeness of the *description* of unique, complex events. Outside the discipline of history, however, historical analysis moves beyond description to the use of historical events and evidence [represented by (1) and (2)] to develop a generalized understanding of the social world. Although this characterizes much of the field of historical sociology, we prefer the generic term **analytical history** to denote this type of historical analysis.

Surprisingly, analytical history is a relatively recent redevelopment. Despite the historical orientation of such founding fathers of modern-day social science as Karl Marx, Emile Durkheim, and Max Weber, much of social research during the past half century has lacked a historical focus. Only in the past thirty years has there been a revived interest in the historical perspective. Erikson's study of deviance in Puritan New England is representative of this work.

Erikson was careful to reconstruct events with documents of the time, much as a historian might do. But the reconstruction was not an end in itself. Rather, he attempted to use a particular historical case as a way of demonstrating and elaborating Durkheim's general theory of deviant behavior—that deviance provides a mechanism for defining community boundaries and demonstrating shared values and norms. This sort of analysis, Theda Skocpol (1984:365) points out, is valuable "be-

cause it prompts the theorist to specify and operationalize . . . abstract concepts and theoretical propositions." Thus,

Erikson must pin down historically such ideas as "community boundaries" and "group norms" and he must show us how, in terms of the symbols and social practices of the Massachusetts Puritans, deviant persons and their acts supplied "needed services to society by marking the outer limits of group experience and providing a point of contrast which gives . . . [social norms] some scope and dimension."

Erikson started with a general theory and used the specific case to explicate the theory. Another strategy for integrating social theory and history is to start with a particular historical event or pattern and then develop and test one or more explanations to account for it. For example, John Sutton (1991) attempted to explain the rapid growth of asylums in the United States between 1880 and 1920. To many observers of this period, Sutton notes, "asylum expansion was a sign that America was undergoing an epidemic of madness," which they attributed to a range of evils, including rapid urbanization and uncontrolled immigration. Using quantitative data from the states (e.g., the number of persons living in urban areas, the number of persons over age 65, the number of asylum and almshouse inmates), Sutton tested several explanations of asylum expansion: (1) As reformers succeeded in shutting down almshouses, asylums were forced to absorb the aged poor who were expelled; (2) urbanization enhanced the development of specialized and formally organized means of treatment, such as asylums; (3) asylum expansion depended on the revenues of state governments; (4) the need for asylum placements was inversely related to the distribution of direct benefits (e.g., pensions) to dependent groups; and (5) patronage politics may have supported expansion insofar as asylums were sources of jobs, contracts, and services that parties could use to reward supporters. Sutton's findings showed that all these factors, among others, contributed to asylum expansion.

Still another strategy is to search for general causal explanations of well-defined historical outcomes or patterns (Skocpol, 1984). In this case, the investigator does not focus on a particular historical event but rather on two or more similar events or cases, which are then compared systematically to identify causal regularities. For example, sociologist Theda Skocpol (1979) analyzed the causes of social revolutions by comparing the revolutions of France in 1789, Russia in 1917, and China from 1911–49. Given the broad scope of her study, she did not consult original documents; instead, she drew upon the work of historians of each period and place to identify patterns of political conflict and development. Among the common factors that Skocpol identified as precipitating revolution were that each society (1) had strong peasant communities and (2) faced foreign pressures and entanglements that made it difficult to meet the needs of economic development.

Finally, historical analysts may also treat history itself as an independent variable in their analyses. That is, they may examine sequences of past events as a way of understanding the present. Used in this way, history represents the temporal dimension of social life rather than a particular outcome to be explained (as in Sut-

ton's research) or a manifestation of large-scale social change (as in Skocpol's work).<sup>6</sup>

Representative of this type of analytical history is economist Paul David's analysis of the establishment of the "QWERTY" keyboard layout as a standard of the typewriter industry (1985). David showed that the influence of temporally remote events accounts for the persistence of this awkward layout on current typewriters and computer keyboards. The QWERTY format first appeared in 1873, as a result of an early effort to find an arrangement that would reduce the frequency of typebar jamming. The format was then modified into a sales gimmick. That is, E. Remington and Sons "assembled into one row all the letters that their salesmen would need" to rapidly type the brand name TYPE WRITER without lifting their fingers from the keyboard. The future of QWERTY was not protected by technological necessities, as competitive designs introduced in the 1880s eliminated the jamming problem and a keyboard arrangement patented by Dvorak and Dealey in 1932 was demonstrably more efficient. Rather, a key event occurred late in the 1880s that locked in the QWERTY standard. The advent of "touch" typing was adapted to Remington's keyboard, so that typists began learning this design rather than others. Employers then found it less expensive to buy machines with the QWERTY arrangement than to retrain typists. Finally, non-QWERTY typewriter manufacturers adapted their machines to the QWERTY typists.

Historical analysis thus consists of (1) reconstructions of past events, which emphasize the accurate description of *what* happened; (2) applications of a general theory to a particular historical case(s), which focus on *how* the theory applies; (3) tests of explanations of historical events, which examine *why* a specific event occurred; (4) the development of causal explanations of historical patterns, which also analyzes *why* events occurred but seeks a more general understanding of social phenomena; and (5) the use of history to understand the present, or explain *how* and *why* particular phenomena came to be. Each of these genres of historical research represents a slightly different level of abstraction and analysis. Descriptive historians (1) are interested in presenting sequences of specific, concrete events, whereas analytical historians (2), especially those applying abstract theories, may apply highly general concepts and propositions. Quantitatively oriented analysts engaged in testing hypotheses of a particular historical instance (3) tend to follow the traditional scientific model of investigation, and are more explicit about operationalizing concepts. Comparative historians (4), on the other hand, typically take an inductive approach similar to field researchers.<sup>7</sup> Finally, those who examine long-term temporal sequences and connections among events (5) may combine the historians' narrative approach with the quantitative analyses of the sociologist. Regardless of these differences, however, all historical research involves, first, the use of written residues of the past to describe the past and, second, an interpretation of past events.

### *Handling Documentary Evidence*

Although historical researchers may use any source of available data, they tend to rely mostly on documents. Historian Vernon Dibble (1963) classifies documents

into two main categories: **testimony** and **social bookkeeping**. Historians traditionally have been especially fond of direct testimony by major actors as contained in autobiographies, depositions, private letters, and the like (Tilly, 1981). Through the testimony of witnesses, historians attempt to reconstruct where, when, and what happened. Testimony, however, tends to focus the analysis on the activities and motivations of individuals, especially "major actors."

Social bookkeeping refers to documents containing recorded information produced by groups or organizations, such as bank books, court records, transcripts of congressional debates, vital statistics, and the list of graduates of Yale University. As the product of social systems, social bookkeeping is more likely than testimony to be used to draw inferences about social structural variables. Charles Tilly (1981:32) also points out that the numbers and abstractions that social scientists glean from such evidence have facilitated

the bringing of ordinary people back into the historical record. . . . Ordinary people leave few diaries, letters, and novels, but their experiences leave documentary evidence nonetheless. The documentary evidence shows up in birth certificates, marriage contracts, notarized transactions, conscription registers, tax rolls, rent books, censuses, catechetical records, and other routine sources.

When drawing inferences from documents to events of the past, the historian is primarily concerned with the authenticity and credibility of the evidence. Judgments of authenticity, as we mentioned earlier, involve highly technical techniques that are best left to the professional historian or archivist. Once the evidence is authenticated, the researcher must evaluate how credible the evidence is. The best checks on the credibility of testimony are corroboration and the absence of contradiction. Consistent independent sources of testimony enhance the probability that a particular account is accurate. However, because corroboration is often impossible, historians use a variety of other checks to assess credibility. Robert Shafer's (1980:166-67) checklist includes the following suggestions:

1. Is the real meaning of the statement different from its literal meaning? Are words used in senses not employed today?
2. How well could the author *observe* the thing he [or she] reports? Were his [or her] senses equal to the observation? Was his [or her] physical location suitable to sight, hearing, touch? Did he [or she] have the proper social ability to observe: did he [or she] understand the language. . . ?
3. . . . Regarding the author's *ability* to report, was he [or she] biased? Did he [or she] have proper time for reporting? Proper place for reporting? Adequate recording instrumentation? . . . When did he [or she] report in relation to [the] observation? Sooner? Much later? [Reports written soon after an event are more likely to be accurate than reports recorded long afterward; disinterested, incidental, or casual testimony is more likely to be accurate than testimony that is ideologically relevant or intended for a particular audience.]
4. Are there inner contradictions in the document?

With their emphasis on credible testimony and the accurate description of past events, historians put much stock in the use of primary as opposed to secondary sources. **Primary sources** are eyewitness accounts of the events described, whereas **secondary sources** consist of indirect evidence obtained from primary sources. Kai Erikson used both types of evidence in his study of deviance in Puritan New England: court records and the journals of those witnessing the events of the time (primary), and the writings of numerous historians (secondary). Theda Skocpol relied on secondary sources for her study of revolutions. "As a general rule," Louis Gottschalk (1969:116) claims, the careful historian will be suspicious of secondary works in history, even the best ones." Gottschalk therefore recommends that these should be used for very limited purposes, such as to get general information about the setting of the historical period under investigation, to obtain bibliographic leads, and to derive tentative interpretations and hypotheses. However, it is difficult to imagine how broad-based historical analyses such as Skocpol's could ever be undertaken if she first reconstructed past events with primary sources.

Social bookkeeping requires a different kind of evaluation than does testimony. Because the documents are produced by groups or organizations, they must be read in the light of the social systems that produced them (Dibble, 1963:207). One might ask and try to discern, for example: What processes intervened between the observing and recording? Was the record subject to editing (recall our example of selective deposit in the *Congressional Record*)? For whom was the record intended? For whom might it have been valuable and who might have been hurt by it?

In general, then, when the evidence is secondhand and the subject matter remote, the investigator must be all the more thoughtful about the evidence and skeptical of his or her relationship to it (Erikson, 1970:335). Even when the researcher is confident of the authenticity and credibility of the documents, he or she must also wonder how they came to be preserved. With regard to the rich and varied documents available for the study of seventeenth-century Massachusetts, Erikson (1970:335) points out that

one cannot spend more than a few hours in their company without wondering whose history they speak of. Not only were they originally composed by men with a vested interest in the events they were reporting, they have been passed along to us by a succession of other men, each of whom has taken a turn sifting, rearranging, and even rewriting those materials. The surviving records, then, register not only what impressed John Winthrop in the early years of settlement, but what Cotton Mather regarded as worth remembering in the second half of the seventeenth century, what Thomas Hutchinson considered "historic" in the eighteenth century, and what whole generations of chroniclers and antiquarians decided to place on the shelves in the nineteenth century.

Beyond providing more or less direct evidence of historic events, documents are an important source of indicators or measures of large-scale social structural variables and processes. In his study of asylum expansion, for example, Sutton (1991) measured urbanization, the aging of the population, and changes in the number of inmates of asylums and almshouses with data from various U.S. census publications; he used reports to the U.S. Congress by the Commissioner of Pensions to

determine the number of pensioners in each state; and from gubernatorial voting data published in the *Congressional Quarterly's Guide to U.S. Elections*, he measured party patronage by the closeness of the votes for Republican and Democratic gubernatorial candidates. The quality of such indicators depends not only on the credibility of the bookkeeping sources, but also on the reliability and validity of the data as measures of particular variables. Since multiple indicators and independent sources of validation are rarely available in historical research, validity assessment is largely a matter of face validation. This was not a problem for most variables in Sutton's study because of the directness of the measures; for example, data on the number of persons over age 65 has palpable validity as a measure of the age of the population. However, for less direct measures, such as the difference in votes for party gubernatorial candidates as an indicator of patronage, face validity is less than satisfactory, albeit often the only means of validation.

### *Historical Interpretation*

The historical analyst is interested in understanding the past. For the descriptive historian, this implies establishing what happened in a factual way. During the Salem witchcraft hysteria, for example, who was accused by whom? Who was executed? But analysis never stops here. To arrive at some *understanding* of what happened, even if the goal is merely to describe a sequence of events as accurately as possible, the researcher must order the facts according to some interpretation of the materials. As we repeatedly have noted, a tenet of social research is that facts do not speak for themselves. The search for evidence itself, however haphazard or rigorous, is always guided by a broad theory or interpretation relevant to the researcher's interest. Tilly (1981:10), for example, notes that "the American historian who examines the treatment of slaves by undertaking a detailed study of slaveholders' diaries, while neglecting the records of slave auctions, makes an implicit choice favoring a theory in which slaveholders' attitudes are significant determinants of slave experience." To examine the role of historical interpretation of particular past events, and the importance of entertaining alternative explanations, we discuss different studies of the Salem witchcraft episode, including Kai Erikson's aforementioned study of deviance in Puritan New England.

One of the three crises that Erikson analyzed was the Salem witchcraft hysteria. The events of this well-known episode have been fairly well established through court depositions and writings of that period, and the reader may be familiar with them through popular accounts such as Arthur Miller's play, *The Crucible*. In 1692 two daughters of the local minister Samuel Parris became ill, or at least they began to exhibit rather bizarre behavior. They would scream unaccountably and go into convulsions, their bodies would become contorted, and they would crawl around on all fours and bark like dogs. Possibly the girls suffered from hysteria, although nobody knew then or knows now precisely what afflicted them. Whatever it was spread quickly to other girls in the community, who began to manifest similar symptoms. In the wake of this panic, unable to bring this strange behavior under control, someone offered a diagnosis of witchcraft. And when the girls were pressed into identifying who was tormenting them, they implicated three women. One of

the women was Parris's slave Tituba, who was from the West Indies and known for her practice of voodoo magic. She confessed and conveniently identified, among others, the two other women named by the girls as agents of the devil. Other confessions and accusations followed, supposed witches were arrested and put on trial, and before it was over, nineteen people were hanged and one was pressed to death.

Why did this unfortunate episode occur? Erikson, you will recall, saw this as one of three "crime" waves in the seventeenth century that served to reinforce the moral boundaries of the community. The need to reaffirm moral boundaries and community solidarity arises, according to Erikson, when the sense of community control and consensus is threatened. The threat to Salem Village, however, was not posed by the alleged witches; they were conveniently chosen deviants. Rather, it was the uncertain political status of the community. In the 1670s, Erikson points out, the colony was beset by strife between clergy and magistrates, whose alliance "had been the very cornerstone of the New England Way," and by a costly war with a confederacy of Indian tribes. Then, in the 1680s King Charles II of England imposed the establishment of an Anglican church in Boston and revoked the charter that had legally protected the colony for over half a century. At the onset of the witchcraft hysteria, colonial agents were visiting England in an attempt to restore the charter. Finally, there were many land disputes and feuds at the time, which undermined the harmony on which the community had depended. All of this, according to Erikson's interpretation, evoked a need to reaffirm the Puritan way of life.

Although Erikson's analysis of these events is thorough and persuasive, it has been challenged by other sociologists and by subsequent historical research. William Chambliss (1976) contrasts Erikson's "functionalist" explanation with "conflict" theory, siding firmly with the latter. He sees the witchcraft hysteria, in addition to the other two crime waves, as "indeed created for the consequences it had. But the consequences were not 'to establish moral boundaries'; rather, they aided those in power to maintain their position" (p. 15). Chambliss points out in support of this interpretation that the actions of court assistants were followed and criminal sanctions imposed so long as members of the ruling elite were not accused. However, when the witch finders began to overstep this bound, the witchcraft trials came to an end.

Historians Paul Boyer and Stephen Nissenbaum (1974) offer still another interpretation of these events. Using many of the same references as Erikson as well as some previously neglected sources of data (e.g., community votes, tax assessments, petitions), they noticed a split between accusers and accused that coincided with whether people supported or opposed Samuel Parris, the minister in whose home the girls first experienced their afflictions. As it turned out, this split between pro-Parris and anti-Parris factions existed before the witchcraft outbreak and went well beyond support for the local minister. Compared with supporters, for example, opponents of Parris tended to be wealthier and to live and own land close to the adjacent commercial town of Salem, and were less likely to be members of the Salem Village church. Thus, in part, Boyer and Nissenbaum contend "that the accusations of 1692 represented a direct and conscious continuation of factional conflict" (p. 186).

All of this points to a major difficulty and an important caveat regarding historical analysis. Historical events invariably are subject to a variety of interpretations. It is possible for more than one interpretation to be valid, especially if the interpretations represent different levels (e.g., psychological versus sociological) or focus on different aspects of an event. For example, in explaining the witchcraft mania, one may not only account for why it took place at this point in time in the Massachusetts colony (which is what Erikson was attempting to explain), but also why it was focused in the community of Salem Village (which Boyer and Nissenbaum explained), why it began among these particular girls, why the citizens of the community actually could believe that there were witches in their midst (which historian Chadwick Hansen [1969] has attempted to explain), and so forth.

On the other hand, if the researcher assumes that some explanations may be valid and others are not, it becomes important to entertain plausible rival interpretations and to evaluate these critically in light of the evidence. How well does a given interpretation account for the evidence? What does the interpretation assume and what consequences follow from it? Chambliss assumes a singularly valid explanation in raising such questions about Erikson's hypothesis: If Erikson is right, then it follows that the witchcraft mania (as well as the other crime waves) should have increased community solidarity. Did this occur? If each crime wave increased solidarity, why did the community experience three major crime waves in a period of sixty years? These are precisely the kinds of critical issues that must be raised about *any* historical interpretation. Better yet, the historical analyst should entertain and critically evaluate multiple interpretations and hypotheses and compare the relative plausibility of each. Only then can we reach an understanding of events in the scientific sense.

### Content Analysis

William Chambliss and Kai Erikson have rather divergent perspectives on the functions of crime in society. So it is not surprising that they would arrive at different interpretations of the events in Salem Village. This difference points to one of the problems with the mere *reading* of written documents—the lack of agreement or reliability. One way to overcome this problem is to be explicit about how one should read the text. In fact, it is possible to develop systematic and objective criteria for transforming written text into highly reliable quantitative data. That is the goal of content analysis.

More than just a single technique, **content analysis** is really a set of methods for analyzing the symbolic content of any communication. The basic idea is to reduce the total content of a communication (e.g., all of the words or all of the visual imagery) to a set of categories that represent some characteristic of research interest. Thus, content analysis may involve the systematic description of either verbal or nonverbal materials.

Sales's analysis (1973) of comic strips and Archer and associates' measurement of facial prominence (1983) are examples of content analysis. However, Goffman's study (1979) of the meaning of gender roles as represented in magazine ad-

vertisements is not; he neither specified his content categories before the analysis nor systematically selected and described advertisements in terms of these categories. On the other hand, Goffman's study does suggest a set of gestures and body position cues that might be used to do a content analysis. Rather than casually look for evidence of such gestures, we would need to (1) identify the categories into which the ads are to be coded (e.g., male versus female; body position—standing, sitting, recumbent); (2) define the categories according to objective criteria that can be applied by anyone; (3) systematically select and then code the advertisements in terms of these objective criteria; and (4) report the frequency of the categories into which the ads have been coded.

The process just described is exactly the same as that found in systematic observation studies. It is also the same process that one would use in analyzing open-ended questions (see Box 15.1). Sociologists have used content analysis to analyze unstructured interviews, and psychologists have applied it to verbal responses that are designed to assess the psychological states of persons. So as you can see, its application is not limited to the analysis of existing data. Still, its most common application is to the available printed or spoken word. Content analysis has been applied to written documents with varied and complex content, including newspaper editorials (Namenwirth, 1969), political party platforms (Weber, 1990), novels (Griswold, 1981), and recorded speeches (Seider, 1974). Let us take a closer look at the steps in carrying out such an analysis: selecting and defining content categories, defining the unit of analysis, deciding on a system of enumeration, and carrying out the analysis (Holsti, 1969).

### *Selecting and Defining Content Categories*

To the extent that human coders are used, selecting and defining the categories for content analysis is analogous to deciding on a set of closed-ended questions in survey research. Instead of giving the questions to respondents who provide the answers, the content analyst applies them to a document and codes the appropriate category. The "questions" applied to the document should be adequate for the research purpose, and the categories should be clearly defined, exhaustive, and mutually exclusive.

Recall that Sales asked one question of the comic strips he analyzed: Is the central character strong and powerful? Wendy Griswold (1981), who analyzed a random sample of 130 novels published in the late nineteenth and early twentieth centuries, was interested in how the American novel might reflect unique properties of American character and experience. Accordingly, she asked several questions pertaining to characteristics of the protagonist (e.g., gender? age? social class at the beginning of the novel, social class at the end?) and to the plot (e.g., What is the setting of the main action? What is the time period? Is adult heterosexual love important to the plot? Is money important in the novel?).

Both Sales and Griswold used human coders to record category "answers." In fact, Griswold's study is unusual because of her large sample of novels, which required ten readers/coders. J. Zvi Namenwirth (1969), on the other hand, used a computer program to describe the editorial orientation of British elite and mass news-

papers. First, he typed the text of 144 newspaper editorials into the computer. Then he provided the computer with a "dictionary" similar in structure to a thesaurus. The dictionary contained several hundred frequently used words from the editorials to be analyzed, which were entered into one or more of ninety-nine categories. For example, words referring to buildings and building parts were placed in the category "social place"; words such as job, ability, engineer, hunter, and print were included in the category "technological."

Regardless of whether one uses a human coder or a computer, the reliability and overall value of the content analysis depends on the clear formulation of content categories and of definitions or rules for assigning units to categories.

### *Defining the Unit of Analysis*

Content analysts refer to their units of analysis as **recording units**. The recording unit is that element of the text that is described by the content categories. It could be the single word or symbol; the sentence, paragraph, or other grammatical unit; the whole text; or some other aspect of the text such as the character or plot. Namenwirth's recording unit was the word, whereas Griswold used three different units—character, plot, and whole novel. Sales's unit, on the other hand, was the character.

In general, smaller units may be coded more reliably than larger units because they contain less information (Weber, 1990). On the other hand, smaller units such as words may not be sufficient to extract the meaning of the message, and there may be too many such units for the researcher to manage. Imagine, for example, using the word as the recording unit in Griswold's analysis of 130 novels! These limitations apply to the use of computers in content analysis because, at this time, the only units programmable for computer analysis are words, word senses, and phrases such as idioms and proper nouns.

Because it may not be possible to place the recording unit in a particular category without considering the context in which it appears, content analysts also distinguish **context units** (Holsti, 1969). One of Namenwirth's findings was that British elite newspapers were more concerned about relations with Europe and less concerned about the Cold War than mass newspapers. Concern with Cold War issues was indicated by a large number of references to the word categories "Soviet," "American," and "Atlantic." From a simple analysis of words, however, one cannot infer the extent to which editorial positions on the Cold War generally were pro or anti-American. To make this inference, the coder would need to consider the larger context unit—the sentence, paragraph, or whole editorial—in which the words are embedded. Similarly, Sales's coders would need to be familiar with the comic strip to make judgments about the power of the main character; thus his recording unit is the character and his context unit the comic strip.

### *Deciding on a System of Enumeration*

There are many ways of quantifying the data in content analysis. The most basic systems of quantification are listed here.

1. *Timespace measures.* Early content analysts of newspapers often measured the space (e.g., in column inches) devoted to certain topics. Analogously, television content has been measured in time (e.g., the number of hours of televised violence). Another example is Archer and associates' measurement of facial prominence (distance from top of head to chin divided by length of whole body).

2. *Appearance.* Sometimes it is sufficient simply to record whether a given category appears in a recording unit. Sales's measurement consisted of classifying the central character in a given comic strip as powerful or not. Many of Griswold's categories were measured in this way: Is the main character a male? Is religion important to the plot?

3. *Frequency.* The most common method of measuring content is in terms of the frequency with which a given category appears in the contextual unit. Namenwirth counted the number of times categories appeared in each newspaper editorial. In an analysis of the Democratic and Republican party platforms, Weber (1990) calculated the proportion of words in the category "wealth" (e.g., capital, inflation, unemployment).<sup>8</sup>

4. *Intensity.* When attitudes and values are the objects of the research, the content analyst may resort to measures of intensity. For example, rather than ask whether money is important to the novel's plot, one might ask *how* important it is. Devising mechanisms for making judgments of intensity is essentially the same as in the construction of indexes and scales, which we discuss in chapter 13.

How the researcher decides to enumerate the data depends on the requirements of the problem under investigation. However, the choice of a system of enumeration carries with it certain assumptions regarding the nature of the data and the inferences that one can draw from the data (Holsti, 1969). Space-time measures may appropriately describe certain gross characteristics of the mass media, but they are too imprecise to serve as indicators of most verbal content. Appearance measures also tend to be rather imprecise, although they are more flexible and can be applied to a larger range of content than space-time measures. Frequency measures are better still, but involve two crucial assumptions that should be examined: first, they assume that the frequency of a word or category is a valid indicator of its importance, value, or intensity; second, they assume that each individual count is of *equal* importance, value, or intensity. It may be that some categories or some recording units should be weighted more heavily than others. It has been suggested, for example, that front-page articles might be more important and therefore weighted more than articles appearing elsewhere in a newspaper (Holsti, 1969). (Box 12.2 also discusses the problem of making inferences from frequencies of the "manifest" content of materials.)

### *Carrying Out the Analysis*

To carry out the analysis, one first obtains a sample of material. As in survey sampling, the researcher should always be mindful of the population to which inferences are to be made. Three populations are relevant to content analysis: communication sources (e.g., types of newspapers, novels, speeches), documents (e.g., specific newspaper issues), and text within documents (e.g., pages). Often a sample of doc-

## BOX 12.2

### Perspectives on Gender Differences in Graffiti

The grist for the content analyst—recorded language and visual representations—is essentially messages in a communication process. The object of content analysis is to uncover the *meanings* of the message. Among the many possible meanings, at least one will be manifestly understood by the source as well as the receiver of the message, but a great many more meanings may be latent to one or both parties. Thus the message may reveal something about the characteristics or unconscious intent of the source or about the beliefs and values of a group or culture. But how one comes to understand these meanings depends on the theoretical orientation that informs the analysis. Nowhere is this better illustrated than in research on restroom graffiti.

Thirty years of research on restroom graffiti shows that the inscriptions written by men differ from those written by women. Edward Bruner and Jane Paige Kelso (1980) divide this research into two types. One type establishes categories of manifest observations (e.g., sexual humor, racial insults, romantic, political), and then assigns each graffiti to one of these categories. These studies show where gender differences lie (e.g., men use more insults, women are more romantic) but leave unclear the meanings of these differences. In this research, according to Bruner and Kelso, "there is an implicit theory of text which assumes that the meaning is the message, and that significance will be revealed by counting the frequency with which items of manifest content appear. The graffiti mean what the graffiti say, without any attempt to interpret the text" (p. 240).

The second type of research goes beyond the manifest meaning to a deeper level of interpretation. These studies interpret graffiti in terms of such Freudian imagery as unconscious impulses, infantile sexuality, and primitive thoughts. As Bruner and Kelso point out, however, the "connection between the data and the Freudian meaning is not readily apparent," and this approach suffers from "an over-attribution of meaning compared to the under-attribution" characteristic of the first approach.

By contrast, Bruner and Kelso offer a "semiotic perspective." Noting that graffiti are never found where others will not be able to see them, they argue that restroom graffiti constitute communication among anonymous partners. "The writing of graffiti," they say, "is an essentially social act that cannot be understood in terms of the expressive functions performed for an isolated individual. To write graffiti is to communicate; one never finds graffiti where they cannot be seen by others" (p. 241). Moreover, given the segregation of restrooms in American culture, restroom graffiti must be understood as same-sex communication—men writing for other men, and women writing for other women.

Approaching the data from this perspective, Bruner and Kelso find that on the surface, women's graffiti are more interpersonal and interactive than those written by men. Men tend to write egocentric and competitive inscriptions about sexual conquests and sexual prowess and derogatory inscriptions that attack, insult, or put down; women tend to raise serious questions about love, sexual relations, and commitment, often soliciting or giving advice regarding women's relationships with men. Going beyond this surface text, Bruner and Kelso conclude that "the underlying message in both male and female graffiti is fundamentally political." "Graffiti reflect the power positions of men and women in the social structure" (p. 250). Accordingly, "men write graffiti to tell themselves and other men that they have maintained their superior position and are still in control," while women write graffiti that "express the cooperation of the dominated and reflect the strategy of mutual help employed by those in a subordinate status" (pp. 249–250).

uments is drawn from a single source; for example, Griswold took a random sample of all novels published in the United States between 1876 and 1910. Namenwirth first sampled communication sources, purposefully choosing three British prestige newspapers and three mass papers. Then he randomly selected twenty-four documents—newspaper editorials—from each of the papers. Although researchers also have sampled text, Weber (1990:43) recommends that the entire text be analyzed when possible because this preserves its semantic coherence. If it is necessary to sample text, then meanings are best preserved by sampling paragraphs rather than sentences.

Having selected the sample, one proceeds to code the material according to the coding categories and system of enumeration. This gives the analyst a description of the communication content. Finally, the content analyst truly engages in *analysis* by relating content categories to one another or by relating the characteristics of the content to some other variable. Griswold compared the content of novels written by American and foreign authors, finding many similarities but also some interesting differences. For instance, American authors were likely to place protagonists in the middle class; foreign authors favored the upper class. American authors also were more likely to set their novels in small towns and less likely to set the action in the home.

Weber's content analysis of party platforms (1990) showed how Democrats and Republicans have varied over time in their concerns. Figure 12.1 shows the pat-

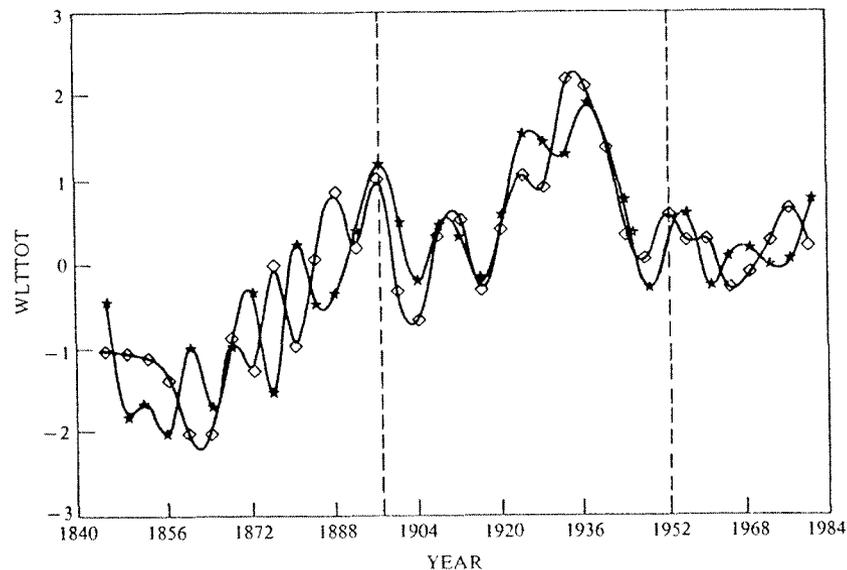


FIGURE 12.1. Democratic and Republican concern with wealth, 1844–1980. Diamonds, Republican platforms; stars, Democratic platforms. Source: Page 139 of R. P. Weber, "Computer-Aided Content Analysis: A Short Primer," *Qualitative Sociology*, vol. 7, 1984. Used by permission of Human Sciences Press.

tern of change with respect to the percentage of each platform devoted to economic matters. The vertical axis is based on the percentage of words in the platform that fall into the category "wealth."

Weber points out several features of the figure: (1) The general rise between 1844 and about 1952 in the level of concern about economic matters, perhaps reflecting the increasing importance of the federal government in the management of economic affairs; (2) the relatively constant level of concern from 1952 to the present; and (3) the change over time in the relationship between the parties' concern with economic matters, with the parties manifesting similar levels of concern between 1896 and 1952 and moving opposite to one another before and after this period.

### Summary

In contrast to research strategies that rely on data collected firsthand, the available-data researcher mines secondhand information. The sources of such information include the written public record, ranging from court proceedings, vital statistics, and publication indexes to the voluminous data files of the Census Bureau; private documents such as diaries, letters, business records, and tax reports; the mass media; nonverbal physical evidence such as works of art, clothing, and other artifacts; and social science data archives generated from surveys and ethnographies.

Available-data research, including the secondary analysis of existing survey data, is currently the most popular method of social research. Compared with other research strategies, it is better suited to the analysis of social structural variables, to cross-cultural research, and to studies of the past and of social change. In addition, it often provides nonreactive measures of concepts, can afford the researcher the means to increase sample size and to replicate research, and generally costs less to the individual researcher.

When one uses data collected for another purpose, the search for appropriate data and the evaluation and refinement of the data become extremely important research phases. In general, the research problem should guide the search for sources of available data. The research literature also may provide useful leads for locating sources, which may be augmented by consulting a librarian or various listings of publicly accessible data sets.

Some sources of information may require the creative construction of substitute or indirect measures of key variables, or the use of multiple indicators. It is important, however, to be wary of less than satisfactory measures that may be adopted merely because of the data's availability. It is also essential to assess the validity of the data—to determine their authenticity, whether definitions used in compiling records have changed over time, whether the meaning of words and phrases in written documents has changed, and so forth. Following such evaluation it is often necessary to refine or make adjustments to allow for proper interpretation.

Finally, one should consider the adequacy of the data as a sample of information. Many of the data from the census and various survey archives are based on unusually good, though not error-free, samples. Written records from the more re-

mote past, however, invariably suffer from selective deposit, and physical materials are subject to selective survival. For voluminous data sets, probability sampling based on time and/or space is often possible and necessary.

The analysis of available-data research depends on research purposes and the nature of the source of information. Historical analysis may involve attempts to reconstruct past events (descriptive history) as well as the use of historical evidence to generate and test social theories (analytical history). In either case, the basic evidence consists of documents—testimony and social bookkeeping. Historical researchers judge testimony with respect to authenticity and credibility; they evaluate bookkeeping in the light of the organizations and groups that produced the documents. Descriptive historians also emphasize primary sources, whereas analytical historians often rely on secondary sources. Because the understanding of the past invariably is open to various interpretations, the historical researcher ideally should not focus on a single explanation, but instead critically evaluate and compare the relative plausibility of alternative explanations.

Researchers use content analysis to analyze the symbolic content of communication, especially verbal materials from the media. This involves selecting and defining a set of content categories, defining and then sampling the elements of the text that are described by the categories, quantifying the categories such as by counting their frequency of occurrence, and then relating category frequencies to one another or to other variables.

### Key Terms

*public documents*  
*vital statistics*  
*manuscript census*  
*Public Use Microdata Sample*  
*private documents*  
*mass media*  
*physical, nonverbal evidence*  
*data archives*  
*nonreactive measurement*  
*selective survival*

*selective deposit*  
*descriptive history*  
*analytical history*  
*testimony*  
*social bookkeeping*  
*primary sources*  
*secondary sources*  
*content analysis*  
*recording units*  
*context units*

### Review Questions and Problems

1. How does research using available data differ from the other three basic approaches to social research?
2. What are the five categories of available data described in this chapter?
3. Give three examples of public records other than those mentioned in the text that might serve as sources of data. In each case, identify a hypothesis that might be tested with the data.

4. What information is contained in birth certificates? In death certificates?
5. In what forms does the Census Bureau release information from the decennial census?
6. What is the manuscript census? When is it released to the general public? How else are individual-level data made available to the public?
7. What are private documents? Give an example of a private document available to you that might serve as a source of data. What research question might be addressed with these data?
8. How could you use the mass media to study changes in racial stereotypes? What period would you study? Which medium would you select?
9. What do the authors mean when they say that the “use of data archives is an extension of both survey research and field research”?
10. What are the principal advantages of research using available data?
11. Compare research using available data with the other three methodological approaches in terms of the problem of reactive measurement.
12. Identify two guidelines for locating appropriate sources of available data.
13. What is meant by “indirect measurement”? How is Sales’s study of authoritarianism an example of indirect measurement?
14. What particular measurement problems are presented by research using available data?
15. Aside from research using survey data archives, what are the special sampling problems presented by research using available data?
16. Describe the four different forms of historical analysis outlined in the text.
17. How do users of historical documents go about determining the credibility of testimony?
18. Compare and contrast testimony and social bookkeeping with respect to (a) the populations and social processes about which they provide evidence and (b) the relevant issues for evaluating data sources.
19. What are the three interpretations of the Salem witchcraft hysteria described in the text? Is it possible for all three of these interpretations to be valid? Why or why not?
20. What is content analysis? Why is Sales’s study of comic strips an example and Goffman’s study of gender displays *not* an example of this method?
21. What steps are involved in doing a content analysis?
22. Identify common units of analysis in content analysis. What is the difference between a recording unit and a context unit?
23. What are the basic systems for quantifying data in content analysis?
24. Using Box 12.2 as an example, discuss the problem of using frequency counts for content analysis.
25. Describe how you would carry out a content analysis to examine some of the issues raised by Goffman’s study of gender displays. (a) What materials will you select for analysis? (b) How will you sample them? (c) How will you select and define content categories? (d) What is the recording unit? (e) What is the context unit? (f) What system of enumeration will you use?

## NOTES

1. For a comprehensive listing of sources of demographic information, see Shryock et al. (1976).
2. Appendix C of Michael Lavin's (1996) *Understanding the Census* contains a copy of the long form version of the 1990 census questionnaire. This useful book also provides an overview of the decennial census and describes some of the many uses of census data.
3. To measure segregation, Farley and Frey used the index of dissimilarity, described briefly in chapter 5. The index equals a maximum of 100 if all blocks within a metropolitan area are exclusively black or exclusively white; the index equals its minimum of 0 if individuals are distributed as if they were randomly assigned. Intermediate values indicate the percentage of blacks (or whites) who would have to be shifted from one block to another to achieve an index score of 0.
4. The U.S. Bureau of the Census "Factfinder for the Nation" series is an excellent guide to census products. See, for example, CFF No. 18, "Census Bureau Programs and Products" (May 1990). Also consult the World Wide Web site for U.S. census data: <http://www.census.gov>.
5. The net flow of migration to a country is equal to the number of immigrants entering minus the number of emigrants returning. The gross flow is simply the number entering.
6. For a discussion of this approach, see the special May 1992 issue (Volume 20, Number 4) of *Sociological Methods and Research*.
7. For a critique of the inductivist approach to comparative-historical sociology, see Kiser and Hechter (1991); for a critique of the application of a general theoretical model to particular historical instances, see Skocpol (1984:365-68).
8. Word counts have proven especially useful in content analyses designed to determine who wrote a certain document. A study of the disputed authorship of several of *The Federalist* papers showed, for example, that the disputed authors James Madison and Alexander Hamilton differed in known writings in their rate of use of noncontextual words like "by" and "to." When the papers were analyzed, the rate of use of these words corresponded closely in all but one paper to Madison's rather than Hamilton's writing (Mosteller and Wallace, 1964).

## 13

## Multiple Methods

The preceding chapters described four principal research strategies for understanding the social world: experiments, surveys, field research, and research using available data. By studying these approaches separately, you may have gotten the idea that these are entirely separate ways to proceed, that decisions about methods are necessarily of the either-or variety. However, given the limitations and biases inherent in each of the main approaches—indeed, inherent in all research procedures—the best way to study most research topics is to combine methodological approaches. This chapter begins with a discussion of a central principle called triangulation. Next we examine various "multiple methods" combinations, ranging from multiple measures of concepts within the same study to multiple tests of hypotheses across different studies. Then we compare the relative strengths and weaknesses of the four basic approaches to social research. Finally, we discuss "meta-analysis," the use of systematic procedures for summarizing the results of multiple studies.

## Triangulation

In their everyday lives, people frequently use more than one means to solve a problem. Consider, for example, the simple problem of arising earlier than usual to catch a flight. Let us say a woman presented with this problem normally awakens by means of an electric clock radio set for 7 AM. To make sure that she awakened by 6:00, she might employ several methods. She might set the clock radio for 5:55, set a windup alarm clock for 6:00, and ask an early-rising friend to phone her at 6:05. She would then have three independent and somewhat dissimilar methods for solving the problem. If the electricity should go off, the windup alarm would work. If the windup alarm were defective, the friend should come through. If the friend proves unreliable, one of the other methods should work. By using multiple methods that do not share the same inherent weaknesses, we enhance our chances of solving the problem.

Social scientists have borrowed the term **triangulation** from the field of navigation to help describe how the use of multiple, independent approaches to a research question can enable an investigator to "zero in" on the answers or information sought (Campbell and Fiske, 1959). To understand the conventional meaning of triangulation, imagine that you are an employee of the Federal Communications Commission (FCC) assigned the task of determining the location of a pirate (unlicensed) radio station (P). First, using a FCC mobile receiver with directional-finder