

Methods

this plan. Glaringly out of scale are the village relative to the cornfields and both relative to Mont Réal. In addition, it would surely be unusual to see bears and deer (and is that a wild European goat?) wandering about so close to the village. Importantly, the map switches perspectives — oblique for most areas but perpendicular for the town plan.

In the absence of some information, the engraver was required to innovate. He had to show Mont Réal, but nothing in the textual account reveals its exact location. Its placement on the map is not to be trusted. Similarly, Cartier states that Hochelaga was situated in the middle of large cornfields, but the engraver chose to merely suggest this cultivation with a small collection of fields in one corner. The engraver was also creative with the human actors; he shows the Frenchmen arriving at the village from the left, yet there is really no way he knew this for sure. As a final observation, the walled fences are a rather peculiar addition; they do not appear to have been known among the Iroquois and probably derived from elsewhere in the engraver's experience.

Some features of this plan (such as the round shape of the village and the presence of one entrance and a square) clearly conform to Cartier's brief description and roughly to archaeological knowledge of the Iroquois (although the village was probably more oval than round). Other features (such as cornfields transformed into European-style wheat fields and the innovative shape of the houses) resulted from compromises between the textual descriptions and the engraver's mind-set. Still other features (such as the location of Mont Réal and the direction from which the French arrived) were guesses by the engraver in the absence of other information.

The usual cautions apply here. The very presence of the Palladian-style legend loaded with descriptive terms that undoubtedly carried many cultural implications in Italy (such as *strade* and *piazza*) tends to skew the viewer's interpretation. In another vein, some attempts have been made to calculate factors such as population size and details of the French trek to the village (Pendergast and Trigger 1972). Given the above discussion of the plan, however, it is probably not safe to deduce population estimates, territorial domain, carrying capacity, geographical configurations, or precise historical details from such a plan. The map is a composite — in part based on documentary description, in part on the engraver's preconceptions, and in large part on compromises between the two.

Tapping Complementary Sources of Information

As we have seen throughout this book, particularly in our discussions of reality mediation and source analysis, documents are fallible. Sometimes the author was mistaken or confused, made critical omissions, or lied. Given these potential shortcomings of the written word, the wise ethnohistorian will try to tap other information sources to supplement the data in documents. These other sources often are called “ancillary” sources or “auxiliary” sources, the phrases coming from the Latin for “handmaiden” and “assistant,” indicating a position subordinate to documents. In this text, we prefer to call them “complementary” sources, this phrase coming from the Latin meaning “to complete.” Complementary sources sometimes can be more illuminating than the documents themselves, and they often provide insights obscured by documents alone.

Of course, ethnohistorians are free to use any data source, discipline, or practice they believe may help their research. They occasionally have recourse to findings in such diverse areas as plant taxonomy, agronomy, philately (stamp collecting), and photographic science, but these are the exceptions. Most frequently they turn to oral accounts, archaeology, and analogy to assist in their endeavors.

Oral Accounts

Many accounts of events or conditions in the past are remembered but never committed to writing. In some cases, this is because the society in question has no writing system, but even within literate societies many accounts are never written down. Some things may not be considered important enough to record, but on the other hand, certain segments of a literate society may be largely or wholly illiterate or may not have a tradition of committing everyday knowledge to writing. Access to writing

materials, which may be expensive and not available to large segments of society, may also be difficult. In many cases, however, the information is passed on orally and retained in memories.

Several different terminologies are used to discuss oral evidence, so it is wise to begin with some definitions. All spoken descriptions of the past are considered *oral accounts*, and there are two major types. *Oral histories* are accounts of events and conditions witnessed or experienced by the speaker, and *oral traditions* are accounts of events and conditions in the more distant past, not witnessed by the speaker, but passed down through generations. Henige (1982) has posited that an oral tradition must be universally accepted by the members of a society, but we follow Miller (1980), Vansina (1985), and Cohen (1989) in rejecting that criterion, thereby accepting any version of a sufficiently old oral account as an oral tradition. In practice, it would be impossible to ascertain that any account was universally accepted, and it is difficult to imagine how one would decide whether two tellings of an account exhibited only cosmetic or more substantive differences. Finally, given the reality-mediation model and the propensity for people to reinterpret a story to fit their changing notions of what is sensible or desirable, it is likely that the account exists as a series of versions, linked by some degree of common content.

Ethnohistorians disagree about the historical value of oral accounts that are strongly shaped by artistic considerations and overtly used as entertainment or part of ritual. Such accounts sometimes are termed *oral art*, in recognition of the purported importance or even primacy of artistic considerations in their content and structure. As alluded to in chapter 7, however, all oral and written accounts are shaped to some degree by the expectations of their genre; if every account is subject to the same effect, why single out only some accounts for special consideration? Consequently, we follow Tonkin (1992:15) in rejecting this distinction as artificial and misleading; a distinction that may encourage ethnohistorians to overlook the effects of artistic considerations on accounts not classified as “oral art.”

Oral histories, which constitute firsthand testimony regarding events and processes, are extremely useful, but they are limited to recent years because the witness must still be alive. Since the 1970s, increasing numbers of oral history programs have recorded these accounts for future use. Prior to these programs, with a few notable exceptions (such as the Federal Writers’ Project, one of the public programs designed to stimulate U.S. employment during the Great Depression of the 1930s), oral histories were rarely recorded.

Oral traditions are valuable, of course, because they reach back into the past, sometimes recording events centuries old. They are limited, however, by the possibility that the information in them has been corrupted through numerous retellings—and the possibly faulty memories of the tellers over generations. Scholars have differed in their assessments of the general reliability of oral traditions, ranging from Lord Acton (1907), who rejected all oral tradition as garbled fairy tales, to Patrick Kirch (1985:307), who has argued that every oral tradition from the two centuries before European intrusion in Hawaii is based ultimately in historical events. The middle ground, maintaining that oral traditions may be based on either historical or imaginary events, has been adopted by Jan Vansina (1985) in his masterful discussion of oral history and tradition and is probably the most defensible position. Certainly there are extraordinary examples of cases where oral tradition seems to have preserved historical accuracy, but also others where it seems to have been jettisoned.

As Vansina (1985) sees it, an oral tradition is subject to a series of revisions as it passes to new carriers and is preserved in memory. He sees the following factors as among the most significant in modifying the original content over time:

- The selection of what information to include in an oral tradition is culturally determined, may change over time as the culture of the carriers changes, and may omit issues that might be considered the most important by an outside ethnohistorian.
- The meaning of a message received by a carrier of an oral tradition is reinterpreted in light of that carrier’s expectations of reasonable behavior and events, as created by the carrier’s culture. The reinterpreted version may be satisfying to the current generation but different from that acceptable to earlier generations.
- If not checked by institutionalized means (such as the scrutiny of memorized liturgical poems by others who had learned them among the Rwanda [d’Hertefeldt and Coupez 1964]), memory lapses can alter or shorten the content of an oral tradition.
- An oral tradition that diffuses into a region from outside may be revised to incorporate local characters, names, and places, making it appear that the events recounted took place locally.
- The content of an oral tradition may be altered to better fit dramatic needs or form (especially in poetry or song) of the presentation, which may involve omission or modification.
- Chronology usually is vague in oral tradition, and as events pass

into “long ago,” events that really were at different times may be merged into contemporaneity in a monolithic “long ago.”

—The content of an oral tradition can be modified in response to feedback from written accounts, which sometimes carry an aura of accuracy, even with the presence of a strong tradition of oral accounts.

The interdisciplinary work of Fentress and Wickham (1992) has elaborated on some of these points, investigating the mechanisms and effects of “social memory,” in particular culturally induced memory distortions and the reworking of oral accounts. David Rubin (1997) has synthesized current psychological perspectives on how memory shapes oral accounts, pointing out conditions likely to encourage recall errors.

Elizabeth Tonkin (1992) has built upon the work of Vansina and others in discussing “the social construction of history,” focusing on oral accounts. Her model sees critical interactions between the speaker’s past, the audience’s past, and genre (defined in chapter 7 as a conventional form of discourse). The speaker’s past has shaped his or her conceptions of what is important, likely, or acceptable; therefore, the speaker’s memory and conscious choices in forming an account will lead to modifications, omissions, or creations that will make an account fit better into these expectations. Similarly, the speaker takes into account the audience’s expectations, since there is little social point in recounting an unsatisfying or unbelievable tale. Finally, genre molds the expectations of both speaker and listener: an account in a heroic genre must have a hero (regardless of whether any character in the event itself would fit the cultural criteria for a hero), and an account in a humorous genre must be funny (regardless of whether or not the original event was). These genres are defined culturally for each society. Accordingly, Tonkin would add to Vansina’s list the following ways that oral accounts are tailored to social needs:

- The content of an account will be altered to fit the expectations of both listener and teller.
- The content of an account will be reworked to conform to the needs of a conventional genre.

To this list might be added a couple of further tendencies, each derivative from the broader principles noted above:

- There is a tendency to exaggerate, so that characters achieve status as larger-than-life culture heroes, especially as they have faded into the more distant past and have lost many of their personal, human foibles and quirks.

—There is a tendency to quantify in numbers that have culturally derived significances (such as representing large numbers with “a thousand” in English and “four hundred” in Nahuatl).

In general, the same forces that can mar the historical accuracy of a document (see chapter 7) can mar an oral account. The result is that the historical core of an oral tradition may be preserved intact, transformed, or excised over the span of the oral tradition’s existence. In general, the older an oral tradition, the greater the likelihood that it has been “tainted by time”; no oral account, however, should be viewed as pristine and inviolate.

Those of us who have grown up in a literate tradition often tend to discount oral accounts, perhaps too much so. We look to our own experience and decide that we would be lost without notes and computer files filled with the important things we are supposed to remember. This may be true for us, but there is considerable evidence that in some nonliterate societies, people are quite skilled at remembering word-for-word important traditional tales. An ongoing project at the University of Lagos in Nigeria is recording traditional myths and tales recalled by the custodians who are charged with remembering them and passing them on to the next generation. In the twenty years since the program’s inception, some individuals’ versions of the same tale have been recorded several times, with intervals of many years between. In most cases, the versions have been nearly identical, and some individuals have been able to present a two-hour narrative that is word-for-word identical to the version delivered by them ten years before (Opeoluwe Onabajo, pers. comm.).

One oral tradition recorded around 1890 by Adolph Bandelier (1890: 116–130) at the pueblo of Santo Domingo in New Mexico describes an attack on and siege of Pecos Pueblo by the Kirauash tribe. This tradition accords well with archaeological evidence for warfare at Pecos around 1515, and an oral account recorded by Pedro de Castañeda of the Coronado expedition in the 1540s (1933) is in essential agreement, differing only in its attribution of the attack to the Teyas tribe. Clearly, oral tradition can retain historical description over centuries.

Nonetheless, all oral accounts must be treated with the same healthy skepticism accorded documents. Individuals may have flawed perceptions; they may want to tailor an account to make them, their ancestors, or their community look good; they may slant their account to demean or raise another group; they may modify their account to illustrate a moral lesson; and they may forget things that had little significance for them at the time in question. All of the factors that can affect the reliability of a

document can affect the reliability of an oral account; in addition, the oral account may have changed accidentally through memory or purposefully through reinterpretation, while the document, once written down, usually is more or less inviolate.

An example of how oral accounts can be flawed involves part of a study of the early-twentieth-century Charlestown waterfront in the Boston area. One of the authors of this book was trying to determine the function of a building that had been discovered archaeologically but was not shown on any available maps. Reasoning that postal deliverers would know their routes in great detail, he inquired of one whose route had included this area for forty years, including part of the period in question. The postal deliverer was unable to recall a building in that spot and even swore that none ever had existed. When subsequent research turned up more information about the building, it was found to have been a storage building. Since no mail had been delivered there, the postal deliverer apparently had not paid it sufficient attention to make it memorable.

Tonkin (1992: 8) rightfully has noted that declaring an account "realistic" or "mythologized" is a judgment based on the declarer's worldview. An ethnohistorian who does not believe in witchcraft or the capricious acts of the gods (except as important factors in the thinking and decision making of the people under study) may reject an account that incorporates these actions as central to its description of past events. That rejection, however, should be viewed as an expression of the inadequacy of the researcher or methods to sift out those parts of the account that may help solve an ethnohistoric problem; it cannot be viewed as a rejection of the account as a serious or legitimate piece of historical evidence.

Some oral traditions clearly have been heavily mythologized, and it is not clear whether ethnohistorians can glean useful clues to historical events from them. The traditional Navajo account of that tribe's migration into the American Southwest includes climbing up through various levels of a multilayered world, each with its own distinctive color designation; the Navajo encounter ant people and finally emerge through a hole into the current world. Spencer (1947) tried to relate this to the historic migration of the proto-Navajo from their homeland in northwestern North America into the Southwest. For example, climbing from one level to another may equate with crossing a mountain range, and passing through the yellow level may reflect crossing a desert. Most scholars following Spencer, however, have interpreted the Navajo tradition as more of a statement of the Navajo worldview than an account of historic events. Other examples come from attempts to connect mythological Ameri-

can Indian oral accounts with Pleistocene megafauna. Ice Age mammals that inhabited North America at the time of its initial peopling by Paleo-Indians, at least 15,000 years ago. Jane Beck (1972) has argued that the giant beaver in Malecite and other Algonquian mythologies was really a fossil memory of the Pleistocene beaver; *Castoreoides ohioensis*, a massive rodent weighing up to five hundred pounds. In the Malecite version, Gluskap, the great culture hero, creates all the animals and then reduces them in size by petting their fur. Somehow this giant beaver escapes and terrorizes the Malecite before Gluskap drives him away.

With imagination, these interpretations may seem vaguely reasonable, but there are so many ways to interpret or explain the myths that it would be difficult to place too much faith in them. By the time so many symbolic and mythological elements have been incorporated into an account, any original historic accuracy probably is submerged.

A final caution is in order regarding the ethnohistoric use of oral accounts. As Tonkin (1992:6) has warned, "professional historians who use the recollections of others cannot just scan them for useful facts to pick out, like currants from a cake. Any such facts are so embedded in the representation that it directs an interpretation of them, and its very ordering, its plotting and its metaphors bear meaning too." Tonkin's caveat to consider how context permeates and shapes meaning was directed particularly to the analysis of oral accounts, but it is equally vital for other sources of ethnohistoric information.

The techniques of recording oral accounts have been discussed by both anthropologists and historians. Among the historical treatments, Allen and Montell (1981), Baum (1977), Cullom, Black, and McLean (1977), and Yow (1994) give sound discussions of methods and techniques; Werner and Schoepfle (1987) provide similar discussions of ethnographic methods and technique, focusing on interviews. Lunnis (1987) provides a thought-provoking discussion of source analysis of oral accounts; Vansina (1985) embeds a discussion of source analysis in his broader treatment. Havlice (1985) provides a moderately recent bibliography of methodological treatments and applications of oral history.

Archaeology

Wherever people live or carry on any activity, they leave behind telltale traces. They may discard a broken tool, prepare a meal and leave behind waste portions of the foodstuffs, or drive a stake into the ground. Archae-

ology is the field that studies this evidence, attempting to learn more about past human activities and the cultures that underlay them. The archaeologists themselves are essentially detectives, interpreting physical clues to reconstruct what went on in the past. When archaeology probes periods that possessed writing, it is called "historical" archaeology or "text-assisted" archaeology; in periods where there was no writing, it is called "prehistoric" archaeology. Occasionally, the archaeology of a period with undeciphered writing is considered prehistoric, since there are no documents that can be read, but it is logically preferable to consider it historic.

The most obvious way that archaeology can assist ethnohistory is by studying the archaeological remains of the same people discussed in the documents under study. Documents may be silent on such things as whether a community had a water-powered mill, but the archaeological remains of such a mill might be distinctive and quite easy to locate by means of a quick archaeological survey.

Sometimes archaeology can establish a fact that is muddy or misleading in the documents. The village of Lighthouse, Connecticut, for example, was the home of acculturated Narragansett Indians in the eighteenth and nineteenth centuries. Documents showed the familiar English pattern of landholding and land use, with straight-sided properties in neat geometric shapes. Archaeology, however, revealed that the inhabitants of Lighthouse had no stone walls denarcating their properties, a longstanding characteristic of English communities in New England. This suggests a kind of land use—and perhaps ownership—that was more communal and Narragansett-style than that typical in the English tradition (Feder 1994).

Prehistoric archaeology can also be of assistance to ethnohistorians, especially when research focuses on changes brought about by contact with the broader world. The magnitude of the changes wrought by the coming of the horse to the aboriginal society of the North American plains region only becomes evident when the prehistoric society is compared with its historic descendant. The Arkara of the Missouri Valley, for example, lived in fortified, sedentary villages, gaining most of their food through farming. In the late eighteenth century, horses came into the region from Texas, where they had been acquired from the Spaniards. Rapidly, the Arkara transformed into mobile hunters and gatherers, relying heavily on bison for food; even their social organization was transformed as they shifted from matrilineal to patrilineal residence (Wissler 1914; Deetz 1965; Rogers 1990). Since written accounts of the Arkara are only very sketchy before the nineteenth century, prehistoric archaeology is

our primary means of recognizing the magnitude of the changes that took place, providing a benchmark from which the historic changes can be measured.

Archaeology is a complex and diverse field, unified by its essential link to physical remains: the material items left behind and preserved in archaeological sites. These include artifacts (objects purposefully created or modified by human behavior, such as tools, ornaments, housing, and the waste materials incidental to the production of these items), biological remains (bones, seeds, scales, hair, and any other items that once were part of a plant or animal, usually excepting tools made from bones and the like), and soils (the dirt and related items found in the site). Each of these items has the potential to tell a story of value to the overall archaeological interpretation.

Artifacts are, in some ways, the most telling of physical remains because they are a direct expression of human behavior. The material from which an artifact is made, the form it takes, any ornamentation or ritual treatment, the use to which it is put—these and other factors are the outcomes of human choice, restricted only by practical limitations, the resources available to the maker, and the cultural rules governing production and use. As a result, artifacts are useful in reconstructing many areas of human behavior. Examining the form of a flaked stone tool, for example, can suggest uses for which it would have been well suited. A stout tool with a large angle between two edges makes a poor knife but a wonderful scraper for removing fat and tissue from animal hides. Finding such a tool on an archaeological site suggests this use, but this can be confirmed only by examining the working edge of the tool microscopically and finding appropriate traces of wear or preserved hide. The shape of the tool, while somewhat constrained by the requirements of its function, still provides the maker great latitude, and styles and types of tools often can inform the archaeologist of the date and cultural identity of the maker. The material from which the scraper is made may occur locally, or it may be imported from some distance, giving the archaeologist some idea of the economic relations between communities. Hodges (1976) introduces some basic concepts, methods, and potentials for the analysis of archaeological artifacts.

Biological remains also can provide data on the people who occupied an archaeological site. Archaeologists make major distinctions between the remains of plants and animals used for food (economic species), plants and animals used to make artifacts (industrial species), and plants and animals that just happened to die where their remains (ecofacts)

would end up in an archaeological site. Deciding which category a bone or tooth or seed belongs in is not always easy, but it is critical to a credible analysis. The remains of economic species from sixteenth-century Spanish sites in Florida, for example, have supported an analysis that estimates

- the relative importance of different foods in the diet;
- the relative importance of Old World domestic plants, New World domestic plants, and New World wild plants;
- the relative importance of Old World domestic animals and New World wild animals; and
- the importance of various techniques of capture, husbandry, and harvest. (Reitz and Scarry 1985)

The remains of industrial species are important to the analysis of artifacts because they may be the leftovers of raw material for production. Remains of either economic or industrial species can give clues to the effects of human use of those species, as with the dwindling occurrence of moas (birds of a large, flightless species) in eighteenth- and nineteenth-century Maori sites in New Zealand (Anderson 1989). Ecofacts can help reconstruct the environment of the site, ranging in scope from broad assessments of climate to detailed reconstructions of vegetation and shade at the site itself. Evans (1978), Pearall (1989), and Klein and Cruz-Uribe (1984) provide some basic information on the methods and techniques of analyzing biological remains.

Soils may not seem an obvious source of archaeological data, but they can reveal valuable information. The disturbance of soils by human activity produces features, artificial structures such as fire pits, trash middens, trampled paths, molds from wooden posts driven into the ground, and the like. These features are critical in helping the archaeologist understand the spatial patterning of activities (and the physical remains left behind by them) at a site. Soils also provide the demarcators for different vertical levels at a site, each representing a distinct period; since most archaeological sites were occupied for more than one period, sorting out the different periods is basic to any sensible interpretation. Finally, soils occasionally provide information about human activities that is inaccessible through other sources. At the Neville site, a prehistoric American Indian site in New Hampshire, high mercury levels in the soil were the only indicator that the site had been a seasonal fishing site for salmon (Dinecauze 1976:96–99). Useful sources on the analysis of archaeological soils include Cornwall (1958), Limbrey (1975), and Holliday (1992).

The spatial relationships of physical remains in the ground—their

context—is essential to proper interpretation. As noted above, the chronological sequence of remains is determined by their positions relative to one another. In addition, the distribution of materials in cultural terms is significant. An archaeological site with the remains of one hundred houses might yield one hundred boxes of gold coins, but the cultural significance in terms of class structuring is very different if (a) all the boxes came from one house, and the other houses had none, or (b) each of the one hundred houses had a single box of coins. The centrality of context to interpretation is what makes so many archaeologists near-maniac about precision in recording excavation information.

The range of remains and information that archaeologists deal with requires diverse skills and knowledge. For basic competence, an archaeologist should have at least some knowledge of chemistry, physics, zoology, botany, human anatomy, surveying, and mathematics. (Fortunately, specialists can handle the most demanding and esoteric analyses, but the archaeologist must have enough familiarity with the field to be able to use their findings thoughtfully.) Just like Sherlock Holmes, an archaeologist must integrate this wide variety of skills into a package that will permit the interpretation of clues to infer something about the behaviors that took place at the site. But the ultimate goal of archaeology is not to know more about seeds or stone tools or dirt: the reason for all this effort is to learn more about past human behavior. The final test of archaeologists is their ability to take the information on physical remains and context and use it to mount an argument for how the occupants and users of a site lived. This requires ingenuity, an understanding of how known societies function, and hard work.

Archaeology has an allure as a source of information—perhaps because of the tangible and seemingly pristine nature of its data—but it is no more ideal than documents or oral accounts. True, the archaeological record rarely is purposefully manipulated to deceive, since most physical remains are trash, abandoned materials, or accidental losses. But physical remains and context can be modified or destroyed by the forces of time, nature, and human activity, collectively known as site-formation processes. Imagine, for example, an eighteenth-century slave village in Jamaica. The occupants took most of their belongings with them when they left, leaving behind probably only broken and overlooked items. The trash heaps that once had contained marvelous data for reconstructing diet had been turned over by hogs, dogs, and chickens. The materials from buildings in which the slaves had lived might have been reused elsewhere on the plantation. The reason for the abandonment of the village might have

been a destructive fire or hurricane. Taken together, these factors ensure that the site has been transformed rapidly and dramatically from a functioning settlement to a husk of its former self. Then wait two centuries, during which time organic materials rot, metal artifacts corrode, soil is rolled by burrowing animals and roots, and parts of the deposits are removed by erosion. And all during this time, human beings may reuse the area for anything from picnics to a sugar-cane press to a dump for domestic waste.

Site-formation processes are fully analogous to selection, emphasis, transformation, and perhaps even fabrication in the reality-mediation model. Their impacts on an archaeological site can be just as profound. The archaeologist's job, in part, is to recognize the impacts of site-formation processes and take advantage of data sets that remain largely intact and interpretable. Schiffer (1987) provides an overview of site-formation processes and their roles in shaping the archaeological record.

The Relative Strengths and Weaknesses of Documents, Oral Accounts, and Archaeological Evidence

One of the reasons we advocate using as many kinds of data as possible is that this approach may permit the filling in of gaps that exist by chance in any single kind of data. For example, if no document or oral account mentions whether there was a mill in town, archaeological data could help fill in that blank. But there is another, deeper reason to use all three kinds of information (and others) if possible. Each kind of data has built-in weaknesses and strengths, and using documents in conjunction with oral accounts and archaeological evidence permits the ethnohistorian to take advantage of the strengths of each. This section outlines some of the major strengths and weaknesses of documentary, oral, and archaeological data.

Perhaps the greatest strength of documents is their abundant detail. Tribute accounts give specifics that no one would be likely to commit to memory or pass on to future generations as an oral account. A letter or diary may give insights into motivations, ideology, or rejected alternatives, as when Jesuit missionaries explained to their superiors why they selected particular villages for their chapels. A newspaper account may give detail on passing events that never or rarely would be recognizable archaeologically, such as an inauguration or a festival. And documents that were written at the time they describe are unlikely to suffer from the vagaries of memory that can plague oral accounts.

Despite their obvious virtues, documents also have significant weaknesses. First, they are the most likely type of data to be manipulated purposely by their authors. A document has an aura, and many authors seem to have thought of their potential place in history when writing. Hernando Cortés's letters (1971) from his expedition to conquer the Aztecs paint a picture of a powerful leader—decisive, wise, and brave. Bernal Díaz del Castillo's account (1963), written by a minor member of the expedition at a later date, paints a different picture of more group decisions, confusion, and fear. It is easy to see either Cortés as an aspirant to a heroic role in history, or Díaz del Castillo as a disgruntled spoiler. Vested interest runs strong in many documents.

Another difficulty in interpreting documents concerns extrapolating from the particular to the general. If a trading expedition is mentioned in a document, it may be difficult to know whether such expeditions were a regular occurrence or an exceptional event worthy of special note. If you are fortunate enough to have many documents treating the same issue, you may be able to make a reasoned assessment of whether trading expeditions were common or rare, but in the absence of a rich documentary record, you may be unable to draw any strong conclusion.

A further weakness of documents lies in the fact that they largely were the domain of the rich, educated, powerful members of society. Especially when nondominant ethnic groups were involved, it is important to remember that most documents dealing with them were written by members of the dominant ethnic group and have been filtered through a screen of bias, ignorance, and indifference. How much do most documents of slavery in the American South reflect the attitudes, ideas, and experiences of the slaves? Many accounts were written by slave owners or abolitionists, neither of whom could be considered authorities on slave life. Even the few accounts written by slaves themselves are subject to bias, since literate slaves usually led singular, atypical lives.

Women are also underrepresented in the documentary record. Since relatively few women's accounts were written in many periods and places, traditional domains of women (food preparation, child rearing, and other domestic occupations) are poorly described in documents: when they are described by men, the descriptions often suffer from lack of detail, limited personal experience, or stereotyping. A cynical statement of a widely held conclusion is that documents generally tell you everything you may want to know about rich, educated, politically active, urban, white males, but only limited amounts about other people.

Oral accounts share many qualities with documents. Oral accounts

certainly can provide tremendous detail, but rarely so much as documents. They can relate motives and psychological states as well as documents can, and they can deal with ephemeral events, but, unfortunately, they also share documents' ability to be distorted and manipulated by tellers with a vested interest or bias. They also are more subject to alteration over time, since there is no physically extant original version to consult in case of doubt.

One advantage of oral accounts over documents is the access that everyone has had to creating them. Since they require no technology or skill beyond that common to everyday living, oral accounts can come from any society or segment of society, regardless of its members' education or economic status. Further, many societies have very strong and comprehensive oral traditions, producing an abundant data source. The Afro-American tradition is one that has focused on oral accounts, and many narratives of slavery days were once extant in oral form, although relatively few have been recorded.

Peter Schmidt (1990) — reviewing the success of using a combined database of documentary history, oral accounts, and archaeology in studying Africa's past — has concluded that oral accounts have a simultaneous virtue and failing. On one hand, they are very good at pointing out “processes of transformation”: significant turning points in terms of ongoing political and economic processes. On the other hand, they are not always reliable in terms of literal chronicling of chronology and events — the logical consequence of their stripping away some literal recording of events to emphasize what is considered significant. Giving this conclusion a slightly different twist than did Schmidt, oral tradition helps focus attention on the cultural changes judged important by the keepers of the traditions, giving us an insight into perceptions of the people under study.

That way that oral accounts have been collected by scholars has limited their usefulness. Collection typically was rare and haphazard until quite recently. Ethnographers began soliciting oral accounts in non-Western societies only about a century ago, and historians gathering them in Western society began in earnest only about 1960. As a result, oral histories of many periods of interest to ethnohistorians are no longer available, and even the oral traditions are old enough to lead to concerns over their historical accuracy.

Archaeology differs considerably from documents and oral accounts in its strengths and weaknesses. Probably its greatest strength is that it is quite unlikely to be manipulated by individuals with bias or vested interest. True, the rare monuments by and to the rich can be attempts to

mislead and manipulate one's place in history. Mayan inscriptions, for example, often laud the virtues of the ruler who commissioned them, as do the inscriptions on the faces of museums and universities founded by robber-baron industrialists in the United States around 1900. The bulk of archaeological remains, however, are trash of one form or another and not so subject to manipulation.

Another strength of archaeology is the quantification that it remains facilitate. A document might say that little beef was eaten in China Flats (the Chinese quarter of the mining-supply community of Jackson, California), but archaeology could give a quantified estimate by excavating trash heaps and reconstructing the meat diet evidenced by bones and other refuse. We know from documents that Indians in coastal New England abandoned native stone tool technology in favor of European metal tools, but archaeology allows us to trace the transition in detail, noting how fast it occurred and what regional variations there may have been.

For students of technology and material culture, archaeology is particularly strong. Its database is largely items of technology, providing powerful support for technological studies. While documents often focus on finished items and their use, archaeology can reveal all stages of production, failed and discarded attempts, and waste materials — all of which can be useful in a full reconstruction of the technology underlying a product.

Archaeology does, however, have its weaknesses. In general, it is weak at providing information about ideology, motivations, or social activities. These arenas often produce scanty, nondescript, equivocal, or enigmatic remains permitting few archaeological conclusions. Although we can tell with considerable confidence how the occupants of Fort Laurens in Ohio built their stockade, archaeology provides no clues to why they made those choices, nor does it give much evidence of the sorts of social interaction that took place within it.

Archaeology also is very poor at providing information on ephemeral events. We may know from documents that an annual trading fair was held in the plaza of Picuris Pueblo in New Mexico in the seventeenth century, but it is unlikely that we could find any archaeological information about it. The plaza would have been cleaned after the fair, and any remains that might have indicated the fair or any details about it would have been swept away. Similarly, the remains of many rituals and singular events have been merged into a more amorphous archaeological record that is better at showing general conditions and processes than specific events.

Similarly, the archaeological record is poor at allowing the identifica-

tion of particular individuals and their remains. The exception is in urban and other areas where detailed maps and documents permit archaeologists to know whose house is being excavated. Even then, however, it may be difficult to identify an individual's archaeological remains. For example, wine and liquor bottles have been found archaeologically in the trash pits of prominent Boston temperance leaders who claimed (in documents) to abstain from all alcoholic beverages. On the face of it, this example seems to attest to how archaeology can sleuth out truth that hides from documentary history. But does it really? Probably drinking went on at these houses, but the drinkers may have been the servants, or the leaders may have permitted themselves to serve liquor to guests who drank, while abstaining themselves. Archaeology simply cannot discriminate between the activities of individuals who share trash disposal areas.

Fortunately for ethnohistorians, many of the strengths and weaknesses of documents, oral accounts, and archaeological evidence are complementary. Gordon Day (1972) has demonstrated that a far more believable picture of Rogers's Raid on an Abenaki village in 1759 can be obtained by combining documentary evidence with oral traditions than could be derived from either alone; Peter Robertshaw's study of the Baewezî kingdom of Uganda (1994) skillfully uses archaeological and oral traditional information to their mutual benefit; Marley Brown (1973) has eloquently shown how documents, oral history, and archaeology interweave to produce a remarkably thorough picture of the Mott Farm in New England—the number of examples could be multiplied indefinitely. Because the different types of information about the past are complementary, using all available evidence permits researchers not only to check conclusions based on one set of evidence, but also to draw conclusions otherwise unsupported by data. Table 11 suggests the relative strengths of the different sorts of evidence.

Analogy

Sometimes, after marshalling all the available direct evidence, significant gaps remain. The documents, oral accounts, archaeological data, and other data sources all can remain mute, even on an important issue. Do we have any way of filling in that gap? The answer, as with most interesting questions, is both yes and no. Certainly there is no substitute for direct evidence, so in one sense we have no recourse. There are, however, ways to construct arguments for what was most likely, and one class of such

Table 11. Relative Strengths of Different Evidence about the Human Past

	Oral		
	Documents	Accounts	Archaeological Evidence
General detail	****	***	**
Motivations and ideology	****	****	*
Social events	****	***	*
Technology	***	*	****
Ephemeral events	****	***	*
Identification of individuals	****	***	*
Quantification	***	*	****
Depth of accurate time coverage	***	*	****
Range of creators of the data	*	***	****
Survival and contents unchanged by time	****	*	**
Freedom from purposeful manipulation	*	*	****

Note: Greater strength is indicated by a greater number of asterisks.

arguments is analogy, arguing that something is likely in an unknown case because it is known to have occurred in similar cases.

An example of the use of analogy is concluding that woolly mammoths were grazing herbivores. Mammoths went extinct several millennia ago, so no living person ever saw them eat grass; the great span of time makes oral tradition an unlikely source of information on them; they were gone by the time writing was invented, so we have no documents relating to them; the paintings and other pictures of them that have survived from prehistory provide no insight on their feeding habits; and no preserved grass ever has been found lodged in their teeth. Nonetheless, in the face of this lack of direct evidence, we can comfortably conclude that mammoths grazed on grass. Their closest modern relatives, elephants, are grazers, and mammoth teeth fit the classic pattern of known grazing herbivores. Further, mammoth fossils are found mostly in places that were grasslands at the time of the mammoths, and an animal as large as a mammoth would probably be unable to support itself by any means other than herbivory. The relevant similarities make the argument by analogy that mammoths were grazers. Nothing has been proven, but the conclusion seems a good bet.

Analogy can be used in the study of past human behavior, too. Some-

times it serves as a last resort in the absence of evidence; other times it can stimulate ideas and suggest new sources of evidence. Three kinds of analogy are most commonly used in ethnohistory: general ethnographic analogy, direct historical analogy, and experimental analogy. Harris (1968:150 ff.) provides a history and critique of the use of comparison and analogy in anthropology and related fields, and Charlton (1981) reviews the use of analogy in ethnohistory.

General ethnographic analogy refers to an analogy that is drawn between some ethnographic or historical case and the case in question. For example, documents, oral accounts, and archaeological data tell us that seventeenth-century Cherokee Indians ate clay with certain foods, principally root foods. There is no clear indication in the documents about why they followed this practice, and oral accounts offer little help, but general ethnographic analogy can provide some possible explanations. Some Puerto Ricans, for example, eat red clay to provide symbolic heat that helps balance their systems and maintain their health, according to folk medical concepts. In South Africa, some pregnant women eat clay with various foods, apparently to provide nutrients that are needed in larger quantities during pregnancy. Many Peruvians eat clay along with certain potatoes that have high concentrations of allotoxins, and the toxins form a chemical complex with the clays, detoxifying the potato. There are other possible analogies, but these three will suffice for this example.

The easiest (and most improper) way to proceed is simply to select the possibility that appeals most to the researcher. Since a different possibility may appeal more to another researcher, there need to be some rules for deciding which is the most likely possibility. To make a more reasoned selection, the researcher has to consider reasons *why* each of the ethnographic groups eats clay and determine whether each is likely for the Cherokee. There is no evidence of Cherokee hot-cold medical concepts, so the Puerto Rican case seems inappropriate. The South African practice is restricted to pregnant women, while all sorts of Cherokees are clay, disqualifying this as an appropriate analogy. The Peruvian case, however, is more promising. Coupled with the knowledge that the roots eaten by the Cherokee had high concentrations of toxins, this analogy seems appropriate. The connection is not proven, of course, but it is supported and may be provisionally accepted.

General ethnographic analogy is easy to use — and easy to misuse. The force of an analogy rests with how well the argument of relevance is supported. Some scholars have argued that the best ethnographic analogies are drawn from the same region as the case in question. This often

may be true, but we argue that a good analogy from another continent is stronger than a poor analogy — where the similarity of circumstances and the argument of relevance are weak — from next door.

The second kind of analogy commonly used in ethnohistory is called *direct historical analogy*, referring to the drawing of an analogy from a group that is the direct historical descendant of the group in question. This term and concept are taken from the direct historical method pioneered by the Bureau of American Ethnology scholars in the latter half of the nineteenth century but popularized by the works of William Duncan Strong (e.g., 1935, 1940) in the first half of the twentieth century. Fred Eggan (1954) further refined direct historical analogy for ethnohistoric use, converting it into his “method of controlled comparison” for reconstructing earlier practices on the basis of practices of presumed descendants. William N. Fenton (1953) coined the term “upstreaming” to denote the backward ethnohistoric tracing from the known present to the less-known past, and Blu (1994) uses “reading back” for a related process that incorporates a greater recognition of interpretive complexities, including what we call reality mediation.

A direct historical analogy for the seventeenth-century Cherokee would be drawn from the Cherokee of subsequent centuries. The reasoning behind this kind of analogy is that many cultural traits will have persisted from an early period; a trait that is present at a later date may well have survived with little or no change from the earlier period. In the case of Cherokee clay eating, we have documentary and oral evidence from the eighteenth and nineteenth centuries that indicates that clay was eaten with bitter (that is, roxin-rich) roots and tubers to make them more digestible.

A strength of both general ethnographic and direct historical analogy is that they offer possible interpretations of enigmatic records or materials, sometimes filling in gaps in the documentary or archaeological record. For instance, although spinning thread and weaving cloth were major occupations of ancient central Mexican peoples such as the Aztec and Mixtec, it was women’s work and not laborately documented by Spanish friars and others who left us detailed records of other realms of life. Yet many indigenous Mexican women today, particularly in remote villages, still retain these technologies (Anawalt and Berdan 1994). Interviews with these women in their native languages reveal a wealth of data on technology, learning processes, design patterns, and symbolic meanings. Of course, nearly five hundred years have elapsed since the Aztec apogee, and many cultural changes have occurred in that time. These cultural descendants nonetheless provide a basis for interpretive upstreaming.

Most ethnohistorians feel direct historical analogies to be stronger

than ethnographic analogies because of the direct connection between the societies involved. This may be true, but it should be remembered that both can be powerful tools of cultural reconstruction, although neither is foolproof. H. Martin Wobst (1978) has warned of the dangers of what he calls "the tyranny of analogy." He maintains that we should avoid assuming that all the possible variants of cultural behavior have been recorded in the historic record: there may be cases where no analogy is appropriate.

The third kind of analogy relevant to ethnohistory is *experimental analogy* (more commonly known in archaeological usage as "experimental" archaeology). This consists of experimentally performing certain activities believed to have been performed in the past to gather information about them. While this kind of analogy has provided considerable benefit to archaeologists, ethnohistorians have taken less advantage of it. Nonetheless, experimental analogy has noteworthy potential for assisting in ethnohistoric interpretation.

In the hands of archaeologists, experimental analogy has been used to attack all sorts of interpretive problems. When confronted with enigmatic *chultúns*, subterranean chambers of unknown function at ancient Mayan cities, Dennis Puleston (1971) experimented by filling some with water to see if they would serve as cisterns and using others to store various foodstuffs. The storage of breadnuts stood out as far and away the most effective use of the *chultúns*, suggesting that they were specialized breadnut storage facilities, and that this foodstuff had greater dietary importance than previously believed. In another example, Sergei Semenov (1964) used stone tools for certain tasks, then examined them under the microscope to determine which wear patterns characterized different uses; techniques developed by him and his successors permit archaeologists today to make good assessments of how archaeological stone tools were used before being discarded. Experimental archaeologists have rafted over oceans, built earthworks, re-created Iron Age musical instruments, and burned down buildings to see the resulting spatial patterning of remains. The goals of experimental archaeologists are various, but they mostly fall into a few categories:

- To see whether a particular practice is feasible (e.g., building Stenochenge without power machinery)
- To better understand the nuances of a practice by performing it (e.g., cooking in water heated by placing hot rocks in it to determine how hot the water becomes and the technical difficulties of handling hot rocks)

- To quantify the time, effort, or resources needed to complete a task using past technology or to quantify the outcome of a practice (e.g., the relative efficiency of stone and steel axes in cutting trees)
- To quantify the success or failure rate in a practice (e.g., the breakage rate during firing of ceramic pots using seventeenth-century practices)
- To determine the signature characteristics of different technologies, practices, and tasks so that they can be identified when they appear archaeologically (e.g., cutting wheat stalks with stone sickle blades to determine the distinctive wear polish produced)
- To examine the impact of site-formation practices on archaeological remains (e.g., placing items in a field, plowing the field, and plotting the new locations of the items to see how much movement of artifacts can be expected in plowed fields).

Examples of various experimental archaeology studies are given by Coles (1973) and Ingersoll, Yellen, and MacDonald (1977).

What is significant about this list of goals of experimental archaeology is that the first four are equally applicable to ethnohistory. In 1528 Alvar Núñez Cabeza de Vaca reported a skirmish between his Spanish troops and the Indians of Apalachen in Florida: "Good armor did no good against arrows in this skirmish. There were men who swore they had seen two red oaks, each the thickness of a man's calf, pierced from side to side by arrows this day" (1961:42). Were the men Cabeza de Vaca wrote of accurate in their statements? Certainly there is sufficient information on bows, arrows, arrowheads, and armor to support an experiment to see whether the penetrating power of the arrows was so great as described herein. This is a feasibility study of the sort discussed above.

It is inconceivable that any task described in the ethnohistoric literature could be re-created experimentally without learning something of the nuances involved. Lantitis (1970:186) discusses the efficacy of eighteenth-century heating and lighting among the Aleut, whose "little flatiron-shaped stone lamps provided light and heat, probably not much of either per lamp." Is this consistent with the recognition that these lamps were the only heating and lighting sources in the subterranean Aleut houses? The form and fuel of these lamps is well known, and an experiment could measure how much heat and light were produced, quantifying efficiency of the device. Juan Nentvig (1980:37) noted in 1764 that the (O'odham?) Indians of the Sonoran Desert gathered *Opuntia* cactus pads, boiled them, and dried them for later use. Were there any problems of spoilage or other

loss? Experimentation in the appropriate season and climate would be simple and would evince the success-failure rate of the process. These are simple examples, but the number of meaningful experiments that could assist ethnohistoric interpretation, particularly in terms of technology and economics, is great.

While oral accounts and archaeology are sources of evidence to complement documents, analogy is a different kind of tool. It provides no new evidence of the direct sort, but it is a conceptual tool that permits indirect evidence — from different places, peoples, or times — to be brought into play during interpretation. Indirect evidence will never prove a point, but it can make a strong argument.



Case Study *in Complementary Evidence*

THE CUSTER BATTLE

When gold was discovered by a scientific expedition into South Dakota's Black Hills in 1874, it set off a string of events that led to the famous defeat of Gen. George Armstrong Custer and the Seventh U.S. Cavalry at the hands of the Lakota Sioux and their allies. Word of the gold leaked out; there was a rush of Anglo-Americans to exploit it; Sioux lands guaranteed by treaty were violated; and many Sioux left their reservations to find their livelihood elsewhere or to conduct guerilla warfare. Fearing a widespread uprising, the U.S. government dispatched the cavalry to return the Sioux to their reservations. This chain of events led to June 25, 1876, the date when Custer's troops and an intertribal Indian force battled one another, resulting in the annihilation of Custer and his forces. The use of documen-

tary and archaeological evidence in studying the Custer defeat illustrates how these two kinds of evidence can complement one another.

Complete destruction of a military force is rare, so it is unusual to have no survivors' reports from the losers. Nonetheless, there is no shortage of accounts of the battle and the events that preceded it. Custer was making reports up to the date of the battle, and other cavalry forces under Maj. Marcus Reno suffered heavy losses but escaped being wiped out entirely. Many Indian combatants left behind oral accounts, and at least several dozen were recorded in English translation. (These are notable in that most attribute the Indian victory to preordination through the Sun [DeMallie 1993:517–520].) In addition, testimony from various quarters was brought out and recorded at the extensive military inquiry that followed. On top of all this is the archaeological evidence, mostly gathered by a National Park Service team in 1985, when an accidental brush fire swept over the battle site, denuding the ground and providing unprecedented conditions for conducting survey and excavation.

The voluminous evidence pertaining to the battle touches on many contentious points, but this case study focuses exclusively on the question of Indian armaments. U.S. military intelligence prior to the engagement had indicated that the Indians had few firearms, primarily outmoded single-shot rifles of various sorts with only a few repeating rifles. (The tactical advantage of repeating rifles was considerable, allowing a combatant to fire up to a dozen shots without reloading.) On this information, it was judged reasonable to send a force of a few hundred cavalrymen into a district where several thousand potential insurgents were known.

News of Custer's defeat reached the outside world rapidly, and on its heels arose the heroic Custer myth, emphasizing aspects of pathos and romance (Rosenberg 1974). The logical outgrowth of this myth was the search for answers to how such a hero could have died so tragically. One suggestion was that the armament advantage of the Indians was too great even for Custer to overcome. This arose the contention that the Indian forces had a great number of repeating rifles. This speculation, though probably founded in an attempt to bring the Custer story into the heroic genre, was not without supporting evidence: He Dog, a Sioux participant, maintained that the Indians had a great many Winchester, a common type of repeating rifle (Hammer 1976:208), and several other Indian combatants said the same thing. Others, however, presented a different story: Wooden Leg cited bows and arrows as the most common weapon at the battle, and mentioned that he and his companions had revolvers (Marquis 1931). Some warriors reported scavenging weapons and am-

munition from dead cavalry soldiers for use against the enemy (Hardoff 1991:44); others made no mention of such activities. The variety and divergence of Indian accounts of the battle probably is an artifact of Sioux military tactics, which encouraged individual exploits but placed little emphasis on overall planning or coordination, leaving no participants with a broad perspective of a large engagement.

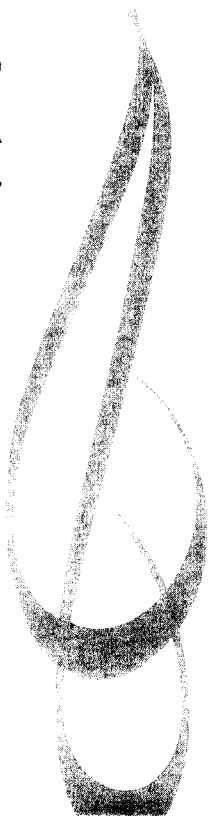
The archaeological work at the Custer battlefield (Scott, Fox, Connor, and Harmon 1989) recovered more than two thousand bullets and cartridge cases. Archaeologists were able to reconstruct quite satisfactorily from where a shot was fired (based on the location of the ejected cartridge case) and to where the shot was directed (based on the location of the spent bullet). The level of detail about the positions and movements of the combatants (known from oral accounts and the government inquiry) permitted the archaeologists to further infer who was doing the firing and who was the target. Finally, examination of firing pin and ejector marks permitted analysts to reconstruct what kinds of weapons were used to fire the bullets whose casings were recovered; examination of land-and-groove marks (longitudinal scratches visible under magnification) permitted the same sort of information to be reconstructed on the basis of bullets recovered. Thus it could be determined whether a .44-caliber bullet had been fired from a Winchester repeating rifle, a Smith and Wesson pistol, or any of the other weapons firing a bullet of that size in 1876.

The archaeological analysis concluded that the Indian forces arrayed against Custer possessed between 354 and 414 firearms, of which between 198 and 232 were Winchesters and Henrys—repeating rifles (Scott, Fox, Connor, and Harmon 1989:118). This means that the Indian forces outfitted Custer's forces about two to one, and that they probably had more repeating rifles. Some historians (e.g., Hoffing 1981:48) have suggested that this military advantage might have been offset by shortages of ammunition, though evidence for this conjecture seems scanty.

Weaving these threads together produces a picture of the Custer battle superior to any interpretation based on only a single category of evidence. The intelligence available to Custer apparently was severely flawed. Although some contingents of Indians were armed poorly, others were armed very well, and the overall armaments probably favored the Indian forces. As the battle unfolded, Indian warriors increased their weapons advantage, commandeering the guns of dead cavalrymen.

Neither archaeological evidence nor oral accounts seem to warrant a conclusion that Indians were short on ammunition. Even though the argument that Custer was outgunned may have been born of a wish to

excuse a hero's defeat, it seems to have merit and is supported by diverse lines of evidence. The argument built on documents, oral accounts, and archaeological evidence is stronger than any that could have been constructed using one sort of evidence alone.



Case Study in Analogy

NATIVE MEXICAN WEAVING TRADITIONS

In the verdant mountains of the Sierra Norte de Puebla, more than one visitor has had the distinct impression of traveling back in time. It is a region in east-central Mexico, off the beaten track, that contains many communities where people today retain languages and customs from the indigenous past. Many villagers speak Nahuatl, Nahuat, Otomí, Totonac, or Tepehua, often in bilingual combination with Spanish. Agriculture is performed largely with hoes and digging sticks; shamans are called on to cure illnesses; many people wear anciently styled clothing; and some women continue to weave cloth on backstrap looms, much as their predecessors did. This case study shows how our knowledge of past weaving behavior can be expanded through judicious use of direct historical analogy.

The Nahuatl speakers in this rural region are not, technically speaking, the direct descendants of the Nahuatl people generally referred to as "Aztecs." This latter term usually refers to a specific ethnic group, the Mexica, who settled in their island city of Tenochtitlan in the Valley of

Mexico, coming to dominate much of central and southern Mexico in the fifteenth and early sixteenth centuries. Today, Tenochtitlan is buried under a burgeoning Mexico City. But the Mexica were not unique in their language and customs, both were shared by peoples in other areas such as the Sierra Norte de Puebla. So, while we do not have a neat direct historical analogy from the present-day Indians of the Sierra to the well-documented Mexica, it is reasonably close. The topic for discussion, in any event, is one of pan-Mesoamerican breadth: the weaving of cloth on the backstrap loom.

In this case, the behavior we wish to study (weaving) is not terribly well documented either archaeologically or ethnohistorically. The loom itself is but a bundle of wooden sticks held together by the warp and weft of threads—hardly a promising candidate for archaeological preservation. Other implements sometimes used, such as a bone pick, may well have survived archaeologically but have only rarely been unequivocally identified as weaving tools. Ethnohistorically, a few pictorial documents and textual sources from early colonial times depict and describe the weaving process, but only scantily; the native informants for these documents were typically men—weaving was women's work—and the Spanish friars and secular officials who frequently collected information tended to focus on religious rituals or political matters such as dynastic succession. Similarly, native writers were heavily concerned with their own rights under the new Spanish regime and emphasized their particular histories, kingly reigns, and glorious wars. Everyday work, especially women's work, was largely neglected in the ethnohistoric accounts.

What, then, can present-day Nahuatl speakers tell us about ancient Mexican customs? In particular, what information can be gleaned from native women concerning one of their primary areas of work, the weaving of cotton and maguey fibers into cloth? The application of analogy is appropriate in this case, where some women today weave cloth on backstrap looms similar to those used by their pre-conquest predecessors (see Anawalt and Berdan 1994).

One area where analogy is fruitful is in unraveling details about the weaving process itself. Ethnohistoric documents inform us that girls were adept at weaving by age fourteen, but virtually nothing more is said about that process. Interestingly, present-day girls are considered to be skilled weavers by that same age, too; but we also learn that they begin around age five or six, learning progressively more complex techniques. The progression seen today—from the weaving of simple narrow belts to the

creation of complex designed fabrics—is a likely scenario for pre-conquest weaving.

Direct historical analogy is particularly useful in discovering linguistic usages and patterns. A full array of specific terminologies for the loom itself, for aspects of the weaving process, and for types of woven cloth can be elicited from present-day weavers. This information augments nonglossed pictorial details drawn centuries earlier. Analogy can also help clarify unclear ethnohistoric information. For instance, some pieces of cloth are described in a sixteenth-century Nahuatl source as “canaac” and defined in a sixteenth-century Nahuatl dictionary as “narrow cotton cloaks” (Molina 1970:12r). The term “narrow” can be ambiguous (and has usually been thought to mean narrow in width), but contemporary weavers have told one of the authors of this book that “canaac” means “fine,” “gauze,” or “gauzelike” (pers. comm.). This could explain why these cloaks are depicted the same size as others yet still were called “narrow.”

Analogy also can reveal much about historic change in weaving. It can be seen that the backstrap loom and its attendant weaving processes are highly resilient in the face of introduced materials and technologies. The loom has readily incorporated wool and synthetic thread with essentially no modification in the traditional technology. Furthermore, the tenacity of this type of weaving is illustrated by the extension of specific loom terminology to analogous parts of modern sewing machines that have recently arrived in the Sierra. This information alerts us to particular qualities of this technology, notably its constancy and ability to embrace new elements; these qualities probably would have characterized the loom in pre-Hispanic as well as later times.

Yet caveats are in order whenever analogy is applied. Even though the weaving technology and process resemble that described for earlier times, subtle changes can emerge over the intervening centuries. The use of wool can encourage the development of sturdier loom pieces, new designs may carry ancient names, and ancient styles may be given modern (though still Nahuatl) names. These intrusions are sometimes difficult to detect, so while analogy is a useful and even powerful tool, it must be applied with scholarly care.

Formulating Research Topics and Research Designs

No amount of methodological expertise will produce a valuable piece of ethnohistorical research if the researcher does not have a worthwhile topic in mind. What constitutes a valid and valuable research topic in ethnohistory? How does a researcher come up with such a topic? How can the research process and the data cause modifications in a topic? What is the best way to plan one's research? The answers to these questions are interwoven with the personal philosophy and theory that each ethnohistorian brings to the research process. Nonetheless, there are some general principles that can guide the formulation of research projects.

Valid Topics and the Frontiers of Research

The basic principle behind all research in ethnohistory (or any other field, for that matter) is that it should extend knowledge. Knowledge, of course, is a multifaceted thing, consisting not only of facts but also of interpretations, methods, theory, and ideas. Valid research may collect new facts, revise our evaluation of existing evidence to derive new interpretations, or apply novel kinds of analysis to existing facts.

Kinds of Research Projects

A piece of research may focus on some topic never before studied, or at least not studied in a similar manner, and such research can yield dazzling and far-reaching results. For example, the publication of Stanley Elkins's *Slavery* (1959) opened up the discussion of slavery from the point of view of the slave rather than as an issue over which powerful politicians argued. Elkins's focus differed from that typically taken in the study of slavery, and that encouraged him to look to another source of data: oral traditions preserved by slaves and their descendants, written down in the 1930s by

participants in the Federal Writers' Project. These traditions previously had been overlooked or dismissed as irrelevant by scholars studying slavery, but Elkins saw them as a window into slaves' experiences. Elkins's study touched off the examination of slavery as a way of life and was emulated by a new generation of scholars who developed similar interests under his inspiration. Such groundbreaking studies stake out new territory for ethnohistory and are particularly exciting, often stimulating new avenues of research. They are rare but highly influential in shaping future research.

But there are other ways, perhaps less spectacular but more common, to extend knowledge. A researcher might examine a familiar topic using a previously unstudied case, as when Sherburne F. Cook (1973b) examined the demographic collapse of the New England Indians in the face of disease introduced by Europeans. Cook and others had studied the impacts and devastation wrought by disease in many places in the Americas, and the basic pattern was clear: genetic resistance to European diseases was low among Native Americans, so death rates were tragically high, particularly among those in greatest contact with Europeans. Cook's research examined whether this pattern held true in New England and attempted to quantify its effects. In such a study, the main idea is borrowed (with appropriate citation and credit) from earlier work, seeing whether the same conclusions apply to the case under study. The most interesting research often results when the new research does not reveal the expected pattern, forcing the researcher to search for novel explanations.

Another way to extend knowledge in the field is to examine an already studied topic and data set but from a different theoretical or philosophical perspective. George T. Hunt's classic (1940) study of the ways of the Iroquois was hardly the first study of this topic, but it was the first to place such importance on the European-inspired fur trade as a causal factor. Nearly all scholars discussing the fur trade since Hunt's work have been reacting—either favorably or critically—to his ideas.

A variant on this latter kind of study is to examine a familiar topic and data set with new methods. Sometimes the new methods are well established and are simply applied to a new case, as with Russell Thornton's (1984) reassessment of population losses in the Cherokee forced migration known as "the Trail of Tears." Scholars before Thornton had simply considered the Cherokee's population decrease over the period of the migration, but Thornton also projected what the Cherokee population might have been if the forced migration had not occurred. The method of

projecting populations forward had been used elsewhere, and its application to the Cherokee is a good example of bringing together an established method, a familiar problem, and well-known data to produce a new combination.

Other times the methods may be new or imperfectly tested, and their use on a familiar set of information is largely to evaluate the utility of the methods. An example of this is Cary Meister's study (1980) of different statistical ways of evaluating the accuracy of ethnohistoric demographic data. His study of Pima and Maricopa demography was secondary in Meister's mind; what was most important was the evaluation of various statistical methods to see which ones proved most useful.

Sometimes an ethnohistorian performs a valuable service by bringing together as much information on a subject as possible. This is particularly true when the data are difficult to collect, such as when they require knowledge of an uncommon language, when they are scattered widely in manuscripts, or when they are very extensive. For example, Elizabeth Boone (1992) has done an exhaustive study of the history of Aztec imperial rulership. She has systematized thirty-nine different historical sources (pictorial and textual, written in Spanish, in Nahuatl glyphs, or in transliterated Nahuatl) in terms of the reign dates of each imperial ruler. In the course of the presentation, her study not only revealed commonalities and contrasts among the sources themselves but also derived a typology consisting of "types of histories." The former is particularly interesting to Aztec researchers, and the latter provides a useful model for researchers to apply to other historic empires.

The Importance of Reading the Literature

Every experienced researcher knows that devising a research topic is one of the more magical things that can happen in research. After a period of thought, things suddenly fall in place, and you have an idea, and maybe even a way to approach working with it. This organic process has mysteries in it, even for the most experienced researcher. But there almost always is an essential step: reading the literature in the discipline. Scholarship is, at least in part, a cumulative endeavor, and every study is built on the backs of those that preceded it. The corpus of published ethnohistoric research is a valuable resource that can stimulate new ideas.

When embarking on a piece of research in ethnohistory, be sure to read the secondary literature that deals with the same issue. This will provide ideas about what research problems colleagues have considered

important, what approaches those colleagues have used, and what data are available. In addition to this directed reading, it also is wise to read widely in ethnohistorical studies, sampling from around the world. This kind of reading will build a fund of information about what topics are considered valuable by ethnohistorians working in other regions and how they have conducted their studies. There are regional differences in any field, and topics that are returned to again and again in one place may be neglected elsewhere. The broader one's knowledge, the more profitably one can transplant an idea from another area to the region of one's specialty. Similarly, it often is rewarding to read beyond ethnohistory, taking advantage of the ideas circulating in the broader fields of history, anthropology, and other disciplines.

Usually a reading of the current ethnohistoric literature will point out "hot spots"—areas of prevailing concern for many scholars. These areas are popular, attracting a great deal of attention and often stimulating the development of ideas at a rate faster than scholars can conduct studies to examine them carefully. As a result, these areas of current attention often are fertile grounds for borrowing existing ideas or for stimulating the development of new ones.

Less heavily studied topics, however, are equally valid. Sometimes a topic is virtually ignored by scholars, not because it is intrinsically uninteresting or difficult to deal with, but simply because there are so many topics and so few ethnohistorians. The role of Jewish settlers in Utah, for example, is a fascinating one, begging for examinations of the interplay between Judaism and Mormonism, maintenance of religious identity and possibly crypto-ethnicity, the role of religious tolerance in Utah, parallel charitable traditions, and possible economic competition and conflict. Despite the research potential of this topic and the wealth of documentation, it has been virtually unstudied to date.

Ethnohistorians sometimes return to a topic that was popular some years before. As scholarly trends and fashions change, the ideas ethnohistorians bring to a topic change, and the revisiting of a formerly popular topic can bring new insights. In the 1960s, for example, ethnohistorians showed a great deal of interest in missions and religious conversion, often considering this phenomenon a manifestation of acculturation. As the potential of that perspective began to play out in the face of a steady stream of studies, religious conversion became a less popular topic in the discipline. Then, in the 1990s, interest revived, largely in response to new ways of viewing conversion, particularly in terms of the converts' use of religion to promote their political self-interest.

What Makes a Topic Worthwhile?

There are no simple rules for finding a valuable research topic, and part of the genius of landmark studies has been recognizing that the idea was worth pursuing. Nonetheless, a few guidelines can assist in judging whether an idea may be worth pursuing.

- Does the topic provide some new knowledge about human activity in the past?
- Is the topic new, one that has previously received no study?
- If the topic has been previously studied, will this new research bring new data to the study?
- If the topic has been previously studied, will this new research use new evaluations of previously known data?
- If the topic has been previously studied, will this new research bring new theory, assumptions, or ideas to the study?
- If the topic has been previously studied, will this new research use new methods?
- Will this study permit the refutation, confirmation, or extension of the conclusions of a previous study?
- Will this study bring together data currently unavailable to a major segment of scholars with interest in the topic?

If the answer to any of these questions is "yes," then the research topic has the potential to make a contribution to the fund of knowledge in ethnohistory.

There are, however, projects that probably have little or no research value. A few criteria for recognizing them are:

- Is the research merely a rehash of a previous study, with no new ideas or data? In other words, is the research redundant?
- Is the research simply a compilation of information widely known and available elsewhere?
- Is the potential conclusion of the research of such minor importance that it fails to justify the effort of the research and the space devoted to its publication? In other words, is the research trivial?
- Is the idea interesting but unfeasible because the required data do not exist or are unavailable and cannot be gathered?

If the answer to any of these questions is "yes," reconsider whether this research topic is one you wish to pursue.

The first criterion for projects of dubious value warrants a bit more discussion. Where is the line between a mere repetition of what has al-

ready been done and a confirmation of a pattern observed before? This is a difficult question, and the only court to decide it is the community of ethnohistorians as a whole. If ethnohistorians mostly feel that a point has been demonstrated to the extent that no further study is worthwhile, then further study becomes — by definition — redundant.

If in doubt, particularly about whether the research might be considered trivial or redundant, consult other ethnohistorians to solicit their opinions. Never be ruled solely by others' opinions, but remember that the priorities of any academic endeavor are set collectively by the specialists in that field.

The Research Design

"You only find what you look for?" The world is very complicated, and this old folk saying speaks to the difficulty of paying equal attention to everything in it. Ethnohistorians, too, have to direct their attention to particular areas of interest, or they will risk missing the most valuable information. One way to focus attention is through a research design.

A research design is a written document, prepared before embarking on the main phase of a research project, that spells out the goals, methods, and logic of the research. Research designs originated in the sciences, where experimental or field research requires a great deal of planning and preparation, in terms of both scientific method and logistics. Social scientists began adopting research designs in the 1950s and 1960s, and they are commonplace today in many social science disciplines. The literature on research designs is diverse and scattered, but general anthropological treatments of particular value for bringing together relevant ideas are Bernard (1994) and Werner and Schoepfle (1987); Gardner and Beatty (1980) provide a broader treatment, geared particularly toward graduate students preparing for dissertation writing.

Some researchers believe research designs are critical to good research, while others believe they are a bother that consumes time better spent on other tasks. This section will discuss the benefits and drawbacks of research designs, and considerations for those who wish to use them.

The Benefits of Research Designs

The most ardent critic of research designs will agree that every researcher needs to focus on certain goals in undertaking research. Proponents of

research designs argue that the writing of a research design is the best way to achieve this focus.

A research design is much like a map. Most students are confident that they know their way around a university campus, but if they were forced to draw maps of that campus, they probably would find portions where their knowledge would be vague, faulty, or nonexistent. The act of drawing a map forces them to recognize and confront these areas, just as the act of writing a research design forces a researcher to recognize and confront areas of a project plan that may not be well conceived.

Thinking through a research design obliges a researcher to *explicitly* consider a number of issues. What is the goal of the research? How can that goal be achieved? What kinds of data will support the achievement of the goal? How can those data be collected most effectively? These really are the most fundamental questions of research, questions that demand examining concepts, methods, and strategies. Perhaps most important, they require that the researcher explicitly link them together logically, explaining why a particular data set will shed light on the focus of the research.

Consider a research project dealing with the process of conversion to Christianity among the Mapuche Indians of Chile. In writing the research design for such a project, it would be imperative to consider exactly what aspect of conversion will be investigated. Incentives and motivations? Social characteristics of the converts? The strategies of missionaries? Several of these issues might be addressed in a project, and then it would be necessary to reflect on how they interrelate. Further, it is critical to consider what sources of information potentially would be available and how the various sources might provide useful information. The act of preparing the research design requires examining these aspects of the research systematically and explicitly.

Another benefit of writing a research design is that it compels the writer to review the relevant literature. For a newcomer to a specialty area, this is essential because it provides information on what research has already been performed, helping to avoid redundant research and to concentrate on vital issues. For a longtime specialist in the field, this review becomes a reacquainting with old friends. Either way, the review facilitates both recognizing the pitfalls encountered by one's predecessors and avoiding following them into the same traps.

Finally, a research design may serve several purposes once it is written. It provides a written document that can be circulated among interested colleagues for comments and criticisms. No one enjoys criticism, but it is

far more palatable before the research is conducted than after it has been completed and published. In addition, circulating a research design may alert a researcher to someone else who currently is investigating the same or a related topic. The research design also may be the core of a grant proposal for funds to conduct the research, a request for access to the holdings of an archive or museum, an application for a permit or license that may be required in some countries, or a proposal for a thesis or dissertation.

Probably most of the benefits of writing a research design could be gained in other ways. It would be possible, for example, to simply wade into a library or archive and start reading about the Mapuche and their conversion to Christianity. Eventually, it is likely that some ideas of interest would emerge, along with some notions of how to go about dealing with them. The real question is whether it is efficient to have those ideas and make those decisions earlier or later in the research process. Most experienced scholars prefer to make them earlier, an argument for research designs.

The Drawbacks of Research Designs

Scholars who quarrel with research designs fall into two camps. First, there are those who have nothing against research designs but believe that the effort expended writing them is greater than the benefits they confer. The decision of cost and benefit has to be weighed by each researcher.

Second, there are those who actively object to research designs, believing they damage the quality of research. One argument from such critics is that research designs have to be written too early in the research process, when the writer is not yet well enough informed to be able to formulate the best goals. As these critics see it, our early ideas often have a lasting impact on our later ones, perhaps blinding us to alternative ways of seeing things. The proponents of research designs would suggest that this is an argument for flexibility in research, not for the abandonment of research designs.

Another objection to research designs is that they may blind an ethnohistorian to unexpected opportunities. Anyone who has spent time in primary documents realizes that the researcher is always encountering nuggets of information that can be the core of new pieces of research, and some scholars are afraid that research designs will dampen their ability to take advantage of these finds. It would certainly be difficult to justify the mindless following of a research design to the exclusion of following up

interesting side issues and capitalizing on fortuitous discoveries. The research design should be a lens to focus attention, not a set of blinders obstructing the broader picture.

Finally, some scholars object to the philosophy that they see as embedded in the concept of a research design. The research design grew out of the nomothetic perspective of the sciences, and it is best suited to hypothesis testing, experimentation, and field exploration. Humanist scholars often feel that their approach—with its emphasis on introspection and subjective judgment—is ill suited to, and cramped by, research designs.

Whether or not one writes a research design prior to undertaking a piece of research ultimately is of little matter. It is important, however, that a scholar have a plan in mind before expending large amounts of time in research. Otherwise, efforts are diffused, and the project moves toward no clear goal.

Writing a Research Design

If you decide that a research design will benefit your project, try to keep it relatively short and to the point. After all, it is a means to an end, not the end in itself. There is no standard format for a research design, and the format should grow out of the nature of the project. Nonetheless, certain issues should be treated in any research design. The following paragraphs discuss the most important of these.

Obviously, the most crucial thing to include in a research design is the major goal of the research. This goal can be stated as a topic, a thesis statement, a question, a hypothesis, or a proposition—any form that suits the researcher's philosophical approach. No matter what its form, it should be presented in the clearest possible manner, avoiding "buzz words" that convey a vague but satisfying meaning. "To better understand Mapuche conversion to Christianity" or "to clarify the parameters of the Mapuche conversion system" should be refined to focus on specific aspects, theoretical approaches, or relationships. More specific goals are more likely to direct the research toward a successful outcome, goals such as "to investigate the effects of age and gender on the likelihood of Mapuche conversion to Christianity" or "to apply Larsen's ecological risk-minimization model to Mapuche conversion."

In stating a goal, it is important to justify it; if the research is worth doing, it should be possible to state why. If the research design ultimately will be used for any purpose other than stimulating one's own thinking,

the justification may be the basis for decisions about whether or not you receive funding, gain admittance to an archive, or attain approval for a thesis project.

Listing the existing literature on the subject can be important in three ways. First, compiling this list builds familiarity with the literature. There are few events more unsettling than being partly through a research project and discovering a published work that seems to have addressed a problem in exactly the way you intended. The fewer surprises, the better. Second, if a research design will be converted into a proposal that will be considered by anyone else, a thorough bibliography is an indication of good preparation for the project. The better the preparation, the greater the likelihood the project will be successfully completed, and the more supportive outside agencies are likely to be. Do not pad the bibliography, but be aware that the research design may be judged in part on its completeness. Third, the bibliography should be of use later in the project when it is time to return to the literature.

The link between goals and the data that support them is very important to delineate in a research design. Try to be creative in recognizing ways that a set of data could bear on goals, and then spell out exactly what the bearing is. For example, the Mapuche conversion study might use baptismal records and civil records of births. What exactly will these tell? Perhaps the civil records will reveal how many children were born, and the baptismal records what number of them was Christian. But be evaluative also. Do these records warrant sufficient confidence to support quantitative measures? Are there other records that would be more useful or provide supplementary information?

The methods used to collect the data should also be discussed in the research design. Collecting may be simply the reading of the records, but there could be many complications. Can the time spent in some archives be reduced by making photocopies or scanning the records into a portable computer? If the keepers of the archive will permit it, and it can be arranged (considering factors like dependable electricity and availability of the necessary equipment), is it desirable? Could the need arise for consulting other records in the archives to get additional information to clarify some entries? Try to anticipate every reasonable eventuality and be ready for it.

The research design should also discuss the methods to be used after the data have been collected. Back home there will be many hours of digesting the information collected, and having some idea of how that digestion will proceed is critical. Will there be quantitative analysis? If so, will it require access to computers? To special programs or expertise? Will

the project require a research assistant to help deal with the masses of data? (First-time researchers often underestimate how much work is involved in organizing, copying, entering, and checking data, and a student assistant often is very handy.)

When discussing methods of both collecting and analyzing data, remember the need to justify decisions. A decision to not quantify should be made because there are no major benefits to it, not because it is a bother or because the researcher does not like numbers. A decision to study a particular span of years should be justified by the project goals or the data limitations, not simply by convenience; this span should include contrasts of conditions if change is being studied, and it should contain more or less uniform conditions if a synchronic study is intended. Every decision ideally is a reasoned one.

If the research involves nothing more complicated than going to a local library, so much the better. Often, however, research involves travel, unfamiliar or foreign archives, or other factors that have impacts on the cost and effort of conducting the research. If these are part of a project, be prepared to support them somehow. This may mean seeking grant funding or spending extra time collecting data. The trick when writing the research design is to recognize potential problems and find ways to deal with them. Assuming that they will go away on their own later is a recipe for disaster.

Finally, a research design should include a statement of the project's feasibility. This may be implicit rather than explicit, but it is important that the researcher (and perhaps others who read the research design) be convinced that the project can be completed successfully. Problems are to be expected — both anticipated and unanticipated — but a thoughtful research design will suggest solutions for anticipated problems and will reduce the number of unanticipated difficulties that crop up later.

One way that research plans can be unrealistic is in the number of documents, oral histories, entries, or other pieces of information that can be collected. This is understandable because there usually is no way to estimate credibly the amount of relevant data available and how long it will take to gather them. The vagaries of different handwriting styles, misplaced documents in an archive, power outages, and other unanticipated snags make it exceedingly difficult to estimate how much work can be accomplished in the available time.

One way to deal with this is to establish several levels of acceptable accomplishment. There might be, for example, an optimal plan to examine all the Mapuche baptismal records in a village for the period under study, and the minimal plan might be to examine every fourth year of the

records; in between might be a plan looking at records from every two years. If the examination is more time consuming than anticipated, the minimum plan goes into effect; if more time is available, successively more desirable plans can be implemented. In approaching such a plan, it is wise to become acquainted with some of the practices and dangers of sampling, which are outlined in most texts on quantitative methods (e.g., Floud 1979; Thomas 1976).

The following checklist summarizes the major points that need to be covered in a research design:

- What is the goal of the research? Why is this important? How does the goal fit into the broader enterprise of ethnohistory?
- What is the existing literature on the subject?
- What are the data that will be sought to support the study? Precisely how do these data bear on the goal?
- What methods will be used in collecting the data? In analyzing them?
- What practical issues are involved in the collection and analysis of the data?
- Is the research feasible?

Of course, every project has its own idiosyncrasies, and a research design may have to address other issues to deal with them.

Unfortunately, there is limited literature to refer to for assistance in preparing an ethnohistoric research design. Historiography texts typically devote some space to the issue of developing a topic to study, although neither the term nor the concept of "research design" is discussed in any we have seen. Some guides to anthropological research (e.g., Levine 1973; Bernard 1994) include chapters on research designs, but they sometimes emphasize field and ethical issues that have limited relevance to the ethnohistorian. They may, however, include useful treatments of how to link goals to data with methods. Discussions of research designs in behavioral science and the natural sciences are legion but too far removed to be of much assistance. Fortunately, writing a research design is mostly solid introspection and consideration, and further guidance is largely unnecessary.

Modifying the Research in Midstream

Although it is essential to have a clear idea of the topic before undertaking any detailed research, it is equally essential to maintain flexibility as the

project progresses. The research process is full of twists, detours, and dead ends, and the ethnohistorian has to be ready to modify the project in light of them.

Perhaps the most devastating problem that can develop in research is when data that one has presumed would be available seem to not exist. An exhaustive search usually will turn up some information relevant to a topic, but it may be sorely inadequate. Such a development is an ethnohistorian's nightmare (but one that usually is avoidable through careful planning).

For example, documents tell us that the Chinese miners of Jackson in California's Gold Country preferred to send corpses of their dead back to China for ritual disposal, but we also know that there was a Chinese cemetery in Jackson. This, however, appears to be the major part of the information available on this subject from documents, oral accounts, and other sources. Describing the changes in Chinese gold miners' treatment of the dead during the latter half of the nineteenth century might be a fascinating idea, but a researcher should be wary of being seduced into embarking on a project with limited likelihood of sufficient data to make it successful. A detailed search for information might reveal unrecognized sources, but it would be unwise to undertake the project without first exploring whether these unrecognized sources really exist. It is common in research to conduct small-scale exploratory studies to see whether sufficient data are available to support a larger study.

Once you are committed to a study, finding a sorely inadequate database means having to make major modifications in the project. In the study mentioned above, this may mean having to incorporate other ethnic groups, changing the study area to San Francisco, or making some other, equally drastic adjustment. Such modifications are traumatic, demoralizing, and expensive in terms of time and funds, so it is wise to plan ahead and avoid them if at all possible. Fortunately, problems of data availability usually are not so extreme. There may be gaps or weak areas, but frequently a scholar can patch together a sufficient database with a little cleverness and effort.

Sometimes it is wise to modify a research design in light of methodological concerns. Examining every American Indian probate inventory from the Massachusetts Bay Colony might have seemed like the thorough thing to do in a study of American Indian material culture, but the actual task of poring through thousands of documents written in different hands, preserved in varying stages of deterioration, and scattered through dozens of repositories is simply impractical. Ethnohistoric "common

knowledge” often says that there is a limited set of data on a topic; sometimes when a researcher digs into those data, however, it turns out that the data set is far more extensive than originally believed. Under these and similar circumstances, the researcher may have to restrict the goals of the project, perhaps dealing only with a single township or settling for a less comprehensive study. Sometimes a thoughtful plan of sampling the data will solve the problem. It is wise during a lengthy project to monitor progress periodically, permitting recognition of possible problems and revision of one’s strategy.

Finally, an ethical problem may force an ethnohistorian to modify or abandon a research project. Scholars sometimes develop the notion that their research is too esoteric to have any real effect on living people, but that is not necessarily so. Ethnohistorians deal with people, albeit usually long-dead ones. But those people frequently have descendants and others who are part of the same ethnic or religious group, and there are occasions when research may have negative impacts on them. If, for example, research is causing a community to open a long-dormant rift between two ethnic groups, the researcher has to decide the proper course of action. There is no formal or official code of ethics for ethnohistorians, but we have compiled an outline of ethical suggestions in appendix B.

Working in Archives and Elsewhere

The most important place where ethnohistorians work is the archive or library. The term *archive* refers to both a collection of documents and a repository for preserving, housing, organizing, and making accessible documentary materials. The repositories themselves may not actually be called archives but may go by a variety of names such as manuscript library, public records office, records center, local historical library, regional historical collection, and so on. Properly speaking, archives house records pertaining to their own institutions, although documents from other sources may make their way into such repositories. Ethnohistorians also may use other facilities that might or might not be considered “archives.” Reservation or Indian school records might be maintained as part of the ongoing administration of a functioning entity, not really with a primary purpose of supporting historic research, and some museums, such as the British Museum in London and the Museo Nacional de Antropología in Mexico City, contain their own extensive archives. Alternatively, some archives also house artifacts and double as museums. Useful documents might be located in any of these repositories as well as in public or private libraries, and ethnohistorians should not hesitate to search for documentation in such diverse institutions.

As a body of historical documents, archives are “records, organically related, of an entity (individual or organization) systematically maintained, after they have fulfilled the purpose for which they were created, because they contain information of continuing value” (Gracy 1988:22–23). Archives thus come into being as an integral part of literate life, are treated as groups of documents, and are held in custody primarily for their historical value (Gracy 1988:19).

All archives contain materials considered to be historical manuscripts in a general sense; however, in a specific sense, archivists often make distinctions between archives and historical manuscripts. The latter are usually defined and treated as more individualized documents not directly