North America Before the European Invasions

SECOND EDITION

ALICE BECK KEHOE

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North America Before the European Invasions tells the histories of North American peoples from first migrations in the Late Glacial Age, sixteen thousand years ago or more, to the European invasions following Columbus's arrival. Contrary to invaders' propaganda, North America was no wilderness, and its peoples had developed a variety of sophisticated resource uses, including intensive agriculture and cities in Mexico and the Midwest. Written in an easy-flowing style, the book is a true history although based primarily on archaeological material. It reflects current emphasis within archaeology on rejecting the notion of "pre"-history, instead combining archaeology with post-Columbian ethnographies and histories to present the long histories of North America's native peoples, most of them still here and still part of the continent's history.

Alice Kehoe's academic interests include American First Nations and history of archaeology. Her research includes archaeological and ethnographic fieldwork on the Northwestern Plains, ethnographic fieldwork in Bolivia, and continued collaboration with Montana Blackfeet, for whom she wrote *Amskapi Pikuni: The Blackfeet People* (2012). Among her publications are *North American Indians: A Comprehensive Account* (3rd edition, 2006). She has held office in the Society for American Archaeology and several other professional archaeological and anthropological organizations.

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Contents

Acknowledgments

Reginald Horsman, my neighbor and colleague, persuaded Mark White, editor of a Longmans Press series of texts for United States history courses, that American history did not begin in 1492, and suggested he commission me to write the volume on America before the European invasions (Professor Horsman's phrase). It is a privilege and pleasure to merge archaeology and history in this manner, recognizing North America's real patrimony.

Anglo-American connections in the writing of pre-Columbian American history go back a century and a half to Scottish immigrant Daniel Wilson, whose 1862 *Prehistoric Man* drew substantially on American archaeology to lay out, for the first time in a general work, a science of prehistory. Wilson quoted from Thomas Carlyle's comment on the novelist Walter Scott, that he would

> teach all men this truth, which looks like a truism, and yet was as good as unknown to writers of history and others, till so taught—that the bygone ages of the world were actually filled by living men.
>
> (quoted in Kehoe 1998:4)

This book endeavors to follow in the path Daniel Wilson blazed.

During the fifteen years between the two editions of the book, the conventional dichotomy in American archaeology between "prehistory" and historical archaeology began to shift. NAGPRA (Native American Graves Protection and Repatriation Act, 1990) forced archaeologists and museum collections managers to contact First Nations communities to inform them of materials they might claim, today, as their heritage. A 1992 amendment to the U.S. National Historic Preservation Act created THPOs—Tribal Historic Preservation Officers—to supervise activities on tribal lands that might endanger their nations' heritages. Many First Nations ("Indian tribes" in U.S. usage) hired archaeologists and professionally trained historians to augment their own traditional histories. Partly through the work of these archaeologists employed to work from the indigenous standpoint, and partly because more archaeologists have been thinking through what it means to be "postcolonial," American archaeologists have been discussing "historicizing"

interpretations of archaeological data, even proposing "Death of Prehistory," such that *all* evidence of humans and their activities must be recognized as "history" (Schmidt and Mrozowski 2013).

The first edition of this book was prepared by Heather McCallum and the Longman staff, and the present edition by Routledge editor Eve Mayer and editorial assistant Ted Meyer. I am particularly indebted to Ted for his cheerful, savvy, and persistent work on the illustrations, all new for this edition. Dr. Bernard C. Perley, anthropologist colleague and artist, graciously provided the evocative painting for the book cover; it is part of a series he created as homage to his Maliseet Nation homeland in New Brunswick, Canada. Several other colleagues generously provided significant illustrations: Robert Birmingham for the Wisconsin effigy mounds; Michael J. Fuller for the Spiro serpent engraving image; Eugene Hattori for the Spirit Cave bags; William Iseminger for Cahokia; Nicolette Meister of Logan Museum, Beloit College, for the Mimbres bowl; Linea Sundstrom for the rock art panel; and David Wilcox for the Paquimé photo (and so much information on the Southwest).

To acknowledge all the colleagues, in archaeology, ethnohistory, and First Nations, whose knowledge and discussions have contributed to this book would amount to a memoir of my life. Suffice it to say that I am deeply grateful to these many generous comrades in the effort to assemble a history of North America.

Alice Kehoe
Milwaukee, Wisconsin, June 2016

Introduction

History Without Documents

It has been conventional to treat American history as if it were identical to U.S. history. Such a myopic view cuts students off from the context in which the United States developed, a larger history that will not go away. America's history begins at least fifteen thousand years ago with evidence of human activities discovered through archaeology. Even the early humans affected the American scene. Invading Europeans met no wilderness, but landscapes and resources rendered through millennia of human actions.

Conventional histories of Europeans and their overseas descendants depend upon written documents, some primary texts of eyewitness accounts and business instruments, some descriptions and reflections written later. Participants' names, statuses, calendar or dynastic dates, and place names frequently anchor the documents in time, space, and event. Archaeological evidence, in contrast, seldom provides participants' names, may only hint at social statuses, indicates only general time periods rather than calendar dates, and locates its human actions only to the site itself, without clear signs to their makers' political and economic affiliations. On the face of it, documentary evidence would seem to tell much more than archaeological data; however, mute archaeological data don't deliberately mislead readers. Ideally, documentary historians and archaeologists work together; written texts fleshing out the archaeological ruins and remnants and the archaeology providing checks upon the text claims, for example, on whether a household was wealthy or poor. For America before the European invasions of the sixteenth and subsequent centuries, only the Maya kingdoms of eastern Mexico and Central America provide written texts to complement archaeological data. This book must draw upon archaeological data supplemented meagerly with oral traditions and the few Mesoamerican texts that escaped destruction.

Evidence from archaeology is the material residue from human actions. Human behavior that leaves no permanent physical effect, such as speech and gestures, vanishes out of history. The archaeological record therefore is biased toward material culture, the structures and objects made by people. Material culture is winnowed by decay, soft organic materials generally disappearing soon after discard with only hard inorganic materials remaining. For this reason, archaeologists spend inordinate amounts of time studying stone and

fired clay objects, simply because not much else of material culture will be left in the ground. Kitchens, with their hard inorganic knives and choppers, pots, and hearths, are overrepresented in archaeological records, while places of song, dance, laughter, and love are underindicated. This history of America before the European invasions has almost no politics, but then other history books don't tell you much about kitchens, or even what most people were usually eating. An archaeological history may seem unconventional, yet the human actions it records were quite literally absolutely vital.

The Data of Archaeology

American archaeologists do not, as a rule, work with standing ruins. Mexico and the dry Southwest are exceptions. A project begins with a survey of the locale, walking over it looking at the ground for bits of artifacts (any manmade object) and signs that the landscape had been disturbed by human activity. The archaeologist will be at the locale because a local resident or construction workers reported artifacts, or because examination is mandated by laws requiring cultural heritage to be searched for and preserved before construction destroys a locale, or—least often—because the locale promises to yield data that may solve a question of history. Problem-oriented, "pure science" projects are what archaeologists wish for but have difficulty raising funds for, while cultural resource management projects mandated by heritage protection laws have funds built into the budgets of commercial and public-sector construction. These projects thus greatly outnumber "pure science" problem-oriented archaeology, and also another type of project, the public-participation projects run by Department of Interior agencies and nonprofit research groups. Before the 1960s, the picture was reversed, as up until then, heritage protection laws were weak and limited. This means that earlier archaeology tended to work at relatively more spectacular sites that intrigued rich philanthropists, while post-1960s archaeology produces thousands of numbing reports on little campsites and sections of commonplace villages. Put the two eras together and we get a more balanced picture of the past, but one still full of gaps—it often seems that the more we know, the more we know we don't know about the past.

Having noted evidence of human activities at the locale, the archaeologist next prepares a contour map of it, keyed in to its Geological Survey topographic map and satellite geographic positioning. Once this is drawn, a surveyor transit is used to mark out a grid of lines a meter apart over the area to be excavated. Many cultural resource management–mandated projects can only work within the area to be affected by the construction that provides the funds, even if it is obvious that interesting activity areas lie outside the overall project limits. Archaeologists today often use magnetic resonance or a similar device to sound below the earth surface, indicating "anomalies" below that are likely to be buried walls, hearths, or graves. Excavation itself proceeds by stripping off the surface sod or perhaps the plowed soil already

churned up; a backhoe may be hired to remove this layer efficiently, the archaeological crew following the machine closely to warn the operator if an ancient feature is glimpsed. The crew, possibly college students, possibly laborers, then settles in to dig. Each crew person gets a one-meter square, marked off with string between pins or stakes set at the intersections of the grid, and does most of the digging with a sharpened mason's trowel, supplemented with brushes, a dulled grapefruit knife, and a dental pick for fine work. The reason such small tools are used is to expose artifacts and activity features without moving them out of their meaningful context.

Every bit of object uncovered is saved in bags labeled with the exact find spot keyed into the overall grid and contour map, and every observable difference in soil color and texture is photographed, drawn to scale on graph paper, and written up in field notes. Often a hearth, storage pit, or hut floor is no more than a slight discoloration or soil texture difference from the undisturbed natural soil. Excavated soil is screened through metal mesh to catch small objects and fragments, and much of it is also dumped into buckets of water so that seeds, tiny animal bones and shells, and pollen will float up to be skimmed out and analyzed in the lab. Bits of charcoal are saved in foil to be run through machines that count the emissions from the radioactive isotope of atmospheric carbon,[1] giving an estimate of the time elapsed since the wood was last living, and thereby a date for when it was burned by people.

All this meticulous uncovering and recording of buried evidence yields solid data on the imperishable residue of activities. Interpretation of the social context of those activities is another matter. Although these terms are not in general use among archaeologists, it may help to distinguish between *syntagm*, the actual material and its pattern laying in the ground, and *paradigm*, the interpretive model encompassing these data. One solidly recorded syntagm—the brute data—may be interpreted through more than one paradigm; for example, a woman's skeleton with her skull resting on a sharp stone blade (an actual eleven-thousand-year-old find near Buhl, Idaho) could be interpreted as a woman buried with the kitchen knife she used to prepare food, or it could be hypothesized that her people laid her upon the knife so that the spirit of the knife would protect her soul on its final journey. One interpretation is cautious, close to the syntagm itself, the second draws upon religious concepts reported for some of the indigenous First Nations in Idaho; however, historic Idaho First Nations are not known to have put knives under corpses' heads for soul protection, and eleven thousand years separate the Buhl woman from historic First Nations. This *ethnographic analogy* (interpretation made on analogy with ethnographic descriptions of historic peoples) is plausible but not verifiable. The cautious interpretation, that the woman was given her own daily-use tool, is no more verifiable although less romantic. Ambiguities abound in archaeology.

Paradigms that mold interpretation of archaeological data change as new methods and technology produce previously unavailable kinds of data, and

also through clashes between ideological positions (in America, whether the First Nations were primitive savages destined to vanish or creators of diverse sophisticated societies), and the efforts of ambitious individuals to advance their careers by trumpeting a supposedly brilliant new theory. Some archaeologists trudge along identifying new data by classifying them a standard way learned in graduate school; others are thoughtful or skeptical, so that, as with historians, conclusions do not automatically follow examination of data and may differ radically even when opposing interpretations are each linked carefully to primary data. There are Marxist archaeologists alert to indications of ancient class conflict, feminist archaeologists sensitive to subtle signs of women's statuses, Whig archaeologists telling the story of how we progressed to our present happy state, cultural materialists claiming that technology strongly molds culture, ecological determinists convinced that climate changes explain cultural changes, postmodern archaeologists sure that knowledge is so tentative we may as well give up seeking "facts," quantifiers, and humanists. These are the reputable varieties. There are also psychics who don't bother excavating, because they can channel or see all the past via soul journeys; Goddess worshippers who recognize Her image on rocks everywhere; discoverers of lost prophecies telling us Lord Pacal of Palenque was an extraterrestrial (pay no attention to the Maya hieroglyphic inscriptions that give his earthbound history); and a few persons who know the hidden cave tombs of the exiled kings of a legendary land, and will readily sell you dozens of their genuine gold tablets.

Ethnographic Analogy

The crux of archaeological interpretation lies at the juncture where the material data—artifacts and soil features—are related to social behavior; that is, where the syntagm is fitted into a paradigm. In the heyday of the National Science Foundation's generous funding of problem-oriented "pure science" projects during the 1960s and 1970s, some American archaeologists wanted to discard ethnographic analogies, hoping they could discover historically unknown forms of human behavior by manipulating quantified data statistically. Logically, there probably were ancient societies different from any described historically; the problem is that we may be able to see *variance*, but to *vary* is to vary *from something.* An ancient society may differ considerably from any known historical group, yet we identify the differences *by comparison* with more familiar societies. Furthermore, every archaeologist has been socialized to recognize certain familiar human behavior, standards that can't be erased from the scientist's brain. Thus, ethnographic analogies are inevitable: the prehistoric past does not speak directly to us, and we see its residue through brains already holding images of how humans live. What is important for sound interpretation is to be conscious and explicit about the models that are used as paradigms.

American precontact history is customarily divided into epochs that reflect ethnographic paradigms. The Paleoindian period is the terminal millennia of the last major glacial era, when climate, fauna, and flora even far south of the massive continental glaciers were different from historical conditions. Ethnographic parallels for this period are taken from descriptions of far northern and Plains hunting societies. More or less modern climate and ecology followed, with several millennia of the Archaic period, as archaeologists term it, during which descendants of the Paleoindians discovered how to exploit a diversity of regional habitats. Models for the Archaic are taken from descriptions of societies dependent on native foods, including the Shoshone of western Nevada, California Indians, and Ojibwe (Anishinabe) in Canada. Experiments with increasing harvests of wild foods culminated in the domestication of a number of plants, notably maize (corn). Agricultural populations are reflected in towns and villages of the Late Prehistoric period, approximately the past two thousand years; models for these are taken from descriptions of the historic Eastern and Midwestern towns encountered by European colonists. Interpreting archaeological remains from these ethnographic examples must make allowance for the effects of these invasions and colonizations disrupting native economic and political patterns, in part by introducing terrible epidemics that decimated indigenous populations.

Because the historical sciences (i.e., geology, paleontology, archaeology) explain data from the past through matching them to effects of processes observed in the present, interpretations inevitably resemble historically known situations. Flights of fancy are unscientific, however lively and insightful they may be. In effect, archaeological data constitute *research puzzles.* Evidence from a particular occupation layer in a site may be laid out, like a jigsaw puzzle, to make a scene of life in the settlement. Data are also entered like a crossword puzzle, as it were, "DOWN" and "ACROSS" on charts to link a series of occupations through time and across geographical locations. The following chapters endeavor to chronicle the pre-European history of North America through weighing archaeological data against ethnographic and historical descriptions of descendants of the fifteenth-century societies, cognizant of the gaps between preinvasion life and European documentation, and of our bias to see these societies through the lens of European cultures. Each chapter presents research puzzles and possible outcomes.

Bibliographical Notes

Of the several introductory archaeology textbooks available, the most suitable for readers of this book may be Colin Renfrew and Paul Bahn, *Archaeology: Theories, Methods, and Practices* (London, regularly updated editions). Brian Fagan is a prolific and reliable author of books about archaeology; his *Ancient North America: The Archaeology of a Continent* (New York, 4th ed., 2005) is a readable textbook on North American prehistory. *Archaeology of*

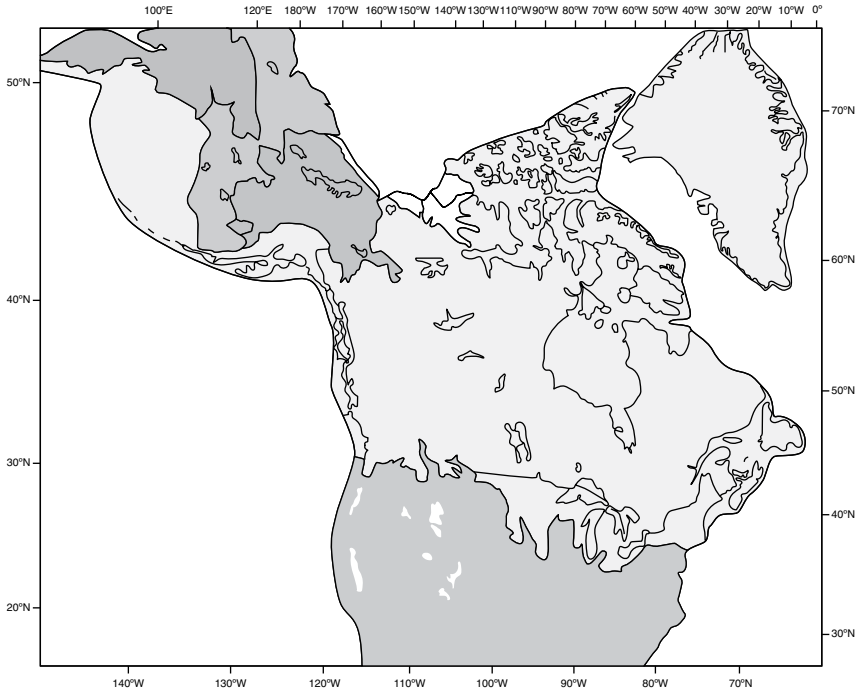
Prehistoric Native America: An Encyclopedia (New York, 1998) is authoritative without being too technical, and facilitates looking up information by name or term.

Both Bahn and Fagan have published illustrated general histories of archaeology, respectively, for Cambridge and Oxford University Presses. The standard history of American archaeology is Gordon R. Willey and Jeremy A. Sabloff, *A History of American Archaeology* (New York, 3rd ed., 1993), while Alice B. Kehoe's *The Land of Prehistory: A Critical History of American Archaeology* (New York, 1998), as its subtitle declares, discusses ideological factors, including Manifest Destiny beliefs that subtly influenced practice and interpretation in North American archaeology.

1 First Americans

The Americas were initially populated during the Pleistocene ice age, at least seventeen thousand years ago. Many descendants of America's First Nations consider their religious traditions, that they originated in a spiritual realm connected to this world, to be sufficient knowledge for the question of earliest population. A scientific worldview, by definition of science limited to empirically demonstrable data, cannot admit spiritually revealed knowledge. Thus there may appear to be strong differences between a First Nation's account of its earliest history and the narratives prepared by professional archaeologists and paleoanthropologists. Some Indian champions feel challenged by European-derived science, and some archaeologists defend narrow scientific explanations against any other beliefs. It is important to understand that theology and science need not conflict: an account of spiritual origins conveys religious knowledge and generally can accommodate the more limited empirically based interpretations developed by scientists.

Physical and genetic data link American Indians to Asian populations, supporting the obvious probability that humans entered North America from the nearest continental mass, Asia. From the early nineteenth century, geographers pointed to the Bering Strait, between northeastern Siberia and Alaska, as the likely route. A north polar projection map (not the common Mercator equatorial projection) or a globe will show that the Spitzbergen peninsula from northwestern Norway ends close to Baffin Land in northeastern Canada, and zoologists note that reindeer moved along routes between Norway and northeasternmost Canada, but this region was heavily glaciated during Pleistocene ice advances and has always been less hospitable to humans than the North Pacific, warmed by the Japanese Current flowing across the ocean and then north along the American coast, hosting a rich bounty of fish, sea mammals, and birds. Therefore, the North Pacific–Bering Strait region remains the most likely link between Eurasia, where modern humans gradually spread over more than a hundred thousand years, and the Americas, where no earlier forms of humans, and no apes, have been discovered. Archaeological, biological, and linguistic similarities between northeastern Asian and northwestern American sites and populations support the picture of a series of movements of small human groups from Asia into America through the Bering region.



Map 1.1 Map of North American glaciation at Last Glacial Maximum, about 16,000 BCE. Light gray areas were covered by glacier ice.

Asia has had human populations for over a million years, and in the Late Pleistocene, forty thousand to ten thousand years ago, it was home to a diversity of regional groups anatomically modern in all essential characteristics (such as brain size, upright posture) but differing like contemporary populations in facial features, coloring, and average size. What we now think of as "typical Asians," the Chinese–Japanese–Mongolian populations with high-projecting cheekbones and a fold over the nose side of the eyelid, spread over eastern Asia quite late, after some immigration into America had already taken place. Before the domination by "Mongoloids," eastern Asia had more widespread populations resembling the historic Ainu of Japan, perhaps best described as "generalized Eurasian"—relatively light-skinned, dark hair, brown eyes, neither very tall nor very short, a range from which descendants could develop into Indo-Chinese, Polynesians, Siberians, and American Indians, as well as the stereotyped "Mongoloids." The few skeletons found in North America dating from the end of the Pleistocene, such as Kennewick Man buried along the Columbia River, are "generalized" like this rather than showing exclusively distinctive American Indian physical characteristics.

Evidence for Early Settlement

It has been conventionally held that during much of the Late Pleistocene epoch, what is now the sea channel Bering Strait was broad land mostly covered with tundra. The Aleutian Islands lay off the southern coast of this land, called Beringia by geologists. Recent geological surveys show Beringia had massive glaciers at the maximum Pleistocene glacial periods, while its southern margins could teem with fish and sea mammals feeding on plants and microorganisms nourished by the rich flow of nutrients from glaciers' melting edges. Climate warming since the maximum Late Pleistocene glaciations about 19,000 BCE raised sea levels as the huge ice fields, like Antarctica's today, thawed, discharging immense floods into the oceans.

For the past five thousand years, most of Beringia has been under water. The presently existing sea channel, only a hundred miles wide, is broken by two islands (the Diomedes) in the middle, and can freeze over in the winter, so it has not been much of a barrier to human movements—historically, Alaskan Yuit and Siberian Chukchi traded and raided back and forth, with some people born on one side marrying into communities on the other. Pleistocene Beringia bridged the present continents, but its submergence did not cut off travel between them.

For years, archaeologists searched for evidence of the earliest humans in the Americas in the interior valleys of Alaska, the Yukon, and Alberta. It was assumed that mountain glaciers like those in Alaska today covered the Pacific coast during the glacial advances of the Late Pleistocene, and that an "ice-free corridor" existed along the western High Plains between the huge continental glacier centered in eastern Canada and the mountain glaciers of the Rockies and Pacific Coast Ranges. Searches found nothing older than terminal Pleistocene, 9000 BCE; for example, the Sibbald Creek campsite in Alberta on the edge of Banff National Park. Further research by geologists failed to establish any significant ice-free corridor east of the Rockies during the last Pleistocene glacial maximum. A counterhypothesis was advanced by British Columbia archaeologist Knut Fladmark, arguing that the post-Pleistocene rise in sea level that flooded much of Beringia also flooded the ancient Pacific coast, leaving late-Pleistocene (indeed, up to 3000 BCE) sites on the coastal plains now under water on the continental shelf. Fladmark, of course, could not produce site features or artifacts from these possible locations presently covered by seafloor muck and water.

Migration into North America by boats around the North Pacific, including coastal Beringia, came to seem more reasonable as geologists confirmed that northern Beringia had been glaciated and that the "land bridge" was rugged, not a flat tundra plain. From about 17,000 to 9500 BCE, sea conditions favored abundant growth of kelp, a large seaweed, offshore in the Pacific, from Japan eastward around the North Pacific and along the American Pacific coasts all the way to southern South America (with a break in the tropics from Baja California to Ecuador). Kelp grows like forests underwater,

furnishing nutritious edible leaves and sheltering fish and shellfish, which, in turn, are food for larger fish and sea mammals. Families in large hide-covered frame boats like the Inuit *umiak* could have paddled with the current southward from the Aleutians, fishing, harvesting shellfish, hunting sea and land game, and filling out nutritional needs with berries, tubers, roots, and fruits near the shores. Kelp itself is popular in Japan (as *kombo*) and China

Figure 1.1 Paleoamericans butchering a mammoth at a Chesrow artifacts site in southeastern Wisconsin, 11,500 BCE, when the continental glacier ice front loomed a mile high only seventy miles north of them.

Credit: Drawing by Elizabeth Rath, courtesy of MECAH Publishers, Milwaukee WI.

as a dried snack and for flavoring soups and dishes. Early migrations into North America primarily along the coast make sense, although near impossible to document with discoveries of Pleistocene campsites or boats.

Sites that do testify to Late Pleistocene humans in North America include Nenana in Alaska, Paisley Caves in Oregon, Buttermilk Creek in central Texas, and butchered mammoths with artifacts labeled Chesrow in southeastern Wisconsin. Paisley Caves are so dry that human feces were preserved and radiocarbon dated, proving humans were relieving themselves there 12,400 BCE. All these sites date somewhat older than Clovis, for many years believed to be the earliest evidence of humans in North America, at 11,200 BCE. More interesting, the stone and bone artifacts in these and other sites dated earlier than Clovis differ from the famous long, thin, handsome Clovis spear points, and differ among the sites. It seems that at least several migrations came into North America, settling over the continent, then adopting the Clovis-style spear point created somewhere here, perhaps in the Southwest. Alternately, some archaeologists suggest, Clovis represents a population that moved over the continent, with its distinctive spear point. Almost no Clovis artifacts sites have any human remains that could indicate genetic identifications, so there are no data to indicate an associated distinctive population; the only Clovis DNA recovered is from a small child buried with Clovis blades in southern Montana. The little boy was definitely from an ancestral American Indian population, related to Siberians, and closer to Central and South American Indians than to those historically living on the Northern Plains of North America, indicating their ancestors came there later than Clovis.

The most controversial claims come from South America, and thus concern this book only peripherally. Pedra Furada, against a cliff face in interior northeast Brazil, has crude fractured stones and lenses of charcoal said to date thirty-three thousand years ago, but this material looks like it eroded from the plateau edge down into a chimney-shaped cleft in the cliff. At the base of the cliff, excavations revealed a panel of little figures painted in red on the rock; these have been dated at about 9000 BCE by association with apparent occupation material below the panel, more feasible evidence for terminal Pleistocene habitation in northern South America. Other sites, in Ecuador, Venezuela, and Peru, are dated around 13,000 to 10,700 BCE, filling out evidence for populating the Americas.

Monte Verde site in Chile was excavated by American archaeologist Tom Dillehay. Situated in a pleasant creek valley, the site evidenced wooden slabs possibly from huts, scraps of mastodon hide that may have covered the wooden hut frames, and simple but serviceable bone and stone artifacts, dated to 12,800 BCE. (The dating was based on radiocarbon, here calibrated with other measures of terminal Pleistocene age [Fiedel 1999].) Abundance of plant and animal remains preserved in the peat bog that the site became gives a detailed picture of the seeds, berries, tubers, and animal parts people used at the site. A delegation of prominent archaeologists examined the site in 1997 with Dillehay after his report on the work was completed and,

although some had been skeptical, they agreed after the visit and laboratory inspection that Dillehay's work seemed scientifically sound. Subsequently, close examination of the published report fomented renewed debate over dating of the few diagnostic artifacts and Dillehay's interpretation of wood as hut planks. Such intense protracted debate typifies reports of humans in the Americas earlier than the 11,000 BCE "Clovis horizon," the oldest *thoroughly* documented archaeological evidence in the continent (Waters and Stafford 2007).

The most practical route from Asia to Chile would have been along the Pacific coast. Postulating sailing during the Pleistocene from Australia across the immense South Pacific to Chile would be a wild card. Unlike protohistoric Polynesians who used highly sophisticated navigational skills and watercraft to sail across the Pacific, Pleistocene humans probably lacked sails on their rafts and canoes. That no evidence has been found of settlements on the mid-Pacific Polynesian islands before Polynesian colonizations beginning in the second millennium BCE argues against any likelihood of earlier crossings of the vast ocean. With the general consensus that Dillehay's Monte Verde was the oldest professionally excavated, definitely human occupation site in the Americas, Fladmark's circum-North Pacific route gained credence.

Accepting Monte Verde as an authentic human settlement more than twelve thousand years ago in southernmost South America upset conventional archaeology on two counts: (1) that humans had come into the Americas earlier than the dates for the Clovis finds, 11,200 BCE, and (2) that these earlier people made artifacts less distinctive than the Clovis stone blades. In effect, Monte Verde opened the door to a raggle-taggle crowd of contenders for first-comers: it had been simple to declare that the first-comers were virtuoso flintknappers (*knap*, "to break with a snap," as in chipping flint) leaving signature masterfully chipped stone blades at their sites; now archaeologists had to consider sites with nondescript artifacts like those at Monte Verde. Geological context and chronometry (methods of dating) would be more critical than ever in evaluating possibly early sites, and these can be tricky. For example, a child's skeleton found in a Pleistocene layer in a cliff face in southern Alberta turned out to have been buried by pushing it into a cleft in the cliff, which then filled up with soil, practically obliterating the cleft. Radiocarbon dating indicated that the child is a few thousand years old, closer to us than to the Pleistocene. Radiocarbon dating itself runs into odd effects just at the end of the Pleistocene due to strong and relatively rapid fluctuations in global climate when the glaciers released incredible floods of their meltwater, changing evaporation rates and thereby the amounts of radioactive carbon rising into the air. Increased cosmic ray penetration of the atmosphere at this time of extraordinary global changes may also have added unusual amounts of radioactive carbon to the air. Organisms at this time probably breathed in more of the carbon isotope, leaving a greater amount in their bodies when they died, and so more when the amount

was measured millennia later. Paleoindian material can be as much as two thousand years older than the radiocarbon count indicates, and to further confuse researchers, materials from each side of the climate flip-flop can give the same measure although they may have existed a thousand years apart.

Clovis and Other Mammoth Hunters

Finding butchered mammoth remains securely identifies a Paleoindian site—the animals became extinct in North America about 11,000 BCE. The type site at Clovis, New Mexico; Blackwater Draw in northwestern Texas at Lubbock; and the Murray Springs, Naco, and Lehner sites in Arizona were among the first excavated to establish the association of Clovis stone blades with slaughtered mammoths. Butchered mammoths with nondescript stone tools, such as the two in southeastern Wisconsin, clearly belong in the Paleoindian period, confirmed by radiocarbon dates and geological context. Archaeologists cannot tell whether the butchers' artifact tradition did not favor the Clovis style, or instead it merely happened that the butchers' Clovis blades were taken along to the next camp, or not fallen in the excavated sections of the sites.

Clovis style is remarkable for its beautiful stone blades, frequently made on pleasingly colored, fine crystalline material quarried in blocks that often were carried hundreds of kilometers to ensure the quality of Clovis artifacts. To manufacture the blades, artisans first struck large flakes off the blocks, using the sharp flakes for everyday cutting and scraping tasks, and then with exquisite control struck long ribbon-like flakes across the faces of the formed blade to thin it evenly. Finally, the hallmark of the Clovis style was produced, an oval channel running up the face of the blade from its base: the "fluting." Fluted bases uniquely mark Clovis and the similar but later and shorter Folsom-style blades. Clovis is associated with mammoths and Folsom with large extinct species of bison. The fluting channel was expedient for hafting the blade to its shaft in a tongue-and-groove manner. Unfluted but still exquisitely ribbon-flaked stone blades continued the Fluted Tradition technique into the early Holocene, to around 8000 BCE.

All known Paleoindian habitation sites seem to have been camps, generally on ridges where people could watch for game animals coming to streams or marsh edges; in addition to mammoths, mastodons, musk-oxen, horses, camels, bears, antelopes, deer, and small game were killed. Paleoindians could live surprisingly close to the margins of the great glaciers, because nutrient-rich meltwaters supported rich grazing for mammoths and other prey for hunters. Archaeology indicates communities were composed of a few families, moving at least several times a year. Small campfires with broken or worn-out stone and bone tools indicate household activity areas, probably in or beside tents or wigwam-type dwellings. Stacks of butchered game bones suggest storage caches of meat; other cache clusters contain complete or partially finished stone artifacts and sometimes red ochre.

Essentially, Paleoindians were, in global terms, Late Paleolithic people, fully modern anatomically but without agriculture and permanent villages. They lived by hunting, exhibiting high skill in manufacturing weapons and in strategies for moving into range to use their spears, either propelled by hand throw or with the added leverage of the atlatl (spear-thrower board) or thrust directly into the animal. Changing camps to follow game movements and harvest plant foods in season, their habitation sites look meager. Their nomadic life was well adapted not only to surviving on the abundant game of the Late Pleistocene, but also to adjusting to the tremendous shifts in climate and environments of the terminal Pleistocene. The period's stone and bone artifacts found throughout North America prove migrants' remarkable capacity to enter and exploit new habitat zones, filling the continent with human families.

The Early People

Human skeletons from early Holocene times are few, with fewer so far definitely dated to the Pleistocene. The most complete skeleton is known as Kennewick Man, from the discovery locality on the lower Columbia River (near Richland, Washington). From Kennewick Man's nearly entire skeleton, found eroding out of the riverbank, and his physical characteristics differing from some common among today's American Indians of the region, it was initially concluded that he was a historic Euroamerican immigrant. Then the archaeologist noticed a stone spear point embedded in his hip! Radiocarbon dating revealed he lived about 6500 BCE (Chatters 2000; Chatters et al. 2014). He was taller than general for Plateau Indians, with a long rather than broad face, altogether somewhat resembling in build the Ainu of northern Japan. Because the Ainu are believed to represent an Asian population pushed into their northern island refuge by expanding, more typical Mongoloid Asians, quite possibly as late as the historic era, it is hardly surprising that a northwest American man resembles people directly across the North Pacific. The Ainu, incidentally, were accustomed from ancient times to using boats and fishing, consistent with the Pacific coastal route for movements into America from Asia. What is important to realize about Kennewick Man is that analysis of his genetics shows that although he, like other American Indians, was distantly related to Asians, he is American Indian and could be an ancestor of present-day First Nations of the Columbia River valley. Compared to the Montana child buried with the Clovis artifacts, Kennewick Man's genetics also show affinities with Central and South American Indians, but a stronger relationship to northern North American Indian populations. Extended comparisons of Kennewick Man with other northern North American Indians indicate that after his time some additional Asian admixture occurred with northern North American populations (Rasmussen et al. 2015).

Biological anthropologists have analyzed genes and skeletal traits for a number of American Indian populations. American Indians are genetically

descended from eastern Asian forebears. The oldest (naturally dried) mummified corpse in North America, that of a man wrapped in a fabric shroud and placed in a dry cave in Nevada, is radiocarbon dated to the same age as Kennewick Man and, like him, differs from historic Nevada Indians. Spirit Cave Man, as he is named, like Kennewick Man, has a face more narrow than characteristic of later American Indians and a longer head. These visible physical characteristics are influenced by diet and activities such as carried on as work. Genetics are not so directly modified, and therefore are better clues to population histories. These indicate that initial migrations from Siberia into Beringia occurred between 21,000–18,000 BCE. Then, around the time of Clovis, 11,200 BCE, at the end of the Pleistocene, Paleoamerican populations began moving farther apart, splitting southern North Americans, Central Americans, and South Americans from those that remained or moved eastward in northern North America. During the Holocene, additional movements from East Asia into northernmost North America brought Aleuts, Inuit, and Athabascans (Dené) (Raghavan et al. 2015; Reich et al. 2012).

Language is another line of inquiry into population histories. Linguists agree that the indigenous languages of the Americas are substantially distinct from languages of the other continents. Similarities between the Dené (Athabascan), and to a lesser extent Tlingit and Haida languages (the cluster of three termed Na-Dené) of northwestern America, and Ket and other Yeniseian languages of central Siberia suggest that Dené speakers may have been the latest people to cross over into America, perhaps only around a thousand years ago. Inuktitut, the Inuit (Eskimo) language, seems distantly related to northern Eurasian languages (Caucasian, Indo-European), and archaeology plus genetics indicate Inuit moved from northern Siberia into the American Arctic about four thousand years ago. Proponents of postulating three major language families, or stocks, in the Americas—"Amerind," Na-Dené, and Eskimo-Aleut—emphasize the congruence between their three language stocks and groupings derived from genetic or skeletal traits, with the minor exception that the Aleuts are biologically somewhat closer to Na-Dené speakers than to Inuit. Where the real controversy lies is in the hypothesis that three language stocks and three clusters of biological traits must indicate three ancestral populations and three migrations into America. Any number of biologically distinguishable populations or languages could have become extinct or assimilated, in Asia or in America, over twelve thousand or more years—three may be oversimplifying. A sensible conclusion is that after the principal migration(s) into America had led to humans throughout the continent and South America several millennia ago, Eskimo-Aleut communities adapted to the high Arctic coasts spread eastward from northeasternmost Siberia, and perhaps later, the northwesternmost historic peoples speaking Na-Dené languages moved in from northeastern Asia. Present methodology either in biology or linguistics cannot determine definitively whether "Amerind" is primarily an amalgamation of many migrations or rather diversification from one or a few movements in the late Pleistocene.

Controversial Scenarios

Cautious anthropologists make no guesses on what language Paleoindians spoke. The first migrants south of the final ice sheets had already been separate from Asians for millennia and left no diagnostic artifacts. Chesrow sites in southeastern Wisconsin, for example, contain butchered mammoths and only nondescript stone tools. Radiocarbon dates put Chesrow at 12,500 BCE, when the sites would have been close to the glacial ice front. Chesrow artifacts are made of poorer quality stone unsuited for virtuoso knapping; central Wisconsin stone quarries prized by later peoples would have been still buried under tons of ice. Clovis blades found in Wisconsin are generally manufactured from high-quality stone from these quarries, indirectly supporting an earlier dating for Chesrow people than Clovis. These were intrepid pioneers indeed, cutting up wooly mammoths within a few days' walk of ice fields stretching north beyond the horizon.

Clovis was interpreted to have been highly skilled hunters whose nomadic way of life rapidly dispersed their families over the landscape. Refined radiocarbon dating of Clovis sites showed, surprisingly, that they all were occupied within a few centuries, implying that "Clovis" was a style of blade that spread rapidly from one to another already-settled community across America (Waters and Stafford 2007). Terminal Pleistocene extinctions of some prime prey would have forced early Americans to modify their economy, restricting family movements to seasonal rounds within a region where they had learned to exploit a variety of game and plants. From this, archaeologists see the late Paleoindians, of the early Holocene era, manufacturing different styles of spear points according to region and changing over time, to about 7000 BCE. Because logically Clovis people could often have carried their distinctive Clovis blades away with them to the next camp instead of leaving some as a sign for archaeologists, archaeologists must admit that some sites may be Paleoindian without the Clovis insignia.

Some archaeologists advance claims for Paleoindians much older than Clovis or the somewhat older Paisley, Buttermilk Creek, and Chesrow. These include Meadowcroft Rockshelter in northwestern Pennsylvania, where radiocarbon dates may reflect contamination from coal dust eroding out of a coal seam in the rockshelter bluff and no extinct Pleistocene animals nor distinctive fluted blades have been found. Pendejo Cave in New Mexico is alleged to have human occupations possibly as long as fifty thousand years ago, with nondescript stone tools, possible human fingerprints on hardened bits of clay, and human hairs said to have been preserved from Pleistocene times. In the Yukon and also in Plains sites, chunks of mammoth bone have been noticed that look as if they were knapped like flint into rough tools such as sharp-edged flake knives and scrapers. The localities from which these mammoth-bone artifacts come, if indeed they are not the result of natural breakage, are dated to the Pleistocene and are believed to be earlier than Clovis. None of the flaked mammoth bone locations are clearly human habitation or kill-butchering sites.

In the 1930s, claims were made that artifacts, mostly stone slab metates and manos (grinding stones), lay in some Pleistocene geological strata exposed around San Diego, California; the localities are now covered with urban development and have not been reevaluated. On Santa Rosa Island off Santa Barbara, California, dwarf mammoths were discovered apparently butchered and near hearths. These are dated 13,500 BCE, while a woman's skeleton also discovered on Santa Rosa dates 11,000 BCE. The mammoth's ancestors probably swam to the island; the woman's people would have used boats. Decades later, paleontologists on Wrangel Island in the Chukchi Sea west of Bering Strait found probably the latest mammoths to survive, up to 1700 BCE. These, too, were smaller than the immense Late Pleistocene beasts. Holocene dwarf mammoths on islands and serviceable but undistinguished stone tools with Pleistocene mammoths make archaeologists chary of simple scenarios picturing Clovis hunters marching southeastward from Beringia.

Are all American Indians descended from Asians? Was America totally cut off from Europe before the Norse landed in 1000 CE? From time to time, a scholar sees evidence for prehistoric contacts, even migrations, between northwestern Europe and northeastern America. A hypothesis for a Late Pleistocene migration has been framed around similarities between the virtuoso flintknapping of Clovis and of European Upper Paleolithic Solutreans, dated to 18,000–14,000 BCE. In favor of this hypothesis is not only the difficult flintknapping techniques so skillfully exhibited on Clovis and Solutrean stone blades, but also that both were used by nomadic hunters of Late Pleistocene northern big game, and the finds of Clovis throughout eastern North America. Proponents of the Solutrean–Clovis connection propose that Clovis progenitors crossed westward along the ice margins of the North Atlantic during the Late Pleistocene glaciation; they might have crossed over in canoes, island-hopping, their coastal sites now disappeared in the flooded continental shelf. A gap of four thousand years between Solutrean and Clovis is the major setback to the idea, in addition to many differences between Solutrean and Clovis artifacts, and experienced flintknappers testifying that the knappng technique is not so very difficult nor so uncommon (Straus, Meltzer, and Goebel 2005).

An interesting observation by a Pleistocene specialist (Rogers and Nicklas 1990) correlated Late Pleistocene geographical regions with American Indian language groups. Algonkian, historically primarily in the northern half of eastern North America, might have occupied glacial margins some fourteen thousand years ago, moving northward with coniferous forests, moose, and caribou as glaciers melted. To the west, open grasslands carried American camels, lions, and antelopes; the extent of this Late Pleistocene geographical zone corresponds to the historic locations of Aztec-Tanoan languages (among them Ute, Kiowa, Hopi, and the languages of northwestern and central Mexico, including Nahuatl, the language of the Aztecs). To the southeast, a mixed deciduous forest with deer as principal game could have harbored humans speaking Siouan and Caddoan languages, expanding

northward with their mixed forest in the early Holocene. South of these along the Gulf of Mexico, which then had a wide continental shelf now under water, Muskogean languages (including Creek and Choctaw) may have occupied the semitropical forests with ground sloths, armadillos, and capybaras. California is the center of Penutian languages, of which ancestral speakers may have been adapted to living in the coniferous forests of the Sierra Nevada. Na-Dené speakers would have hunted along the western-most ice margins, expanding into Alaska as that land opened in the Holocene. The implication of this reconstruction is that speakers of these ancestral languages, possibly (perhaps likely) excluding Na-Dené and Penutian, were in North America south of the continental ice sheets long enough, in the Late Pleistocene, to have developed adaptations to quite different habitats, such as the western grasslands, southeastern broadleaf forests, and semitropical Gulf, as well as the northern coniferous forests. Correlations such as these are only suggestions for further research, possibly stemming from persisting ecological factors to which linguistically related groups developed economic adaptations.

Among controversial theories, we should recognize the insistence of many First Nations that they originated in their homelands, in the dawn of time or through acts of a superhuman creator. The reconstruction of Late Pleistocene geographical zones correlated with major language groups would be compatible with this view. Some legal experts are bemused by Indians' denial of having migrated to America, since Anglo law holds that land belongs to its first discoverer: shouldn't the theory of Late-Pleistocene immigrations be useful to Indians arguing in Anglo courts that their nations still legally hold priority rights to North America? Opposition by some Indians to explaining their origins by migrations into America seems to rest on general distrust of appeals to science, based on centuries of European and Euroamerican scientific theories denying American Indians' civilizations and intelligence—only, in this instance, science may seem to uphold Indians' interests. Readers should realize that such distrust of science is far from prevalent among members of contemporary First Nations, among whom are a number of respected scientists, including archaeologists. There are "fundamentalists" among American Indians as among adherents of Western and Asian religions and, as among these others, a fundamentalist position may serve a political agenda.

Research Puzzle

The first humans coming into America were few, and the continent vast. Their campsites were small and apt to be either deeply buried by later soil or destroyed by erosion or historic constructions. The likelihood of a professional archaeologist finding and excavating one of their campsites is extremely small. A cautious scientist looks for unequivocal data such as Clovis fluted blades, of which hundreds have been consistently dated by association with

radiocarbon-assayed organic material to around 11,200–10,900 BCE. The "Clovis horizon" is well established with data, yet logically such an abundance of distinctively styled stone blades across the continent cannot represent the very first, few migrants.

Another logical quandary lies with the hypothesis that much of the early migration moved along the Pleistocene coastal plains now covered by the sea. Settlement sites and artifacts, in this case, would be not only under water, but under deep muck, impossible to excavate. Ethnographic and historic analogies suggest coastal plains attract human habitation and facilitate travel. Can a scientist argue for a hypothesis resting on unobtainable data? Perhaps we will eventually have enough carefully excavated and dated Late Pleistocene sites in the Americas that a distribution of earlier sites appears on the margins of the continents and somewhat later sites in the interiors; this would imply coastal routes even though the sites are beyond recovery. We do not see such a distribution now. In the absence of any clear distribution pattern, for which we need hundreds of well-dated sites, coastal routes remain a viable hypothesis awaiting testing by more data. Adding to the challenge, Pacific coastal routes at the end of the Pleistocene would have been narrower than before the Late Glacial Maximum at twenty-eight thousand years ago. Between fifty thousand years ago and that time, twenty-eight thousand years ago, there were several periods of relatively warm climate with a wide Pacific coastal zone and much of the Yukon in Alaska suitable for human migration. Perhaps migrations during this period before the Late Glacial Maximum were the origin of the peoples in South America, such as those at Monte Verde. Initial peopling of the Americas poses a research puzzle that continues to challenge archaeologists.

Bibliographical Notes

The Center for the Study of the First Americans, at Texas A&M University, College Station, Texas, publishes a quarterly popular newsletter, *Mammoth Trumpet*, the scholarly journal *PaleoAmerica*, and occasional edited volumes from its conferences. The Center's website has a variety of online resources about Paleoindians and sites. Its page on "Research," http://csfa.tamu.edu/research.php, describes a number of significant projects. Two early syntheses of Paleoindian finds in North America, still useful for their detailed descriptions of sites, are H. Marie Wormington's *Ancient Man in North America* (Denver, CO, 1949) and E. H. Sellards's *Early Man in America* (Austin, TX, 1952).

2 The Archaic Period, 7000–1000 BCE

About 9500 BCE, the climate warming trend that had been halted for a millennium resumed, to reach its maximum between 7000 and 3000 BCE. Geologists term our present epoch, beginning with the final melting of continental glaciers, the Holocene. Compared with the preceding Pleistocene epoch, the "Ice Age," our Holocene has had no extreme global shifts: geographic conditions have been more or less familiar for the past ten thousand years. However, local and regional conditions have indeed changed, necessitating human adaptations again and again. American archaeologists' Archaic period is the era of slowly stabilizing regional cultural patterns, culminating in economies based on techniques of intensified food production. American landscapes still exhibit constructed monuments from the later Archaic, round and also flat-topped mounds and embankments that rival anything constructed in Europe in those times.

From Pleistocene to Holocene: Extinctions and Ecological Shifts

Americans' first great challenge in the early Holocene was adjusting to the extinction of many Pleistocene game animals. Mammoths and then mastodons went completely extinct; musk-oxen retreated far north; horses, camels, and sloths disappeared from North America; and bison were reduced to one species half the size of the Pleistocene species. "Megafauna"—giant beasts—and several mid-sized game animals were no longer to be had in America. Did human hunters cause their extinction? The question has been debated for years.

A couple of relatively short temperature aberrations occurred in the terminal Pleistocene, a cold episode in the Allerød warming phase followed, 9000 BCE, by a brief two centuries of warmer climate abruptly aborted by the final (geologists' "Younger Dryas") glacial advances. For temperate-latitude America, these couple of centuries seem to have suffered drier conditions that would have reduced water available for animals' drinking and for the plants on which they depended for food. Huge beasts such as bull mammoths,

eating hundreds of pounds of forage daily, would have moved out of much of their former range. Refuge populations would have been smaller than previous range-wide numbers, breeding partners fewer, and their groups isolated from others. Malnourishment threatened, with its consequences of decreased resistance to disease and to predators. It may be that human hunters took advantage of stressed mammoth herds, and hunters' slaughter brought the breeding groups below survival numbers. The coincidence of Clovis blades and mammoth kills, then no Clovis and no mammoths, might mean humans literally dealt the final death blows to America's mammoths—as Eurasian hunters would then have been doing to their mammoths.

However, mammoths were adapted to a kind of steppe environment that ceased to exist early in the Holocene. Pleistocene northern steppes had a greater variety of plants than Holocene tundras, farther north (therefore with less sunlight) than those earlier cold steppes, or than Holocene temperate grasslands. Very likely, neither the Holocene tundras with their long dark winters, nor the temperate grasslands, produced enough forage for viable herds of mammoths. The crucial factor of amount of forage is indicated by the survival until 1700 BCE, on Wrangel Island in the Chukchi Sea, of dwarfed mammoths adjusted to Holocene resources by natural selection for much smaller body size. Very similar reduction in species' body size occurred to bison at the beginning of the Holocene. Smaller bison were able to stay healthy on Holocene grasslands forage, and the disappearance of mammoths left bison without competition for forage in that huge area. Bison, instead of dying out, evolved into a smaller race adapted for Holocene grasslands grazing. When, eventually, First Nations humans began managing the grasslands through regular burning, bison flourished into the uncountable millions that awed early European explorers.

Geographers are particularly impressed with what paleontologists report as a shift in the early Holocene from a "mosaic" of plants across the continent to "stripe" zones with more limited plant resources. More varied plant resources had meant more variety of animals in Late Pleistocene North America; less variety in the Holocene reduced the numbers of species. Thus it wasn't just that horses disappeared; there had been at least three kinds of horses, each with its particular landform adaptation. Bison compete directly with horses for forage and water (a major factor in the nineteenth-century CE extinction of wild bison herds; wild bison survived only in northern Alberta woodlands, present Wood Buffalo Park). Rapidly evolving into the Holocene smaller form, bison may have prospered while horses and camels were stressed, not because they needed so very much food, but because they were stressed by the herds of bison dominating their ranges. The opposite happened in Eurasia, with horses and camels segregating into two Holocene zones and horses doing well in the temperate steppe grasslands while European bison retreated into woodlands, surviving today only in one protected herd in a Polish forest.

Human Adaptations in Holocene America

Evidence for Paleoindians' plant foods is scanty, in part because most Paleoindian sites are chance exposures on present, windblown, land surfaces, and excavated sites have been, for the greater part, kill and butchering sites. We can be confident that Paleoindians collected plant foods because humans need the nutrients in greens and fruits, and seeds and fruits are calorie-rich. More Holocene campsites have been excavated (the less ancient, the more likely to be preserved and discovered), and both bits of food plants and apparatus for processing them have been studied. Students reading archaeology get the impression that use of plant foods begins in the Holocene, not realizing that preservation factors have biased our picture.

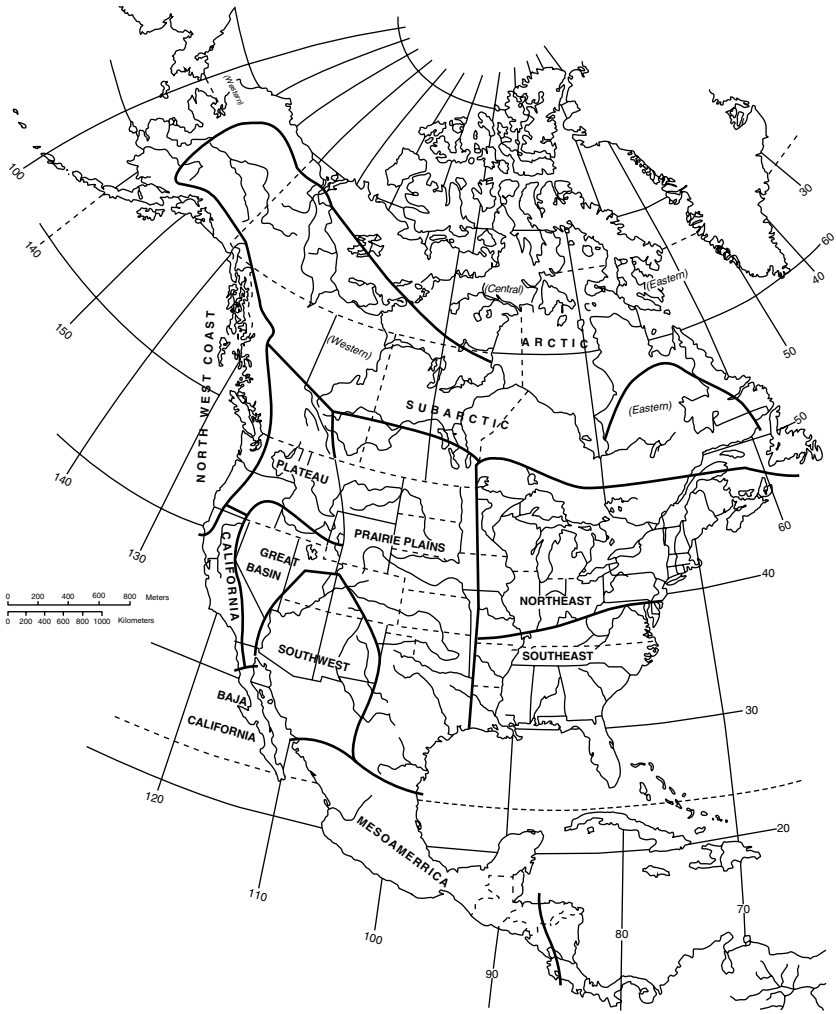
It does seem true that Holocene humans in the temperate latitudes paid closer attention to plant resources than their Pleistocene ancestors did. One argument for this interpretation is that agriculture was developed in the Holocene. That development can be traced through several millennia during which native plants suitable for food begin to show up in sites, with seeds larger than those of strictly wild specimens: people had been cultivating them, perhaps also sowing and watering to maximize harvests. By the Late Archaic, a few unusual plants—notably maize (corn)—passed beyond their natural habitats to be widely grown as domesticates. The view can be taken that with the disappearance of the Pleistocene "mosaic" pattern of varied plant–animal ecologies, humans modified the Holocene "stripe" zones by experiments to manage natural resources, including importing alien plants into new habitats.

Few American animals were domesticated. Dogs came over from Asia with human migrants, perhaps deliberately taken along and perhaps hanging out as scavengers at camps. Historically, First Nations bred several kinds of dogs: pack dogs to carry or pull loads and smaller dogs to be fattened and eaten ("like chicken") at feasts. Turkeys were domesticated, but just when is difficult to determine because wild turkeys were abundant in eastern North America and butchered bones in sites could come from either wild or penned birds. Macaws and other parrots were bred in Mexico for their gorgeous feathers, as far northwest as the Pueblos in the U.S. Southwest. Although guinea pigs (hamster-like rodents) were domesticated in South America, where they are still kept for food in peasant homes, and were introduced into some Caribbean islands by 900 CE, they were not taken up by North American First Nations.

European colonists observed First Nations actively managing wild game populations by burning pastures and forest edges to keep out trees and shrubs and to rejuvenate grass. Firing broadened the margins of natural grasslands, in some areas adding thousands of square kilometers of grazing for bison or deer. First Nations thus maintained favored game populations higher than natural environments would have provided. In this sense, these animals were livestock, integral elements in the nations' economies produced by human

management. Labor expenditure for this type of livestock management was less than Eurasians put into controlling stock, and generally kept stock healthier. Technically, meat animals (other than dogs) were not fully domesticated in North America—they were not bred by human selection—but in terms of cost-effectiveness, First Nations' management of resources was efficient. Regarding sophisticated knowledge of the qualities of plants and animals, First Nations were inferior to none of their contemporaries in other continents; they just allocated labor somewhat differently.

The first two-thirds of the Holocene, around 7000 BCE to the first millennium BCE, is called the Archaic period in America. By its close,



Map 2.1 Map of ecological–cultural areas of North America.

North America could be divided into two principal areas on the basis of economic bases. What I call the Continental Core stretched from Mexico to the St. Lawrence Valley in the Northeast; southern Michigan, Wisconsin, and Minnesota in the Midwest; and the Colorado Plateau in the Southwest. Throughout the Continental Core, maize was known; in the ensuing Woodland and Southwestern Hohokam and Ancestral Pueblo cultures, maize would be intensively farmed. The northern limits of maize agriculture were the boundaries of the Continental Core. West of the Continental Core was the Pacific drainage, from the Rockies westward, from Baja California north through British Columbia. First Nations in this area cultivated indigenous plants such as camas bulbs, wapato, acorn oaks, and seed-bearing grasses. Like livestock management, these techniques of producing food with less labor expenditure than Eurasian or Continental Core agriculture were seldom recognized by European observers. Instead, the nations were described as "hunter-gatherers" or "foragers" living off wild foods. There is a third ecological–economic area in North America, the High Latitudes of Alaska and Canada, where plant productivity is low and people must subsist on fish, game animals, and birds.

Early Archaic, 7000–6000 BCE

Archaeologists noticed that fluted stone blades—Clovis and its successor Folsom types—seemed not to have been made in the Holocene. It may be that tongue-in-groove hafting of spear blade to shaft (the "fluting" channel running up the blade) was needed only for megafauna, and, once mammoths and giant bison were gone, it was enough to secure blades in spear shafts by binding thinned or narrowed bases into slots in the shafts. Thinning the lower edge of a stone blade or chipping the lower corners to make a tang or stem is easier than delivering the precise force that slivers off a long oval flake vertically up the face of the blade. Early Archaic stone knife and spear blades include many types that continue the flintknapping skill demonstrated in narrow ribbon-like flakes running across the blade faces for final finishing; only the method of preparing the base for hafting was changed.

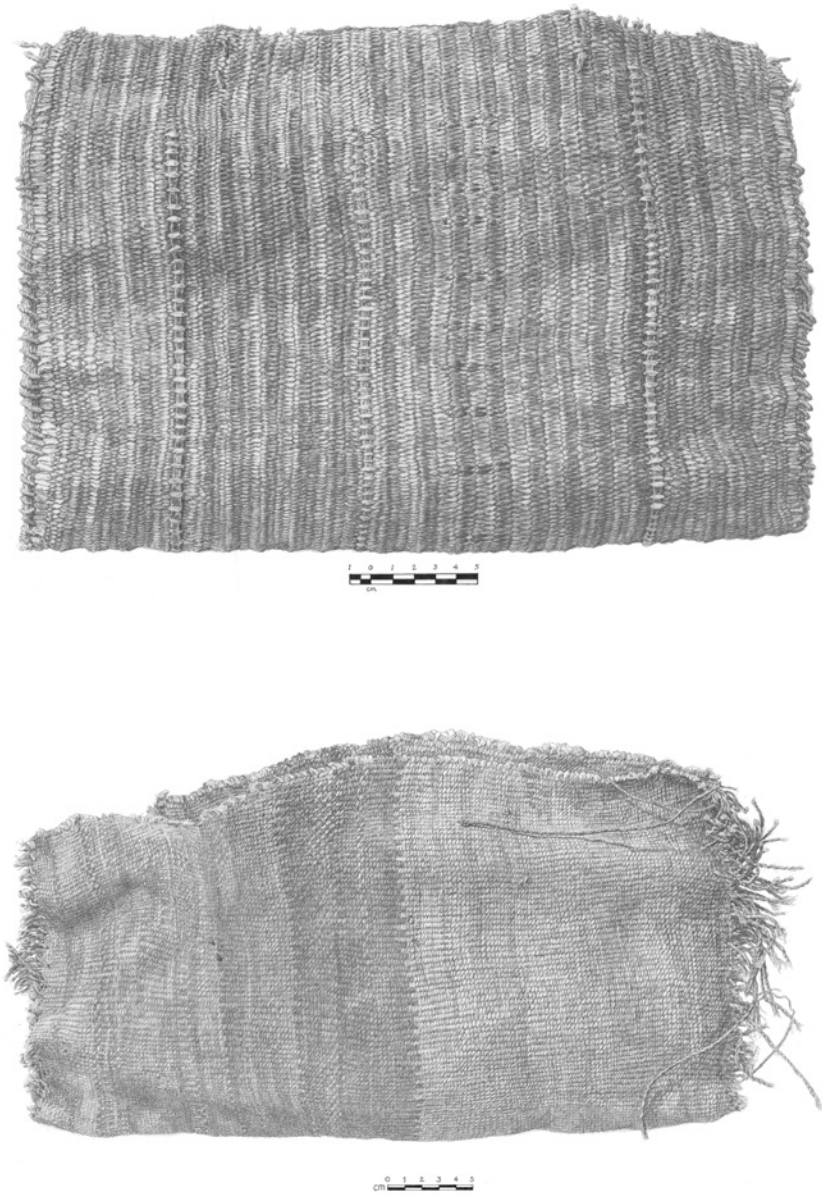
Different regions of North America exhibit differing varieties of stone blades, some, such as the Agate Basin type, on the Plains, much like Clovis; some, such as the Dalton type, in the Midwest, with serrated blade edges; and some, such as Windust in the Northwest, with stem bases. Clearly, North America after 10,000 BCE has many human populations, all experimenting with means to live better in their widely differing regional environments. Without preservation of art (other than beautifully knapped blades of attractively colored or banded cherts and chalcedonies), written texts, or perishable crafts such as fabrics, we cannot judge whether distinctively styled stone blades indicate cultural distinctions the people themselves recognized or are merely technological items shared across language and societal boundaries. Common geographical conditions, and being neighbors, produce "culture

areas" of ecological adaptations and material goods, without necessarily involving common speech, religion, or social values.

Studies of Early Archaic sites in the Southeast indicate the need for stone especially suited to knapping blades and scrapers influenced settlement. Within a few miles of quarries are fairly large sites resulting from many centuries of camps where people reduced the weight of quarried pieces by roughly chipping them into "blanks" that could be finished elsewhere as required. Instead of camping beside craggy rock outcrops, sites were placed overlooking rivers or lakes, convenient for gathering food, firewood, and tent or wigwam materials. Artifacts made from a particular outcrop are common within irregular areas of about one hundred miles (160 kilometers) in diameter, and occur less frequently for as much as several hundred miles farther, especially if the stone is unusually pretty. These studies show Early Archaic bands mapped out across the Eastern Woodlands linked to high-quality knapping stone quarries, creating territories each encompassing several days' travel to the optimum quarry. The territories in the Southeast covered both Piedmont uplands and Coastal Plain valleys, so that a band could exploit a wide variety of food and other resource materials. Large sites at the fall line where the upland streams cascade into the coastal plains tend to be approximately equidistant from two favored quarries and contain stone artifacts from each, either because at these points a band could as easily travel to one or the other or because bands met here and exchanged materials or artifacts.

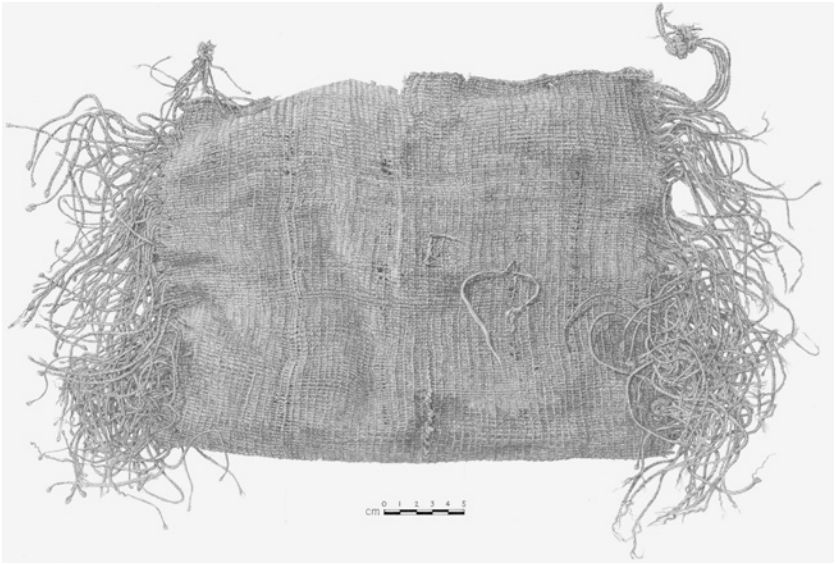
Slabs of stone with hollowed-out basins or cups in Archaic sites contrast with Paleoindian camps. The stone slabs or mortars, more coarsely grained than the rock used for sharp-edged blades and scrapers, were used to grind seeds or nuts into flour that could be mixed with water into a paste, formed into flattened cakes, and baked among the warm ashes of a hearth, or the flour could be dried and stored for winter use. In the Eastern Woodlands (including the Midwest), nut flours from acorns, walnuts, hickory nuts, and hazelnuts seem to have been used for the staple daily bread; this is evidenced both by stone mortars for crushing nuts and the presence of nutshells in occupation debris in sites. In the West during the Early Archaic, basin-shaped grinding slabs similar to Pueblos' corn-grinding metates indicate use of seeds, and locations of sites adjacent to water meadows and flats where edible roots grow suggest harvesting of bulbs and roots such as historically were processed into nutritious flour. (Bulbs and roots would have decayed rapidly in trash debris, where nutshells may be preserved.)

Along with nut, seed, and root flour, Early Archaic subsistence looked to deer, rabbits, other small game (squirrels, raccoons, beaver), and fish and some shellfish, the latter two not generally directly evidenced in Early Archaic sites as they are, abundantly, in later millennia of the Archaic. On the Plains and Plateau (interior) Northwest, bison were a major food, with pronghorn and elk also frequently taken. Camps were located on upland flats, river terraces, mountain valleys, and in rockshelters. We lack direct evidence of structures,



Figures 2.1a, 2.1b and 2.1c Three finely woven bags found in Spirit Cave, Nevada, and dated to the late Paleoamerican period, 8700 BCE.

Credit: Karen Beyers, Nevada State Museum



Figures 2.1a, 2.1b and 2.1c (Continued)

and thus infer that Early Archaic people lived in tents, light wigwams (dome-shaped, bent-over-sapling structures covered with bark slabs, mats, or hides), or wickiups (thatch structures, with or without light pole frames). Very likely, Early Archaic people had canoes—dugouts and bark-covered boats in the Woodlands, reed-bundle boats in the West, dugouts in the Northwest, and possibly already sea-mammal hide-covered frame boats in Alaska—not preserved for archaeological inspection.

Clothing is known only from exceptionally dry rockshelters in the Desert West (eastern Oregon and Nevada). Needles made from thin polished slivers of bone and awls made from sharpened deer leg bones that could have been used for sewing leather or making mats, baskets, or fabrics have been preserved in a few sites elsewhere. Astonishing proof of Early Archaic fabrics comes from Spirit Cave, Nevada, where about 8700 BCE a man's corpse was interred wrapped in a twined fabric shroud and then in a large diamond-patterned mat, and two cremations were placed in fabric bags. The corpse's shroud is made of narrow twisted strips of fur intertwined with fine split bulrush stems, its outer mat of the finely split bulrush through which were woven fine cords. One of the woven bags is decorated with spaced, interwoven strips of leather and of dark-colored tule stems, the other has dark bands of juniper or sage, and both have brown and white bird feathers inserted and fastened into the fabric as further decoration, and were finished with fringes.

The skill of these weavers, more than nine thousand years ago, astounds today's experts—the split reeds and fur so narrow and even; the cord threads so well spun; the weaving itself close, tight, and even; and the variety of techniques and decoration. These fabrics preserved in the dry American desert cave are the oldest complete fabrics known in the world.

The Spirit Cave corpse, naturally mummified by the dry air, was a man in his forties, not especially robust. He suffered from abscesses in three teeth, an infection that probably spread and caused his death. At some time, he had been hit on the forehead, an injury that had healed, and years earlier he had broken a finger. On his feet were well-worn leather moccasins sewn out of three sections, a sole extending over the toes, side vamp, and ankle wrap; tule strips woven into moccasin liners served him as socks. (Other dry rockshelters have equally old woven yucca-fiber sandals.) His last meals had included fish—chub, suckers, and minnow-like dace—and bulrush seeds; in his day, Spirit Cave overlooked an extensive marsh. In the cave near, although not directly with, the burials were a couple of broken weapon points made out of obsidian (volcanic glass), both with ribbon flaking typical of the Early Holocene, and two wood foreshafts that would hold stone points and socket into a spear shaft, allowing the shaft to be retrieved from a hit; a stone metate and two round "rubbing stones" that were used to pulverize something, possibly seeds; two flaked stone scraper blades and a slotted wooden knife handle; and a simple pendant made from the end of a bighorn mountain sheep horn. Archaeologists studying these artifacts mention that bighorn rams roam the rough high country, where stone drive lanes and blinds testify to Archaic hunting practices.

Middle Archaic, 6000–3000 BCE

Throughout North America, Early Archaic sites indicate small communities exploiting lakeside and marsh resources and game similar to historic species. People knew of sources of stone superior for knapping sharp-edged artifacts or for grinding seeds and would procure valued stone over considerable distances. Early Archaic people were neither timid nor tied to familiar localities.

Sites dating to the Middle Archaic, around 6000–3000 BCE, suggest considerably more complicated human habitation over the continent. Regional differences in artifact styles are more distinct; site distributions imply territorial claims and boundaries, including no man's lands between more densely occupied zones; and the number of skeletons with embedded weapon points or fractures likely caused in attacks (e.g., lower arms broken in the middle as from warding off blows) have rather surprised archaeologists. Long-distance procurement of valued stone continues, balancing the evidence for warfare with that for alliances and/or safe transit to prized quarries. Middle Archaic is the period of rising climate temperature climax, drying out some desert basins and contributing to the spread of pine woods in the Southeast—less productive for humans than the hardwood forests the pines replaced—but overall, climate did not adversely affect humans in America in this period.

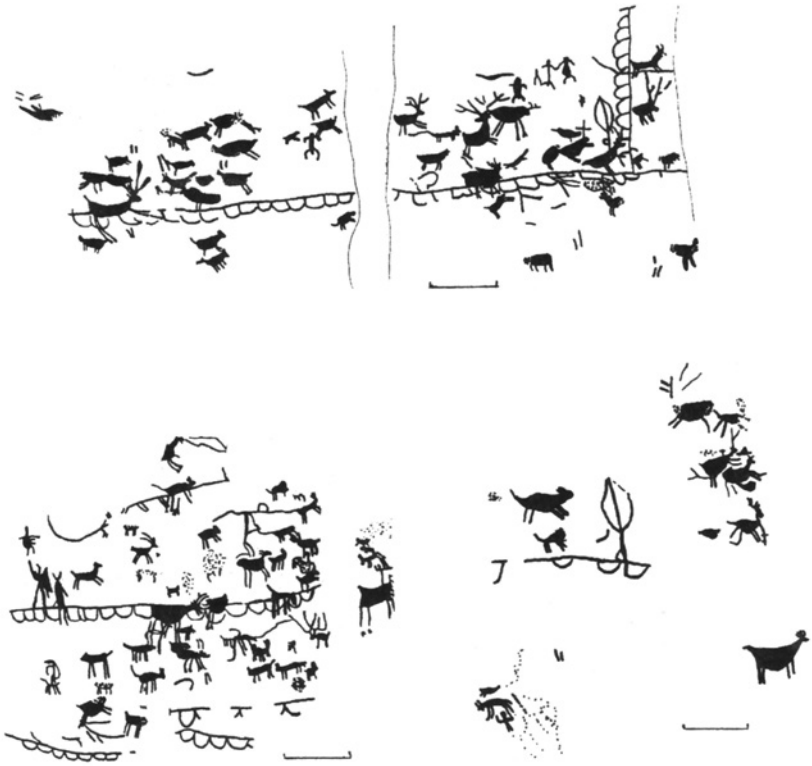


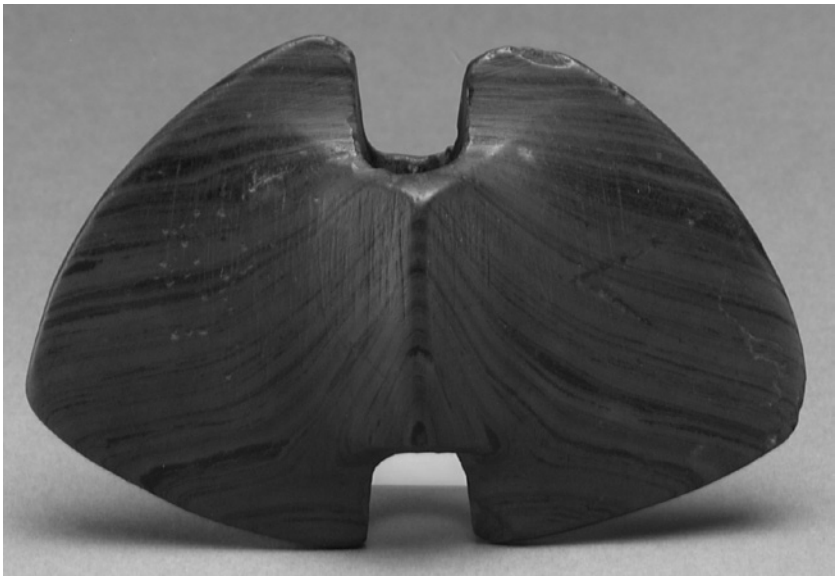
Figure 2.2 Rock art panels showing hunting scenes from the Black Hills, South Dakota. Credit: Courtesy of Linea Sundstrom

Middle Archaic people seem to have become more interested in riverine and marsh habitats, collecting a diversity of plants and smaller animals, down to shellfish. The largest game would be bison and deer, plus pronghorn and mountain sheep in the West. Rock art in the Black Hills shows small groups of people cooperating in chasing or trapping these animals. A loop design probably depicts use of large nets to enclose them for clubbing or spearing, the way historic Great Basin Indian people formed large circles holding a net and then closed in within a valley or pass, driving game into the shrinking middle to be slaughtered. On the rock art panels, one human may be represented apparently standing on the back of an animal, possibly the "pronghorn boss" or "rabbit boss" who directed the hunting operation. Many of the Black Hills hunting scenes are at rock defiles or canyons that would facilitate game drives; the pictures may be signs marking such suitable locations or records of success (Sundstrom 2004; Tratebras 1998). In the forested Eastern Woodlands, riverine and

coastal sites exhibit another kind of success, immense heaps of emptied shellfish. Increasing populations would have been fed by establishing seasonal settlements at mussel shoals or oyster banks, with older people and women caring for young children collecting the shellfish while younger men hunted deer. The ties people felt toward these settlements is seen by their placing burials in the shell heaps.

Back Bay in Boston revealed weirs (fish traps) that have been radiocarbon dated to 3000–1000 BCE, the span of the Late Archaic, but probably were invented somewhat earlier. Back Bay during these two millennia was a shallow tidal backwater. People cut saplings, drove them as stakes in long rows parallel to shore at the line of low tide, and filled spaces between the stakes with bunches of brush. High tide flooded over the wooden fences, and, as the tide receded, twice a day, the water level dropped below the fence top, trapping small fish. Twice a day people could scoop up fish with nets or baskets; furthermore, the fences provided ideal habitat for oysters, one might say an oyster farm. Eventually, Back Bay silted up, burying the weirs. Construction of a subway line and office buildings at Boylston Street exposed thousands of stakes, patiently sorted out by archaeologists into hundreds of weirs superimposed over many centuries. An intriguing sight against Boston's most prestigious office buildings, the ingenious fish traps demonstrate how Middle and Late Archaic Americans effectively increased food supplies.

New forms of art appear in the Middle Archaic. Virtuoso flintknapping, that producing the narrow ribbon-like flakes across the faces of blades, has disappeared. Archaic stone blades are quite competently made, but the craftsmanship is not as extraordinary as that of Paleoindian and Early Archaic blades. Finishing blades for hafting varies more regionally in the Archaic, giving archaeologists stylistic clues to social groupings. Midwestern artisans made handsome bone pins, some with holes in the top so they could be used as pendants or tied to a belt, all well-polished and many with attractive finely incised patterns of sets of lines. These distinctive pins are dispersed throughout the central Midwest, demonstrating contacts across regions, counteracting the trend toward greater exploitation of local resources. In Windover Pond near Cape Canaveral, Florida, interment in waterlogged peat preserved sixth-millennium BCE bodies wrapped in fabric shrouds, like the Spirit Cave, Nevada, corpses, and like them furnished also with fine and coarse cloth, twined bags, and mats, in Florida made with fibers processed from palms as well as weedy plants. Carved stone atlatl (spear-thrower) weights appear in the Middle Archaic, to become hallmarks later of the Late Archaic. Often termed "bannerstones," atlatl weights were manufactured by grinding rather than chipping rock, producing sleek, polished, smooth surfaces enhancing the beauty of the colored and banded stone chosen. Shapes may be geometric or highly stylized birds or butterflies; they can be mistaken for modern abstract small sculptures.



Figures 2.3A and 2.3B Archaic carvings in stone, possibly atlatl weights. Top, "bannerstone"; bottom, "birdstone."

Credit: The Michael C. Rockefeller Memorial Collection, Bequest of Nelson A. Rockefeller, 1979. Accession numbers 1979.206.403 (bannerstone), 1979.206.1345 (birdstone)

Late Archaic, 3000–1000 BCE

After around 3000 BCE, sea level stabilized at its historic global level, and climate, vegetation, and fauna were essentially as we know them ("stabilized" isn't quite the word considering recurrent fluctuations such as the El Niño storm pattern shifts). Population growth was reaching critical mass if dependent only on wild foods. A cultural breakthrough was occurring: in the Late Archaic, cultivation of plants became common. Human communities increasingly labored in fields to produce more and more food, leading to what can properly be termed "civilization," living in *civitas* (the Latin root for "city" or "state").

Agriculture was no lightbulb flash in one brain. Our earliest evidence in the Americas is nearly as old as in Eurasia. Experimentation with increasing food harvests probably began in the Late Pleistocene. During the early Holocene in Mexico, people in Oaxaca (pronounced "Wah-ha-ka") in southwestern Mexico were planting and cultivating maize (Indian corn) and squash that were not native to that region, proving human efforts to amplify resources. Changes in pollen deposits in the Valley of Oaxaca indicate fields were cleared near the river. Neither maize nor squash was basic to the diet at that time; squash may have been grown for its shell, like gourds, or its seeds, and maize kernels grown and roasted for snacks. Curiously, no wild maize existed: the plant is a mutant from a wild grass called teosinte, and entirely dependent on human manipulation for its propagation.

Millennia went by before Mexicans became sufficiently concerned over food supplies that they selected conscientiously for the largest maize kernels and cobs, breeding varieties suitable for grinding into flour in addition to the older popping corn. Ground seed flour was cooked into porridge as well as baked as flatbread. Maize appears in the U.S. Southwest in the second millennium BCE, on cobs much smaller than present-day cobs, and takes another millennium to become a significant crop to peoples in the Southwest. In the Midwest, maize pollen has been detected in village sites equally early, and again, minor in the diet—unless the few kernels in kitchen areas and storage pits reflect consumption of most of the corn while tender and still green, rather than processed mature and dry into ground meal or hominy. Actual kernels of maize have not been recovered from Late Archaic sites, only from Middle Woodland and later. Midwesterners of the Late Archaic cultivated indigenous temperate-zone seed crops—chenopods (such as goosefoot), sumpweed, and marshelder—that now are considered weeds. These plants have abundant tiny seeds high in vegetable protein but are not easy to grind; hence nuts were important as another abundant source of carbohydrates and protein. Squash was widely cultivated as far north as southern Maine in the Archaic, presumably originally obtained from Midwesterners who seem to have domesticated a species native to the Ozarks. A dry rockshelter in northern Arkansas preserved a three-thousand-year-old stored set of cultivated seeds: a gallon of mixed seeds, three bags of chenopod seeds, and one

of squash and sunflower seeds. Antlers and perforated mussel shells that could be fastened to sticks as hoes, found with the seeds, probably were the hoes used to work the seed plots.

One definitive source of information on Late Archaic diet is desiccated human feces preserved in the labyrinthine Mammoth Cave system in Kentucky. Late Archaic people penetrated half a mile into twisting precipitous totally dark cave tunnels, illuminating their path with wood torches, and sometimes they stopped to relieve themselves in corners of the tunnels. The dry remains can be radiocarbon dated and analyzed for components. This research hints that the resolute explorers fortified themselves with a fermented beer-type beverage brewed from maygrass, a plant no longer used in historic America. Other components of the feces confirmed the eating of indigenous seeds so common in Late Archaic and Early Woodland sites. Apparently the goal of these early cavers was to procure pieces of pure white gypsum outcropping deep in the tunnels; no one knows why they would go to such risk to get the gypsum.

A highly significant innovation of the Eastern Woodlands Late Archaic is construction of earth mounds over burials. Communities wanted highly visible reminders of their deceased, memorials still to be noticed on the landscape five thousand or more years later! The earliest known burial mound, radiocarbon dated at 6500 BCE, lies on the Canadian Maritimes coast at the Quebec–Labrador boundary, across the Strait of Belle Isle from Newfoundland. An adolescent (whether boy or girl could not be determined) was laid face down in a sandy pit, between a pair of fires. The youth had around its neck a bone pendant and a whistle with three stops, and beside the body were a walrus tusk, a harpoon, three stone knives, a cluster of stone and bone weapon points, and red-ochre and graphite pebbles with an antler tine that could be used to crush the minerals for use as paint. A rock slab covered the body and two short rows of upright slabs were set in sand above it before being buried under sand and stream boulders. In the pit was a used caribou-antler shovel. It's a puzzle why this youth was given such attention, so far unique for the Middle Archaic that far north.

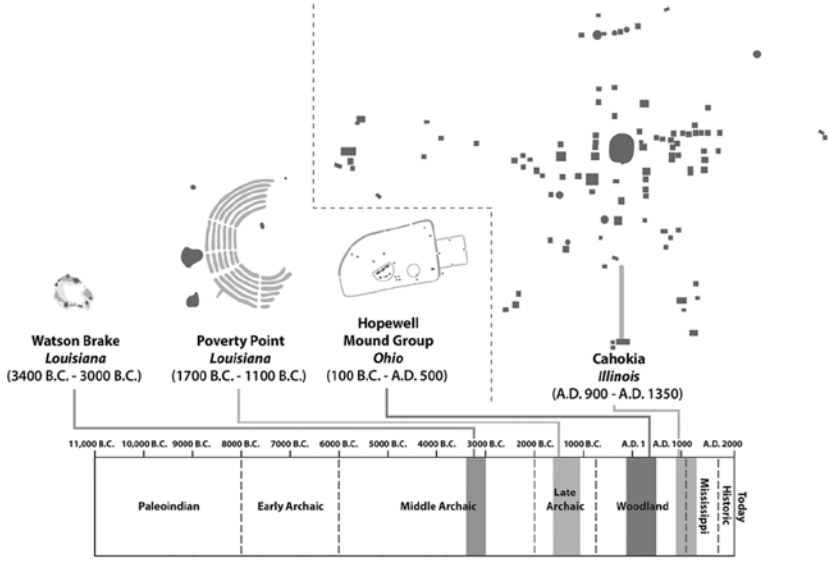
More typical, Late Archaic in date and common in the temperate Woodlands, are earthen mounds built near bluff edges overlooking river valleys with settlements. One in northeast Missouri, for example, contained a total of 109 persons, of which twenty-eight had been corpses laid at what would be the base of the mound and five had been decomposed before interment and the bones bundled. Near three infants were pieces of galena (lead) and hematite (iron ore), a broken pendant, bone awls, a bird bone and a raccoon lower jaw, antler tines used for flaking stone blades, and a ten-inch-long narrow, beautifully flaked (almost ribbon-flaked) stone blade. Near an adolescent were more galena and hematite, bone and antler tools, stone drills, two beaver incisor teeth probably used as knives, stone blades, and a small mano (grinding stone). It looks as if a community's dead were placed here over a period of time before all were covered with a layer of earth.

Subsequently, more layers of earth and limestone rocks were piled on, with cremated human remains buried in these layers. Three thousand years later, Late Woodland people took advantage of this monument to add on top a few of their own dead, with a final layer of earth.

The heartland of Late Archaic mound-building was the Lower Mississippi River Valley. The custom began in the mid-fourth millennium BCE in northeast Louisiana, where the site of Watson Brake has a circle formed by eleven mounds, the tallest twenty-five feet high, connected by a low embankment. Evidence for cooking suggests activities were carried out on the mounds, although since they seem to have been rounded they would not have been designed for house platforms. Quantities of mussel shells, snail shells, and bones of fish, deer, small mammals, and turkeys indicate diet rich in meat; plants must have been gathered, too. Pottery wasn't yet known, yet the people made little cubes of clay and fired them, possibly to heat and drop into wood or hide cooking vessels.

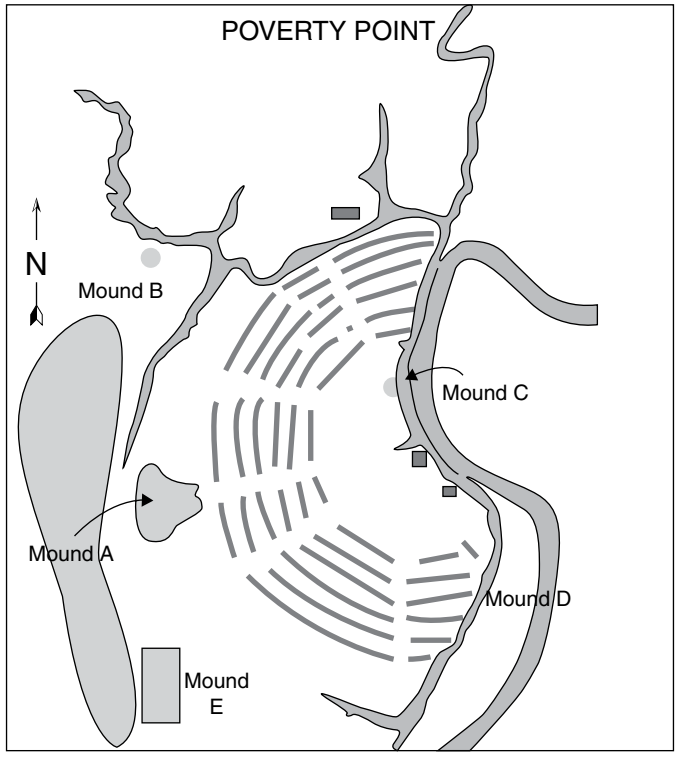
Watson Brake's little clay cubes, as well as its mounds and embankment, are clues to cultural continuity between these earliest Late Archaic earth-builders and the spectacular site of Poverty Point, in the same northeastern corner of Louisiana. Long an enormous—literally—puzzle to archaeologists, Poverty Point covers a square mile along a bayou waterway. Six concentric arcs of six-foot-high earthen embankments, the outer diameter three-quarters of a mile, apparently served to raise residential structures. Inside the six half-circles of homes was a thirty-five-acre (fourteen-hectare) plaza constructed by filling in a gully and preparing a level surface. Five narrow streets broach the residential arcs, leading out from the waterfront plaza. At the head of one street is a massive mound eighty-two feet (twenty-six meters) at the flat summit of its highest platform; a broad ramp leads up from street level. From the air, this mound, with its pair of side lobes, seems to have a bird shape. A conical mound twenty-one feet (6.4 meters) high and a low flat mound were built near the great mound; a fifty-two-foot (sixteen-meter) mound a mile and a half (2.4 kilometers) north and a smaller mound the same distance south, perfectly aligned north–south with the great mound, complete these earthworks created between 1500 and 1000 BCE.

Like Watson Brake and the other known late Middle and Late Archaic mound sites in the Lower Mississippi Valley, Poverty Point lacks evidence of agriculture other than squash, even of cultivation of indigenous seed plants such as were important to Indian nations in the central Midwest at the time. Nuts were commonly gathered and processed in quantities, and fish and deer were mainstays. How the houses on the embankments looked, or the structures on top of the mounds, is unknown; shelters would have been light and airy in the warm, humid climate. Artifacts are the array usual in the Late Archaic Eastern Woodlands, with the exception of a number of small figurines artistically carved from attractive stones such as jasper; these may have been amulets or jewelry. Distinctive at Poverty Point, and found throughout the Coastal Lowlands province from Missouri through the Gulf of Mexico coast and Florida, are what are termed Poverty Point Objects (PPOs),



Figures 2.4a and 2.4b Poverty Point site, Louisiana: Chart showing relative sizes of American mound sites, from earliest (Watson Brake), to Poverty Point, Hopewell, and finally Cahokia in the twelfth century CE.

Credit: Louisiana Division of Archaeology, Louisiana Department of Culture, Recreation, and Tourism



Map 2.2 Map and aerial photograph of Poverty Point, showing the largest mound in the center at the outer edge of six concentric ridges on which houses were built, plaza, and bayou.

uncountable thousands at Poverty Point itself. The objects were molded in the hand of local clay, placed by dozens into earth-oven pits, a fire burned on top of them, and then food laid to bake on the hot PPOs. Rocks suitable for retaining heat in earth ovens are scarce in the Gulf Coastal Lowlands, so these quickly made clay objects were substituted. PPOs ceased to be made about 700 BCE, when Lower Mississippi Valley people learned to manufacture clay cooking pots.

Shell mounds are another monumental feature of the Late Archaic, particularly in the Southeast. Composed of millions of shells, they were assumed to have simply accumulated as Archaic people discarded them meal after meal for centuries. Excavations showed that some were purposefully built to inter burials or as platforms for houses and perhaps for community rituals and feasting. Early in the Holocene, as sea level rise eventually established river systems that persisted after sea level stabilized, villages discarded shells after their meat was removed. Generations passed, and ancestral villages were buried under centuries of mollusk discards. Most mounds were linear, along

Figure 2.5 Front of a Florida shell mound, photographed early twentieth century.
Credit: State Library and Archives of Florida

river shores, often near shoals, accumulating to about five hundred feet (150 meters) long, 160 feet (fifty meters) wide, and twenty-six feet (eight meters) high; the largest are on larger bodies of water and can be nearly a thousand feet (three hundred meters) long and thirty-three feet (ten meters) high. Some mounds are ring or U-shaped, which during the mid-Holocene highest temperatures and lower sea level would have enclosed freshwater sources for the villages. Sand was used to engineer stable layers along with shell layers, possibly also to cap decaying shell heaps. Contrasted to the clearly deliberate monumental constructions at Poverty Point, Southeastern shell mounds puzzle archaeologists: they could be, for the most part, merely refuse from millions of meals over millennia, or could have been enhanced as signs of ancient history, testimony to mighty populations in the past.

Earthen constructions reaching, at Poverty Point, stupendous scale are one impressive development of the Late Archaic. The other still-visible product of the period, this time more in the northern Eastern Woodlands, is copper manufactures. Whether it is correct to call them "metallurgy" is debated, because the metal came from ores so pure they didn't require smelting to extract the copper. The point here is that smelting involves furnaces in which temperatures much hotter than open fires can be achieved, that is to say heat technology in addition to techniques for working the metal itself. Smelting technology was developed in Peru, to a high degree, in the second millennium BCE and spread as far north as Mexico by 1200 CE, but not into the United States. Techniques for copper used in the North American Late

Archaic sufficed for a wide variety of ornaments and implements—copper was greatly valued for its sunlike gleam, the sound of bits of copper tinkling (precursors of today's powwow Jingle Dance for girls) was delightful, copper awls and daggers and harpoon points were useful, and stone continued to be satisfactory for most cutting and pounding instruments. Archaeological research in Eurasia shows that iron smelting and forging is not a simple transfer from copper working: iron melts at a higher temperature, also necessary for melting out its ore impurities (slag), and its superiority over other tool metals comes from the process of carbonizing it into steel. America's iron deposits near Lake Superior were unexplored, while for five millennia Lake Superior copper deposits were extensively worked.

Radiocarbon dates as early as 6000 BCE have been obtained on material associated with copper implements in the Upper Midwest. The bulk of copper artifacts are dated between 4000 and 1000 BCE, Late Archaic. "Bulk" here means not only the greater number of known copper artifacts, but also the heaviest ones, such as adzes, socketed axes, harpoons, tanged or socketed weapon points secured to hafts with rivets, and smaller tools such as awls. Three "Old Copper" cemeteries have been excavated in Wisconsin (excavated, incidentally, because severe erosion or commercial quarrying were rapidly destroying the sites; in none of the cases were human remains disturbed in order to get research data). The oldest dates to the fourth millennium BCE. Among its graves was one in which a year-old child lay with a flat copper crescent, probably an ornament; bits of birchbark; and string adhering to the copper. An older child had been given a flute made from a swan's wing bone. A young woman with a newborn infant wore a copper bracelet and another of strung perforated pond snail shells, plus a broken ocean whelk shell and two local mussel shells lay with her. Adult men included one with a copper fishhook, another with a copper spatula and copper crescent-shaped knife blades, and two with stone dart points. Tanged copper dart points were salvaged from near the excavated burials. An estimated two hundred people had been buried in this Late Archaic cemetery, about three-quarters lost before qualified archaeologists reached the damaged site.

"Old Copper" artifacts have been found throughout the Great Lakes region and its western peripheries, most often by farmers. Makers of these copper implements apparently lived in small camps, moving in a seasonal round to their harvests and, when necessary, to the band's cemetery. Some copper artifacts were traded south to the Central Midwestern communities cultivating indigenous seed plants, squash, and a little maize. Old Copper manufacturers lived in a more northern habitat where these plants would not flourish. East of the Old Copper Great Lakes region, in the St. Lawrence Valley and adjacent Ontario and New York, implements shaped exactly like many Old Copper ones were made by grinding slate. Slate is abundant in the northern Appalachians; copper is less common. Late Archaic people in the Northeast apparently found it more economical to make popular types of tools out of slate. Because a cache of Old Copper artifacts has been

Figure 2.6 Old Copper fishhooks, weapon point, awls, and knife blades (Late Archaic, 3000 BCE and continuing into nineteenth century CE).

Credit: Peach State Archaeological Society

discovered as far east as Quebec, we know there were connections between the Old Copper and slate provinces.

The Archaic period, the first six millennia of the Holocene, saw the continent's vegetation and fauna shifting into patterns familiar to us yet. Human populations increased inexorably, gradually investing more labor in plant cultivation and processing while continuing hunting and fishing. By the Late Archaic, ground stone artifacts and, in the northern Midwest, copper diversified material culture; in the Lower Mississippi Valley, social organization literally moved the earth into permanent signs of humans' power to

transcend what nature may provide. Meanwhile, in Mexico, people were developing varieties of maize that would become the foundation of life for millions of Americans.

The following Early Woodland period expanded these trends. Paleoclimate studies have revealed a period, 1250–450 BCE, with increased precipitation and cooler summers that led to severe floods in the vast Mississippi watershed, from the Rockies in the west to the Appalachians in the east. Rivers changed course. Rich floodplains and bayous could have become lakes or been cut off from flowing water. Transportation routes such as serviced Poverty Point over great distances would have needed reconfiguring and left many towns off main traffic, like towns today when a highway bypasses them. Climate change effects may have undermined Poverty Point; the mounds and town built on its concentric ridges were abandoned about a couple of centuries into this period of climate change. After an apparent hiatus of a few centuries, small sites classified as Early Woodland were inhabited. The region never regained its preeminence in continental trade. Around 100 BCE, with the Middle Woodland period, that role shifted north to the central Mississippi Valley and the Ohio.

Bibliographical Notes

Brian Fagan's *Ancient North America: The Archaeology of a Continent* (New York, 4th ed., 2005) and my own *North American Indians: A Comprehensive Account* (Englewood Cliffs, NJ, 3rd ed., 2006) cover the Archaic period in chapters organized by geographical areas. *Archaeology of Prehistoric Native America: An Encyclopedia* (New York, 1998) has entries for the Archaic period and many sites and artifacts associated with it. *Imperfect Balance: Landscape Transformations in the Precolumbian Americas* (New York, 2000) provides descriptive summaries of human use and modification of plants and landscapes throughout the agricultural regions of the Americas.

3 Nuclear America

It had seemed obvious to American archaeologists that nations of the Eastern Woodlands and Southwest had contacts with those of Mexico. If nothing else, planting maize proved it: maize was domesticated in Mexico and the mutation that makes it profitable for farmers prevents it from reproducing in the wild. Early twentieth-century archaeologists accepted the concept of "Nuclear America," a zone from Mexico south through Peru, where the major crops of maize, beans, and squashes were domesticated; pottery was invented; monumental architecture developed; and the most elaborate arts and political empires created. Outreach from these expanding populations fueled by agriculture would have affected hunter-gatherer nations, whether from pressuring them for land, seeking their products and resources in trade, or, eventually, seizing them for slaves. Hunter-gatherers, in response, would have added crops to their subsistence and imitated practices observed in the glamorous metropolises.

Indisputable as is the spread of maize from Mexico into temperate North America, in the 1960s American archaeologists became loath to discuss the concept of a Nuclear America cradle of innovations. Instead, they emphasized adaptations to geographical regions. One reason for the shift in research questions was a shift in funding sources, from museums and universities accustomed to humanities perspectives to the National Science Foundation (NSF), a Cold War entity dispensing millions of dollars for physical and natural science. Projects allying archaeologists with zoologists, botanists, chemists, and physical geologists attracted NSF grants, so that it became more feasible to study ancient procurement and processing of wild game and plants in collaboration with faunal or floral laboratory specialists than the question of how maize was obtained by temperate-zone societies—a historical question. Another factor was the increasing number of archaeologists and their employment in local cultural resource management; up through mid-century, the relatively few archaeologists were likely to be experienced in several quite different regions, while cultural resource management jobs call for local expertise.

"Nuclear America" nevertheless remains a useful concept. The history of Mexico is as relevant to indigenous histories to the north as that of Rome

is to the histories of European nations beyond Italy. Temperate-zone First Nations were no pale clones of Mexico, but neither were they fenced off from the discoveries and events of the realms to the south. Maize agriculture became the foundation of later precontact nations in both the American Southwest and the Eastern Woodlands, while the travels and personal contacts that brought the crop north from Mexico carried a wealth of ideas and goods now embedded in historic First Nations traditions. Words for maize in several Lower Mississippi Valley and Gulf Coast languages indicate that the word, as well as seeds and cultivation knowledge, was shared between northeast Mexicans and communities in what is now the southern portions of the United States.

Development of Agriculture

The earliest direct evidence for agriculture in the Americas is fragments of squash left in a rockshelter overlooking the Oaxaca Valley in southwest Mexico, 8000 BCE. No wild varieties of this squash grow in Oaxaca; it was probably taken to Oaxaca from farther north in Mexico, presumably to eat its seeds, possibly to use the shell as a container. At the same time, the banks of the river in the valley seem to have been cleared of their thickets to make open plots for cultivated plants. Pollen from maize was recovered in the same rockshelter, but without cobs or kernels. Maize mutated from a wild seed grass, teosinte, native to western and south-central Mexico. Sometime before about 3500 BCE, alert and knowledgeable Mexican cultivators noticed the mutation with multiple "naked" kernels (no hard shell around each kernel, as in teosinte) on cob spikes. Only planting and cultivation by humans could have perpetuated this mutation—no natural agency can disperse the kernel seeds strongly bound to the cobs, instead they would all sprout from fallen cobs so close together they could not grow. Excavations in the Valley of Mexico produced bits of teosinte, amaranth, and tomatillos from Archaic hunter-gatherer sites earlier than those with maize, showing that Archaic people were collecting and perhaps cultivating not-yet-domesticated forebears of these valued crops.

In another valley of central Mexico, Tehuacán (not to be confused with Teotihuacan northeast of Mexico City), Archaic people left a variety of plant remains when they camped in dry rockshelters. Earlier Holocene occupations had the small but numerous and nutritious seeds from foxtail millet and amaranth, prickly pear cactus with its sweet fruit and thick leaves edible if young, avocados, and mesquite, with beanlike fruit in pods. Later in the mid-Holocene, people were definitely planting and cultivating peppers, squash, cotton, and agave, in addition to foxtail millet. Occupations dated 3500 BCE have the first maize in the Tehuacán Valley, small cobs with kernels that were probably prepared by popping. Many native grains were parched—lightly roasted—for example, by shaking in a tray with hot coals, similar to popping corn, with the roasted seeds easier to grind into flour. Uto-Aztecan

languages, spoken from central Mexico northwestward into the western United States, had a word for tamales several thousand years ago. Mexicans continued selectively breeding maize, developing varieties for diverse conditions and increasing the size of both cobs and kernels.

Toward the end of the first millennium BCE, Mexicans had a domesticated bean, apparently from a Mexican wild form, although beans had been domesticated in Peru as early as maize appeared in Tehuacán. If the Mexicans planted their beans together with maize, they would have seen that the maize benefited from the newer domesticate's nitrogen-fixing ability, making that necessary element available to neighboring plants. Beans also furnish high-quality vegetable protein to humans. We don't know when Mexicans began soaking maize kernels in lime, softening them for hominy or then drying the softened kernels in order to grind them into meal. Lime-soaked maize gains calcium from the lime; eating maize thus processed with beans yields a diet sound in basic nutrients. Add a chile-pepper salsa and some greens to round out the vitamins, occasional deer, fowl, or fish for more protein and necessary fat, or oil-rich seeds such as sunflower, and you have the healthy cuisine characteristic of America from Mexico through eastern and southern North America.

This Nuclear American food base is the famous "Three Sisters," maize, beans, and squash interplanted to maintain nitrogen and phosphorus through bacteria and fungi in their roots. Interplanting makes all three plants stronger and increases yield, a lesson farmers today could profitably learn from their prehistoric forerunners. Millennia of experimentation in the Americas taught that the best growing conditions for the Three Sisters are raised tilled beds; if the water table is high, raised beds allow drainage down into the adjacent ditches, preventing waterlogged roots, and, if the water table is low or the climate arid, water can be run into the ditches from rivers or lakes, irrigating the plants. Raised beds may be long parallel rows that look like plowed fields or rectangles or small mounds—corn hills—or, in arid zones, the reverse, sunken plots that hold water. There are even "rock mulch" plots in the desert Southwest (and, incidentally, on Easter Island), ordinary cobbles piled in small mounds or lines, including some along contours, to impede slopewash. The rock cover keeps soil underneath softer, allowing it to better absorb rain than the sunbaked hardpan and slowing evaporation. Hohokam in the Southwest grew agave under the rock mulch and baked the tough plant for a couple of days in nearby large pits until it became sweet and edible.

Water management is a component in any agricultural regime. Not only are conservation techniques such as contour terracing and check dams and water provision through irrigation essential in the semiarid lands comprising so much of Mexico and the American West, drainage management is needed in humid zones, and rainfall patterns everywhere are crucial to successful planting and harvests. Villages in the Tehuacán Valley built an earthen dam in an arroyo in 700 BCE, and then enlarged it in the next century to impound a

reservoir holding a million and a half cubic meters of water. Using this year-round source of water to feed irrigation canals, the farmers raised quantities of tropical crops, including cotton and palm nuts, to market at higher, colder settlements. Because irrigation systems emerge later in the American Southwest than in Mexico and appear in conjunction with pottery and structures similar to western Mexican types, it is likely that Hohokam were migrants from, or learned from, Mexican agriculturists to extend fields beyond what nature would water. These First Nations agricultural engineers avoided the modern problem of salt accumulation in irrigated fields by diverting storm runoff carrying fertile soil particles onto their farmlands as well as layering on rich muck cleaned out of irrigation channels. Techniques of water management seem to have been widely shared in the Americas, each region fine-tuning and further inventing practices called for by its particular circumstances.

Diversity, "don't put all your eggs in one basket," has been a principle of indigenous American agriculture. Both in Mexico and in temperate North America, seed-bearing weeds were tolerated or even cultivated. Chenopods (goosefoot), amaranth, and foxtail millet flourish on open disturbed soil such as would have been created by hunting-gathering camps. After maize was domesticated, these and other plants, such as mesquite, with seeds higher in protein than maize, were retained between or in addition to maize fields. The Aztecs grew amaranth in quantities second only to maize and required loads of amaranth in tribute from vassals raising it. First Nations people maintained knowledge of wild food and medicinal plants through botanical specialists and by families regularly going out berry-picking and harvesting greens and herbs, tree fruits and nuts, and the wild seeds. European colonists disdained what they considered distractions from the labor of farming, at the same time marveling at Indians' encyclopedic knowledge of flora and fauna, not seeing that a diversified resource base is intelligent risk management. Lean seasons and famines could occur; slowed-growth lines in human bones provide evidence that children suffered nutritional setbacks, but no archaeological signs indicate that widespread starvation occurred even during protracted droughts. Instead, people left hopeless fields to live in small bands collecting wild foods inured to dry conditions, utilizing information passed down through millennia from hunter-gatherer ancestors.

Religious Concepts

The concept of Nuclear America includes a set of religious ideas expressed through symbols that have persisted for millennia, indeed into today on the Mexican flag's eagle grasping a serpent. Mexican artist Miguel Covarrubias called these ideas the Mother Culture for Mesoamerica, identifying them as earliest in Olmec, Mexico's first era of "civilization" (cities and kingdoms), later second millennium BCE. The ideas support state societies dependent on agriculture.

The Nuclear American cosmos is divided into heavens, earth, and underworld, symbolized respectively by bird, jaguar, and serpent. A World Tree may rise, linking the three sectors, pictured with a large bird on its top branches and an underworld monster at its roots. The famous sarcophagus in the tomb of Lord Pacal of Palenque, a Maya king of the seventh century CE, depicts the deceased king rising up from the massive head of the underworld monster, the World Tree carved with hieroglyphs behind him and an elaborately feathered bird looking down at him from its perch at the top. The Aztecs had two orders of knights, the Eagle Knights and the Jaguars, representing the fierce predatory powers of heavens and earth fronting their armies. Serpents, specifically deadly rattlesnakes, represented cosmic power, often carved or painted with feathers and horns to indicate that they encompassed more than the realm of the underworld. In Nahuatl, language of the Aztecs, this was Quetzalcoatl—"quetzal" being the prized gorgeously plumed tropical bird and "coatl" being the snake. Quetzalcoatl was Lord of the Winds, bringer of wisdom, and the deity who danced our present world into being out of the ashes of cataclysmic destruction, and hence the founder of dynastic rule. Conch shells, blown as trumpets, were his symbol, especially the conch's pearly spiral columella, resembling a vortex that he wears as a pendant on a bead necklace.

Back in the second millennium BCE, the Olmec who built Mexico's first large pyramidal mounds, cities, stone sculptures, and large-scale maize farming conceived of earthly power born of the Jaguar Lord of the Earth. The earth itself they pictured as a huge serpent, with caves as its gaping jaws. We don't know their religious texts, because they were just developing writing, and their glyphs, in short inscriptions, have not been not deciphered, but a number of statues and figurines show an infant with a fearsome jaguar face carried in the arms of a fully human man, as if the founder of their dynasty claimed descent from a jaguar consorting with a human. Three stone statues in a row in an Olmec city are a seated jaguar facing two men kneeling to it. Olmec also carved giant portrait heads of their rulers, apparently using the stone block thrones on which the kings had seated themselves, turning the blocks into memorials after their deaths. It is a curious fact noticed by the great British archaeologist V. Gordon Childe that realistic portraiture appears only when large populations organize into states.

Mexican nations revered the maize sustaining their people. It was shown either as a maiden paired with a male hunter or as a beautiful young man. Maiden or youth, maize shyly looks out from its protective green husk. It needs water, so sculptured panels and paintings may add a watery world beneath it, with shells and fishes and crocodiles, the last of course masters of the watery domain—bull crocodiles do a roaring thrashing dance in the water that is said to be unforgettable! Deer are the free-ranging food complementing maize, and may be pictured with flowering plants as in a lush meadow. Butterflies were said to be souls of men and women who had died sacrificing their lives for their country, men in battle and women in

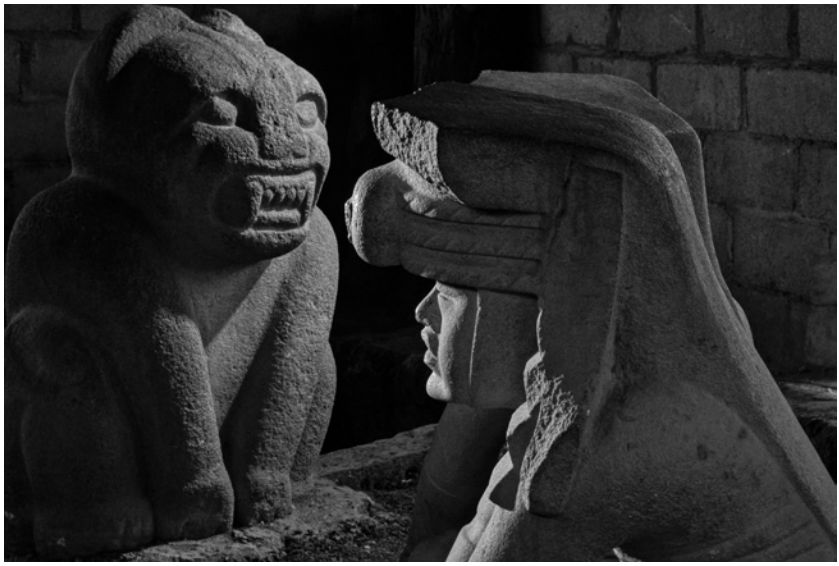


Figure 3.1 Olmec jaguar with two men bowing to it, Azuzul Olmec site, Mexico. Photo by Alice B. Kehoe

childbirth. Aztecs thought of flowers and birdsongs worshiping the gods, nature's own altars and hymns, and metaphorically referred to their own religious ceremonies as "flower and song."

Many Mexican religious symbols are shared with North American First Nations, translated into familiar forms. Hawks and eagles are generally classed as varieties of raptors, more or less interchangeable with the hawks and peregrine falcons favored in the Eastern Woodlands. Bears substituted for jaguars north of the feline's range. Quetzalcoatl serpents are clearly reproduced on Mississippian artifacts in the Late Prehistoric period of the Eastern Woodlands, and also dancing men with conch columella spiral necklace pendants, like the Mexican Postclassic (Late Prehistoric) Quetzalcoatl, as dynasty founders. The master of the waters is described as a great serpent-tailed, horned creature that roils up the waves in storms and devours unlucky people who fall into its realm. One name for it is Underwater Panther, giving it a feline body with serpent tail; sometimes it isn't directly named, lest it be aroused, and called Great Brown One or, metaphorically, in comparison with bison, Underwater Bull.

Adventures of miraculously conceived "Hero Twins" are recounted in Mexican and many North American religious texts, one twin being more good and his twin more wild or dangerous. Another very widespread concept is that Venus the Morning Star is a young warrior, impregnating Evening Star or a human woman he takes as wife, and beseeched to lead one's soldiers successfully into battle as he leads the sun to its full brilliance in the day.

Figure 3.2 Engraved shell gorget from Spiro Mound, Oklahoma, Mississippian period c. 1400 CE. Design shows a swastika composed of winged serpents. The Feathered Serpents, the swastika symbolizing dynamic life, and the central cross in a circle symbolizing the four-direction world within the circle of horizon are all Mesoamerican concepts, here rendered in Mississippian art style.

Credit: Hamilton, Henry W., 1952 The Spiro Mound. *Missouri Archaeologist* 14. Courtesy Michael J. Fuller

Southwestern religions, both Puebloan and Hohokam/O'odham, evidence Late Prehistoric contacts with Mexico, similar to those in the Southeast in the same period: Quetzalcoatl, Hero Twins, Jaguar (Mountain Lion) Lord of the Earth and of Beasts (hunting), Maize Deity, and, more than in the Southeast, rain spirits coming from the mountains. The fact that maize was brought into the Southwest and planted by the middle of the second millennium BCE, northwestern Mexico–style pottery more than a thousand years later in the early first millennium CE, and Mexican-made copper bells and tropical macaws centuries after that, indicates series of contacts mediated through existing settlements in northwestern Mexico and the Southwest. Intensification of contacts beginning in the tenth century CE was in part stimulated by a growing Mexican fashion valuing turquoise for ornaments: substantial quantities of turquoise were imported from the American

Figure 3.3 Bowl from Mimbres Pueblo, Mattocks site, dated 1000–1130 CE. A Mimbres woman (left) and man (right) with parrots, probably scarlet macaws. A third bird sits on a burden basket in which it was carried. The woman is wearing a bird mask.

Credit: Logan Museum of Anthropology, Beloit College, no. 16123

Southwest, and copper bells and macaws may have been exchanged for it. Because live macaws had to be constantly tended and new owners in the Southwest instructed on their care and feeding, the hundreds of macaw remains in Southwestern pueblos are clear proof of direct relationships between Southwesterners and Mexicans in the context of transferring animals used in religious displays in both regions. That religious ideas accompanied the transfers is hardly to be doubted.

Architecture

Olmec of the second half of the second millennium BCE began Mexican architectural styles, as well as sculpture, and full-scale maize agriculture. Their farmers lived in households of a home and small outbuildings around a patio or courtyard, with a dooryard garden adjacent and cornfields beyond it. Households were dispersed, often in hamlets, out from towns where the aristocracy resided. The aristocracy lived on higher levels, such as on

acropolis hills or, where swampy lowlands predominated, on earthen platforms. Earthen pyramid platform mounds were erected in the towns around plazas with large stone sculptures. San Lorenzo in Veracruz State, the largest early Olmec city, 1400–1000 BCE, lay on a set of terraces and flat summit that required piling six to eight *million* cubic meters of earth on an island overlooking broad wetlands. Subject to annual flooding, this alluvial plain produced quantities of fish; waterfowl; aquatic plants that provided reeds for basketry and roof thatch and edible roots and tubers; and, as floods receded, plots for growing crops. Easily harvested small fish were probably smoked on little manmade islands in the marshes to be eaten during the hot dry season before new crops ripened and sold in regional markets, as is done today by local farmers. Complementing wetland products, manioc and maize were raised on upland farms. River networks facilitated transport of foodstuffs, tool materials, and even the massive boulders taken from the Tuxtla Mountains to San Lorenzo to make rulers' thrones, modified after a ruler's death into a huge portrait head. In time, about 1000 BCE, shifting river channels and perhaps soil depletion on upland farms weakened San Lorenzo, and the Olmec capital moved to another island, La Venta, modified like its predecessor into a monumental platform with temples, sculptures, and palaces.

North of the Olmec kingdoms around the Isthmus of Tehuantepec (southcentral Mexico), other kingdoms used natural landmark hills, building plazas, temples, and aristocrats' residences on lower slopes or at the base, with commoners' households and fields spreading out from the elite center. This basic idea of urban design, a "green city" integrated with its suburbs, contrasts with "stone-girt cities," such as were common in Europe, densely packed within strong defensive walls, their supporting farmers in villages distinct from the urban center. "Green cities," not unique to America, were also a usual form in much of southern and eastern Asia and Africa. The center of such cities might have a walled Forbidden City in the center, secluding the divinely descended king, his concubines and servants, and high priests.

Each Mexican city had its particular layout of plazas and platform mounds topped with temples and palaces. Many had similar orientations for major mounds and buildings, determined by astronomical sight lines. Spanish invaders saw aqueducts bringing clean water into cities, and, in the Aztec capital underlying present-day Mexico City, beautiful gardens with exotic plants and animals. Chaco in New Mexico and Cahokia at present-day St. Louis, both flourishing in the eleventh and twelfth centuries CE, were the largest cities in prehistoric America north of Mexico. Chaco built in stone slabs, Cahokia in timber, now long decayed away. Cahokia reproduced the basic Mexican urban plan of grids of rectangular plazas bordered by platform mounds, its suburbs and farmsteads stretching over its floodplain setting. Chaco lies in a small river valley ("wash") bordered by steep bluffs, its buildings strung along the wash; perhaps because of their arid plateau surroundings, it and other Southwestern pueblos don't reflect the basic Mexican plan the way Cahokia does. Lesser Mississippian towns in the Mississippi Valley

and Southeast have earthen platform mounds and plazas without the replication of these units that makes Cahokia so extensive a built landscape.

On a more mundane level, Mexico, the Southeast, and the Midwest Plains shared the custom of cleansing in a sauna-like sweat house. These structures are small, even ephemeral north of Mexico, and therefore seldom identified by archaeologists, although some postulate that small round constructions near Mississippian houses may have been sweat lodges; alternately, they may have been enclosures for smoking tanned hides to make them resistant to stiffening. Pole wattle-and-daub houses (wattle is pliable branches interwoven around upright poles, daub is plastered mud or clay) were another common construction, but such houses are found worldwide in warmer climates. Mississippian houses and Puebloan rooms are rectangular, a change from earlier round or oval houses, and possibly copied from dwellings typical of Mexico, but again, hardly distinctive of Mexico.

American Originals

In reaction to the earlier emphasis on Nuclear America as the Mother Culture, archaeologists in the later twentieth century emphasized differences between Mexico and American First Nations to the north. Nowhere north of Mexico are there pyramid mounds faced with finely dressed stone veneers or fine stone masonry buildings—Puebloan stone slab masonry does not reach the artistically proportioned, carved, and stuccoed noble edifices of the great Mexican cities. Nowhere were there bureaucratically supervised large daily urban markets comparable to those of the Mexican kingdoms. So far as archaeologists can deduce, there were no armies of thousands such as the Spanish invaders contended with, pictured too in Maya murals centuries earlier, although seventeenth-century records for Eastern Woodlands and Plains describe organized battles of hundreds of men advancing behind large shields, forming a shield wall against enemy arrows. This style of battle quickly disappeared when Europeans brought in guns that pierced hide shields. Cahokia's Monks Mound compares in awesome size to the principal pyramids of Teotihuacan and Cholula, built some centuries earlier, yet Cahokia had none of the sophisticated splendor of its Maya contemporary Chichén Itzá. Nuclear America fostered artists to a degree not seen north of Mexico, except on the Northwest Coast on the Pacific Rim.

Religious differences abound between regions of North America, reflecting persisting traditions interacting with ideas carried from other regions. Variations in the Hero Twins legends are good examples of the many guises of common motifs. A chilling area of study is that of human sacrifices, notorious in Aztec Mexico where frequent offerings of beating human hearts were believed to be required to nourish the Sun. Human sacrifice was carried out by at least one division of the Pawnee, who tied a young captive to an upright scaffold over a pit and shot her, or him, with arrows. The victim's blood dripping into the pit was held to fertilize the earth, as the maiden

Evening Star's did when Morning Star entered her garden and penetrated her sexually. Abhorrent as this observance is to us, and was to many Pawnee in the 1830s when a young man dramatically rescued the last captive to be offered, this one Aztec-like ritual is radically less than the many that Aztecs believed obligatory. Other Mexican nations made fewer human sacrifices than the Aztecs, but still these amounted to many more than the Pawnee, the Natchez, or other nations north of Mexico. Instead of killing captives or slaves, Lakota and some others north of Mexico believed they should offer their own blood, by cutting bits of flesh, to draw the benevolent pity of the Almighty. This said, it remains reminiscent of the Aztecs that Iroquois and some of their neighbors subjected hundreds of captured enemies to frightful tortures before crowds (like public hangings in the historic United States and Europe).

Skeptical archaeologists reiterate the lack of Mexican artifacts in sites or among historic First Nations north of Mexico. For the Southwest, copper bells, pyrite mirrors, macaws, and a miniscule number of ceramic sherds sum it up for that region, with nothing so unequivocal for the Southeast. Mounds are actually earlier in the Southeast (Watson Brake, mid-fourth millennium BCE, a circle of eleven mounds) than in Mexico, although no one seems to infer that Olmec learned mound-building from Louisianans. For the Southeast, it comes down to maize, a certain import from Mexico during the Late Archaic, at the end of the fourth millennium BCE. Some information on its cultivation must have accompanied the seeds. At that time, the American Southeast and Mexico were similar in that plant cultivation was generally practiced, on several seed crops, by villagers politically independent yet connected to interregional trade. Nuclear America was then a broad tropical to warm-temperate zone arcing from the central Midwest down through Mexico and Guatemala (excluding the desert Southwest). Numerous rivers facilitated travel, and given that the islands of the Caribbean had been colonized, people were traversing the Gulf of Mexico. Pottery-making apparently crossed north out of northernmost South America.

Greater divergence developed toward the end of the second millennium BCE, with the Olmec and subsequently the Classic civilizations of the Maya and Teotihuacan achieving world-class architecture, art, and large populations governed through bureaucratic officials, while Southeasterners sustained smaller populations in more dispersed settlements, leaders who seem more warlords than monarchs, and a limited repertoire of art compared to Mexico. Politics intruded, complicating contacts. Hopewell, contemporary with transitions in Mexico to Early Classic kingdoms, had neither urban societies nor fully agricultural economies. Elements of designs on some tomb pottery resemble some, earlier, in Mexico; otherwise, these temperate-latitude societies are quite distinct from those far to the south. Cahokia and, after its collapse, other Mississippian societies swing the balance back. Increased contacts with Postclassic Mexico, indisputably evidenced in the contemporary Southwest, are implied by Mississippian iconography. These contacts

between major kingdoms such as Cortés met in 1519 and the smaller ones De Soto ravished twenty years later would have been on a quite different order, carried on by professional merchants and diplomats, than contacts between villagers four thousand years earlier.

Conclusion

Nuclear America domesticated maize, thereby laying the economic foundation for all the American urban civilizations. This cultigen, its symbiotic beans and squash "sisters," its raised-bed cultivation method, and its symbolic power personified as a beautiful youth or young woman, flower of life, underlies American cultures throughout the Eastern Woodlands and Southwest as well as to the south. Over the millennia during which maize cultivation gradually improved through countless experiments, colonizations of new areas and continued contacts, waning and waxing as populations changed and political forms interposed, reinforced some similarities and from time to time introduced new ones. First Nations of the southern half of the United States cannot be understood without reference to developments in Mexico and the Gulf of Mexico. That global perspective cannot overshadow the variety of First Nations, their largely independent histories, and the dynamic relationships among them. The following chapters describe these by geographical region.

Research Puzzles

It would seem obvious—it did to archaeologists a century ago—that American First Nations raising maize shared more than the seed corn itself. People had to have been in contact to observe, or be told, how to plant and cultivate corn and prepare it for eating. Tracing the spread of maize cultivation in detail turned out to be an ongoing research puzzle. Botanists debated for decades whether maize might have had a wild ancestor or was a mutant or hybrid of the wild Mexican grass teosinte. Maize was grown in small quantities for a thousand or more years in Mexico and the United States before becoming the intensively farmed staple food seen by European invaders. For what purpose small quantities of maize originally were grown is not known (a snack food?).

If growing maize was not the simple spread of a basic foodstuff, it could not have been part of a simple movement of related religious and architectural ideas. We now know that sets of mounds go back earlier in the Lower Mississippi Valley than the Olmec; that pottery-making seems to have crossed the Gulf of Mexico from northern South America to Florida and Georgia, independently of maize cultivation; that the Aztec conception of a maize goddess was not general in Mesoamerica, nor in the American Southwest and Southeast, except for among the Cherokee. In other words, maize proves contacts, but these were multiple, and there was no package of "Nuclear American culture."

Figure 3.4 Maya depiction of dawn, with the earth, shown as a turtle shell, split open to receive the corn being sown by the Maize God. Aged deities emerge (bottom), while a dog runs ahead of the new day.

Credit: Karen Bassie-Sweet drawing after Justin Kerr photograph #1892, courtesy Karen Bassie-Sweet

Research on contacts between the major regions of North America, including Mexico, took a backseat to establishing through archaeology the cultural histories of the regions. Finding contacts looks like chasing will-o'-the-wisps, compared to the solid building-up, through field surveys and excavation, of sequences of settlements and artifacts in a locality. It's sobering to realize that even the journey of Hernando De Soto and his army of men, horses, and pigs, through the Southeast, 1539–1541, is difficult to trace archaeologically, in spite of several accounts written afterward by participants or through interviews with them. We can distinguish between the few definite and specific data of inter-American contact, such as tropical macaws in the Southwest and Southwestern turquoise in Mexico, and similarities that

seem too detailed to have arisen by chance; for example, figures engraved on conch-shell cups in Late Prehistoric eastern Mexico and the American Southeast, where the conch shells must have come from the Gulf of Mexico or Florida. Given the abundant evidence for preconquest long-distance trade and travel in the Americas, the puzzle is to disentangle and document contacts through foreign objects (like macaws and conch shells) or close matches in art, such as the katcina figures in the Southwest and Mississippian engravings of costumed dancers and symbols in the Southeast, both fitting contemporary Postclassic Mexican images. "Nuclear America" is not one but several jigsaw puzzles.

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From Alan R. Sandstrom, *Corn Is Our Blood*, pp. 239–40

Where does the corn come from, where does it emerge? It comes out of the earth. All things of value come out of the earth, even money. And yet here we are disturbing the earth, occupying it and planting on it all through our lives. Well, the earth can get annoyed because we disturb it. We plant beans, corn . . . and camotes. Whatever it is, we plant it in the earth. We go back and forth to the market on it, and we get drunk on it but we don't give the earth any beer. We don't give her bread . . . and we don't give her joy.

We don't give her what she wants and that is the reason that she forsakes us and doesn't want to produce. And people say, "Let's go call the father." But you can't speak to the father. The ancient lord made her [the earth] here and the father over there. The earth asks, "When are they going to remember me, when will it be my turn, when will they light a candle? I give them all the things to eat. You are big and healthy because I give you people strength." We are living here and we are born here. We sprout like young corn. It is born and sprouts here, and for us it is likewise. You already ate, you're full and you have been so all of your life. You've been drunk. Well, likewise the earth also wants

its offering. Corn is extremely delicate. Corn is our blood. How can we grab from the earth when it is our own blood that we are eating?

Recorded in Nahuatl from Aurelio of Amatlán, Mexico, in the 1970s.

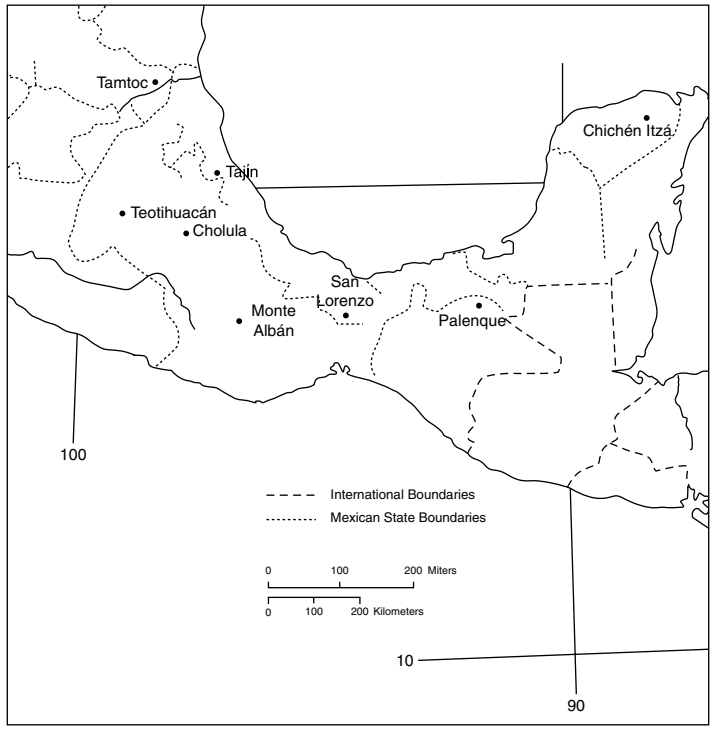
Sandstrom, Alan R. (1991) *Corn Is Our Blood: Culture and Ethnic Identity in a Contemporary Aztec Indian Village.* Norman, OK: University of Oklahoma Press.

4 Classical Era

As Olmec power declined, around 700 BCE, populations were surging throughout the Americas. Mesoamerica (Mexico and Central America) saw the greatest increases, based on productive agriculture and trade between its very varied regions, from mountains and plateaus to tropical river lowlands and shoreline swamps. Cities with cores of plazas, temples, and palaces surrounded by commoners' homesteads and fields burgeoned in many regions. Market economies supported craftspeople, and taxes in the form of tribute goods supported aristocracies, priests, and bureaucrats. Kingdoms were created, commissioning great art and architecture, much of it preserved, and music, dance, theater, poetry, science, and histories, little preserved except as carried on in folk traditions, because Spanish invaders burned books and banned performances. We depend on ethnographies recorded after the Spanish conquests by missionary priests and on legal cases where native noble families pressed claims for their estates or communities argued for their customs. Archaeologists and ethnohistorians attempt to trace sixteenth-century cultures back through the material remains of their forebears to interpret these residues of earlier societies.

Mesoamerica is usually divided into the Maya area on the east, from Guatemala north to around the Gulf of Mexico; Central Mexico, including the Basin (Valley) of Mexico where Mexico City is today, and before it, the Aztecs' capital of Tenochtitlan and before that, the great city of Teotihuacan; West Mexico, with several kingdoms, including the Purépecha (Tarascans) of Michoacán, Zapotecs and Mixtecs of Oaxaca, and others along the Pacific coast; and North Mexico, a high semidesert stretching into Texas and the southwest United States. During the era of Olmec cities and trade, 1400–700 BCE, "Mesoamerica" was already a broad area of maize agriculture, use of obsidian (volcanic glass) for cutting tool blades, class-stratified kingdoms or city-states, and shared religious symbols. Tlatilco in the Valley of Mexico underlying Mexico City and Chalcatzingo in Morelos south of the Valley clearly were independent of, while in contact with, Olmec in the tropical south.

Southern tropical lowlands appear to be the region where state-type societies developed earliest, around 1400 BCE in the Olmec heartland south of



Map 4.1 Map of Mesoamerica.

the Isthmus of Tehuantepec. Archaeological identification of settlements, even of cities, is difficult in the tropical lowlands' dense jungles and swamps. So far as can be seen, San Lorenzo, then La Venta, and, finally, Tres Zapotes were successively capitals of the Olmec kingdom, over a thousand years from mid-second millennium BCE to mid-first millennium BCE. (Note that we don't know what language was spoken or what the people called their state; "Olmec" was applied to the archaeological site during twentieth-century pioneer explorations, when it was guessed that the historic Olmeca nation had built the cities.) Elegant pottery was exported from San Lorenzo workshops to towns throughout southern Mexico and as far north as the Valley of Mexico, sometimes with cacao (chocolate) beans or perhaps the prepared beverage, a favorite of wealthy Mexicans to this day. We can picture the aristocrats enjoying their drinks while musicians play flutes, ocarinas, and drums, accompanying costumed dancers. They commissioned manufacture of axhead-shaped green jade objects, representing indestructible ears of maize, to present to priests at temple ceremonies. Increased production of maize, in upland farms as well as lowland plots, and of improved maize varieties,

supported the traders, artists, priests, and noble families of the successive Olmec capitals.

Obsidian was preferred for cutting blades throughout Mesoamerica, from the second millennium BCE on. Various volcanic regions produce chemically distinct obsidians that, if exported, can be traced in the laboratory to source quarries. During the Formative period in Mesoamerica, last two millennia BCE, clear gray obsidian from the northeastern part of the Valley of Mexico was popular, traded as far as the southern lowlands, including Olmec cities. Then a clear green obsidian from quarries just northeast outside the Valley, in the state of Hidalgo, came to be preferred, continuing to be exported by the millions of blades up until historic Spanish rule made metal blades available. Commercial production of a basic necessity, knife blades, and distribution of this product over trade routes a thousand miles (sixteen hundred kilometers) long demonstrate that by 1400 BCE Mesoamerica had founded market economies that appear to have allowed ordinary households to purchase manufactures from distant sources, as the wealthy and politically powerful purchased, or received as tribute, rare and expensive goods.

Ceramics were traded long distances, too, many fine bowls and plates that could not have been merely containers for desired trade goods. Mesoamerican ceramics date to the third millennium BCE, without any site showing fumbling experimentation; how the technology was invented or from where it was first received has not been discovered, although northeastern South America is a possible source. Research in Jalisco, western Mexico, combining botany, archaeological data, and ethnographic study of native cuisine suggested that as early as the second millennium BCE, sixty-five cooked dishes using foods in the region were likely prepared and served in ceramic forms ranging from plates and small drinking bowls, through larger cooking and storing pots, to steamers and distillation sets for making mezcal, the alcoholic beverage. Foodstuffs included several races of maize, three kinds of beans, several squashes and pumpkins, grown together, as historically also in temperate America, as well as agave, tomatoes, chili peppers, a plumlike fruit, nopal cactus pads and fruit, plus eggs, fish, sharks, shrimp, iguanas, turkeys, ducks, deer, peccaries, and armadillos. Maize was boiled with lime, furnishing calcium in the diet. Altogether, their soups, tamales, pozole (hominy), atole (maize drink), pinole (chia seed and ground maize), and popcorn provided a well-balanced diet with efficient use of cultivated fields. Dogs were part of the households, attested by realistic fat puppies, mischievously holding a maize cob in their mouths, modeled in polished clay.

Cities with architecturally laid out plazas, public buildings, and palaces appeared more and more widely in Mesoamerica during the first millennium BCE, as Olmec power declined. Towns and farming villages spread out in the cities' hinterlands. Not all new settlements by farmers were successful: the basic Mesoamerican milpa system of burning over a field; planting maize, beans, and squashes; abandoning the field after a few years when fertility declined; letting it revert to bush; and then starting the cycle again

by burning the bush, works with good soils and adequate rainfall, but on slopes and poor soils bush doesn't regenerate well and inadequate cover leads to erosion. By late in the first millennium BCE, some of the hinterlands have only small villages of hardscrabble farms or have even become empty badlands.

Two regions of Mesoamerica became great centers in the first millennium BCE: the Valley of Mexico and the Maya region in the southeast. In the Valley, Cuicuilco in the southwest sector under the shadow of Xitle volcano, was a city of perhaps twenty thousand inhabitants, builders of a round, stepped pyramid with a temple on its platform top. Then, after 200 BCE, Xitle erupted in a firestorm of red-hot lava and noxious fumes. Apparently most of the people were able to flee, unlike at Pompeii in Italy, settling in the opposite sector of the Valley at Teotihuacan in the northeast. Their homes, plazas, and the pyramid were buried under thirty feet (ten meters) of lava, beyond the reach of archaeologists except when present-day Mexico City digs deep foundations or subway tunnels. The pyramid has been excavated for tourists to visit.

Cuicuilco's fall coinciding with a rapid rise in size and buildings in Teotihuacan, about 200 BCE, implies an influx of refugees from Xitle's eruption. Teotihuacan, however, did not build another Cuicuilco. Instead, its people built rectangular pyramids, the two largest, Pyramid of the Sun and Pyramid of the Moon, replicating in outline the outlines of two mountains in the

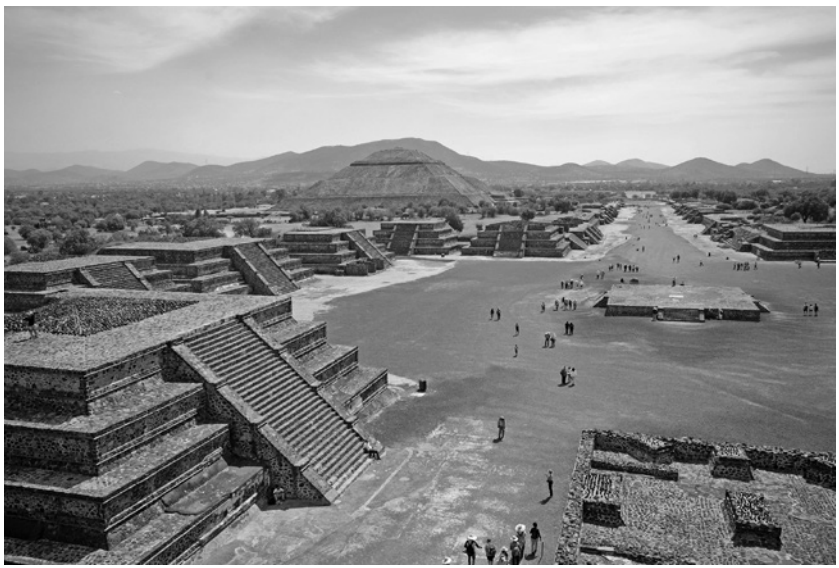


Figure 4.1 Teotihuacan, photographed from upper platform, Pyramid of the Moon, looking south along main avenue toward Pyramid of the Sun, left center, which replicates the outline of the mountain behind it.

Credit: abogdanska/Shutterstock

range bordering its horizon. Perhaps Cuicuilco's pyramid replicated the outline of Xitle; we don't know. This practice, found in many parts of the world, of, as the saying goes, making the mountain come to Mahomet, can be seen also in the Great Pyramid at Cholula, southeast of the Valley of Mexico, replicating the volcano Popocatépetl west of it. Essentially, these centers of social power invited deities to reside in their midst rather than on holy mountains. The practice also appears in political centers without holy mountains in view, as in many Maya cities, such as at Monte Albán in Oaxaca where the city crowns its mountain, or at Cahokia in the U.S. Midwest. Teotihuacan's Pyramid of the Sun, Cholula's Great Pyramid, and Cahokia's Monks Mound are the three most massive constructions in North America. Bear in mind that Poverty Point's principal mound was built a thousand years earlier, in Louisiana, without any mountain to replicate, a separate cultural tradition that seems to have continued in the Mississippi River's drainage to today (in very reduced form) among Muskgokee communities. From this perspective, Cahokia was an intrusion of another, Mexican, cultural form.

Now capital of its region, Teotihuacan transformed into a great city, particularly during 200–300 CE when distinction appears between the city and villages producing its foods and raw materials. A hundred thousand people lived in the city, in apartment blocks with small interior courtyards with altars for household worship rituals. Teotihuacan's center, with its springs and little river channeled around it, was, and still is, a magnificent avenue headed by the Pyramid of the Moon. Three-story temples built as pyramidal platforms line the avenue on each side, with the huge Pyramid of the Sun halfway on the east side. A large market is down from the Sun Pyramid, across the avenue, and facing a compound of palaces and the elaborate façade of a temple. In its time, the avenue was not as open as now, for a series of walls with impressive gates cross it, like the series of walls and gates that hinder access to the inner rooms in Beijing's Forbidden City palace. Not only is the center laid out in geometric rectangles, so, too, were the residential blocks, the city a grid like Manhattan in New York. City planning on this scale is rare.

Greatness risks opposition. About 550 CE, Teotihuacan was attacked and put to flame. Its residences and palaces were ruined, although commoners squatted in the rubble. Much of the northern area of the Valley of Mexico, the sector around Teotihuacan, seems to have been largely abandoned. Towns and villages in the southern section of the Valley survived. Repercussions hit Mesoamerica's trade, markets, and rulers in other nations. Although not the earliest city, Teotihuacan was the grandest. Its formal grid plan, along with the manmade mountains for the gods, became the idealized template for capital cities, called *tollan* in Nahuatl, the Aztecs' language. The ideal city should be founded on the marshy shore of a lake, a place rich in fish, reptiles, and waterfowl, where deer came to drink; rich in edible roots and tubers and reeds useful for mats and house thatching; well-watered for agricultural fields, for industries such as pottery and adobe bricks, and household uses;

and where canoes can transport goods and people. In the Midwest, centuries after the fall of Teotihuacan, the city of Cahokia was laid out like a *tollan*. Like Teotihuacan, it has three principal mountain-like mounds bordering its processional way, in spite of being hundreds of miles from any actual mountains. For Cahokia, the mounds may have been meant to appear as great storm clouds bringing thunder, lightning, and rain; in Mesoamerica, with so many real mountains, association of storms and rain with mountains came from experience of clouds streaming from them. Teotihuacan's indestructible giant pyramids fostered the sense that it embodied the origin of cities.

Historically, Monte Albán in Oaxaca and several Maya capitals, not to mention the Olmec, were older than Teotihuacan, and Cholula, in Puebla southeast of the Valley of Mexico, was at least as old. Teotihuacan seems to have been seen as the original *tollan*, perhaps because its grid plan on a grand scale bespeaks world-conquering power crowned by its two awesome temple mountains. Cholula's Great Pyramid is biggest of all, its base 1,312 feet (four hundred meters) on each of its four sides, covering forty acres (sixty hectares), and at least sixty-five feet (twenty meters) high. It was called the Water Mountain, built over a spring that fed a marshy lake, a giant frog supposedly living in foliage near its top. Its west side faces the setting sun at summer solstice. A thousand years after the Great Pyramid was begun about 200 BCE, kings made pilgrimage to Cholula, climbing its Water Mountain to the temple where Cholula's high priests pierced the septum of their nose to insert the bar worn only by legitimate rulers. Indeed, two thousand years and counting, thousands make pilgrimage to the Water Mountain to worship in the Catholic cathedral now on its summit, surely one of the longest *continuously used* consecrated structures anywhere.

Monte Albán, in Oaxaca in southwest Mexico, lies on top of a mountain promontory overlooking the junction of three fertile valleys. Instead of constructing a mountain of millions of adobe bricks (Cholula) or stone rubble (Teotihuacan), to be faced with dressed stone blocks, the Oaxacans created their capital by leveling the top of the actual mountain and building on it their grand plaza surrounded by temples on platforms, with an astronomical observatory in the center. This, plus some glyphs and orientations in Teotihuacan and a broad stairway of fifty-two steps at contemporary early Cholula, suggest that the Mesoamerican calendar of interlocked 260-day and 365-day years, based on the agricultural cycle and the earth's rotation, meshing every fifty-two years, was already invented by the end of the first millennium BCE. Sun and stellar observations by priests kept the calendars accurate, hence the observatories at Monte Albán and Maya cities, and sight lines for observations built into layouts of plazas and structures in many cities. As in the Valley of Mexico and around Cholula, as the capital at Monte Albán grew around 200 BCE hamlets in the valleys were often abandoned as the people moved into organized villages functioning to provision the city. At Monte Albán, farmers and artisans lived along terraces around the promontory slopes, too. Above them, the fine temples were adorned with bas-relief carvings, some

Figure 4.2 Great Pyramid at Cholula. Foreground shows section that has been cleared of overgrowth and restored to original façade. A Catholic cathedral on top replaces the original temple to Quetzalcoatl.

Credit: Marioli925/Wikimedia Commons

showing mutilated dead captives, perhaps enemies or rebels. Stone stelae as tall as a person were erected, carved with glyphs not yet deciphered. The mountaintop had a ball court for the ritualized hard-hitting sport integral to Mesoamerican culture, found as far north as southern Arizona Hohokam. (Or we might say, throughout the Eastern Woodlands of temperate America in the form of lacrosse, played on a field rather than a built ball court.) A deity historically known as the God of Rain was popular at Monte Albán, turned out as clay figurines by the thousands by use of molds. His presence in the city is often visible as clouds wreathe the mountaintop site.

Maya cities, unlike Monte Albán high above populous valleys, or Teotihuacan and Cholula with their massive pyramids looming above semitropical agricultural fields, are mostly hidden in jungle. Archaeologists surveying for these cities look like Indiana Jones, swinging machetes to find ruins. Until the later part of the twentieth century, it was believed that the visible acropoli with fine stone plazas and buildings had only priests and rulers living in them, the populace somewhere in the tropical forests. Technology for sighting through foliage then revealed thousands of small mounds around the acropoli, each the foundation and remains of homes with gardens. Instead of the stereotype of the "peaceful, priest-ruled Maya"

we see real cities and kingdoms, and because their hieroglyphs were figured out to be phonetic, with names and dates of kings and queens and wars and triumphs. Maya were, and are, not one people but a number of related languages and cultures in eastern and southeastern Mexico and Guatemala. Bordering the Olmec, they began building monumental capitals during the first millennium BCE, as Olmec power waned. Large-scale irrigation systems, dams, and aqueducts serviced their fields and cities, as were also constructed in the Valley of Mexico and elsewhere throughout Mesoamerica.

Much debate has occurred on the question of relations between Teotihuacan and Maya kingdoms. Imports of luxury ceramics and its distinctive green obsidian in Maya cities around 400 CE prove Teotihuacan lent prestige in Maya kingdoms; some Maya stelae at this time show kings dressed in the style of Teotihuacan generals. While these might indicate a Teotihuacan conqueror, absence of evidence of war at these sites rather suggests that the foreign regalia of power was borrowed to impress the Maya king's subjects. What archaeology really shows during the centuries of Teotihuacan's glory is that the long-distance trade routes linking Pacific coast, western highlands, central plateau, Gulf coast, and southern highlands continued strong. Through markets, pilgrimages, and aristocrats' visits and intermarriages, Mesoamericans shared general religious concepts and symbols and marks of high status, reflected in the ceramics and lithic manufactures that have survived to be studied, and no doubt in a perished wealth of fabulous feather cloaks and headdresses, brocades and embroidered fabrics, and wood carvings.

When Teotihuacan fell, overrun and burned about 550 CE—we don't know who its enemies were, quite possibly an alliance of other states—an era ended. Teotihuacan used war symbols on its public buildings and kept an armory close to the main avenue of the principal pyramids. Its soldiers looked terrifying, going into battle wearing goggles that transformed their faces into monster masks. Combat began with using atlatls to add power to throwing spears, and then quickly shifted to hand-to-hand fighting with double-edged swords set with obsidian blades. Shields and helmets were part of soldiers' gear. Whether Teotihuacan was an empire, conquering other nations who eventually rebelled, or only an economic power bolstered by religious leadership isn't clear from the archaeology. Excavations have revealed plenty of sacrifices at the pyramids, with the building of the Pyramid of the Moon involving placing dozens of men outfitted as soldiers around its core, to be buried as construction progressed. Noblemen, too, were sacrificed, buried during construction wearing their precious green jade ornaments of rank. Hands bound, the various sacrifices seem to have been captured in wars; they come from several regions of Mesoamerica, including Maya areas where Teotihuacan war regalia is seen on kings' portraits on stelae. A spectacular ritual dedicating a remodeling of the Moon Pyramid incorporated into a central inner chamber twelve humans; effigies chipped out of obsidian; greenstone artifacts; pyrite (fool's gold) discs; marine shell ornaments; and ceramic effigies of Tlaloc, god of storms, rain, and war. Accompanying the

humans and artifacts were eighteen eagles paired with obsidian knives (some of the eagles had been reared in captivity), two pumas, a jaguar, and a canine. As with the humans, some were dead when buried, others were bound and buried alive, several fed rabbits before the fatal interments. All these dangerous carnivores, and no doubt the human warriors, dramatically tell us that the rulers of Teotihuacan gloried in their power to overcome fearsome beasts and raptor birds, along with armed men. No wonder Teotihuacan had enemies.

Meanwhile, Maya lands of eastern Mesoamerica blossomed with cities, most the capitals of small kingdoms. Simultaneously with the development of Teotihuacan in the late centuries BCE, Maya were engaged in creating writing, mathematics, astronomy, and one of the world's great art styles. Once the hieroglyphic writing system's phonetic component was deciphered in the 1960s, scholars realized that the contrast they had seen with the militaristic Teotihuacan was less than supposed, with Maya texts also recording battling kings, captives, conquests, and dynasty overthrows. Still, the very completeness of the writing system, beyond the capabilities of other Mesoamerican recording practices, attests to Mayans' high valuation of art, science, and of esthetics in architecture, not merely awesome effect. Occupying highly contrasting environments from mountain valleys to humid jungles, Mayans adapted agriculture by means of drainage or irrigation canals, raised beds, terracing, interplantings, forest management, and close attention to soils. As elsewhere in Mesoamerica, they domesticated turkeys, while obtaining other meat by hunting deer and peccaries and by fishing.

Figure 4.3 Maya temple in Chichén Itzá, Mexico, dating to c. 1000 CE.
Photo by Alice B. Kehoe

Populations climbed, especially in the lowlands. Copán and other cities in the lowlands are estimated to have had fifty thousand people, counting the urban core and dependent rural zone. Between 800–900 CE, a number of cities in the southern lowlands were abandoned, although some farmers continued to eke out a living in their vicinities. Much ballyhooed today as an apocalyptic "Maya Collapse," sometimes attributed to severe droughts, sometimes to the hubris of Indians trying to live in big cities in jungles, abandonment of affected cities was not a "collapse." Significantly, marked reduction in the number of people living in southern Yucatán coincides with the considerable increase in the number living in Chichén Itzá, Uxmal, and other northern Yucatán cities. Probably a combination of decreasing fertility of long-cultivated agricultural fields; some droughts; populations reaching the limits of food supplies; and, importantly, increasing seaborne trade in the Gulf of Mexico, the Caribbean, and along the Pacific coast, combined to weaken inland southern lowland kingdoms and provoke their people to move to better prospects. Evidence of warfare along the western borders of Maya territory, told by Maya historians and demonstrated by archaeological data, suggests that whereas northern Yucatán states welcomed migrants, polities in the west did not. Basically, there was no "Maya Collapse"; there were marked shifts in populations, responding to degraded agricultural fields, lack of land to expand into within certain regions, warfare over resources and labor, and the pull of strong market economies in other regions.

Palenque, on the hills overlooking a broad plain bordering the southern Gulf of Mexico, in the Mexican state of Chiapas, is one of the most beautiful

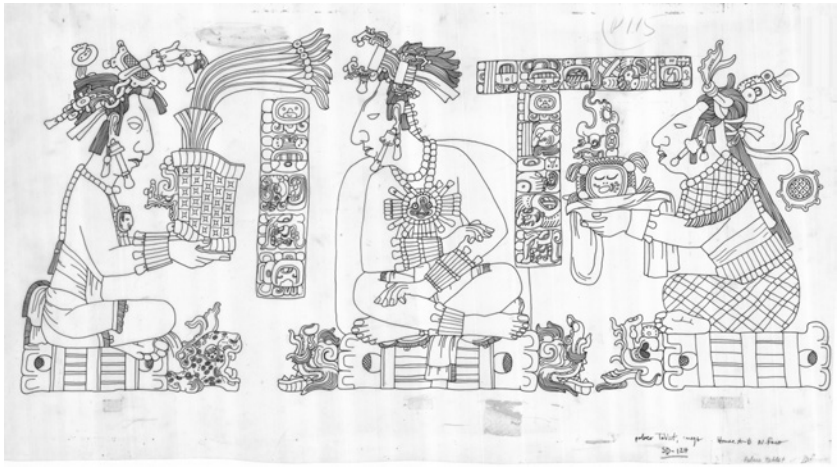


Figure 4.4 Lord Pacal of Palenque, left, presenting a crown to his son, Kan Joy Chitam II, center, with the queen mother, Lady Tz'akbu, presenting other symbolic objects, 702 CE. Pacal was deceased but shown as if alive.

Credit: Bas-relief drawn by Linda Schele. Los Angeles County Museum of Art, object number SD-124, Schele Drawing

Maya cities. Much of it remains obscured by jungle. Small, dispersed villages in the centuries before the Maya Classic era show minor relationships with Olmec. According to Palenque's own hieroglyph texts recorded on stone monuments, and no doubt also on perished documents, a city was founded at the site at 431 CE by King K'uk' Balam I. Its actual Maya name was Lakam Ha', or "Wide Water," referring to the stream that runs through the center of the city. A series of kings, and one queen, succeeded K'uk' Balam I, until around 610, when older, more powerful Maya kingdoms to the east warred upon the kingdom, apparently killing its king.

In 612, the queen regent bestowed the crown upon her son Janab Pakal I, only twelve years old. Pakal proved to be an outstanding ruler, restoring and strengthening the kingdom and supporting architects and artists and priests. Under his patronage, his palace and temples were adorned with graceful, expressive bas-relief sculptures in stucco; his tomb sarcophagus lid is another work of art, carved in stone. The kingdom participated in Mesoamerican trade networks, with a river flowing past it to the Gulf facilitating transport. The plateau edge on which the city is built has several springs, managed by Palenque's city planners by channeling them into stone aqueducts covered over to provide plaza space for gatherings. The aqueducts also furnished good water to residents, estimated at six thousand, living on terraces built to control flooding and erosion and enlarge habitation acreage. During Pakal's reign, people were drawn to his capital, with agriculture intensifying in its surroundings to feed them. Orchards of fruit trees and cacao seem to have been planted as well. Outlying villages and hinterland towns filled Palenque's territory of about 174 square miles (450 square kilometers). Built roads (*sacbe* in Maya) connected Palenque to its outliers.

Pakal's own compound had a plaza bordered by his palace reached by broad stairs. As in other Mesoamerican cities, the warm climate favored outdoor activities, with rooms more for shade and shelter from storms than for staying inside all the time. Pakal's palace has rows of rooms opening on inner courts, the heavy limestone walls making the interiors cool. Sections of the palace have two stories of rows of rooms. Unique among Mesoamerican buildings, it has a three-story pagoda-like tower rising above it from a corner. Beneath, near the tower, is a room for sweat baths, likely for private use by the royal family. Exactly how various rooms in the rows were used frustrates archaeologists because royal quarters and government offices and public rooms were swept scrupulously clean.

A classically proportioned pyramid with temple adjacent to the palace, on the plaza, is Pakal I's tomb. Within the temple is a stone slab with a long hieroglyph text giving the history of the kingdom, beginning at the creation of our world more than a million years ago, by Maya astronomers' reckoning. A long, hidden staircase leads down through the middle of the pyramid to the tomb with the massive stone sarcophagus in the center. Within was the skeleton of an aged man we assume was Pakal I, placed there at his death in 683. On the lid of his sarcophagus, he is portrayed being reborn into the Upper World, rising from the jaws of the earthly jaguar monster, up the

Figures 4.5a and 4.5b Palenque, Lord Pacal's palace and the temple on the pyramid that holds his tomb; he died 683 CE.

Credit for 4.5a: Uwe Gross/Shutterstock; credit for 4.5b: Jess Kraft/Shutterstock

World Tree, toward the Celestial Bird on its canopy. His son and successor Kan Bahlam II commissioned a set of small, exquisite temples on the other side of the palace compound, somewhat removed from it. Inside one of them is a bas-relief showing Pakal, deceased, presenting royal power to his son.

Palenque's importance declined after around 750, with the last recorded king acceding in 799. Why it declined from a vibrant city to a village, archaeology hasn't discovered. The last king to build temples and commission art was Pakal's grandson. His four successors apparently did not commission public buildings, and the last recorded had no stone stela marking his accession, only his name, date, and event painted on a handsome ceramic bowl left in a residence.

By the twelfth century CE, Mesoamerica was in the phase labeled Postclassic by archaeologists. Mayapan was the principal Maya city in Yucatán, as Early Postclassic Chichén Itzá declined. Monte Albán on its Oaxaca hilltop was emptied about 750 CE, with only farm homes remaining on its terraced slopes, the capital city succeeded by several smaller ones in the branches of the valleys that intersect below the hilltop. Zapotecs lived in some, Mixtecs in others. Mixtecs were fond of the "Greek key" (step-fret, also called meander) design, as were the people of El Tajín, far across Mexico to the northeast, attesting to the very broad networks of these last centuries before Spanish invasions. In the middle was Cholula, hosting the largest international market and the pilgrimage temple to Quetzalcoatl. Aztecs recounting their version of history to Spanish priests in the sixteenth century claimed that from 950 to nearly 1200 Mexico was dominated by a "Toltec empire," and that its capital was the city of Tula in Hidalgo northwest of the Aztecs' Valley of Mexico. Conventional historians have accepted this Aztec history, in spite of the relatively small size of Tula and the curious Aztec restorations and embellishments of the older city. The Aztecs hated Cholula, their prime opponent. If one looks at Cholula records, particularly native nobles' accounts given to Spanish governors to support the nobles' claims to their ancestral estates, it seems that it was Cholula that was the capital of the "Toltec empire." However, the Toltecs didn't rule it then: they had been ousted by a coalition of Gulf Coast nations, the Olmeca and the Xicallanca. This accounts for the increase in Gulf trade and its extensions, making for what is termed the Mixteca–Puebla art style and manufactures (Mixtecs in Oaxaca, Cholula in what is now the state of Puebla). After two centuries of subordination, the Toltecas' two high priests set out for the distant northwest, land of the hunter-gatherer Chichimecs. At a cave, they met the fur-clad Chichimec hunters, masters of the bow. Begging these mighty men to come assist them in driving out the Gulf Coast occupiers of Cholula, the priests led the corps of bowmen on a perilous journey to Cholula. There, the long-range Chichimec arrows backed the Tolteca soldiers with their customary atlatl-propelled sharp darts and obsidian-bladed swords. The alliance won, Olmeca and Xicallanca retreated to their Gulf lowlands, and Cholula continued its leading position internationally, now as a Tolteca–Chichimeca state with the bowmen transformed into well-dressed noblemen.

Out beside the Gulf, given less attention by archaeologists and historians than the central nations dominating in the sixteenth century, there were Maya-speaking kingdoms and others speaking quite different languages. In San Luís Potosi, in the river valley below the Aztec fortress of Tamuín, is

the city of Tamtoc with pyramidal earthen mounds built on base platforms, different from Central Mexican architecture. Tamtoc has plazas and, beside a sacred spring flowing into the broad river, an intriguing bas-relief dating from the Classic period, around 600 CE, showing what may be the Young Maize God accompanied by a pair of angel-like figures and birds. Pottery, including effigy bowls made to look like severed warriors' heads, and the earth-built pyramid mounds, indicate contacts between Tamtoc and its region with the Mississippian of the U.S. Midwest and South. Farther south along the Gulf is El Tajín, its pyramids definitely Mexican, built of dressed stone blocks over rubble cores in the step-and-ledge style (*talud-tablero*) of multiple stories. Most famous is its central pyramid with 365 niches in its walls, presumably for the deities of each day in the year. Tajín is claimed by the Totonacs today, although its ethnicity a thousand years ago is uncertain. While it seems crammed into a relatively small valley and its hillside, Tajín could control the principal road between the Gulf port of Veracruz and the pass leading into the Central Plateau of Cholula and, past it, the Valley of Mexico.

At last we come to the famous Aztecs. In 1519 when Cortés landed to conquer, the México (Aztec) capital of Tenochtitlan in the Valley of Mexico was the largest city in Mesoamerica. Built like a *tollan* with canals leading to a lake dotted with manmade islands of soil heaped on log rafts (*chinampas*) to raise abundant crops, Tenochtitlan dazzled Spanish eyes with its imposing stone temples on high platforms, its great plazas, its blocks of comfortable homes and gardens, and the busy traffic along its lake and canals—like but more impressive than Venice in Italy, the invaders reported. Emperor Motecuhzoma II (Montezuma) lived lavishly in a palace near the two principal temples and the school for youths of noble birth and for priests. He graciously received Cortés and his soldiers, only to be seized by them and held as prisoner, to be killed once they had been given gold demanded as ransom. That, in 1521, wasn't "the" conquest of Mexico, but it was a crucial point in the years-long campaigns waged in alliance with Mesoamerican troops from nations already at war with the México empire. An unseen ally for the Spanish had already infiltrated Tenochtitlan in 1519, smallpox, silently moving in from European invasions in the Caribbean. The disease, to which native Americans had not developed immunity, spread ahead of Europeans on the mainland, decimating populations, rendering them vulnerable. Plus, whereas Cortés and his men fought to kill as many as quickly as they could, Mesoamerican soldiers tried to take captives alive, to parade them in triumphal processions, make them slaves, or sacrifice them in rituals (as seen by archaeologists in Teotihuacan's Moon Pyramid). Dozens would crowd around a Spaniard on his horse, trying to pull him down to tie him and the animal up, as he slashed around from his rearing, kicking mount. Mesoamericans did learn to fight to kill on the battlefield, but the Spanish had the initial advantage.

México were, according to their own history, latecomers to the Valley of Mexico. They recorded that they settled on an island in the expansive Valley lake in 1325, their men serving as mercenaries in the armies of Valley

kingdoms. During the 1420s, México allied with two winners of these local wars, forming with them the Triple Alliance that allowed México to construct their city in the marshy middle of the Valley, and to marry princesses of the other two kingdoms, enobling their children. Between 1440 and 1469, their king was Motecuhzoma I, whose leadership left a legacy that in 1473 enabled the México to dominate the Triple Alliance. From then until Cortés murdered Motecuhzoma II, México waged war and/or forged alliances with dozens of other kingdoms from the Gulf of Mexico in the east to the Tarascans (Purépecha) in the west in Michoacán. Their empire was very much a work in progress when Cortés rode in. Cholula was a principal rival.

Tlaxcala generals leading their large army allying with Cortés told him he should massacre Cholula, their rival, along with the México, for domination in Central Mexico. Hundreds, including the principal nobles, gathered into Cholula's plaza to negotiate with Cortés, when he signaled his mounted Spaniards and Tlaxcala's surrounding army to slaughter them. Thousands of Cholulans died that day. Mass burials from the Conquest years in the plaza may very well represent victims of the massacre, and, contrary to the chivalrous behavior the Spaniards claimed, many of the dead were children and women. After the display of brutal power, both ethnic groups in Cholula, the Tolteca-Chichimeca and those Olmeca-Xicallanca who had remained there after the Toltec reconquest, professed peace. Cortés and the armies of Tlaxcala and Cempoala with him moved on to Tenochtitlan. It may be that Motecuhzoma's polite welcome was provoked by news reaching him of the fate of the Cholulans.

One confusing note in the late preconquest histories of Mexico is the question of "Chichimecs." The Toltecans graphically illustrated them looking like cavemen in skin tunics at the fabled Seven Caves of Aztlán. México claimed they were descended from Chichimecs who had wandered as hunter-gatherers through the northwestern deserts of Mexico from those caves of Aztlán, hence the common appellation of "Aztecs" to the México. Those Chichimecs, it was told, learned farming and the arts of civilization from Central Mexican peoples they camped near. In common with the Chichimecs recruited by the Tolteca, the México hired themselves as mercenary soldiers to warring kings in Central Mexico, in this case gradually building up their own power through marital as well as martial alliances and economic development of their location and of state-protected merchant ventures. The Seven Caves are likely a metaphor for the desert and semideserts of northwestern Mexico extending into the present U.S. Southwest, where in the sixteenth century there were (and still are) a series of native states and communities speaking languages of the linguistic stock Uto-Aztecan (from Utes in the northwest end of the series to Aztecs in the southeast end). México spoke Nahuatl, a principal language of the stock.

Whether Teotihuacan spoke Nahuatl is debated; the historic spread of that language through Central Mexico was at least in part by means of México conquests. Equally debated is the question of whether Uto-Aztecans

expanded because they were maize farmers and could support larger populations, and more fighting men, than hunter-gatherer groups whose lands the farmers coveted. Were they pioneer settlers overcoming local bands, similar to European settlers overcoming their descendants several millennia later? Linguist Jane Hill argues for this hypothesis, adding that integrated into Uto-Aztecans' skill and knowledge of maize agriculture is a worldview seeing their lands blooming with flowers, resonant with birdsongs, deer browsing on the succulent leaves. Praising the Unseen that brings the world into being, Aztecans say they pray "with flowers, with songs"—*in xóchitl in cuícatl* in Nahuatl. When in December 1531 an Indian farmer called Juan Diego reported seeing a beautiful saintly woman on a hill outside Mexico City (i.e., the rebuilt Tenochtitlan), a woman the Spanish bishop identified as the Virgin Mary, he described the scrubby hill, Guadalupe, suddenly covered with flowers, and choruses of birds singing—"flower and song" manifest on that hill where once had stood a shrine to the Méxicas' female deity Tonantzin, "Our Lady Mother."

Summary

The huge territory of Mexico and Central America that archaeologists and historians call Mesoamerica has enough histories to fill an encyclopedia. This chapter sketches a general view. Mesoamericans domesticated maize, the staple food of millions, and noticed that soaking it in lime benefitted their health. They cultivated most of the foods still relied on in Mexico and Central America, and increasingly popular in world cuisines. Mesoamericans built cities as large, as populous, and architecturally breathtaking as any in the world. Their religions shared concepts of creation and of deities that were taken up by nations in present-day United States as well. Thus, their histories not only are necessary to understand contemporary indigenous nations in Mexico and Central America, but also the histories of First Nations to the north.

Bibliographical Notes

Susan Toby Evans's *Ancient Mexico and Central America* (London, 2004) is a comprehensive, clearly written, lavishly illustrated, and fully indexed "one-stop" textbook satisfying general interests and answering particular questions.

Note: Dates for Maya are usually taken from Maya inscriptions in their own calendars, converted to our calendar (technically, the Gregorian calendar) through a correlation system known as the G-M-T after the three scholars who worked it out, published in 1937. These and other scholars have searched for dated eclipses known to astronomers that might be those recorded in Mayan texts, especially the book known as the Dresden Codex. A recent challenge to the G-M-T correlation was worked out by David H. Kelley,

Brian Wells, and Andreas Fuls, who propose that the conventional G-M-T dates are 208 years too early. For example, by their correlation, King Pakal of Palenque was born 811 CE, not 603 as the G-M-T has it. Readers can bear this in mind if considering what European and Asian events might have been happening at certain times in Maya histories. There is also a deeper problem that not all Maya calendars may have used the same base date to begin. Like our Christian base date of 1 CE differing from Jewish and Muslim calendar base dates, different Maya kingdoms may have used base dates significant to their particular histories, and again, as in European history, Mayans may have corrected their calendars to better fit actual solar years.

5 Early Woodland, 1000–100 BCE

Early Woodland sites are distinguished by somewhat crude pottery, the earliest in central and northeastern America. Why is the presence of ceramics so meaningful here? Archaeologists put a lot of weight on pottery sherds because, unlike most artifacts, they are practically imperishable, usually abundant in a site, and can vary stylistically to a greater degree than stone or bone artifacts. Pottery clays may be mixed with pulverized stone, shell, or sherds or with fibrous plants; they can be shaped into plates, jars, or cups, large or small, globular or with elegant curves; left plain or burnished; decorated with incised lines, stamps, patterned fabric, colored slips or washes or paints; decorated on the body and on the rim with different designs; and fired to blacken or to lighten. Clay sources may be determined by laboratory analysis, to answer the question of whether a pot was made locally or traded in. Sites with ceramics offer more, and more distinctive, data to archaeologists than Paleoindian or Archaic sites. So much for archaeologists' procedures: Should a few crude sherds be reason to designate a new cultural "stage"?

The question hinges on how ceramics came to be made in North America. An archaeologist working in the northern American Southwest thought he saw a sequence from baskets, in the Late Archaic, to clay-lined baskets, to shaped ceramics around 300 CE, implying the invention of pottery there. Straightforward as the story appeared, it was soon invalidated by discoveries of earlier, very competent ceramics in the southern part of the Southwest and much earlier ceramics in Mexico, these sufficiently similar in technology and design to indicate cultural contacts across centuries. A parallel story came out of the Southeast, where archaeology seemed to show a sequence from pots carved out of soft soapstone, then ceramics of similar shape. More fine-grained archaeological research, in terms of stratigraphic cuts through series of occupations and of radiocarbon dating, revealed the ceramics to precede and the soapstone vessels to be backwoods copies of clay pots made by people on the Georgia–South Carolina coastal lowlands and inland along the Savannah River. Complicating the newer story, from the early fourth millennium BCE, Savannah River valley people cut soapstone into perforated slabs that they heated and lowered into water-filled cooking containers of perishable material. These soapstone pieces were the equivalent of contemporary

clay "Poverty Point Objects," only more durable in use than the rather friable PPOs or the pebbles generally used for stone-boiling (heated stones in a pot would raise the temperature of water to simmering). Around 2000 BCE, ceramics began to be made in the Savannah River valley, while for several centuries the people continued using their soapstone heating pieces as well. Farther north in the Atlantic states, soapstone vessels and ceramic ones both come in at the beginning of the first millennium BCE.

In the Southeast and in the Midwest around Kansas City, the earliest ceramics—from mid-third millennium BCE in the Southeast and late second millennium BCE around the Missouri–Kansas border—look rather crude because chopped grass and reed stems were mixed into the clay, along with more conventional temper of crushed potsherds. Experiments indicate that the fibers, which burn out during firing, leaving tubular channels in the clay, reduce the problem of the pot walls sagging as the potter works, and also reduce cracking when the pot is in use. Fiber tempering went out, replaced by sand and pulverized rock, in the mid-first millennium BCE. These pots were thick and simply shaped like straight-walled or slightly flaring flowerpots, the outside impressed with coarse fabric (either wrapped around the potter's paddle or the pot may have been molded inside a coarse bag that would separate from the pot as it dried). First-millennium BCE pots in the Northeast are less thick and conical in shape, but similarly marked by coarse fabric; the uneven surface of slight ridges and furrows impressed by the fabric weave lessens the tendency of the pot to crack while drying.

Pottery appearing in the first millennium BCE reflects steadily increasing populations and entrepreneurship through the Archaic period, stimulating innovations. Ceramics appeared late (200 CE) in the Southwest where desert or semiarid conditions limited populations until irrigation technology, like ceramics originating in Mexico, enabled agriculture. Pottery was relatively late, at the beginning of the Common Era, in the Northern Plains where bison hunting from shifting campsites was the only reliable economic base. In the East and Midwest, Late Archaic cultivation of indigenous seed plants, such as chenopods, and of squash and perhaps small plots of maize, demonstrated potential for supporting larger populations. Looking at the earliest ceramics in the Southeast and Northeast, as in the southern Southwest, the earliest ceramics are technically competent. Those in the Northeast resemble ceramics from the European North Sea region, those in the Southeast resemble ceramics from northeastern South America. The earliest Southeastern and Northeastern ceramics do not resemble each other. Do these innovations indicate immigrants from across the Caribbean into the Southeast and occasional trips across the North Atlantic by Scandinavian fishermen, or by American boatmen voyaging eastward on the Gulf Stream after they paddled out for deep-sea fishing? Most American archaeologists, unfamiliar with premodern boat-building and navigation, are uncomfortable thinking about such distant possibilities.

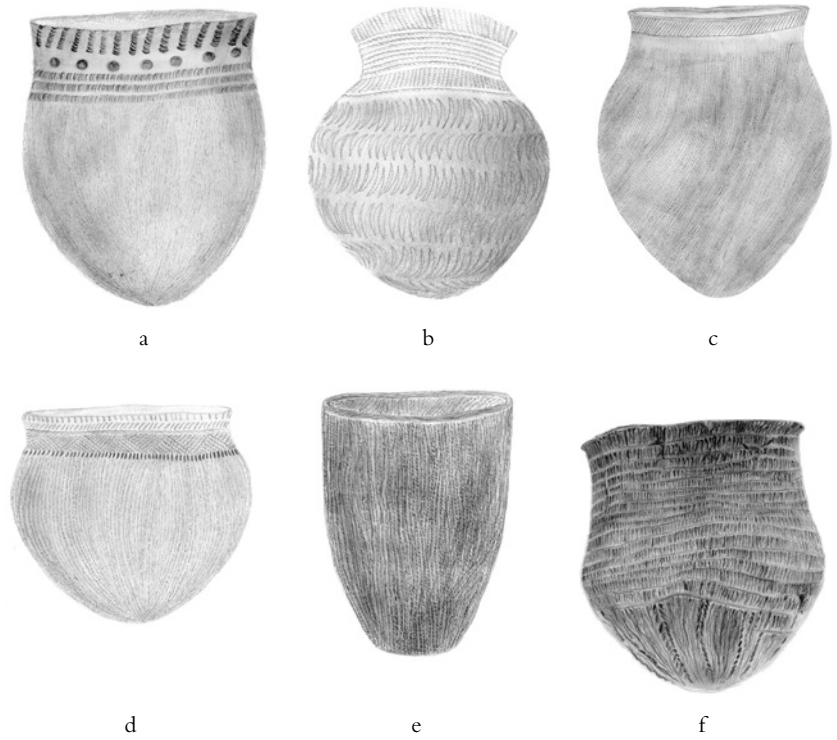


Figure 5.1 a–f Woodland-style pots, the earliest (Early Woodland) top, as well as later Woodland styles.

Credit: Mississippi Valley Archaeology Center at the University of Wisconsin-La Crosse, drawings by Madelyn Sarduy

Accompanying the early ceramics in the Southeast, as later in the Southwest, were innovations in residence plans. In the Savannah River valley, where the earliest pottery is, at mid-third millennium BCE, still Late Archaic, discarded shellfish shells encircle round, level villages. Alternately in the region, large heaps or mounds of discarded shells mark riverside settlements. Meanwhile, in the uplands, camps were small, and in one instance archaeologists have found a modest pithouse (perishable walls and roof constructed up from a round dugout). Deer were a major source of food and their antlers and bones raw material for tools; turtles, fish, and hickory nuts also occur in quantities, if not in such heaps as shellfish, in these Savannah River/coastal lowlands sites. Evidence of trade between the Southeastern Atlantic lowlands and Poverty Point in Louisiana at its heyday, second millennium BCE, followed by an apparent decline in big settlements in both regions at the beginning of the first millennium BCE, suggest changes in lowland Southeast Late Archaic societies at that time.

The Northeast and Midwest added ceramics to their craft repertoires around 1100 BCE. The earliest pottery in the Northeast is found in the region of the Gulf of Maine straddling the U.S.–Canadian border, with sites along rivers flowing into the Gulf and some as far inland as Lake Huron. Analysis of residues inside sherds shows that the pots were used to cook fish, especially seafood. The pots, conical in shape (perhaps set with the pointed bottom between hearthstones), resemble pottery across the North Atlantic in coastal Scandinavia, similarly used, by residue analyses, for cooking seafood. Considering the makers had seaworthy boats to catch the fish, they might have crossed the North Atlantic, as their Norse descendants did centuries later, and shared their cooking technology with Indians they met. Slate knives efficient for fileting fish appear on both sides of the North Atlantic at this time. "Woodland" pottery, as it is known in North America, fits into the technology and style of the earliest pottery known, from northeast Asia, dated to 14,800 BCE (still in the Late Pleistocene). This technology spread slowly westward through northern Eurasia, reaching coastal Scandinavia by 4500 BCE. Not long after, farmers making quite different pots moved into southern Scandinavia, trading for marine products with the coastal natives. By 1400 BCE, agricultural societies supporting nobles with a taste for luxuries, part of Bronze Age European cultures, were crowding out hunter-fishermen. This is just speculation, but the means and motive were there for some of the Northern maritime people to sail away to less-crowded coasts.

Strong evidence of extensive social contacts and travels within temperate North America comes from a Wisconsin Early Woodland cemetery that was, quite literally, richer than a nearby Archaic Old Copper cemetery nearby three thousand years older. The Early Woodland cemetery is on a sandy knoll overlooking a bend in a river flowing to Green Bay, a sheltered arm of Lake Michigan. Later, the knoll was favored for villages. A single man's grave at the Early Woodland cemetery contained more copper (by weight, 238 grams) than the combined copper from all the recovered Archaic Old Copper graves. The Early Woodland man was interred with nine copper and three stone weapon points, a whetstone, sixteen stone scraper blades, nine beaver incisor teeth (probably hafted and used as knives), two dog skulls, a perforated lynx scapula, and a broad section of caribou antler. Powdered red ocher had been liberally sprinkled over the body. Lynx and, especially, caribou live far north of Green Bay, Wisconsin; these bones and two of the stone scrapers, made from a fine chert also found far from Green Bay, suggest the man may have traveled hundreds of miles before dying. Even more exotic is a substantial block of obsidian (volcanic glass) quarried from Obsidian Cliff in Yellowstone Park, Montana! Strikingly black and shiny, the obsidian and a chain of 102 copper beads, small ones at the ends and larger, heavy beads in the center, had been individually wrapped in bark and laid together on top of the cremated remains of a young woman and her infant and, as with the man, the burial was generously sprinkled with red ocher. A newborn infant had received similar burial in the cemetery, a string of ninety-two copper

beads and a copper ax placed with the tiny corpse, while a young child had been laid on 110 leaf-shaped stone blades of cherts from southwestern Wisconsin, arranged in a triskelion design (three curving branches). Another cremated young woman had been dressed with 330 thin tubular copper beads apparently sewn in rows on her clothing (like tinklers on jingle dance dresses), while a young woman buried without cremation wore a necklace with beads from marine shell and had a long copper awl wrapped in hide and eight handsomely flaked but not yet sharpened blades of southern Indiana chert. Several graves contained copper crescent blades, one of which retained traces of its Y-shaped wooden handle, the ends of the crescent fastened to the forks of the handle. An older woman wearing hundreds of copper beads wrapped around her lower arms had a copper ax, a dozen of the handsome Indiana chert blades; and grapes, hazelnuts, and a bit of deer. One woman had four stone weapon points in her grave, but not as offerings: they had caused her mortal wounds. Taken together, these graves in a single cemetery demonstrate the Early Woodland community procured exotic items from sources over a thousand miles away, east and west, honoring some of its members, even infants, by burying these with copper valuables in their graves. Not everyone was so honored, or perhaps loved—the murdered woman had no offerings—and women outnumbered men in receiving offerings.

Throughout the Eastern Woodlands in the Early Woodland period, communities responded to death as never before. Cemeteries were customarily located on knolls or terraces overlooking streams, and, in addition to ornaments, the dead were often interred with large, distinctive, well-made, but unused, stone blades or pendants. One archaeologist wonders whether these objects might have been whirled on the end of a thong, producing a bull-roarer sound. Copious sprinkling of red ocher on burials and the precious, perhaps ritual, objects demonstrate widespread symbolic practices.

In the Lower Mississippi Valley, relatively small round earthen mounds (up to around sixteen feet high) were constructed to cover a community's dead, partially decomposed (probably on wooden platforms inside fenced areas, as historically in the Southeast) so the bones could be compactly interred. In this region, artifacts were not laid with the dead. Following, as it does in time, the Poverty Point mounds and embankments, Early Woodland in the Lower Mississippi Valley seems a rejection of those elaborate and labor-costly constructions. We must not infer degeneration, because artifacts are diverse and functional, if not spectacular, and ceramics include pots with legs and designs made with stamps, incising, or punching circles. These ceramics occur at Poverty Point in its late occupations, demonstrating continuity between that extraordinary Late Archaic culture and the region's Early Woodland. That period in the Lower Mississippi Valley exhibits broad exploitation of marshes and floodplains, people living on low islands that in some cases sank slowly beneath the weight of discarded shells and other refuse, the surface of the small island kept above water level by that same buildup of midden! Alligators were among the game taken by the people, who did plant squash and

bottle gourds as well as harvest wild plants, fish, and hunt deer on higher ground.

Settlements in the more temperate Eastern Woodlands were sited both in river floodplains and on uplands, and it seems probable that, in both types of locale, agriculture was gaining importance. The most definitive information comes direct from human guts, dried feces in corners of the Salts Cave and Mammoth Cave system in Kentucky. Late Archaic and Early Woodland people sheltered in the mouths of these caves and rockshelters in the region, and some remarkably intrepid people penetrated as deeply as half a mile into the Salts's pitch-dark maze, relying on wood torches for light. They secured a pure-white gypsum from a vein deep in the cave, for what purpose we can only guess (one archaeologist remarked that gypsum is a laxative, to which a colleague replied, "There are plenty of plant laxatives easily picked outside that frightening black hole!"). Whatever the goal of the cave explorers, they

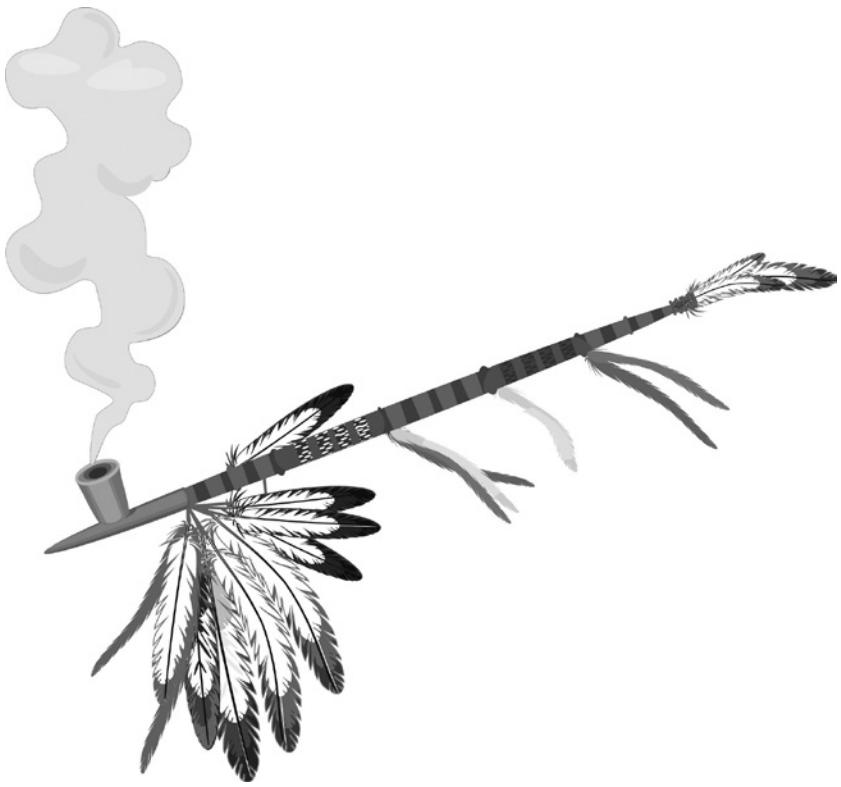


Figure 5.2 Calumet-type tobacco pipe; a historic example but traditional style.
Credit: Kazakova Maryia/Shutterstock

and the people at the cave mouths regularly ate seeds of cultivated chenopods (goosefoot), knotweed, a small-seed barley, and maygrass for carbohydrates and the oily seeds of sumpweed, squash, and sunflower. Sunflowers were native farther west and brought into the Eastern Woodlands as a cultigen. The spread of pottery and the spread of cultivated grains—these several seed plants—very likely were linked, the pots needed to cook families' daily porridge. Nuts and fruits such as wild plums were still significant in the diet, as well as game and fish, but the feces prove how the cultivated seeds had become common staples.

Tobacco was a different kind of cultigen. Two species were grown in the United States at the time of the first European invasions, a strong type native to South America and a milder type native to western America. Tobacco seeds have been identified in Middle Woodland sites in the Midwest; which species is represented is difficult to determine from the seeds, so it isn't known whether the tobacco came from west of the Rockies or from Latin America. Smoking pipes date from Early Woodland sites in the Midwest, tubular in shape with the tobacco end flaring and the mouth end narrowed. Carbonized residue in these pipes prove they were used for smoking, but whether for tobacco or for other herbs (like the kinnikinnick mixtures also smoked by American Indians) has not been resolved.

There is no doubt that the introduction of smoking was for ritual, not personal indulgence—even in the twentieth century, some conservative First Nations members would not casually smoke cigarettes. Everyone has heard about "peace pipes," long-stemmed pipes carved of soft stone (that hardens upon exposure to air) or wood with stone bowls. These are properly termed "calumet pipes," from a French word for "reed," reeds sometimes being used for pipestems. The pipe was an incense burner: instead of burning incense in a pot that could be swung as in Christian churches or set on a stand, American Indians generally placed their tobacco incense in a small bowl attached to a tube through which air could be blown to keep the incense alight, invoking the attention of the Almighty by waving this incense burner toward the four cardinal directions, Above, and Below. Rituals marking alliances between nations sought the blessing of the Almighty with this invocation through incense, hence the European observers' term "peace pipe." Consecrated pipes may be brought out from their wrappings to quell quarrels, because no breaches of morality can be condoned in the presence of the sanctified instrument. Archaeologist Robert Hall noted a resemblance between calumet pipes, courting flutes, and atlatls (spear throwers, a narrow wooden board with a hook at the thrower's end). All three are related to war, the atlatl as a weapon component, the flute used—historically, at least—to draw men to join the player for a war expedition, and the calumet to solemnize alliances. True, the flute was also played to attract young women for amorous expeditions, to Hall an extension of its connotation of manly mission. The introduction of pipe smoking, very probably as a means of incense burning, and tobacco in Early Woodland times does not imply that warfare,

or even the rituals for invoking blessing on a war expedition or its cessation, were unknown in America before the Early Woodland. Pipes and tobacco seeds are the preserved material available to the archaeologist, allowing us to say we have *evidence* for a ceremony that in its general form may well have been much older than Early Woodland, and that probably was associated with war that, likewise, had been occurring earlier than that period.

Early Woodland was a time of substantive shifts in American societies. Agriculture was established alongside harvesting naturally growing foods, game, fish, and shellfish. Pottery was introduced, presumably for its superior capacity to cook the cultivated starchy seeds. Indirectly, pottery signals greater commitment to producing food rather than relying on naturally occurring sources. Related to selecting and maintaining fields, a stronger sense of territoriality appears in the development of cemeteries on knolls overlooking defendable territory, and more ritual attention to communities' dead, placing specially prepared ornaments and symbolic objects with corpses and showering them with red ocher. By the end of the first millennium BCE, these trends had climaxed in the spectacular Hopewell kingdoms of the Middle Woodland period.

Research Puzzles

A perennial problem in archaeology is to distinguish between local inventions and those imported from other societies—"independent invention" versus "diffusion." How pottery came to be made in the several regions of America is an example of the issue. Anthropologists who favor independent invention consider that if something was invented once, somewhere, it obviously could be invented again. Anthropologists who favor contacts between societies as the source of innovations point to historians' studies documenting the spread of such inventions as gunpowder and printing, analogies for the spread of more ancient technologies. Finds of natural objects such as obsidian or maize far from their natural occurrence demonstrate prehistoric people's long-distance travels and trade, indirectly supporting the explanation of intersocietal contacts for the innovation of pottery in at least some regions. Differences in technology and style might indicate independent invention, or, equally, might indicate local variation on an innovation taken from another society. Gaps of centuries as well as miles between similar technologies or styles might indicate independent invention, or that archaeologists have yet to discover sites bridging the apparent gap. Just to complicate matters, there are cases of craftspeople reviving much older styles, not only for today's tourist markets, but prehistorically.

Debates over independent invention versus diffusion (intersocietal contacts) unfortunately sometimes degenerate into charges of racism, the notion being that independent invention demonstrates the intelligence of people in a community, whereas taking an innovation from another society doesn't require brains. If that were so, Americans would be the dumbest people ever,

for most of our artifacts were invented elsewhere (including gunpowder and printing, and pizza and the automobile). History and historical geography tell us that truly independent invention is rare, while taking ideas from other societies and creating variation on them very common. It's not diffusion *versus* independent invention, it's diffusion stimulating invention. Historic examples are American Indians taking horses from Spanish ranches in New Mexico and, in a little more than a century, spreading horse-riding and packing over most of America and creating distinctive breeds and styles of horse gear. Another example is Indians' use of European glass beads for embroidery, creating new techniques for ornamental beading. A rare example of what does seem to be independent invention are over a hundred fired clay objects found in Southern California, on the mainland and on Channel Islands, dating to the third millennium BCE. A few look like crude effigies but most can only be described as fired clay objects, of no regular shape nor of any obvious use. Significantly, they are earlier than any pottery north of Mexico, and making these clay objects seems to have ceased by about 2000 BCE.

Curiosity and inventiveness are as characteristic of American Indians as of other humans, thus tantalizing archaeologists trying to figure out whether new types of artifacts were uniquely invented or, more likely, stimulated by contacts with other nations.

6 Middle Woodland, 100 BCE–400 CE

Around two thousand years ago, extraordinary constructions appeared on the landscapes of the Ohio Valley. Precisely engineered geometric figures so immense that one encloses a full-size golf course, four-square-mile sets of huge geometric embankments, figures linked by orientation and sight lines over thirty miles—the scale of Ohio Valley Middle Woodland building is truly stupendous. Nowhere else in the world are there so many, such exact and cosmically huge geometric constructions of no apparent practical use. There's no mystery about the Egyptian pharaohs' pyramid tombs, and little mystery about Stonehenge's solstice-aligned temple enclosure, yet of America's Hopewell earthworks we know only that they had sophisticated builders and, one must suppose, symbolic significance.

Today, most of the Ohio Middle Woodland earthworks have been obliterated or greatly reduced by plowing or urban and suburban construction. In 1838 the Circleville Squaring Company began destruction of that pioneer Ohio town's namesake embankment. Ten years later, the Smithsonian Institution's first scientific publication, *Ancient Monuments of the Mississippi Valley*, incorporated professionally surveyed maps of the Middle Woodland earthworks, knowledge saved in defiance of the colonists' determination to square the circles. Edwin Davis, a medical doctor in Chillicothe, Ohio, had collaborated with the young journalist Ephraim Squier, happily trained in civil engineering, to record accurately the astounding ancient monuments around their town. ("The Mississippi Valley" was broadly interpreted by Squier and Davis to include its tributaries such as the Ohio.) Were it not for Squier's indefatigable surveying, the majority of these mind-boggling works would be now quite lost; thanks to Squier's maps, some of them can be located and researched through archaeological techniques.

For archaeologists, Hopewell presents two challenges: first, interpreting the massive and precise earthworks, and, second, reconciling such huge enterprises with the data indicating the builders lived in small farmsteads and hamlets strung along stream valleys. No one lived permanently within the geometric embankments. Hopewell was a unique civilization without cities. Its economy maximized resources by holding lands derived from the edges of the final glacial fronts of the Late Pleistocene, where glacier-molded uplands overlook outwash floodplains.

Ecological diversity and abundant water buffered the population's demands for food and wood, their reliance on indigenous plants and game giving them a reasonably secure subsistence base. Maize continued to be a minor component of the farm crops, the major crops being those cultivated since the Late Archaic: chenopods (goosefoot), knotweed, and maygrass for grain carbohydrates; sumpweed, squash, and sunflower for oil-rich seeds. Raspberries, elderberries, and sumac berries were fruits that flourished, along with hazelnut bushes, along the edges of cleared fields and when the fields were left fallow; these also were components of Middle Woodland farmers' cultivation plans. Hickory nuts, acorns, and black walnuts were gathered from trees, which like the berries would have benefited from the farmers' extensive clearings opening up river-valley forests. Timber so felled went into building tombs and gathering halls at the great embankment enclosures, as well as into the more lightly constructed domestic dwellings, rectangular structures of spaced posts supporting wattle-and-daub walls (woven small branches caulked with mud). Late Archaic people had built sloping-roof small houses over round pits, possibly insulated with sod for winter use; these would be warmer but the Middle Woodland houses were relatively more commodious. By Late Woodland times, beginning around 700 CE, centuries of farming had markedly reduced the virgin forests in Ohio, allowing second-growth types of trees such as locust and pine to take over many localities.

Hopewell settlement pattern, with farmsteads and hamlets within hailing distance of one another, continuously along floodplains and terraces or loosely clustered on uplands, is a pattern persisting to the present among descendants of Midwestern First Nations (much to the frustration of U.S. government bureaucrats demanding conformity to efficient water- and sewer-line layouts). The relatively larger Middle Woodland population made the pattern more visible to archaeologists than it had been earlier, when farming was less important and seasonal movements to wild harvests probably more common. Historically, farmsteads and hamlets were dispersed but visible to one another ("We want to be able to yell for help but not hear our neighbors' family arguments," said one Lakota arguing against a Bureau of Indian Affairs tight grid housing scheme), embodying an ethos balancing personal autonomy with high social value on assisting community members. To maintain the settlement pattern embodying their social ethos, Midwestern First Nations moved again and again in the nineteenth century CE, just ahead of the colonizing frontier displacing them.

Command of the land through keen observation of ecology and selecting those particular locations where good soil, rainfall, and overall humidity; orientation to sunlight; and low frost vulnerability all combined to optimize crop success. Did the shrewd understanding of the farmers sustain an elite wrapped up in cosmography, taking for granted the farmers' competence? We can appreciate the farmers' science; we cannot detect to what degree landlords were involved in the business of daily life, whether they lived adjacent to the great embanked enclosures or in modest houses, similar to

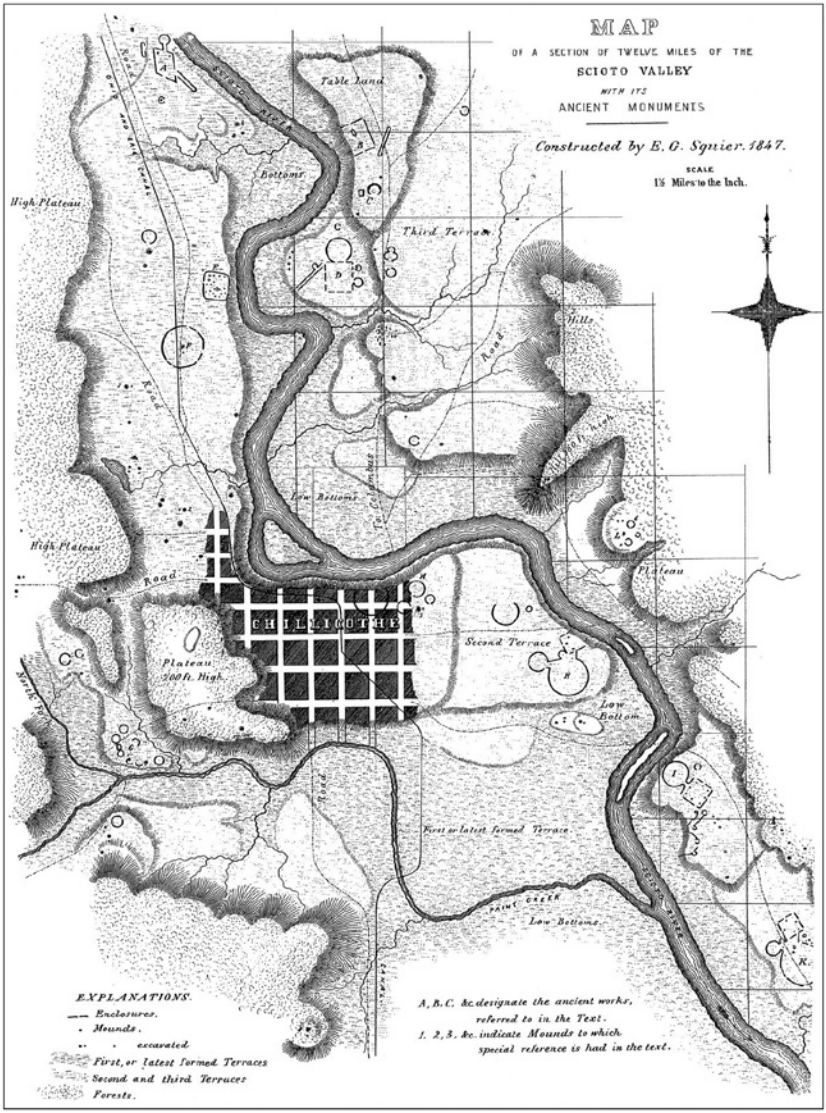


Figure 6.1 Map of Hopewell geometric earthworks, c. 200 CE, around Chillicothe, Ohio. Credit: Drawn by E. Squier and E. Davis, 1848. Smithsonian Institution

commoners', in the countryside. There are deposits of domestic artifacts and debris just outside many enclosures, but these could result from barracks of construction workers for the enclosures.

If the homes of Hopewell nobility are not obvious, their tombs dramatically mark their status. Near present-day Chillicothe and the Scioto River, a

tributary of the Ohio River in southern Ohio, is a complex of five sites, each with linked geometric embankments consisting of a large circle, a smaller circle, and a square. Squier and Davis recorded each large circle having a diameter of 1700 feet (half a kilometer), each smaller circle of eight hundred feet (one-quarter kilometer), and each square measuring 1080 feet (one-third kilometer) per side (that is to say, each side of a square measured *one-fifth of a mile*!); these precise measurements were duplicated in every one of the five sites miles apart. Recent measurements take a few feet off these long measurements, but Squier and Davis may have been correct for what was better preserved in the 1840s. They noted that the large circles and the squares had gateway openings, sometimes with small mounds adjacent, in their embankment walls, whereas the smaller circles were unbroken. Within two of the larger circles were imposing mounds covering two-thirds of an acre (.27 hectare), not quite identical in measurements but each close to 160 feet (forty-nine meters) long or wide, fifteen to thirty feet high (one to nine meters), and the larger of the two 240 feet (seventy-three meters) long. Field studies begun in 1965 by civil engineer James Marshall revealed that Hopewell draftsmen began with 3–4–5 right triangles and measured in units that are either multiples or fractions of 132 feet (40.2 meters) or 187 feet (fifty-seven meters). Numerous smaller mounds, composed of selected colored soils and clays, lay within or outside the embankments of these sites.

Excavations early in the twentieth century revealed tombs in some of the mounds, and more recent excavations revealed timber buildings thirty-five feet (ten meters) long, divided into rooms with antechambers. Absence of household debris on the floors of these buildings indicate they were probably not residences, although whether they served as temples or council chambers cannot be told. Tombs of the principal leaders were also timber structures subsequently buried under carefully layered earth and clay. These leaders' tombs typically have a man's corpse in the center, with men and women—wives, concubines, servants, or guards, we suppose—placed on earthen benches around their leader. The majority of the burials in the mounds had been cremated, including sometimes those apparently accompanying a leader in death. The principal corpse in one of the tombs seems to have lain under a canopy. Rare and valuable artifacts graced the burials: spool-shaped ear ornaments covered with beaten copper, copper rectangles, some with embossed designs and cutout figures; sheet mica including cutout figures; reed panpipes covered with copper; conch shells, shark teeth, barracuda jaws, and ocean turtle shell from the Atlantic; grizzly-bear canine teeth sometimes inlaid with pearls; freshwater pearl, shell, copper, and galena beads; nodules of meteoric iron; chlorite disks; platform-style smoking pipes, many with the bowls carved into animal or human shapes; figurines of men and women; knives with blades of fine flint, North Dakota translucent brown chalcedony ("Knife River flint"), and even black obsidian from Yellowstone Park; silver and a few small gold nuggets; carved bone and shell ornaments; copper celts (axes or adzes); and handsomely decorated, well-made ceramic

Figure 6.2 Hopewell art object placed in a leader's tomb: raptor claw cut from sheet mica.
Credit: Courtesy of the Ohio History Connection

vessels. Deposits of valuables separate from any burials suggest temple offerings. Overall, Hopewell is the earliest temperate-zone American civilization to impress Euroamerican archaeologists with displays of wealth objects reminiscent of European concepts of wealth and status display.

Conspicuous consumption of rare imported materials may lend a familiar feel to Ohio Hopewell mound contents, yet relationships between the major sites are unclear. Because giant geometric enclosures are linked over miles of valley by orientation, by figures forming sets, and by measurements, we could suppose a Hopewell lord ruled at least a watershed region; but then, why duplicate sets of enclosure figures? If each enclosure site was the ritual center of a tiny kingdom, why were they linked at such a scale? Not only are sets of figures replicated, the large octagon-shaped enclosure in Newark, Ohio, has a straight road built between low parallel embankments leading out of it in the direction of the same kind of huge octagon sixty miles (ninety-seven kilometers) away at Chillicothe, Ohio. Nineteenth-century colonists noticed many such ancient roads in southern Ohio, leading from one set of enclosures to others. Hopewell art, on the stone pipes, copper plates, mica cutouts, and no doubt in wood and on textiles (fragments of finely woven cloth from local plant fibers such as nettle have been found preserved as wrappings of copper objects), mostly shows fierce birds, pumas, and bird and bear claws—warlike themes. The log tombs with these symbols

and sacrificed retainers around a central man look suited to a warlord. Yet, Hopewell extensive and substantial long-distance trade needed some sort of safe-conduct for purveyors of such fragile goods as sheet mica from the southern Appalachians. Historically, descendants of Hopewell conducted formal ceremonies using the flat-stemmed calumet pipe ("peace pipe") to link nations symbolically, the leader of the visiting delegation adopted into the host group as embodiment of the spirit of a deceased host leader. Valor and power such as seen in raptor birds and beasts would have been attributed to these renowned leaders, even as they extended hands in alliance.

Middle Woodland Outside Ohio

Beyond southern Ohio, Hopewell flavors Middle Woodland societies from the Southeast to Kansas on the west and Ontario on the north. Mounds are common, but the great geometric embankments are restricted to the Ohio heartland. Closest to Ohio Hopewell culture was that of Middle Woodland southern Illinois, where the lower Illinois River meets the Mississippi. This land holds a multitude of sloughs, lakes, and marshes in broad floodplains, for this reason forming the major mid-continental flyway for migrating birds. Food was abundant, whether harvested from the wild or from cultivated chenopods, knotweed, and maygrass. Topography, with bluffs far apart across the shifting floodplains, would not have favored construction of permanent sets of huge geometrics, although we don't know whether that, alone, explains their absence. Another contrast to Ohio Hopewell is that people appear to have resided in villages a day's walk (twelve miles, twenty kilometers) apart along the rivers, rather than in the more or less continuous farmsteads and hamlets found in the narrower southern Ohio valleys. Analysis of skeletons indicates family continuity within villages, with fewer marriages between villages.

Southern Illinois Middle Woodland merits the label Hopewell through its burial mounds and associated artifacts. Like those in Ohio, Illinois Hopewell burial mounds tend to have a central male accompanied by retainers and expensive goods. These central males were usually somewhat taller than the average man in common graves, suggesting aristocratic families whose boys were better nourished than ordinary boys. (The same distinction is seen between men in aristocrats' tombs and commoner cemeteries in Europe, beginning in the Bronze Age.) Illinois Hopewell made handsome, dark, burnished ceramic vessels engraved with highly stylized raptorial birds or with comblike short lines of dots in sections alternating with burnished smooth portions. Other artifacts in the tombs are much like those in Ohio, but fewer. Small ceramic human figurines were made in both areas, with several from one village in Illinois: most depict women wearing a simple skirt and armbands, hair down their backs to the waist, one suckling a baby, another holding her child straddling her back, others standing holding a pair of objects, or sitting with legs tucked sideways beneath her, just as historic Indian women

have been accustomed to sit. A male figurine wears a breechcloth, his hair in a bun, and kneels, holding a clublike object upright in front of him.

Outside the Ohio heartland, the most impressive Middle Woodland site is Pinson Mounds in southwestern Tennessee. With a geometric embankment, five rectangular platform mounds, and at least seven additional mounds lying on a plateau overlooking a river floodplain, Pinson might be the southernmost truly Hopewell center, compared to thousands of other Middle Woodland sites evidencing Hopewell contact but not its full panoply of ritual. One Pinson mound covered four log tombs holding sixteen bodies, some of them wearing necklaces of freshwater pearls and headdresses of copper ornaments sewn to fiber frames. Thanks to meticulous recent excavation, this mound is known to have been constructed as a series of different-colored soils over a clay cap protecting the tombs. Distinctively decorated ceramic vessels clustered in one locality of the site indicate trade, or perhaps pilgrims, from far to the south, such as southern Georgia, Alabama, and Louisiana.

In the valleys of the Missouri River and the lower Kansas River flowing into it on the Kansas–Missouri border, Kansas City Hopewell people lived like those in southern Illinois in villages at the edge of the floodplain, above the expected annual inundation level, with camps on the uplands above. Their crops, stored in many lined pits dug near the houses, included marsh elder, sunflowers, squash, and a little maize, along with chenopods, amaranth, and nuts that may have grown independently of cultivation. Deer, turkeys, raccoons, fish, and turtles were staples supplemented with bison and elk, prairie game available to these villages on the western border of the Hopewell cultural outreach. Kansas City Hopewell tombs in earthen mounds were built on the bluffs overlooking their villages, and the graves inside were lined with dry-laid stones, differentiating the culture of these communities from Hopewell to the east. As one would expect so far up the Missouri River from the Mississippi Valley and Ohio, the expensive imported items in the tombs were meager compared to the wealth in Ohio, or even Illinois, Hopewell: a flake of obsidian, fragments of mica, a piece of galena, one Caribbean shell, a few copper tools, plain platform pipes, and some rather crude ceramic figurines.

Looking north, Hopewell mounds and artifacts occur as far as southern Wisconsin, mostly along the Mississippi Valley. Burial mounds overlay log crypts covered with bark sheets (like historic wigwams in the region), with up to several dozen corpses interred apparently over some lapse of time—that is, natural deaths rather than sacrifices of retainers seem likely. Grave offerings include a few fine Hopewell ceramic vessels resembling those made in Illinois and equally few obsidian artifacts, freshwater pearls, plain platform pipes, silver beads, and a relative abundance of copper objects—sheets, plaques, earspools, and beads—appropriate to a region that had been an early center of copper manufactures. Fading out in central Wisconsin nearing northern colder climates, Hopewell flourished only where agriculture

flourished; although its societies' economies included game, fish, and wild plants, cultivation of the indigenous crops was necessary to their way of life.

Toward the northeast, Hopewell is visible in small burial mounds with contents like those in southern Wisconsin and Michigan. Archaeologists working in the Northeast, including southern Ontario, hotly debate whether Middle Woodland people there spoke Algonkian or Iroquoian languages, both being historically in the region. Population seems to have increased considerably during the Middle Woodland. Is this because people immigrated into the region, or because agriculture fueled population growth, or both, immigrants moving in alongside natives because agriculture supported greater population density? One group of archaeologists notes that Cherokee, spoken historically in the southern Appalachians, and Iroquoian languages, in the Northeast, are linguistically related. Was the homeland of these ancestors the Midwest? Or the Southeast? Or did Hopewellians speak Proto-Siouan? Or Algonkian? Some archaeologists see Algonkian speakers moving into the Northeast in Middle Woodland, from the Great Lakes region. Historically, Algonkian languages covered much of the Middle Atlantic and Northeast United States as well as the northern Midwest and Canada east of the Rockies. It is plausible that both Iroquoians and Algonkians moved into the Northeast, absorbing people whose languages disappeared well before European contacts. Yet another possibility, to be discussed in the next chapter, is that the Algonkians were Middle Woodland immigrants and Iroquoians invaded centuries later in the Late Woodland period.

In the South, historically the dominant indigenous language group has been Muskogean, comprising Creek, Seminole, Miccosukkee, Alabama, and Choctaw-Chickasaw. Muskogean languages were found exclusively in the Southeast, along with languages such as Natchez, Tunica, and Calusa, which died out before linguists could study their relationships, and Catawba (in the Carolinas) and Yuchi (in eastern Tennessee), with Catawba definitely and Yuchi probably related to Midwestern Siouan languages. Significantly, in the Southeast, as in the Northeast, languages apparently diverged from parent proto-Muskogean and also Siouan-Catawba around two thousand years ago. Hopewell connected all of the eastern half of America from the Rockies to the Atlantic, the Great Lakes, and the St. Lawrence to the Gulf of Mexico, and at the same time, during its heyday, a number of societies split, with branches settling into what became historic homelands in many cases hundreds of miles apart. The linguistic and political map of America toward the decline of Hopewell was quite different from what it had been a millennium earlier at the beginning of Early Woodland.

Middle Woodland in the lower Mississippi Valley and the Gulf lowlands opens with ceramics displaying the distinctive Hopewell raptor bird motif and decoration contrasting plain burnished with infilled stippled zones. Relatively small conical burial mounds were built, covering a number of corpses probably representing the natural deaths of residents of nearby villages with

wooden houses and storage pits. In the highlands of northern Alabama, Middle Woodland villages buried many of their dead in wooden boatlike coffins placed in caves; whether in caves or in burial mounds the deceased were given the usual Hopewell artifacts—copper pendants, earspools and celts, freshwater pearls, galena, elbow (rather than platform) pipes, and cups and beads made from marine shells. One cave is so dry that the troughlike coffins, cane mat shrouds, and wooden bowls and plates were preserved. Oddly, northern Alabamans manufactured ceramics and decorated some with Hopewell-style zoned designs but did not leave pots with their dead. Southern Alabamans took advantage of the Gulf coast to procure teeth of sharks, alligators, and barracuda that could be traded north, as well as minerals—salt from saline springs, ocher for paint, and fine quartzite and chalcedony for stone tools and weapon points.

The most southeasterly sector, Florida and adjacent southern Georgia and Alabama, contributed its subtropical products to the Hopewell world and incorporated style concepts in its ceramic decoration, while ultimately resisting whatever led central Hopewellians to give up great geometric embankments and sumptuous tombs under mounds. Never as spectacular as Ohio Hopewell, the far southeasterners maintained their somewhat more modest art and the practice of wealth-laden burials under mounds generations longer than classic Hopewell in the central Eastern Woodlands. On the broad Gulf coastal plain, about 300 CE—that is, at the close of classic Hopewell to the north—villages exploiting marine fish and shellfish created embankments in the shape of rings, horseshoes, or rectangles, not (it seems) purely as constructions, but rather to dispose of refuse in an orderly manner outside the residential area. The region's semitropical climate called for lightly built, airy shelters like the present-day Seminole *chickees* that leave virtually no structural traces archaeologically. Open plazas in the middle of the midden-ringed villages served for community gatherings, and both burial and platform mounds were constructed within the ring. Deposited within the east sides of burial mounds were groups of fine painted ceramics, many modeled as human, animal, or plant effigies, or more conventionally shaped bowls decorated with stylized carved-stamp impressions, Hopewell-like stippling, or incised designs. At the largest of these southeastern towns of the first millennium CE, Kolomoki in Georgia, a mound with four tombs built of logs and stone included bodies that may have been sacrificed to accompany the deceased noble, although alternately it could be that they had died earlier, or in war, and had been interred in the ritual entombment.

Crystal River in northwest Florida is the Middle Woodland site most provocatively interpreted. Two limestone boulders with incised lines, set up on the central plaza near two of its four mounds, might be provincial attempts to copy Maya cities with their hieroglyphic stelae on plazas. Limestone is a soft stone, especially in a humid climate, and the Crystal River boulders are difficult to decipher; in any case, no one thinks they were inscribed with actual Maya glyphs. Across the Gulf of Mexico from the populous Maya

kingdoms with their regular water routes for trade, Crystal River nobles may well have visited those gleaming cities and imitated their layouts. Early in the twentieth century, a wealthy archaeologist working from his private houseboat-laboratory hired laborers to dig out some of the Crystal River mounds, as he did hundreds of other mounds throughout the Southeast and, altogether, about six hundred individuals were disinterred, ranging from complete skeletons through bundles of disarticulated bones to lone skulls. Pipes and quantities of copper artifacts give a Hopewellian look to grave offerings, amplified with unusually valuable ornaments such as earspools covered with silver or meteoric iron, in one example with pearl insets. Crystal River was certainly not a Maya colony, and its two upright boulders in the plaza perhaps were not intended to look like Maya stelae. It was a busy town for about a thousand years, manufacturing its own fine wares and importing and exporting throughout the Southeast, into the Midwest, and quite possibly across the Gulf.

The Middle Woodland period climaxed trends in population growth and increasing societal complexity. Trans-America routes brought beautiful manufactures, sophisticated decorative styles, and exotic materials to an aristocratic class symbolized (as in Europe) by feared predatory animals—hawks (as in Europe, eagles), pumas/lions, and bears. As in Europe during its Bronze and Iron Ages and up to the Roman conquests, nobles were interred in log tombs covered with earth as high as two- or three-story buildings, accompanied by ceramic serving vessels, jewelry, expensive metal ornaments, and sometimes sacrificed retainers or slaves. In Europe one would have heard trumpets, in America, the music of panpipes. Similar marks of social ranking could be seen in Latin America, Asia, Africa, and Pacific islands, raised to a stupendous scale around the Mediterranean, in southern Asia and China, Mexico, and Peru. Hopewell geometric embankments remain unique, embodying mathematical knowledge as no other civilization envisaged.

Research Puzzles

The dominant question in Middle Woodland studies is, for what purpose were the huge Ohio geometric earthworks built? A related question is, what social purpose did they serve? (Their builders' purpose may have involved ideas of cosmology and supernatural power, while the actual effect of the constructions, in human social terms, may have been to ally and integrate communities.) It is curious to note that in Iron Age Europe, first millennium BCE, similar log tombs under earthen mounds were built for aristocrats, similarly accoutered with fine ceramic vessels and valuable ornaments evidencing long-distance trade. In Classical Greece at this time, geometry was a major intellectual interest, with Pythagoras and his followers investing mystical meanings to geometric figures—but no one in Europe built huge earthen embankments of precise geometric forms. Most archaeologists assume that the parallels between Iron Age Europe and eastern North America represent

a tendency for societies of similar population densities in subsistence-agricultural economies to mark aristocrats' status with prominent tombs and expensive grave offerings, and in similar temperate forested regions, to build the tombs of logs covered with earth. It doesn't seem possible to *prove* that this is a universal human tendency (we would need many more cases to indicate it happened regularly), nor is there any brute evidence that Europeans or Americans visited one another across the Atlantic in the first millennium BCE. The possibility of trans-Atlantic visits cannot be denied; neither can the premise that societies comparable in density, economics, and environment would be likely to build similar tombs for aristocrats. Either way, the Ohio Hopewell geometric earthworks remain unique, the conscious purpose of their builders and their societal effect unknown.

7 The West Coast

The west coast of North America is a segment of the Pacific Rim. Its history reflects its connections to Asia, connections not yet well charted but evidenced by such items as iron knives used for many centuries before European contacts. Classic Northwest Coast cultures are primarily in British Columbia but extend into southeast Alaska and into the states of Washington and Oregon. Most of coastal Alaska, and the Aleutians, have been occupied by communities hunting sea mammals and fishing with sophisticated technology, while interior Alaskan nations depend on land hunting and stream fishing in an environment that can support only very low population densities. In contrast, California had one of the highest population densities in aboriginal America, supported by rich marine resources coupled with land game, nut orchards, and fields of sown indigenous seed grasses. Great as the differences are, trade linked region to region, and the coastal and Western Cordillera mountain chains limited contacts or movements eastward into the heart of the continent.

Chapter 1 discussed the argument for migrations into North America from northeastern Asia along the coastal plains of the Late Pleistocene. This scenario replaces a simpler picture of people trekking eastward across Beringia and then fanning out into North America: the mountain chains are older than any humans in America and would have channeled people southward, especially when continental glaciers covered most of Canada. California has representatives of all the principal language families of North America, presumably indicating some families stayed in bountiful California when others in their communities moved on. Alternatively, people could have been moving westward once America was populated, and found the ocean blocked further migration, inducing them to settle. Alaska, in contrast, seems to have received later migrations out of northeast Asia, both the coast-adapted Inuit whose eastward expansion through the Arctic eventually brought them into Greenland about the same time Norse from Scandinavia were colonizing there, and the Dené, who now fill inland Alaska and western Canada.

This chapter describes these contrasting regions, looking first at California, then at the Northwest Coast from Oregon to southeastern Alaska. The chapter will follow interpretations of these histories at odds with a position that dominated anthropology textbooks, claiming that West Coast societies

were small, egalitarian groups living from wild resources. The anomaly that West Coast population densities were among the highest on the continent, whereas wild resources normally support only relatively low human densities, was explained away by assuming the resources were exceptionally bountiful.

It may sound facetious, but the evaluation of West Coast societies seems to have been based on a nineteenth-century scale that the degree of civilization is gauged by the amount of clothing—nineteenth-century European modes, with multiple layers leaving only face and hands exposed, were equated with the apex of evolution; "naked savages" were the lowest. Californians enjoyed a climate encouraging wearing next to nothing, the equivalent of today's bikinis, and Northwest Coast people generally coped with their mild drizzle by wearing rain capes but not much else. Ergo, West Coast peoples were "naked savages." Alaskans, of course, were well covered with carefully tailored clothing, but because most of it was made from animal skins, it could be ranked lower than woven-fabric clothes. Biblical accounts starting history with a naked Adam and Eve, then a skin-clad Esau too stupid to understand his more sophisticated brother wearing woven fabric, were taken as the revealed model for human development.

By the 1980s, ethnohistorians had compiled observations by Europeans, including Russians extending their empire along the Pacific Rim, and oral histories from First Nations, and archaeologists were discovering remains that were testimony to societies with class structure, professional artists and traders, organized warfare, and other traits associated with civilizations. French anthropologist Claude Lévi-Strauss, who had studied Northwest Coast societies through the massive ethnographies compiled by Franz Boas and his Kwakiutl-affiliated collaborator George Hunt, broke through the nineteenth-century model of savages by comparing these societies to the medieval French. Lévi-Strauss was struck by the use of the term "house" in both cultures to designate a noble family, its manor and lands, and its serfs or tenant families. He realized that the physical house, the French manor or the Northwest Coast huge timber lineage house, was the metaphor for class-structured, resource-controlling social groups. This view of aristocrat-managed feudal societies fits the data for technologies for producing quantities of food and goods similar to commercial fishing and resource management.

Canadian courts have been confronted with territorial claims by British Columbia First Nations arguing against the nineteenth-century imperial model picturing them as naked savages. The tenacity of that pernicious model is worth pondering. In *Delgamuukw v. The Queen*, 1991, Chief Justice Allan McEachern, presiding, declared that the Gitksan and Wet'suwet'en nations petitioning the court for restoration of homeland territories should not be granted these lands because they were no longer

> living off the land in pristine wilderness . . . a remote and virtually inaccessible territory . . . being of a culture . . . where everyone looked after himself or perished. . . . The plaintiffs' ancestors had no written language,

> no horses or wheeled vehicles, slavery and starvation was not uncommon, and there is no doubt, to quote Hobbs [*sic*], that aboriginal life in the territory was, at best, "nasty, brutish and short."
>
> (Ridington 1992:212–213, 216)

Quite literally Eurocentric—the Gitksan and Wet'suwet'en never considered their territories to be "remote" or "inaccessible"—McEachern wrote that "Nearly every word of testimony, given by expert and lay witnesses, has both a factual and cultural perspective" (Ridington 1992:210–211), and then dismissed statements on the plaintiffs' territorial and societal organization as "cultural," not "factual." He stated that "in the absence of any written history, wheeled vehicles, or beasts of burden," the Gitksan and Wet'suwet'en "fall within a much lower, even primitive order" (Ridington 1992:213).

Such was the opinion of nineteenth-century U.S. immigrants to California, some of whom enjoyed a Sunday sport of shooting Indians. Beginning with eighteenth-century enslavement of Indians to support Spanish garrisons, abetted by missionaries forcing the people to live in crowded barracks rife with disease, then the nineteenth-century wanton slaughter and continuing enslavement for immigrants' enterprises, the population of California indigenous nations fell drastically, and their societies were reduced to remnant hamlets. Ethnography in the early twentieth century failed to take fully into account these historical diminutions of population and territories, instead describing California nations as "tribelets" subsisting on wild resources. Land claims filed by many of these remnant nations in the second half of the twentieth century amassed much data indicating indigenous agriculture and land management, organized fisheries, and established trade using shell monies. Prehistoric California, glimpsed by Francis Drake in 1579, resembled the present populous, busy state far more than Alfred Kroeber and other anthropologists realized when they interviewed survivors living on the margins of the rich valleys taken from their forebears.

California

Evidence for human occupations in California during the Terminal Pleistocene and early Holocene is infrequently discovered, no doubt due to sea-level rise in the Holocene and floodplain deposits deeply burying valley sites. As in the rest of the continent, a combination of millennia of population growth plus sites both more numerous, somewhat larger, and less likely to be hidden under coastal waters or deep soil results in more archaeological knowledge for the Late Archaic, c. 4000–2000 BCE, and subsequent periods. Indications that the basic subsistence economy common in California was already utilized in the Middle Archaic, c. 6000–4000 BCE, come from sites in the Santa Clara Valley south of San Francisco, where metates and manos (slab rock base and handheld stone grinder milling sets) were found. These durable artifacts are used to grind the seeds of grasslike native grains as well

as, eventually, maize. Direct evidence of fish did not appear, but a shell bead and a stone that might be a net weight suggest use of aquatic resources.

Late Archaic societies in central California, like those in the Eastern Woodlands, built modest burial mounds. Graves usually include artifacts for each corpse, the bodies themselves laid with heads to the west. Many corpses wore shell necklaces made from the small marine snail *Olivella* by removing the closed end or by turning flat pieces into squares or disks, shapes used for abalone-shell ornaments as well. Whether measured strings of these shell beads served as money, as they did historically in California (like wampum shell beads in the East), cannot be deduced from the archaeological context. Chipped stone javelin and spear points and knife blades were common, in one grave with a bone hook remaining from the wooden spear thrower (atlatl) originally placed with the javelins. Antler points for trident fish spears, along with bone fishhooks and bones from the prey, sturgeon and salmon down to small fish, attest river exploitation complementing land game. Metates and manos for grinding seeds, stone mortars with pestles for crushing acorns, and twined baskets rounded out the subsistence toolkits.

Standing out in the California Late Archaic are hundreds of beautifully polished ground stone pendants, termed "charmstones" by local archaeologists. In the Eastern Woodlands, Late Archaic artistry in small ground stone sculptures was expended on weights for atlatls, but in California the objects do not seem suited for use with atlatls, or any other discernible practical purpose. Nearly all the charmstones were perforated at one end, and a few still bear a bit of asphaltum with the impression of string that suggests they were suspended. They don't seem to have been pendants on necklaces, for which they would be rather large. Stones selected for the objects include alabaster, serpentine, steatite, and diorite, and some have small square shell beads inlaid on one face. Shapes are abstract (at least to our eyes), trapezoids, ovals, or regular or elongated diamonds. The charmstones don't divulge their purpose, but they do tell us that by the Late Archaic, California settlements supported artisans with the time and experience to create nonutilitarian objects out of beautiful stones. We can guess that other artisans worked in perishable materials, particularly basketry. These peoples' lives were certainly not "nasty, brutish, and short . . . where everyone looked after himself or perished."

During the second millennium BCE, with sea level stabilized, California societies increased in population and more intensively exploited regional resources, differentiating the coast from the inland Central Valley and the Sierra. Present-day California, the state, includes desert in its southeast, but this desert is better viewed as part of the Southwest and will be described in Chapter 10. From the point of view of archaeologists, the principal geographical regions had separate populations; their apparent distinctive material cultures, however, may reflect toolkits for different resources rather than ethnic distinctions. Trade occurred across regions, and individuals, families, or even villages moved to harvest seasonal products. California, with dramatic contrasts in environments as close as two sides of a narrow valley—one side

dry, with chaparral, the other side shaded and filled with trees—is a good example of the complementary views obtained from history and archaeology the latter exhibiting material culture while the former tells of linguistic and political divisions.

Linguists suggest the indigenous language stocks in California may have become established in their historic homelands around four thousand years ago, when sea level and climates similar to today stabilized. A hypothesis derived from a combination of linguistic analyses and archaeological data posits the earliest California languages to be Yuki and related Wappo, spoken historically in northwestern California. Next, groups speaking Hokan languages are hypothesized to have entered California, or perhaps to have expanded from Paleoindian societies in California: Hokan includes Pomo, Shasta (both in northern California), Yuman and Diegueño (Kumayaay) on the Southwest–California border, probably Karok (in the north) and Seri (in Baja California), and possibly Chumash (around Santa Barbara, on the south-central coast). These Hokan languages lie around a block of Penutian-stock languages—Wintun, Maidu, Yokuts, and Miwok—in central California, which are presumed to have entered that region from the north and pushed ancestral Hokans out to the peripheries of the state during the third and second millennia BCE. A radical suggestion by a linguist familiar with Ugric languages of Asia notes a number of similarities between Proto-Ugric and Proto-Penutian estimated at roughly two thousand years ago, implying some contact or immigration of Central or Northern Asians into the Bay Area of central California. Any notion of prehistoric trans-Pacific contacts is usually dismissed without consideration by most American archaeologists and linguists, but one respected scholar has found the Ugric-Penutian similarities worth pondering, especially considering that the set of similarities includes a series of words for bows, arrows, and their component parts, while the estimated time, two thousand years ago, correlates with the earliest evidence for bows and arrows in North America. Finally, Uto-Aztecan is represented in southern California by Tubatulabal, Cahuilla, and Luiseño, presumably moving into the state from the Southwest around two thousand years ago, and Athabascan stock is represented in northernmost California by Hupa and Tolowa, probably coming into the Oregon border region about the beginning of the second millennium CE. Two languages also in northernmost California, Yurok and Wiyot, are distantly related to the great band of Algonkian languages in Canada and the northern half of the United States from the Rockies to the Atlantic. Scenarios for this finding range from supposing ancestral Algonkians came down the Pacific coast from Asia as far as northern California and then moved eastward across the continent, dropping member groups in place over many centuries, to supposing the opposite, Algonkians moving westward from the Great Lakes with the Rockies a barrier except for the vanguard Yurok and Wiyot. A middle-of-the-road scenario (literally) sees the Algonkian homeland, at least after Paleoindian times, in the Plateau, the Yurok and Wiyot migrating west, and numbers of

other Algonkians expanding eastward, reaching the Atlantic coasts about two thousand years ago. Overall, the intriguing fact about aboriginal California is that it was home to the greatest diversity of languages in any American region, these languages representing every one of the principal language stocks of North America.

Regional Differentiation in California

California was never isolated from the rest of America, but its people did not adopt the maize-based agriculture developed in Mexico and spread from there to the Southwest and Eastern North America. Careful reading of historic descriptions reveals that southern Californians knew maize and would plant it on higher plots as a fallback crop in case their own indigenous grains failed to sprout in the valleys. European explorers commented on the valleys' abundant "grasses" yielding quantities of edible seeds, without realizing that the Indians sowed the seeds on fired-over valley bottoms, not requiring tillage. Westerners also noticed that the acorn oaks so important to most California Indians tended to grow in regular rows near villages, without realizing that they had been planted as orchards. Prickly pear cacti were planted in circles around southern villages, producing delicious fruit and acting as a fence protecting the village from surprise raids. Deer were kept near and numerous by firing hillsides to encourage browsing: the replacement of Indian villages by Euroamerican ranches and settlements resulted in immense areas, no longer fired and sown, reverting to dense chaparral or scrub, not to mention lakes turned into barren flats when their feeder streams were diverted into urban reservoirs.

California societies thus exemplify political economies very different from the Eurasian plow-agriculture/herded-livestock model. Generally speaking, North American Indian societies relied on diversification rather than intensive monocropping for economic stability. Nature was collaborated with instead of conquered, not from noble-savage spirituality but from intelligent calculations of risk and labor costs. Diversification spread risk broadly, and spread and moved families around the range of resources, increasing the value of autonomous decision-making; the economy couldn't use serfs. American Indians seemed, to European observers, to embody freedom. Leaders needed to win respect; they could not dictatorially coerce commoners. Particularly in California and the Northwest Coast where native plants and animals were managed, not replaced with cornfields, Europeans thought they were looking at unfettered people in a bounteous wilderness, the opposite of English philosopher Thomas Hobbes's conviction that only a policed society could be tolerable. Western indigenous Americans' ways of life don't fit common European assumptions about work and politics, although the underlying rationality of indigenous economies is clear enough.

Between the idealized innocently noble savage and the damned nasty, brutish, and short-lived aborigine projected alike by Europeans lay the real

indigenous Californians. They recognized social classes, from intermarrying aristocratic lineages and family lines of specialists in doctoring, crafts, hunting, or plant propagation and use; through commoner families who performed most of the subsistence tasks; to captives pressed into drudge work; and, finally, ne'er-do-well beggars. In the first millennium CE, villages of several hundred people were numerous, each with a central larger house serving the community for gatherings and men's workshop space. Homes and community halls in central California were usually built over excavated basins to enhance insulation quality, and these pithouses were supplemented with aboveground thatched granaries, open-sided sun shelters (*ramadas*), small saunas (sweat houses), and small houses that women occupied when menstruating, a time when they were relieved of daily chores and avoided men's gear. Elsewhere in California, families built aboveground homes of thatch, tule reeds, or bark sheets over rounded sapling frames: because these left little trace in the ground, archaeologists have difficulty estimating community size compared to the evidence remaining from villages of pithouses. The substantial villages had satellite camps where people harvested game, fish, plants not found near the villages or raw materials such as the obsidian quarried in several localities in north-central California.

Nut meal was the basic staple for most of California. Acorns and buckeyes were most frequently used, two high-protein nuts requiring laborious processing to leach out a poisonous acid. These nuts had to be crushed, dried, soaked, and rinsed several times, and finally dried for storage. The meal was cooked into porridge or baked into griddle cakes. Stone mortars and pestles are ubiquitous signs of nut processing in California, sometimes mortars pecked out of bedrock outcrops near oak groves, more often made from freestanding stones. Flat metate-type milling stones and manos are less numerous, indicating that hard seeds had become a lesser staple since the Archaic period. This shift from reliance on seeds to reliance on acorns signifies more sedentary, more territorial societies in which women labored at home to a greater degree, compared to men. Women were highly skilled in basketry, weaving many types and styles for collecting, storing, and serving foodstuffs; storing valuables; and wearing—they wore basketry hats exhibiting distinctive designs emblematic of their nations. Among the sets of household baskets might be an open-bottomed basket like a hopper, set over a stone mortar so that leached acorn meal would flow down into the mortar for further milling. Fine baskets were (and are yet) an art form deeply respected by California Indian men as well as among women. California is one of the few regions of America lacking indigenous pottery, a lack due to a preference for basketry even for carrying water and cooking (baskets were tightly woven and, to hold water, glazed inside with natural tar). Neighbors in the Southwest had pottery, and pots were occasionally traded from there into California but, like maize, the originally Mexican craft failed to attract Californians.

Figure 7.1 Pomo woman beating seeds into harvesting basket. She is wearing contemporary dress (any photograph is of course nineteenth century or later) but her technology and the quality of basketwork is traditional.

Credit: Library of Congress

Marine resources gave coastal Californians the stimulus to work out particularly productive technologies. In the north, salmon runs were captured and processed in assembly-line fashion, men on board catwalks over rapids, tossing up the fish with dip nets, women gutting, fileting, and hanging the

slices to dry on racks. In estuaries such as San Francisco Bay and the Central Valley rivers draining into it, fish dams and traps caught large quantities, and an abundance of shellfish, from abalone to clams, oysters, and mussels, led to discarded piles of shells that look like small hills. Sea lions and seals were hunted from boats, large dugouts in the north and plank canoes in the Channel Islands area (Santa Barbara): in both areas, the boat owner was a well-to-do aristocrat, his crew recruited from the best paddlers and harpooners he could engage.

Inland, deer, smaller game, and birds were caught with traps and nets, as well as thrown weapons. Extensive marshes in the river deltas and Central Valley brought millions of waterfowl, in addition to maintaining reed beds furnishing basketry materials. Foothills of the Coast Ranges and the Sierra Nevada were ideal for deer. High valleys were valued in summer; Yosemite was the most popular high valley in prehistory, as it is today. Compared to San Francisco Bay and its delta, and to the Channel Islands coast region, inland populations were less densely settled although still populous. Historic decimation of California Indians was dramatic, with epidemic diseases spreading out into free communities from the insalubrious mission barracks and garrisons, and probably along trade routes, long before any Europeans or Euroamericans could begin general censuses. Descriptions of gold rush–era Indians therefore are already descriptions of remnants of larger nations struggling to maintain the social organizations they once had elaborated.

Warfare is evidenced for the last three thousand years, through burials of skeletons with fractures and deep wounds unlikely to have happened accidentally. Skeletons also point to periodic food shortages, shown in interruptions of children's growth (which could be illness, but when common in skeletons is probably periodic malnutrition) and in an apparent greater number of deaths in winter than in other seasons—not that the people starved to death, but poor nutrition left them vulnerable to other causes of death. The bow and arrow came into California in the first millennium CE, facilitating deer hunting but escalating mortality in war raids because villages could be attacked from a greater distance than with spears and javelins. At the same time, trade seems to have been increasing, to the point that uniform shell beads suitable for money were manufactured in quantities. Trade moved obsidian for cutting tools and weapon heads, several other types of stone, shells and manufactured shell and stone beads, ornamental feathers, yew-wood bows from the mountains, tar (an adhesive and caulk), salt, and foods. A single village could have brought in items coming from the Oregon border, the northern interior, the central coast, the Central Valley, the Sierras, and the Southwest. The early historic pattern of semiautonomous villages with recognized resource territories and a considerable degree of labor specialization managed by aristocrats aided by assistants was in place at least by the end of the first millennium CE.

Droughts in California are not a new phenomenon. During the Medieval Warm Period, 800–1300 CE, severe droughts occurred. Cemeteries from this period, particularly the last couple centuries of it, show more persons

who had been wounded by violence, presumably in warfare over resources diminished by droughts. There was also more trade with the Southwest and within California, for which the Chumash of southern California were manufacturing strings of shell money at an increased rate. An apparent rise in population, inferred archaeologically from larger villages and trading, may have been instead more organization to regulate use of resources and protection from raids.

Northwest Coast

North of California, American First Nations were less catastrophically affected by European/Euroamerican invasions. Spain's northernmost garrisoned missions were established, 1769–1823, from present Mexico to Sonoma on the northern edge of the San Francisco Bay area. These decimated the coastal populations herded into the confines of the garrisons, and diseases abetted by malnutrition took thousands of inland people taking in refugees from the missions and cut off from marine and Coast Ranges resources. Missions' sheep, goats, and bushels of seed wheat and oats carried in weed seeds that invaded valleys and foothills, replacing the indigenous seed grasses depended upon by the Indian communities. Groves of acorn oaks were cut down, or Indian access to them prohibited by ranchers homesteading the land. After Mexico gained its independence from Spain in 1821, the province of California was so remote from the Central Mexican seat of government that Chartkoff and Chartkoff remark in their history of Indian California that less money was used than before Spanish colonization when indigenous shell monies were in circulation. Beginning in 1839, U.S. emigrants colonized the Central Valley, demolishing Indians' resource bases and enslaving the destitute communities. The 1849 gold rush pulled 150,000 strike-it-rich hopefuls into California, up into river headwaters, swamping even Indian families in the rugged Sierra forests. Survivors in the northern reaches unsuited to colonization or in hamlet "rancherias" of impoverished laborers scattered on the edges of colonizers' ranches and farms were, in the early twentieth century, only an estimated 5 percent of the California population when Drake stopped ashore in 1579.

The west coast from northern California up and around the North Pacific Rim had a quite different postcontact history. The Russian American Company's first American post, on Kodiak Island off southeast Alaska, in 1783, led to establishing Sitka, on the mainland, 1799, and Fort Ross on the Russian River in California, 1812. The Russians relied on indigenous nations to supply post food supplies, stimulating Tlingit around Sitka to raise tons of potatoes and bring in quantities of "mutton" (mountain sheep meat?) and halibut. Siberian and Aleut men pressed into service lived with Indian wives around the Russian posts, producing a generation of Creoles with ties to Indian communities. Russian Orthodox priests evangelized these communities with limited success (mostly in coastal southern Alaska), lacking the

soldier backup that Spanish priests employed, and Russian priests tended to side with Indian converts against Russian exploitation. Canadian and U.S. emigrants moving into Russian America in the mid-nineteenth century found no broad well-watered valleys as in California, but narrow strips of beach backed by steep mountains broken through by swift rivers. Smallpox and other introduced diseases took a heavy toll, leaving some aristocrats holding several noble titles once distributed among related lineages. Puget Sound and the Fraser Delta (around Vancouver) Indians were largely displaced by colonists, but commercial fishing and canning of salmon became sources of income for many indigenous families along the coast. Thanks to continued access to these and marine fish, Northwest Coast nations retained more of their political economies than Californians could.

Salmon and shellfish have been major components of Northwest Coast economies since the seventh millennium BCE. Rising sea level, complicated by occasional earthquakes and volcano eruptions disrupting sections of the coast or upriver zones, destroyed or hid many occupation sites, making the archaeological record sketchy until mid-Holocene stabilization in the fifth to fourth millennia BCE. After 3000 BCE, large middens of discarded shells, mostly clams and mussels, have been preserved. In southeast Alaska, where the earliest dated excavated shell midden was in use around 6500 BCE, salmon and halibut, sea lions and seals, deer or caribou, beaver, and rabbits were other components of the inhabitants' economy; presumably they collected berries, tubers, and other edible plants, but these were not preserved in the midden. On northeastern Vancouver Island, bones of dolphins and porpoises predominated in a Late Archaic site, and bones of the huge bluefin tuna occur in many Vancouver Island sites.

A considerable portion of the Northwest Coast has inlets, bays, and islands that create marked local differences in resources. Communities facing the open ocean were oriented toward deep-sea animals, both sea mammals and fish, and might send canoes as much as twenty-five miles (forty kilometers) out to sea to fish for halibut on offshore banks. Communities on the inland passage, sheltered from the open ocean by islands, sought the fish frequenting their waters, which include the bluefin tuna. These communities were better positioned to harvest salmon running up rivers to spawn. Because communities claimed rights to harvest specific resources at specific stations, many confederated into alliances for trading localized products or permitting seasonal use of localities. This practice goes back at least two millennia, as evidenced by relatively large, permanent villages at favored harbors with both "inside" (the Inland Passage) and "outside" (on the open ocean) products found in each village. Archaeological data also indicate that war for territorial conquest was an alternative to confederation, intensifying in the last millennium CE.

Cutting tools and weapons in Alaska and the northern coast at this time were created out of tiny razor-sharp stone blades glued into slots along the sides or end of wooden or bone handles. Communities in southern British Columbia and the Northwestern United States preferred leaf-shaped

knife blades and weapon points chipped from single large flakes. "Microblades" were very common in northern Asia in the Late Pleistocene–Early Holocene, and leaf-shaped chipped blades were common in most of the rest of America: the differences in technology must reflect cultural differences, given that each type dominates in a large geographical area. The latest immigrants into the Northwest, probably first millennium CE, were Athabascan speakers—Tlingit, Eyak, interior Dené, and perhaps Haida. The central and southern Northwest Coast, respectively, already held ancestors of the region's Wakashan speakers—Nootka, Kwakiutl, and Makah—and of Salish-speakers—Bella Coola, Fraser Delta and Puget Sound nations, and Tillamook. Tsimshian, in northern British Columbia, and Chinook on the lower Columbia River and Oregon coast are considered to belong to the Penutian stock, as are most Oregon languages and Sahaptin and Nez Percé[1] in eastern Washington–Idaho. California Penutians may be descended from people who moved down from the Northwest Coast into what had been Hokan territories. DNA studies show that prior to the stabilization of sea level around 3000 BCE there were people whose genomes are no longer represented among later and contemporary Northwest Coast populations sampled. This could just be a sampling deficiency, which would change with many more people and skeletons analyzed, or it might indicate that stabilization of sea level brought in new people to the Northwest Coast, whose way of life became common in the region for the following five millennia.

Populations had become substantial by the second millennium BCE, more intensively working the Northwest Coast's resources. Large weirs, some with several thousand stakes, were built to trap schools of fish, including herring; one archaeologist pointed out that seals would follow herring, so herring traps would attract seals to be slaughtered in addition to providing quantities of fish. Another small schooling fish, a smelt called eulachon, was caught and no doubt processed as it was in historic times to render its oil. Historically, a saucer of eulachon oil accompanied every meal for dipping dried fish and meat and mixing into nearly every dish, much like olive oil in Mediterranean cuisine. Casks of eulachon oil were a principal Nuu-chah-nulth export, as were the narrow rectangular shells of dentalium, a mollusk found only in deep offshore beds mostly near Vancouver Island. Nuu-chah-nulth invented a kind of broom or rake with extension poles to entangle the shellfish and pull them up to the boat, after which they were boiled and the shells polished and strung—during a 1793–1794 exploring voyage, an American captain bought strings of dentalium totaling three hundred meters (or yards) from Nuu-chah-nulth to use as money. Dentalium appear in archaeological sites in the third millennium BCE, becoming common in the first millennium BCE *except* in Nuu-chah-nulth territory on the west (outer) coast of Vancouver Island, their probable principal source! The reason for this apparent absence seems to be archaeological, in that excavations there have conscientiously avoided disturbing burials, likely to have been bedecked with dentalium, the archaeologists working instead in trash middens.

Rectangular planked timber houses appear in the second millennium BCE, replacing earlier round pithouses; rectangular houses would have more space to hang dried fish filets under the roofs, preserving them in the smoke from central hearths, and room in the corners to stack boxes and baskets of other foods for the winter. It is reasonable to suppose that the houses held recognized lineages, as in historic times, and the increase in food production involved coordinating teams of residents engaged in different procurement tasks according to their strengths—the markedly larger shell middens may mean that now children and elderly remained in beachfront villages, making themselves useful collecting shellfish, while more able-bodied adults were out fishing, hunting, or cultivating beds of camas, wapato ("Indian potato," an indigenous root), or edible clover. Among Late Prehistoric houses were very large structures with broad pits excavated to create two or even three tiers of living and storage space, the lineage chief family's wealth boxed in the back of the house, commoner families with their tools along the sides, and slaves sleeping near the front. Slavery on the Northwest Coast, unlike in the rest of North America outside Mesoamerica, was real chattel slavery, with slaves' children kept as slaves, too, and killing slaves at noble persons' funerals was a gesture ostentatiously showing off the family's great wealth.

Figure 7.2 Kwakwaka'wakw (Kwakiutl) village of Xwamdasbe' on Hope Island, Northwest Coast (British Columbia), 1881.

Credit: Courtesy of the Granger NYC

Planked houses show that Northwest Coast people had mastered the craft of splitting cedar logs, and coffins in one site reveal skill in the art of bending planks into boxes, in this instance large ones that could become coffins. Huge canoes carved from the massive cedars of the Northwest Coast probably were being made. Adzes made of nephrite, a very hard stone like jade, testify not only to such woodworking, but also to high skill and time to specialize in working stone. In the first millennium BCE, copper was hammered into sheets and headbands. Sculpture had appeared, in stone, in the second millennium BCE, and in wood in the first millennium BCE (preservation would be a factor here, the handsome carved wooden handle that is the earliest known example having the luck of being left in a waterlogged site). Antler and bone, including whalebone that could have been salvaged from beached whales but may well have been hunted off Vancouver Island and the Olympic Peninsula, were also carved into handles and clubs. Weaving tools, often decorated, indicate this craft was practiced, whether from mountain goat hair or the fine hair of specially bred dogs, used in Chilkat blankets, is not known. Stone, bone, copper, antler, and wood objects all conform to the canons of classic Northwest Coast art, one of the great art styles of human history, though development of the style, with its regional variants, can be discerned, as can differences in the skill and talent of artists. Some may already have been professionals commissioned and supported by lineage chiefs.

War was common along the northern coast, evidenced by a number of skeletons killed or once injured by blows of a club or dagger. To protect themselves, Northwest Coast soldiers wore wooden slat armor over thick quilted jackets, an Asian style of armor, and wooden helmets. War seems to have been less common in the southern coast. Then, in the later first millennium CE, warfare led to fortified retreats in the north, where villagers took refuge in castle-like walled compounds on defensible ridges, while attackers might mount a siege to starve them out. Secret tunnels below the fortifications gave the besieged a possibility of escape. Historically, some fortresses guarded overland trading trails or boat passages, very likely the situation in Late Prehistoric times as well. Controlling trade routes brought goods and income from tariffs levied on cargoes permitted to continue on the route. An iron adz blade in use during the fifteenth century CE, long before documented European contacts, indicates North Pacific Rim trade extending east from northern Asia. That there was a long chain of trading contacts, not that Northwest Coast iron was salvaged from shipwrecked Asian boats, is indicated by the skill of Northwest Coast smiths in working iron into the variety of tools they wanted. Daggers they made were greatly admired by the first Europeans to visit them, including Captain Cook.

The village at Ozette, in Makah territory at the northwestern tip of Washington State, buried by a landslide about 1700 CE (before European contact), had a wealthy lineage's house and ordinary houses, the latter with more scraps and worn items on the floors, the wealthy house less littered. This

house was closer to the beach, the poorer houses in a back row behind it. The owner or lineage chief in the larger house probably owned a seagoing boat, as gear for sea-mammal hunting was stored in this house but not found in the others, and this house, not the others, had whale meat—Makah and Nuu-chah-nulth historically were the only Northwest Coast nations that actively pursued whales. Makah traded whale oil and blubber to other nations, evidenced at Ozette by the quantity of whalebone indicating processing of the animals beyond what one village would have consumed.

Ozette did not have burial mounds, but a millennium earlier mounds were constructed over some burials in the southern sectors of the Northwest Coast. The largest excavated one, on the lower Fraser River in southern British Columbia, is eight feet (nearly three meters) high, and covered a stone cairn over a burial of a man with perforated copper disks and abalone shell pendants near his face, and seven thousand dentalium shell beads, the type used as money historically. This and other mounds were on a ridge behind a village of eighteen houses along the river. The burial mounds, like the differences in house sizes and furnishings, demonstrate social classes have been characteristic of Northwest Coast societies for at least two thousand years, quite possibly longer.

Research Puzzles

Concern for sustainable resource management, less dependent on expensive petrochemicals, helped revise estimation of indigenous West Coast nations' development. Archaeologists are challenged not only by stereotypes based on European images and the sorry condition of survivors of massacres and dispossession, but also by Californians' considerable use of perishable materials. What's left for archaeologists may resemble a simple material culture. Northwest Coast villages with their large timber houses left more evidence, but in both regions archaeologists who were taught that West Coast First Nations were "foragers" living off the land and runs of spawning fish tend to fill in a research puzzle outlined by that stereotype, rather than read deeply into ethnohistorians' analyses of these nations' sophisticated resource management and political institutions. The basic fact of high population densities poses the significant research puzzle, answered better by extrapolating from ethnohistoric studies than by assuming, as did British Columbia Chief Justice McEachern in 1991, that "no written language, no horses or wheeled vehicles" means primitive people "foraging" like animals.

Another research issue is the origin of the plank-built canoes used by California Chumash and neighboring people. Nowhere else in the Americas, except on the coast of Chile in southern South America, were canoes built up by lashing planks along the sides to give higher freeboard. The Chumash name for this type of boat, *tomol*, appears to be a Polynesian word, not similar to Chumash-language words. Far away down the Pacific coast, the similar boat, but called *dalca* by native people there, was built and used in the region

where archaeologists excavated a pre-Columbian site dated to the 1300s CE, containing bones of at least five chickens of the kind raised by Polynesians, not native to the Americas. Artifacts from the area include some that look Polynesian. Chumash country is at the point that the cross-Pacific Japanese Current (Kuroshio Current) reaches the southern California coast, and the site in Chile is, similarly, where cross-Pacific currents and winds would bring a Polynesian voyaging ship to a landfall. The history of Polynesian explorations eastward across the entire Pacific, especially their last efforts from about 1000 CE to the 1400s, make it highly probable that some of their ships did find America, but encountering well-settled lands, they would not have attempted colonization. Some trade and temporary stays, however, would be very likely.

Bibliographical Notes

These volumes of the Smithsonian Institution's (Washington, DC) *Handbook of North American Indians* series supply extensive detailed material on the West: volume 5, *Arctic*, edited by David Damas, published in 1984; volume 6, *Subarctic*, edited by June Helm, published in 1981; volume 7, *Northwest Coast*, edited by Wayne Suttles, published in 1990; and volume 8, *California*, edited by Robert F. Heizer, published in 1978. Volume 17, *Languages*, edited by Ives Goddard, published in 1996, includes an extended discussion of language histories and archaeological corollaries by Michael K. Foster, pp. 64–110. The larger portion of each encyclopedic volume is given to ethnography and ethnohistory, with the precontact history summarized in a few of many chapters; the years required to prepare volumes with so many contributors meant that most articles were written well before the publication date and could not incorporate late-breaking new data.

For the Northwest Coast, *Peoples of the Northwest Coast: Their Archaeology and Prehistory* by Kenneth M. Ames and Herbert D. G. Maschner (London, 1999), and *Since the Time of the Transformers: The Ancient Heritage of the Nuu-chah-nulth, Ditidaht, and Makah*, by Alan D. McMillan (Vancouver, BC, 1999), and for California, Michael Moratto's *California Archaeology* (Orlando, FL, 1984) and Joseph L. and Kerry K. Chartkoff's *The Archaeology of California* (Stanford, CA, 1984) are standard overview volumes.

From Edward Sapir, *Wishram Texts*, pp. 201–5

The Wishram were dwelling at Wa'q!Emap; some of them were dwelling at Wa'q!Emap, some of them were dwelling at the village Nixlu'idix. Now and then a duck flew over their heads. And then they heard it, it made a noise: shu'lulululu [very high-pitched]. Now then one man said: "It made the noise with its beak." One said: "It made the noise with its wings." So then they got to arguing. And then they seized their arrows. Then indeed they fought, both parties killed each other. They fought and fought (until) they ceased.

And then [whenever] any one fished with dip-net, thus two men provided with quivers remained near their friend, kept watch over him; while he, the dip-net fisherman, caught salmon, his two friends staid near him. Three years passed by and there they dwelt; there they fought [until] at last they ceased. And then [one party of] the Wishram said: "Being in some way disgraced, let us now go off somewheres; we have become disgraced before our friends. Now let us go to look for (another) country." So then they took cedar planks and then went off. Way yonder they went, among the Wallawalla. They went on past AcnE'm. They went on past NuLla'-ik. They went straight on past NuLla'nuLla. They went straight on past Sts!E'mtsi. They went straight on past Wisu'm. They went straight on past Ta'malan. They went straight on past Txa'ianuna. Straight on they went to a small river. They went straight on to Pô'uwankiut. They went straight on past Xit!a'i. They went straight on past a dried-up small river. They went straight on past SA'tAs. They went straight on past I!Lu'mEni. They went straight on to Palã'xi. [Note: the migration was east for a short distance along the Columbia River, then north across the divide between the Columbia and the Yakima, and then along the Yakima to the Wenatchee.]

Now there they remained. And then they caught Chinook salmon, blueback salmon, eels, and suckers; they ate them. And then they said: "Behold! the country is small. Now let us go off yonder, let us look for another country." They went straight on to Patixkwi'ut; now today white people call it "The Gap." There they remained. Only at night do people catch salmon there, they fish with dip nets. The name of that same country is IxElExtgi'dix. And again they said: "Behold! the country is small." And again they went on, went to seek (another) country. To this day I see where those Wishram used to live long ago. Among the rocks cedar boards are standing. That is how I know that they took cedar boards with them, so that I think they are the cedar boards of them, the Wishram; perhaps some may have died there.

And again they went on, went to look for (another) country. They moved. They thought to themselves: "We will get lots of salmon; far away somewheres there is a good country, and there we will dwell." They went straight on to Wenatchee; there the Wishram arrived. And there they dwelt, dwelt long. And then they said: "Now let us all move." And then again they moved. They took a country for themselves (where there were) lots of salmon and lots of deer. To this day they dwell there and they are just nothing but Wishram.

Given in Wishram by ME'nait (Louis Simpson), 1905, translated by Pete McGuff.

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From Dell Hymes, "In Vain I Tried to Tell You": Essays in Native American Ethnopoetics, pp. 188–9

A long time ago,
maybe fifty years ago,
it attacked them.

They were staying on the Clackamas river,
one fellow climbed a pine tree,
then she saw them.

He pulled his arrows out,
he shot her maybe three or four times:
nothing to her,
she bled through her mouth.

This thing looked like a coyote on the head,
short ears;
teeth like a wild hog's tusks,
long white front claws,
long hind legs,
short front legs.

He *tried* to do everything to her,
then he got afraid:
only two arrows left.

The he took one,
he lit I don't know what,
he put it on this arrow,
then he shot the arrow,
then it started to burn.

Again he did the same with one arrow,
then this (thing) went down into a canyon,
there it burned.

This thing is what they call At'únaqa.
Then it really started to burn.
Then a lot of white men ran up,
they put it out;
the state of Oregon put out a lot of money.

There's nothing of that sort to be seen on our side of the mountains.
Only on the other side could things of that sort be seen.
A long time ago,
maybe as much as fifty or sixty years ago,
this thing was seen.

From Dell Hymes, *"In Vain I Tried to Tell You": Essays in Native American Ethnopoetics*, pp. 188–9 *(continued)*. Told in Wasco by Hiram Smith, 1956, and translated by Mr. Smith.

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Note

1 Contemporary members of most First Nations are urging the use of their own names for their nations, rather than Anglicized versions or foreigners' nicknames such as Nez Percé (French for "pierced nose"). Nootka is now Nuu-chah-nulth; Kwakiutl is Kwakwaka'wakw; Bella Coola is Nuxalk; Tsimshian is now two nations, Nisgha and Gitksan; and Nez Percé is Nimipu. See Kehoe, *North American Indians: A Comprehensive Account*, for detailed lists of the First Nations in each geographical region.

8 Late Woodland, to 1600 CE

Dense deciduous forests covering eastern North America from the Mississippi Valley to the Atlantic seaboard were the backdrop for dozens of Indian nations making a living by long-fallow farming and deer hunting, the two sources of food interdependent in that cornfields fostered browse for deer, drawing them toward settlements. Over and above similarities due to ecologically linked economics, the nations of the Eastern Woodlands traded and traveled extensively, in peace and for war. The Late Woodland period takes these peoples from the decline of Middle Woodland Hopewell, in the fifth century CE, to European invasions intensifying in the seventeenth century. Descriptions of indigenous nations left us by these invaders help archaeologists interpret Late Woodland sites, although it is often surprisingly difficult to identify the sites of historically named towns. This chapter considers northern Midwest, Northeast, and Middle Atlantic regions during the Late Woodland period, the Southeast being covered in the next chapter as Mississippian.

The Northern Regions: Effigy Mounds

A prime enigma in the precontact history of the northern Midwest are the effigy mounds throughout southern Wisconsin, built in the early Late Woodland period, mid-eighth to mid-eleventh centuries CE. Low, not more than six feet (two meters) high, they are earthen sculptures of birds, bears, panthers, lizards, turtles, a few known human effigies, cones, and linear ridges. They lie in clusters, reportedly as many as 174 effigies plus several hundred simple mounds in one site, more usually a dozen or two. Biggest is a bird with outspread wings stretching 624 feet (190 meters), more common are figures twenty to forty feet (six to twelve meters). Most sit on bluffs or terraces overlooking water, the best known high on the Mississippi River bluff near McGregor, Iowa (Effigy Mounds National Monument). Many, but not all, contain burials, few burials have any grave offerings, and no village sites have been directly associated with effigy mound clusters—the people must have lived in small communities, in lightly framed wigwams, raising a little maize and probably indigenous small grains but moving seasonally to resource locations.

To best view the clusters of effigies, one should be in a helicopter and the site cleared of trees, but of course the Late Woodland people couldn't fly

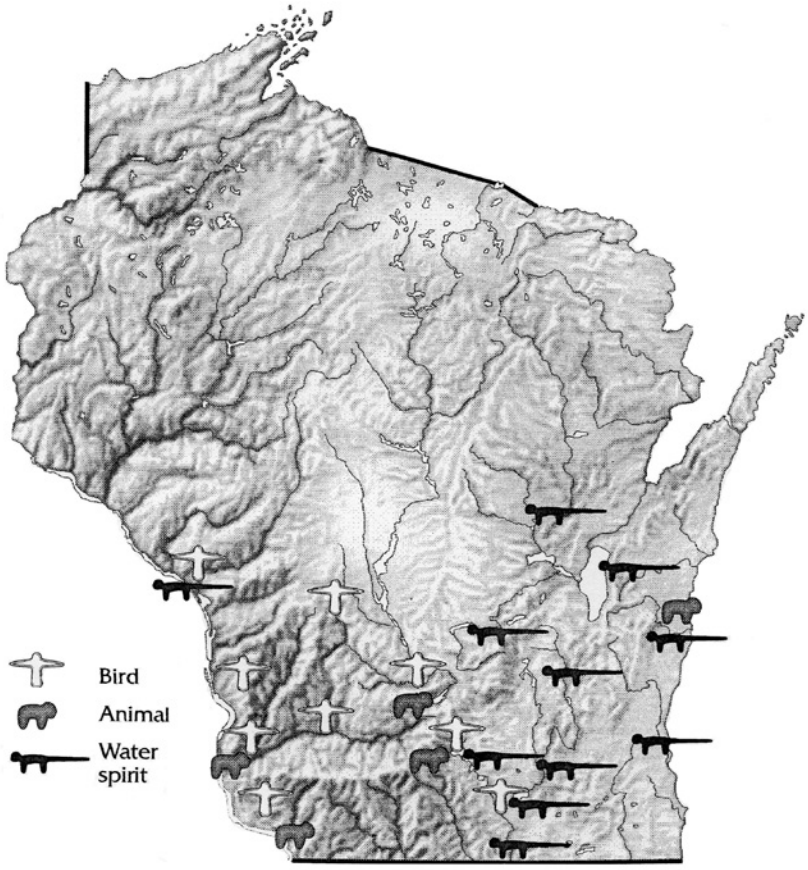


Figure 8.1 Effigy mounds in Wisconsin. Map shows distribution of mound sites, revealing water creatures (legendary Underwater Panther) emerging in the eastern region bordering Lake Michigan, birds principally in the southwest region, and bearlike animals in the central and southwest regions.

Credit: Drawn by archaeologist Robert Birmingham, based on mapping by T.H Lewis, courtesy of Robert Birmingham

above, deepening the mystery of constructions their makers could never see to full advantage. Were the effigies representatives of the totems (symbols) of clans in the community? Ojibwe (Anishinaabeg) and Ho-Chunk who may be Effigy Mounds descendants have clans named after Bear, Turtle, and other animal beings, but why would there sometimes be many duplicates of the same animal, and what would the round and linear mounds represent? Were the animals meant to be constellations, stars mirrored on earth? Again, duplications within sites and the differences between sites render that interpretation dubious. If there is any regularity or pattern, other than clusters of animals and round and linear constructions, it has yet to be discerned.

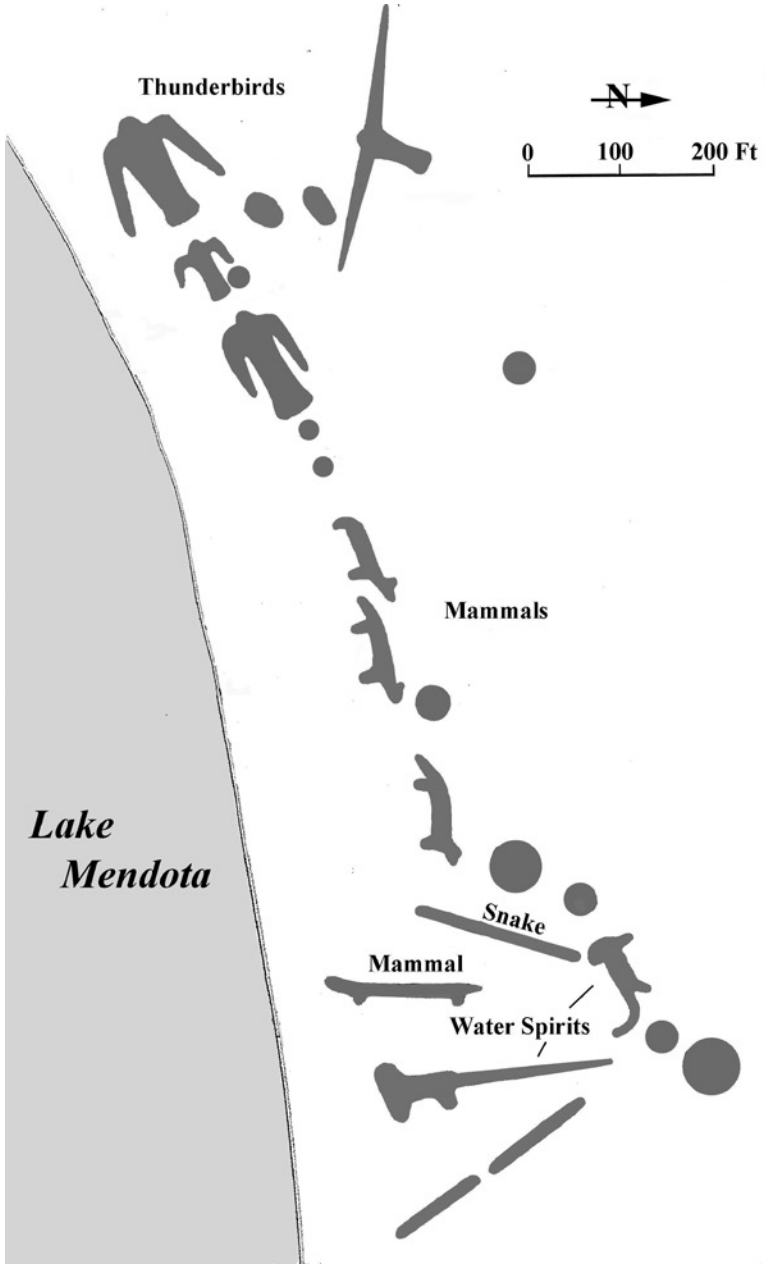


Figure 8.2 Map of an effigy mound site in south-central Wisconsin, showing thunderbirds, animals, snake, water spirits, and conical mounds.

Credit: Drawing by Amelia Janes, Midwest Educational Graphics, based on survey maps by Theodore H. Lewis, map compilations by James P. Scherz, and field data of the State Historical Society of Wisconsin. Courtesy of Robert Birmingham

After Effigy Mounds

Aztalan, the northernmost distinctly Mississippian town, intruded into south-central Wisconsin in the beginning of the eleventh century, about the end of effigy mound constructions. A rectangular Hopewell site lies on the bluff across the stream from Aztalan, and an Underwater Panther effigy mound crawls out of a bog toward the site. Whether Aztalan caused change in the Late Woodland societies of the Rock River region, we cannot state; we do know that Aztalan was well situated for defense, on the bank of a tributary to the Rock and fortified with a stout bastioned palisade. Gardens inside the palisade and extensive maize fields along the floodplain outside the palisade sustained the population. Within the town are trash pits filled with food-processing debris and, in a few, bones of young men butchered like deer. Aztalan's soldiers standing on the bastions may have taunted attackers, "Dogs! Little fawns! We'll shoot you down and drag you in and cut you up for our cooking pots!"

The principal platform mound inside the palisade at Aztalan was built upon a natural ridge, halving the labor cost to achieve the desired height. The other platform mound was constructed in its entirety, as were a line of tall conical mounds coming down the valley wall behind the town. The conical mounds look Hopewellian but don't seem to have been tombs and date later than Hopewell. Elsewhere in Wisconsin, there are Mississippian platform mounds built upon natural ridges; for example, on the Upper Mississippi River at Trempealeau, Wisconsin, a Cahokia shrine overlooking an agricultural village with, as at Aztalan, fine pottery from Cahokia in addition to local manufactures. Whether or not Cahokia ever exercised political control so far north, it certainly had economic outreach.

Northern Midwest Mississippian, or Upper Mississippian (in relation to the river), depended on maize agriculture using labor-intensive ridge-and-furrow fields, but they did not raise platform mounds, contenting themselves with villages rather than ambitious towns. Many sites have quite modest-sized round mounds, in some locations in series of dozens, and generally the mounds contain graves, as modest as the sizes of the mounds. In the earlier phase, tenth through twelfth centuries, homes were either wigwams or rectangular pole-walled structures built in dug-out basins; that is, pithouses. These were no longer constructed beginning in the thirteenth century, wigwams then predominating.

Oneota is the name archaeologists use for the dominant type of northern Midwest agricultural villages: whether they were colonists coming up the Mississippi, Illinois, and Rock Rivers; or local Late Woodland societies taking up intensive maize agriculture with its "sisters," squashes and beans; or both, can't always be deciphered. Shell-tempered, polished pots decorated with the abstract curvilinear designs characteristic of Cahokia's fine ware indicate direct trade with Cahokia and use of its style in ceramics along the Upper Mississippi, while to the east, in the Lake Michigan region, local

styles are seen, with polished shell-temper pots added—those pots are better for boiling maize. Oneota avoided Aztalan, if the absence of Oneota pottery from the town is a clue, but when Aztalan and its parent power Cahokia fell in the thirteenth century, Oneota blossomed, dominating southern Wisconsin and Minnesota and northern Illinois and Iowa until the seventeenth century. From the fourteenth century on, Oneota communities hunted bison, probably on long treks west onto the prairies, as well as deer and smaller game locally; hoes were made of bison scapulae (shoulder blades) rather than the stone hoes employed farther south. Catlinite was first commonly used for pipes by Oneota, the famous red catlinite quarries in southwestern Minnesota a point to visit when trekking to the bison herds available from there westward.

Oneota expanded from the fourteenth century throughout the upper Midwest into Indiana on the east and through Iowa on the west, associated with Midwestern prairies that they, in fact, were instrumental in maintaining through agricultural clearing and regular burning for bison range forage. Historically, this broad region was home to the Chiwere and Dhegiha Siouan-speaking language groups, including Iowa, Oto, Missouri, and Hochungara (Ho-Chunk, formerly called Winnebago) (the Chiwere group), and Omaha, Osage, Ponca, Kansa, and Quapaw (Dhegiha group), all agriculturalists familiar with hunting bison. The pattern may have been initiated along the lower Missouri and its tributaries in the twelfth century, when intensive maize agriculture on ridge-and-furrow fields and compact villages appear, the villages with an abundance of butchering and hide-processing stone blades implying surplus production of dried meat and hides. Occasional Mississippian ceramics and ornaments, such as the carved shell faces reminding Ho-Chunk of their legendary hero He-Who-Wears-Human-Heads-As-Pendants, reached lower Missouri communities, likely in exchange for dried bison meat and hide robes carried down to Cahokia: besides canoes and rafts, Missouri River people stretched bison hides over round willow frames to make "bull boats"; these were rather ungainly looking, but, with their shallow draft, quite serviceable for the Missouri. A string of bull boats tied to a lead boat, the way barges are pulled by a tug, could transport a ton of meat and hides downstream. After Cahokia declined, meat and hides could be brought by boats from Plains hunting grounds to the prairie villages for their own consumption.

Out beyond the prairie borders of the western side of the Mississippi Valley, maize agriculture can only be practiced in valley bottoms, where the water table is close to the surface and fields sheltered from the ever-blowing strong dry Plains wind. From the close of the tenth century, agricultural villages colonized the Missouri trench and lower reaches of its tributaries, first with rectangular Mississippian-style houses, but longer than the squarish houses common around Cahokia, in open villages; then, beginning in the fifteenth century, with some fortified towns of circular sod-covered earth lodges, the historic type, while small open villages continued here and there.

Bison hunting was important to these communities, supplemented with deer, elk, and pronghorn for clothing leather as well as meat (bison hide is too thick to be tailored into clothing).

Because the agricultural towns were stable and on the main river, they attracted trade, exchanging their corn for dried meat and hides produced by grasslands nomadic bison hunters and passing along more expensive items such as catlinite pipes and marine shell beads. Knife River "flint," a translucent brown chalcedony ideal for arrow points and knife blades, was quarried in central North Dakota near the most westerly of the major agricultural towns and would have been a steady incentive for people to come to the North Dakota towns for trade. When French traders reached the Plains in the mid-eighteenth century, they made the Missouri River towns their headquarters, building on the existing trade structure and, in the early nineteenth century, Lewis and Clark and their Corps wintered over in one of these towns, engaging a guide there for the westward journey. Their guide's young concubine, a Shoshone girl captured near the Rockies and sold downriver, came along, with their baby, as every schoolchild knows: Sakajawea. Slaves, especially young women, were a precontact trade item, too.

North Dakota Missouri River towns spoke Siouan languages, Mandan and Hidatsa. Both recount origins to the southeast and migrations upriver to their promised lands. Some Hidatsa bands not only hunted but even overwintered in camps on the upper Missouri into present Montana, coming to be known as the Crow (Apsáalooke); their High Plains territory lacking habitat suitable for maize, they no longer had farms, other than small plots to grow tobacco for ceremonies. Downriver—south—from the Mandan and Hidatsa in North Dakota were the Arikara of South Dakota, Caddoan speakers related to the Pawnee who farmed in stream valleys in Nebraska. Arikara and Pawnee archaeological remains differ from those of the Siouan speakers only in details, as do the protohistoric sites in the Dakotas used by the Algonkian-speaking Cheyenne after they gave up their agricultural settlements in western Minnesota, pushed by eighteenth-century colonization pressure on their neighbors to the east, and pulled by availability of horses giving a margin of comfort and security to Plains bison hunters. Once the use of horses spread over the Plains, in the eighteenth century, the Missouri River towns added sale of the animals to their stock in trade.

There have always been people on the High Plains, subsisting primarily by driving bison herds into corrals built against bluffs or in ravines, and complementing the meat with camas and prairie turnip, a parsnip-like root growing in many locations on the Plains. Women harvest the prairie turnip, as they do camas, with care to maintain optimum conditions for the plants (I use the present tense because the cultivation of these traditional foods continues among families both on the Plains and in the Plateau). Before horses were obtained, initially from the Spanish ranches in New Mexico and then, in the later seventeenth and the eighteenth centuries, from other Indian nations, High Plains nomadic communities bred two kinds of dogs, animals the size

Figure 8.3 Hidatsa earth lodge town near the Missouri River in North Dakota, in winter. Credit: Karl Bodmer. Smithsonian Institution National Anthropological Archives

of German shepherds or huskies, to carry packs on their shoulders and pull small travois (a pair of poles fastened across their shoulders, with a cargo net or hide across the lower, dragging portion of the poles), and small fat dogs for feast meat. Moving camp by driving packs of loaded dogs, prone to yelp and nip at each other, and killing enough meat to feed the dogs in addition to people, made docile, grass-eating horses a real boon to Plains people, even aside from horses' much greater load-bearing capacity and opportunity for riding. The basic adaptation to the High Plains, corralling bison herds and harvesting root, bulb, tuber, and berry foods, was developed in the Archaic; reinforced in the Late Prehistoric period when agricultural colonies pushed up the Missouri trench, creating a steady market for processed bison; and finally widened, as it were, when horses substantially increased the range and speed of nomadism and amount of goods that could be moved, while substantially reducing the cost (in animal food) of this way of life.

North of the Oneota in Wisconsin and Minnesota, wild rice substituted for maize. A boundary for reliable maize agriculture runs through the center of these states: north of it, the expectable frost-free growing season is too

short. That wild rice was indeed a substitute for maize, not merely a regional crop independently utilized, is indicated by the appearance of new styles of shell-tempered (i.e., "Mississippian") pottery in the region during the same time, the eleventh and twelfth centuries, that Oneota appears south of the maize-growing boundary. Along the boundary zone, Oneota potsherds have been recovered in sites where the northern styles predominate, demonstrating contact between the maize agriculturists and the wild-rice harvesters. Wild rice is an indigenous seed-bearing grass that flourishes in shallow lakes. Ojibwe (Anishinaabeg) and Dakota harvesters are very careful gliding their canoes through stands of rice, lightly knocking ripened grains into the boat without breaking the stalks that still bear ripening seeds. The shallow-water stands are usually thoroughly harvested, in the process dropping enough of the light seeds into the lakebed to maintain the stand. Dried, parched, and hulled, wild rice can be stored like other grains. Whether the Late Prehistoric northern ricers were expanding Oneota through adapting, by necessity, to another carbohydrate staple or were indigenous people intensifying their dependence on rice on the model of maize agriculturists they had observed, we cannot tell; the northern people were congregating in larger, palisaded villages in this Late Prehistoric period, contrasting with earlier more numerous smaller camps. Oneota presumably were the threat, as they were to each other. They may have coveted their neighbors' deer and bison, beaver, furs, and processed stores of rice, even though they could not raise maize on these neighbors' lands.

The Northeast

During the seventeenth century, the Northeast was a battlefield where the Five Nations of the League of the Iroquois (Haudenosaunee) fought other Iroquoian nations, and Iroquoians fought Algonkians. Was it ever thus? Or were the European colonists witnessing enmities precipitated by more than a century of European intrusions? For, Norse aside, Western European fishing boats and whalers had been numerous in the Canadian Maritimes since early in the sixteenth century, and there is tenuous evidence that this traffic goes back to the late fourteenth century, kept secret by Basque entrepreneurs. Greenland Norse excursions to Labrador for timber and furs, continuing from initial Greenland settlement at 1000 CE until late in the fifteenth century, were another element in the Northeast trade picture, reaching beyond the Maritimes. In addition, there was the discovery of a relatively lengthy inscription in Norse runic writing far to the west in central Minnesota, indicating a mid-fourteenth-century Norse expedition, possibly seeking new sources for furs after the German Hanseatic League briefly closed off Scandinavian kingdoms' access to the European fur trade.

Origin of the Iroquois has been long debated in the Northeast. One school of archaeologists sees continuity of artifacts from Middle Woodland, positing Iroquois in their Northeast homelands for two thousand years. Opposed

archaeologists are more impressed with apparent discontinuities: a shift in pottery technique from coil-built to patched-on clay in early Late Woodland, substantial maize–beans–squash agriculture appearing in the twelfth century, and fortified towns in the later thirteenth century. Apparent discontinuities tend to resolve with additional archaeological excavations. Although historic Iroquois agriculture dependent on the Three Sisters—maize, beans, and squashes—does contrast with earlier cultivation of indigenous grains, maize was generally grown in southern Ontario during the latter three or four centuries of the first millennium CE, perhaps not so intensively. It seems definite that during that time Northeastern Algonkians took up cultivating maize and modifying their pots to cook it better. Seventeenth-century Algonkian-speaking Mahican in historically documented villages of the upper Hudson Valley used styles of pottery indistinguishable from those made by neighboring Iroquoian Mohawks; their crops were the same, and most artifacts.

A hypothesis on Iroquoian origins must take into account the Iroquoian-speaking nations including Susquehannock in Pennsylvania and Tuscarora and Nottoway in North Carolina at historic contact, and the linguistic link between Iroquoian and Cherokee. Looked at from large perspective, Iroquoians and Cherokee lay along the frontier between Eastern lands and the Midwest, along and in the east-draining valleys of the Adirondacks–Alleghenies–Appalachians mountain chain. With Algonkian speakers to their north and east and Siouans in the Midwest, Iroquoians and Cherokee appear to have been pushing into the East. Relying on maize agriculture and long-distance trading backed by military forces, Iroquoians seem to prefigure European colonization of the Northeast. Like the European colonists, the several Iroquois nations warred among themselves for farmland and control of trade and allied, intermarried, and adopted with both other Iroquoians and with Algonkian speakers. Their trade forays distributed their goods well beyond their territorial borders. Thus archaeology cannot pinpoint Iroquois territories simply by noting artifact styles, and analyses of skeletons do not differentiate an Iroquois genetic type contrasted with an Algonkian type, but the opposite, lack of any sharp distinctions.

Related to the Iroquois history question is that of the affiliation of the eastern Ohio Valley societies termed Fort Ancient. With a series of settlements, some well-fortified with palisades, in southwestern Ohio to West Virginia, Fort Ancient began in the thirteenth century and continued into the protohistoric seventeenth century. Embankments on top of the bluff overlooking the Fort Ancient "type site" in southern Ohio had been built a thousand years earlier by Hopewell; the large Fort Ancient villages with plazas generally were preceded, from the tenth or eleventh centuries, by small ones of a few rectangular semi-pithouses, each with a generous storage pit for maize. By the thirteenth century, substantial in-ground storage chambers holding up to thirty-five bushels of maize ringed the village plaza. Beans, squashes, sunflowers, and tobacco were raised, and food was prepared and served in shell-tempered pots. Using crushed shell to temper

pottery clay was especially favored by Midwestern Mississippians, thus making Fort Ancient look "Mississippian related" to archaeologists, while beans initially were not being grown by Midwestern Mississippians (until Oneota), a surprising contrast to Fort Ancient. Beans thus link Fort Ancient eastward to Iroquoians. Historic Iroquois claimed their military forces drove the Algonkian-speaking Shawnee from the central Ohio Valley, which suggests Fort Ancient represents Late Prehistoric Shawnee, neither "Mississippian" nor Iroquois.

At a large Ohio Fort Ancient village, graves alongside a central plaza had an interesting contrast, men on one side buried with arrows and pipes, and men on the opposite site buried with small sets of objects likely to have constituted healers' or diviners' amulets. A pipe buried with a man at a West Virginia Fort Ancient site was carved as a raptor bird holding a human head in its claws. Conch shell masks, better termed "faces," because many could not have been worn as masks, have been found in Fort Ancient as well as other Interior South (Mid-South) sites, not to mention along the Missouri and even in north-central Montana. With little round mouths, the faces resemble the simplest versions of Iroquois False Faces, spirits who come whistling from the forest. Elaborately grimacing masks were a nineteenth-century development among the Iroquois, the earliest preserved masks being simple; thus the late Mississippian/Late Woodland shell masks may represent such spirits sent by the Face at the Western Rim of the World to help heal humans.

In the protohistoric sixteenth century, Fort Ancient people were in trading contact with Mississippians to the south who passed on Spanish objects and with Iroquoians to the northeast who passed on, among other items, iron kettle lugs from Basque fishermen using the Gulf of St. Lawrence shores to dry fish and render whale oil. Such precisely identified artifacts prove relationships—trading, possibly tribute or looting in certain cases—that override political and ethnic territoriality. With both continuities and discontinuities in the material culture of upstate New York and the St. Lawrence Valley, the historic Iroquois homeland, over the Late Woodland centuries, and different boundaries between "Mississippian" and "Northeast" depending on what trait is selected to define them—shell-tempered pottery? beans?—the only clear conclusion is that archaeology alone may not find the final answer to the debate on Iroquois origins.

Iroquois towns were recognized by really long longhouses, curved-roof multifamily dwellings shaped like Quonset huts, built of poles covered with slabs of elm bark. About six meters (twenty feet) wide, a longhouse could extend over one hundred meters (four hundred feet). Divided into family compartments, cooking hearths along the center, longhouses sheltered generations of related women constituting a matrilineal clan. Clanswomen worked together in the fields, shared childcare and domestic responsibilities, and selected representatives from their brothers and sons to sit on village and national councils. It wasn't a matriarchy because women did not alone rule,

Figure 8.4 Mississippian conch shell mask.

Credit: Mississippian (Native American). Engraved Conch Shell, 1200-1500 C.E. from Nodena site, Arkansas. Brooklyn Museum, By exchange, 60.53.1. Creative Commons-BY

rather it was (and is) a representative democracy where women's rights and opinions were guarded by customary law. Women's solidarity in their clans facilitated Iroquois men traveling on extended hunts or trading journeys, knowing their wives and children had the assistance of clanswomen. This social structure was behind the military force of the Iroquois, especially the

Five Nations allied in the Haudenosaunee, and may have supported an Iroquois expansion as early as the eleventh century.

Around the Iroquoians holding prime farmlands in the Northeast were Algonkian-speaking nations. Early seventeenth-century observers characterized Northeast Algonkians as less formally organized, living in smaller communities of smaller houses, than the Iroquois. There's an ecological angle here, with Algonkians occupying rocky coasts, estuaries, and hills of New England, the Maritimes, and Canadian Shield forests. Unlike the broad, fertile valleys of the Mohawk, St. Lawrence, and eastern Great Lakes, these lands cannot support large agricultural populations. Their inhabitants adapted by dispersing seasonally into family bands to hunt, fish with weirs on tidal flats or during spawning runs, and collect berries and other wild or semicultivated plants, maintaining maize–bean–squash fields in suitable valley locations. Houses, oval or comparatively short "longhouses," sheltered nuclear or extended families.

Archaeologists working in New England find that some settlements in coastal estuaries have remains of indigenous nuts and fruits (cherries, raspberries, and grapes), wild rice, chenopods, and sunflower seeds, but none of maize, although the sunflowers, and possibly chenopods, were likely cultivated. Sites on the lake-dotted rolling uplands similarly may lack evidence of maize, their inhabitants focusing on lake and swamp animals and plants. Upland sites could have been seasonal camps for people from agricultural villages in the major river valleys, such as that of the Connecticut. Only in these wide, warmer valleys are there large permanent villages; the coastal estuary zones may have supported comparable populations but in dispersed neighborhoods. Where coastal residents wanted to raise maize, beans, and squashes, they had to deal with limited and less fertile arable land than river-valley people had. The historically reported practice of burying a fish for fertilizer in each corn hill may have been an idea introduced not only to the Pilgrims at Plymouth but also to the Indians by "Squanto" (Tisquantum), who had been taken to Europe in 1614 and sold as a slave. Tisquantum would have observed use of animal-product fertilizers in Europe, perhaps specifically fish in France or the Canadian Maritimes, where he landed after his escape from Europe.

Aristocratic lineages among the Algonkians trained their children to assume leadership over a group of villages. With modest resource bases and populations, these sachems neither lived nor were buried ostentatiously; at best, some Late Woodland sites in Algonkian territory show a house or a few graves larger or with a few more grave goods than those adjacent. Still, this contrasts with the strong clan communalism of the Iroquois, whose longhouses and graves did not differentiate aristocratic from commoner lineages. The Huron, a northern Iroquoian nation, went so far as to disinter village dead about once every decade, gathering hundreds of skeletons from a region and deliberately mixing the bones in one large grave pit, dramatically symbolizing the common humanity of all Huron.

Negotiations between European colonists and New England Indian communities in the seventeenth century provide us several close observations of these First Nations, albeit not before Canadian Maritimes trade and epidemics from European landings had affected the New Englanders. William Wood, a Massachusetts Bay Colony immigrant, probably in 1628, recorded that the Ninnimissinuok sachem at present-day Salem, Massachusetts,

> hath no kingly robes to make him glorious in the view of his subjects, nor daily guards to secure his person, or court-like attendance, nor sumptuous palaces, yet do they yield all submissive subjection to him, accounting him their sovereign, going at his command and coming at his beck, not so much as expostulating the cause though it be in matters thwarting their wills, he being accounted a disloyal subject that will not effect what his prince commands.
>
> (Bragdon 1996:147)

Sachems, reciprocally, concerned themselves with the welfare of their subjects. Daniel Gookin, an immigrant arriving in Boston sixteen years later than Wood, noted that dissatisfied Nipmuck could move to another sachem's territory,

> so that their princes endeavour to carry it obligingly and lovingly unto their people, lest they should desert them, and thereby their strength, power, and tribute would be diminished,
>
> (Bragdon 1996:147)

Most tellingly, Sachem Massasoit, whose territory included Plymouth, found Tisquantum had been acting deviously against Massasoit's interest and ordered him executed, sending a knife to the Pilgrim colony to perform the sentence on "Squanto." He died of a sudden illness in 1622 before his hosts might do so. It may be that in Gookin's time, after thousands of immigrants had taken over much of Massachusetts Bay, sachems' "strength, power, and tribute" were more fragile than prior to the European invasion.

Middle Atlantic Region

New York City and Long Island mark the boundary between heavily glaciated New England with its granite outcrops, and the more generous coastal plain and river valleys to the south. The zone was predominantly Algonkian-speaking as far south as North Carolina and bordered by Siouan languages to the west and Iroquoian to the northwest. Patterns of settlement, house structures, agriculture, and collecting described above for New England Algonkians apply to the more southern Coastal Plain Algonkians, too. The custom of exhuming skeletons to rebury them with dozens or even more than a hundred others in regional community

ossuary pits was common but not the exclusive mode of grave for Late Woodland Middle Atlantic Algonkians.

A major question challenging archaeologists in the Middle Atlantic region is that of the antiquity of the kingdoms encountered by European colonists in the beginning of the seventeenth century. The fourteenth century here, as in the South, southern New England, and Midwest, saw more intensive maize–beans–squash agriculture, larger villages, and fortifications. Organization into small kingdoms exacting tribute from villages in a region may have begun at that time. From the chronicle of De Soto's 1539–1541 journey through the

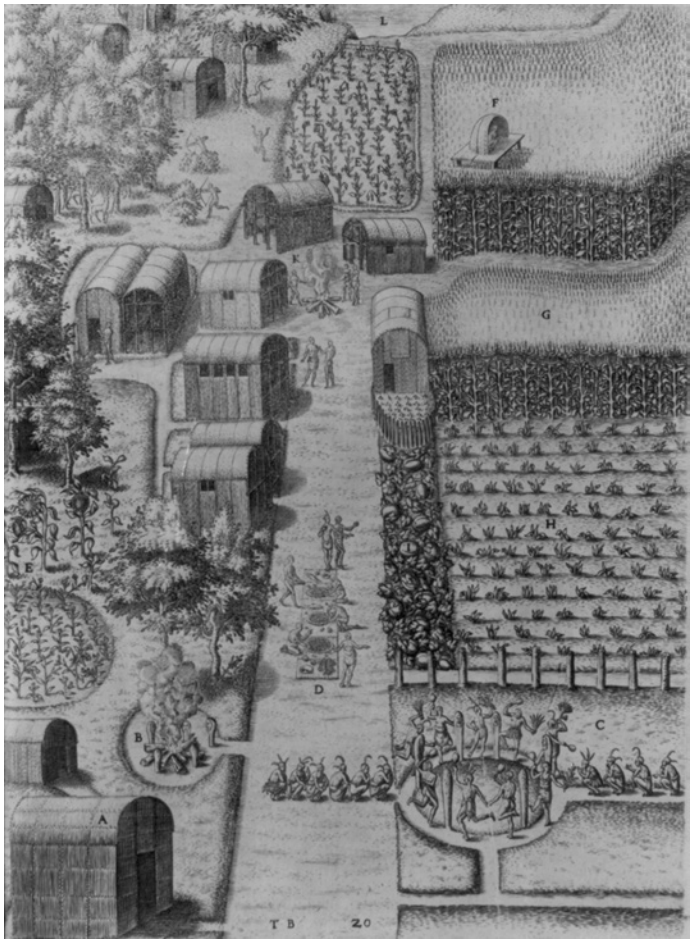


Figure 8.5 Town of the Secotan nation, on the Pamlico River in present-day North Carolina, about 1585 CE.

Credit: Engraving by Theodor de Bry. Courtesy of Library of Congress Prints and Photographs Division

South, tribute presented to the rulers of these small kingdoms were "maize, dogs, tanned skins, blankets, venison, salt, corncakes, turkeys, persimmon bread, fish, woven mantles, and nut oil" (Dye 1990:217). Little of this would be preserved, nor would any be readily distinguishable, archaeologically, from a community's own harvests—one would need to see piles of tribute goods placed in the plaza or before the ruler's house or ceremoniously presented. There are hints, from the patterns of structure posts visible as stains in sites, that in this final prehistoric period aboveground granaries and storage sheds were supplementing the older lined pit storage, suggesting greater quantities of goods to be stored, but these, too, could have been a village's own products rather than tribute or goods gathered preparatory to rendering tribute.

Because major rivers in the Northeast and Middle Atlantic regions flow southeastward, building good farmland along their lower reaches before turning into estuaries, the interior coastal plain attracted the largest population in the Late Woodland period. The same physical feature of southeastward-flowing major rivers channeled wars of conquest for those farmlands. From the mid-fifteenth century, the uplands above the fall line in the Potomac and Chesapeake region seem to lose small villages, while settlements in the agriculturally favorable interior coastal plain valleys increase and many are fortified. Historically, the Susquehanna River in particular was a "war road" for Iroquois out of the eastern Great Lakes–Mohawk Valley, and parallel rivers served the same purpose. "War roads" explain the late depopulation of the small upland villages, vulnerable to attack from the rivers they depended upon for resources, and the congregation of principal towns just below the fall line where war parties journeying downstream were hindered by rough terrain. Forests above the fall line became buffer zones, utilized mainly for hunting—hunters are armed! Smaller and more dispersed communities could continue in the coastal zone, protected from the big war expeditions by the towns at the base of the fall line.

Late Woodland and Mississippian

By and large, "Mississippian" refers to agricultural towns with platform mounds, and "Late Woodland" to camps and villages without monumental architecture. "Mississippian" characteristically is in areas favorable for maize agriculture, "Late Woodland" in the north and in uplands where a shorter growing season or poor soils disfavor maize. Regional styles of pottery are classed as "Mississippian" or "Late Woodland" according to attributes such as crushed shell (generally, Mississippian) versus crushed rock temper, smoothed (Mississippian) versus fabric-impressed surface, or "castellated" rims (thickened, high rims with raised sections, supposedly resembling castle walls) typical of Iroquoians and their neighbors. As more surveys and excavations are conducted, mandated today before most construction projects, larger pictures can be drawn, and these often indicate

that "Late Woodland" small sites in the hinterlands of Mississippian towns were hamlets or seasonal gathering locales, outliers of the agricultural societies of the towns.

Common throughout the Eastern Woodland and prairies was the shift to reliance on maize, around the tenth century, and then in the late fourteenth century to aggregated villages, often fortified. These shifts are related, in that reliance on maize as a staple food created demand for good farmland, which forced communities with it to defend against others desiring the resource. Whether the shift to more intensive agriculture and its consequent need to defend territory represented efforts to cope with population increase that had been accruing for centuries, or was a choice to follow a more prestigious lifestyle, cannot be told from the archaeology, and indeed both factors could be valid. Once the grandiose mounds and plazas, processions, and ceremonies of Cahokia were set before them at the riverine hub of eastern North America, Americans had to live with unprecedented political and economic forces. Climate, soils, mineral resources all acquired greater and more critical value. So, too, did human labor. What European invaders saw was a country where ecological differences loomed large, underlying cultural differences. These ecological features affected European colonizations, too.

Research Puzzles

"Late Woodland" has been a "default" category, including those Late Prehistoric Eastern Woodlands sites and associated artifacts that don't show Mississippian characteristics. Partly as a result of cultural resource management surveys carried out after federal and state laws passed in the 1960s mandated precautions against destroying patrimony, many sites have been recorded away from arable river valleys. No longer is there a simple contrast between Mississippian towns and the camps of "less sophisticated" hunter-gatherers in the hills; villages in the uplands and small stream valleys may be frontier posts, or bases for exploiting resources integrated in diversified economies, or, perhaps sometimes, summer residences for town-dwellers. Relating Late Woodland sites to Mississippian towns a day's walk away is a research puzzle promising a more realistic picture of both Mississippian politics and economies, and communities that chose to retain, or produce, more traditional Woodland technologies and foods.

Another type of research puzzle for archaeologists working with Late Woodland sites is identifying settlements visited by early European explorers. This is not an esoteric exercise, because a number of First Nations have claimed treaty rights or uncompensated land cessions, and must demonstrate in court that their forebears are documented to have resided in the claimed territory. More than one First Nation may lay claim to the same land, occupied by a succession of displaced nations or as a common for fishing, quarrying, or trading. One would think that if, for example, Jean Nicolet writes

of voyaging in 1634 to what must be Green Bay, Wisconsin, and seeing the Ho-Chunk main town, known as Red Banks, with several thousand people, archaeologists could locate the settlement. It turns out that there are several substantial Late Prehistoric village sites in the Green Bay vicinity, and none shows distinctive red banks below the site. Adding to the puzzle, the Ho-Chunk seem to have relocated their main village more than once, always calling it Red Banks (like York, Pennsylvania, or Mount Vernon, Iowa, similarly named after other, admired places). Potawatomi and Menominee are documented in Green Bay, too, but only one Late Woodland site, on a small island near Green Bay, has artifacts and a location fitting a late seventeenth-century Potawatomi village—and preceding it was a stockaded village of Huron refugees from the 1649 Iroquois conquest of their homeland far to the east on Lake Huron. Exact fits between seventeenth- and eighteenth-century explorers' itineraries and archaeological sites are more often debated than confirmed.

Bibliographical Notes

Lynn M. Alex's *Iowa's Archaeological Past* (Iowa City, IA, 2000) is an exceptionally well-written survey of the prehistory of a Midwestern region; Alex never loses sight of the human beings who created the archaeological record. Thomas Vennum Jr.'s *Wild Rice and the Ojibway People* (St Paul, MN, 1988) does not focus on the prehistoric period but richly describes the way of life, and its historic vicissitudes, of these northern Minnesota people. Bruce G. Trigger's *The Children of Aataentsic: A History of the Huron People* (Montreal, 1987) covers that northern Iroquoian nation from archaeological remains to their disastrous defeat by the Five Nations Iroquois in 1649. Kathleen J. Bragdon accessibly surveys *Native Peoples of Southern New England, 1500–1650* (Norman, OK, 1996).

From Walter McClintock, *The Old North Trail,* pp. 422–3, 434–6

Some history of the Aapátohsi Piikuni Blackfeet, told by one of their leading men, 1905:

My father was the leader of the clan of Grease Melters. Later, when he was chosen head chief of the Blackfeet, he was known by the name of Iron Shirt, because he wore a buckskin shirt decorated with pieces of shining metal. He was a large, muscular man, with a wonderful memory and a great knowledge of our customs. He could tell a horse's age by its whinny, and a man's by the sound of his voice. He kept "winter counts" on buffalo hides, marking the principal events in the history of the tribe. He recorded our tribal camps, the battles, the names of our leaders, when the great chiefs died, the years of sickness [scourge of smallpox], the summers of droughts and the hard winters, when game was scarce and snows lay deep.

Sixty-nine winters have passed, since we had our first "Great Sickness" [smallpox, 1836]. Fifty winters, since eight Indian tribes assembled together in a big camp on the Yellowstone River, when Little Dog, Big Snake and Lame Bull were the head chiefs [1855]. Thirty-one winters since the coming of the Mounted Police [1874], and twenty-nine since the severe winter, when many of our horses were frozen [1876]. One year later, there was a big camp in the north, when Big Crow Foot was head chief [1877].

Other important events that my father marked in his "winter counts" were: the winter, when many of our people died from the "Cough Sickness."

The winter, when the children broke through the ice.
The winter, when the moose came into camp.
The winter, when our horses had the mange.
The winter, when it was necessary to eat dogs to keep from starving.
The winter, when the antelopes broke through the ice.
The winter, when buffalo were scarce.
The winter, when we caught antelope in the deep snow.
The winter, when a treaty was made with the white men.

I was born in the year, when white men were seen for the first time in our country, and in the spring, during the moon, when the grass is green. Grass, as you know, is the head chief of everything. The animals depend upon the grass for food, and without the animals our children could not live.

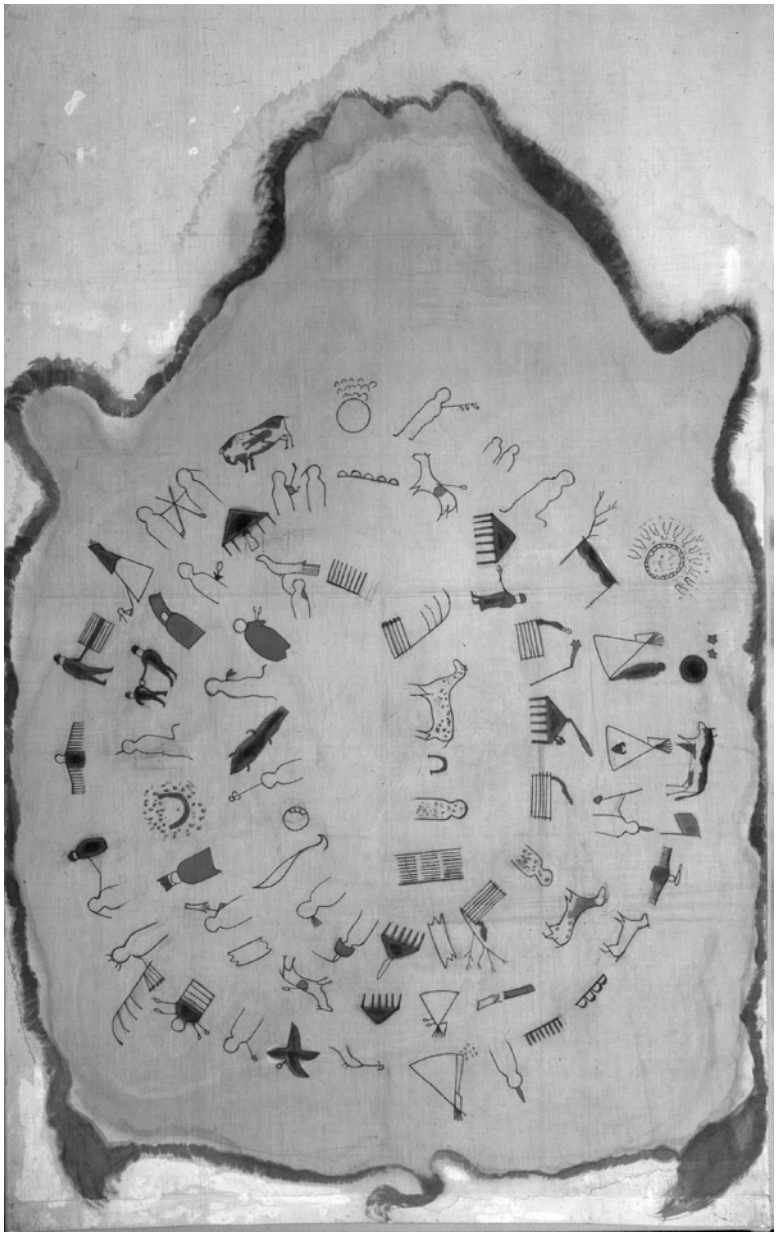


Figure 8.6 A Plains winter count. This one, by Lone Dog, a Yanktonai Sioux, records events from 1800 to 1870.

Credit: Buffalo Bill Center of the West, Cody, Wyoming, U.S.A.;NA.702.5

There is a well-known trail we call the Old North Trail. It runs north and south along the Rocky Mountains. No one knows how long it has been used by the Indians. My father told me it originated in the migration of a great tribe of Indians from the distant north to the south, and all the tribes have, ever since, continued to follow in their tracks. . . . In many places the white man's roads and towns have obliterated the Old Trail. It forked where the city of Calgary now stands. The right fork ran north into the Barren Lands as far as people live. The main trail ran south along the eastern side of the Rockies, at a uniform distance from the mountains, keeping clear of the forest, and outside of the foothills. It ran close to where the city of Helena now stands, and extended south into the country, inhabited by a people with dark skins, and long hair falling over their faces [Mexico]. My father once told me of an expedition from the Blackfeet, that went south by the Old Trail, to visit the people with dark skins. Elk Tongue and his wife, Natoya, were of this expedition, also Arrow Top and Pemmican, who was a boy of twelve at that time. He died only a few years ago at the age of ninety-five. They were absent four years. It took them twelve moons of steady traveling to reach the country of the dark-skinned people, and eighteen moons to come north again. They returned by a longer route through the "High Trees" or Bitter Root Country, where they could travel without danger of being seen. They feared going along the north Trail because it was frequented by their enemies, the Crows, Sioux, and Cheyennes. Elk Tongue brought back the Dancing Pipe. He bought it nearly one hundred years ago and it was then very old. The South Man, who gave it to him, warned him to use it only upon important occasions, for the fulfillment of a vow, or the recovery of the sick. Whenever anyone was starting on a war, or hunting expedition, a safe return could be secured by vowing to give a feast to the Dancing Pipe.

Told by Brings-Down-the-Sun, Natosin Nepeë, elderly leader of the North Piegan Blackfoot, to Walter McClintock, 1905.

McClintock renders conversations into formal English and seldom notes whether the speaker used English or required a translator.

McClintock, Walter (1910) *The Old North Trail: Life, Legends and Religion of the Blackfeet Indians.* Lincoln, NE: University of Nebraska Press facsimile reprint, 1968.

9 Cahokia and the Mississippian Period, 950–1600 CE

After Hopewell diminished, in the fifth century CE, with no more great geometric embankments built and the distinctive ceramic styles no longer made, societies around the Gulf of Mexico continued to live in towns, constructing burial and platform mounds and manufacturing sophisticated pottery. Classic Maya kingdoms flourished in the first millennium CE, during and after Teotihuacan's glory in central Mexico, undergoing political and economic shifts in the tenth and eleventh centuries that prompt archaeologists to designate the centuries after 900 CE the Postclassic. On the north side of the Gulf of Mexico, in the United States, the decline of Hopewell during what was the Early Classic in Mexico led to more modest societies. Those in the South, still committed to public ceremonies displaying rank, contrasted with those in the temperate Midwest and East, who no longer honored rank with extravagant outlay. Then, in the eleventh century, an American Postclassic began with an early climax at Cahokia, a truly impressive city where St. Louis now stands, and balkanized kingdoms after Cahokia collapsed, 1200 CE. Astute readers will notice that the dates for Cahokia parallel those for Chaco in the Southwest.

Several questions challenge us when we examine data for this Late Prehistoric period. Why did the cosmological vision embodied in the Hopewell works, and reflected in the tombs of their mighty, no longer drive Woodland societies to such monumental labor? Conversely, why did the temperate-latitude Late Woodland change in this way, while those in the South retained a considerable semblance of Middle Woodland achievements? What spurred Cahokia? What caused its collapse? What were the kingdoms De Soto disrupted in his ill-fated entrada into the Southeast, 1539?

Answers to these questions have been handicapped by America's Manifest Destiny conviction that the European colonists' predecessors were inferior, doomed to be a vanishing race because they hadn't developed private property laws and a money economy. In spite of De Soto's and John Smith's (at Jamestown) descriptions of small kingdoms comparable to those in much of Europe (as late as the mid-nineteenth century, e.g., in

Italy and Germany), many American archaeologists write of "chiefdoms" and calculate how few people might have managed to construct mounds. Ohioans squared the Circleville Hopewell had bequeathed them, and citizens of southern Illinois built a subdivision of ranch homes on the Great Plaza the Cahokians had so kindly made perfectly level. At Cahokia, at least, this is now reversed, thanks to a determined band of avocational archaeologists and local historians who lobbied for years to have Cahokia listed as a UNESCO World Heritage Site, and the State of Illinois to accept its obligation to protect that heritage.

What the Turk Described

Spanish conquistador Francisco Vázquez de Coronado bought two enslaved captives from Pueblos to guide his expedition to fabled cities of gold in interior America. The men were Pawnee or Wichita, related Caddoan speakers from the Kansas–Nebraska region. One of the men, called "The Turk" because, like many Southeastern men, he wore a cloth turban, described a Mississippian kingdom on a wide river. The lord of the realm rode in a flotilla of large canoes, seated under a canopy at the stern of one boat with a large "gold eagle" on the prow. "Fish as big as horses" (alligator gar) swam in the wide river. The Turk continued,

> The lord of that land took his siesta beneath a large tree from which hung great quantities of gold jingle bells which in the breeze soothed him. He said further that the ordinary table service of all in general was made of wrought silver and the jugs, plates and bowls of gold. He called the gold Acochis.
>
> (Wedel 1988:43)

"Acochis" probably is the Wichita word *ha:kwicis*, "metal." The Turk told the Spaniards, in a mixture of sign language and broken "Mexicano" (Nahuatl), how the "acochis" was extracted, heated, and "washed," an account that fits copper processing. Given the value placed on copper by Midwestern First Nations, The Turk presumably spoke about the yellow metal, copper, but his Spanish interlocutors jumped to the conclusion he meant gold. When Coronado finally reached Wichita country, the farthest he would go, a chief there presented him with a copper pendant. He was not pleased.

Copper tinklers (not bells, but rolled cones of sheet copper) have been found in Mississippian sites. The Turk described, in sign language, structures of "many stories" that Coronado interpreted to mean houses, rather than the platform mounds The Turk had seen. The Turk told Coronado that in the eastern kingdoms, there were quantities of *mantas*, large shawls or cloaks, and indeed Coronado's contemporary, De Soto, did receive many *mantas* from the Southeastern towns he threatened. De Soto's party, when they reached

the Mississippi River, were awed by the salute they received from the vassals of the Lord of Aquixo,

> 200 vessels [canoes] full of Indians with their bows and arrows, painted with ocher and having great plumes of white and many colored feathers on either side [headdresses?], and holding shields in their hands with which they covered [protected] the paddlers, while the warriors were standing from prow to stern with their bows and arrows in their hands. The vessel in which the cacique [chief] came had an awning spread in the stern and he was seated under the canopy. Also other vessels came bearing other Indian notables. The chief from his position under the canopy controlled and gave orders to the other men.
>
> (Wedel 1988:42)

Survivors of De Soto's entrada reported that the big canoes and oars were polished and colored, and that the oarsmen sang rhythmically of military glories as they paddled in formation.

Such matching accounts from the Coronado and De Soto entradas of 1540, marching into the Midwest from southwestern and southeastern approaches, corroborate the picture of Mississippian kingdoms full of pomp. Between these first, sixteenth-century entradas and seventeenth-century colonization came severe epidemics, wars, and displacements, obscuring the Mississippian civilizations. De Soto himself and nearly all his several hundred Spaniards died in America, many from fevers, leaving as legacy the famous razorback hogs of Arkansas, descended from the pigs herded along by the would-be conquistadors.

The Deep South

The Gulf Coastal Plain and interior plateaus of the South never abandoned the practice of constructing burial and platform mounds, a practice now realized to have persisted for nearly six millennia. Near Lake Okeechobee in central southern Florida, a large circle and ditch were constructed at the Fort Center site (actually, three such circles, in succession) in the late first millennium BCE, when sand-tempered (rather than the earlier fiber-tempered) ceramics appear, and maize pollen in paleofeces, the ditch, and in the paint on carved wooden birds that probably topped posts around a mortuary house in the first millennium CE. After 400 CE, the decline of Hopewell in the Midwest broke off the South's extensive trade into that region, without diminishing the South's own towns. Not until the eighth century did population concentrations and public works apparently lessen, to be invigorated again a century or two later as Mississippian.

Much of the Southeast in the first millennium CE manufactured distinctive ceramics decorated by stamping the damp clay with elaborately curvilinear designs, reminiscent of the tattooing seen on people's bodies by the

sixteenth-century Spanish expeditions. Picturing the first-millennium people displaying on their skin the designs adorning their serving bowls is probably valid—in the warm, humid South little clothing was worn, making tattoos very visible ornamentation. The sinuous curves of their designs, preserved for us only on the pottery, would have flowed with people's movements if they were tattoos. For graves in the burial mounds, animal and human effigy vessels were crafted. These vessels' artistic excellence reflects the elaborate rites attending the death of high-status persons: first a log tomb would be built in a pit and covered with a layer of stones and an earthen mound, on the east side of this mound was placed an offering shrine with the special pottery and cremated human remains, the entire mound then burned and capped with stones, and finally more mound built over that, often including "bundle burials" of principal bones from previously buried or desiccated dead. Other, platform mounds were constructed beside these first-millennium villages, some of the platforms supporting wooden buildings and others the community's charnel house, screened off from view, where bodies were prepared and kept for burial at ritual times. Wooden posts five or six feet (two meters) high were set up around temples and mortuary houses, the posts topped with carved wooden or ceramic effigy animals—eagles, panthers, foxes, herons, bears, otters, alligators—and perhaps human-face masks and painted wooden panels such as were found in the waterlogged site Key Marco. Early European travelers reported that the skeletons of ancestors of the ruling lineage were retained on platforms of mortuary houses, priests tending a perpetual fire under the platform. Enemies attacking a village would target the aristocrats' mortuary house for destruction, signaling victory over them.

At the McKeithen site in northern Florida, a leader who died about 475 CE seems to have lived in a house on one of the site's mounds and then buried in the floor of that house along with the remains of forebears taken from their mortuary house, fine ceramics, and food. The house tomb was burned, with thirty-six people, presumably sacrificed, spaced evenly around the border of the platform, and the mound covered with sand. Intriguingly, the principal personage was slightly built, probably a woman, and died from infection following being shot in the buttock with a ten-inch-long stone-pointed arrow. At Kolomoki in southern Georgia, the largest site of this first-millennium cultural pattern, eighty-six people accompanied the central personage, and some if not all had been sacrificed for him. After about 800 CE, such honors were no longer given, only small burial mounds built, with a few special pots left with the deceased.

Maize agriculture was established in northern Florida about 750 CE, a couple of centuries after it was apparently given up in the central Florida Lake Okeechobee basin, and the same time that the Early Late Woodland mound-building culture pattern shifted to modest burial mounds in place of mounds built for ostentatious funeral rites. Villages sought out the most fertile arable land, no longer looking primarily for the most efficient siting for obtaining wetlands foods. Similarity in houses from earlier periods

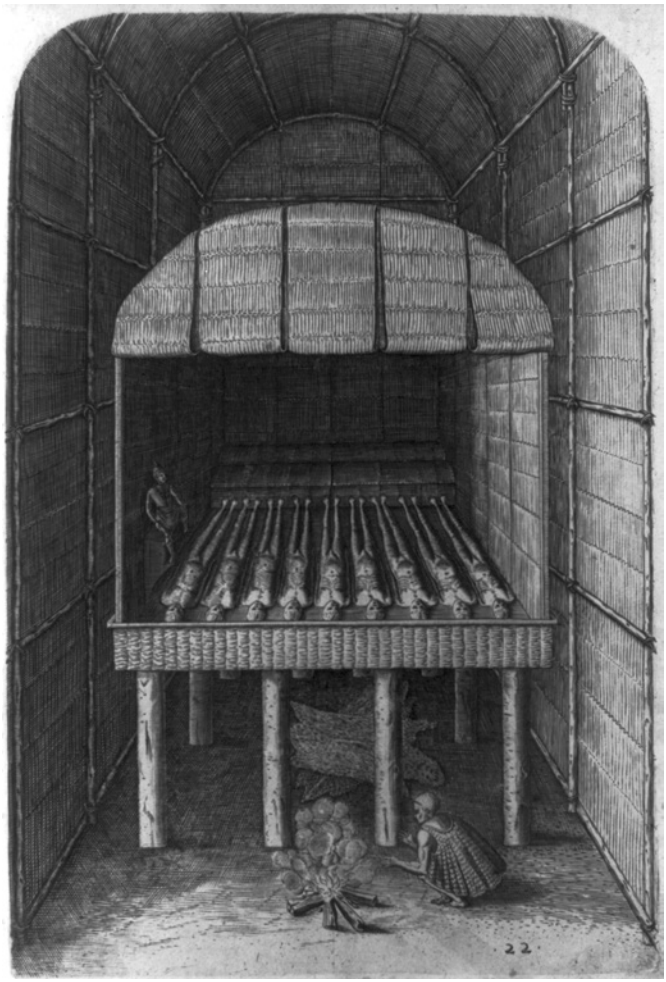


Figure 9.1 Mortuary house with deceased kings, tended by a priest, c. 1585, Virginia.

Credit: Engraving by Theodor de Bry. Courtesy of Library of Congress Prints and Photographs Division

may indicate ethnic persistence or, equally likely, managing in the Florida climate: winter houses were constructed of poles bent inward and lashed at the top to carry thatch or palmetto roofing, a hearth near a door for ventilation, benches around the walls for sleeping, and little smudge fires under the benches to discourage mosquitoes (yes, Florida mosquitoes can get that bad). During summers, people used open-sided pavilions, like the Seminoles' chickees tourists can see today in Florida. Once maize agriculture became the mainstay, farmsteads became the most common type of settlement,

clustered as outliers to villages that, in turn, clustered within a day's walk, more or less, of a larger town; at historic contact, most of the Southeast was organized in this manner, with the headpersons of village–farmsteads communities considered to be vassals of the town's governing lineage. Town lords might themselves be vassals of a nobler lineage, paying tribute and contributing soldiers when required. After 1000 CE, platform mounds were again constructed for aristocrats' residences, temples, and mortuary houses.

The economic base of late first-millennium Gulf Coast people, called Weeden Island by archaeologists after a Florida site, was strongly oriented to the Gulf and interior wetlands: fish, including sharks, and shellfish, sea and land turtles, alligators, snakes, waterfowl, and in the interior, deer, bear, turkeys and small game, persimmons and plums, nuts, and seeds. Settlements were placed on hummocks, and the larger villages maintained clean plazas, relegating trash to designated disposal areas. Accumulation of shells from eating shellfish continued, with favored coast or river sites coming to be mounds of shells several hundred feet (about one hundred meters) long by fifteen feet (five meters) high, and dozens of such shell middens around a bay. Some shell middens in Tampa Bay, Florida, are nearly entirely conchs, which not only contain a couple of pounds of meat per shell but the shells were in demand for ceremonial drinking chalices, trumpets, and necklace pendants throughout the eastern United States. (In Mexico across the Gulf, the columnar spiral center of the conch shell was the icon of dynamic vital power attributed to Quetzalcoatl, the Plumed Serpent, god of the wind, whose dancing brought into being our present world.) South (peninsular) Florida apparently never took up maize agriculture, although they may have raised squashes; the country was too waterlogged and soils poor. To compensate, south Florida had the ocean, estuaries, streams, and lakes, with manatees, dolphins, and, off the southeastern coast, whales, as well as sharks, alligators, and big turtles. Canoes scooted around the mangrove swamps and between harvesting camps and base villages. At Pine Island, on Florida's southwest coast, a canal was dug, six to seven yards (five to six meters) wide, one to two yards (meters) deep, and an astonishing two-and-a-half miles (four kilometers) long across the island, so travelers could cut across rather than paddle around it. To overcome the rise in elevation as the canal reached across the middle of the island, the Indians—probable ancestors of the historic Calusa—made a series of small dams that functioned like canal locks: each section of impounded water was a little higher than the adjacent one, and by lifting canoes over the narrow dams, the boats floated on progressively higher stretches until the crest was reached and the water levels lowered to return the canoes to sea level.

The Interior South and Midwest: Cahokian Period

Mississippian societies flourished in the rich, broad valleys of the major rivers of the physiographic Gulf Coastal Plain, the head of which lies at St. Louis where the Missouri flows into the Mississippi. Below that, the Ohio flows

in, creating the immense river celebrated by Mark Twain. Frequent floods and shifting channels give the Central and Lower Mississippi Valley rich soils, sloughs, and wetlands. Uplands above the valley wall bluffs were forested, inviting hunting camps and backwoods hamlets. Pine barrens, poor in edible resources and unsuited to sustained maize agriculture, cover much of the interior Coastal Plains, from the fall line of the Piedmont to tidewater (sections of rivers, up from their mouths, affected by daily ocean tides). This zone discouraged Interior South nations from colonizing toward the coasts, with settlement and trade finding principal routes to be river valley corridors.

Following several centuries of apparently small-scale subsistence-oriented societies in the first millennium CE after Hopewell, intensive maize agriculture associated with large towns and conspicuous display of power materialized in the major valleys between the Appalachians and the western border of the Midwest, from Illinois to the Gulf. That there was continuity between earlier populations and those we label Mississippian is amply demonstrated in icons such as hawks seen in Hopewell and again in Mississippian, in mounds, and in utilitarian artifacts; that there was significant difference is shown in the quantities of maize and the political economy it supported. Mississippians grew maize on labor-intensive raised ridge and ditch fields, where fertility is replenished every year when the farmers clean out the ditches, throwing the rich muck up on to the planting ridges. Hundreds of acres (or hectares) of Mississippian ridge and ditch fields have been identified in the Midwest and South—corn hills described much later by European colonists may be a less laborious version, with the soil heaped up just at the planting spot rather than in a continuous ridge. Earlier Eastern Woodlands domesticates, the indigenous chenopods, knotweed, little-barley, and maygrass, were still cultivated, giving the Mississippians a series of harvests, the nutrition of the higher-protein native grains, and some hedge against crop failure.

Mississippian towns, marked by their platform mounds and plazas, dominated the flat river valleys, a number of them located to control the confluence of a tributary with a main river. Ironically, this siting led to the destruction of many in the nineteenth century, because railroads were sited in the same major transport corridors and used the handy unoccupied mounds for railbed ballast. U.S. towns were built on top of Mississippian towns for the same reason the Mississippians chose to settle there, to facilitate controlling an agricultural zone and trade routes. Only by digging into local archives to find historic mention of "Mound Builders" preceding the pioneers can many Mississippian towns be put on a map.

The Mississippian period has two phases, that of Cahokia, eleventh to late-thirteenth century, and then that of many small kingdoms. Cahokia's heyday was the time of climatologists' Medieval Warm Episode, a climate ideal for the Southern race of maize grown at Cahokia. Cahokia's collapse roughly correlates with the onset of climate shifting toward bringing about the Northern Hemisphere's "Little Ice Age," three centuries (1550–1850 CE) of somewhat colder climate. Thus, Cahokia's rise and fall could be explained

by an advantageous climate for maize-growing, bracketed between the colder period of the mid-first millennium CE and that beginning in the late thirteenth century. Likewise, in the Southwest, Chaco's rise and fall can be linked to the same Northern Hemisphere climate episodes. Conversely, the favorable medieval climate can be said to have supported these exceptional political–economic centers but not to be sufficient explanation why people labored to construct imposing urban centers. Mexico's series of major centers, each waxing strong and then weakening, to be superseded by another region's ambitious nations, cannot be explained as adaptations to climate shifts.

Underlining the importance of ideological goads in the formation of Cahokia are a pair of figurines associated with what seems to have been a suburban community temple near the city. Fine ceramic serving bowls, mica, galena, red cedar, and hallucinogenic jimson weed, and lack of ordinary domestic debris, indicates the special function of the building. Half of a red flint-clay figurine of a woman, named the Keller figurine, was found in a shallow pit inside this building, the other half in a garbage pit outside (south of) the building. A second red flint-clay figurine of a woman, the Birger figurine, had been deliberately buried in a small pit also outside, and east of, the building. Three other flint-clay figurines of women, and fragments of possibly more figurines, were recovered from a comparable temple in another suburban site. The Keller figurine sits, legs folded under her, on a folded bearskin, her outstretched arms grasping a rodlike object on top of what looks like a box. With her lips slightly parted and her face uplifted, she looks as if she may be singing. The stylized object in front of her may be a cane box or basket such as historic Muskokee Beloved Women, aristocratic women community leaders, kept to hold tokens of each clan in the community, symbolic of their shared concerns. The object might, on the other hand, represent a loom on which the woman weaves a fabric symbolic of the interwoven families, another ritual practice recalled by Muskokee. Or the object may be meant to invoke both symbols. In contrast, the Birger figurine has a strained expression on her face. She, too, kneels, tugging a stone-bladed hoe or possibly hide-scraper. On her back, gourd plants twine up around her into a burden basket. Around her is coiled a double-headed serpent, and her hoe or scraper is digging into his back. Some archaeologists glibly write off the figurines as fertility fetishes, but surely they are better interpreted as a pair, Keller inside the temple symbolizing the community bound together, Birger outside, with her plants and serpent, symbolizing the power of the natural world. Birger could well be she whom the Siouan-speaking Hidatsa call Grandmother-Who-Never-Dies, a female power nurturing the Corn Maidens in her earth lodge over the winter, sending them out with the migrating geese in spring to invigorate the maize plants in Hidatsa women's fields. Grandmother-Who-Never-Dies lives with her consort, the Underwater Panther with the long serpent tail, a male power that roils up bodies of water and eats unwary bathers. Often pictured with stag's antlers in the Midwest, there was a large petroglyph of this icon on the rock bluff at Alton,

Figure 9.2 Cahokia: Monks Mound from the air, looking northwest. The Mississippi River and, across it, St. Louis, Missouri, in the background. A local four-lane highway crosses the Grand Plaza in front of Monks Mound; the automobile on it gives the scale of the scene.

Credit: Cahokia Mounds State Historic Site

Illinois, at the narrows where Mississippi River traffic en route to Cahokia could be controlled.

Cahokia is bigger by far than any other archaeological site north of central Mexico. It filled the Mississippi River floodplain at what is now St. Louis with well over one hundred monumental mounds and thousands of homesteads on raised foundations. Urban planning is obvious at Cahokia, with the plazas, platform mounds, and commoner residences laid out oriented toward the cardinal directions. Conical mounds, a few on the terraces of massive Monks Mound, and great circles of huge wooden posts balance the angularity of the overall layout, and some small oval mounds lie southeast–northwest, possibly solstice oriented. Cahokia's urban plan is Mesoamerican, based on rectangular plazas bounded by platform mounds elevating temples and elite residences; its homesteads also fall within a common Mesoamerican plan of three structures around a courtyard, a basic plan that persisted into the historic period among the Creeks (Muskokee), who customarily erected three structures, called the man's house, the woman's house, and the storage house. During the eleventh-century height of Cahokian urban growth, neighborhood clusters of small rectangular houses replaced courtyard homesteads in the center of the city. No other pre-European site in the United States is anywhere as large as Cahokia (an estimated five square miles [twelve square kilometers] without including present-day St. Louis on the opposite side of the river), none other can have held its population

(fifteen thousand is a reasonable figure), and no other exhibits such an overarching design. Erection of such a well-thought-out city at the nexus of the midcontinent waterways and the river highway to the Gulf of Mexico was a political act.

Monks Mound at the center of Cahokia (now Cahokia Mounds State Park at Collinsville, Illinois) was the third-largest structure in the Americas before the modern era. (Teotihuacan's Pyramid of the Sun is the largest, Cholula's manmade Mountain pyramid second. Egypt's Gizeh pyramids are smaller and were not platforms.) Monks Mound, so called because in the nineteenth century a community of Trappist monks built their house and gardens on part of it, is slightly over one thousand feet (316 meters) long north–south, nearly eight hundred feet (241 meters) wide east–west, and a bit over one hundred feet (thirty meters) high: even the top, fourth, terrace platform is bigger than a football field. Excavations on the top terrace revealed a great timber building more than 135 feet (forty-five meters) wide, its full extent never determined due to lack of further archaeological investigation. The Great Plaza stretching south from Monks Mound is nine hundred feet long by 1,200 feet wide (three hundred by four hundred meters), made level by infilling and capping the original ground with up to thirty inches (seventy-five centimeters) of selected soil. To prevent the hulking Monks Mound from slumping, its knowledgeable engineers ordered layers of different types of earth and internal drains. Other mounds at Cahokia show sequences of smaller mounds and colored clay caps, often a pair of round and flat-topped mounds on a low platform eventually coalesced into one by the later additions. Satellite centers, suburban villages, and hamlets and farms filled the floodplain. Late in Cahokia's history, near the end of the twelfth century, a timber palisade with bastions was raised around the central plazas and mounds.

Destruction of mounds in Cahokia has been extensive for a century and a half, and frequently human bones and fine artifacts were reported, in newspapers and by archaeologists a century ago whose crews of laborers worked like miners to pull out treasures. The Big Mound in St. Louis, pulled down in 1869 for railbed fill, contained a tomb chamber described as having a ceiling of logs and plastered walls and floor. Dozens of bodies lay in rows, torsos covered with thousands of shell beads presumably originally sewn on cloth mantas; in another part of the mound, two bodies were given conch shell spine pendants, marine shell beads probably strung on a necklace, and a pair of small copper masks (pendants) with long noses, symbol of the Siouan superhero He-Who-Wears-Human-Heads-As-Pendants. (The legendary stories make it clear these are not war-trophy real heads but magical little faces that laugh and stick out their tongues.) Other mounds now long gone had similar contents. Hindsight provided by the only reasonably carefully excavated and published mound, the surprisingly small Mound 72 south of the Great Plaza in Cahokia, suggests that the rows of bodies in Big Mound and others may have been sacrificed in rituals or to accompany their lords in death.

Mound 72 was only nine feet (three meters) high, 150 feet (forty-five meters) long by nearly fifty feet (fifteen meters) wide, oval in shape and lying northwest–southeast along the solstice lines—small by Cahokia standards and oriented diagonally to the central city's principal north–south/east–west grid. Like other mounds at Cahokia, it was constructed in sections, or stages, first a pair of small square platform mounds, one extending over where a large wooden post had been set, the other covering another post pit and a typical Mississippian building of wooden poles set in a foundation trench. A number of burials were placed and covered, the resulting line filled in so that the west mound was extended to the east one, then a large pit was dug in the center of the now-single elongated mound and fifty-three young people, mostly women, deposited in it; a smaller pit dug and four young men placed in it; and, finally, all this covered to make the oval mound seen by historic visitors. Huge cypress logs like those at the site of Mound 72 have been discovered at other locations in Cahokia, too, and hypothesized to have been solstice-observation markers, but between the destruction of so much of ancient Cahokia and the overwhelming scale of the principal mounds and plazas, defying the puny crews and funds allocated to conduct

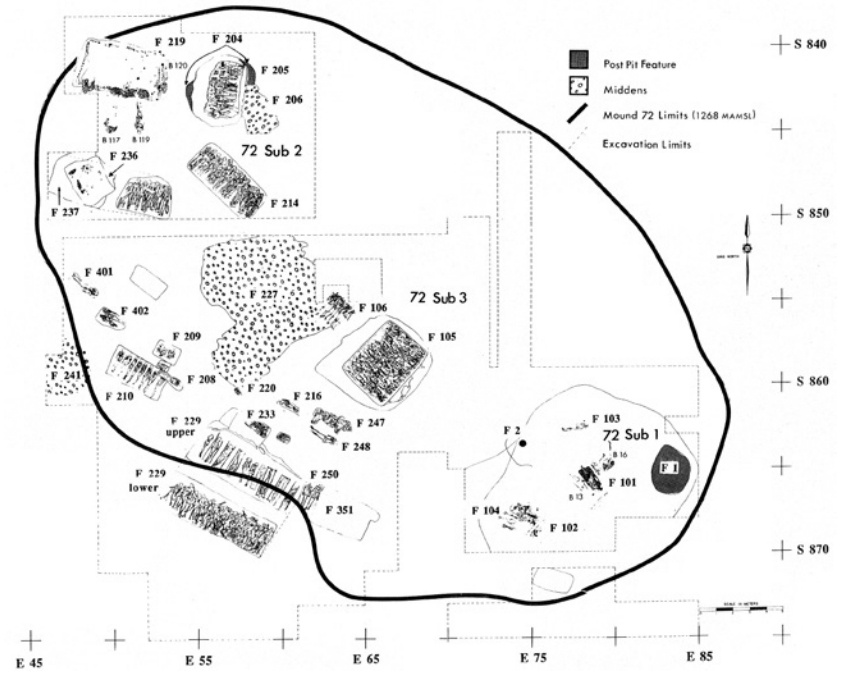


Figure 9.3 Mound 72 after excavation, showing pits filled with bodies.
Credit: Illinois State Museum

archaeology there, not enough data exist to evaluate the hypothesis definitively—the putative great circles of massive posts might have been cathedral-sized forerunners of historic Sun Dance ceremonial lodges and the circles of posts with dancing maidens depicted in sixteenth-century engravings of Eastern Indian villages.

Sometime in the eleventh century CE, a man, or possibly an enemy lord captured in battle, had been buried in the southeast of the two first-stage mounds of Mound 72. A woman was laid down, covered with an earthen platform strewn with thousands of glittering shell beads forming a hawk, and the man laid on that (over the buried woman). His head was toward summer solstice sunrise. At his head and left side two adults were laid out, at his right a bundle of bones from a young adult, and next to that another young adult lying as if thrown down: the three articulated skeletons are assumed to be retainers or bodyguards, the bundle burial may be a previously deceased attendant. Four yards (or meters) away was an offering cache with five young adults, two of them probably women, and two adults more poorly preserved, covered with valuables, and then three more bodies, one partially disarticulated adult and a pair of young adults, man and woman, were laid over the previous set and at a right angle to them. Poorly preserved human remains in this section of Mound 72 bring the total of apparent sacrifices to at least twenty-three apparently associated with the man and woman on the bead-strewn platform; of those whose sex could be identified, seven were men and ten, women. The nonhuman offerings included neat bundles of hundreds of perfectly flaked arrows of the best-quality stone from distant quarries, fifteen polished disk-shaped chunkey stones for the bowling-type game popular in the Southeast, a variety of necklaces of shell beads, rolls of sheet copper, and a pile of sheets of shiny mica. No doubt fine cloth was there, too, no longer preserved for us to note. Everything was completely covered with a black clay mound topped with a white clay and sand mix.

The second original mound platform, at the northwest end of the final mound, was constructed over the foundation of a wooden building open at the east end where one of the massive log posts had been installed. On the platform, over the former south wall of the building, the disarticulated bones of about thirteen adults were arranged in three piles: long bones, flat bones, and skulls with small bones. A pair of small, burnished black jars were placed with these piles. West of the piles were four bundle burials, apparently four persons, and on the east side of the platform were the bodies of two men, one wearing a shell hair ornament. A man and woman about thirty years of age were buried south of the piles of bones, man on the east and face down, woman to the west, face up, both wearing chokers of shell beads, and a pot of Lower Mississippi Valley style next to the woman. Where the massive post had been, east of the former building, a large north–south rectangular pit was dug, its floor covered with clean sand, and twenty-two women in their twenties were neatly laid in the pit, heads to the west, in two layers separated by mats. South of the former building, a similar pit oriented east–west held

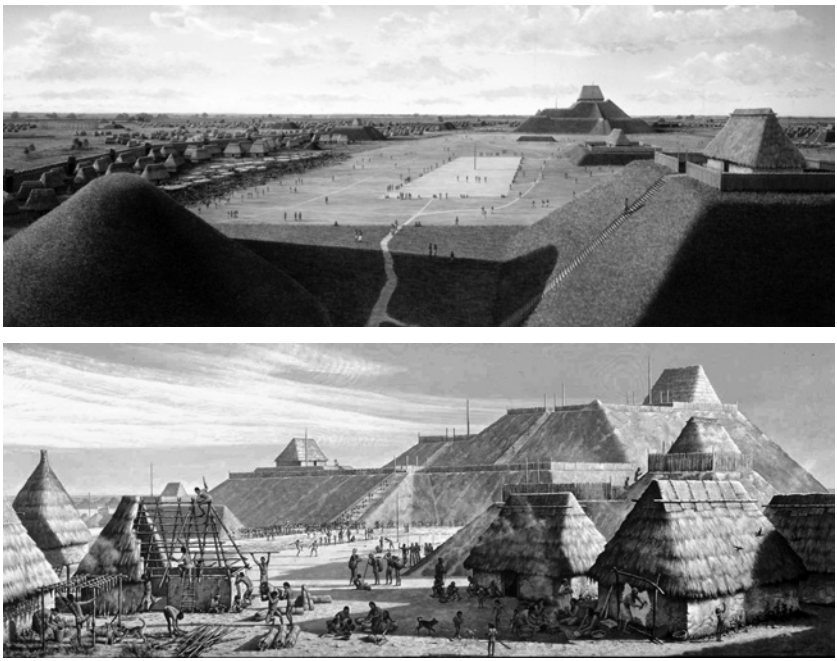
nineteen bodies, young women, two men, and two children, ten on the bottom and nine above them, layered with two kinds of mats. All these were covered, a capping layer applied, and over their pit placed a treasure offering of conch spine pendants; more than thirty-six thousand shell beads; a pile of 451 arrow points of local chert, unhafted; a burnished black ceramic bottle; and five red-slipped jars. Another rectangular pit like the preceding was dug into the southeast corner area, oriented like the final Mound 72 northwest–southeast, and filled with two layers of young women, twenty-four in all, laid on matting or cloth.

Finally, literally capping this ostentatious exhibition of power, yet another rectangular pit was prepared for, this time, fifty-three sacrifices, three-quarters young women, one-quarter men, in two double rows with two women on top of the layers, across the bodies below them. One of these women wore shell beads; none of the others had ornaments, unless some had decayed away. Northwest of this largest set of sacrificed young women, only six feet (two meters) beyond, as if guarding them, was a pit with four young men, their heads and hands removed. South of this set of two pits, in the middle of the south side of the final mound, a deep rectangular pit was dug, and thirty-nine people, both men and women, a few middle-aged, were forcibly thrown into it, not laid neatly; three of these people had their heads chopped off and dropped into the pit, two had arrow points in their bodies (possibly old wounds). These sacrifices were covered with matting and above them were placed, in a careful row, bodies carried on litters of cedar poles: on one, a young man, a young woman, and an adolescent, all disarticulated; next, an adult with a child on top of it; then a woman; then a woman with two children; then an adult with its head cut off and placed on its chest; and lastly, one after another, another woman, an adult of undeterminable sex, and two adolescents who seem to have died somewhat earlier and become partially decomposed. Northwest of this pit was a smaller one with eight persons, including a child, and next to that, a pit with six disarticulated people. The last mass burial pit, in the center of the final Mound 72, had sixteen mostly disarticulated skeletons (nine of them in bundles) over a couple of whole bodies, plus one little child about three years of age—the only very young child in the whole mound. Finishing off were six separate pits with a total of five bodies and four bundle burials. A last covering and capping completed the homage to the Lord Hawk of Cahokia. Two hundred and seventy youths and adults, and one small child, had been arranged in his monument, nearly all of them sacrificed.

Mound 72 and Monks Mound trumpet Cahokia's singularity: the awesome bulk of Monks Mound is unmatched anywhere in America except Mexico, and there only by two capitals of great states, and the terrible number of sacrifices unmatched except, again, in the capitals of the great Mexican states. Surely eleventh-century Cahokia was the capital of a state more powerful than any other north of central Mexico's broad valleys. Noting the distribution of Cahokia's fine-quality ceramics, of eleventh- and

twelfth-century towns with platform mounds, of principal Indian travel routes in the Midwest, and of petroglyphs of hawk/falcon/thunderbirds associated with pecked crosses in circles—these last territorial markers in Mesoamerica—archaeologist Patricia O'Brien calculated the Cahokian state to encompass fifty-two thousand square kilometers (approximately twenty thousand square miles) of America's heartland. This was difficult land to control, forested outside the settlements and their farms, populations knowledgeable about wild foods so they were able to retreat into the woods to escape state demands, all the men trained and equipped to hunt deer, and therefore humans if politics induce them to do so. The wonder is not that Cahokia could not maintain its power over the generations, but that so imperious a state could be instituted at all.

Cahokia's Mesoamerican-style urban plan would imply a Mexican stimulus, although so little else is distinctively Mesoamerican. Two hundred and seventy adults in the mound tomb echoes the number sacrificed in the Feathered Serpent Pyramid in Teotihuacán, centuries earlier; there, the number is like



Figures 9.4 Paintings by Lloyd Townsend of the Grand Plaza and Monks Mound, looking north from the seventy-foot conical mound and adjacent flat-topped mound at south end of the Grand Plaza, and by Michael Hampshire of building activities and homes on the east side of the Grand Plaza, portray Cahokia about 1050 CE.

Credit: Cahokia Mounds State Historic Site; paintings by Lloyd K. Townsend and Michael Hampshire

Meosamerica's 260-day ritual calendar, but the elaborate calendar reckoning of Mesoamerican astronomer-priests isn't known for U.S. First Nations, and poor preservation in humid Cahokia means the number there is approximate. A few individuals with sawtooth-filed front teeth, popular among Mesoamericans, have been excavated from Cahokia-period graves in the Cahokia area—and one from the contemporary Chaco period and region—and these may have been visitors from Mexico, possibly architects and traders, because filed teeth are not otherwise known in U.S. sites. Mound 72 had no Mexican valuables, no feathered serpent designs, no goggled warrior masks, and no macaw bones. Of course, any manner of perishables such as macaw feathers might have quickly decayed in the humid Mississippi Valley, but it is striking that all the treasures given in that ritual were Midwest manufactures or, in the case of the conchs, imports from the American shore of the Gulf.

Weighing the contemporaneity of Chaco in the Southwest and Cahokia, the lack of indications of direct contacts between them, and the contemporaneity of the "Toltec" imperium in Mexico, we may postulate opportunities in the eleventh century for ambitious leaders in the Southwest and Midwest to engage in lucrative trade with Mexico. Chaco could export turquoise; Cahokia could export maize, expertly tanned deer hides, perhaps dried meat, and slaves, taking advantage of its prime water route to southern markets. Thus more advantaged than Chaco in its desert, Cahokia's ambition to match the glory of its Mexican emporia materialized in its grandiose capital. The wanton sacrifice of so many of the fairest maidens and young men its minions could capture or buy were calculated to make its power awesome. It was, in reality, chimerical: when the "Toltec empire" fell, it seems the frontier states at Chaco and Cahokia lost their power base, their capitals emptied and the territories tenuously held quickly became independent little kingdoms.

The Interior South and Midwest: Post-Cahokian Period

During Cahokia's prime in the eleventh and twelfth centuries, its heartland was rimmed by towns that were either outposts—Aztalan in south-central Wisconsin at the headwaters of the Rock River, which flows into the Mississippi—or more numerous entrepôts, such as that at the confluence of the Platte River with the Missouri, near Kansas City, where bison products from the Plains met the deer and maize of the Midwest. Cahokia's thirteenth-century demise correlates with population movements, some into towns strongly fortified with palisades, others into substantial villages sited in the best farmlands. Dependence on maize agriculture expanded during and after the Cahokian era, strengthened by a new, hardy flour corn adapted to short growing seasons called eight-rowed Northern Flint, developed from a variety probably introduced into Florida from the Caribbean. Beans were also introduced from the south, their cultivation spreading quickly

around 1000 CE as far north as upstate New York and into the central Ohio Valley. Oddly, Cahokia-era Mississippians did not accept beans. Only after 1300 CE do they appear in central Midwest Mississippian sites, completing the famous "Three Sisters" of Eastern American agriculture—corn, beans, and squashes. Because beans fix nitrogen in their roots, by planting beans between maize plants, not only do the maize stalks serve to support the bean runners, the beans replenish the soil with nitrogen taken up by the maize. Beans also provide protein, deficient in maize, balancing a farm-based diet. All Mississippians harvested deer and fish, very likely maintaining deer parks beyond their farms by regularly burning browse areas, so protein may not have been a problem, and the Cahokians' ridge and ditch fields replenished nitrogen when the ditch muck was shoveled onto the planting ridges, lessening the role beans would have played. Cahokia's eastern frontier might be marked by a "bean line," beyond which independent societies pursued their own economic regimes.

Conventionally, archaeologists distinguished "Mississippian" from concurrent "Late Woodland," assigning the Mississippian label if a site had platform mounds, reliance on maize, and shell-tempered pottery. "Late Woodland" was the label for sites, usually small and on uplands, with grit-tempered pottery and less evidence of maize. Obviously—and archaeology is increasingly demonstrating this—"Late Woodland" sites could be Mississippians' seasonal camps for hunting deer, harvesting nuts or other wild foods, or cutting wood. Other "Late Woodland" sites may be small nations taking refuge from Cahokian dominance in bush country unsuited for Mississippian intensive agriculture. "Mississippian" sites, such as Toltec Mounds (not related to Mexican "Toltec") near Little Rock, Arkansas, sometimes challenge archaeologists by, as at Toltec, having more than a dozen platform mounds and a plaza, but (1) beginning construction of the mounds in mid-seventh century CE, "too early" to be Mississippian; (2) cultivating the indigenous Midwest small grains, that is, chenopods, maygrass, knotweed, and little-barley, rather than depending entirely on maize; and (3) making pottery tempered with hard clay particles. Toltec Mounds is an Arkansas River town sharing the ancient Lower Mississippi Valley mound-building tradition, continuing the Midwest indigenous plants agriculture developed in the Late Archaic, and in its later phase trading downriver with "true" Mississippian, as evidenced by some shell-tempered pots. Cahokia's frontiers were ringed by independent societies like these, living their own trajectories of history. According to their own tradition, the historic Osage nation on the Ozark Plateau of Missouri was descended from Cahokia, having retreated to a more defensible territory after the city's fall.

Smaller kingdoms and confederations of towns become very visible in the fourteenth century, freed of Cahokia's shadow. Moundville in Alabama, Etowah in Georgia, Angel in Indiana, and Kincaid in Illinois on the lower Ohio River, are towns with a plaza, a few up to two dozen mounds, usually a palisade, many single-family pole-and-thatch houses, and plenty of maize.

Historically, and still today, the Creeks (Muskokee) distinguish between *etulwa*, "town," having a ceremonial ground (plaza) and sacred fire, established and formally named with the proper ritual, and *talofa*, "village," simply a settlement and affiliated with a "mother town," *etulwa*, politically and to participate in rituals. The difference in scale between Cahokia and even the largest of the post-Cahokian towns, Moundville, is dramatic. These were the kingdoms described by De Soto's chroniclers, not so different from the many kingdoms and principalities in sixteenth-century Europe.

As Christianity provided a set of symbols overriding the political divisions in medieval and early modern Europe, so post-Cahokia Mississippians shared a set of symbols referred to as the Southeastern Ceremonial Complex. Elements of the Complex have been recognized at Cahokia, but the full-blown Complex postdates it and seems to have borrowed from contemporary Late Postclassic Mexico, but, like the Aztecs claiming legitimacy through a link to the "Toltecs" before them, Late Mississippian rulers treasured icons from Cahokia: the Lord of Spiro on the Arkansas River was buried about 1400 CE with some heirlooms already several centuries old. Archaeologists recognize the Southeastern Ceremonial Complex from preserved stone, ceramic, shell, and copper objects, ranging from full-sized battle-axes laboriously made from single pieces of stone, through conch-shell chalices engraved with themes of war and power, fine shell-tempered ceramic serving wares, to repoussé copper plates similar to the "coppers" worn on headdresses by Northwest Coast nobles. That cloth and well-tanned deer hides also were decorated with motifs of the Complex, rarely preserved even in fragments, may be inferred from Europeans' sixteenth-century accounts of the pomp and gifts displayed by Southeastern *caciques*, as the Spanish termed the aristocratic leaders they met.

Southeastern Ceremonial Complex motifs center on a pair of personages with winged arms and human bodies. We do not know whether they were conceived as deity or apotheosized dynasty founders. One version seems to have hawk wings and sometimes a beak mask over the lower face, the other has tobacco-moth wings and a moth proboscis, and the design may add disks that probably represent stars in the sky. Hawks as symbols of bellicose power of course go back to Hopewell and continued in Cahokia; tobacco moths are large night-flying insects that pollinate tobacco, cultivated in the Hopewell as well as Mississippian eras. Historically among Eastern Woodlands First Nations, tobacco was used in rituals but not for private pleasure—it was a strong South American variety probably introduced via the Caribbean. Tobacco Moth was to Night as Hawk (especially peregrine falcons) was to Day, a highly visible denizen of the air. A third holy personage is a dancing man wearing, as a pendant on his chest, the spiraling spine of the conch shell. Late Postclassic Mexicans used the spiral conch pendant to signify Quetzalcoatl, Lord of our present Fifth World, and derived from his power, signaling legitimate rulers. The necklace of large shell beads with conch spiral pendant is frequently worn by the personages engraved on

the conch cups and embossed on copper plates. Personages often brandish weapons or scepters, and these may be in the form of serpents. In his other hand, a personage may carry a trophy human head. A few engravings depict chunkey players poised to roll their stone disks. Serpents, some clearly rattlesnakes and others monstrous, with horns and wings, are common and may be shown as four intertwined to make a swastika symbol of dynamic power. The common Mesoamerican cross in circle symbol of the world, or of territory, is another frequent motif. Eastern Woodland roots for the Southeastern Ceremonial Complex are obvious, and so are Mexican motifs generally by around the Late Postclassic, of which two striking examples from Spiro are depictions of a man wearing the diadem set with star disks that is the emblem for Venus the Morning Star as War Captain, and a conch cup showing two serpents as canoes bearing a pair of paddlers each with his banner beside him—the Maya image of the celestial ecliptic, two gods eternally paddling around the heavens.

Historical linguistics presents groupings and relationships suggestive of political developments, especially for the Mississippian, most recent precontact period. Muskogean (languages of Muskokee including Creek, Choctaw, Hitchiti, Alabama, and Koasati) appears to have its homeland in the middle Mississippi Valley, expanded eastward into Alabama and then south into Georgia and Florida, and south into (the state of) Mississippi. Siouan languages lay in a broad band from the mouth of the Ohio eastward through Tennessee into the Carolinas and south into Mississippi. This mapping lets either Muskogean or Siouan be adduced as the language of Cahokia, and whichever may have been spoken in the capital, both would have been so geographically close they would have been culturally similar. Much earlier, in the Late Archaic, Proto-Siouan, Proto-Iroquoian, and Proto-Caddoan may have been developing from mid-Holocene ancestors in the Mid-South, from Tennessee to the Mississippi Valley. Iroquoian would have then moved east and northeast, Caddoan south and southwest.

Congruent with archaeological differences, the Lower Mississippi Valley is linguistically distinct from Muskogean and Siouan, its languages being Natchez, Tunica, Atakapa, and Chitimacha. Natchez, in particular, is said to show similarities to Mesoamerican languages, whence some may have spread farther north to Muskogean, Tunica, and (Siouan) Quapaw, through contact with Natchez, if not more directly with Mexico. Among semantic similarities between Mesoamerican usages and Choctaw are calling *mano* "child of metate" and, in the Southeast, *pestle* "child of mortar"—Southeasterners pounding corn in mortars with pestles rather than grinding it on metates; using the same word for "feather" and "fur," which makes one think of how common feather cloaks were in both Mesoamerica and the Southeast; and the same word to mean "to kiss," "to suck," and "to smoke."

Beautifully engraved conch shell cups, or chalices, very possibly used to serve the purgative "black drink" to men ritually preparing for war, were found in abundance in burials in the mounds at Spiro, in eastern Oklahoma

on the Arkansas River, commanding a narrows of this major river. Historically in Caddo territory, Spiro is assumed to have been built by ancestral Caddo, although an argument has been made that it more closely fits ethnohistoric descriptions of the Tunica. The site has a large pyramidal mound on one side of a plaza outlined, in a somewhat irregular hexagon, by six small mounds, with another offset, plus three mounds in a line, lower and closer to the river. Sight lines from the large platform mound across other mounds mark summer solstice and the equinox, and distances between the set of mounds around the plaza are multiples of 150 feet (47.5 meters), a unit of measurement identified also at Toltec Mounds. The mounds were drastically looted during the 1930s, treated as a mine of objects that could be sold by the impoverished grave robbers hard hit by the Depression, and then more systematically excavated by federally funded relief labor crews, unfortunately of course not up to today's standards for scientific archaeology. The principal burial mound, in the group near the river, began with a cemetery at the end of the tenth century CE, then a series of mound layers were constructed, with burials including a body placed in a large twined fabric sack, and finally, in the beginning of the fifteenth century, a large platform on which were placed a great number of burials of which many had been exhumed from previous interment, a circle of tall cedar poles, and at last a rounded cap of earth. The early fifteenth-century event is reminiscent of Cahokia's Mound 72 in that an important person was interred with bodies carried on cedar-pole litters and many more tossed together, plus piles of valuables, but there is no clear evidence of human sacrifices; instead, bones of long-deceased Spiro people together with offerings left in their graves were assembled to lie with the newly dead lord. Many of the valuables, such as conch cups, were broken from pressure of the earth overburden on their original graves. Other valuables, such as textiles, could not have been previously buried, although some may have been antiques already, and the carved wooden masks and human effigies probably, like those in Florida, were set up ringing the consecrated space.

Among the valuables amassed in this newly created cemetery are figurines probably from Cahokia, a handsome young man, an older man, and a woman with a mortar, all two centuries older than the tomb in the Spiro mound. As in Mound 72, thousands of marine shell beads were deposited in the Spiro tomb, piled on textiles, and there were woven cane boxes, some with cremated or exhumed fragments of skeletons, some with copper ax heads, copper beads, and embossed copper plates. One archaeologist extrapolates from early historical documents the possibility that the lords of Spiro became wealthy by controlling production of bows made from Osage orange trees (*bois d'arc*), the very best bow wood in America (comparable to English yew), obtainable only in a limited region in northeast Texas south of Spiro. On the edge of the Southern Plains, this region would have served to transmit bison products, as well: in 1541, De Soto's men noted plenty of "beef" and "cowhides" in the Spiro area, and men working to process the hides to be

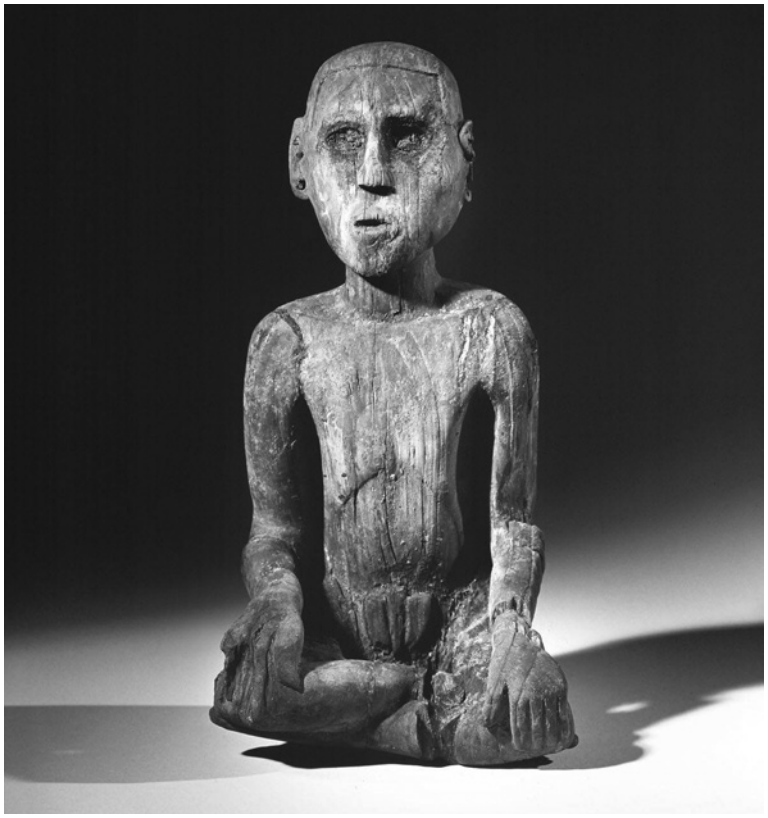


Figure 9.5 Wooden carving of a man, from Spiro Mound, northeastern Oklahoma, c. 1400 CE.

Credit: National Museum of Natural History, Smithsonian Institution

used or traded as winter bed covering. Archaeology and radiocarbon dates at Spiro seem to indicate diminution of its political–economic importance in the later fifteenth century, but the De Soto chronicles challenge this. Spiro's position on the western boundary of Mississippian societies stemmed from its geographical advantages as an entrepôt, and this location continued to be advantageous, as attested by the Spanish explorers, in the sixteenth century and into the eighteenth when horses that flourished in the Osage-orange country were traded by Indians to the French in Louisiana.

Archaeological distinctions correlate with linguistic boundaries on the East, as well as along the eastern foothills of the Appalachians, where a Mississippian cultural pattern, dependent on maize agriculture in the floodplains, appeared in the eleventh century, changing in the mid-thirteenth century

as Mid-South societies east of the Mississippi display stronger regional characteristics. Atlantic Coastal Plain societies took up maize agriculture in the Mississippian period, without large towns and platform mounds; the easternmost Mississippian-type site with platform mounds is in the Piedmont. Northeastern-style longhouse villages extend along the Atlantic Coastal Plain into North Carolina; these societies were described in the preceding chapter.

Research Puzzles

There has been a tendency for American archaeologists to explain cultural changes as "natural" responses to climate shifts and apparent institutional innovations such as towns as inevitable concomitants of population increase. In one word, American archaeologists have tended toward a *provincial* outlook, not considering political and economic movements impinging on a locality from outside the region. This tendency, to be fair, is reinforced by the need for an archaeologist to know minute details of thousands of artifacts just to write a basic local history. Wide-ranging comparisons are discouraged and disparaged as speculation. As a result, Mississippian is conventionally explained according to a supposed evolutionary trajectory carrying local populations from hunting-gathering to small settlements to "chiefdoms."

Related to uncritical acceptance of a seventeenth-century European logical construct (the "tribal" or "chiefdom" stage in a conjectured universal history) is an unfamiliarity with living First Nations. The U.S. policy of exiling them beyond the frontier and subsequently to reservations blocked most Americans, particularly in the East, from mingling with Indian contemporaries. Archaeologists training in standard, that is, Western, scientific methods had little incentive to hang out with rural Indian people or study indigenous knowledge. The 1990 Congressional Native American Graves Protection and Repatriation Act (NAGPRA) is having some impact on the provincialism of many archaeologists, mandating in many instances negotiation with First Nations that may be affiliated with archaeological sites. Only a minority of Midwestern and Eastern archaeologists perceive that their standard categories derived from Western philosophers' logic are stereotypes fed by nineteenth-century racism. Growing up in segregated communities, educated in schools teaching that American Indians were no match for "civilized" Europeans, American archaeologists are generally comfortable with terminology and interpretations that segregate First Nations into a truncated history failing to achieve "civilization."

The provincial outlook sets the puzzles of Mississippian research. Without texts such as Mesoamerican archaeologists read, nor indubitable Mexican imports such as macaws and exports such as turquoise as found in the Southwest, Mississippian archaeology can be a playground for coldly "scientific" interpretations minimizing the economics and politics of the

Late Prehistoric Eastern Woodlands. For example, one archaeologist published calculations purporting to demonstrate that a population of only eight thousand people in the American Bottom would have been sufficient to raise all of Cahokia's (surviving) mounds, ergo, Cahokia was only a "chiefdom" of simple farmers. The same archaeologist refused to consider as possible evidence of Mexican contacts the filed teeth of a few Cahokia-area skeletons, dismissing their intriguing similarity to Mexican fashion of the period. It is as if, for a jigsaw puzzle, a player arbitrarily discarded several pieces.

The great research puzzle for the Mississippian is Cahokia. How did it happen that a city of unprecedented, and never later equaled, size and architectural grandeur was relatively quickly built and then, two centuries later, collapsed? What was its relation to the mound-building tradition of the Lower Mississippi Valley? Whence its Mesoamerican-style urban plan? How large was its state? How did it influence the other nations of America, from the Rockies to the Atlantic, during its time and afterward? Cahokia is unique in America north of central Mexico. If we could understand its history and society, we would be in a position to better interpret the histories of all the nations of Late Prehistoric eastern America.

Bibliographical Notes

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10 The American Southwest

The American Southwest—Arizona, New Mexico, and the adjoining border sections of Utah and Colorado—fits geographically more into northwestern Mexico than the temperate United States, and indeed until the annexation of Texas stimulated U.S. ambition to expand to the Pacific through a southern route, the Southwest had politically been part of Mexico. Underlying cultural continuity is as obvious today as when the first Spanish, in 1540, christened "Nuevo México" after journeying for months through nation after nation speaking Uto-Aztecan languages.

Archaeologists conventionally divide the American Southwest into three provinces, Hohokam in southern Arizona (including the Phoenix and Tucson Basins); Mogollon in southwest New Mexico (south of Albuquerque) and southeast Arizona into Chihuahua, Mexico; and Anasazi or Ancestral Pueblo in northern Arizona and New Mexico and adjacent Utah and Colorado. A fourth sector would be the western Arizona–southeastern California zone along the Colorado River, generally considered peripheral to the Southwest. Much of the Southwest is semiarid, real desert in southern Arizona, but elsewhere extensive uplands and mountain ranges supporting piñon and other conifers. From the standpoint of economics, Southwesterners should have always made their living by seasonal movements of small bands harvesting relatively sparse but varied wild foods; contrary to common sense, for three thousand years most Southwesterners have farmed, investing much labor in nurturing maize on land alien to it. This determination to construct agricultural societies makes the history of the Southwest intriguing.

Paleoindian sites in the Southwest include mammoth kills with Clovis blades in southeastern Arizona, and giant bison (*Bison antiquus*) kills with Folsom spear points in eastern New Mexico. The latter lie near the valleys and ranges of the mountains, the open High Plains—prime habitat of the bison—before them to the east. Paleoindians may well have wintered in sheltered low basins, harvested wetland and upland plants and game in the spring, and slaughtered the huge bison on forays on to the shortgrass Plains when weather and herd movements were most favorable. This economic pattern (if the data are correctly interpreted) persisted to the historic period, modern Plains bison replacing their larger ancestors in the Early Holocene.

Archaic sites have failed to attract much interest among Southwestern archaeologists, in contrast to the attention the Archaic gets in the Great Basin: everything in Basin precontact looks "Archaic" with small camp occupations and no striking artifacts other than stone blades, while in the Southwest an archaeologist's eye is quickly caught by the building ruins and painted pottery of the last millennium. One synthesis of Southwest archaeology informs its readers that "the Archaic way of making a living was extremely conservative, remaining remarkably stable until the introduction of corn from Mexico." The authors do realize that there was "archaeologically invisible cultural change hidden beneath" the artifacts of seasonally transhumant resource harvesting. Milling stones—flat or shallow stone slabs on which seeds were ground with a handheld cobblestone in a circular motion, unlike the trough metates with shaped long-oval manos for grinding corn in a back and forth motion, later in the Southwest—occur in sites beginning with the sixth millennium BCE. Dry rockshelters have provided Southwestern archaeologists with good samples of human paleofeces (that's right, dried ancient feces) that when examined under a microscope prove Archaic people ate seeds of chenopods, amaranth, and sunflower, cactus fruit, eggs (bits of shell consumed, too), roasted insects, lizards and small mammals whose tiny bones were sometimes crunched with the meat, or the animals, presumably gutted, dried whole and then pounded into a high-protein, calcium-enriched powder for storage or journey food.

Up to the end of the second millennium BCE, when maize first comes into the Southwest, it was culturally part of an Intermountain West, although with regional distinctions. Basketry and twined fabrics, including blankets or winter robes made by binding fur strips or feathers with yucca cord and then weaving them, were similar, and these similarities in fiber artifacts continued much longer, until cotton came into cultivation in the Southwest about 700 CE. A difference has been noted between Early Archaic sandals in the southern Colorado Plateau (northern Arizona and New Mexico) and those in the northern sector of the Plateau (southern Utah and southwestern Colorado) and the Great Basin. After 6000 BCE, the southern style was adopted on the northern Colorado Plateau, implying more intercourse between communities in the two sectors. Animal figurines made of basketry-material split twigs have been preserved in dry sites in northern Arizona; some may have been duck decoys.

Introduction of maize and squash about 2000 BCE added a valuable new resource to the existing Late Archaic Mogollon and southern Southwest subsistence base of seasonal harvests, without apparently radically changing Southwesterners' lives. A curious archaeological observation is that maize and squash are evidenced in a number of rockshelter and habitable caves during the first millennium BCE, but open-air habitation sites with maize seem rare until the beginning of the first millennium CE. This observation reflects the Late Archaic cultivators' practice of caching stores of maize in rockshelters. Some may have slept during planting and harvesting seasons near their plots

in wickiups or tents that left no discernible traces on the landscape. Near Tucson, in a creek valley suited to farming, salvage excavation along a pipeline trench revealed two oval pithouses, possibly more beyond the pipeline right-of-way project, with bell-shaped storage pits inside and also outside the houses. Maize, chenopod, amaranth, and a Southwestern grass seed, plus walnuts and hackberries, were stored in these pits, with slab milling stones and manos to grind the seeds—the maize was related to the Chapalote flour corn raised by O'odham (Pima and Papago) historically, nearly three thousand years later. Villages with pithouses around courtyards, beginning about 500 CE, indicate investment in sedentary communities, some with sets of courtyard compounds around a central plaza.

Maize cultivation coming from its beginnings in Mexico, arrived into the Sonoran Desert of northwest Mexico and southern Arizona. To be pursued, it required water. Near Tucson, irrigation canals two-thirds to one-and-a-quarter miles (one to two kilometers) long dug to carry water to fields, were, at 1250 BCE, among the earliest irrigation works anywhere in the Americas. Note that these canals are more than a thousand years earlier than pithouse villages; whatever shelter their builders constructed was on the surface and perishable, suited to the hot desert. As populations increased in the Phoenix and Tucson basins, so did waterworks, reaching in the Phoenix area a system of trunk canals and feeders totaling 373 miles (six hundred kilometers) of ditches, extending as much as nineteen miles (thirty kilometers) from river intake, and serving an area of twenty to forty thousand hectares (fifty thousand to ninety-eight thousand acres). By 1100 CE, even this acreage was no longer sufficient, with cultivation of drought-resistant plants such as agave carried out on dry slopes by means of contour terraces, check dams, and rock "mulch" to capture the slight rainfall; that is, fields were covered with small rocks to shield the soil from drying out quickly. Climate data interpreted from tree rings suggests climate changes triggering destructive floods in this southern Arizona Hohokam territory beginning around 1275 CE, when drought is recorded to the north on the Colorado Plateau. Some Pueblos migrated from there into Hohokam lands, leaving Pueblo ruins in the San Pedro Valley a couple centuries later when they moved to northern Arizona. Hohokam did not abandon their homeland, instead coping with climate change by downsizing towns and irrigation systems. Spanish invaders in 1540 found small villages of lightly built homes and ramadas in southern Arizona, ancestors of the O'odham.

Classic Hohokam, 1150 CE to about 1450, would have impressed those invaders. Towns at key points on irrigation systems had huge adobe platform mounds with residences and temples on top, pithouses inside adobe-walled compounds, and oval flat, embanked features that may have been courts for playing a version of the Mesoamerican ball game with rubber balls (imported from southern Mexico). Commoners lived outside the central platform in homestead compounds such as their people had been using for centuries.

Two thousand years ago, villages of pithouses with maize storage pits were built on the Colorado Plateau. To raise maize there, farmers not only needed

to select for resistance to cold nights and frosts, but also for varieties that can germinate in spring in soil retaining some moisture from winter and then grow vigorously later when summer rains come. On this Plateau, maize kernels are planted deep, where winter moisture will be held. Northwest Mexican and southern Arizona Uto-Aztecan indigenous farmers instead plant in early summer on floodplains, placing the kernels only half as deep as Plateau Pueblo farmers do and relying on the accumulation of moisture where canyons disgorge water onto floodplains. Their late planting can be successful because frosts do not curtail maturation in the fall. Hence, maize agriculture on the higher, cooler Colorado Plateau required several sophisticated adaptations, the threat from frosts in the fall inducing earlier planting to obtain a full growing season, this depending on knowing the soil and topography that contains moisture before summer rains begin, and developing cold-resistant races of maize even more drought-tolerant than the southern races. A Hopi cornfield today startles a visitor from the East or Midwest: the maize plants are widely spaced with more bare dry earth than plants in the field, very different from the thick rows that make a solid green of cornfields in the humid East.

Bows and arrows entered the Southwest two thousand years ago, presumably from the north (presumably, because bows predominate in Anglo America but atlatls with darts continued in general use in Mexico to Spanish conquest, as many Spaniards wounded by atlatl-propelled darts penetrating their chain mail could attest). For their first millennium in the Southwest, bows were simple self-bows, sending the projectile at twice the speed of an atlatl dart; then about 1300 CE, sinew-backed recurved bows appear (in the Great Basin also), a complex type that shoots arrows faster than the self-bow. It is not surprising that during the first millennium CE, Southwesterners frequently built villages (of pithouses) on defendable hilltops, sometimes with series of low stone encircling walls, or if suitable hilltops near farmland were not available, building log stockades around villages.

Maize and squash agriculture reached the southern Southwest at the end of the third millennium BCE and the Colorado Plateau somewhat more than a millennium later, expansion to the higher and cooler Plateau demanding innovations both in agricultural technology and in the genetics of the plant. Judging from continuities in basketry and sandal styles, the colonization of the southern Colorado Plateau was by farmers from farther south in Arizona and New Mexico, while the first farmers on the northern Colorado Plateau seem to have been local people taking up the practice from their new neighbors. Bows and arrows exacerbated conflicts as arable land became more valuable and increased population harvested wild resources as well.

Hohokam: Agricultural Towns in the Desert

Civilization, in the form of agricultural towns with large public buildings and plazas, developed in the fertile lake basins of interior western Mexico in the first millennium BCE, preceded in the second millennium by villages

with platform constructions and chamber tombs at the bottom of deep shafts. Furnished with fine pottery, handsome ceramic figurines, and jewelry, the tombs reflect societies already marking social class and honoring their defending soldiers. Although much less archaeology has been conducted in the western half of Mexico than in the more densely populated eastern half, societies in the west seem to have paralleled those in the east. By the beginning of the first millennium CE, Teuchitlán in Jalisco was building pyramidal platform mounds around circular plazas, ball courts, and extensive water-management systems, ditching and constructing raised fields along its lake and terraced fields with check dams for water retention on adjacent slopes.

Far to the north, in southern Arizona, the beginning of the first millennium CE saw villages of shallow pithouses along the Gila and Salt Rivers, extending maize fields through irrigation ditches. These communities were not much different from the preceding Late Archaic, except that they made pottery, at first a plain unpainted type. With pottery, the sites are labeled Hohokam. After a couple of centuries, red-slipped pots (surfaces covered with fine red-firing clay wash) were also made, and by the seventh century CE, red-painted light-brown pots. Similar ceramics were made far to the south around Lake Patzcuaro in Michoacán, Mexico, and suggest some communities migrated from there to southern Arizona. Patzcuaro people constructed round pyramidal mounds, as preserved today in Tzintzuntzan, not the rectangular adobe platforms of Hohokam, so relations between the regions were not copycat.

Continuing contact with northwest Mexico, evidenced by Gulf of California shells in Hohokam sites, and population increase in the river floodplains gradually led to more and larger villages, by the end of the first millennium CE in most of the irrigable floodplains of southern Arizona. Rectangular pole-and-brush houses built in shallow pits were by then clustered around courtyards with cemeteries close by, suggesting these were extended-family households. Cremation came to be the custom for disposing of the dead, burning pottery, palettes for preparing body and face paints, and ornaments with the corpse. Examination of Hohokam skeletons, from the minority who were buried or left in abandoned sites, or bones not thoroughly consumed by cremation, shows closer similarities to northwest Mexican population characteristics than to people of the northern Southwest. Culturally, similarities in textile techniques and designs, in rock art, in platform mounds and ball courts, and the practice of cremation point to northeastern Michoacán (west-central Mexico) just prior to Hohokam emergence (i.e., 100 BCE to 200 CE), as a source of colonists.

A few real towns grew, for example, at the locality called Snaketown, on the Gila about twenty miles (thirty kilometers) south of Phoenix, and Pueblo Grande and Mesa Grande, on opposite sides of the Salt River, eight miles (thirteen kilometers) apart, in present-day Phoenix. In the lower Salt River valley, platform mounds were built three miles (five kilometers) apart, implying an overall organization or confederation of their villages. Miles

Figure 10.1 Pueblo Grande, principal Hohokam town now in center of Phoenix, Arizona, during the thirteenth century CE.

Credit: Artist's rendering by Michael Hampshire, courtesy Pueblo Grande Museum, City of Phoenix

of irrigation ditches watered maize, squash, and cotton fields that fed and clothed hundreds of townspeople who built rectangular houses grouped in neighborhoods, large platform mounds, and ball courts or, perhaps, dance plazas. Five hundred spectators could have sat on the earthen-embankment bleachers to watch Snaketown's games and dances. Possibly, tournaments between Hohokam towns and villages linked the communities, complementing the links maintained by trade and military alliances.

Marine shell imported from the Gulf of California was worked, in quantities, within Hohokam towns such as Snaketown. Craftsworkers mastered difficult techniques to cut, carve, and etch the delicate surfaces of shells. Lizards, frogs, and horned toads were often depicted, as well as birds, snakes, and humans, in clay figurines and masks and in stone, as well as in shell. A particularly precious Pacific shell, the rose-colored spiny oyster (*Spondylus*), is found associated with the wealthiest burials and buildings from Peru through Mesoamerica and, though rare, in Hohokam, proof of Hohokam's continuing links to the civilizations to the south, bringing in tropical macaws alive from Mexico, copper bells from West Mexico during the eleventh century, mirrors made of iron pyrites set as a mosaic to produce a reflecting surface, and marine shell trumpets.

Hohokam probably was not a single ethnic group. Its ceramics; irrigation agriculture; town styles with plazas, platform mounds, and rectangular houses; and many craft technologies place it at the northern end of Mexican civilizations, yet variations between Hohokam sites in the several river

basins of southern Arizona, and continuities with Late Archaic, especially outside the Gila heartland, hint that some indigenous communities acculturated to the Hohokam agricultural economy and trade system established by colonists from the south. Hohokam also was not the simple settlement of a group of farmers then isolated from further innovations. Significant changes appeared around 1150 CE, with cotton apparently being stored in central town facilities rather than solely in family residences, as earlier, and introduction of Mexican-type spindle weights and production of fine-spun thread, and quite complex, elegant fabrics such as figured gauzes and, in the twelfth century, brocades (technically, tapestry weaves). These fabrics required not only great skill but also would be very time-consuming, expensive in terms of labor; recovered specimens seem to have been woven in the Southwest but copied from examples worn by Mexican aristocrats.

About 550 CE, an outpost town had been built on the eastern side of the Sierra Madre mountains in northwest Mexico precisely on the Tropic of Cancer latitude to make astronomical observations: this unusual colony was probably sent by the great Valley of Mexico state Teotihuacan to enhance its calendar calculations (used to cast horoscopes as well as to regulate civic life). Teotihuacan encouraged mining, too, in the west, stimulating more colonization or development of local economies into the trade systems. These waystations on the thousands-of-miles-long routes between Arizona and central Mexico, and the substantial agricultural towns in valleys along Mexico's Pacific coast, reinforced Hohokam trade. At the same time, second half of the first millennium CE, the defensive siting of most outposts and local capitals, and the hundreds of young men's skeletons in many of them, collected and sometimes displayed as trophies, indicate that the western frontier of Mesoamerica was roughly contested. Such evidence of battles and/or sacrifice (as later by the Aztecs) is lacking in Hohokam during most of its duration—Arizona was too far from imperial centers to warrant their attacks. Even for the period ending Hohokam platform mounds, about 1400 CE, warfare is not archaeologically evident, in spite of O'odham oral histories telling of bloody revolt against arrogant overlords on the big compounds.

Of all the raw materials utilized, directly or for trade, by Hohokam, the most telling for archaeologists is turquoise. Many outcrops of turquoise, some both extensive and with excellent quality nuggets close to the surface, occur in a broad zone from southern California–Nevada in the northwest, through New Mexico, into Sonora and interior northwest Mexico to Zacatecas. Exact mineral content varies between outcrops, so, if source samples are available, chemical assays can pinpoint the origin of turquoise ornaments. High-quality turquoise was commercially mined by the late first millennium CE. Near the Tropic of Cancer astronomical observation outpost are the rich Chalchihuites turquoise mines, tapping deep into the lodes with tunnels as much as a half-mile (kilometer) long and numerous underground chambers from which the miners broke out the ore, littering the landscape with immense spoil heaps. The earliest civilizations in Mesoamerica, in the second and first millennia BCE, had valued green jade above all, but during the first

millennium CE, turquoise became increasingly prized, surpassing the use of jade for ritual and wealth objects. This may relate to the mythic birth of our present cosmic age, when a god threw himself into the fire burning in "the turquoise enclosure," his self-sacrifice transforming him into the Fifth World Sun giving light and life to our world. We know this myth from Aztec priests at the time of the Spanish conquest in the sixteenth century, but it may go back to Teotihuacan a millennium earlier. In the eleventh century, coinciding with the greatest extent of Hohokam, Central Mexican artisans made mirrors with reflecting faces of iron pyrite mosaic and backs of turquoise mosaic, embodying "the turquoise enclosure" in this potent object emitting sparks when its pyrite face is struck. Possibly the Hohokam learned this cosmic myth when they imported iron pyrite mirrors.

The Toltec state in central Mexico fell in 1168 CE, according to Aztec historians, which is about when Hohokam retrenches back to its Phoenix Basin core. They stopped using ball courts, perhaps shifting to a game played on a field or, if the courts were for dance, changing rituals. Pole-and-brush homes formerly built in shallow pits were replaced by adobe house compounds. Leaving substantial ruins, adobe buildings are visible on the platform mounds, too. Despite distinctions appearing in the outlying regions of maximum Hohokam, implying independence from earlier dominance, Hohokam farmers in the core Gila and Salt valleys maintained and extended irrigation canals. By this time, agricultural towns were common in the Ancestral Pueblo and Mogollon areas north and east of Hohokam; indeed, the largest Ancestral Pueblo town, Chaco in the San Juan Basin (on a thin tributary of the San Juan River), flourished at the same time as Hohokam's greatest extent, and also fell in the late twelfth century. Chaco seems to have controlled the Cerrillos turquoise mines in New Mexico, from which some of its production reached central Mexico, and like Hohokam, it imported copper bells and tropical macaws, raising them in pens. Enough differences in details of imports, and particularly in textile techniques, exist between Hohokam and Chaco to draw two principal routes for contacts into Mexico, a western route taking in the Pacific coast but perhaps cutting through the Sierra north from Culiacán to southern Arizona for Hohokam, and an eastern route through Zacatecas and Durango (Mexico) for Chaco, enabling the two Southwestern nations—or confederations, perhaps—to coexist. Between them were small alliances of villages defended by lines of hilltop lookouts and forts, with empty buffer zones thirty to fifty miles wide (forty-eight to eighty kilometers) surrounding the Hohokam domain, the Chaco territory, the Mimbres Valley pueblos famous now for their stylized realism paintings on fine pottery, and the alliances of central Arizona villages.

Mogollon

The earliest pottery in the Tucson Basin, plain ware associated with pithouses and floodplain maize farming in the early centuries CE, would be classified as Mogollon. This leads archaeologists to postulate that Mogollon, in higher

elevations above the Sonoran Desert home of Hohokam, once lived also in the desert basin but left it when Hohokam invaded, about 400 CE. Southwestern specialists will cry "Ouch!" but from an outsider perspective "Mogollon" seems to encompass most of the variations in Southwestern societies that don't clearly fit into either Hohokam or Ancestral Pueblo (Anasazi), and mostly occur between the ecologically distinctive Sonoran Desert lowlands and Colorado Plateau. Mogollon is named after the Mogollon Rim, the cliffs edge of the Plateau (near Sedona, Arizona). A maverick Southwestern archaeologist remarked, of the Mogollon Mimbres,

> Mimbres, at AD 1000, looks like "Anasazi" with the addition of longer growing seasons and a nice little creek to irrigate from, and the absence of sandstone to build with. It's all the same thing—people making a living in the piñon–juniper zone—with a few local twists.
>
> (Lekson 1994:213)

Of the several named regional varieties of Mogollon, Mimbres stands out, its marvelous stylized-realism paintings on ceramics carrying it into the realm of world-class art. These black-on-white slip bowls, most deposited in graves after being ritually "killed" by a hole punched in the bottom, depict the people, animals, and plants of southwestern New Mexico with a flair that doesn't mask the details revealing Mimbres life. For example, from the paintings, a fisheries expert identified by species numerous marine animals, most native to the Gulf of California. To the surprise of archaeologists, he explained that bowls with "fishes" bigger than the people beside them may not be mythical fantasies but pictures of whales, probably beached—the details were clear to him.

Mimbres Valley people began constructing masonry multiroomed "pueblos"; that is, apartment-block buildings housing a number of families along with storage rooms and plazas, around 1000 CE. At the same time, Mimbres turned from rainfall-based upland or creek-fed valley agriculture beside villages of the earlier pole-and-brush houses in shallow pits to canal-irrigated fields in the valley bottom. Pueblos and canal irrigation were equally costly in labor, compared to the preceding lighter houses and agriculture sustained by small check dams and channeling runoff. Probably the investment in canals paid off by supporting more people in the locality, and that induced the people to invest labor in the permanent masonry houses. Aggregation within a more compact, long-term set of buildings may reflect, also, greater economic control by community officials; they could better supervise the upkeep of the irrigation system and the granaries holding the harvests from pooled labor.

Mimbres masonry pueblos were abandoned about 1150, the same time as Chaco was abandoned and Hohokam shifted to adobe house compounds, some multistory; these approximately coincide with the collapse of the Toltec state, according to Aztec history. What seems to have happened in the

Mimbres Valley is that the population dispersed into hamlets small enough to live off limited plots watered by adjacent streams or the flow through alluvial fans, plus hunting and harvesting wild foods. In many cases, what had been seasonal shelters at outlying fields, occupied by pueblo families during planting and harvesting, became the base home—the masonry pueblos were emptied in favor of returning to the earlier pattern of family or hamlet autonomy. Then, after about a century, families congregated again in pueblos, now constructed of adobe; burned farmhouses have been noticed, whether burned because the family moving to the pueblo village wanted to clear the site, or because enemies attacked and the family fled to a pueblo, cannot be discerned. Nor do we know why, after mid-twelfth century, the people ceased painting their remarkable and beautiful representations of their world on their bowls, instead blackening them and burnishing them to a sheen—blacking out the past?

The Pueblo Period

About 750 CE, people on the Colorado Plateau decided to live in surface-built rectangular rooms joined in rows, much resembling the mom-and-pop little motels once common along highways before Interstate freeways. One or two deep pithouses built alongside the condo-type line of rooms are usually identified as "kivas," retreat chambers for religious sodalities in historic pueblos. Alternatively, one archaeologist suggests, the aboveground little rooms were storage units and families lived in the pithouses, as they had for generations past. Historic kivas also are used as men's workshops, where vertical looms have been set up for men weaving blankets and wide cloth, while women work in their households grinding cornmeal and preparing meals. Earlier surface dwellings were built of poles and brush. In the tenth century, solid masonry dwellings, still in the little-motel (or storage units?) style, replaced lighter ones and, by the thirteenth century, these amalgamated into large blocks of rooms, often two or even three stories high. Designated trash heaps outside the blocks or in older abandoned rooms kept the village neat. Plazas and round underground masonry-walled kivas, assumed to represent persistence of ancestral pithouses now functioning as chapels where spirits of ancestors could be invoked, complemented the residential and storage rooms. It is notable that nothing like a palace, no richly ornamented buildings nor expensively furnished rooms, can be recognized in Ancestral Pueblo pueblos, although a few burials displayed a wealth of ornaments.

From 850 CE to 1125, Chaco Canyon in northwestern New Mexico contained a rather unusual city with eight really large masonry pueblos (the largest had seven hundred rooms, including the storage units) plus many little-motel pueblo blocks, strung out on both sides of the canyon floodplain for three miles (five kilometers). Possibly twenty-five thousand people lived in the canyon. At the southern entrance to the canyon stands a pillar-like landmark butte, and on the plateau above the canyon straight roads run

Figure 10.2 Pueblo Bonito, aerial view of existing ruins.
Credit: Arian Zwegers/Wikimedia Commons

out for miles to satellite pueblos. Logs were required to frame and roof the pueblos, and these had to be transported, presumably overland, from distant mountain slopes because Chaco Canyon is arid, watered by a minor stream. Counting the labor of bringing in thousands and thousands of logs, a lot of manpower went into Chaco Canyon. Why? Why build in this semidesert with marginal rainfall for maize and no potential for Hohokam-type massive irrigation systems?

Archaeologist Stephen Lekson startled his colleagues with a bold hypothesis: Chaco Canyon is in the center of a basin that could support many farmsteads using channels and check dams to maximize rainfall and intermittent stream moisture. Somehow, these families paid (literally) homage to the central place where all roads led, where great kivas and imposing piles of rooms and connecting walls formed a theater of power. Astronomical alignments of buildings and roads harmonized the human landscape with the cosmos; straight north runs a thirty-mile (fifty-kilometer) roadway, with kivas and shrines at stations beside it, to a stairway into a canyon, and southwest from Chaco runs a thirty-six-mile (fifty-seven-kilometer) roadway to the tower Kin Ya'a ("Tall House" in Navajo) and the peak of a butte—altogether, from the depths in the north, through the surface human center, to the heights reaching toward the heavens in the south.

Chaco apparently controlled the rich Cerrillos turquoise mines; it imported marine shells from the Pacific and scarlet macaws from Mexico.

These and turkeys, a Southwestern domesticate, were prized for feathers for ceremonial paraphernalia. The ruling clans at Chaco (if that was what they were, on analogy with historic Pueblos that privilege aristocratic clans rather than private individual wealth or power) organized an entire region economically and politically, perhaps in a federal system whereby the outliers paid tribute while retaining local governance. Then Chaco collapsed. Lekson sees it reincarnated, as it were, directly north nearly one hundred kilometers (sixty miles) at Aztec Ruins on the Animas River. "Great houses" like the eight major buildings at Chaco were constructed at Aztec Ruins beginning in the early twelfth century and continuing for a century and a half, until 1275. Aztec Ruins' collapse may have resulted from a prolonged drought, since most of its outlying farms depended on rainfall, and drought would have reduced stream and water-table flow, too. Upon the collapse of Aztec Ruins, a new impressive center was built far to the south, in what is now Chihuahua, Mexico, at Paquimé (also called Casas Grandes). Lekson points out a striking alignment: Aztec Ruins, Chaco, and Paquimé, plus the largest pithouse town, near Durango, Colorado, predating Chaco, all lie on the same north–south meridian. Were Aztec Ruins and then Paquimé located to draw on whatever cosmic power these people believed to reside in that heavenly alignment?

Paquimé flourished from the end of the twelfth century to 1450 CE. Its cultural pattern covered societies from south-central New Mexico to Presidio on the Rio Grande in west Texas, west to the Arizona border and across northern Chihuahua. Part of its pattern was construction by what is called coursed adobe, adobe walls built up with successive big gobs of clay smoothed on to the preceding course, working along the length of the wall. This building method was used in the twelfth century in Mimbres and the Chaco Basin as an alternative to the more popular coursed sandstone slab masonry, then became the dominant technique in much of the Southwest in the thirteenth century and survives historically—Paquimé looked much like today's Taos Pueblo, only larger, with ball courts, platform mounds, and several plazas. Paquimé ceramics are in the red-on-brown Mogollon tradition rather than the black-on-white of Mimbres—which is usually considered Mogollon, however—and Colorado Plateau Anasazi Pueblo. Innovations into the Southwest at this time, fourteenth century, include the "shoe-form" pot, shaped like a big bootie, which functioned to simmer food, its "toe" end in the embers and its wide offset mouth allowing steam to escape, and stone griddles for baking tortillas ("pikis" in the Southwest), both cooking techniques familiar in Mexico at the time. Basically, Paquimé was on the border between the American Southwest and West Mexico, supporting itself with extensive canal-irrigated fields in one of the Southwest's most favorable basins for agriculture, and admirably positioned to intersect east–west trade routes to Sinaloa and the Pacific, and northwest–southeast routes into central Mexico. Paquimé raised turkeys and tropical macaws for feathers and imported copper bells and sheet copper for tinklers and quantities of Pacific

Figure 10.3 Ruins of Paquimé, Chihuahua, Mexico.
Credit: Courtesy of David R. Wilcox

coast and Gulf of California shells. With its massive blocks of thick adobe rooms, four or possibly five stories high, Paquimé was a major hub, and it was also a manufacturing center, especially for shell ornaments.

During the period of Paquimé's dominance, 1300–1425 CE, religious symbols of Mexican origin came into the Southwest. Paquimé has a large square "kiva" with paintings of a feathered serpent and a figure resembling a one-horned katsina spirit. Most of the turquoise recovered from Paquimé lay in one red-painted jar placed in a pit covered with a stone slab sealed with adobe, at the bottom of a water reservoir within the pueblo: this strongly suggests the cosmic "turquoise hearth" from which our present world was said to have been regenerated. Another Mexican icon may be picturing flowers and birds, representations that become popular only at this time and may signify the Mexican metaphor for worship, "flower and song." The katsina figure, if that is what the painting represents, would reflect the development of katsinas (also spelled kachinas) in Pueblo communities. Particularly in the east-central Arizona Little Colorado River region, rock art and kiva mural pictures resembling historic katsinas appear beginning at the end of the thirteenth century; historically, katsinas are spirits who come into the pueblo periodically from their underground homes. Some katsinas are souls of the dead, others are purely spirit beings; they travel as rainclouds from the mountain peaks that are their portals to the human world. Tourists know the katsinas for their colorful public dances in pueblo plazas, and for

the little wooden figurines portraying the various named katsinas. Hosting the katsinas—technically, their masks which Pueblo men don for their dances—is believed to enhance the likelihood of rain and good harvests. Living humans must do their part, maintaining water retention and dispersal systems, caring for crops, keeping order and respect as taught by the priests who invoke the katsinas' visits. Depictions of katsinas thus suggest that, by the fourteenth century, Pueblo societies worked through the indirect rule of priests managing work parties, community storage and distribution, and trade and visits by outsiders, all in the guise of hewing to the sanctions from the foundational spirit world.

Among contemporary Pueblos such as Hopi, Zuni, and Ácoma, legendary and documented histories tell of a number of groups moving into the pueblo communities in which they now live. Each group usually has its own ritual, or is asked to take responsibility for one of the regularly enacted rituals, producing a community calendar of ceremonies incorporating a series of kiva sodalities or clans. Katsina sodalities are integrated into the calendar, and legendary histories mention opposition by some of the other sodalities ("medicine societies") to the innovation of katsinas. The fourteenth century was a period of movements in the Southwest, the Four Corners region of the Colorado Plateau (where four states meet, Utah, Colorado, New Mexico, and Arizona) virtually abandoned, and groups moving into the Rio Grande Valley, joining or settling between pueblos already along the Rio Grande. Mesa Verde's population, likely speaking the Tewa dialect of Tanoan, apparently moved from its homeland in the San Juan River region of southern Colorado, southeast into the Rio Grande in northern New Mexico. Pecos and Gran Quivira were large pueblos established in New Mexico east of the Rio Grande near the edge of the southern Plains grasslands, with Pecos becoming a trade hub and overwintering site for Plains bison hunters and other travelers. There was considerable interaction throughout the Southwest, evidenced by the spreading popularity of polychrome (multicolored paintings) and glazed ceramics. Offsetting trade was an obvious concern with defense, inducing communities to cluster about three miles (five kilometers) apart, a distance that permitted alerting each other by signal fires on hilltops or towers if enemies were sighted; between the clusters of a few villages were zones about twenty miles (thirty kilometers) wide without permanent residences. This is the period of the spectacular cliff dwellings of Mesa Verde, pueblos built into large rockshelters high in cliff faces as last-ditch defenses after mesa-top villages had been abandoned, the cliff dwellings themselves deserted after a few generations.

Paquimé was attacked and its people driven off by 1450. They very probably were one of, or part of, the Uto-Aztecan-speaking nations encountered by the Spanish a century later, and mostly surviving today, but which one of the Northwest Mexican Uto-Aztecans is difficult to figure out. Paquimé's enemies could have been neighboring nations to the west in Sonora, little city-states that were aggressively hostile obstacles to Spanish entradas in the

1530s, before epidemics scattered decimated communities into the ranchería homesteads recorded by Jesuit missionaries in the seventeenth century. Judging from fifteenth-century Pueblo trade along the lower Colorado River and, on the other side of the Pueblo domain, into the southern Plains, Paquimé was being bypassed by a Pacific coast route for Mexican goods such as shell and macaws, and by the creation of Pecos for direct Plains trade. The preponderance of large (over one hundred rooms), multistory pueblos, well sited for defense and presenting high blank thick adobe walls to the outside, in the fifteenth century betokens serious competition, conceivably for both arable land and trade profits.

Into this final pre-European period for the Southwest came entirely foreign invaders, Diné originally from the Canadian Northwest. Their forebears formed a frontier of Dené (see Chapter 12, "The North") steadily advancing southeastward over centuries until the vanguard reached the edge of the Canadian forests where the Rockies meet the Plains in Alberta. A few settled there, allying with the powerful Blackfoot alliance native to the Northwestern Plains; these are today's Tsuu T'ina (T'ina = Dené, Diné, "People"), formerly called the Sarcee (Sarsi), the Blackfoot name for them. Other families continued moving south, along the foothills of the eastern Rockies. They may have picked up knowledge of maize farming in Colorado, or not until they settled on the Colorado Plateau region of the Southwest and began interacting with Pueblos. Today known as Navajo and Apache, Diné in the Southwest added limited maize, squash, and beans farming to their hunting and wild food harvesting economy, building wickiups and, later, log-crib hogans away from the principal rivers used by the Pueblos. Besides farming, the Diné learned spinning and weaving, pottery-making, and religious concepts, perhaps including ritual sandpainting, from their Southwestern neighbors. Following the only temporarily successful Pueblo Revolt of 1680, many Puebloans, especially priests, took refuge in Navajo communities. With Spanish reconquest and colonization, Diné took up herding sheep and goats and making silver jewelry. Strange are the twists of fate in history: today the Navajo Nation is the largest, fastest-growing Indian nation in the United States, bounding back from their Trail of Tears imprisonment during the U.S. Civil War (the Union feared they would cut its access to California via the Santa Fe Trail).

Fremont and Pueblo Frontiers

Looking for traces of Diné before they incorporated Pueblo imperishables into their culture, we find they must have traversed Fremont country. Fremont are Puebloan communities in the northern Colorado Plateau and eastern Great Basin, mostly in Utah. They were maize farmers from the beginning of the first millennium CE until 1400, living in Basketmaker-type pithouses with storage pits until into the tenth century, when pithouses became almost rectangular and adobe or masonry storage chambers were

built adjacent to them, on the ground surface, then in the eleventh century aboveground adobe or masonry dwelling rooms, too. Most Fremont fields were watered through irrigation ditches, so their villages are located where perennial streams come down from the mountain ranges: between zones of Fremont settlement are the region's dry valleys with little or no evidence of habitation. Labeling all these villages "Fremont" obscures the difference between Western Fremont, likely immigration of Northern Uto-Aztecan maize farmers northward, and Eastern Fremont, likely local Tanoan-speaking hunter-gatherers learning farming from their Pueblo neighbors to the south and west. About 450 CE, the Tanoans closer to the Basketmaker Ancestral Puebloans interacted more with these communities, eventually becoming the Mesa Verde pueblos during the Chaco era, while their cousins to the north settled as Eastern Fremont and finally, around 1300, chose to move onto the Plains to hunt bison, becoming the historic Kiowa.

Fremont are the northern frontier of maize agriculture in the interior West. Their pueblos were small compared to the principal towns in Arizona, New Mexico, and adjacent Chihuahua, but contrast with the camps of wickiups north of the Fremont frontier. It is tempting to premise that the abandonment of Fremont farming settlements and their Puebloan cultural pattern at the end of the fourteenth century would have been forced by climate shifts rendering maize farming too precarious to rely upon for subsistence, but direct data for such climate shifts seems elusive. One scenario has this picture of crop failures and drastic retrenchment of the Puebloan Fremont to merge with New Mexico Pueblos. If Fremont were dependent on the Chaco–Aztec Ruin pattern of trade, then the apparent collapse of that trade pattern and rise of Paquimé far to the south might account for Fremont termination, but archaeological data for trade, in imperishable items or regional raw material exploitation, don't make it appear that crucial. Another scenario has the Fremont adapting to the supposed climate shift by taking up the Great Basin pattern of seasonal camps for wild harvest. Dené moving southward west of Great Salt Lake in the fourteenth and fifteenth centuries, making a distinctive, rather crude-looking (compared to the fine Pueblo ceramics) gray pottery and replacing Fremont in the region, is a scenario that doesn't explain the end of Fremont since there is not a great deal of evidence for hostilities. Rather, Dené and Eastern Fremont seem to have jointly sheltered around 1250 CE in large rockshelters at the northern end of Great Salt Lake. Then that group of Dené and Eastern Fremont together moved out onto the Northwestern Plains about 1300 CE, living in the Yellowstone Valley area by 1700 CE as allied Plains Apache and Kiowa, and ending up on the Southern Plains in the early nineteenth century.

Rio Grande Glaze Ware, pots decorated with a lead glaze derived from lead mined from a source halfway between Albuquerque and Santa Fe in northern New Mexico, near the Cerrillos turquoise mines, was traded widely through the Southwest and into the Southern Plains as far east as Oklahoma. The glaze was invented about 1325 CE, and a number of Rio Grande villages

produced the pottery, obtaining the lead from the miners. Big shields made from bison bull hide may have been exchanged for the handsome pots by Plains nomadic bison hunters, including newly migrant Kiowa and Plains Apache, and the shields traded farther west by the eastern Rio Grande pueblos, to judge from kiva mural paintings in the Albuquerque area and in Hopi, and rock art that depict men with the large round shields mentioned by the sixteenth-century Spanish invaders. The Pueblos traded maize and cotton *mantas* (large cloths used as blankets and cloaks) for bison and elk meat and hides. Pueblo mantas and Cerrillos turquoise were interred with other wealth in the tomb of the lord of Spiro, on the Arkansas River in eastern Oklahoma and, further west in Oklahoma, a burial contained hundreds of beads, made of turquoise and of Pacific shell, and a turquoise pendant.

At the other end of the social spectrum, many very ordinary gray Pueblo cooking pots, greasy and sooty from use, occur on Southern Plains sites, in west Texas and into Oklahoma, after 1450 CE. These probably were made and used by eastern Pueblo women living in the villages, women who may have moved with their families on long hunting trips or who were escaping hard times in home pueblos, or who may have been sold as concubines and slaves. Spanish observers in the sixteenth century recorded slaves in Pueblo towns, and raiders, Diné ("Apaches") and Plains nations, capturing women and children to sell as slaves; Spanish markets for slaves may have escalated the practice but it seems to have existed before their entradas. Spiro lost its power after 1450, the east–west trade route to the south across the Red River gaining over Spiro's Arkansas River route. How that move fits into the evidence for Pueblo women in the Southern Plains after 1450, the attacks ending Paquimé's dominance, Hohokam's abandonment, and the incursions of Diné, remains a question.

Connecting the historic Pueblos with ancestors faces these changes in the Southwest after 1450. Hopi, Zuni, and Ácoma Pueblos have occupied their mesas for over a thousand years, originally as clusters of villages and then consolidating in the fifteenth century into the towns we see. Hopi, being Uto-Aztecan speakers, may have been related to the Virgin Anasazi (in the Virgin River Basin) north of Hopi and/or to some of the Fremont beyond the Virgin Basin. Hopi history recounts the migrations of a series of communities to the Hopi mesas, to become clans in the nation. Such histories, told by Zuni and other Pueblos, make it clear that no single series of site occupations will encompass the origins of all the members of a Pueblo nation. The Rio Grande pueblos that survived Spanish conquests and epidemics took in refugees, and similar ingathering took place in the thirteenth and fourteenth centuries as the Colorado Plateau pueblos, including Mesa Verde, were abandoned. These pueblos speak languages in the Keresan stock, with no apparent connections to any other language stock, or in the Tanoan stock, distantly related to Uto-Aztecan.

A historic example of centuries-old trade appeared when Sabeata, leader of a nomadic bison-hunting band in Texas, the Jumano, was interrogated

by Spanish officials in 1683 at El Paso. Sabeata led a delegation requesting Spanish troops to reinforce Indian settlements along the Rio Grande south of El Paso that were being raided by Apaches. Making his case for an alliance, the Jumano reminded the officials that he had spoken with other Spaniards at Parral in northwest Mexico, and was familiar with Europeans (French) sailing to trade with Caddoans in East Texas, twelve hundred miles (two thousand kilometers) from the Jumano *rancherías* and even farther from Parral. Whether the Jumano, who disappear by that name after the seventeenth century, were overcome by the Apache or fled to the north, can't be determined. Sabeata's well-documented trading relationships with Hasinai Caddoans in Texas and Rio Grande pueblos in New Mexico not only confirm extensive trade routes, but show us why we can't find much evidence along the actual routes: Sabeata's band traveled light, provisioning themselves from the land as they moved, and camping at the margins of towns when they stopped to trade dried meat, hides, and news.

The Pueblos' westernmost frontier was (and is) occupied by Yuman speakers, a branch of the Hokan language stock, along the Colorado River. Among them, Pai nations, including the Havasupai in the Grand Canyon, farmed the Colorado floodplain and hunted mountain sheep, deer, and antelope on the plateau above. Mojave and other Yumans farmed along the lower Colorado and its delta, extending into northern Baja California. Depending on the annual river floods, Yumans planted their maize, squash, and beans as the water subsided and fished in the pools renewed by the floods. Better known for basketry than pottery, Yumans needed only brush shelters in most of their hot country, producing little that would remain for archaeologists. Not much threat to colonizers and ignored by Fred Harvey's railroad-based tourist development that made the Pueblo Southwest "America's Indian Theme Park" (Stephen Lekson's phrase), the Yumans' history gives the impression it was as marginal as their border territory.

Research Puzzles

The American Southwest is the region most intensively studied by archaeologists, for more than a century. Its dry climate and relatively few, and recent, urban developments preserved huge quantities and varieties of precontact data. The many vigorous debates over its prehistory indicate that abundance of data does not automatically provide answers.

A fundamental puzzle asks whether the Southwest is better understood from the perspective of Mexico, or more specifically, northwest Mexico, or as a self-contained region. Researchers examining Mexican relationships had to delve into the significant differences between inland and coastal northwest Mexico, neither region as well-known as more glamorous Central Mexico or the Maya; the presence of tropical macaws in the Southwest, and Southwestern turquoise in Central Mexico, raises the deduction that trade directly linked the Southwest to the eastern half of Mexico. Against these definite

proofs of contact between the later Southwest and Mexican empires, some archaeologists focus on dynamics of adaptations to localities in the Southwest, for example, in the Mimbres Valley. The two approaches should be complementary and mutually strengthening, but the local focus allies archaeologists to ecologists and may handicap recognition of data stemming from foreign contacts. The ecological emphasis has been favored, resulting in studies relating, for example, the movement from pithouses to aboveground pueblos to climate shifts, without discussion of alternate interpretations, such as that the shift reflects admiration of Hohokam lifestyles.

A simmering controversy flaring up from time to time concerns the notion of gentle hardy earth-people, pictured by tourist agencies since Fred Harvey advertised the romance of the Southwest to attract passengers on the Santa Fe Railroad. When archaeologists came on the scene, all the Southwestern nations, conquered and subjected to United States domination, appeared peaceful and secluded. Even some Pueblo citizens are disturbed to admit their ancestors pursued war. Excavations reveal instances of brutal killing, echoing stories in pueblos' own histories. Recognizing wars in Southwestern prehistory makes these nations' histories more conventional, and undermines the more popular emphasis on adaptations to local environments, as well as tourists' image of peaceful farmers outside the sweep of history.

Related to the issue of popularized "Peaceful People" is interpretation of the post-Chaco period of large but not grand pueblos, 1300–1600 (Spanish conquests). After virtual abandonment of the handsome stone-slab Great Houses of Chaco, Pueblo people of the northern Southwest congregated in big apartment houses, hundreds of rooms around central plazas with a few kiva underground priests' retreats. Adobe walls were strong, not only to support several stories of rooms, but also to present defensive walls to outsiders. Inside, material egalitarianism masked harsh authority wielded by the priesthoods and the officers they appointed. Anyone suspected of working against the community, a traitor or a witch, would be executed. This powerful ethos of communal good—or else!—has been interpreted by some Southwestern archaeologists as a Reformation movement against excesses of materialism and power display by Chaco Great House lords. In other words, these archaeologists use an analogy to the European Protestant Revolution to explain the last period of Puebloan history before European invasions: post-Chaco Puebloans were like Northern Europeans rebelling against the Vatican's extensive, exploitative political and economic power and creating a puritanical, egalitarian counterculture that nevertheless dealt harshly with dissenters. Like most analogies, this model has degrees of fit. Historic pueblos vary considerably in societal structure, practices, and religious beliefs, as well as in languages and the metaphors they carry that subtly influence perception and thinking. The basic fact is that after Chaco's Great Houses city was no longer viable, Puebloans aggregated into strongholds designed for protection. Perhaps endemic warfare in a region with very restricted arable land sufficiently accounts for Puebloan community structure and governance.

Bibliographical Notes

Linda Cordell and Maxine McBrinn's *Archaeology of the Southwest* (3rd ed., Walnut Creek, CA, 2012) and Cordell's *Ancient Pueblo Peoples* (Washington, DC, 1994) are the most accessible and reliable general sources. Jefferson Reid and Stephanie Whittlesey's *The Archaeology of Ancient Arizona* (Tucson, AZ, 1997) treats only that state but is well written, combining descriptions of archaeological cultures with a narrative of questions and debates pursued by archaeologists over a century of research. Stephen Lekson's *A History of the Southwest* (Santa Fe, NM, 2009) is a more sophisticated treatment.

Because the Southwest is the only section of the United States with standing masonry ruins, and these in landscapes of stark beauty, it attracts tourists and retired people, spawns hundreds of photography books, and incubates archaeological projects taking advantage of long field seasons and the high visibility of sites where vegetation is sparse. Most of the archaeological literature is introspective, delineating ceramic styles by region and time and seeking environmental changes to account for apparent societal changes. "The Southwest is a natural laboratory," claim some, where geographical diversity and climate shifts can be correlated with the charted artifact styles and changes to reveal, it is hoped, critical factors in cultural developments. Thus there is an abundance of monographs and conference volumes proposing models, very little of it of interest beyond the profession.

Beyond Cordell's sound and balanced syntheses, these volumes rise above the mass: Baker H. Morrow and V. B. Price (eds.), *Anasazi Architecture and American Design* (Albuquerque, NM, 1997), taking the archaeological studies into the present with papers on contemporary applications of Anasazi structural principles; Michelle Hegmon (ed.), *The Archaeology of Regional Interaction: Religion, Warfare, and Exchange Across the American Southwest and Beyond* (Boulder, CO, 2000), presenting a diversity of topics and issues with full references; and Lynn Teague's *Textiles in Southwestern Prehistory* (Albuquerque, NM, 1998), documenting the range of fine textiles from the prehistoric Southwest and, most unusual, tying the technologies and styles to roots in the Interior West Archaic and in Mexico.

For the period of Southwestern history with Mexican ties, David Carrasco, Lindsay Jones, and Scott Sessions (eds.), *Mesoamerica's Classic Heritage: From Teotihuacan to the Aztecs* (Niwot, CO, 2000) gives a fascinating and detailed background, although it is oriented toward the rich kingdoms of tropical Mexico rather than to the West.

From Donald Bahr, Juan Smith, William Smith Allison, and Julian Hayden, *The Short Swift Time of Gods on Earth*, pp. 251–3

The Wooshkam people made camp there [Snaketown, Arizona] and asked another medicine man to work for them. He had the power of the bluebird, He:wacud Namkam.

The bluebird man found out that ahead of them lived a chief with many people, at a mound that is somewhere a little north of Yaqui Village [Guadalupe, Arizona]. (The medicine man sang two songs, but Juan [narrator] has forgotten them.) The house at this mound was destroyed.

The bluebird man worked some more and looked in the same direction and saw that it was raining very hard at a spot just across the river from where the previous enemy man was [Guadalupe]. This spot was where Yellow Buzzard used to live [Pueblo Grande].

This man had made his house from solid rock, so it seemed impossible for the Wooshkam to hurt it. He had done this because he didn't want any of his people to run off and leave him. They must all stay in this house with this medicine man.

It wasn't really a stone house, but the leader made it look like solid rock.

The bluebird man fooled himself by saying that the house was made of rock, and he couldn't do anything with it, so they asked another man who had the power of thunder to see what he could do. He sang:

It is a hard house
It is a hard house
It is a hard house
Do you see the foundation?
It is made of rock.

Then he told the people that it would be easy for him, and he sang:

I saw that he is
Too light for me.
It is like a windbreak
Made out of these ocotillos [cactus].

It was true. The thunderman came down over the house and smashed it to pieces. When this happened, the earth quaked and it knocked down a house that was close to the city of Phoenix.

Told in Pima by Juan Smith, translated by William Smith Allison (also Pima), and recorded by archaeologist Julian Hayden at Snaketown on the Gila River Reservation, near Chandler, Arizona, 1935. Pimas today are known by their preferred name, O'odham. Juan Smith's traditional narrative describes the O'odham conquest of earlier people, whom they call Hohokam ("Finished Ones"), living in the large adobe buildings archaeologists call "Great Houses," in contrast to the modest ranchería homes of O'odham.

Bahr, Donald, Juan Smith, William Smith Allison, and Julian Hayden (1994) *The Short Swift Time of Gods on Earth: The Hohokam Chronicles.* Berkeley: University of California Press.

11 The Interior West

Between the Sierra of California and the Rockies is a vast land of broadly rolling sagebrush plains and pine-covered mountain ranges, the Great American Desert, according to the American explorers seeking farmlands and timber. The land's indigenous people were disdainfully called Diggers, for their women were usually seen carrying a sturdy hardwood stick, grubbing up roots to take home in a woven bag tied to their waists. Population density was low, communities small and moving seasonally to their resources. When colonists' wagon trains trekked across the First Nations' valleys and passes, muddying streams and eating up forage, the land's inhabitants seldom could fight off the well-armed invaders. Nearly a century later, professional ethnographers interviewed reservation-bound descendants of the First Nations, constructing a picture of family groups eking subsistence from fleet pronghorns and the yearly harvest of pine nuts in the hills. So their forebears had lived—that is, two generations earlier after Mormon farmers and hundreds of wagon trains had banished them from the lakes and marshes their ancestors had relied upon.

The first extended effort, in the mid-twentieth century, to understand the archaeology of the Interior West took as its model the ethnographers' picture of people roaming the sagebrush, eating roasted grasshoppers and grass seeds, scattered like their resources. This was termed the Desert Culture, and continuities in stone artifact styles through the strata in large rockshelters led to the interpretation that the Desert Culture had been formed early in the Holocene and persisted with little change until reservations were established. Radical revision of this model by the second generation of archaeologists, beginning in the 1960s, is one of the more interesting stories of how archaeology can illuminate not only precontact eras but our understanding of circumstances of the more recent past.

The Great Basin Archaic

Because most streams in the Interior West flow into lakes within the region, rather than into an ocean, it has been given the name "Great Basin." The warming climate trend that began in the Terminal Pleistocene and reached

a climax in the fourth and third millennia BCE brought considerable aridity to the Great Basin, depleting resources needed by humans. Their response was to exploit a variety of plants, evidenced by quantities of ground-stone implements for grinding and pulverizing seeds, stalks, and roots. They wintered in villages beside lakes and marshes, families dispersing in spring to pursue game and harvest plant foods from camps at higher elevations. The pattern was elaborated in the last two millennia BCE, with pithouses in some of the winter villages, as the climate became less hot and arid.

Archaeological terminology for the Great Basin Archaic emphasizes the "Archaic" mode of life, referring to the two millennia CE as "Late Archaic." The terminology implies that compared to the rest of America, Great Basin people—"Diggers"—would seem to have stagnated. The archaeologist who argued, in mid-century, for the concept of a persistent Desert Culture was persuaded by the work of younger colleagues that his earlier reading of the stratigraphy of his principal site, near Salt Lake City, had overlooked certain significant breaks in the record, and that the ethnographic picture he had relied upon was to be faulted for not taking into account the effects of Euroamerican colonization. His rejection of the overly simplistic interpretation won the respect of the younger researchers in the Great Basin, but earned little notice outside the region, nor did the critique of "Desert Culture" seem to extend to reinterpreting "Great Basin Archaic," in effect not much more than a new label for the old simplistic model. "Archaic" means a mode of life, goes the justification for the label, an economy of hunting and gathering natural resources, of living in small mobile family bands. This chapter will show that the justification is not warranted, that its "Late Archaic" ignores the agricultural villages of the southern Great Basin and the history of the Uto-Aztecan speakers—the intriguing and challenging fact that most of the nations in the Great Basin at the time of Euroamerican invasions spoke languages of the same stock as that of the Aztecs of Mexico.

Great Basin

Early Holocene Great Basin was cooler, with more lakes and marshes, than the region has been since. For humans, the differences between that period and later periods are amplified by changes in flora and fauna utilized for subsistence. Piñon pine, with its nuts the staple storable food for indigenous nations in the historic Great Basin, was absent from the Early Holocene landscape, spreading into the region only during the Middle Holocene with its warmer temperatures. Marsh and lake resources, including shellfish as well as fish, were the focus of subsistence during the Early Holocene, with fewer, smaller sites above valley bottoms. Animals hunted were similar to those hunted later—pronghorns, deer, rabbits, mountain sheep, a few bison—since the Pleistocene mammoths and sloths, and horses and llama-like camelids, were all extinct.

Burials in Spirit Cave, Nevada, dated 7400–7000 BCE, show us another important resource utilized by these people: hemp (also called dogbane),

sagebrush, and juniper shredded into fiber for fabrics. Probably the earliest complete fabrics known anywhere in the world, those in Spirit Cave include plain-plaited mats and bags, plain-twined fringed bags, plain-twined mats, and a robe of twisted rabbit skins. Feathers decorated two of the fringed bags, one also with decorative leather strips and an interwoven band of juniper or sage, and a third had only interwoven leather strips. The finely woven mats were large enough to wrap the corpses deposited in the dry cave. Thanks to the desert cave, we see fabric art seldom preserved, proof that an art for which historic Great Basin people are famous was well developed by the end of the Pleistocene.[1] It is interesting that flexible bags rather than baskets were placed with these corpses, whether because basketry was perhaps not as advanced as textiles at that time, or because the bags were considered appropriate for funeral furnishing, we cannot discover. There are even older weavings known from the Great Basin, a twined mat fragment from Fishbone Cave, Nevada, dated at 11,250 years ago (9250 BCE), and twined basketry, sandals, and cords from Fort Rock Cave in eastern Oregon, approximately the same age.

With the climate warming trend climaxing between seven thousand and forty-five hundred years ago (5000–2500 BCE), increased evaporation dried up many of the productive marshes and lakes. Piñon pine spread along the lower slopes of mountain ranges, but the disappearance of many bodies of permanent water forced humans to settle mainly adjacent to springs (which tend to support marshes, as well as provide drinking water). In one of the few such sites excavated—in contrast to the rockshelters and caves favored by archaeologists—substantial shallow pithouses, not quite two-and-a-half-feet (a meter) deep and around twenty-two to twenty-five feet (eight meters) in diameter, had been constructed with posts around a central fireplace, probably supporting roof poles over which mats and then earth were likely heaped, to make winter dwellings much like those of historic California nations such as the Modoc and Klamath in the area. Away from higher valleys with springs, a dearth of archaeological sites in much of the Great Basin during the Middle Holocene suggests that considerable sections of the desert were well-nigh uninhabitable.

People moved back into the less hospitable zones of the Basin after the Middle Holocene, around 2500 BCE, into regions much like those seen by the first Euroamerican explorers and Mormon colonists. Note that once agricultural colonization began in the United States in the mid-nineteenth century, marsh drainage and diversion of water to irrigate fields rapidly changed the character of most Great Basin valleys, making the desert floors one sees today. Prehistorically, Late Archaic (up to mid-first millennium CE or even later) winter settlements lay in valley bottoms near standing water and marsh, with fall piñon-nut harvesting camps on the lower slopes of ranges and summer hunting and plant-gathering camps in upland valleys and passes.

One habitat that was important before colonist invasions and strongly affected by them is floodplains along the higher reaches of rivers, prime

habitat for edible roots, tubers, and bulbs, including camas, bitterroot, biscuitroot, and onion. These were grubbed up with digging sticks and peeled, then baked in large earth-oven pits lined with rocks: a fire was built on the rocks and extinguished once they were hot, with leaves or stalks lining the rocks to protect the roots (or tubers or bulbs), and earth piled on top of the overlining to insulate the heat. Baking could continue several days, after which the food was dried, pounded into meal, formed into cakes, and stored in airtight bags, cached in pits for winter use or carried as trail food. Some roots could be dried without baking and strung together or pounded into meal for bagging. Roots, tubers, and bulbs are nutritious and most yield pleasant-tasting porridge or flatbread. Rock-filled pits, the earth ovens, around two yards (or meters) in diameter, are common in the higher river valleys where biscuitroot, camas, or similar foods would have grown. Ovens required the labor of digging the large pit and carrying about half a ton of rocks, chopping and carrying firewood (juniper was preferred but grows farther upslope), and peeling the bushels of food that by volume baking would have made the labor worthwhile. Knowledgeable harvesting practices thinned the desired plants and weeded out others, maximizing yields; knowledge of plant-tending was entrusted to certain members of the family or band who felt responsible for nurturing the plants and taught younger people.

Making baskets, mats, and twined fabrics was another process calling upon responsible knowledge of plant nurturing as well as craft techniques. Washo women with this knowledge advised United States Forest Service staff that to maintain bracken fern they used for decorative black elements in weaving, decayed brush had to be burned off, the plants had to be thinned (harvesting accomplished some of this), and buds replanted properly spaced. The women preferred to collect ferns in the fall when their leaves began yellowing, because, they explained, by then the plants had stored nutrients in their roots for next spring, and taking the stalks would not affect next year's growth. Cut stalks are soaked in mud beside springs to obtain the desired black color. This small aspect of the basketmaker's art illustrates the breadth of technical knowledge developed by First Nations women and the complexity, in overall view, of their manufactures.

Another type of rock construction found in upland zones of the Great Basin is chutes and pens built to drive and trap mountain sheep. Dated examples belong to the historic period, but since few have any datable organic matter preserved in them, some may be older. Log traps are also known, and obviously likely to be relatively recent if preserved. Conversely, nets preserved in the remarkable dry caves of eastern Oregon and western Nevada date as far back as the end of the Pleistocene, and may have been used to trap waterfowl, stretched across flyways, or rabbits or pronghorns driven into them, practices common among Great Basin First Nations in the early nineteenth century. These practices involved several families, at a minimum, and were directed by "rabbit bosses" or "pronghorn bosses," persons as

knowledgeable about long-term sustainable management of game resources as women basketmakers are of their resources. Fish, obtained by means of constructed stone or basket-trap weirs, nets, and hooks and line, similarly were significant food resources and procured by group planning.

Historically, and for nearly five millennia, "Digger Indians" usually built rough-looking wickiups, basically a circle of light poles and interwoven brush with a generous smoke-hole in the center. It was in such a wickiup that the Smithsonian anthropologist James Mooney met the prophet of the 1890s Ghost Dance religion, Wovoka (Jack Wilson), a Northern Paiute.[2] Wovoka preached the value of traditional ways, although he was employed as a ranch hand by a colonist. He and his wife wore purchased Euroamerican clothing and he carried a shotgun, yet they ate native foods and raised their children in the wickiup, refusing a cabin offered them by Wovoka's employer. It was cold on the winter day Mooney met Wovoka, snow on the ground, but coats, rabbit-skin robes, and a good fire kept everyone comfortable. Born just when the first colonists, backed by a military post, took over his people's lands, Wovoka learned practical and spiritual leadership from his father, exemplifying the social structure that appeared simple and egalitarian to invading outsiders equating leadership with pomp and privilege. Some idea of the depth of respect this hereditary leader enjoyed may be gauged by the belief that an earthquake after his death signified heaven shaking upon his entrance!

Fremont

With so much of Great Basin material and social culture perishable, the residue left to archaeologists appears little changed from the third millennium BCE to well into, or even after, the first millennium CE. Quite a different type of culture is evidenced in the southern portion of the Basin during the first millennium CE, particularly between 1000 and 1300: termed the Fremont, it is marked by permanent stone-slab architecture, maize agriculture with storage chambers for the crop, utilitarian gray pottery, rock art and figurines, and population density reflected in villages plus small farmsteads. All of these features bring to mind the cultures of the Pueblo nations of the Southwest, leading to the initial supposition that Fremont was an expansion of Ancestral Pueblo (Anasazi) northward.

More regional archaeology and more ethnohistory, complicated this picture. Bows and arrows seem to have been introduced into the Great Basin during the first millennium CE, possibly as early as the beginning of the millennium and definitely replacing the javelin with atlatl (spear-thrower board) by the middle of the millennium. Whether the bow and arrow spread as technology independent of population movements, or gave military advantage to soldiers in the vanguard of territorial conquest, we cannot tell. Maize cultivation appeared at the same time as the bow and arrow, although archaeologists don't seem to see much significance in this correlation, presumably

because maize originated in Mexico and was carried northward over many centuries, while bows and arrows conventionally are seen to have come into America from the northwest (Bering Strait, because bows and arrows are millennia older in Eurasia and probable in the Arctic Small Tool Tradition, second millennium BCE). The earliest arrow points in the Northwestern Plains are no older than those in the southwestern Great Basin, undermining the assumption. If the technology was introduced into America on the West Coast, it could have spread both northeast into the Plains and southeast into the Basin and Colorado Plateau, giving the similar early dates in both regions. Pacific Coast shells in the southwestern Basin at this time testify to trade connections with California.

Besides bows and arrows and maize cultivation assisted with ditches to bring water to the plots, stone and adobe architecture and storage pits appear in the southwestern sector of the Basin between the first and fifth centuries CE. Ceramics did not come into use in the Basin until the sixth century CE, utilitarian gray ware similar to that used in the Southwest at the time. Conventionally, the Southwest's Basketmaker culture, the proto-Ancestral Pueblo of the first millennium CE, is distinguished from the contemporary early Fremont in the southern Great Basin, yet the differences are not great. Basketmaker people made more substantial pithouses, *sometimes*, other times sheltering in wickiups. Basketmaker people hunted mountain sheep and collected quantities of piñon nuts, two resources characteristic of Basin adaptation. The notion that there was a Western Archaic over the vast intermontane area from Canada to Mexico from the mid-third millennium BCE into the first millennium CE fits the data.

Given this perspective merging Arizona Basketmaker and Basin Late Archaic, we see the innovation of maize cultivation, with its constructed storage pits or chambers, moving northward from its Mexican homeland until it reaches the boundaries set by a combination of aridity, lack of rivers and of topography suitable for irrigation projects, and frost. This boundary fluctuated with minor climate shifts during the past millennium, retreating southward after 1300 CE. Stone-slab and adobe buildings with prepared clay floors and, in some areas, impressive stone storage chambers on cliff ledges, were adopted in much of this range and, some generations later, pottery. There seems no reason to perceive an invasion of Puebloans displacing the southern Basin Late Archaic peoples.

The perspective fits ethnohistoric facts often neglected in assessing "Fremont." Hopi Pueblo speak a Uto-Aztecan language of the same stock as the languages of Utes, Paiutes, Shoshone, and Comanche. Hopi's neighbors to the north are Southern Paiutes who farmed along rivers, digging irrigation ditches where necessary for their crops. When encountered by European explorers in the late eighteenth and Americans in the nineteenth centuries, they built only wickiups or somewhat heavier pole-and-brush winter houses, not stone or adobe pueblos on mesa tops, hence a difference between them and Hopi impressed these explorers. Where maize agriculture was adopted,

population density increased and there was incentive to invest labor in stone structures, and later to make pottery—thus, "Fremont culture." In between irrigable valleys suitable for maize, there may have been lower densities of nonagricultural people in flimsier homes, or only the excursions of Fremont people to hunt and to gather foods and plant materials from other zones. Then, apparent climate changes in the thirteenth and fourteenth centuries CE forced a retrenchment southward from not only the Basin but from the bordering Colorado Plateau, maize cultivation virtually disappearing from the Basin and at least some of the Colorado Plateau Puebloans moving into the Rio Grande Valley among its established, and persisting, agricultural towns.

Numic Expansion

A major debate concerns the precontact of Basin Uto-Aztecans, that is, the Numa (pronounced "Numma"). "Numic" is the language family including Shoshone, Comanche, Ute, and Paiute. Numic itself is a branch of Uto-Aztecan; other Uto-Aztecan languages include Tubatulabal in the California Sierra, several "Mission Indian" languages in southern California (Luiseño and Cahuilla among them), Hopi, and the long series through Mexico, from O'odham (Pima and Papago) in southern Arizona down through Yaqui, Tarahumara (Rarámuri), and Huichol, to Nahuatl, the Aztecs' language. The chain implies spread of an ancestral Uto-Aztecan population between the Great Basin and Central Mexico. Initially, Proto-Uto-Aztecans probably lived in the region from Sonora in northwest Mexico into the Arizona–Colorado border area. About four thousand years ago, their groups split into Southern Uto-Aztecans, from the Arizona-Mexico border area south and southeast toward central Mexico, and Northern Uto-Aztecans from Hopi in northeast Arizona northward into the Great Basin. Aztec histories say their forebears came from the desert north and learned the arts of imperial civilization from earlier citizens of the Valley of Mexico. Fitting into this history, Numa are hypothesized to have spread northeastward from southeastern California (and Tubatulabal northward). Noting that, historically, Utes and Shoshone live in the area of Fremont sites, it was premised that the droughts of the thirteenth century forced abandonment of Fremont fields, and hunting-gathering Numa, able and willing to survive on collected indigenous foods, took over the deserted region. Shoshone and Utes, according to this scenario, lived over much of their territory only for about five centuries. Shoshone battles against Plains and Plateau nations in the eighteenth century, legendary because these events were remembered as the northern nations' first encounters with horse soldiers, are supposed to reflect continuation of Shoshones' aggressive efforts to expand their domains. To the south, the closely related Comanche similarly are interpreted to have used their quickly acquired skill with horses to expand against nations lacking this military advantage in the seventeenth century.

Several problems beset this neat narrative. That a more arid regime affected the Interior West from the thirteenth century CE into historic time seems well established. On the western edge of the Basin along the California–Nevada border, the lakes and marshes fed by Sierra runoff were reduced although not gone. Klamath, Modoc, Washo, and perhaps some Maidu remained in their homelands, withdrawing somewhat to the still well-watered higher valleys. Paiute could then use the border zone more intensively—not exactly a takeover. The huge central Basin shows no dramatic climate change, having been basically arid for millennia, and its human inhabitants would have continued their low-density, eclectic way of life, utilizing persisting lakes and marshes, lower-slope piñon groves, and higher meadows, the way of life of historic Northern Paiutes, including Wovoka. The real expansion may have been into the eastern Basin and through passes into the Plateau and edge of the Plains, replacing Fremont—unless Fremont, too, were Numa, in which case we are seeing "Fremont" reverting to the ancestral Late Archaic way of life retained by their congeners in the most arid central Basin. Realistically, "Fremont" probably encompasses both Numa who carried, and some of who eventually gave up, maize cultivation, and Puebloans who drew back to the Rio Grande region. The cases of the Hopi, who became stereotypically Pueblo, and Southern Paiutes who maintained river-valley maize farming until pushed out by Mormon settlers, demonstrate that "Fremont" attributes fit quite a few U.S. Uto-Aztecan speakers.

Focusing on the fact that people have been living in the central Basin with little change in way of life, other than using bows and arrows rather than atlatls and javelins after the early first millennium CE, for five millennia, the "Numic expansion" may best refer to the influx of people in the third millennium BCE, after the amelioration of Mid-Holocene aridity and establishment of piñon-pine groves. The very low population density, necessitated by the low (and patchy) density of both floral and faunal resources, left meager artifact clusters, and the Numas' characteristic efflorescence of the art of basketry seldom preserved in the archaeological record, giving the impression these people were poor and dull. Comparing a museum's archaeology cases of Basin artifacts, with blocky milling stones and small arrowheads, to its ethnographic cases crammed with a diversity of beautiful baskets, trays, woven boxes, and hats, vividly underscores the challenges of reading peoples' histories from archaeological remains.

The Plateau

North of the Great Basin are the uplands through which major rivers flow to the Pacific: the Columbia, the Snake, and the Fraser. Sections of these rivers are deep gorges, and steep, forested mountains fill much of the region, especially the north. Lakes and grassy valleys invite people to the mid-region, while the southern sector blends into the Basin with rolling sagebrush plains. Historically, Shoshone and Northern Paiute occupied the southern area, Sahaptin speakers (Yakama, Walla Walla, Umatilla, and about

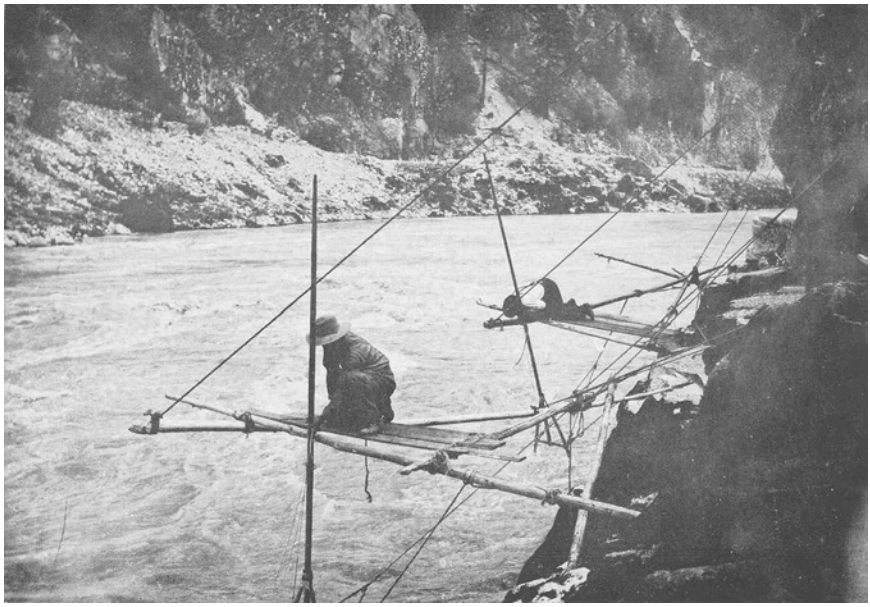

Figure 11.1 Plateau Indians harvesting salmon, using traditional dip nets from platforms, on the Fraser River in British Columbia.

Credit: Photo by John Babcock, 1908, Game Fishes of British Columbia, Victoria, BC: Richard Wolfenden; courtesy Freshwater and Marine Image Bank at the University of Washington

a dozen other small nations) and related Nimipu (Nez Percé) the middle region, and Salishan speakers (Shuswap, Okanagan, Flathead, Spokan, Coeur d'Alene, and some half-dozen others) the northern sector. Sahaptin seems distantly related to Klamath and Modoc in northeastern California, the "Plateau Penutians" as distinct from the many California and West Coast Penutian nations; linguists infer that the homeland from which Penutians spread to and along the coast and through California may have been the western border of the Plateau in Oregon, possibly the Willamette Valley running south from the lower Columbia River. Linguistically, the relationships of the historic Plateau nations are to the West Coast. Who may have occupied the Plateau before upriver spread of Salish and Sahaptin and northward expansion of Numa is beyond linguists' power of inference.

Early Holocene Plateau people, like those to the south, hunted deer, elk, and waterfowl, attracted to the resources of lakes and marshes. In central Oregon, obsidian (volcanic glass, making very sharp weapon points and knives) was quarried from a quiescent volcano crater as early as 9000 BCE, and perhaps it was obsidian that was traded westward, even in the Early Holocene, in exchange for ornamental seashells from California. By 6500 BCE,

salmon were running up the Columbia River; from this time on, salmon caught in quantities during spring and fall runs were a staple of the region.

Mid-Holocene warmer climate was less severe in affecting humans on the Plateau than in the central Basin. Camas and probably other roots, tubers and bulbs, chokecherries, and seeds from weedy grasses were harvested, attested by the split-cobblestone choppers, ground-stone grinding slabs, and rock-lined earth ovens used to process these foods. Pronghorn and mountain sheep, in addition to deer and elk, were hunted with tiny sharp blades (microblades) set as armature for javelins as well as the more generally common larger blades. Fish were speared or taken with lines, and probably with nets that are seldom preserved. Pithouses, very likely a few together in small villages, were introduced on the Plateau as on the California border of the Basin, indicating the present state borders obtrude over an ancient shared cultural zone. Life was endangered at 5000 BCE when Mount Mazama, now Crater Lake in southwestern Oregon, violently erupted, spewing thick hot ash over hundreds of thousands of square miles, from Alberta into Nevada, the mouth of the Columbia east to the Plains beyond the Rockies. Vegetation would have been killed, and the animals dependent on it decimated. At the time depth of seven millennia ago, archaeological techniques cannot resolve data sufficiently finely to see how people coped with the eruptions continuing intermittently for a century or more, whether they found refuges in canyons or fled the region. The Mazama eruption coincides with the Mid-Holocene climate shift, complicating our reading of the archaeological record to see responses to the catastrophe. Whatever the immediate or long-term effects, human habitation remains do lie above the ash layer throughout the Plateau.

Climate amelioration by 2500 BCE fostered population increase. Historically, winter villages lay near the major rivers, the Columbia, Fraser, and Snake, generally where tributaries entered, but archaeology shows pithouse villages on the upper reaches of the tributary rivers, too. One historian suggests that population decimation from smallpox and possibly other epidemics in the protohistoric eighteenth century, coupled with political–economic upsets related to that and to escalation of trade due to European entry into the indigenous networks, encouraged consolidation of surviving villages into the main-river settlements seen in the early nineteenth century. Slaves were a significant trade item at that time throughout the Plateau, Basin borderlands, and West Coast, probably in at least late prehistoric times as well, heightening the value of defendable sites and coalitions.

The Dalles (Narrows) at the east end of the Columbia River Gorge was perhaps the most desirable site in all the Plateau. The river was here channeled through a stretch of cliffs, forcing salmon to crowd and leap as they swam upstream to spawn. Men with dip nets and spears could stand on the rocks along the water channel, scooping up bushels of fish to be passed, assembly-line style, to women for fileting. Gutted and sliced, the fish were

hung on racks to dry and either stored or pounded into a highly nutritious meal that was bagged or pressed into bricks. Wishram and Wasco, Chinook-speaking (a Penutian language) towns one on each side of the river at the Dalles, sold these standard-sized bags and bricks to travelers using the river, providing also other foods such as camas meal and space for traders—and gamblers. At the Dalles, one could obtain dentalium, olivella, and abalone shells from the Pacific, furs and hides from the Plateau and Rockies, fine baskets and twined bags, and one could bet, hoping to grab the wagered heap but maybe losing even one's shirt. At the beginning of the nineteenth century, the first Europeans down the Columbia saw some three thousand people at the "great fair" at the Dalles. These included, besides travelers up or down river, other nations of the Plateau who moved seasonally to the Narrows to join in harvesting the huge runs of salmon. Archaeology reveals this use of the Narrows for ten thousand years, with lessened occupation during the mid-Holocene temperature maximum, then increasingly dense occupations with those from the mid-first millennium BCE to the protohistoric period (eighteenth century CE) demonstrating participation (or trading) in artistic stonework styles of the southern Northwest Coast.

Tsagiglalal, "She Who Watches" in Wishram, is a famous rock carving (petroglyph) at the Dalles. (Actually, there are four such petroglyphs plus small carvings of Tsagiglalal in stone, bone, and antler in cemeteries in the Dalles area.) All the Tsagiglalal carvings, depicting a grinning face with large eyes formed by concentric ovals, date to the protohistoric eighteenth century, up to the early historic period about 1840, and two of the petroglyphs overlook village cemeteries. Because of the dating, Tsagiglalal is interpreted to represent grinning death welcoming the thousands of Indians dying in the unprecedented epidemics charging ahead of direct visits by Europeans, carried through contacts between Indians in the protohistoric century once smallpox, measles, and other Eurasian diseases had been introduced via European invasions. Horses and horse-riding, too, spread Indian to Indian ahead of direct visits by Europeans, horses reaching the Columbia region half a century before Europeans came at the beginning of the 1800s. The "great fair" operated by Wishram and Wasco at the Dalles became a hollow success in the eighteenth century when the congregation of thousands from the entire Western half of the continent brought in the deadly diseases, decimating Plateau nations.

Other petroglyphs and rock paintings (pictographs) on the Plateau depict hunt scenes, stylized human figures, or fantastic creatures that may in some instances represent insects or possibly spirit beings such as a flash in lightning. Fragments of a pictograph spalled off a rockshelter wall and were buried in an occupation layer dated between 6000–4000 BCE, and some petroglyphs, especially when somewhat protected from weather by overhangs, might be that old, but so many show horses that the majority are not older than the protohistoric. When inquiries have been made of First Nations people living

near rock art sites, many in the Plateau, as in California and the Plains, aver that the art is older than their communities' memories and suggest the art not only shows spirit beings, but was made by spirit beings to inform humans that the locality is favored by the spirit, an auspicious place to pray—in other words, a shrine. Considering the rapid decimation of villages by protohistoric epidemics and subsequent population movements forced by colonist invasions, the histories of much rock art may well have been lost even if only a couple centuries old.

Research Puzzle

Puzzling for decades whether Fremont was (note singular) Puebloan, archaeologists more recently have distinguished regional variants of "Fremont." These distinctions fit ethnohistorians' contributions describing farming by Paiutes, and also careful gathering of indigenous food plants by Puebloans. Previously assumed contrasts between "hunting-gathering Paiutes" and "agricultural Pueblos" are seen to have been overdrawn. The research puzzle now requires linking early historic First Nations to regions within the southern Great Basin, attempting to find continuities in artifact types such as styles of woven sandals.

Somewhere in the Great Basin, Apacheans, forebears of the Navajo and Apache, may have traveled. These Athabascan-speaking (Dené, Diné in Navajo) peoples migrated from northwest Canada to the American Southwest about a thousand years ago, no doubt taking several centuries to complete the move. Finds of gray pottery somewhat like Navajo pottery may indicate settlements of these Apacheans in the Basin. Alternately, the Apacheans may have traveled mainly along the eastern front of the Rockies; even so, some may have explored westward through passes such as along the Bighorn River. The hypothesis that some Fremont may have been Apacheans links the puzzle of Apachean migration to the puzzle of who were Fremont.

Another research puzzle concerns identifying who inhabited the vast areas that were historically homelands to the Numa, if linguists' interpretation of Numic history is correct in postulating a relatively recent spread, a thousand years ago, of these peoples through the Basin from an original territory in its southern portion. The Aztecs of Mexico said their ancestors had lived to the north in a land of caves, journeying southward until they saw the envisioned promised land of marshy lakes, the Valley of Mexico. About when the ancestors of the México (Aztecs) were moving southeastward, taking advantage of political uncertainties and reformulations following the decline of Toltec power, northern Uto-Aztecan speakers—Numa—were expanding north beyond the agricultural zone. Tying linguistic reconstructions, legendary histories, archaeological and biological data together is a puzzle in which few of the pieces snap into a close fit.

From Sarah Winnemucca Hopkins, *Life Among the Piutes, Their Wrongs and Claims*, pp. 5–15

I was born somewhere near 1844 . . . I was a very small child when the first white people came into our country. . . . The third year more emigrants came, and that summer Captain Fremont, who is now General Fremont. My grandfather met him, and they were soon friends. They met just where the railroad crosses Truckee River, now called Wadsworth, Nevada. Captain Fremont gave my grandfather the name of Captain Truckee, and he also called the river after him. Truckee is an Indian word, it means "all right," or "very well." A party of twelve of my people went to California with Captain Fremont.

I do not know just how long they were gone. . . . When my grandfather went to California he helped Captain Fremont fight the Mexicans. When he came back he told the people what a beautiful country California was. . . . That same fall, very late, the emigrants kept coming. They could not get over the mountains, so they had to live with us. You call my people bloodseeking. My people did not seek to kill them, nor did they steal their horses,—no, no, far from it. During the winter my people helped them. They gave them such as they had to eat. They did not hold out their hands and say:—

> "You can't have anything to eat unless you pay me." No,—no such word was used by us savages at that time; and the persons I am speaking of are living yet; they could speak for us if they choose to do so.

The following spring, there was a great excitement among my people on account of fearful news coming from different tribes, that the people whom they called their white brothers were killing everybody that came in their way, and all the Indian tribes had gone into the mountains to save their lives. So my father told all his people to go into the mountains and hunt and lay up food for the coming winter. Then we all went into the mountains. There was a fearful story they told us children. Our mothers told us that the whites were killing everybody and eating them. So we were all afraid of them. Every dust that we could see blowing in the valleys we would say it was the white people. In the late fall my father told his people to go to the rivers and fish, and we all went to Humboldt River, and the women went to work gathering wild seed, which they grind between the rocks. . . .

Oh, what a fright we all got one morning to hear some white people were coming. Every one ran as best they could. My poor mother was left with my little sister and me. Oh, I never can forget it. My poor

mother was carrying my little sister on her back, and trying to make me run; but I was so frightened I could not move my feet, and while my poor mother was trying to get me along my aunt overtook us, and she said to my mother: "Let us bury our girls, or we shall all be killed and eaten up." So they went to work and buried us, and told us if we heard any noise not to cry out, for if we did they would surely kill us and eat us. So our mothers buried me and my cousin, planted sage bushes over our faces to keep the sun from burning them, and there we were left all day.

Oh, can any one imagine my feeling *buried alive*, thinking every minute that I was to be unburied and eaten up by the people that my grandfather loved so much? With my heart throbbing, and not daring to breathe, we lay there all day. It seemed that night would never come. Thanks be to God! the night came at last. Oh, how I cried and said: "Oh, father, have you forgotten me? Are you never coming for me?" I cried so I thought my very heartstrings would break.

At last we heard some whispering. We did not dare to whisper to each other, so we lay still. I could hear their footsteps coming nearer and nearer. I thought my heart was coming right out of my mouth. Then I heard my mother say, "'Tis right here!" Oh, can any one in this world ever imagine what were my feelings when I was dug up by my poor mother and father? My cousin and I were once more happy in our mothers' and fathers' care, and we were taken to where all the rest were.

Well, while we were in the mountains hiding, the people that my grandfather called our white brothers came along to where our winter supplies were. They set everything we had left on fire. It was a fearful sight. It was all we had for the winter, and it was all burnt during that night. My father took some of his men during the night to try and save some of it, but they could not; it had burnt down before they got there.

This whole band of white people [the Donner party of emigrants] perished in the mountains, for it was too late to cross them. We could have saved them, only my people were afraid of them. We never knew who they were, or where they came from.

Early in the following spring, my father told all his people to go to the mountains, for there would be a great emigration that summer. He told them . . . "Within ten days come together at the sink of Carson [Carson River oasis]." . . . During that day one could see old women getting together talking over what they had heard my father say. They said,—

"It is true what our great chief has said, for it was shown to him by a higher power. It is not a dream. Oh, it surely will come to pass. We shall no longer be a happy people, as we are now; we shall no longer

go here and there as of old; we shall no longer build our big fires as a signal to our friends, for we shall always be afraid of being seen by those bad people."

"Surely they don't eat people?"
"Yes, they do eat people, because they ate each other up in the mountains last winter."
This was the talk among the old women during the day.

Written in English, edited for publication by Mrs. Horace Mann, by Sarah Winnemucca, daughter and granddaughter of the principal chiefs of the Northern Paiute, "Truckee" and Winnemucca.

Hopkins, Sarah Winnemucca (1883) *Life Among the Piutes, Their Wrongs and Claims.* Edited by Mary (Mrs. Horace) Mann. New York: G. P. Putnam's Sons. Facsimile reprint 1969, Bishop, CA: Sierra Media.

Notes

1 The textiles from Spirit Cave were described by ethnologist Catherine Fowler in a paper presented to the 1997 annual meeting of the Society for American Archaeology, and by archaeologist Amy Dansie, in *Nevada Historical Society Quarterly* 40(1): 17–23 and in *Mammoth Trumpet* 12(2): 1,14–17, both 1997 publications. Fowler's (1996) essay in the book edited by James B. Petersen, *A Most Indispensable Art: Native Fiber Industries from Eastern North America* (Knoxville, TN), pp. 180–99, gives a good account of early textiles throughout North America. Twining, a technique in which the weft element is twisted around each warp by hand rather than thrown through alternate warps by means of a shuttle, makes a strong fabric although it takes longer to make a piece. If industrial-scale production (as demanded by the Aztec empire, for example) is not required, twining may be the preferred technique for fabrics; it was common through much of indigenous North America and is still used by women of the Plateau nations for carrying bags.

Illustrated monographs on Great Basin women's arts include Catherine S. Fowler's *In the Shadow of Fox Peak: An Ethnography of the Cattail Eater Northern Paiute People of Stillwater Marsh* (Washington, DC, 1992), and Margaret M. Wheat's *Survival Arts of the Primitive Paiute* (Reno, NV, 1967).

2 See my *The Ghost Dance: Ethnohistory and Revitalization* (Long Grove, IL, 2006) for a detailed description of these Paiute. Michael Hittman's *Wovoka and the Ghost Dance* (Lincoln, NE, 1997) is a compendium of all that is known of the prophet and his community, commissioned by them, the Yerington Paiute Tribe.

12 The North

This chapter describes the Arctic Coast and Subarctic zones of North America, immense territories with low densities of human population. Massive glacier ice covered the zone until well into the Holocene: the Laurentide Ice Sheet of northeastern North America lay over most of Canada eighteen thousand years ago, began to "retreat" (i.e., to melt at its margins) about sixteen thousand years ago, and by nine thousand years ago southern Canada was free of ice, although glacial ice still covered the north, and indeed, still today covers most of Greenland. Understand that glacier "retreat" meant flooding, the release of meltwater, raising sea level and leaving countless lakes and ponds on the bedrock scoured by the glacier. Freed of the weight of packed glacier ice, the land rebounded, changing stream flows. Vast marshes called muskeg cover much of the Subarctic, as the soil formed after glacier melting was too thin to absorb all that water.

To live in the North, whether along the Arctic Coast or in the boreal forests, requires sophisticated strategies, technological and social. When, in 1883, young anthropologist Franz Boas went to stay for a year among Inuit in northeastern Canada (Nunavut), expecting to observe primitive savages, he saw instead highly skilled men and women cooperating to survive and raise families in harsh lands. Boas's year with Inuit revolutionized anthropology, rejecting the concept of "lower races" and developing that of "multilinear evolution," that all contemporary human societies are equally long evolved from ancient ancestors, differing because of adaptations to different habitats.

Arctic Coast

The Arctic Coast from Pacific Alaska across Canada through Greenland is inhabited by nations speaking Eskimo languages, and formerly called "Eskimo." Today, two of these nations are self-governing territories, Kalaallit Nunaat (Greenland) and Nunavut (Northeast Canada), their citizens preponderantly Inuit. Alaska's northern people are Iñupiaq (a version of the word "Inuit"), and those in the west and southwest coastal areas are Yupik. Some Yupik live on the Siberian side of Bering Strait. Aleut, inhabitants of the Aleutian Islands stretching westward from Alaska's southern peninsula,

speak a language that is part of the Eskimo-Aleut stock but so different from Yupik-Iñupiaq/Inuktitut that Aleuts must have separated from the ancestral Proto-Eskimo-Aleut population several thousand years ago.

Surely the Arctic Coast is the most challenging environment colonized by humans. Half the year it is ice-bound dark winter, the sun appearing only dimly, or not at all, in midday, the temperatures far below zero—centigrade or Fahrenheit!—with howling blizzards. Short summers are beset with biting insects. Few edible plants grow. Abundance of sea mammals lured people into the zone; ingenious technology kept them alive and prospering. Franz Boas discovered that far from being miserable scavenging brutes, Inuit relaxed in snug thermally engineered iglus enjoying poetry, songs, dancing, visual art, and jokes. Survival gear today follows Inuit designs for parkas, dome shelters, kayaks, cargo sleds, toggle fastenings, and snow goggles. These inventions, plus others such as composite harpoons, cargo boats (umiaks) used also for whaling, dogsleds, waterproof suits of fishskin, gutskin, or birdskin, economical lamps burning rendered seal oil that can heat and light an iglu while cooking meat, enabled Inuit to explore and settle northernmost America.

Inuit culture seems to have developed in the Eurasian Arctic, then spread across Bering Strait into Alaska in the Middle Holocene, and taken off eastward across northernmost Canada in the last millennium CE. Three staging areas are implied: Eurasia to invent the basic technology and strategies to survive in the High Arctic, Alaska to add to and refine these, and then filling in the Canadian Arctic within a few centuries, meeting the westward-colonizing Norse in Greenland, 1000 CE. The interesting complication is that the first people coming into the Canadian northeast and Greenland, about 2000 BCE, carried a stone technology with microblades and unusually small chipped blades (the Arctic Small Tool tradition). These people had many elements of Inuit technology, including toggle harpoons, kayaks, lamps, clothing, and probably bows and arrows. Initially hunting a diversity of land and sea animals, through time the descendants of these colonizers came to focus more on sea mammals during the first millennium BCE, hunting them from the ice rather than only from boats on open water. A millennium later, Inuit groups called Thule, coming from Alaska, had techniques and tools for more efficient hunting of sea mammals and dogsleds to transport meat and household goods overland. They displaced the population already in the eastern Arctic (called Dorset); DNA analyses indicate Dorset were not absorbed into Thule communities, and where Dorset went, no one knows. Looking from the east, then, successful adaptation to the High Arctic spread across northern America around 2000 BCE, and the historic Thule of the last millennium constitute the most effective variant developed. Whether the Dorset and their ancestors, the Arctic Small Tool people, spoke languages related to Inuit, no one knows.

Early Holocene occupations in Alaska are referred to as Paleo-Arctic, and are similar to those on the Siberian side of the Pacific. Most sites appear to have been campsites, often on river banks high enough to be above the worst of the mosquitoes, but not so high that shrub thicket covered them;

some sites are on high overlooks commanding river valleys or the coast. Caribou bones indicate the importance of these deer, always vital to provide skins suitable for clothing and tents as well as meat, and explain the location of campsites where caribou herds might be sighted. A few sites have been securely radiocarbon dated to the first couple of millennia of the Holocene, fewer to the Middle Holocene, because the camping episodes left small scatters of artifacts and food debris, with a number of episodes on the same favored campsites, frustrating archaeologists' efforts to separate the episodes and fine-tune the dating.

During the fifth millennium BCE, approaching the climax of the post-Pleistocene warming trend, artifacts resembling those used in the Subarctic interior forests occur through much of Alaska, out into the tundra, prompting some archaeologists to posit a spread of Canadian Subarctic people north and west, other archaeologists to suggest an association between these artifact styles and greater reliance on caribou, without necessarily any ethnic migrations. People seem to have sheltered in tents, with a site on the western coast exhibiting a semi-subterranean house floor; that is, a wide pit dug into the subsoil to insulate the house, with perhaps a roof of blocks of sod over a wood frame, or simply a tent banked with sod or brush. Such a house would be a winter residence, its family using a tent to camp out on caribou-hunting excursions inland.

Suddenly—according to the archaeological record—in the later second millennium BCE, the Alaskan population appears to increase rapidly. The apparent proliferation of sites is probably an effect of the stabilization of sea level by the beginning of that millennium, because more sites and larger, longer-occupied sites chosen for winter villages have always been along the coasts where marine fish and sea mammals abound. Rising sea levels during the first half of the Holocene simply covered coastal settlements of that era. Once the sea no longer steadily encroached upon the entire coast, many sites remained accessible to archaeologists. Circumstances such as these explain why the geologist is the archaeologist's best friend.

A good example of what appears sudden is the Old Whaling site on Cape Krusenstern, western Alaska. Five deep, large pithouses close together would have been the village's winter dwellings, with five similarly large, shallow-floored houses close by, the summer dwellings. In front of one house was a butchered whale skull, other whalebones littered the beach by the village, and large harpoon heads and long-bladed knives point to the pursuit of whales at this time. No other whalers' villages nor whaling gear resembling theirs are known so early in Alaska. Clearly these people had seagoing boats, so they may have come a considerable distance, then decided after a year or two that beaches back home, wherever that was, better suited their needs.

In the first millennium BCE, excavations have shown a forty-nine-foot (fifteen-meter) oval house in one site, in another a rectangular house twenty-six by sixteen feet (eight by five meters) built on the western coast of Alaska, and tents continuing in use inland, perhaps for summer caribou hunts. One interpretation of the rectangular house is that it was used for community

events and the men's workshop, the village families living in smaller round structures nearby; this model from historic village layouts in Alaska would see the historic ethnographic social pattern to be three thousand years old. Supporting this interpretation is food debris within the outlines of the smaller structures, much less in the larger house, and tools for working wood and stone in the house, not on the smaller floors.

Pottery was the striking innovation of the first millennium BCE in western Alaska, as in the Eastern Woodlands. Alaska's first potters seem more skilled than those who made Early Woodland–type pots in the East; the craft dates back to the Terminal Pleistocene in Siberia, almost certainly the source for introducing ceramics into Alaska. Stone lamps, and a bit later, clay lamps, burning animal oil also were used. Judging from the quantities of seal bones in sites, the oil would have been rendered from seal blubber, and the pots would have been useful for this purpose. Another innovation, in southwestern Alaska at the beginning of the second millennium BCE and becoming common in northern Alaska by late in the first millennium BCE, is ground slate knife blades and weapon heads. Smooth, long ground slate blades are excellent for slicing fish and sea mammal meat and blubber. Ground slate, like ceramics, was widely used in coastal Siberia and in the Late Archaic Northeastern Woodland. It's puzzling that ceramics and ground slate are not found in the vast area between Alaska and the Northeast. Coastal Alaska shared the North Pacific maritime culture with Siberia, but the idea that northeastern coastal America shared a North Atlantic maritime culture with northwesternmost Europe has been resisted by most American archaeologists.

Ipiutak

From the standpoint of a historical approach, Ipiutak may be the most significant site in Alaska. Occupied in the first millennium CE, the name site is at Point Hope on the northwestern tip of Alaska or, from the sea perspective, the northeastern coast of the Chukchi Sea (that portion of the Pacific north of Bering Strait). Related cultural material is found from Point Barrow, the northernmost tip of Alaska, to Cape Krusenstern in central western Alaska. Five hundred and seventy-five houses were mapped for the Ipiutak town on Point Hope, and seventy-two excavated in the archaeological project carried out between 1939 and 1941. It is supposed that not all the houses were simultaneously occupied, but they lie in two sets of long parallel rows running in from the beach, with little superposition and a wide "street" between the sets of rows. Houses had a frame of timber posts in the corners of squared shallow basins ten to eighteen feet (three to six meters) across, a hearth in the center and banquettes built along three sides for sleeping and seating platforms. Walls and roofs were constructed of logs and poles, covered with hides and/or blocks of turf, and a down-sloping entrance passageway shielded the interior from drafts and retained heat within the house—basic engineering for Arctic winter houses originating in the Upper Paleolithic in Eurasia and characteristic of historic Inuit iglus. Burials were either corpses interred in

log coffins, usually with few or no artifacts, or apparently on a cleared surface over which a grave house was constructed, these corpses frequently accompanied by beautifully carved objects.

Seals, probably hunted at their breathing holes, were the principal marine resource for Ipiutak, complemented by caribou, a subsistence economy continuing into the present for some Inuit. Bows and arrows and harpoons were the weapons employed and, in the interior, caribou were driven into lakes where they could be speared from kayaks as they tried to swim away. Their

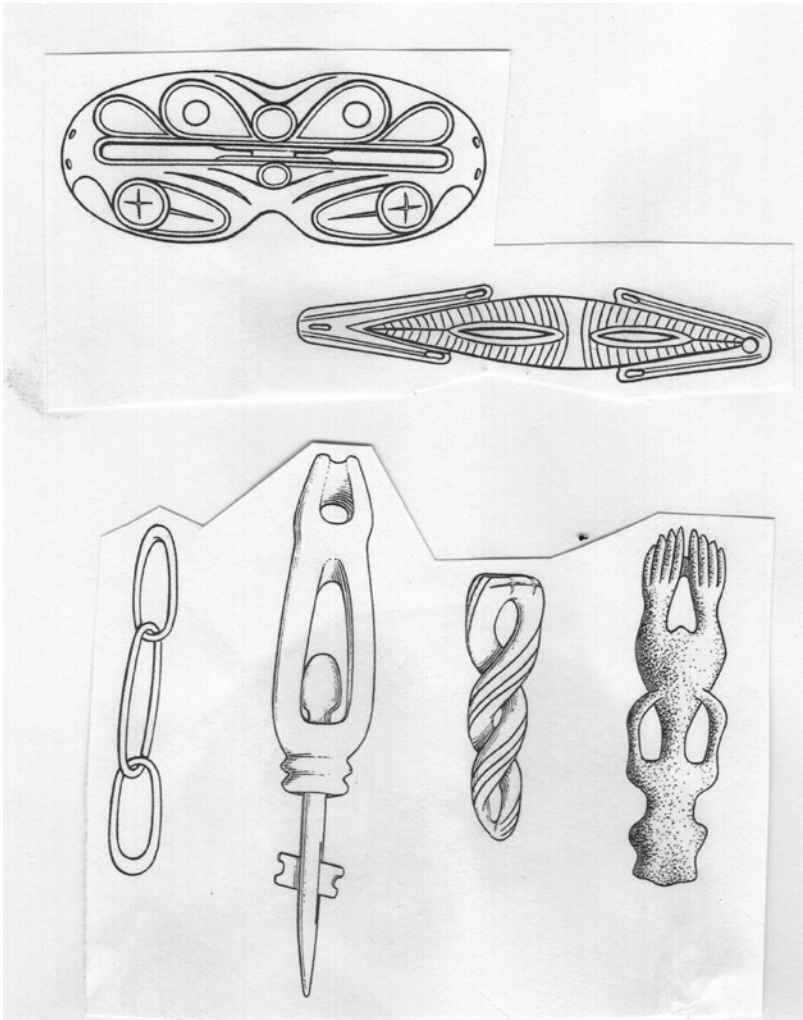

Figure 12.1 Sketches of carvings found at Ipiutak site, Alaska.

Credit: After Larsen and Rainey 1948. Larsen, Helge, and Froelich G. Rainey (1948) *Ipiutak and the Arctic Whale Hunting Culture.* New York: American Museum of Natural History, Anthropological Papers vol. 42

stone technology links Ipiutak with earlier central coastal Alaskans, except that they didn't make microblades, didn't use ground slate, and, most surprisingly, did not make pottery.

Carvings are spectacular components of Ipiutak culture. Quantities were found at Ipiutak, nearly all in the ground-level graves presumed to have been covered with wooden grave houses. Bone, antler, and particularly walrus-tusk ivory were carved and decorated with lines and dots. Many ivory carvings represent walruses, bears, humans or fantastic animals, the elements of the design dynamically curvilinear and ornamented. Some creatures have their skeletons incised, as if an X-ray were superimposed on the body, a motif used also in Northwest Coast art and around the Pacific, from which a few archaeologists have argued that there was once, maybe two thousand years ago, a circum-Pacific art style spread through coastwise trade and population movements and surviving historically in New Guinea and adjacent Melanesia, among the Ainu of northern Japan, and the Northwest Coast of America. Ipiutak carvers went beyond this semirealistic, abstracted style for figurines, dagger handles, and harpoon sockets, to produce, in addition, linked chains, swivels, and twists each made from a single piece of ivory. Corpses sometimes were given artificial eyes of ivory, or masklike carvings of which the ivory may be the preserved part of composite masks with a wooden or leather base. The association of the figurines, chains of links, twisted shapes, and swivels with selected corpses buried differently from most, suggested to the excavators that those persons had been shamans, like Siberian shamans across the Chukchi Sea who wear special tunics from which hang a variety of figurines and metal chains and swivels.[1] Siberian shamans believe the objects can be useful in engaging spirits to help them in healing, divining, or retrieving wandering souls. Ipiutak carvings may have been ivory versions carved because the shamans on the American side could not obtain the metal pieces manufactured in Asia. One ivory engraving tool with a tiny iron point found at Ipiutak supports this interpretation that Ipiutak was in contact, but not in regular trade, with Siberians.

What were the contacts across Bering Strait is a question less investigated than circumstances imply. First-millennium CE sites on St. Lawrence Island, at the south end of Bering Strait and more or less midway between Siberia and Alaska, tie in closely with contemporary sites on the eastern Chukchi Peninsula. Looking from the Chukchi Peninsula, Ipiutak shared much of its culture, notably the effusive delight in curvilinear decorations on nearly all bone and ivory objects, with these communities. Historically, Yupik lived on both sides of the Strait, and a few traveled hundreds of kilometers into Siberia to Russian trade fairs. Iron in precontact northern America from Ozette, in northwestern Washington State, to Inuit sites across the Arctic might come from Asian shipwrecks but at least as likely came from long-distance trade around the North Pacific or across the Strait. A Japanese archaeologist argued that the innovations in Alaskan coastal cultures late in the first millennium CE, innovations that mark the Thule culture leading to historic Inuit/Iñupiaq, may have come from northeastern Asia. That area,

specifically the Okhotsk Sea north of Japan, exhibits many imports from northeastern China and from Japan during the late first millennium CE: the Ainu (whose art style resembles Northwest Coast) and others around the Okhotsk Sea traded furs and walrus ivory for iron and bronze manufactures, glass beads, and fine clothing. The market for North Pacific furs and ivory may be older than the Okhotsk Sea archaeology can demonstrate, possibly stimulating the big settlement and fantastic ivory carvings of Ipiutak.

Thule and Its Forebears

Coastal Alaskan societies that seem to more closely resemble historic Inuit/Iñupiag lived contemporary with Ipiutak not only on the Chukchi Peninsula but also in northernmost Alaska around Barrow. These people, called Birnirk after a site near Barrow, lived in single-family small houses, a few to a village, building the structures with driftwood timbers eked out with walrus and whalebone, covered over with sod. Sloping entrance passageways ended lower than the house floor, creating a cold trap; in one house, the lintel of the doorway into the house proper was a whale skull, under which the residents crawled into the interior warmed and lit only by an blubber-oil lamp, for there is no firewood so far north. Seals and walruses were efficiently hunted, to the degree that an implement was invented to make a scratching noise on ice that would attract seals in springtime. Birnirk people probably did not actively hunt whales, as opposed to scavenging beached whales.

Closer to Bering Strait, pursuing whales was definitely a major activity. Villages were large enough to house enough men for whaleboat crews, optimally more than one boat in order to head off whales swimming in leads in the offshore ice. Harpoons large enough to kill whales are regularly found, and an ingenious harpoon head with an offset hole for the line and an asymmetric spur that caused the head to twist in the wound at a right angle to the thrust, more effectively securing the harpooner's line in the prey. Walrus bone and ivory were made into ice picks, snow shovels, ice-creepers to fasten onto boot soles to grip when walking over ice, and runners for hand-pulled transport sleds. Powerful bows backed with glued strips of sinew (increases the spring force of the bow), ivory wristguards, and a variety of arrows and javelins from blunt-ended bird bunts to fearsome multibarbed arrows identified by Iñupiaq as meant for war, form the arsenal during the first millennium CE. Asian-style slat armor of rows of narrow strips of bone tied to bone frames worn over thick hide shirts confirm the interpretation of war arrows. Why did they go to war? Iñupiaq tell stories of beauteous, industrious wives kidnapped by enemies, like Helen of Troy one might say, but, as with the Greeks' Trojan War, advantageous harbors and access to resources likely were the real prizes.

From the westernmost tip of Alaska at the Bering Strait itself, north and eastward along the Arctic Ocean, the immediate forebears of the Inuit/Iñupiaq, called Thule, appear at the end of the first millennium CE. Items of dog harness and driving whips show that dogsleds came into use at that

time, facilitating transporting meat, household goods, and people. Dog teams don't come free, they must be fed, creating a need for netting and storing quantities of fish for dog food in addition to what owner families eat.[2] Thule culture generally was an intensification of first-millennium CE Birnirk and neighboring north Alaskan coastal culture, with whaling developed to the point that crews tackled the huge bowhead whales in addition to beluga and other smaller whales. The big whales feed at certain locations in the northern seas where currents concentrate plankton. These tend to be off major headlands; therefore, Thule had large villages at a few major headlands and hamlets widely dispersed elsewhere. They went inland in summer and early fall to hunt caribou, necessary to their survival for clothing and tents, and they hunted whales and seals along the ice during the long winters. When hunting inland, families lived in caribou-skin tents; during the winter, they clustered in dome-shaped sod-covered houses, of the type used in Birnirk, near sealing grounds.

The fifteenth century CE began a period of colder climate called the Little Ice Age, lasting until the mid-nineteenth century. Effects of this climate shift would be especially harsh in Thule lands, the northernmost regions inhabited by humans, and Arctic populations adapted by reducing settlement size except in the few localities still seeing bowhead whales, Point Hope and Barrow. Fishing became more important to most Alaskans, with greater use of nets to capture more fish, rather than taking them with lines and hooks or spearing. Seals remained a vital resource, one posing a difficulty for archaeologists, because for the last few centuries and possibly earlier, Inuit and Iñupiaq built snowblock houses out on the pack ice to hunt seals. These houses and any artifacts and debris in or around them disappear into the water when the ice melts or shifts, removing evidence of half each year's occupations from the archaeological record. Seals were also hunted in summer from land settlements. A study of an Iñupiaq community over a generation pointed to two critical times annually, early summer when quantities of fish and seal can be dried, and early fall when fish can be stored frozen. Any condition that affects harvesting and processing these resources, such as excessive flooding in early summer or early freeze-up in fall, can be catastrophic for a small Iñupiaq community—they would probably spend more time hunting caribou inland, but conditions that affect fishing and sealing may affect caribou populations and movements, too. Seal numbers, too, will be affected by fish numbers, since that is what seals eat. Thule strategies and technology were extraordinary and, as many of their descendants in Alaska, Canada, Nunavut, and Kalaallit Nunaat know, the best-ever devised for long-term survival in the High Arctic.

Interior Northwest

The interior of Alaska and adjacent northwestern Canada is the home of the Athabascan-speaking nations, in their own languages the Dené. Their economy is based on the boreal spruce forests and the rivers and lakes running through them, with excursions onto the tundra to the north and to

the coasts and inlets. Herds of caribou and spawning salmon were the staples in Alaska, both resources processed into dried meat. To eat the lean dry meat, rendered bear oil was considered essential, unless seal oil was available. When hunting or traveling near the Alaskan mountains, people went after Dall sheep, the hides of which were ideal for winter bedding; if these could not be obtained, skins of hares, muskrats, and ground squirrels were sewn together for blankets, and ground squirrels, usually taken by women in set snares, sewn to make warm lightweight underwear. Berries and edible roots were regularly added to meals and, historically, Dené harvested these to optimize sustainable yields, to the degree that some claimed that failing to utilize useful plants would result in the plants disappearing. Historic records show that the majority of Dené births occurred in early spring because women were most well-nourished in summer, therefore most likely to conceive. At the opposite time of year, late winter, food supplies are running out and fat and oil, especially, may be minimal, reducing women's body fat to a level that inhibits conception. The warm half of the year would be best for babies' survival, in part because their better-fed mothers could better provide milk, so the cycle of human nutrition and of births fits principles of natural selection. The observation highlights the necessity of fat in human diets and helps the archaeologist extrapolate from the historic present to the more distant past.

Archaeology in the boreal forest zone is impoverished by acidic soils that destroy bone as well as softer organic materials. Consequently, human skeletons that might provide biological markers of affinity to early historic populations are few, and comparisons confined to coastal and High Arctic sites where preservation is much better (especially in the latter zone, where permafrost acts as a freezer maintaining organic matter for centuries). Exacerbating the challenge to archaeologists is the boreal forests' limited biomass, resulting in very low population densities of game animals and human populations, high mobility of game seeking forage and humans seeking game, and light, quickly built or easily transported shelters. Firewood being abundant, people relied on blazing hearths to keep them warm, rather than on heavily insulated structures such as those on the coasts that offer archaeologists solid frames, banks of collapsed sod blocks, and stone or ceramic lamps. Some pithouses have been excavated, few of them very ancient, most with comparatively shallow floors.

Adding to archaeologists' burdens, pottery is virtually absent in the western half of the boreal forest, Canada's Northwest Territory and adjacent Alaska. What is left are stone artifacts, often roughly made just to get a working edge. Looking at the crude heavy stone artifacts typical of western boreal forest sites, one wouldn't guess that the makers probably wore beautifully tailored clothing tastefully decorated with designs created with colored porcupine quills. These mobile people often left stone implements behind at campsites instead of carrying them along, an obvious reason why little effort was given to producing laboriously crafted, esthetically pleasing stone

objects. Repeated visits to campsites well situated for sighting or processing game, for fishing or berrying, or at portages could bring the artifacts into use again and again, their rough manufacture discouraging other visitors from taking them away.

The term Northern Archaic has been assigned to interior Alaskan artifacts dating from the fifth millennium BCE to at least the second millennium BCE, perhaps to the first millennium CE. Sites are often difficult to date, most of them campsites with little deposition of soil between multiple visits mixing artifacts and debris. No dramatic innovations appear until European incursions in the nineteenth century. Apparent continuity through minor changes in material culture led to the interpretation that the Northern Archaic represents Athabascan (i.e., ancestral Dené) colonization of the region around six thousand years ago. Offsetting this straightforward linking of material culture continuity with the historic nations of the region, is the limitation of the archaeological record to utilitarian artifacts designed to take and process caribou, fish, bear, and the other resources essential to survival in the land. Iñupiaq hunting caribou inland left campsites looking much like those of Dené.

Experiencing life with Dené brought anthropologist Robin Ridington the realization that their technology is basically knowledge they carry in their heads, of how to expeditiously make what they need out of generally available raw materials; weight is critical to these people who move several times a year, on foot or in spruce-frame boats covered with caribou or moose hides. There is no way to definitely link Dené to sites more than a few centuries old. Linguistics and genetics are the means to illuminate Dené history; linguists now recognize that the language stock, Athabascan, is related to languages in Siberia, particularly one presently in central Siberia called Ket. Likely, the Yeniseian languages in Siberia (Ket and Kott) represent movements of their speakers westward from eastern Siberia, as the Athabascan languages in America represent migrations of their speakers eastward and southward out of Alaska. Genetics suggest East Asian men moved into interior Alaska and married native Indian women, late in the first millennium CE. These men may have carried powerful sinew-backed composite bows developed in Asia, bows that armed Mongol armies riding over much of Asia in the later first millennium CE (climaxing with Genghis Khan's conquests, 1190–1227); Dené and Apacheans used such bows.

Research Puzzle

The premise that the Americas were populated by migrations through Beringia, and later, in the Holocene, across Bering Strait, gives Alaska the potential for disclosing the times and contents of these immigrations. Alaska's huge size, rugged terrain, thick forests, and small population mean archaeological sites are generally difficult to spot, nor often revealed by modern construction as in the Lower Forty-eight. Finds may contravene expectations; for example, in Alaska, Paleoindian Fluted Tradition blades seem to be no earlier

than similar blades in temperate America. The state's archaeological potential conflicts with its practical difficulties in carrying out research.

Metal tools, from native copper and from imported or meteoritic iron, have been revealed to have been more common in later Arctic societies than anthropologists had supposed. A Canadian researcher is persuaded that the Thule migration across the Arctic was a search for sources of iron, with Norse in eastern Canada and Greenland discovered to be one set of sources, amenable to trade. Utilization of metal tools would have kept Aleut, Alaskan, and Northwest Coast nations in the circum-North Pacific trade circle: collaboration between Russian and American archaeologists following the end of the Soviet Union and the Cold War impressed both sides with the extent of this trade, leading them to title a jointly sponsored exhibit "Crossroads of Continents." Detailing movements of people, technologies, and art styles back and forth on those crossroads is the major research puzzle for archaeologists working in Alaska, northern Canada, and the Arctic. Whether Norse and their forebears, on one side, and northeastern American First Nations on the other, will be seen to have constituted a voyaging zone in the North Atlantic is a research puzzle awaiting in-depth investigation.

Bibliographical Notes

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From Julie Cruikshank, *Life Lived Like a Story*, pp. 278–81

This is our *Shagóon*—our history. Lots of people in those days, they told their story all the time. This story comes from old people, not just from one person—from my grandpa, Hutshi Chief, from Laberge Chief, from Dalton Post Chief. Well, they told the story of how first this Yukon came to be.

You don't put it yourself, one story. You don't put it yourself and then tell a little more. You put what they tell you, older people. You've

got to tell it right. Not you are telling it: it's the person who told you that's telling that story.

My grandpa, one man, was Hutshi Chief. He's got two wives: one [Dené] from Selkirk, one [Tlingit] from Carcross [Caribou Crossing]; his name is Kaajoolaaxí; that's Tlingit. Oh, call him a different one: Kakhak—that's *dän k'è* [Southern Tutchone language]—that's an easy one. His Coast Indian [Tlingit] name comes from a long time ago: it was from trading they call him that way. You see, long-time Coast Indians, they go through that way to Selkirk, all over. He married first my grandma from Carcross: Däk'äläma. His Selkirk wife was K'edäma: she's the one they call Mrs Hutshi Chief.

My daddy's name was Hutshi Jim: my daddy is the oldest. Another brother is Chief Joe—Hutshi Joe—he had the same mother. One grandpa we've got, and I've got lots of cousins up at 1016 [Haines Junction] from this lady, Däk'äläma. These kids are all born around Hutshi. Hutshi is a coast name: Coast Indians call it Hóoch'i Áayi—means "Last Time Lake." That's when they go back [return to the coast]. The *dän k'è* name is Chuinagha. Lots of people used to live at Hutshi. My grandpa had a big house at Hutshi . . . all rotten now. Oh, it used to be good fishing spot! King salmon came that way, too. everybody came there together. Kajit [Crow clan] owns that place, but they're not stingy with it. [Mrs Ned, the narrator, is Kajit.]

Now I'm going to tell a story about long ago. This is my two grandpas' story, Big Jim's and Hutshi Chief's. I'm telling this story not from myself, but because everybody old knows this story. Just like now they go to school, old time we come to our grandpa. Whoever is old tells it the same way.

Well, Coast Indians came in here a long time before white people. People had fur, and they used it for everything themselves. Nobody knows alcohol, nobody knows sugar before those Coast Indians came. They brought guns, too. No white man here, nothing.

At Noogaayík, Tlingit people first saw chips coming down from upriver. People making rafts, I guess, and the chips floated down.

"Where did this one come from?" they asked. So that time Coast Indians wintertime to Dalton Post. That's the way they met these Yukon Indians. Yukon people are hunting, and they've got nice skin clothes—Oh, gee, porcupine quills [embroidery], moose skins, moccasins! Everything nice.

Coast Indians saw those clothes and they wanted them! That's the way they found out about these Yukon people. Right then, they found where we hunted. Coast Indians traded them knives, axes, and they got clothes, babiche, fish skin from the Yukon. They've got nothing, those Tlingit people, just cloth clothes, groundhog clothes. Nothing! Goat and groundhog [skins], that's all.

But people here had lots of fur and they used it in everything themselves—ready-made moccasins, buckskin parka, silverfox, red fox, caribou-skin parka sewed up [embroidered] with porcupine quills. You can't see it, this time . . . so pretty.

So that's how they got it. Coast Indians got snowshoes and moose-skin clothes—all warm—parka, caribou parka, caribou blanket, caribou mattress. Anything like that they want to use. Those people wanted clothes from here in Yukon . . . skin clothes, sheepskin, warm mitts. . . . So they traded. They traded for snowshoe string, for babiche, for sinew, for tanned skin—all soft.

These Yukon people told Coast Indians to come back in summer-time. So they did, next summer. Yukon people had lots of furs. That time they don't know money—they don't know where to sell them. So Coast Indians brought in guns. Well, they're surprised about that, Yukon people! They've been using bow and arrow! So they traded.

Coast Indians got guns, knives, axes. They came on snowshoes. They packed sugar, tea, tobacco, cloth to sew. Rich people would have eight packers [porters] each! They brought shells, they brought anything to trade. They traded for clothes. Coast Indians brought sugar, tea. At first these Yukon people didn't want it. But pretty soon, they went to Klukwan [on the coast]. They took their fur. They knew where to sell it now. They would go down wintertime with toboggan, Dalton Post way or by Lake Arkell.

But people here got crazy for trade goods. They traded for knives, they traded for anything, they say—shells, guns, needles. When you buy that gun, you've got to pile up furs how long is that gun, same as that gun, how tall! Then you get that gun.

I don't know those guns—that's before me. But my grandpa had that kind at Hutshi. I saw what they've been buying, though—blankets, not so thick, you know, quite light. You could pack maybe fifty blankets, I guess, from the coast. They would bring all that. Everybody bought their grandpa, their grandma a knife that time!

My grandpa, Hutshi Chief, had a trading partner, Gasleeni. We fixed up his grave, my brother and myself. Old people were satisfied with Coast Indians, what they used to bring—cloth, guns, and matches. They used flint before, and birch bark. Coast Indians taught people to chew tobacco—I never used it, me. I never used to use sugar, either.

Well, Coast Indians would rest there and then they could go any-place, see? They go hunting; then they go back. Then these people would go down to see them. I never saw *those* ones—I know lots of Coast Indians, but they didn't bring anything in my time: I didn't see Coast Indians packing. It was before me, I guess, when my grandma was young.

Told in English by Ntthenada, Mrs Annie Ned, Southern Tutchone Dené, in the 1980s. Mrs Ned was born in the 1890s and raised by her grandparents.

Cruikshank, Julie (1990) *Life Lived Like a Story: Life Stories of Three Yukon Native Elders.* Lincoln: University of Nebraska Press.

Notes

1 Shamans are religious leaders in indigenous Siberian nations, the term coming from the Tungus language spoken by the Evenki. Inuit *angakkut* are similar to Evenki shamans and probably originated from, or learned from, northeastern Siberian shamans. Northwest Coast religious performers and doctors used many of these techniques, although Northwest Coast dance-dramas are more elaborate than Siberian performances. Diviners among Subarctic Indian nations such as the Ojibwe seem to have learned techniques from this body of practices widespread in the North. "Shamanism" is not, however, a primordial religion, nor one shared by all peoples popularly called "primitive." For full discussion of shamans and of the misuse of the term even by academic writers, see my *Shamans and Religion: An Anthropological Exploration in Critical Thinking* (Prospect Heights, IL, 2000).

2 In the late twentieth century, many Northerners felt caught between substituting ski-doos (snowmobiles) for dog teams because the machines make no demands other than cash for gas, versus maintaining dog teams as part of a relatively independent hunting way of life. Wage-earner schedules interfere with subsistence hunting, cash isn't easy to earn up North. The dilemma of retaining "traditional," that is to say not Western capitalist, economies has been relatively successfully resolved in the Canadian James Bay Agreement of 1977 (see Ronald Niezen, *Defending the Land: Sovereignty and Forest Life in James Bay Cree Society* [Boston, 1998]) and poorly so in the United States Alaska Native Claims Settlement Act of 1971 (see Norman A. Chance, *The Iñupiat and Arctic Alaska: An Ethnography of Development* [Fort Worth, TX, 1990]).

13 Overview: North America, 1600

A perspective on North America at 1600 should recognize that historically documented European discoveries of American First Nations began more than a century before 1600 and continued well into the nineteenth century. At 1600, indigenous nations in Florida had already suffered De Soto's rapacious army sixty years previous and the Spanish colony at St. Augustine for thirty-five years. West of the Appalachians, from two to ten or more generations would live independent of alien imperialism.

An American perspective should not view the continent from its eastern periphery on the Atlantic. Major population centers lay inland, in western New York, the Midwest, South, Southwest, and California. Only De Soto traversing the South in 1539–1542 saw Indian nations virtually unaffected by European incursions and epidemics. Marching with an army of knights, infantry, servants, artisans, porters, horses, attack dogs, and a herd of pigs, De Soto's chroniclers were in no position to record native daily life or nuances of social structure. One could say that books on the First Nations were closed before they could be written.

Overall, American nations differed from Europeans in several ways that misled assessments by invading explorers, colonists, and later statesmen. European economies depended on breaking the soil with animal-drawn plows, sowing it with small-seeded grains to be ground into flour at commercially operated mills, and supplementing grain with meat and milk from fenced domesticated livestock. Agriculture was labor-intensive, demanding daily care of the livestock in addition to seasonal work in the fields. Because plows are clumsy to turn, fields are optimally long rectangles, and because plowshares are ruined by hitting stones or trees, much labor went into removing these obstacles, leaving nothing but the sown grain or hay in the field. American agriculture, in contrast, developed on variations of raised beds built and maintained by human labor. Long parallel planting ridges superficially resemble plowed furrows, but tall, well-spaced maize stalks are quite unlike thickly growing grasses such as wheat. American agriculture interplanted nitrogen-fixing beans as well as squashes with maize, whereas European grain fields were monocropped. The combination of hand labor, lacking draft animals with plows, and multicropped fields looked to Europeans like gardening, not business-like agriculture.

American economic animals were not wholly dependent upon human care, unlike European livestock. Deer, in the woodlands, and bison, on the Plains, benefited from Indians burning off range to prevent tree encroachment and stimulate growth of tender new grass. Deer and bison, and pronghorns, bighorn sheep, and rabbits in the West, were driven into corrals or rings of nets for slaughter. These activities were occasional in contrast to the unceasing attention required to keep domesticated stock. Turkeys and parrots were kept primarily for their feathers (turkey feathers were sewn onto fabric for light, warm cloaks), not in large numbers. In America, only dogs were genetically affected by selective breeding. European observers in the Eastern Woodlands saw that deer were fostered by Indians maintaining maximum browse near settlements, like European aristocrats' hunting preserves, so they considered First Nations' hunting to be sport rather than an alternative form of stock keeping.

Around 1600, no nations in the United States were building the massive structures that had been theaters of power in the eleventh and twelfth centuries, at Cahokia and Chaco. Southeastern nations kept up smaller mounds in the towns that superseded the Cahokian state, and Pueblos constructed multistory housing blocks, but in neither region on the earlier scale that would awe visitors. European observers who saw the ruins of Cahokia and Chaco assumed they had been the work of a vanished race, possibly Mexican, possibly Eurasian. Contemporary Indian nations, at 1600, were analogous to Europe after the collapse of the Roman empire, smaller kingdoms or independent towns in volatile relations with neighboring polities. Europeans recognized small kingdoms like their own in the sixteenth century, but thought United States Indians had never created large states.

For centuries before 1600, professional scribes of the Maya kingdoms were fully literate, using phonetic syllabaries to write screenfold books. Targeted for wholesale destruction by Spanish missionaries, thousands were burned, leaving only a tiny remnant as curiosities in European colonial archives. More documents survive from the Aztecs and Mixtecs in central Mexico because they recorded landholdings, but their notations use ideographs, not full texts. Indian nations of the United States had systems of conventional signs, different by region and purpose. Iroquois ritual leaders and Midé priests in the Great Lakes area learned a number of symbols to guide them through lengthy recitations. Algonkian-speaking Abenaki leaders in the Northeast signed treaties, in the seventeenth century, with symbols of their names similar to the syllabics. European observers in the United States considered symbols and syllabics on birchbark scrolls, wooden staffs, or worked out in wampum beads on belts to be crude signs rather than evidence of alternate, if limited, literacy. Lack of fully alphabetic writing was adduced as evidence of savagery among American First Nations.

Another aspect of First Nations cultures contrasting with European custom was a habit of dressing lightly. Much of North America suffers summers more hot and humid than usual in Europe, and indigenous people sensibly dealt with this by wearing few clothes, a breechcloth for men and a skirt for

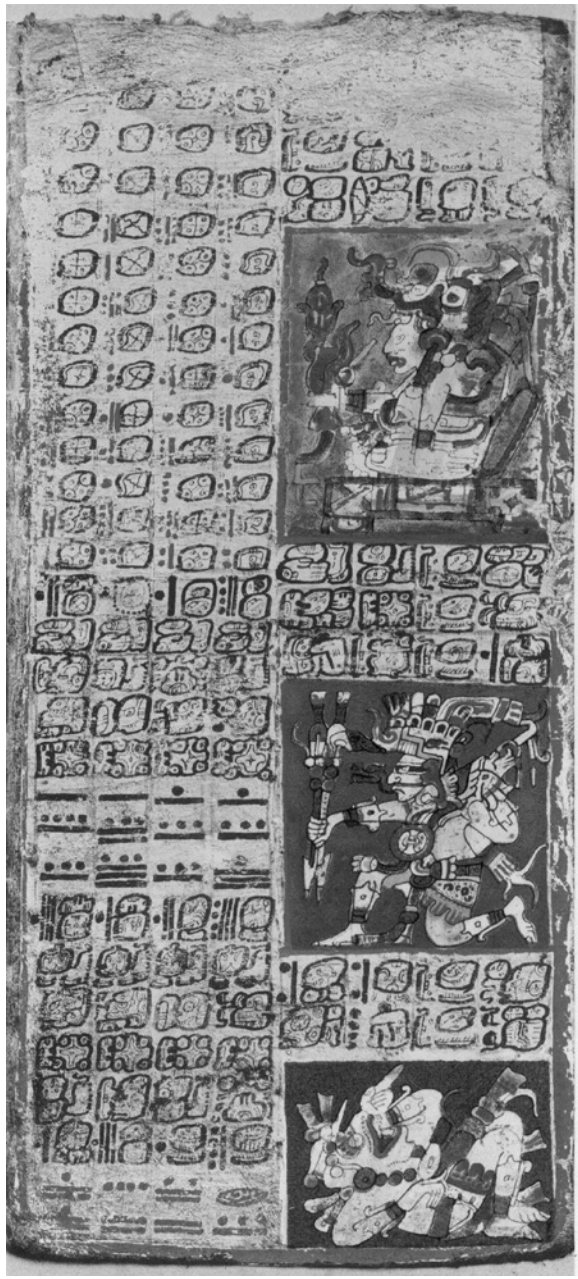

Figure 13.1 Maya book pages, Dresden Codex (a text for astronomical observations and calendar calculations).

Credit: Public domain

women. Of course in winter, more would be worn, but European observers writing reports traveled mostly in the summer. Mesoamerican noblemen could be resplendent in bejeweled belts over elaborately tied breechcloths with bustles of flamboyant feathers, exquisite feather cloaks around their shoulders and dramatic headdresses crowning the lord; ladies wore long skirts and blouses of finely woven fabrics, plenty of jewelry, and their own impressively ornamented headdresses. Leaders in the United States, lacking the variety of brilliant tropical birds to be found in Mesoamerica, were likely to wear cloaks of turkey feathers, decorated velvety-tanned deerskins, or woven strips of rabbit skin. Along the Pacific, men might not bother even with breechcloths, but Northwest Coast noblemen would put on costly sea-otter fur cloaks to receive foreign visitors. Throughout America, copper was often valued above other elements, even gold, incredible as that seemed to Europeans. Americans' unconcern with totally covering the body, their prizing beautiful feathers over fur, and their preference for a more common metal, copper, over scarcer gold, led Europeans to suppose Americans were unsophisticated children of nature.

These differences in values and style provoked disrespect and misunderstanding on both sides. Compounding biases, European nations attempted to justify, or at least technically legitimate, territorial conquests by claiming moral superiority. Sixteenth-century Spaniards read out, by order of their government, these uncompromising statements to indigenous communities they met:

> On behalf of the king . . . and the queen . . . subjugators of barbarous peoples, we, their servants, notify and make known to you . . . that God, Our Lord, living and eternal, created the heavens and the earth . . . and great numbers of people. . . . Of all these people God, Our Lord, chose one . . . who was to be superior to all the other people of the world, whom all should obey . . . called the Pope. . . . We beseech and demand that you . . . accept the Church and Superior Organization of the whole world and recognize the Supreme Pontiff, called the Pope, and that in his name, you acknowledge the King and Queen . . . as the lords and superior authorities of these islands and mainlands.
>
> (quoted in Milanich 1995:100–101)

Then came the Reformation rejecting the authority of that Supreme Pontiff called the Pope, and Protestant conquerors needed to substitute some other universalizing formula. Colonists would settle on land that looked unoccupied, disregarding First Nations' designation of it as hunting preserve or long-fallow arable (agricultural fields left to second-growth vegetation for several years to restore fertility). They might barter with the indigenous community, giving goods in exchange for what the native group understood, according to common American practice, to be limited usufruct but

the Europeans claimed to constitute permanent alienation of the land. Or seventeenth-century Protestants, like sixteenth-century Spaniards, could declare the indigenous people inferior by act of God, placed before invading Europeans to be Christianized and civilized for the sake of their own benighted souls. With the rational Enlightenment on the horizon by the close of the seventeenth century, Englishman John Locke penned treatises on human nature and on government that argued the improvement of private property through labor to be most praiseworthy. Locke, who served as executive secretary to the British Board of Trade, ingenuously declared written title to land and exchange of such titles for money (not bartered goods) to be the marks of civilized government. American principles of landholding could be disregarded by Locke's civilized compatriots.

Overall, callous ignorance and evangelical fervor, lust for power and wealth, and desperate hope for a decent living alike wreaked destruction on American First Nations, forcing their people to adapt to radically changed population ratios, alien technology and economic practices, and powerful attacks upon their autonomy. Five centuries after 1600, we view the landscapes of that era through veils of stereotypes born sometimes of confusion, sometimes of deceit, sometimes of political rhetoric.

The Eastern Seaboard in 1600

English colonists were late among Europeans coming to America. Norse had been taking American resources of timber, furs, and walruses since 1000 CE, Basque probably from the fifteenth century, Portuguese and other fishermen in Atlantic Europe from 1500, and Spanish expanding their Mexican empire from 1513. England had sponsored Cabot's explorations of the American coast in 1497 and 1498, the venture lost when Cabot failed to return. French efforts to colonize America began with Cartier in 1534. The entire century after Columbus was a time of regular European exploitation of American coastal resources.

The Atlantic is not as impassable a barrier between continents as most contemporary Americans assume. Columbus's pilot, in 1492, already knew steady winds and current that would carry boats westward from North Africa to the Caribbean, and then the Gulf Stream circling north and eastward to take them home to Europe. People trying to win fame in the *Guinness Book of Records* have crossed the Atlantic, usually by these natural routes, in an amazing variety of things that float, the smallest a sailboard five feet, four inches long that in 1993 carried its sailor—who was taller than the board was long—from Newfoundland to England in 106 days. It is quite possible that Phoenicians and related Carthaginians explored the Atlantic before their rivals, the Roman empire, finally crushed them in 146 BCE, deliberately obliterating their history. Some Romans, or more likely North Africans within the Roman empire, may have reached Mexico, if so without creating any interest from their government or historians; bits of evidence

include use of a Roman type of cement for low domed roofs on a couple of buildings in the Veracruz prehistoric city of Tajín, the head of a small broken Roman clay figurine buried in a Toluca Valley Aztec-period tomb (possibly an heirloom preserved for eleven centuries, possibly a relic traded by one of Columbus's men that rapidly passed inland, preceding Cortés), the unusual use of fired bricks with makers' stamps at the Gulf of Mexico Maya site of Comalcalco, and the odd coincidence that a few Nahuatl words, notably *teo* "deity," closely resemble Latin.

The Norse era may have begun with Irish monks seeking hermitages far from madding crowds. Irish histories telling of St. Brendan, sixth century, voyaging in a leather-covered curragh were pooh-poohed until experimenter Tim Severin constructed a large curragh according to the legend description and sailed it from Ireland to America, taking two summers and overwintering in Iceland where Irish monks are known to have preceded Norse colonization. Norse themselves pushed rapidly from Iceland to Greenland to Canada in the late tenth century. Their settlement at the tip of Newfoundland, L'Anse aux Meadows, apparently didn't last long, but American timber used for their buildings in Greenland indicate they continued to cross Davis Strait for centuries. A large stone found in 1898 near Kensington in Minnesota is inscribed with Norse runic letters, telling of ten men of a 1362 exploring party ambushed and killed. Authenticity of this inscription has been hotly debated, but in 2000 the stone was examined under high magnification in a geophysics laboratory, and the runes appear weathered as would be expected were they chiseled in 1362. Presumably, the Norse traveled up the St. Lawrence and through the Great Lakes, or perhaps south from Hudson's Bay, to Minnesota seeking new sources of fine furs, spurred by the German Hanseatic League's 1360 military takeover of Norse trade in Russian furs.

Furs were important components of established trade along the Eastern Seaboard centuries before the 1670 chartering of the Hudson's Bay Company by Britain. Greenland Norse traded American furs, including the highly prized sable (marten), to the home kingdom of Norway, whether principally through their own trapping in Baffin Land and adjacent northeastern Canada, or by trading with Inuit, Innu, and other indigenous trappers cannot be determined. French entrepreneurs found Algonkian-speaking groups in Canada, too far north to reliably grow maize, came down to Iroquoian-speaking Huron towns in what is now southern Ontario to trade furs for tobacco and maize. By the mid-seventeenth century, contests between Huron and New York Iroquois, between French and British and Dutch, and smaller nations such as the Mahican of the Hudson River Valley over the fur trade came to be called the Beaver Wars, beaver being a prime item to make European luxury felt hats. The alliance of five New York Iroquois nations—Seneca, Cayuga, Onondaga, Oneida, and Mohawk—into the Haudenosaunee League is said to have occurred in the late sixteenth century

(the date is debated), which may reflect Beaver Wars already being fought at this time, perhaps over access to Gulf of St. Lawrence trade with Europeans.

South of the cold latitudes where desired furbearers flourish, deer hides were the principal indigenous product for trade. Indian women worked hard to tan the hides to a remarkable velvety softness. Tanning being an unpleasant task, demand for well-tanned hides fostered keeping slaves to do the task. Thus slaves captured in ambushes and wars, and it may be children of slaves—whether Southeastern nations kept slaves' offspring in bondage is unclear—were also marketed. The Carolinas became the center for shipping fine deer hides, while Indian slaves were bought, or free persons (like Tisquantum in Massachusetts) seized, all along the Seaboard. The background to the pre-European, well-established active trade in hides, slaves, and items not coveted by Europeans, such as copper and conch shells, is the consolidation of populations in agricultural towns on the inner coastal plain below the fall line, and in major river valleys of the Interior South.

Spanish, French, and English accounts of Southeastern nations describe those in the favorable agricultural lands as small kingdoms ruled by aristocratic families. Royals, adorned in colorful cloaks and pearl necklaces, were carried in litters, and rugs were placed on the ground where they alighted.

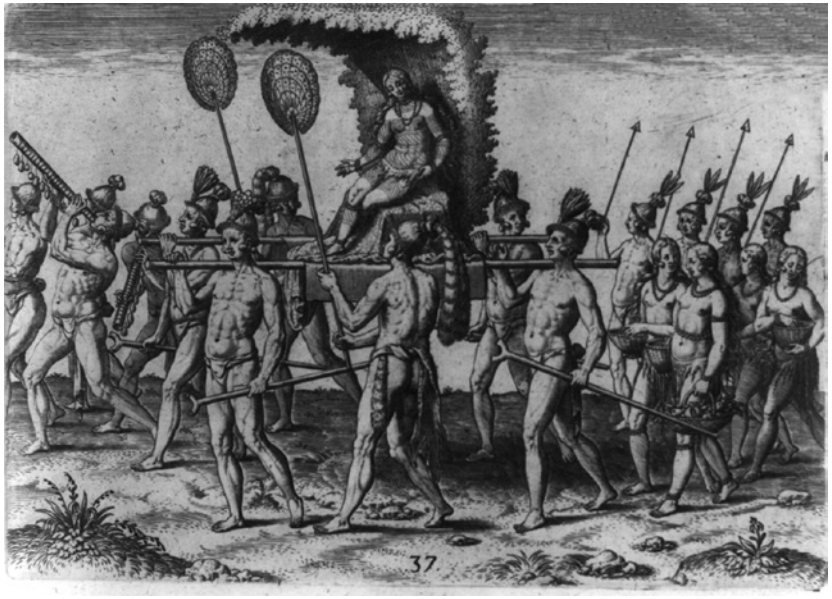

Figure 13.2 A Timucua aristocrat, traveling to her wedding. The Lady of Cofitachequi, met by De Soto in 1540, similarly traveled in royal style, bedecked with ropes of pearls, although being farther north than Florida, she dressed in finely woven cloth.

Credit: Engraving by Theodor de Bry. Library of Congress

Attendants fanned them and brought them food and drink. Agricultural products, dried meat, and manufactured objects were rendered as tribute to the rulers, either carried to their principal town or given when they traveled in state to visit subordinate towns. This political economy benefited European explorers and colonists who relied for their own food on surpluses stored in First Nations' granaries. These nations, in turn, readily adopted European foods imported for colonists' farms, so that by the eighteenth century, peaches, wheat, pigs, cattle, and horses were common. The Cherokee, Chickasaw, Choctaw, Creek, and Seminole came to be called the Five Civilized Tribes, many of their leading families running cotton and tobacco plantations from brick European-style houses, wearing suits and dresses, dining from imported china, and relying on the labor of black slaves they purchased. Notwithstanding, in 1823 Chief Justice John Marshall, defending the U.S. title to First Nations' lands, officially declared that "the tribes of Indians inhabiting this country were fierce savages . . . whose subsistence was drawn chiefly from the forest" (Williams 1990:323, n. 133).

The Midwest

Sixty years before 1600, the Midwest had been visited by two Spanish expeditions, De Soto marching northwest from Florida and Coronado marching east from New Mexico. Coronado had stopped short, in Kansas, of the Midwest's population centers, angrily believing he had been lied to by his Wichita guide, "The Turk." De Soto confronted hundreds of indigenous communities during his three-year trek, meeting many aristocratic leaders and their entourages, pillaging towns and enslaving people. His death—timely, one would say, from the point of view of the pillaged settlements—and those of the majority of his literate troop, with the long journey of the few survivors back to Mexico, deprives us of immediate firsthand accounts. Most of the chroniclers' descriptions of De Soto's adventures pertain to the Southeast and its western zone, the Lower Mississippi Valley.

The Central Mississippi Valley, including Missouri, Arkansas, and western Tennessee, belonged to the persisting Mississippian tradition. Communities lived from their maize fields, as indicated by analysis of human bones. Women worked hard in the fields, again indicated by stress features on their bones; men apparently engaged in war, that is, if a peak in male mortality in their early thirties can be interpreted as the result of warfare. De Soto's chroniclers noted that women and children captured in war raids frequently labored in the cornfields. So much cooked corn in the daily diet produced many cavities and loss of teeth. A number of villages resembled earlier Mississippian towns in that they incorporated what look like platform mounds, but investigation has revealed that at least some of these were natural river levees, modified and used as cemeteries. Drudgery of daily life was relieved by an exuberant ceramics art, ranging from elegant long-necked bottles to realistic effigy pots probably meant to portray trophy heads taken in battle.

Forms include open bowls with handles shaped like snarling big cats or simple ducks, or frogs or fish molded on the body, and polished beakers with incised designs of rattlesnakes and spirals. Most striking are effigy pots shaped as seated men. The pots' ears with multiple piercings link with burials wearing spool-shaped earrings of wood covered with thin beaten copper and strings of beads, including glass ones obtained from the Spanish, possibly De Soto's party. Spanish-manufactured small brass bells further evidence sixteenth-century trade reaching these Late Mississippian communities.

Facilitating that trade was widespread use of a pidgin language, Mobilian Jargon. Derived from a simplified Muskogean (Creek), it served as lingua franca throughout the region of Mississippian cultures, from southern Illinois to the Gulf, eastern Texas to Florida. Spanish, French, and English traders learned it to carry on their business. The lingua franca seems to have been in place before the European intrusions, probably serving communication needs—political, economic, and religious—among post-Cahokia Mississippian kingdoms. Communication did not necessarily promote peace; De Soto's troops were several times invited to join an indigenous army attacking a rival town. Insults might be yelled in Mobilian Jargon at the enemy. One observation recorded by De Soto's chroniclers is that the Central Mississippi Valley armies, several thousand men strong, traveled by preference in large canoes, their paddlers singing to keep stroke. The chroniclers record also naval engagements between fleets of big but highly maneuverable war canoes, bowmen standing in a row between paddlers bent behind shields. Archaeology has verified the chroniclers' pictures of Mississippian towns defended by stout log palisades with bastions and arrow slits and encircling wide moats on which war canoes could be moored, but no archaeological excavation project has been so extensive as to uncover all the several hundred houses in any of these principal towns.[1]

To the north, around 1600, Oneota culture had spread widely over the Midwest, as far south as Missouri and Arkansas where it met the persisting Lower Mississippi societies. This protohistoric expansion of an Upper Midwest culture seems to fit the legendary histories of the principal Midwest Siouans, the Chiwere speakers—Ho-Chunk (Winnebago), Ioway, Oto, and Missouri—and the Dhegiha speakers—Omaha, Ponca, Osage, Kansa, and Quapaw. These nations agree that Chiwere migrated west and south from ancestral homelands in eastern Wisconsin and Dhegiha from homelands in the Ohio Valley, eventually residing along major rivers from Wisconsin and southern Minnesota through Iowa, Nebraska, Kansas, and into Arkansas. Oneota culture was also practiced by Midwest Algonkian speakers such as the Potawatomi and Mesquakie. European encounters with Oneota peoples began in the mid-seventeenth century, recording large villages with extensive maize fields near lake shores and in river valleys. Contrasting with the pomp of the small kingdoms in the South, Oneota communities appeared relatively egalitarian, but the French who met their various nations in the 1600s usually mentioned strong territorial claims defended, or aggressed

against, with military force. Because oral histories recounted to the French in the late seventeenth century describe severe population losses due to illnesses, and archaeology finds apparent abandonment of many sites in this century of early European intrusions, it appears that epidemics spreading out from the colonial frontiers drastically affected the Midwest as they did the South and East.

Southwest

Spain sent explorers to conquer the Southwest beginning with Coronado in 1540 and authorized a colony under the governorship of Juan de Oñate in 1598. The Pueblos at that time were aggregated into a series of independent villages along the Rio Grande Valley, with Pecos an eastern outlier trading center at the edge of the Southern Plains, and a few towns on mesas to the west—Hopi, Zuni, Ácoma, and Laguna. The southern desert region was home to the scattered ranchería hamlets of the O'odham, Uto-Aztecan-speaking nations related to those in northwestern Mexico. Around and beyond the Pueblos were Diné, Apacheans who had moved into the region from the north only a few centuries earlier, farming where they could find enough water to raise crops for a few families and supplementing that with hunting, wild plants, and raids on the storehouses of the permanent towns. With many of the Rio Grande pueblos housing refugees from the abandonment of Colorado Plateau Ancestral Pueblo settlements about the time Diné appeared in the Southwest, the region would have been volatile even if no Spanish had intruded.

Basically, the Southwest is marginal land for agriculture. Heavy investment in water distribution systems makes it possible to support population clusters; these are vulnerable to political as well as environmental changes, because they depend on labor commitment. Paquimé's near demise in the mid-fifteenth century indicates that political factors could override sustainable environmental adaptation, for farming continued in the valley after the town's trade dominance ended. Pecos's importance in the protohistoric and early historic period lay in its access to both Southwestern and Southern Plains travel routes. This is underlined in Coronado's adventures: first stopping at Zuni in Arizona, he was persuaded to go to Pecos rather than the more northern pueblos and to engage Southern Plains men for guides to march northeastward toward their homeland. Some historians see this as a cunning plot by Pueblos to deflect the rapacious Spaniards from their own people, but it is equally credible that "The Turk" and his friend "Mustaches" (Bigotes), as the Spaniards nicknamed them, were honest in insisting that the wealthiest nations lay to the east. Coronado grew exasperated on the endless march across the arid plains and too readily gave up at the simple Wichita villages in Kansas. The Turk and Mustaches knew, probably firsthand, the kingdoms of the Central and Lower Mississippi Valley. The intervening Southern Plains were rich in bison, for those familiar with the herds'

habitats, and hides and dried meat were commodities in Pueblo markets such as that at Pecos—shields made of tough bison hide were in constant demand, which tells us something about the political climate as well as the economics of the protohistoric Pueblos.

One clue to the indigenous point of view are the number of plain cooking pots made in Pueblo style but of local clays in Southern Plains protohistoric sites. Pots of Southern Plains styles occur in the same sites. Archaeology alone can't tell us whether the Pueblo-style pots represent Pueblo families living with Plains bands, perhaps to amass hides and dried meat to bring back to home villages, or Pueblo women married or enslaved to Plains men. Later European observers throughout the Plains commented on how common it was for individuals and families from other nations to be living in a Plains band, how many people spoke two or three languages; nearly all these observations came after the terrible disruptions from smallpox epidemics, but the occurrences of the two distinct styles of cooking pots in the protohistoric Southern Plains suggest the entire southern United States from the Mississippi Valley to California was a macro-region familiar to travelers such as "The Turk" and "Mustaches." Densely inhabited agricultural pueblos, dispersed O'odham and Diné hamlets with their limited fields, and Southern Plains highly mobile bison hunters, some of them also Diné (Apache), interdigitated with a degree of freedom strange to European eyes.

Interior West and Northern Plains

Farthest from the oceans, the Northern Plains and intermontane Basin were the last regions of the United States to experience European invasions. (It should be noted that European intrusions were even later in interior northern Canada, which signed treaties with some small subarctic nations as late as 1930.) At 1600, each region seems to have been fairly stable, the Numic speakers having spread throughout the Basin after their expansion a few centuries earlier. It would be another century until their eastern bands, the Shoshone and Comanche, acquired horses from their distant relations the Utes along the Spanish New Mexican border, giving these bands power, for a generation or so, to press against Plains nations east of the Rockies.

Northern Plains at 1600 were home to Blackfoot, Kutenai (Ktunaxa), Gros Ventres (A'aninin), Sutai Cheyenne (later to merge with the eastern Cheyenne who farmed in southwestern Minnesota, adjacent to the Arapaho), and the agriculturalists in the larger river valleys, Mandan, Hidatsa, Arikara, and Pawnee. These town-dwellers hunted bison as well as purchased meat and hides in exchange for maize. Eventually, western Hidatsa would split from the main settlements in central North Dakota and would remain in Montana as the Crow (Apsáalooke). Western Lakota hunted through the Dakotas, although at 1600 they were based in agricultural villages along the Minnesota–North Dakota border. Whether the Dhegiha and Chiwere Sioux

regularly went on long bison hunts far into the Plains before they acquired horses, in the eighteenth century, is unclear; some may have journeyed on religious pilgrimages to the Rockies even if most of their nations remained closer to their farmlands. The Kiowa lived in south-central Montana in the eighteenth century, but, since their language is related to that of Jemez and other Rio Grande Pueblos, they may have removed to Montana to escape Spanish domination in the seventeenth century.

Trade linked Northern Plains nations at 1600. Ornaments made from Pacific shells as well as the finest stone for tools, obsidian from Yellowstone and the Plateau and Knife River flint from North Dakota, and catlinite pipestone from southwestern Minnesota, betoken the extensive procurement systems of the time. Without horses to cover overland distances more rapidly, travelers may have kept to the major rivers not only for boat use but also to be assured of drinking water. Settlements in the protohistoric period were usually on river terraces or along valley bluffs, often placed with an eye to defense, containing a thousand or more residents in substantial sod-block lodges. Fully nomadic nations such as the Blackfoot lived in hide tipis in bands of about one hundred people, camping near springs and beaver-dammed streams adjacent to rimrocks and bluffs where they could build corrals to run bison herds into. How often a band might visit an agricultural town, we cannot tell, since the exotic materials that evidence trade could have been transported by enterprising individuals or by bands including a stopover in their seasonal round. Life was comfortable enough that when a Hudson's Bay Company outreach in 1690 made its first contact with Blackfoot, band leaders said they saw no reason to journey to the foreigners' post.

Out in the Basin and the Plateau, there were no agricultural towns. Bands did plan on congregating at pine nut harvests in the foothills, at fish runs at lakes and, on the Plateau, rivers, and to carry out pronghorn drives into corrals. Through these gatherings of several hundred people, trade as well as marriage arrangements and religious worship took place, creating widely shared cultural patterns in spite of the low population density. Europeans did not push into the "Great American Desert" and Plateau until the beginning of the nineteenth century; when they did, they disdained the simple brush wickiups and lack of clothing through which Numa adapted to summer heat and did not recognize that thick stands of seed-bearing grasses in valley bottoms had been sown by Numa. Nor did those commercial beaver trappers and commissioned explorers appreciate the women's impressive achievements in the art of basketry. At 1600, each stream valley, marsh, and lake basin had its core band and relatives and acquaintances joining them for a season or more, managing plant and animal resources in a sustainable, deceptively simple-looking regime. Utes along the southern border of the Great Basin had just seen the first of the alien invaders from Mexico. It would be another two centuries before commercial exploitation and agricultural colonization destroyed the indigenous economy.

West Coast

First Nations living along the Pacific and the rivers emptying into it had seen Spaniards in 1539 and Spain's enemy Francis Drake in 1579. Spanish ships would again coast California in 1602. None of these sightings a generation apart affected the indigenous nations maintaining their territories of valley and hill lands. Like so many other western American nations, they cultivated native plants, including, here, groves of oaks bearing nutritious acorns, directed by generations of older people trained in botanical, zoological, and ecological knowledge. Their villages of semi-subterranean earth-roofed winter houses and camps of brush structures seemed part of the landscape, itself much modified through selective burns. With routes linking San Francisco Bay to the Central Valley and beyond to the Southwest, Californians on the coast manufactured quantities of shell beads and pendants that are the imperishable relics of trade that included bright feathers, fancy baskets, fine deer hides, and, from the Southwest, woven cotton mantles. Obsidian was common for sharp-edged tools and entered the trade from several sources.

Physically, the Sierra Nevada and Cascade ranges, and farther north the Rockies, separate the Pacific coastal regions from interior North America. Practically, the mountains channeled people through their passes. At 1600, east–west traffic moved along the major passes, and foothills and upland meadows were utilized by communities with regular series of camps keyed to seasonal resource harvests. Nations on the coast used boats to hunt sea mammals, fish, and travel. Because considerable sections of the Pacific coast are rocky, with few harbors (compared to the Atlantic coast), marine-oriented nations settled in estuary bays or where offshore islands broke the force of the ocean, for example in the Channel Islands section of southern California and the Inland Passage zone of British Columbia–southern Alaska. Such rich but delimited areas had high population densities—relative population densities prehistorically roughly match comparative densities today, since geographical characteristics underlie settlement choices.

San Francisco Bay demarcates the southern half of California tenuously linked to the Southwest and West Mexico, from northern California and Oregon oriented toward Northwest Coast cultural patterns. From the California–Oregon border northward, observers at 1600 would see houses built of wooden planks. On the northern tip of the United States, the Olympic Peninsula of Washington, they might catch the excitement of Makahs' whale hunting, the solemn rituals consecrating the crews and the festive joking of villagers hacking at the huge carcass days later. Their basket-woven hats, flat for commoners and knob-topped for aristocrats; rain capes of shredded cedar bark; big plank houses in a row at the back of the beach; piles of ropes, fishnets, fishhooks, harpoons, and clubs; long canoes lined up on the shingle; elderly people and children gathering shellfish from the rocks and crabs from the sand, all would make a picture typical of Northwest Coast life. All along the British Columbia coast, communities hunted on land and

sea, cultivated berries and root crops, and in winter, relished dramatic performances inside the big houses, on flats around Puget Sound and the Fraser estuary, or on narrow beach terraces fronting the dense rain forest of conifers.

Southeastern Alaska is the northern end of the Northwest Coast pattern. Continuing along the Pacific past the Tlingit villages and then the rather similar ones of the Yupik, observers at 1600 would meet the Iñupiaq of the Bering Sea and Arctic coasts. Clusters of round sod-covered, sunken-floored houses, one larger than the rest to serve as the men's workshop and community party room, sheltered people from the harsh climate. Two types of boats—sleek, fast, decked-over kayaks for hunting and big open umiaks for transporting families and goods—showed how the absence of trees suitable for canoes was compensated for by covering lashed frames with sewn hides. Groups of sled dogs lounged by the tunnel-shaped doors of the houses. On high racks or in storerooms by the houses, hunting equipment, hides, and caches of food preserved for winter were kept out of the dogs' reach. If the community appeared egalitarian to the observers, they had failed to notice that, although everyone worked, a few men and women led task groups and rituals. Inland, in the vast forests and tundra of interior Alaska, small bands of Dené needed to be more mobile than the Iñupiaq beside the rich marine life of the ocean. Only a few pithouses made up a winter settlement, and people out hunting and checking traps survived the nights in lean-tos of conifer branches fronted by a good fire. In the summer, Iñupiaq and Dené alike could be seen in hide tents, carried in canoes to prime fishing locations. Necessity demanded tanning and tailoring skill to prepare adequate clothing, but an observer in 1600 would have been impressed with the artistic decoration women appliquéed onto parkas and waterproof coats of fishskin or whale intestine (improbable as it sounds, these silky-textured coats are beautiful). Metal knives, some of native copper but many of iron ultimately imported from Asia, attested the trade systems as operative here as in southern regions. It would be a century and a half before Europeans documented these coasts, but what for Europeans was an end of the earth was for northern Asians the eastern side of the Pacific Rim.

Summary

A history of North America that follows the convention of viewing its beginning to be the 1607 founding of Jamestown skews the picture of the continent at 1600. Tidewater Virginia, where Jamestown was situated, was quite literally a backwater. Its local king, the Powhatan, had his capital upriver at a better location. His nation, the Pamunkey, was effectively organized to defend its territory and care for its citizens by maintaining public granaries and supporting local exchange and long-distance trade in higher-cost goods. Unlike the builders of Cahokia in the Midwest five centuries earlier, or the Hopewell in Ohio fifteen hundred years before, the Pamunkey did not construct awesome monuments—exorbitant expenditure of labor did not interest them. Still, the Jamestown colonists could recognize social classes

and court etiquette, politics, and policy decisions. These were no children of nature, nor did they live in a wilderness.

It is important to realize that at the time, neither 1492 nor 1607 would have impressed the world as a watershed year. Since around 1000, Norse had been using northeastern America as the western sector of their extraordinary trading system stretching in the other direction east and south to what is now Turkey. Columbus was part of a competition between Portugal, Spain, and England to find Atlantic routes to Asian riches blocked from overland caravans by the establishment of the Ottoman Turk empire in 1453. Portuguese sailed around Africa and out from northwestern Africa to islands in the mid-Atlantic, from which in the 1520s it brought Azores peasants to Newfoundland to colonize, unsuccessfully. England funded Cabot, who failed to return from his second voyage for that nation. Meanwhile, Columbus's series of voyages encouraged Spaniards to invade Mexico, allying with the enemies of the Aztec state. Assisted by devastating epidemics of smallpox and other terrible diseases, Spanish overcame their allies as well as the Aztecs and reached out across the Gulf of Mexico, attempting to colonize Florida nearly a century before Jamestown would be set up.

On the other side of the continent, China from the late fourteenth to mid-seventeenth centuries was ruled by the Ming dynasty, uninterested in trade beyond Asia. There was certainly trade along the North Pacific Rim, carried by private enterprise on a scale small enough that it did not attract the attention of the Chinese or Korean bureaucracies. The Pacific is considerably wider than the Atlantic and the distance from the temperate-latitude cities of Asia to America greater than from northwestern Europe to eastern America. Visits and exchanges between Siberians, Aleuts along the Aleutian Islands chain across the northernmost Pacific, Bering Sea Iñupiaq, Yupik and Northwest Coast nations lay beyond the pale of written documentation. Spain was reaching westward far past Mexico only twenty years after Cortés landed on Mexico's east coast and colonizing the Southwest sixty years later. Activity in the Pacific coastal regions snaked far inland up the principal rivers and through mountain passes, touching in the Plains and Midwest the trade coming up from the Gulf of Mexico and from the Appalachians.

At 1600, something of the order of ten million people populated the United States, the bulk of them east of the Plains or west of the Sierra but every region inhabited. None of the nations north of Mexico were then building impressive monumental architecture like the forebears of some had a few centuries previous, but there were no trackless wildernesses: everywhere in the United States the landscapes reflected human technology, if one knew the signs. The significant difference between Europeans and American Indians at 1600 was invisible, microscopic; at 1600, Europe had been winnowed by smallpox, typhus, cholera, and other plagues, and its population was rebounding, but the Americans had no immunity yet. America's First Nations were on the edge of decimation by invading forces no one could see. Their populations would not rebound until the twentieth century.

Captain John Smith of Jamestown Colony, Virginia

The forme of their Common wealth is a monarchicall government. One as Emperour ruleth over many kings or governours. Their chiefe ruler is called Powhatan. Some countries he hath, which have been his ancestors and came unto him by inheritance. All the rest of his Territories they report have beene his severall conquests.

Arriving at Weramocomoco, their Emperor proudly lying uppon a Bedstead a foote high, upon tenne or twelve Mattes, richly hung with manie Chaynes of great Pearles about his necke, and covered with a great Covering of Rahaughcums [raccoons]. At his heade sat a woman, at his feete another; on each side sitting uppon a Matte uppon the ground, were raunged his chiefe men on each side the fire, tenne in a ranke, and behinde them as many yong woman, each with a great Chaine of white Beades over their shoulders, their heades painted in redde: and powhatan with such a grave and Majesticall contenance, as drave me into admiration to see such a state in a naked Salvage. When he dineth or suppeth, one of his women, before and after meat, bringeth him water in a wooden platter to wash his hands. Another waiteth with a bunch of feathers to wipe them instead of a Towell, and the feathers when he hath wiped are dryed againe.

William Strachey, of Virginia

The great king Powhatan hath devided his Country into many provinces, or Shiers (as yt were) and over every one placed a severall absolute Commaunder, or Weroance to him contributory, to governe the people there to inhabite, and his petty Weroances in all, may be in number, about three or fower and thirty, all which have their precincts, and bowndes, proper, and commodiously appointed out, that no one intrude upon the other, of sevrall forces, and for the grownd wherein each one soweth his corne, plants his Apoke [tobacco], and gardeyn fruicts, he tythes to the great king of all the Commodityes growing in the same, or of what ells his shiere brings forth apperteyning to the Land of Rivers, Corne, beasts, pearle, Fowle, Fish, Hides, furrs, copper, beads, by what means soever obteyned, a peremptory rate sett down.

Every Weroance knowes his owne Meeres and lymitts to fish fowle or hunt in, but they hold all of their great Weroance Powhatan, unto whome they paie 8, parts of 10, tribute of all the commodities which their Countrey yeildeth, as of wheat [maize], peaze, beans, 8, measures of 10, (and these measured out in little Cades or Basketts which the great king appooints) of the dyeing roots 8, measures of ten; of all sorts of skyns and furrs 8, of tenne, and so he robbes the poore ineffect of all

they have even to the deares Skyn wherewith they cover them from Cold, in so much as they dare not dresse yt and put yt on untill he hath seene yt and refused yt; for what he Commandeth they dare not disobey in the least thing.

Henry Spelman, of Virginia

If any of ye Kings wives have once a child by him, he (never lieth with hir more) keeps hir no longer but puts hir from him giving hir sufficient Copper and beads to maytayne hir and the child while it is younge and then it is taken from hir and maytayned by ye King, it now beinge lawfull for hir beinge thus put away to marry with any other. The king Poetan [Powhatan] having many wives when he goeth a Huntinge or to visitt another Kinge under him (for he goeth not out of his owne country) He leaveth them with tow ould men who have the charge on them till his returne.

Strachey

Twelve [wives] in whose company he takes more delight then in the rest, being for the most parte very young women, and these Commonly remove with him from howse to howse, either in his tyme of hunting, or visitation of his severall howses.

Quotes by historian E. Randolph Turner (pp. 196–202), from three English observers of the kingdom into which the Jamestown colonists moved.

Turner, E. Randolph (1985) "Socio-Political Organization within the Powhatan Chiefdom and the effects of European Contact, AD 1607–1646," in William W. Fitzhugh (ed.), *Cultures in Contact: The Impact of European Contacts on Native American Cultural Institutions AD 1000–1800*. Washington, DC: Smithsonian Institution Press, pp. 193–224.

Note

1 Michael P. Hoffman believes there is sufficient archaeological data to identify De Soto's named political territories: from north to south along the Mississippi in Arkansas, Pacaha, Casqui, Quizquiz and Aquixo (allies), Quiguate, and Anilco on the Arkansas River close to its confluence with the Mississippi ("Ethnic Identities and Cultural Change in the Protohistoric Period of Eastern Arkansas," in Patricia B. Kwachka [ed.], *Perspectives on the Southeast* [Athens, GA, 1994], pp. 61–70). Geoffrey Kimball, in the same volume (p. 77) suggests that Casqui is the Muskogean word for "warrior," *kaskí* in Koasati, possibly mistaken by De Soto for a town name when perhaps his informant was only telling him many soldiers lived in the town.

14 Issues and Puzzles

A history of America can be constructed from the precontact data. It should be in order to do justice to America's First Nations and to present the circumstances at the inauguration of Euroamerican history. The project—like any history—is neither straightforward nor satisfying to all interested parties. Among the problems and issues are dates, which in American archaeology are nearly all not actually dates but estimates of time elapsed before the present; related to the time-resolution challenge, apparent discontinuities between Late Prehistoric and the first historically documented nations; regionally oriented studies and particular ethnic traditions that disregard a broader picture; and controversies over whose account should be privileged over competing accounts. Should the more "scientific" archaeologist, looking for general patterns of adaptation, tell the story of America's past, or the humanist archaeologist endeavoring to discern clues to religions, social behavior, and long-term ethnic roots? Sometimes the choices seem to pit non-Indian archaeologists over First Nations' legendary histories, a stereotyped conflict belied by the number of respected professional archaeologists who are members in good standing of First Nations, and the increasing number of archaeological projects ordered by First Nations.

Why Doesn't the Direct Historic Approach Work Well?

Once it was generally accepted—after 1920s discoveries of Paleoindian weapon points in skeletons of extinct bison and mammoth—that American prehistory had considerable time depth, archaeologists figured that by excavating in a historically documented site down through a stratigraphic sequence of earlier occupation layers they could chronicle the histories of known First Nations, hopefully far back into the past. A model project was carried out in the 1930s in central Nebraska, the territory of the Pawnee. Half a century later, as many more sites were investigated and radiocarbon determinations amassed, a gap in time appeared between the protohistoric Pawnee occupations and earlier ones. The gap is only a century or so, but if real, it cuts short the archaeological record that can be attributed to the Pawnee and leaves the ethnicity of earlier Nebraskans unknown.

More and more, fine-tuning chronologies and expanding archaeological data sets point to gaps in sequences of occupations and several contenders for contact-era named settlements. Perhaps nowhere is this more contentious than regarding De Soto's route. We have four accounts, written years later from notes and interviews with the few survivors. Every few years, an archaeologist finds bits of Spanish chain mail in a Southern site and postulates it identifies one of De Soto's camps, only to have other scholars argue that their reconstruction of the entrada route does not take the army to that point; therefore, the chain mail remnant should represent a curiosity traded by Indians who might never have seen Spaniards. How in the world could an army of hundreds of men, their baggage, horses, and a sizable herd of pigs stomp their way across the landscape without leaving any obvious traces (other than the pigs, whose descendants are the razorback hogs of Arkansas)?

Another example of what would seem to be identifiable is the ancestral main town of the Ho-Chunk (Winnebago) of Wisconsin. Their oral histories describe a sizable town they call Red Banks. Their first contact with Europeans was in northeastern Wisconsin, 1634. Archaeologists have searched for a protohistoric site with substantial habitation on a stream or lake that has reddish banks; red clay soil is common in the lower Fox River valley of northeastern Wisconsin. The more one delves into the possibilities, the more uncertainties appear. To start, the 1634 meeting between Jean Nicolet and five thousand Indians who feasted him is described not directly by Nicolet but by a Jesuit nine years later. Second, not only the Ho-Chunk but also the Menominee lived in the area, around Green Bay; the Menominee live there still, but archaeologists have no more been able to pinpoint which site was their principal town of 1634 than to locate Red Banks. There are protohistoric settlements with a few European trade items, and there are Late Prehistoric settlements with only Indian manufactures, and any of these might be Menominee or Ho-Chunk, or for that matter, Potawatomi, who were also in the pleasant reaches of Green Bay in the seventeenth century. The matter is not merely scholastic, because Potawatomi have been to court in a complicated land claim case. Some anthropologists who have talked at length with Ho-Chunk consider the possibility that "Red Banks" refers to any locality where they had, for a time, their principal town. Others hypothesize that Aztalan, the Mississippian palisaded town in southeastern Wisconsin, was Red Banks—and that the people who built it were Chiwere Siouans not yet separated into Ho-Chunk, Iowa, Oto, and Missouri. Maybe the platform mound at Aztalan was plastered with red or red-painted clay? None of these uncertainties deterred the citizens of Green Bay from erecting a bronze statue of Nicolet (of whom no portrait exists), challenging a monument in the neighboring city of Menasha with a plaque that reads,

> NEAR THIS SPOT LANDED, 1634, FIRST WHITE MAN IN WISCONSIN, JEAN NICOLET—MET THE WINNEBAGO TRIBE—HELD EARLIEST WHITE COUNCIL WITH 5,000 SAVAGES—ERECTED BY WOMEN'S CLUBS OF MENASHA, 1906.

The direct historic approach assumed the early historic documents specified locations as precisely as maps today, an impossibility before the national grid of township and range was constructed. Without precise coordinates, a phrase such as "at the mouth of the Fox River" covers many acres, and there are likely to have been settlements through time that overlap. One group can abandon a settlement, another take it over a generation later, without the break being visible if soil accumulation is slow; this is particularly misleading in the early historic period when epidemics depopulated many nations, leaving husbanded land disencumbered. Material culture may reflect fashions of the time more than ethnic distinctions. Sixteenth- and seventeenth-century European observers depended on interpreters to name and explain the various nations they visited, often recording names that were only derogatory put-downs, for example, "Stinkers." Trying to match that to the proper name used by a nation for itself is slippery.

Decades of combing through explorers' records, some of them blatantly self-serving, others manifestly confused, have taught archaeologists that a great deal of interpretation and evaluation is usually required before identifications can be proposed. There are now archaeologists who specialize in this work, researchers more often found sitting at microfilm readers than in excavations. Their data are crucial not only in land claim cases brought, or contested by, contemporary First Nations, but also in cultural resource management, employing a significant proportion of archaeologists and historians today.

Who Owns the Past?

Britain, and then the United States and Canada, signed treaties with First Nations, respecting their sovereignty. Plenty of chicanery compromised those treaties, culminating in Chief Justice Marshall's 1831 invention of the unheard-of status of "domestic dependent nation." In the 1840s, agitation to make vastly more land open for homesteading and the businesses that could profit from it, created the notion that it was the Manifest Destiny of the United States to overcome and dispossess both the First Nations and Mexico. The two World Wars of the twentieth century, in each of which American Indians enlisted readily and earned honors, shifted American attitudes toward First Nations. After the First World War, in 1924, American Indians were acknowledged U.S. citizens (they had not been previously unless they gave up tribal membership), and after the Second World War, in 1946, an Indian Claims Commission was named to encourage First Nations to seek redress for irregular deprivation of their lands. The Claims Commission worked until 1974, amassing millions of pages of documents on territorial locations. Many Indian nations did recover land; others were offered money settlements that in some cases (e.g., the Lakota claim to the Black Hills) were rejected because the nation cared more for the land than for cash. Research of land claims greatly expanded the documentary and oral-history data available to scholars.

Partly as the result of legal confirmation of treaty stipulations, partly because the American Indian population has been growing[1] and increasingly obtaining education and off-reservation employment, First Nations' sovereignty under treaty relations is increasingly acknowledged. This means that a nation can withhold permission for archaeological work on its land or demand control of data relevant to its history. Lawyers and courts are pursuing more sensitive definitions of "intellectual property." Instead of "informants" paid by the hour to give data, First Nations people increasingly are collaborators in scholarly enterprises. Archaeologists and historians confront their traditional histories sometimes seemingly at odds with "Western" information.

On a growing number of reservations and Canadian reserves, the tribal or band government itself employs archaeologists and historians. The tribe directs the questions to be investigated, expecting discussion to bring together the perspectives of Ph.D.s and of custodians of First Nations knowledge. Both are concerned with cultural resource management, that which is mandated by federal regulations and that answering the nation's own values. A non-Indian archaeologist or historian accepting employment from a tribal government obviously has, or will soon develop, respect for that nation's heritage.

1990 saw a landmark bill pass the U.S. Congress, the Native American Graves Protection and Repatriation Act (NAGPRA). Designed to answer grievances about museums and universities holding skeletons and holy objects looted from Indian communities, NAGPRA required any institution receiving federal funds to identify American Indian human remains and objects in its collections and inform Indian tribes of their patrimony in its custody. A tribe could ask for return of remains and artifacts or permit the institution to continue its curation. The happiest outcomes have been cases in which, as at Zuni, suitable conservation facilities were built for the repatriated material, or with the Omaha, its "Sacred Pole" (Umon'hon'ti, "Venerable Man," personification of the Omaha nation) curated off-reservation while available to the nation for its ceremonies. Under the law, a tribe must prove its affiliation to the remains or objects. If this stipulation were scrupulously observed, only a limited number of remains and objects would be repatriated. Sometimes NAGPRA has been viewed as pacification, with popular pressure to give 'em all back to the poor, mystically spiritual Indians, rather than as rectification of unauthorized seizures. The red-flag case has been Kennewick Man, an astonishingly complete skeleton, dated to 8,500 years. Found eroding out of a Columbia River bank, the skeleton does not closely resemble contemporary Plateau Indians, and the only artifact with it is a stone weapon point embedded in its pelvis. The Umatilla Tribe, on the reservation nearest the find spot, claimed the skeleton under NAGPRA, demanding it be immediately given for respectful reburial. When the U.S. Army Corps of Engineers, holding the skeleton because the riverbank was in its jurisdiction, announced it would honor the Umatilla demand, outraged biological anthropologists from several major research laboratories filed suit for an injunction: no way could the Umatilla *prove* Kennewick Man

had been Umatilla, since there are approximately four hundred generations between Kennewick and today's Umatilla. Without careful enforcement of its rules, NAGPRA becomes a political flashpoint between First Nations' sovereignties and conflicting interests, not only research scientists but also collectors of Indian art and objects.

The issue is sovereignty: a sovereign nation controls its territory, makes and enforces laws, determines who is a citizen, and promulgates policies for the public weal. Can a nation consider itself sovereign if another nation exercises its domain over the same territory? Umatilla say they were taught that Umatilla always lived along that section of the Columbia, from the beginning of time. By what right could the Smithsonian in Washington, D.C., take the bones of a man who in all likelihood spent his life in the territory that was recognized as Umatilla in 1860 when that nation signed its treaty with the United States? On what grounds can the United States claim domain over a man who lived nearly nine thousand years before the United States, by its own documentation, came into existence?

Kennewick Man brought to a head the question of who owns the past, the data by which it can be known and the interpretations of those data. The question is by no means limited to prehistoric relics. Contemporary historians challenge governmental restriction of classified material kept from public scrutiny. Medical and educational records may be closed even to families of the people they describe. Individuals and private institutions normally limit access to their files. A historian's interpretation of the significance of an event, even of its actual happening, is often rejected—consider, for example, the arguments over whether slaves were generally reasonably happy or mostly miserable. What information and ideas are made available to general audiences through publication or Internet posting depends upon editors' opinions and their choice of how to use the pages or sites they control. An American First Nation not only can logically argue its right to that which lay in its treaty-recognized territory, but it can argue that its versions of history are as, or more, legitimate than those constructed by outsiders ignorant of its language and knowledge.

What Constitutes a History?

Literate people, especially highly educated ones, depend upon writing things down (or into electronic databases) to remember them. Nonliterate societies train individuals to recall correctly. Certain persons may be formally trained for years to memorize genealogies and chronicles; ordinary children will be encouraged to learn songs and rhymes and play actions that encode useful knowledge (e.g., "Thirty days hath September . . ."). Where a trained oral historian's information can be checked against written documents, as in some areas of Africa and Asia, it has often proved surprisingly accurate. Conversely, written histories may be biased, omitting unsavory or unsuccessful events and lower-class or minority people. Standard histories of archaeology, for example, credit Sir John Lubbock, baronet, president of a London

bank, close associate of Charles Darwin, with creating a scientific precontact archaeology, whereas Lubbock actually only put together a book, upon the suggestion of a publisher, modeled on one published, and quickly sold out, three years earlier by Daniel Wilson, a Scottish tradesman's son earning his living teaching in a raw new college in Toronto, Canada. Wilson himself complained of the injustice in letters to his Scottish compatriot and friend the noted geologist Charles Lyell. Wilson is now remembered in Canada as the first president of the University of Toronto, politically a much more significant achievement than working out a method and principles for a science of prehistory. Whether considering such instances of social status influencing what is presented as history, or the instances of nonliterate people's well-exercised memories such as Baffin Land Inuit describing miles and miles of named landmarks in correct order, learned as chants when young, we cannot assume written histories are accurate nor dismiss oral histories.

First Nations histories preserved as oral accounts or mnemonic symbols, sometimes phonemic syllables, learned in association with complex recountings, must be taken seriously. Contrary to popular lore, American Indians do not live in a mystical cycle of nature; their nations care about their histories and take pains that they should not be forgotten. Plains communities designated a responsible person to keep a hide, rather like a parchment, on which each year a symbol of the year's most memorable event was painted. The keeper used the symbol to remind himself of the event and others of the year, and trained a successor. Some of these "winter counts" can be correlated with literate observers' notes and demonstrate the value of the records. From studying winter count hides, one realizes that each band had its own particular history; putting together several such histories, an ethnohistorian can see some of the dynamics of preconquest nineteenth-century Plains life.

Many First Nations histories have been misunderstood as myths by non-Indian observers. The Omaha's Venerable Man now appears as a wooden pole, so the story of how he led the people to their homeland has been dismissed as pure myth, until a respected anthropologist listened closely to Omaha friends and was able to understand that Umon'hon'ti is the Father of his Country, not simple fantasy but a George Washington figure around whom inspiring stories accrue; what looks like a wooden pole to others, is a Washington Monument to Omaha. Pueblos and other nations have long accounts of how this clan and then that clan and that next clan, or bands, joined the nation after journeying. The journeys can in many cases be traced along native-named landmarks—a Hopi filmmaker has videos showing this—and probably do describe historical movements of segments of what became a larger community. Not all named places are one and one only geographical spot, Red Banks may well be a series of Ho-Chunk principal towns rather than one specific site in Green Bay, but that does not mean all the geographies of histories should be derided. When a team of informed and respected members of a First Nation, academic historians and geographers, and archaeologists listen to one another, seeking to perceive each

other's way of referring to the landscape and its beings, a history can be written that melds these complementary data. Excluding any of these fields is, basically, political maneuvering to preach a narrow advocacy.

How Should an Archaeologist Construct a History?

Today's North American nation-states highly value science and, particularly during the Cold War from the 1950s to 1980s, the United States funneled millions and millions of dollars to scientific research. Partly because such considerable funds have been granted to scientists for research costs and sometimes salaries, partly because "pure science" is alluringly noble—never mind the crass competition for grant money—many archaeologists profess their work to be objective science. After all, archaeologists work with hard data: stone tools and hard-fired potsherds. They collaborate with geologists, soil scientists, geographic-positioning-systems specialists, chemists in material science, and physicists who operate radiocarbon-dating labs and magnetometers. Insofar as archaeologists normally work only with the physical residue of past human behavior, they are comfortable with the scientific mode of collecting, analyzing, and comparing these actual bits from the past as if they were fossils. The conclusion of an archaeological report may be presented as a model organizing these data to suggest cause and effect or systems of relation. An extreme of archaeology-as-science is the notion that the researcher *begins* with a model already constructed and looks for data to confirm, or disconfirm, the appropriateness of that model.

Real science is a back-and-forth exercise between gathering data and testing them against what seems a coherent explanation or model. Ethnographic observations of science labs have revealed that the focused, logical scientific publication cloaks the reality of experiments fouled up or fizzing out, people wondering "what if?" and trying something seat-of-the-pants without clear justification, ambitious lab directors insisting expensive equipment must be used, and eureka! moments lit by a chance remark from someone on their way to the water cooler or coffee machine.[2]

Coming down to archaeology, real practice is usually troweling to slowly uncover a fragmentary artifact or stain in the soil, eyeing the context to see what the item seems to be associated with, noting a reasonable identification based on one's prior experience, then going through it all again months later in the lab, weighing what seem to be contradictory possibilities. Archaeologists have a pretty good idea of what they're likely to find, based on reading existing publications on the region and on the archaeologist's own earlier fieldwork and analyses. The same background tells them what their peers expect from the site or artifacts. They know of interpretations that have been denounced as foolish; like everyone, they seek the approbation of their peers. Research funds and job security rest on approval from senior professionals. These considerations affect archaeologists' decisions on where and how to work, their recognition of significant data, and their publications.

There are archaeologists who think testing a hypothesis is a straightforward procedure, and that is science. When you ask such persons where they get their hypotheses to test, they're nonplussed: out of books, of course. For European prehistory, this might be less of a problem than for American prehistory, since the practice of academic archaeology is part of the European cultural tradition. America's First Nations come from other cultural traditions, so "the way a society works" may be quite different for them—a simple example would be Iroquois government based on representatives from matrilineal clans, instead of the European custom of patrilineal, patriarchal households. This suggests the collaboration of First Nations members who grew up in their nations' cultures can be productive of hypotheses and models that might not occur to a Western-trained archaeologist lacking the experience of living in a non-European culture. The dispersed pattern of houses in much of the Midwest Late Prehistoric fits the settlement practice of Midwest Siouans in the historic period, and preference today, of farm homesteads "close enough to yell for help, but far apart enough that you don't hear the family arguing," a Lakota once told me. Learning this preferred settlement pattern, archaeologists were able to realize long series of homesteads along major river banks were indeed the populous towns described by early European explorers. Interpretation of archaeological data could be enhanced by familiarity with descendants' way of life on a contemporary reservation.

Trying to be "scientific," some archaeologists want to restrict their study to things that can be measured and quantified, interpreting prehistoric life as so many mininum-number-of-deer butchered, kilograms of chert knapping chips, numbers of post holes, and decorative motifs on pot rims. It is astonishing that one can find monographs on archaeology conducted at Cahokia arguing that it wasn't a state because the material collected by archaeologists doesn't include halls of government and palaces. No discussion of what material would not be preserved for the archaeologist to study—feather cloaks, woven fabrics, fine tanned hides, timber buildings and wooden artifacts, foodstuffs, in fact most of the major classes of tribute goods paid to the Aztec state by its vassals. No discussion of the implication of Monks Mound, the stupendous manmade mountain looming above the grand plaza, a theater of power on a scale seen only in states.

Roger Kennedy, director of the Smithsonian's National Museum of American History, was amazed late in his career to realize, as he put it, "only a few specialists seem to be informed about" Cahokia:

> Why was that knowledge not . . . made a necessary prelude to American history? The antiquities of Mexico or of Egypt are far better known than those of Indiana, Illinois, or Ohio, and not because they are larger or more ambitious intellectually. As I have learned, there is as much to say about Euroamerican lack of understanding of Indian history as there is to say about the Indians themselves.
>
> (Kennedy 1994:2)

His answer refers to the conviction and propaganda in the United States, beginning in the 1840s, that it is Euroamericans' Manifest Destiny to exterminate Indian societies—kill or assimilate, whichever. Ruthless conquest is justified by the "savage condition" of the natives. Evidence that the First Nations built cities on a par with those of the same time in Europe had to be ignored. American archaeologists went to the same schools as their fellow citizens, reading about First Nations only in a few pages at the beginning of some history textbooks. Indians were described as unlettered nomad hunters or simple farmers living in bark wigwams or mud pueblos. Sixteen or more years of formal schooling that consistently downgrades Indians, if it mentions them at all, leave a deep impression. Euroamericans are unprepared to recognize alternative civilizations in North America.

Pushed by the economic structure of research support to look like scientists, measuring and quantifying the things other scientists measure and quantify—stone, bones, pollen, seeds, isotopes—and conditioned by education from kindergarten through graduate courses to believe American First Nations were unsophisticated barbarians, American archaeologists have, by and large, found it difficult to challenge the picture of primitives. Senior scholars' reviews of applications for research grants, of manuscripts submitted to journals and scholarly publishers, and of junior academics tends to protect conservative views. Rejecting Manifest Destiny still makes Americans uncomfortable, uneasy; we pride ourselves on being fair, being just, and that pride crumbles when we realize the terrible injustices suffered by First Nations. It is humbling to perceive that we, too, are flawed, and humiliating to sense how naively most of us accepted the propaganda of Progress.

The ground has been shifting, as another millennium began for Western societies, toward more humanistic interpretations of archaeological data. For one thing, with the Cold War ended, the United States turned to winning the hearts and minds of allies and subjects instead of building an overpowering arsenal. National Endowment for the Humanities funding increased, and archaeologists followed suit by seeking means to identify values, ideology, and decision-makers in the remains of past societies. Meticulous excavation and recording and extensive laboratory analyses involving other sciences remain fundamental to American archaeology; efforts to link contemporary First Nations' knowledge to archaeological material, and to develop research questions from their perspective as well as conventional Western standpoints, increasingly find approval in the profession.

Research Questions

Several major questions persist as we endeavor to wrest First Nations' history out of archaeological data. Among these are the issues of population size, of societal structures, of relationships between sites, or beyond, and of the meaning of enigmatic constructions. These questions may never be firmly determined, nor are they by any means unique to American precontact.

Archaeology is always challenging because the more we know, the more we know we don't know. Documented history is no different.

Population Size

The overall population of America at 1492 has been variously estimated by adding up reports on village or tribal populations by early visitors. This yielded estimates of one or two million altogether. Then, in the 1960s, an ethnohistorian picked up the fact that European disease epidemics usually preceded the reports. He figured from accounts of the epidemics that populations were often literally decimated, reduced by 10 percent or more. Therefore, he multiplied the report numbers by a constant factor; for example, a village reported to have one hundred inhabitants would have had perhaps a thousand before disease decimation—the multiplication factor would be determined from the few accounts actually documenting a particular population. A most generous estimate, figuring that only one in twenty Indians survived epidemics, gave an overall American population of eighteen million, including Canada but not Mexico. A survival rate of one-third rather than one in twenty would probably be more reasonable. One careful study evaluating the conflicting claims arrived at an estimate of five million people in the continental United States at 1492.

Estimates for regions vary as widely as for the continent. Two locales where the question relates to societal structure are Cahokia and Chaco. In each case, both the population residing in the impressive structures and that in the small communities or farmsteads in the surrounding countryside are debated. If the residents of the urban core were fed only from the immediate countryside, fewer could have been sustained; if they were supplied by tribute-payers from subordinated smaller nations, more could have lived in the core. Cahokia lies on a major waterway along which bulk products could have been rafted, so its lords, priests, and crafts workers could have been supplied from farmlands in America's breadbasket, the valleys of the Mississippi, Illinois, Missouri, and Ohio rivers. Chaco, in the semiarid Southwest, is on only a small stream, necessitating human porters carrying products overland. Bulk food would have been much more costly to bring to Chaco; on the other hand, Chaco in its canyon is much smaller than Cahokia in the great floodplain of the confluence of the Missouri and Mississippi. Population estimates for Cahokia and its environs in the American Bottom floodplain range from eight thousand to forty thousand, for Chaco Canyon about five thousand.

Societal Structure

Debates over the population numbers appropriate for Cahokia and Chaco overlie debates over the character of their societies. Each case represents a cluster of buildings monumental in appearance, entailing countless hours of

directed human labor. Was it slave labor? Corvée? A civic or religious duty? Paid workers? Did they labor for the glory of their state, their lord, their God? Why were the monumental structures abandoned?

Conservative archaeologists mindful of sticking close to data they can hold, measure, and quantify insist that both Cahokia and Chaco could have been built by the part-time or seasonal labor of local farmers. Pointing to the Gothic cathedrals of Europe, they remind us that donated labor can accomplish great buildings. Monumental structures in Cahokia and Chaco, like those cathedrals, required experienced architect-engineers to direct the labor, but these, too, could have been citizens motivated by religious enthusiasm. Conservatives compare Cahokia and Chaco to the huge stone-faced pyramids and palaces of prehistoric Latin America, emphasizing that Cahokia's mounds are built of earth and its largest residences or temples were wooden halls, while the stone masonry at Chaco used only roughly dressed slabs and (so far as is preserved) simple or no ornamentation. Compared to the Latin American empires, these were only "chiefdoms," conservatives insist.

That term, "chiefdom," and its affiliate term "tribe" turn out to be minefields. They have been used to refer to frontier nations conquered by aggressive larger states. The Romans, for example, called the Germanic nations at the frontiers of empire "tribes." "Tribe" implies barbarians, uncouth unsettled people contrasting with the disciplined, literate, law-abiding citizens within state boundaries. "Tribal nations" must differ from nation-states. A "chiefdom" must be less than a kingdom, since chiefs are only local leaders. Critiques of anthropological usage of these terms, "tribe" and "chiefdom," reveal they were applied to states and kingdoms overcome, sometimes after many decades of fighting, by Western empires. Africa had empires ruling over a million people, kings living in pomp and wealth, but, after nineteenth-century competition with European industrial powers, the African states were generally called tribes and their rulers, chiefs. In Polynesia, Western imperialists preferred to use the terms "chiefdom" and "chief" for the native kingdoms. "Tribe" and "chiefdom" are not neutral scientific terms; they are politically loaded.

Spanish invaders picked up the Caribbean Taino word *cacique* (*cacica* for women) for ruler and used it later in the American Southeast, in addition to Southeastern indigenous terms for ruler such as *holata* and *utina* (Timacua), and *mico* (Muskokee). These rulers ruled:

> [The Timacua of Florida] have their natural lords among them. . . . These govern their republics as head with the assistance of counselors, who are such by birth and inheritance. [The lord] determines and reaches decisions on everything that is appropriate for the village and the common good with their accord and counsels, except in the matters of favor. That the cacique alone is free and absolute master of these, and he acts

> accordingly; thus, he creates and places other particular lords, who obey and recognize the one who created and gave them the status and command that they hold.
>
> (Fr. Francisco Alonso de Jesus, quoted by Milanich 2000:6–7)

Sometimes Spaniards used their word for king, *rey*, for a native lord. Englishmen such as John Smith at Jamestown readily applied the words "king" and "lord" to indigenous rulers they met. We must keep in mind that at 1500, and into the nineteenth century in Germany and Italy, many European kingdoms were no larger than the realms of these American lords. Britain's several kingdoms battling each other and within them, competing noble families, would be most comparable to Southeastern kingdoms of the same late medieval period. Spaniards at 1500 easily understood the systems of lords and vassals familiar at home and encountered in Latin America and the Southeast.

Northwestern Mexico had already been devastated by epidemics by the time literate Europeans took note of its nations, then living in hamlets rather than the cities discovered by archaeologists. On the frontier in New Mexico, governance of the Pueblos appeared to be in the hands of an elected official who answered to a council of clan heads and priests. Considering that not only had Chaco disintegrated three centuries earlier, but a century or two later large areas of the northern Southwest were abandoned by Pueblo communities that moved into the Rio Grande Valley, extrapolation of historic Puebloan societal structure to Chaco may be unjustified. Chaco's domination can be reconciled with oligarchic governance, against which other Pueblos rebelled, creating the more egalitarian societies that followed it.

A societal structure and culture really unfamiliar to us seems to be revealed by Ohio Hopewell. No other society, anywhere, constructed so many immense earthen perfect geometric figures. Open space inside—at Newark, Ohio, one circle encloses an eighteen-hole golf course—seems to have been maintained clean. Although wooden buildings and log chamber tombs then covered with a mound occupied some of the space, the geometric embankments did not wall in villages. Societies where most people lived in dispersed hamlets of modest pole and thatch homes, cultivating indigenous plants well adapted to the environment, yet gathered periodically for rituals at huge linear configurations that make the landscape resemble pages out of Euclid's textbooks—coupling unpretentious simple farming with extraordinary intellectual abstractions is unique to Ohio Hopewell. It does seem from the tombs that, aside from the geometries, Hopewell societies were not so very different from successors in the eastern Midwest and Mid-South, ruled by lords boasting of war prowess and wealth in objects brought to them at great expense. Sacrificed retainers in the tombs indicate that, as in contact-period Florida, "the cacique alone is free and absolute master of these" serving his lordship. Hopewell, too, may have been structured as commoners, vassals, and lords, their subsistence coming from a greater diversity

of foods mostly native to the Midwest but sustaining traders and craftsworkers contributing pomp to the overlords' ceremonies.

Relationships Between and Beyond Sites

Questions about societal structure involve whether communities were politically linked. Years ago, archaeologists followed cultural anthropologists in seeking to identify "kinship," said to be the system organizing "primitive societies" in contrast to our own "civilized society" said to be organized on contractual relationships. Somehow, no one noticed that our "civilized society" requires each resident to pay income taxes determined in part on kinship factors: married or single, dependents' kin relationship specified. Our cities may zone neighborhoods to forbid more than two adults who are not kin living together. Conversely, as evolutionary biologists learned more about the actual course of evolutionary changes and rejected the nineteenth-century conviction that evolution equated with "progress" from simple to complex, cultural anthropologists came to perceive "simple" societies to be alternate evolutionary adaptation trajectories, often quite complex in certain features. "Anomalies" of small societies valuing contractual relations such as trading partners or sharecropping, or rationally affiliating young couples to the landholding group offering the best economic opportunities, piled up to the point of overwhelming older (and racist) axioms about "primitives." Archaeologists can no longer assume that what appears to have been a hamlet of subsistence cultivators was organized according to family relationships.

Cultural resource management archaeology created practical problems paralleling the shift in anthropological assumptions. Surveying and testing an area defined by developers' plans rather than by a research question, archaeologists had to explore the extent of cultural remains, and not infrequently could not easily map limits. Artifacts are often scattered over large fields, more here, fewer there. Do the rough clusters each represent a site? A household? A hamlet? Where farmsteads are dispersed, to what distance would a community extend? When an entire landscape shows human utilization and modification, shouldn't it all be considered a site? Federal and state agencies protecting cultural heritage are compelled to make rulings that may leave field archaeologists dissatisfied.

Between more ethnographic and ethnohistoric data on varieties of social organization, a realization that conventional anthropology harbored racist assumptions, and the ambiguities experienced in fieldwork, archaeologists are becoming less confident of orthodox models. Going by the chronicles of the Spanish entradas, Southeast sites should be linked as principal towns and their tributaries. French and British officials recorded many alliances between economically independent groups in the East and Midwest; how are these reflected in archaeological data? How far back in the past can historic ethnic identities be traced? By what signs? By what data might we

distinguish trade (between political equals) from tribute (taxed or extorted from subordinates)?

Beyond the problems of defining the boundaries of a site and of political alliances, kingdoms, and, in the case of Cahokia, a state, lie the questions of cultural influence. Was agriculture independently invented by Eastern Woodland nations cultivating indigenous chenopods and other small grains and a native squash, or had they taken over the idea of agriculture from Mexicans? The earlier maize is found in U.S. sites, the more likely it is that agriculture was basically invented in Mexico and spread north, where in the temperate Woodlands people applied the concept to indigenous grains; the longer

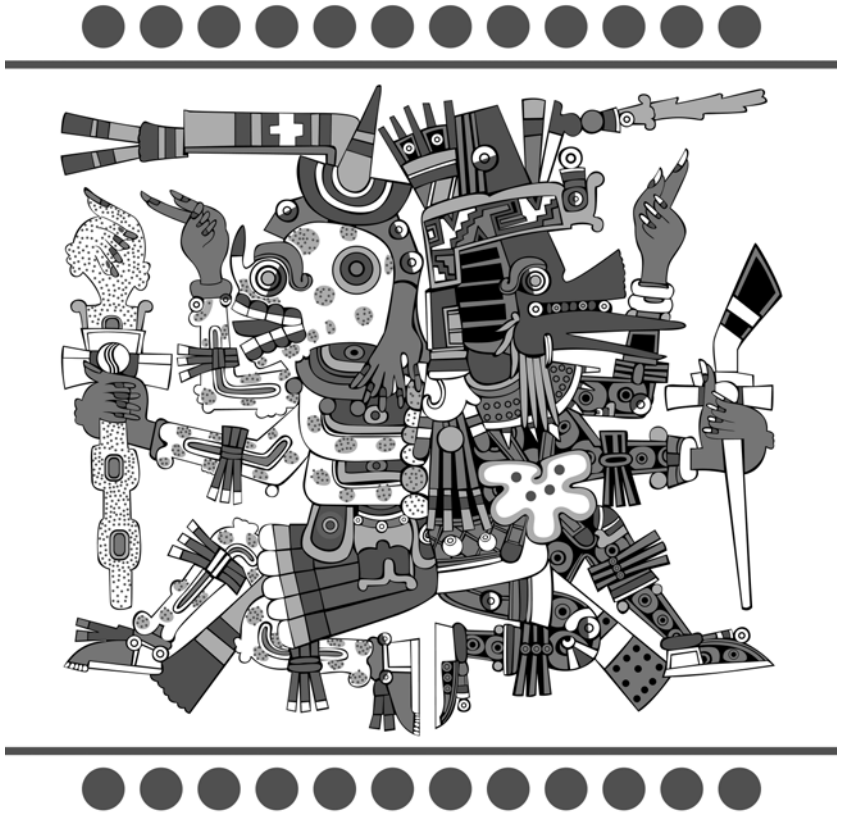

Figure 14.1a Right, Quetzalcoatl, wearing his buccal (mouth) mask and conch columella (drawn in cross section) pendant on bead necklace, holding his atlatl. Quetzalcoatl is shown retrieving human bones from the Underworld, to revive humans on earth. Behind him is the pursuing Death God (round spotted head with teeth in mouth).

Credit: Maria Egupova/Shutterstock

Figure 14.1b Shell gorget from Mississippian Mound C, Etowah site, Georgia
Credit: Drawing of gorget from Etowah by Ying Wang

the time gap between cultivation of indigenous plants and maize, the more likely agriculture was independently invented. Hence the critical debates over whether five-thousand-year-old squash in the Ozarks was a native species or feral (gone wild from a cultivated import), and over the antiquity of maize in the Midwest, with the puzzle (to us) of centuries of raising a little maize as a secondary rather than a major crop. Regardless, it is inescapable that maize originated in Mexico and came north through human contacts. The practice of planting in raised beds, whether labor-intensive ridge-and-furrow or corn hills, is so widespread in the Americas it, too, ultimately must have come to maize farmers via human contacts.

Do Chaco and Cahokia show Mexican influence? Chaco's masonry resembles some styles in West Mexican cities, and of course its macaws incontrovertibly prove direct human transport from Mexican tropics. A few porters transferring the cages to a new set of porters every few hundred miles? Or a caravan whose merchants lived in Mexican cities for months or years, and sold the macaws as part of a package of religious ideas? Whichever, the young birds required skilled caretakers to accompany them. Apartment-block pueblos with dozens or hundreds of attached rooms are distinctive of the Southwest, but are they adaptations of urban concepts in Mexico? Cahokia with its great pyramid mounds and rectangular plazas, and its residential zones of households of small buildings around little courtyards, looks Mesoamerican: then why no stone masonry? A chorus of American archaeologists shouts, "Why no Mexican goods?" No macaw bones! Yes, but full-scale maize agriculture with ridge-and-furrow fields, and the very Mexican plan of plazas surrounded by platform mounds. There's also the curious correlation in time between Chaco and Cahokia, both constructed in the same century and both apparently collapsing two centuries later. Their dates

correlate, too, with the Toltec period in central Mexico. Did the Toltecs aggressively expand their trading empire northward, stimulating responses from perhaps an oligarchy in New Mexico and a native lord on the Mississippi? The correlations are tantalizing, the residual nature of the archaeological record frustrating.

Meaning of Enigmatic Constructions

Rock art above all defies unequivocal interpretations. Most of it is highly stylized, realistic animal outlines, simplified anthropomorphs (human-looking figures), and geometric figures. Narrative scenes are relatively rare, other than what look like hunts. Some of it may be only graffiti, marking a visit to an exciting cave or lookout. Some are surely territorial signs; for example, on Writing-on-Stone rimrock at the edge of Blackfoot territory on the Montana–Alberta border, where certain panels record historic events. "Thunderbirds" and serpents on outcrops at river and lake narrows might mark territorial boundaries, or might be manifestations of the patron spirits of the locale, or could be both, the patron spirits of the local nation. A bighorn sheep on a Nevada rock might record a hunt, or represent a plea to the spirit leaders of the bighorns to let their animal-people sustain Indian people, or, according to one interpretation, would mark where a priest believed he could reach holy beings who would vouchsafe rain. Maybe large numbers of bighorn sheep images just tell us that indigenous people admired the species and made pictures for the pleasure of it. Most likely, one explanation does not fit all occurrences; furthermore, as generations pass and new ethnic groups may move in, the original artist's intention is forgotten and the image interpreted anew.

Effigy mounds, those in southern Wisconsin and others such as the apparent large bird mound at Poverty Point in Louisiana or the Mississippian Serpent Mound in Ohio, are equally enigmatic. Birds as symbols of heaven, large carnivores (bears, tigers, jaguars) as symbols of earthly power, and serpents as symbols of the underworld are obvious and widespread around the world. We know that a number of Eastern Woodlands First Nations, such as the Cheyenne, Anishinaabeg (Ojibwe), and Iroquois, divided communities into moieties (halves) called Sky and Earth, or clans such as Bear, Wolf, and Turtle, or a combination in which several clans belonged to one moiety and others to the opposite moiety. Compounding ambiguity, a bird-shaped mound might glorify a lord known as, let us say, Hawk Chief—around the northern Rockies, Swan Chief was the title given to the most respected leader, he who was said to be most powerful, go farthest and see farthest ahead, like wild swans. Europeans are familiar with this kind of imagery, used in heraldry and royal insignia (lions, German and Russian eagles). Wisconsin effigy mounds tend to have "panthers" (underwater serpent-tailed creatures, consort of the land and vegetation deity Grandmother-Who-Never-Dies in historic traditions) built as if

moving up from adjacent water, birds on the higher ground, and bears between, but exceptions abound and many mounds in effigy clusters are geometric straight-line or conical shapes.

Enough has been said of the Ohio Hopewell geometric embankments. Archaeoastronomy can demonstrate some alignments with sun, moon, and star movements, especially popularly observed summer and winter solstice points, without being able to tell us the meaning stellar movements held for these Indian people two thousand years ago. Early Woodland–period Moose Mountain "medicine wheel" on the Canadian prairie north of western North Dakota is a construction of boulder lines and cairns pointing to horizon points for summer solstice and associated risings of the bright stars Sirius, Aldebaran, Capella, and Fomalhaut. The builders must have been bison hunters, not agriculturists, so the probable explanation of so much effort put into a permanent calendrical device is likely that they used it to ensure scattered bands could rendezvous at a fixed time, regardless of whether spring weather speeded up or held back vegetation growth signs. Hopewell figures have fewer astronomical alignments than this prairie monument; communication between villages in the stream valleys of Ohio should have been quicker and easier than out on the wide Canadian prairies, so calendar-keeping doesn't seem sufficient explanation for Hopewell constructions.

A really cautious archaeologist can hold back on what most of us see as obvious. Could it be that the gargantuan mounds and plazas at Cahokia and the lavish wastage of human lives in the sacrificial pits at its Mound 72 don't mean an aggressive state ruled by a Hawk Lord whose afterlife would be attended by more than fifty maidens, their bodyguards, other nobles, and nearly a hundred servants, one lying under the lord? Could it be that mound-building was a regular religious duty expected of every adult in the American Bottom floodplain? Calculations say that Monks Mound equals 621,921 cubic meters, and the known measured mounds at Cahokia altogether total 1,177,701 cubic meters. Calculating the amount of earth a person could carry working five hours a day (not counting breaks), with the borrow pit where the earth was dug about 150 meters distant from the mound, 1,201,000 person/work-days would have been required to build the mounds (Milner 1998:123, 144–150). If there were a thousand households and each sent one or two people to work ten days a year, the mounds could be constructed in seventy-five years. No doubt similar calculations could render mundane the Egyptian pyramids at Gizeh, the Taj Mahal in India, the Colosseum in Rome, and the Parthenon in Greece. Knowing how those theaters of power were constructed through the variety of slaves, free laborers, artisans, engineers, and patrons, simple calculations miss the essence of Cahokia. It was, in fact, largely constructed in its first thirty years. Its awesome structures, like those in Mexico, are testimony to North America's place in the roster of world civilizations.

Conclusion

America has a history thousands of years long. America's First Nations were and are populated by people as fully evolved, as fully human, as feeling, and as intelligent as people anywhere on earth. These nations have been struggling for five hundred years against invaders coming from Europe, driven by blighted opportunities there to strive for better lives in America. Wishing to believe themselves moral, invaders and their descendants pictured First Nations citizens as damned heathens, bloodthirsty savages, childlike gatherers of nature's bounty, or benighted creatures on the margin of the world. However stereotyped, First Nations Americans had no histories before Columbus discovered them: "In the beginning, all the World was *América*," said John Locke in 1690, which reverses to "America represents the beginning of time" (Locke 1690:chapter 5, sect. 49),

Flowing from this politically charged misrepresentation of America, conventional anthropologists saw First Nations as molded by geography rather than history. Analyses of their cultures in the context of their geographies would reveal these forces of nature mastered in Eurasia by "civilized" technologies. America was a stand-in for prehistoric Eurasians, one end of a yardstick stretching millennia to educated well-to-do urban Europeans. Looking at American Indians was rending asunder the veils of time. America was a laboratory, its indigenous peoples so many strains of genetically—in this case, geographically—engineered mice. Archaeologists could be scientists studying the variables.

Against this convenient laboratory, some anthropologists insisted America has history. Franz Boas, the liberal German immigrant to the United States in 1887, tirelessly campaigned to collect data on First Nations histories, including adaptations to geography viewed in worldwide perspective. Vilified by anti-Semitic "patriots," Boas did inspire generations of anthropologists. The opposition also persisted, continuing to write up archaeological data as if they had formed in small, closed systems, like gas in a chemist's retort. Radiocarbon dating nibbled at this position, forcing archaeologists to realize how very long First Nations had lived on this continent. A few finds, such as tropical macaw remains in Southwestern Pueblos, undermined the closed-systems models. Overall, reluctance to look for extraneous contacts, or to focus on recognizing historical factors, remained the conventional mode through the twentieth century.

NAGPRA catalyzed American archaeology. Its passage reflected, as well as contributed to, a shift in American attitudes toward First Nations. Perhaps the mere fact that no one now alive had been in the wars of conquest permitted a more generous attitude. Perhaps fighting two world wars for democracy and human rights against imperialism and terrible racism brought Americans to notice their own backyards. Certainly the outstanding participation of First Nations men and women in our armed forces earned much respect and gave these men and women determination to assert their rights. Pride in their histories was one outgrowth.

The histories of the First Nations of America are substantial components of American history. These histories do not suddenly stop short in 1492 or 1607; they are strands in the fabric of U.S., Canadian, and Latin American history. Indigenous nations literally shaped the land and resources taken over by European invaders and their descendants. Their labor and production constituted significant components of the U.S. economy, generally left out or underestimated in economists' tabulations of the gross national product (GNP) and waged labor. The resilience of First Nations after the holocaust of epidemics and conquerors' policies of marginalization and neglect proved they were, and are, neither inferior nor simple. Their exponentially growing populations and increasingly sophisticated legal expertise pressure the dominant Anglo classes to tolerate alternative values and concede the stipulations of treaties. North America's history must be inclusive of its First Nations, not because that is generous, but because their histories are absolutely integral to the larger history.

Notes

1 The 1890 federal census counted 228,000 Indians. One century later, the 1990 census counted 1,959,234. These figures do not include Indians in tribes that for one reason or another are not listed as federally recognized, nor the several million persons of mixed heritage who choose not to identify "American Indian" as their racial classification on the census form.

2 Classic studies of this reality are Bruno Latour and Steve Woolgar, *Laboratory Life: The Social Construction of Scientific Facts* (Beverly Hills, CA, 1979), and Karen Knorr-Cetina, *The Manufacture of Knowledge* (Oxford, 1981).

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