

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Great Plains Quarterly

Great Plains Studies, Center for

Winter 1981

Toward A History Of Plains Archeology

Waldo R. Wedel

Smithsonian Institution

Follow this and additional works at: <https://digitalcommons.unl.edu/greatplainsquarterly>



Part of the [Other International and Area Studies Commons](#)

Wedel, Waldo R., "Toward A History Of Plains Archeology" (1981). *Great Plains Quarterly*. 1919.
<https://digitalcommons.unl.edu/greatplainsquarterly/1919>

This Article is brought to you for free and open access by the Great Plains Studies, Center for at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Great Plains Quarterly by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

TOWARD A HISTORY OF PLAINS ARCHEOLOGY

WALDO R. WEDEL

First viewed by white men in 1541, the North American Great Plains remained little known and largely misunderstood for nearly three centuries. The newcomers from Europe were impressed by the seemingly endless grasslands, the countless wild cattle, and the picturesque tent-dwelling native people who followed the herds, subsisting on the bison and dragging their possessions about on dogs. Neither these Indians nor the grasslands nor their fauna had any counterparts in the previous experience of the Spaniards. Later Euroamerican expeditions, whether seeking gold, converts, or furs, added many details of much interest, but likewise found no wealth of minerals, too few heathen peoples to proselytize, and no other strong inducements to permanent occupation. Exploitation rather than settlement and development was the primary objective, and the region remained a zone to be traversed as expeditiously as possible.

Partly by reason of their remoteness from

Waldo R. Wedel is archeologist emeritus at the Smithsonian Institution. Among his many books and articles is Prehistoric Man on the Great Plains (1961).

the main areas of white settlement, the native peoples of the plains retained their tribal identities and often colorful lifeways long after the entry of Euroamericans. Since early in the nineteenth century, following acquisition of the Louisiana territory by the United States, pertinent observations by such persons as Meriwether Lewis, William Clark, Zebulon M. Pike, Stephen H. Long, George Catlin, Prince Maximilian of Wied-Neuwied, and a host of others less well known, have left a wealth of ethnographic information of prime importance to the scholar. Much later, the intensive field investigations by numerous competent scholars with professional training produced impressive numbers of monographs and shorter papers sponsored by the Smithsonian Institution, the American Museum of Natural History, the Field Museum, and other educational and scientific establishments. These dealt with the material culture, social organization, religion, art, language, and cultural relationships of the Plains Indians. They involved both the nomadic, horse-using bison hunters of the western plains and their semisedentary, maize-growing, village-dwelling neighbors in the eastern plains. Largely neglected were such problems as the prehistoric occupations of the region and the

time depth of such occupations, the very existence of which was doubted by many scholars until a surprisingly recent period.

It is my purpose to examine the beginnings and early development of professional interest in the pre-white and pre-horse peoples of the plains. It has not been possible to review exhaustively or to detail all of the widely scattered and often very obscure records pertaining to the subject, but major developments in thinking on these matters can be sketched. Emphasis is on the earlier activities, up to and including the River Basin Surveys salvage program immediately after World War II. My task has been made immeasurably easier because of several previous papers concerned in varying degrees with the early development of plains archeology. These involve particularly William Duncan Strong for Nebraska, Waldo R. Wedel for Kansas, David M. Gradwohl for Nebraska and Iowa, and George C. Frison for the entire region.¹

EARLY OBSERVATIONS: 1800-1865

In contrast to the numerous and prolonged researches on the lifeways of the historic plains tribes, systematic investigations in plains archeology are principally a development of the last seven or eight decades, that is, since 1900. As recently as 1930, little was under way as a planned and sustained ongoing program. Interest in the antiquities of the region, however, was manifested from the beginning of American explorations of the trans-Mississippi West, soon after A.D. 1800. Much of this early work was antiquarianism, some of it arrant vandalism by later standards; but it reflected a natural and growing curiosity about the visible relics of the past, in their recording or collecting for pastime or for eastern cabinets of curiosities, and often in wide-ranging speculations regarding their age and authorship. Until the last quarter of the nineteenth century, the attention given to archeological remains was essentially a part of the general story of western discovery and exploration in which the antiquities were

seen as one aspect of the natural history of the region.

As early as 1804, mindful of President Jefferson's instructions that they note any aboriginal monuments along their route, Lewis and Clark reported on ancient village sites at many points along the Missouri River.² At the mouth of the Nemaha, they described the Leary Oneota village and nearby burial mounds, leaving their initials (still unfound today) on a nearby rock ledge. Most of the upriver sites they apparently attributed to the tribes still inhabiting the region or their immediate ancestors. Like later travelers along the Missouri, they provided few details and appear to have attempted no excavations.

Perhaps the earliest reports of digging for relics pertain to antiquities in the vicinity of the military posts established along the Missouri River early in the nineteenth century. Here, the maintenance of harmonious relations with the nearby Indians was still a prime consideration, and any actions threatening those relations were frowned upon. Still, there were evidently those who, to relieve the unending monotony of garrison life or from simple curiosity, could not resist the temptation to dig into the nearby blufftop mounds. Thus, for example, in 1822, two soldiers were found guilty of "wantonly robbing the tomb of an Indian near Fort Atkinson [Nebraska], thereby violating the sanctuary of the dead and bringing on the Troops generally the odium of the Indians" and endangering the "friendship which at present exists with the natives of the country." For this operation, better classed as vandalism than as archeology, both men were sentenced to be "drummed around the Garrison on Sunday next with the Rogue's March played with all the Martial Music," and the articles taken by them from the grave were to be returned to the Indians. Unfortunately, no list of the finds is available and we do not know whether the desecrated grave was a historic Omaha burial or an older interment of prehistoric origin.³

A few years later, in course of his survey of the Delaware Indian reservation boundary, the Reverend Isaac McCoy commented on the

scarcity of Indian earthworks west of the Mississippi, and in October 1830 he opened one of eight mounds near Fort Leavenworth. Therein he found fragmentary human remains of adults and children whose burial rites included the use of fire. Garrison personnel described as "three gentlemen from the fort" and so presumed to have been officers, were apparently involved in further digging in the same mound group in 1845, with similar results.⁴

Farther afield but in the same year, on detail from Capt. John C. Fremont's third western expedition, Lt. James W. Abert of the Topographical Engineers marched from Bent's Fort south to and down the Canadian River, traversing on September 11 and 12 "a plain strewn with agates, colored with stripes of rose and blue, and with colors resulting from their admixture," to which he gave the name of "Agate Bluff." Lying on both sides of the stream, which the Indians called Flint River, are the now well-known Alibates dolomite quarries of which this may be the earliest mention.⁵ A few years later, in 1852, Capt. Randolph B. Marcy explored the headwaters of Red River and commented briefly on a recently abandoned Wichita Indian village ruin on the site where Fort Sill (Oklahoma) was subsequently located; more details on this ruin were recorded in 1859 by Dr. William E. Doyle. In the northern plains, as early as 1858, Henry Youle Hind noted an abundance of tipi rings in the Canadian plains, as well as mounds and earthworks on the Souris River near the 49th parallel; but after digging to six feet in the latter, he found nothing to support their alleged identification with the Mandan Indians.⁶

In the later army explorations preceding the Civil War, such as the Pacific Railroad surveys (1853-55) and the wagon road program (1855-56), the study of the Plains Indians was neglected and so was the reporting of antiquities. The governmental surveys of the West by Ferdinand V. Hayden, Clarence King, George M. Wheeler, and John Wesley Powell after the Civil War focused attention mainly on the Rockies, the Southwest, and regions farther toward the Pacific. From all these there came

an interesting and important legacy of data on the geography, geology, and biology of the western regions, and the growing natural history collections of the Smithsonian and other eastern museums were greatly enriched; but the documents that resulted tell us very little about the antiquities seen.⁷

Notable exceptions were Hayden's observations in about 1867 in the Nebraska Territory. Noting that most of the earthlodge-using tribes of the Missouri Valley had dwelt in such villages "from time immemorial," he reported seeing traces of "these old dirt lodges and pieces of pottery" in association "all along the Missouri, in the valley of the Little Blue, Big Blue, Platte, and Loup Fork." At a large site on the Pawnee reservation, he collected many flint tools and potsherds for the Smithsonian, some of which were subsequently figured by William H. Holmes and can now be attributed to one of the large protohistoric (sixteenth or early seventeenth century) Pawnee (Lower Loup) sites in the vicinity of Genoa, Nebraska. Hayden's eighth annual report for 1874 also includes mention by Prof. Samuel Aughey of two finds of stemmed projectile points in loess deposits near Sioux City, Iowa, and Omaha, Nebraska, which Aughey said he had for years been closely watching for human remains.

By the half-century mark, the Smithsonian had come on the scene. Its first major scientific publication in archeology, in 1848, gave partial expression to Secretary Joseph Henry's program of organization providing for "explorations and accurate surveys of the mounds and other remains of ancient peoples of our country." That monograph, by Ephraim G. Squier and Edwin H. Davis, aroused wide interest in archeological materials but dealt lightly with the plains. On the authority of Lewis and Clark, it reported ancient fortifications one thousand miles up the Missouri River. There were also "many large and interesting works" in the valleys of the Platte, Kansas, and other tributaries of the Missouri, which are not otherwise described and concerning which "but little more than the fact of their existence is known; of their character we are ignorant."⁹

The scholarly world was to remain ignorant of their character for some time to come. The Great Plains were vast, their population sparse and sometimes unfriendly to strangers. Scholars and antiquarians were concerned primarily with the mounds and earthworks widely visible throughout the eastern United States, and particularly in the identity of their builders. In the transMissouri region, monumental earthworks like these and multistoried ruins such as were known in the Southwest were absent. Moreover, the Great American Desert myth—Martyn Bowden's "idealized conception of the well-educated"—was strongly entrenched among the eastern intellectuals. With this background, it is not surprising that Henry R. Schoolcraft's monumental six-volume study of the Indians dismissed the "elevated, bleak, and barren deserts stretching at the east foot of the Rocky Mountains" as a "broad and forbidding barrier where traveling in modern days has required the utmost capacities of European and American skill, energy, and endurance." Almost simultaneously, Samuel F. Haven's study of American archeology voiced the same belief in the impassability of the plains for native people attempting travel east or west across the region. And, within a very few years, came similar pronouncements by the Smithsonian's Secretary Joseph Henry and by the "father of American anthropology," Lewis Henry Morgan.¹⁰

POST-CIVIL WAR
EXPLORATIONS: 1865-1900

But even while the savants were denigrating the Great Plains as a habitat for native man, bits of evidence to dispute their judgments were emerging. Brief articles appended to the annual reports of the Smithsonian after the Civil War and beginning in the 1860s recorded the observations of amateurs in widely scattered localities. In 1868, the Smithsonian transferred to the U.S. Army Medical Museum "its large collection of human crania" and received in return the ethnological collections of the Medical Museum. As one result of this arrangement,

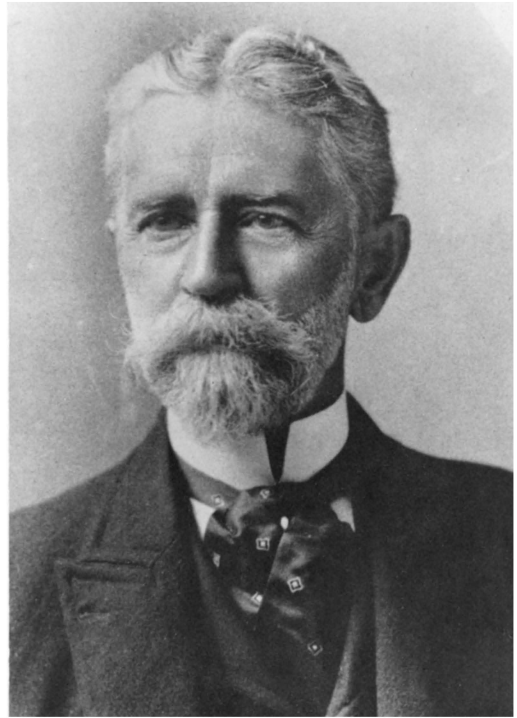
the 1869 report of the Smithsonian notes that among the numerous items sent in by army post personnel were occasional pieces dug from burial mounds in the vicinity of Fort Wadsworth (now Sisseton, South Dakota), Fort Totten, Fort Sully, and elsewhere in the West. Drs. Charles Carroll Gray and Aaron Ivins Comfort were among Army officers specifically noted in connection with archeological finds from the plains in this period. Although generally few in number, these specimens deserve more attention than they have so far received at the hands of plains specialists.¹¹

The mounds in the eastern plains continued to attract the interest of westering Americans and their Canadian neighbors. As the 1870s approached, seven decades of exploration were giving way to a pioneer period, with a growing immigration of white settlers. A descriptive phase of archeology was getting under way, with the shovel supplanting the armchair and literary speculation about origin of the native remains. In 1867, Donald Gunn reported opening of a mound on the Red River below Winnipeg, from which pottery, stone pipes, and other items were removed. Comfort excavated several burial mounds in 1871 near Fort Wadsworth at about the same time that Cyrus Thomas, entomologist for the Hayden survey, was exploring other mounds in the James River valley of North Dakota. In Kansas, Prof. Benjamin F. Mudge was reporting to the Kansas Academy of Science a number of pottery-bearing sites seen in the course of geological surveys in the early 1870s, and there was more digging in the mounds near Fort Leavenworth. About the middle of the decade, a lively interest in mound exploration developed in the Kansas City area, and local citizens opened a number of earthen and stone-vault tumuli here. The results were published in various outlets, including the locally published *Western* [later *Kansas City*] *Review of Science and Industry*. In 1879, Edwin Curtiss investigated several mounds there, as well as other sites in Marion County in central Kansas, for Harvard's Peabody Museum. From most of these mound explorations no specimens seem to have been preserved

other than those returned by Curtiss to the Peabody Museum.¹² After about 1880, little or no digging in this locality was reported for more than a quarter of a century.

The decades of the 1880s and 1890s witnessed a heightened interest in the antiquities of the Great Plains. In part, this may have been stimulated by the Smithsonian's decision to undertake a project "that it has long had in contemplation, namely, the compilation of a map of the archeological remains of North America." Responsibility for this project was assigned to Otis T. Mason, collaborator in ethnology of the United States National Museum. Mason compiled a 15-page circular of which "many thousand copies" were distributed in 1878. This was designed to gather all possible information relating to the "various remains of American archaeology scattered throughout different parts of our continent, consisting of mounds, earthworks, ditches, graves, etc." Additionally, it invited the donation of notes, maps, pictures, and specimens. In response to this circular, "a great many returns" were reported in the following year, and statements from or concerning these were published during the next few years by the Smithsonian in its annual reports. Probably most of the usable or more promising responses to the circular were included in Cyrus Thomas's 246-page catalog of prehistoric earthworks east of the Rockies, less than 8 pages of which are concerned with the plains area.¹³

Another branch of the Smithsonian was becoming involved deeply in archeology. This was the newly established Bureau of (American) Ethnology, which strongly advocated the view that the mounds and earthworks of the eastern United States were attributable to the ancestors of the historic Indian tribes of the region rather than to a mysterious vanished race, the Ten Lost Tribes, the Phœnicians, or some other exotic people. To explore this matter, the bureau undertook the first major governmental venture into archeological research—Cyrus Thomas's ten-year survey of the mounds, which began in 1881. This, too, touched lightly on the plains. Of the 730 pages

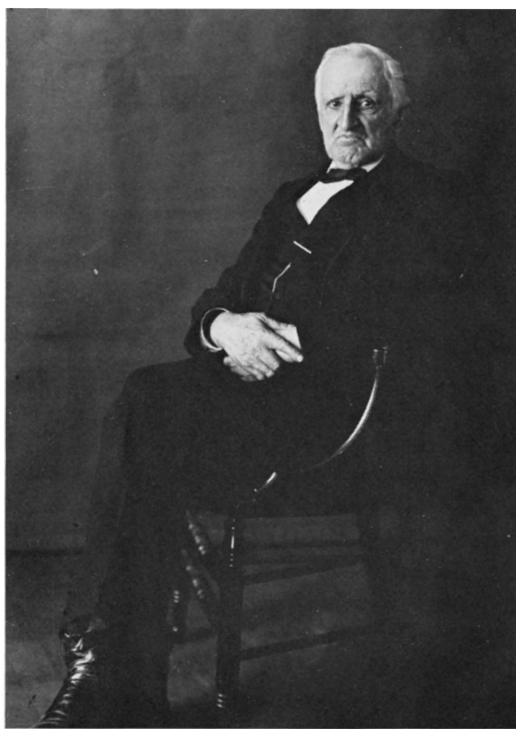


OTIS T. MASON

U.S. National Museum, Smithsonian Institution. Source: National Anthropological Archives, Smithsonian Institution, Washington, D.C.

in the final published report, Manitoba and the Dakotas, where Reynolds worked for the Bureau of Ethnology in 1889, were allotted 7 pages; Nebraska, Kansas, Oklahoma and Indian Territory, and Texas are not mentioned; and there is no comment on the mounds opened and previously reported along the Missouri near Kansas City, though they are shown on the accompanying map of mound distributions.¹⁴

From 1881 to 1888, Johan A. Udden, a Swedish-born professor at Bethany College who later became a highly regarded geologist in Illinois and Texas, opened refuse heaps on Paint Creek near Lindsborg, Kansas, lucidly describing their structure and contents, correctly attributing them to a semihorticultural people whom he suspected were probably the Wichita, and suggesting from the finding of a chain mail fragment the possibility of contacts between



CYRUS THOMAS

Bureau of Ethnology, Smithsonian Institution. Source: National Anthropological Archives, Smithsonian Institution, Washington, D.C.

the Indians and the Coronado expedition of 1541.¹⁵ In 1888, James E. Todd reported on the Nehawka flint quarries in eastern Nebraska, arguing for their Indian origin. The discovery in 1895 of a projectile point, since lost, in apparent association with a fossil bison at Twelve-Mile Creek, Russell County, Kansas, appears to be one of the first records of an artifact with extinct fauna in America.¹⁶ In 1898, Samuel W. Williston and Handel T. Martin, University of Kansas paleontologists, systematically excavated a seven-room pueblo ruin in Scott County, Kansas, perceptively discussing its origin and historical implications.¹⁷ Also during the 1890s, Jacob V. Brower of Minnesota carried on a series of field surveys and collecting trips in eastern Kansas and on the Missouri River in the Dakotas, utilizing mainly local and nonprofessional help,

privately publishing his findings and interpretations, and removing nearly all his specimens to Minnesota, where they were eventually destroyed by fire. In the southern plains, Charles N. Gould, Oklahoma's "covered wagon" geologist, reported at some length on the Timbered Mounds chert quarries in Kay County, Oklahoma, and Cowley County, Kansas.¹⁸

THE PLAINS AS A CULTURE AREA

On May 2, 1896, in a Saturday afternoon lecture at the Smithsonian, Otis T. Mason outlined for the first time a scheme of culture areas based on the perceived relationship of native American cultures to their natural environment. The "plains of the Great West" he saw as constituting a definite culture area described as "a piedmont sloping down to the immense prairies of the Missouri, the Platte, and the Arkansas." Its major characteristics as they related to the human occupation included few trees, apocynum fibers for textile-making, an abundance of bison, travel on foot with the dog as beast of burden, skin lodges and clothing, body painting, and so on. Most of these features were also listed a few years later as characteristic of the typical plains tribes, when Clark Wissler elaborated the culture area concept. Notably, and in contrast to Wissler, Mason specified travel on foot with the dog as beast of burden and did not mention the horse.¹⁹

An entirely different regional scheme for North America was proposed by Cyrus Thomas shortly after Mason set up his culture areas. He recognized three great divisions—the Arctic, the Atlantic, and the Pacific. In a later volume, jointly written with William J. McGee, this three-fold system was retained and elaborated.²⁰ The Atlantic and Pacific divisions were separated by the Rocky Mountains, but even more importantly, by "the vast treeless plains extending north from the Rio Grande to the Saskatchewan," which were, "from all the data, traditional, archaeological, and linguistic . . . almost a complete barrier to transverse movements." There were "few, if any" indications of

travel in prehistoric times, except "a few remains on the Missouri River." These forbidding and inhospitable grasslands were inhabited almost exclusively by "those wild Bedouins of the western plains known as the Dakotas or Sioux."

Of particular interest in these early syntheses of American archeology, based in part on studies of the museum collections and the antiquities of the United States, is their first tacit recognition that the native human occupancy of the Great Plains probably preceded the introduction of the horse, as was implicit in Mason's earlier emphasis on foot travel and dog traction. McGee and Thomas thought that the plains, lacking mineral resources and defensible site locations, would not be attractive to a native people without the horse, "at least, not until they had learned how to kill the buffaloes and to form tents of their skins." Then they added an interesting caveat:

However, we know very little, in fact next to nothing, of aboriginal life on the plains in prehistoric times. Almost the only glimpse of this life is that seen by members of Coronado's expedition in 1540-42, and recorded by his chroniclers. Whether there were tribes in the northern portion of the treeless belt who followed and gained their subsistence from the buffalo herds, as those seen by Coronado, is unknown. There are no monuments by which to judge.

Two years after McGee and Thomas, Wissler offered a different opinion in the view that "insofar as the Plains Indians are a buffalo using people and have a culture dependent upon the same, their type of civilization is of recent origin and developed chiefly by contact with Europeans. Upon this assumption it appears that the peopling of the Plains proper was a recent phenomenon due in part to the introduction of the horse." Later, he followed McGee and Thomas in accepting the significance of the Coronado documents.²¹

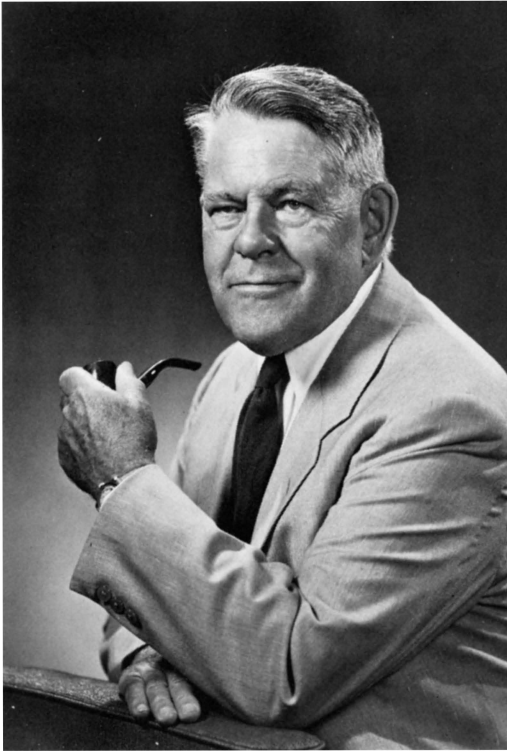
PROFESSIONALS NIBBLE AT
PLAINS ARCHEOLOGY: 1900-1920

The turn of the century brought other new

developments, including the first observations and excavations by anthropologically trained men. In the immediately preceding decades, the earlier drive to collect from mere curiosity or for the sake of acquisition was gradually being tempered by a stronger sense of problem. This, in turn, probably reflected the growing involvement of geologists, paleontologists, natural historians, and others trained in the comparative methods and explanatory objectives of science. If most of this was not yet archeology, for which neither theory nor methodology had been devised or scholarly practitioners trained, nevertheless there were contributions of lasting usefulness.

Most of the recorded field activity in the early 1900s seems to have taken place in the central and northern plains, from Kansas to the prairie provinces of Canada. Much of it was still more or less randomly done and guided by chance or opportunity. George A. Dorsey wrote an early description of the Spanish Diggings quartzite quarries in eastern Wyoming after a visit there in 1900 for the Field Columbian Museum of Chicago. In the following year came William H. Holmes's investigations for the Smithsonian at the Afton sulphur spring in Oklahoma, which was followed a year later by Stephen C. Simms's examination of the Bighorn Medicine Wheel in northern Wyoming. The highly controversial "Lansing Man" finds near Atchison, Kansas, in 1902 deeply involved both geologists and anthropologists, as did Robert F. Gilder's Nebraska "Loess Man" near Omaha about 1906. Both finds were thought by their protagonists to bear directly on the then lively and sometimes acrimonious argument about the antiquity of man in America. As evidence of early man, neither of these finds nor Newton H. Winchell's alleged paleolithic flint-workers of the Kansas Flint Hills were ever generally accepted, although as probable Archaic remains they undoubtedly still have some claims to an age of several thousand years.²²

Materials of later origin were also coming under closer scrutiny. Early in the 1900s, E. E. Blackman began a long career of statewide site-hunting and test-excavating for the Nebraska



GEORGE F. WILL

Bismarck, North Dakota. Source: North Dakota Historical Society.

State Historical Society. Many of his identifications and interpretations have failed the test of time, but one of his seminal ideas was that the wind-blown soils overlying prehistoric Indian village sites along the Republican River were evidence of severe dust storms and drought.²³ In 1907, Gerard Fowke made further explorations in the stone-chambered mounds of the Kansas City locality for the Archaeological Institute of America, at about the time that Gilder was initiating several years of excavation in prehistoric earthlodge sites around Omaha.²⁴ In North Dakota, Orin G. Libby and A. B. Stout engaged in an extensive site survey and mapping program of Missouri River sites from 1900 to 1909, but without systematic or sustained excavations. In 1905, George F. Will and Herbert J. Spinden carried on investigations at the Bourgois Double Ditch Mandan site for Harvard, using their findings as the basis for

a multifaceted study long unique in plains archeology; and in 1911, they made an important survey of Missouri River sites in North Dakota for the American Museum of Natural History.²⁵ Their approach, a sort of ethnoarcheology, in which historically identifiable sites were subjected to careful and thorough study, was to become more and more important, continuing through the 1930s and indeed up to World War II. The mounds of the northeastern periphery also received further attention, first from Henry Montgomery in North Dakota and Manitoba, and later by William B. Nickerson, who in 1912 to 1915 was following field techniques far in advance of his time in mound excavations in southern Manitoba.²⁶

The first serious comparative studies of human skeletal materials of archeological origin in the plains date from this period. They include observations by Ales Hrdlicka on the Lansing Man and Nebraska Loess Man remains and on Fowke's stone-vault mound crania from northwestern Missouri; and by C. W. M. Poynter on several series of prehistoric crania resulting from Gilder's digging in the vicinity of Omaha. Both observers recognized considerable variability in the populations represented, ranging in head shape from mesocephals to dolichocephals, and the probability that more than one physical group was involved; but both denied that geologically ancient man was in any way indicated.²⁷

In this period also appeared the first explicit application of Mason's culture area concept of 1896 to North American archeology. The boundaries mapped by Holmes for the Great Plains area differ considerably from Mason's and from those of today's archeologists—among other details, in including a westward extension through the central Rockies nearly to the California border and in excluding the Missouri River trench through Nebraska and the Dakotas. Holmes recognized the affiliations of some Plains archeological materials to those in neighboring areas such as the Southwest and the eastern mound-building area. Unlike McGee and Thomas, and Wissler later, Holmes missed the significance of the sixteenth-century dog-

nomads as indicators of a pre-horse type of plains culture and made no mention of Harlan I. Smith's previously expressed "suspicion that the remains in the eastern part of the State [Wyoming] belong to the western parts of an ancient plains culture." Taking note of certain "claims to great antiquity," Holmes nevertheless commented that "the general state of culture has been everywhere about the same and closely akin to that of the historic and the present time in the same area," and thus apparently reflected the prevailing anthropological dogma of his time regarding the essential uninhabitability of the plains by man in pre-horse days.²⁸

A little-known and neglected worker in the eastern plains in this period was Fred H. Sterns of Harvard, who operated in the Missouri River valley between Kansas City and Omaha from 1912 to 1914. He was apparently the first to excavate systematically a prehistoric plains earthlodge and to demonstrate beyond question that these structures were rectangular in floor plan, rather than circular like the historic earthlodges of the eastern plains, as Gilder had supposed. Sterns's interpretation of the house layout was generally correct, but because he used a trenching or profiling technique in which the house floor was destroyed as the work progressed, he precluded the discovery and confirmation of postmolds and apparently never determined the pattern of primary and secondary posts that supported the structure and completed the floor plan. Sterns also made the first scientific observations at the stratified Walker-Gilmore site in eastern Nebraska. From these important pioneering efforts at scientific archeology only short preliminary papers have resulted so far; but it is to be hoped that Sterns's unpublished two-volume dissertation may one day soon achieve the dignity of the printed page that it so well merits.²⁹

While Wissler was promoting the culture area concept in ethnography and vigorously debating with himself and others the influence of the horse in the development of plains culture, Sterns offered a well-argued interpretation of the peopling of the region.³⁰ He noted correctly that Plains Indian culture was based



FRED H. STERNS

Peabody Museum of Harvard University. Source: Nebraska State Historical Society.

heavily on use of the bison. Since bison hunters had to travel great distances to find their quarry and the surround on horseback was the "normal hunting situation," Sterns found it "hard to conceive of a 'buffalo culture' without the presence of the horse." Since the horse was introduced by the white man in post-Columbian times, there could not logically be a pre-horse plains culture. He found support for this view in the general absence of permanent village remains in the western plains, where in some thousands of miles of travel on behalf of archeology he had found "merely camping places such as one would expect in a horse-buffalo culture." All of the then available archeological, linguistic, and physical anthropological evidence further indicated to Sterns the

nonplains origins of the earthlodge, pottery-making, and maize cultivation.

The long-held concept of a recent human migration into the plains, echoes of which can be found in anthropological writings as recently as three decades ago, can thus be seen primarily as a creature of anthropological thinking, a view derived by a certain logic from a faulty premise rather than from empirical evidence. Most professional anthropologists persisted in overlooking or ignoring the inferences drawn by McGee and Thomas, and implicit in Mason's original definition of the plains culture area a few years earlier.

AND DECIDE TO GET INVOLVED: THE 1920S AND 1930S

New developments in the decade of the 1920s held great promise for the growth of Great Plains archeology. Beginning about 1925, the *American Anthropologist* published annual summaries of ongoing field work in the various states, relatively little of which was concerned with plains states. However, one result of the constantly growing interest in archeological matters was increasing pressure for greater federal involvement and foundation support of the work. In 1919, Jesse Walter Fewkes, chief of the Bureau of American Ethnology, visited Austin and helped inaugurate work on the antiquities of Texas, "the archeology of which has been neglected." A cooperative research program was arranged between the Smithsonian and the University of Texas, with James E. Pearce of the university in charge. By today's standards, the funding was decidedly limited and the program short-lived; but the field work included exploration of burnt-rock middens and other sites in central Texas, as well as the statewide distribution of ten thousand questionnaires initiating an archeological survey. When Smithsonian funding ceased, later work in Texas was supported by grants from the Rockefeller Foundation in 1927 and 1928. Pearce noted that there were few professionals in Texas at this time.³¹

In 1928, the Seventieth Congress authorized

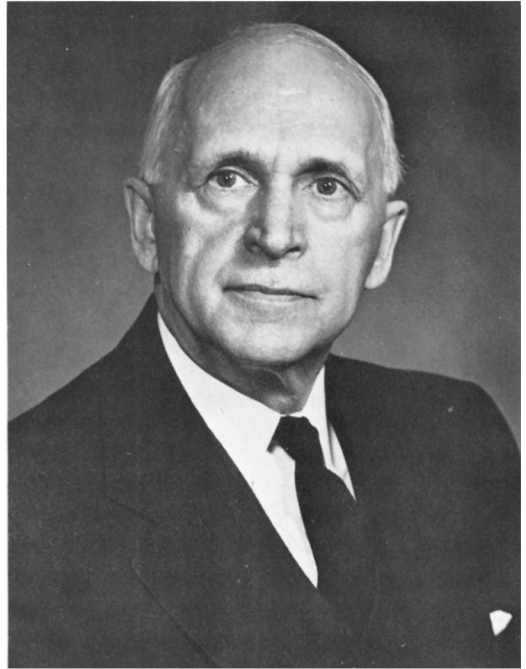
the secretary of the Smithsonian to cooperate in anthropological research with any qualified state, educational, or scientific organization on a matching (dollar for dollar) basis (Public Law 248). From the \$20,000 appropriated, not more than \$2,000 could be spent in any one state in a single year; no salaries or other regular expenses of the recipients were to be paid; and a report was to be filed with the secretary of the Smithsonian within a reasonable time after the work ended. During the next four or five years, allotments from these funds supported archeological work by the University of Nebraska for "archeological survey of the Missouri, Platte, and Republican rivers in Nebraska"; by Logan Museum of Beloit College on Middle Missouri village sites; and by the University of Denver and the Denver Museum of Natural History to continue site surveys on the Colorado high plains. Roughly one-fifth of the appropriated moneys went into archeological work in the Great Plains, but for most of these projects the Smithsonian apparently never received the reports that were to follow. Some of the field work in the Dakotas was categorized as "large scale pot hunting"; elsewhere, as in Nebraska, it eventually bore rich fruit.³²

As in previous years, much of the field work was aimed at clarifying the relationships of the antiquities to the historic tribes and their documented or legendary movements, preferably by starting with historically identifiable sites. Thus, in the early 1920s, William E. Myer, voluntary collaborator of the Bureau of American Ethnology, dug into mounds and village sites near Sioux Falls, South Dakota, in search of traditional Omaha and Ponca villages and also explored Osage sites in western Missouri. Two years later, Matthew W. Stirling of the U.S. National Museum made important skeletal and artifact collections from Arikara village and burial sites near Mobridge, South Dakota.³³ In central Texas, Cyrus N. Ray, concerned less with the immediate ancestors of the historic tribes than with the prospects of early man locally, was reporting on various deeply buried antiquities in the Abilene district. Perhaps more important, he was taking the lead in

organizing the Texas Archaeological and Paleontological Society in 1928 to carry on field work and to publish the results in the society's annual bulletin. The first of these appeared in 1929; by 1980, fifty volumes had been published, with volume 24 (1953) and subsequent issues being under the imprint of the Texas Archaeological Society. Throughout, emphasis has been on papers dealing with the archeology of Texas and adjoining areas, and the series has dramatically reflected the expanding interest in the prehistory of the state and of the southern plains generally. An archeological survey of Texas, designed in part "to seek traces of the origin, or of the passage, of the Hohokam" was conducted by Edwin B. Sayles for the Gila Pueblo from 1932 to 1934.³⁴

A major turning point in American archeology, with effects reaching far beyond the Great Plains, was the demonstrated association of distinctive fluted points with bison skeletons of extinct species near Folsom, New Mexico, in 1926, '27, and '28. Additional finds bearing on the antiquity of man in America and his coexistence with extinct fauna followed at other plains locations, including Blackwater Draw in 1932, the Lindenmeier site in northern Colorado, and Dent, Colorado, a site featuring points with mammoth skeletons.³⁵ From these beginnings, the search for PaleoIndian remains in the plains has become a major focus of scientific interest in subsequent years, absorbing a large share of the available funding and professional talent.

In a search for "physical and cultural remains of Folsom man," Etienne B. Renaud explored caves along the Dry Cimarron in northeastern New Mexico and western Oklahoma in 1928 and 1929, discovering instead important post-Folsom complexes and much perishable material whose cultural relationships and chronological position still await adequate definition and interpretation.³⁶ Meanwhile, the slabhouse ruins of the Canadian and North Canadian valleys in the Texas and Oklahoma panhandles (reports of which were first published in 1908), and their intriguing similarities to pueblo ruins of the Southwest, were bringing



CHARLES R. KEYES

Cornell College, Mount Vernon, Iowa. Source: Mildred M. Wedel.

eastern archeologists like Walter Hough, J. Alden Mason, Ronald Olson, and others to the area; but only the second appears to have made serious investigations. The cultural relationships of these materials to both Great Plains and Southwestern (puebloan) peoples has been made clearer with the development of a soundly based radiocarbon dating program led by the University of Wisconsin and by the initiation of more penetrating analyses of the cultural content of the site inventories.³⁷

Of much importance, too, was the deepening involvement of several state historical societies in sustained archeological programs during the 1920s. In Iowa, Charles R. Keyes, professor of German languages and literature at Cornell College, was appointed research associate and headed a notably successful and productive archeological survey for the state historical society and stimulated an early demonstration by Mildred Mott of the direct-historical approach.³⁸ In Nebraska, under the stimulus of



ASA T. HILL

Hastings and Lincoln, Nebraska. Source: Nebraska State Historical Society.

Asa T. Hill, a Hastings business man, the state historical society was resuming active survey and limited excavation programs. A self-trained nonprofessional, Hill was protesting as early as 1929 the trench or profile system of earthlodge excavation that had been used by Sterns and for a time by William D. Strong. Hill maintained that this was like trying to read a book by studying only the edges of the pages. The proper way, he urged, was to locate the fireplace, determine the adjacent floor level, clear away all overlying fill but leave the floor and walls intact, and then search the exposed floor meticulously for postmolds, cache pits, and other man-made features. This method was successfully carried out by Hill from 1926 to 1929 on circular historic Pawnee house floors at the Hill site, 25WT1. It was followed by the University of Nebraska Archeological Survey at the Hill site in 1930 and at Sweetwater, Nebraska, in 1931, when three prehistoric (Central Plains Tradition) house ruins were opened with

Hill's close cooperation. It was adopted by Keyes and his assistants in 1938 at Hill's instigation, and has been followed with only minor variations in plains earthlodge excavations since. It should be noted, too, that as early as 1930 Hill had clearly and independently distinguished in his own thinking between a number of Nebraska native cultures to which professionals have since given names. These include historic Pawnee, protohistoric Pawnee or Lower Loup, Dismal River Apache, Upper Republican, and Woodland complexes.³⁹

Interest in Oklahoma antiquities was reflected in Joseph B. Thoburn's work for the state society, beginning in the 1920s and running through the 1930s. Thoburn was a contributor to the volume that resulted from Warren K. Moorehead's concern with Pueblo-Plains cultural relationships in the Arkansas River basin of Kansas and Oklahoma. Not mentioned in Moorehead's final report is the participation in 1917 in the Arkansas River valley survey by Fred Sterns, who may have been the first trained archeologist to excavate in the well-known Handley Ruins (Buried City), Ochiltree County, Texas.⁴⁰

The role of the state historical societies in developing and channeling interest in plains prehistory is not generally appreciated. West of the Missouri, these groups were organized mainly during the last quarter of the nineteenth century—for example, Kansas in 1875, Nebraska in 1883, Oklahoma in 1895, South Dakota in 1901, North Dakota in 1903. For most, either the organic act or the constitution, or both, specified as a major objective the encouragement of investigations into aboriginal remains and the collecting and preservation of relics of antiquity bearing on the prehistory of the state. In the proceedings and transactions of these societies, some dating back into the nineteenth century, there are records of many sites and minor antiquities of which little or no trace remains today. Before the days of large-scale federal funding and resource planning, these notes provided an invaluable starting point in the search for sites deserving of further investigation or preservation. Before the 1930s,

some of these groups were as active as the state universities in the recording of antiquities and were often regarded by the public as much more responsive to its needs and wishes than were the academics. The state academies of science were another notable early source of information whose role would merit further and more intensive examination.

PLAINS ARCHEOLOGISTS ORGANIZE

Archeological work in the Great Plains before 1930 had brought to light a very considerable amount of material of widely varying usefulness and reliability, but from it there had come as yet no framework of prehistory or serious attempts at broad-scale interpretations and integration. The correlation of archeological materials with historic tribes—the direct-historical approach—was going forward steadily and with a much better sense of direction. The abundance and variety of archeological remains, already well known to a growing number of enlightened amateurs, was at last becoming obvious as well to professionals, and this awareness was pointing up the need for closer cooperation between all active workers and a better comprehension of the problems of culture classification and chronology. The general acceptance of man's multimillennial antiquity in the plains, on the basis of incontrovertible geological and paleontological evidence, was leading to closer cooperation with geologists, paleontologists, and other students of the earth and the natural sciences.

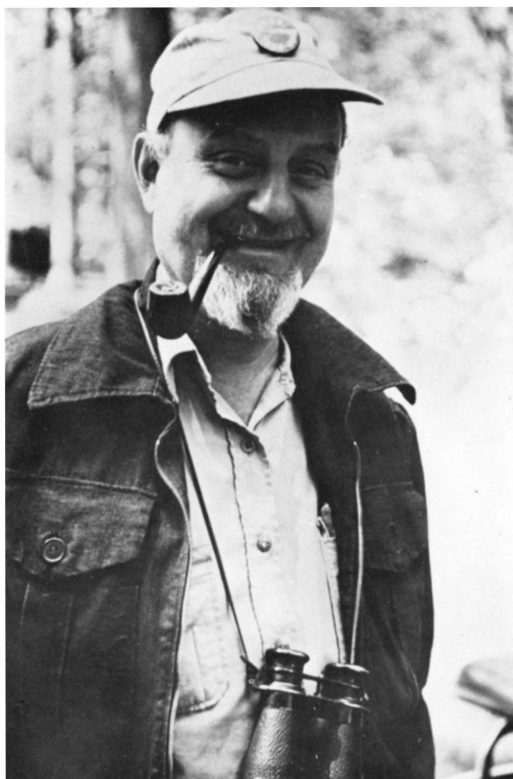
In response to this intellectual ferment, a meeting that became the first plains conference for archeology was staged in Vermillion, South Dakota, from August 30 to September 2, 1930. Nineteen persons, both professional and non-professional, took part, representing Colorado, Iowa, Nebraska, North and South Dakota, Michigan, Minnesota, Wisconsin, and the Bureau of American Ethnology. Stressing informal sessions, like the slightly older Pecos conference, and including comparative and descriptive dialog, this gathering represented an important beginning in coordinating the

regional ordering and correlation of archeological materials. Meeting annually since its fifth session in 1947, the plains conference remains a significant part of the regional scene, with site reports, symposia, workshops, and the like. Emphasis has been on the central and northern plains and adjacent regions. Six annual newsletters were issued from 1947 to 1953. Beginning in 1954, the *Plains Anthropologist*, the journal of the conference, has been an important publishing outlet for a wide variety of articles. A memoir series includes twenty-three numbers through 1978.

It may be more than a coincidence that the decade of the 1930s was marked by the appearance of several notable scholarly studies concerning the Great Plains as the habitat of man. Of primary archeological interest was Strong's classic *An Introduction to Nebraska Archeology*, following an earlier paper in the *American Anthropologist*. Relying heavily on fieldwork from 1929 to 1932 and stressing the direct-historical approach, Strong pointed out the one-sided nature of the then prevalent concept of Plains Indian culture. Other notable publications of this period that no scholar in the region should ignore are Walter Prescott Webb's *The Great Plains* in 1931; two reviews of nature and man in the region by Frederick Clements and by Clements and Ralph W. Chaney; the report of the President's Committee on the Future of the Great Plains; and finally Alfred L. Kroeber's analysis of man and his cultural and natural setting in North America.⁴¹

EMERGENCIES AND PUBLIC FUNDING

For archeology in the Great Plains, as in other areas, the economic difficulties of the 1930s proved to be another major turning point. The adverse effects of institutional salary and budget cuts, greatly reduced field allowances, and other economies were partially offset by the work relief programs, particularly the Work Projects Administration after 1934. Functioning through sponsoring state universities, historical societies, and other agencies, the WPA supported major field and laboratory



WILLIAM DUNCAN STRONG

University of Nebraska, Bureau of American Ethnology, and Columbia University. Source: Ralph Solecki.

projects in many of the plains states. These included Montana, Wyoming, the Dakotas, Nebraska, and Texas.⁴² From all this work, mounted on a far larger scale in terms of time, labor, and funds than anything previously attempted in the region, great masses of data and specimens were assembled. In many instances, the scale of the operations made possible a determination of the community layout—what has since come to be known as the settlement pattern—where previous and contemporary nonrelief funding supported little more than extended test sampling. While the materials were often collected by methods now suspect or in accord with philosophies no longer in good standing, they still provide a great reservoir of comparative data that no scholar worthy the name can justifiably ignore.

In retrospect, it is clear that important materials that might otherwise have found their way into private collections or to the relic market have been preserved and are being maintained in responsible museums. Some, too, are from sites that have since been destroyed or so defaced by cultivation, construction, or other activities that they can no longer yield as complete a record as was derived through the operations of the work relief programs, whatever their shortcomings.

Not all plains archeology of the 1930s was relief-supported.⁴³ In Kansas, the U.S. National Museum carried on a four-year survey, with limited excavations in the Kansas City, Missouri, district.⁴⁴ This work involved application of the direct-historical approach; but coinciding with a record-breaking region-wide drought and its strikingly adverse effects on the regional population, the field work also brought into sharp focus the close relationship between man and the natural environment.⁴⁵ Subsequently, more penetrating inquiries into the aboriginal human ecology of the Great Plains have amply demonstrated the fruitfulness of this field of inquiry.⁴⁶ In the southern plains, major contributions in cultural taxonomy, typology, artifact classification, and Paleo-Indian studies resulted from the investigations by Alex D. Krieger and his colleagues during the pre-World War II years, but these were by no means the only studies made. Two excellent bibliographies provide leads to numerous useful and informative papers on the archeology of Oklahoma and Texas.⁴⁷

Archeology by work relief, or otherwise, substantially ended in 1941 with outbreak of World War II; and for most of the region, field work was discontinued for the duration. Manpower was increasingly deflected into the war effort, and maintenance of collections and record files by skeleton staffs was the order of the day until cessation of hostilities in 1945.

As the war drew to a close, archeologists learned that the federal government had well-advanced plans for a nation-wide water-control program, including construction of numerous dams, with appurtenant works, on major

streams. Recognizing a grave threat to the nation's archeological resources, which were heavily concentrated along the watercourses, professional archeologists and government administrators and planners brought about the creation of the Interagency Archeological Salvage Program. This involved initially the National Park Service and Bureau of Reclamation, Department of the Interior; the Corps of Engineers, Department of the Army; and the Smithsonian Institution. Other agencies were added from time to time. In the Great Plains area, the largest project was in the Missouri River basin.⁴⁸ State agencies also participated, self-supported at first and later under contracts with the National Park Service. The River Basin Surveys, funded by the National Park Service, continued under Smithsonian direction from 1946 to June 1969, when the unit was transferred to the National Park Service and became the Midwest Archeological Center. Under Smithsonian administration, expenditures for plains archeology were probably about three million dollars. Noteworthy publications on this work under Smithsonian direction included the River Basin Surveys Papers, in which thirty-one of thirty-nine bulletins of the Bureau of American Ethnology dealt with the plains. *Publications in Salvage Archeology*, issued from the Missouri Basin Project office of the River Basin Surveys in Lincoln, Nebraska, between 1966 and 1969, included thirteen volumes, all but one pertaining to operations in the Missouri River basin. The National Park Service has published a comprehensive discussion of findings in the Middle Missouri section of the plains area, where a high percentage of the funds and manpower were expended on village Indian remains of the last thousand years.⁴⁹

In contrast to the work-relief operations of the 1930s, wherein the prime overall objective was to put the unemployed back to work, the interagency archeological salvage program was not required to concentrate on localities with high unemployment and plentiful labor rather than on suspected or indicated archeological potential. Instead, charged with responsibility for locating and evaluating any sites threatened

by the water-control work, the River Basin Surveys carried on nearly twenty years of reservoir investigations in all affected portions of the plains, besides conducting major excavation projects along the Middle Missouri, on Medicine Creek, Nebraska, and elsewhere. That this and much of the archeology of the prewar 1930s was done without any sense of problem is a charge often made in the clairvoyance of hindsight and with seldom a clear specification of what is understood to be a problem. That the task could have been done better is likely, as is usually apparent in any major program viewed in the perspectives of history.

There were, nevertheless, clear and notable gains. To a greater extent than ever before, aerial photo maps were used in the plains for locating sites, particularly along the mainstem in the Dakotas. The practicability of using heavy earth-moving machinery under close control to meet imminent construction or budget deadlines, and its usefulness in determining community settlement patterns, was also convincingly demonstrated.⁵⁰ At the outset of the river basin work, a trinomial system of site designation, applicable through the nation, was developed and has since been widely installed outside the plains region. A cooperative chronology program initiated by the Missouri Basin office in 1958, aimed at integrating the findings from dendrochronology, radiocarbon, and other dating techniques, helped materially to develop better region-wide time controls on the archeological data and their systematization. Substantial increments to archeological knowledge resulted from the salvage work, and the collections, like those of the earlier work-relief programs, will provide important data for comparative and analytical purposes for years to come.

WHAT HAVE WE LEARNED?

In the century and a half since the first recorded digging for antiquities in the region in 1822, and particularly within the last fifty years, Great Plains archeology has contributed in various ways to anthropological thinking in

America. It has finally laid to rest for all time Lewis Henry Morgan's time-honored dictum of 1859 that the prairie was made tolerable to the Indian only after he came into possession of the horse and the rifle.⁵¹ Since systematic archeological research replaced ethnological analysis in the thinking about plains prehistory, it has become crystal clear to those directly involved that the record of man's occupancy would have to be measured in terms of thousands of years, that he had met and solved the problems of survival on the Great Plains long before he became a horseman, that he was a contemporary of the mammoth, native horse, and long-extinct forms of bison, and that a variety of cultures, subsistence economies, and tribal groups have made their homes in the region. Plains culture, as developed around a bison-hunting subsistence pattern, was seen to be older by far than the eastern-derived maize-based village Indian cultures of the eastern plains.⁵² The correlations tentatively set forth in 1940 regarding native man and his relationships to the natural environment seem to be on a progressively sounder footing as new and better data accumulate. Much of the human experience in the region has revolved around the problems of adapting to sharply changing conditions of climate and other facets of the natural setting. It seems increasingly evident that, just as the historic tribes that entered the region from various directions with their different languages and cultures adjusted their subsistence patterns to a high degree of uniformity,⁵³ so earlier peoples adapted to the requirements and opportunities presented by the plains environment—abundant bison, limited horticultural opportunities, and a trying climate—with the flexibility needed to cope with these surroundings.

The practicability and fruitfulness of the direct-historical approach, persuasively argued long ago by Roland B. Dixon, has been convincingly demonstrated by the successful identification of several major historical tribes with specific archeological complexes. Included here are the Pawnee, Arikara, Mandan, Wichita,

Plains Apache, Ioway, Missouri, Osage, and possibly others.⁵⁴

Archeological work in the Great Plains continues, and at such a pace that the regional syntheses undertaken to date approach obsolescence almost as soon as they are published.⁵⁵ In gratifying contrast to the early postwar years, there are today in every plains state and province governmentally supported organizations with professionally trained staffs qualified to carry on salvage and nonsalvage archeology. Augmenting these academically and historically oriented groups are the growing numbers of nonprofessionals or amateurs, persons without formal training or advanced degrees in archeology or anthropology but with an abiding interest in the antiquities. They range from collectors interested primarily in the acquisition of specimens to enlightened persons able and willing to keep records, catalog the artifacts, and so on. These have been with us always, and since they usually know their home territories far more intimately than the few professional scholars can, they have been a significant force in bringing to the attention of the specialists a number of important sites and expediting research on them. Beginning in the 1930s, partly under guidance of professionals, some of these groups have organized, are issuing newsletters and publishing journals, and have undertaken field training sessions to improve the collecting and recording methods of their members. As the rate of destruction of archeological materials accelerates in advance of road-building, construction, large-scale agriculture, and other developments, it seems self-evident that the continued cooperation of the enlightened amateur is to be encouraged.

Salvage operations, often under the rubric of cultural resource management, continue perforce to occupy a large share of professional attention because of expanded highway construction, land-leveling, and other alterations of the landscape. In these activities, and even more in the so-called nonsalvage or problem-oriented projects, the philosophy of the investigators is changing. In large part, we now know the archeological antecedents of the historic plains

tribes, and with the aid of more advanced, if still imperfect, dating techniques, the developmental stages through which their historical cultures have evolved have been outlined or soon will be. Culture classification has moved ahead from the early and very gross prehistoric-protolithic-historic trichotomy of the 1930s through a modified Midwestern taxonomic system toward a modified application of the phase-tradition-horizon system proposed by Gordon R. Willey and Philip Phillips.⁵⁶ Further arguments on this matter can be anticipated, since dissatisfaction with the taxonomic and comparative work of the past is leading some workers to a new "systemic" approach seeking to better integrate archeological data with nonmaterial aspects of culture and the environment through the formulation of testable hypotheses.⁵⁷ How successful archeologists without firsthand ethnographic experience and training will be in transforming their potsherds, bones, and debitage, their models, and their computer-generated paradigms into social systems—and thus in "doing anthropology"—remains to be seen.

That future archeological work in the Great Plains will be highly rewarding there can be no doubt. This holds true for all sections of the region, and nowhere more so than in the western portions—the historic home of the "typical" horse-riding bison hunters and at all times a land more suited to hunting and gathering than to crop cultivation, except with highly specialized techniques. Researches into the multimillennial antiquity of the bison-hunting ways of life have proliferated at an accelerating rate since 1960, and an awesome mass of significant data has accumulated. Meticulously detailed interdisciplinary recovery and analytical techniques have been and are being applied to these materials, including important experimental studies of the associated lithic and bone technologies, ancient hunting and butchering methods, contemporary animal biology and behavior, geomorphic changes, and a wide variety of related categories. A large and rapidly growing literature has resulted, with new views and interpretations offering exciting

and illuminating insights into the regional picture.⁵⁸

It has been my privilege personally to watch and wonder at the record of the last half-century of archeology in the Great Plains. As field and laboratory research move ahead, one must hope that the rapidly accumulating data will be subjected to new analytical approaches and techniques, critically evaluated and rigorously applied, but without abandoning the successful and productive methods from previous decades. We may then expect further broadening and deepening of our understanding of man's past in the plains, as well as his ways of coping with the environmental and cultural variations that confronted him from time to time through the still unnumbered millennia of his demonstrable existence in the region.

NOTES

1. William D. Strong, *An Introduction to Nebraska Archeology*, Smithsonian Miscellaneous Collections, vol. 93, no. 10 (Washington, D.C., 1935); Waldo R. Wedel, *An Introduction to Kansas Archeology*, Smithsonian Institution, Bureau of American Ethnology Bulletin no. 174 (Washington, D.C., 1959); David M. Gradwohl, *Prehistoric Villages in Eastern Nebraska*, Nebraska State Historical Society Publications in Anthropology no. 4 (Lincoln, 1969); George C. Frison, "The Plains," in *The Development of North American Archaeology*, ed. by James E. Fitting (Garden City, N.Y.: Anchor Books, 1973), pp. 151-84.

2. Reuben G. Thwaites, ed., *Original Journals of the Lewis and Clark Expedition, 1804-1806*, 8 vols. (New York: Antiquarian Press, [1904] 1959): 1.

3. Sixth Infantry, Orders and Letters, 1817-26, Records of the Office of Secretary of War, 1822, RG 107, National Archives, Washington, D.C.

4. Isaac McCoy, *History of Baptist Indian Missions* (Washington, D.C.: W. M. Morrison, 1840); James Henry Carleton, *The Prairie Logbooks: Dragoon Campaigns to the Pawnee Villages in 1844 and to the Rocky Mountains*

in 1845, ed. by Louis Pelzer (Chicago: Caxton Club, 1943), pp. 153-280.

5. James W. Abert, *Reconnaissance by J. W. Abert, Topographical Engineers, 1845*, 29th Cong., 1st sess., Senate Document no. 438 (1846); Kirk Bryan, *Flint Quarries*, Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, vol. 17, no. 3 (Cambridge, Mass., 1950).

6. Randolph B. Marcy, *Exploration of the Red River of Louisiana in the Year 1852*, 33d Cong., 1st sess., Executive Document (1854); William E. Doyle, "Indian Forts and Dwellings," in *Annual Report of the Board of Regents of the Smithsonian Institution . . . for the Year 1876* (Washington, D.C., 1877), pp. 464-65; Henry Y. Hind, *North-west Territory: Reports of Progress* (Toronto: J. Lovell, 1859).

7. William H. Goetzmann, *Army Exploration in the American West, 1803-1863* (New Haven: Yale University Press, 1959); Richard A. Bartlett, *Great Surveys of the American West* (Norman: University of Oklahoma Press, 1962).

8. Ferdinand V. Hayden, "Notes on Indian History," in *Annual Report of the Smithsonian Institution for 1867* (Washington, D.C., 1868), pp. 411-12; William H. Holmes, *Aboriginal Pottery of the Eastern United States*, Smithsonian Institution Bureau of American Ethnology, 20th annual report (Washington, D.C., 1903); Samuel Aughey, "Report of Samuel Aughey: The Superficial Deposits of Nebraska," in Ferdinand V. Hayden, *U.S. Geological and Geographical Survey of the Territories . . . for the Year 1874*, 8th annual report (Washington, D.C., 1876), pp. 241-49.

9. Ephraim G. Squier and Edwin H. Davis, *Ancient Monuments of the Mississippi Valley*, Smithsonian Contributions to Knowledge, vol. 1 (Washington, D.C., 1848).

10. Martyn J. Bowden, "Desert Wheat Belt, Plains Corn Belt: Environmental Cognition and Behavior of Settlers in the Plains Margin, 1850-99," in *Images of the Plains: The Role of Human Nature in Settlement*, ed. by Brian W. Blouet and Merlin P. Lawson (Lincoln: University of Nebraska Press, 1975), pp. 189-201; Henry R. Schoolcraft, *Historical and Statistical Information Respecting the History, Condition and Prospects of the Indian Tribes of the*

United States, 6 vols. (Philadelphia: Lippincott, Grambo, 1851-57), 5: pt. 3, pp. 85-117; Samuel F. Haven, *Archaeology of the United States*, Smithsonian Contributions to Knowledge, vol. 8 (Washington, D.C., 1856); Waldo R. Wedel, "Some Early Euro-American Percepts of the Great Plains and Their Influence on Anthropological Thinking," in *Images of the Plains*, ed. by Blouet and Lawson, pp. 13-20.

11. Douglas H. Ubelaker and Waldo R. Wedel, "Bird Bones, Burials, and Bundles in Plains Archaeology," *American Antiquity* 40 (1975): 444-52.

12. Donald Gunn, "Indian Remains near Red River Settlement, Hudson's Bay Territory," *Annual Report of the Smithsonian Institution for 1867* (Washington, D.C., 1868), pp. 399-400; A. J. Comfort, "Indian Mounds near Fort Wadsworth, Dakota Territory," *Annual Report of Smithsonian Institution for 1871* (Washington, D.C., 1873), pp. 389-402; Cyrus Thomas, "Ancient Mounds of Dakota," *U.S. Geological Survey of the Territories . . . for the Year 1872*, 6th annual report (Washington, D.C., 1873), pp. 655-58; Benjamin F. Mudge, "Traces of the Moundbuilders in Kansas," *Transactions of the Kansas Academy of Science* 2 (1873), pp. 69-71; Waldo R. Wedel, *Archeological Investigations in Platte and Clay Counties, Missouri*, Smithsonian Institution, U.S. National Museum Bulletin no. 183 (Washington, D.C., 1943); Frederick W. Putnam, *13th Annual Report of the Curator [for 1879]*, Peabody Museum of American Archaeology and Ethnology, Harvard University, vol. 2, no. 4 (Cambridge, Mass., 1880), pp. 709-55.

13. Cyrus Thomas, *Catalogue of Prehistoric Works East of the Rockies*, Smithsonian Institution, Bureau of Ethnology Bulletin no. 12 (Washington, D.C., 1891).

14. Cyrus Thomas, *Report on the Mound Explorations of the Bureau of Ethnology*, Smithsonian Institution, 12th annual report of the Bureau of Ethnology (Washington, D.C., 1894).

15. Johan A. Udden, *An Old Indian Village*, Augustana Library Publications, no. 2 (Rock Island, Ill., 1900); Waldo R. Wedel, *Kansas Archeology*; idem, "Chain Mail in Plains Archeology," *Plains Anthropologist* 20, no. 69 (1975); Monica Heiman, *A Pioneer Geologist:*

Biography of Johan August Udden (Kerrville, Texas, 1963).

16. James E. Todd, "Some Ancient Diggings in Nebraska," *American Antiquarian* 10, no. 6 (1888): 374-76; Samuel W. Williston, "An Arrowhead Found with Bones of Bison occidentalis Lucas, in Western Kansas," *American Geologist* 30 (1902): 313-15.

17. Samuel W. Williston and Handel T. Martin, "Some Pueblo Ruins in Scott County, Kansas," *Kansas Historical Collections* 6 (1900): 124-30; Handel T. Martin, "Further Notes on the Pueblo Ruins of Scott County," *University of Kansas Science Bulletin* 5, no. 2 (1909): 11-22; Wedel, *Kansas Archeology*, pp. 422-68.

18. Jacob V. Brower, *Quivera*, Memoirs of Explorations in the Basin of the Mississippi, vol. 1 (St. Paul, Minn.: H. L. Collins, 1898), *Harahey*, vol. 2 (1899), *Mandan*, vol. 8 (1904); Charles N. Gould, "The Timbered Mounds of the Kaw Reservation," *Transactions of the Kansas Academy of Science* 15 (1898): 78-79; idem, "Additional Notes on the Timbered Mounds of the Kaw Reservation," *Transactions of the Kansas Academy of Science* 16 (1899): 282.

19. Otis T. Mason, "Influence of Environment upon Human Industries or Arts," *Smithsonian Institution Annual Report for 1895* (Washington, D.C., 1896), pp. 639-65; Clark Wissler, "Diffusion of Culture in the Plains of North America," *Proceedings of the International Congress of Americanists*, 15th session, vol. 2 (1907), pp. 53-63; idem, "The Influence of the Horse in the Development of Plains Culture," *American Anthropologist* 16, no. 1 (1914): 1-25.

20. Cyrus Thomas, *Introduction to the Study of North American Archaeology* (Cincinnati: Robert Clarke, 1898); William J. McGee and Cyrus Thomas, *Prehistoric North America*, The History of North America, ed. by F. N. Thorpe, vol. 19 (Philadelphia: George Barrie & Sons, 1905).

21. Clark Wissler, "Diffusion of Culture"; idem, "Influence of the Horse," p. 11; idem, "Material Cultures of the North American Indians," *American Anthropologist* 16, no. 3 (1914): 473, 485-86.

22. George A. Dorsey, *Aboriginal Quartzite Quarry in Eastern Wyoming*, Field Columbian

Museum Anthropological Series, vol. 2, no. 4, Publication no. 51 (Chicago, 1900); William H. Holmes, "Flint Implements and Fossil Remains from a Sulphur Spring at Afton, Indian Territory," *U.S. National Museum Report for 1901* (Washington, D.C., 1903), pp. 237-52; Stephen C. Simms, "A Wheel-Shaped Stone Monument in Wyoming," *American Anthropologist* 5, no. 1 (1903): 107-10; Wedel, *Kansas Archeology*, p. 90; Strong, *Nebraska Archeology*, p. 44; Newton H. Winchell, *A Consideration of the Paleoliths of Kansas*, Minnesota Historical Society Collections, vol. 16, pt. 1 (St. Paul, 1913); Wedel, *Kansas Archeology*, pp. 94, 538.

23. Waldo R. Wedel, *Environment and Native Subsistence Economies in the Central Great Plains*, Smithsonian Miscellaneous Collections, vol. 101, no. 3 (Washington, D.C., 1941).

24. Gerard Fowke, *Antiquities of Central and Southeastern Missouri*, Smithsonian Institution, Bureau of American Ethnology Bulletin no. 76 (Washington, D.C., 1910).

25. George F. Will and Herbert J. Spinden, *The Mandans*, Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, vol. 3, no. 4 (Cambridge, Mass., 1906); George F. Will, *Archeology of the Missouri Valley*, American Museum of Natural History Anthropological Papers, vol. 22, pt. 6 (New York, 1924).

26. Henry Montgomery, "Remains of Prehistoric Man in the Dakotas," *American Anthropologist* 8, no. 4 (1906): 640-51; idem, "Prehistoric Man in Manitoba and Saskatchewan," *American Anthropologist* 10, no. 1 (1908): 33-40; K. Capes, *The W. B. Nickerson Survey and Excavations, 1912-15, of the Southern Manitoba Mounds Region*, National Museum of Canada Anthropology Papers, no. 4 (Ottawa: Department of Northern Affairs and National Resources, 1963).

27. Ales Hrdlicka, *Skeletal Remains Suggesting or Attributed to Early Man in North America*, Smithsonian Institution, Bureau of American Ethnology Bulletin no. 33 (Washington, D.C., 1907); idem, *Report on Skeletal Material from Missouri Mounds*, Smithsonian Institution, Bureau of American Ethnology Bulletin no. 37 (Washington, D.C., 1910); C. W. M. Poynter, "A Study of Nebraska Crania," *American Anthropologist*, n.s. 17, no. 3 (1915): 509-24.

28. William H. Holmes, "Areas of American Culture Characterization Tentatively Outlined As an Aid in the Study of the Antiquities," *American Anthropologist* 16, no. 3 (1914): 413-46; Waldo R. Wedel, *Prehistoric Man on the Great Plains* (Norman: University of Oklahoma Press, 1961), fig. 1; Harlan I. Smith, "An Unknown Field in American Archeology," *American Geographical Society Bulletin* 42 (1910): 511-20.

29. David M. Gradwohl, *Prehistoric Villages in Eastern Nebraska*, Nebraska State Historical Society Publications in Anthropology, no. 4 (Lincoln, 1969); Fred H. Sterns, "Ancient Lodge Sites on the Missouri in Nebraska," *American Anthropologist*, n.s. 16, no. 1 (1914): 135-37; Fred H. Sterns, "A Stratification of Cultures in Eastern Nebraska," *American Anthropologist*, n.s. 17, no. 1 (1915): 121-27.

30. Fred H. Sterns, "The Peopling of the American Plains by the Indians," *Scientific American Supplement* 85 (1918): 234-35.

31. James E. Pearce, "The Present Status of Texas Archeology," *Bulletin of the Texas Archeological and Paleontological Society* 4 (1932): 44-54. From 1922 to 1929 the attention of many paleontologists and anthropologists was drawn to *Hesperopithecus*, the misidentified western ape, and supposed artifacts from the Pliocene of Nebraska. See Strong, *Nebraska Archeology*, pp. 51-55.

32. See reports on this work by Etienne B. Renaud in a series of mimeographed reports issued by the University of Denver, Department of Anthropology, during the 1930s (ca. 1932-38); George F. Will, "A Resume of North Dakota Archaeology," *North Dakota Historical Quarterly* 7 (1933): 150-61.

33. William E. Myer, *Archeological Fieldwork in South Dakota and Missouri*, Smithsonian Miscellaneous Collections, vol. 72, no. 15 (Washington, D.C., 1922), pp. 117-25; Waldo R. Wedel, *Archeological Materials from the Vicinity of Mobridge, South Dakota*, Smithsonian Institution, Bureau of American Ethnology Bulletin no. 157, Anthropological Papers no. 45 (Washington, D.C., 1955), pp. 69-188.

34. Cyrus N. Ray, "A Differentiation of the Prehistoric Cultures of the Abilene Section," *Bulletin of the Texas Archeological and Paleon-*

tological Society 1 (1929): 7-22; Cyrus N. Ray, "Report on Some Recent Archeological Researches in the Abilene Section," *Bulletin of the Texas Archeological and Paleontological Society* 2 (1930): 45-58; Edwin B. Sayles, *An Archeological Survey of Texas*, Medallion Papers no. 17 (Globe, Arizona, 1935).

35. Elias H. Sellards, "Early Man in America: Index to Localities and Selected Bibliography," *Bulletin of the Geological Society of America* 51 (1940): 373-432; H. Marie Wormington, *Ancient Man in North America*, 4th ed. (Denver: Denver Museum of Natural History, 1957); Frank H. H. Roberts, Jr., *A Folsom Complex: Preliminary Report on Investigations at the Lindenmeier Site in Northern Colorado*, Smithsonian Miscellaneous Collections, vol. 94, no. 4 (Washington, D.C., 1935); Edwin N. Wilmsen and Frank H. H. Roberts, Jr., *Lindenmeier, 1934-1974, Concluding Report on Investigations*, Smithsonian Contributions to Anthropology, no. 24 (Washington, D.C., 1978); Jesse D. Figgins, "A Further Contribution to the Antiquity of Man in America," *Proceedings of the Colorado Museum of Natural History* 12, no. 2 (1933).

36. Etienne B. Renaud, "Prehistoric Cultures of the Cimarron Valley, Northeastern New Mexico, and Western Oklahoma," *Proceedings of the Colorado Scientific Society* 12, no. 5 (1930): 113-50; Robert E. Bell and David A. Baerreis, "A Survey of Oklahoma Archaeology," *Bulletin of the Texas Archeological and Paleontological Society* 22 (1951).

37. T. L. Eyerly, "Archaeological Work in the Texas Panhandle," *Bulletin of the Canadian Academy* (1907); William C. Holden, "Some Recent Explorations and Excavations in Northwest Texas," *Bulletin of the Texas Archeological and Paleontological Society* 1 (1929): 23-25; Floyd V. Studer, "Archeological Survey of the North Panhandle of Texas," *Bulletin of the Texas Archeological and Paleontological Society* 3 (1931): 70-75; Christopher Lintz, "The Southwestern Periphery of the Plains Caddoan Area," *Nebraska History* 60, no. 2 (1979): 161-82.

38. Charles R. Keyes, "Progress of the Archeological Survey of Iowa," *Iowa Journal of History and Politics* 23 (1925): 339-52; idem, "Antiquities of the Upper Iowa," *Palimpsest* 15 (1934): 321-54; Mildred Mott, "The

Relation of Historic Indian Tribes to Archeological Manifestations in Iowa," *Iowa Journal of History and Politics* 36 (1938): 227-304.

39. Waldo R. Wedel, *An Introduction to Pawnee Archeology*, Smithsonian Institution, Bureau of American Ethnology Bulletin no. 112 (Washington, D.C., 1936), p. 49, figs. 3, 4; William D. Strong, "An Archeological Reconnaissance in the Missouri Valley," *Explorations and Field-Work of the Smithsonian Institution in 1931* (Washington, D.C., 1932), fig. 146; John L. Champe, "The Sweetwater Culture Complex," in *Chapters in Nebraska Archaeology*, ed. by Earl H. Bell (Lincoln: University of Nebraska, 1936), figs. 3-5; John Hotopp, "Glenwood: A Contemporary View," in *The Central Plains Tradition: Internal Development and External Relationships*, ed. by Donald J. Blakeslee (Iowa City: Office of the State Archaeologist, University of Iowa, 1978), pp. 109-33.

40. Muriel H. Wright, "Pioneer Historian and Archeologist of the State of Oklahoma," *Chronicles of Oklahoma* 24 (1946): 394-413; Warren K. Moorehead, *Archeology of the Arkansas River Valley* (New Haven, Conn.: Yale University Press, 1931).

41. William D. Strong, "The Plains Culture Area in the Light of Archeology," *American Anthropologist* 35, no. 2 (1933): 271-87; idem, *Nebraska Archeology*; Walter Prescott Webb, *The Great Plains* (Boston: Ginn, 1931); Frederick E. Clements and Ralph W. Chaney, *Environment and Life in the Great Plains*, rev. ed., Carnegie Institution of Washington, Supplementary Publication no. 24 (Washington, D.C., 1937); Frederick E. Clements, "Climatic Cycles and Human Populations in the Great Plains," *Scientific Monthly* 47, no. 3 (1938): 193-210; Great Plains Committee, *The Future of the Great Plains* (Washington, D.C., 1936); Alfred L. Kroeber, *Cultural and Natural Areas of Native North America*, University of California Publications in American Archaeology and Ethnology, vol. 38 (Berkeley, 1939).

42. William Mulloy, *The Hagen Site: A Prehistoric Village on the Lower Yellowstone*, University of Montana Publications in the Social Sciences, no. 1 (Missoula, 1942); idem, *A Preliminary Historical Outline for the Northwestern Plains*, University of Wyoming Publi-

cations, vol. 22, nos. 1 and 2 (Laramie, 1958); William D. Strong, *From History to Prehistory in the Northern Great Plains*, Smithsonian Miscellaneous Collections, vol. 100 (Washington, D.C., 1940), pp. 353-94; Albert C. Spaulding, *The Arzberger Site, Hughes County, South Dakota*, University of Michigan Museum of Anthropology, Occasional Contribution no. 16 (Ann Arbor, 1956); W. Raymond Wood, *Biest-erfeldt: A Post-Contact Coalescent Site on the Northeastern Plains*, Smithsonian Contributions to Anthropology, no. 15 (Washington, D.C., 1971); Paul Cooper, "The Archeological Exploration of 1938," *Nebraska History* 20 (1940): 94-151; A. T. Hill and Marvin F. Kivett, "Woodland-like Manifestations in Nebraska," *Nebraska History* 21 (1941): 147-243; A. T. Hill and George Metcalf, "A Site of the Dismal River Aspect in Chase County, Nebraska," *Nebraska History* 22 (1942): 158-226.

43. A. T. Hill and Paul Cooper, "The Archeological Campaign of 1937," *Nebraska History* 18 (1938): 243-359; Earl H. Bell, *Chapters in Nebraska Archaeology* (Lincoln: University of Nebraska, 1936); John L. Champe, *Ash Hollow Cave*, University of Nebraska Studies, n.s., no. 1 (Lincoln, 1946); Marvin F. Kivett, *Woodland Sites in Nebraska*, Nebraska State Historical Society Publications in Anthropology no. 1 (Lincoln, 1952).

44. Waldo R. Wedel, *Archeological Investigations in Platte and Clay Counties, Missouri*, Smithsonian Institution, U.S. National Museum Bulletin no. 183 (Washington, D.C., 1943); idem, *Kansas Archeology*.

45. Waldo R. Wedel, *Environment and Native Subsistence Economies in the Central Great Plains*, pp. 1-29; idem, "Prehistory and Environment in the Central Great Plains," *Transactions of the Kansas Academy of Science* 50, no. 1 (1947): 1-18; idem, "Some Aspects of Human Ecology in the Central Plains," *American Anthropologist* 55 (1953): 499-514; idem, "The High Plains and Their Utilization by the Indian," *American Antiquity* 29 (1963): 1-16.

46. David A. Baerreis and Reid A. Bryson, "Historical Climatology and the Southern Plains: A Preliminary Statement," *Bulletin of the Oklahoma Anthropological Society* 13 (1965): 69-75; Reid A. Bryson, David A.

Baerreis, and Wayne M. Wendland, "The Character of Late-glacial and Post-glacial Climatic Changes," in *Pleistocene and Recent Environments of the Central Great Plains*, ed. by Wakefield Dort, Jr., and J. Knox Jones, Jr. (Lawrence: University Press of Kansas, 1970), pp. 53-74; Fred Wendorf and James Hester, "Early Man's Utilization of the Great Plains Environment," *American Antiquity* 28 (1962): 159-71; Donald J. Lehmer, "Climate and Culture in the Middle Missouri Valley" in *Pleistocene and Recent Environments*, pp. 117-29; Bryan Reeves, "Culture Dynamics in the Manitoba Grasslands, 1000 B.C.-A.D. 700" in *Ten Thousand Years: Archeology in Manitoba*, ed. by Walter Hlady (Winnipeg: Manitoba Archeological Society, 1970), pp. 153-74; Peter W. Bowman, "Weather in the West Central Plains and its Significance in Archeology," *Kansas Anthropological Association Newsletter* 18, nos. 1-2 (1972): 1-32.

47. Alex D. Krieger, *Culture Complexes and Chronology in Northern Texas*, University of Texas Publication no. 4640 (Austin, 1946); Dee Ann Suhm, Alex D. Krieger, and Edward B. Jelks, "An Introductory Handbook of Texas Archeology," *Bulletin of the Texas Archeological Society* 25 (1954); Robert E. Bell, *Oklahoma Archaeology: An Annotated Bibliography* (Norman: University of Oklahoma Press, 1969); Thomas N. Campbell, "Texas Archeology: A Guide to the Literature," *Bulletin of the Texas Archeological Society* 29 (1958): 177-254.

48. Frederick Johnson, "Archeology in an Emergency," *Science* 152 (1966): 1592-97; Waldo R. Wedel, "Salvage Archeology in the Missouri River Basin," *Science* 156 (1967): 589-97; Frank H. H. Roberts, Jr., "River Basin Surveys: The First Five Years of the Inter-Agency Archeological and Paleontological Salvage Programs," *Smithsonian Institution Annual Report for 1951* (Washington, D.C., 1952), pp. 351-83.

49. Donald J. Lehmer, *Introduction to Middle Missouri Archeology*, U.S. Department of the Interior, National Park Service, Anthropological Papers no. 1 (Washington, D.C., 1971).

50. Waldo R. Wedel, "The Use of Earth-Moving Machinery in Archeological Excavations," in *Essays on Archeological Methods*, ed. by James B. Griffin, University of Michigan

Museum of Anthropology, Anthropological Papers no. 8 (Ann Arbor, 1951), pp. 17-28.

51. Leslie A. White, ed., *Lewis Henry Morgan: The Indian Journals 1859-1862* (Ann Arbor: University of Michigan Press, 1959); Alfred L. Kroeber, *Native Culture of the Southwest*, University of California Publications in American Archaeology and Ethnology, vol. 23, no. 9 (Berkeley, 1928), pp. 394-95; Alfred L. Kroeber, *Anthropology*, rev. ed. (New York: Harcourt, Brace & Co., 1948), p. 823.

52. Robert H. Lowie, "Reflections on the Plains Indians," *Anthropological Quarterly* 28, no. 2 (1955): 63-86; Wedel, *Prehistoric Man on the Great Plains*, pp. 297-306.

53. Symmes C. Oliver, *Ecology and Cultural Continuity as Contributing Factors in the Social Organization of the Plains Indians*, University of California Publications in American Archaeology and Ethnology, vol. 48 (Berkeley, 1962).

54. Roland B. Dixon, "Some Aspects of North American Archaeology," *American Anthropologist* 15 (1913): 549-77; Waldo R. Wedel, *An Introduction to Pawnee Archeology*, Smithsonian Institution, Bureau of American Ethnology Bulletin no. 112 (Washington, D.C., 1936); Roger T. Grange, *Pawnee and Lower Loup Pottery*, Nebraska State Historical Society Publications in Anthropology no. 3 (Lincoln, 1968); Donald J. Lehmer and David T. Jones, *Arikara Archeology: The Bad River Phase*, Smithsonian Institution River Basin Surveys Publications in Salvage Archeology no. 7 (Washington, D.C., 1968); W. Raymond Wood, *An Interpretation of Mandan Culture History*, Smithsonian Institution, Bureau of American Ethnology Bulletin no. 198 (Washington, D.C., 1967); James H. Gunnerson, *An Introduction to Plains Apache Archeology: The Dismal River Aspect*, Smithsonian Institution, Bureau of American Ethnology Bulletin no. 173, Anthropological Papers no. 58 (Washington, D.C., 1960), pp. 130-260; Mildred Mott, "The Relation of Historic Indian Tribes to Archaeological Manifestations in Iowa"; W. Raymond Wood, *Biesterfeldt: A Post-Contact Coalescent Site on the Northeastern Plains*; Brewton Berry, Carl H. Chapman, and John Mack, "Archeological Remains of the Osage," *American Antiquity* 10 (1944): 1-11; Carl H. Chapman, "Culture Sequence in the

Lower Missouri Valley," in *Archeology of the Eastern United States*, ed. by James B. Griffin (Chicago: University of Chicago Press, 1952), pp. 139-51; Mildred Mott Wedel and Raymond J. DeMallie, "The Ethnohistorical Approach in Plains Area Studies," in *Anthropology on the Great Plains*, ed. by W. Raymond Wood and Margot Liberty (Lincoln: University of Nebraska Press, 1980), pp. 110-28.

55. Waldo R. Wedel, *Prehistoric Man on the Great Plains*; idem, "The Prehistoric Plains," in *Ancient Native Americans*, ed. by Jesse D. Jennings (San Francisco: W. H. Freeman, 1978), pp. 183-219.

56. Gordon R. Willey and Philip Phillips, *Method and Theory in American Archaeology* (Chicago: University of Chicago Press, 1958); David M. Gradwohl, *Prehistoric Villages in Eastern Nebraska*, pp. 35-56; Donald J. Blakeslee and Warren W. Caldwell, *The Nebraska*

Phase: An Appraisal (Lincoln: J. & L. Reprint Co., 1979).

57. W. Raymond Wood, ed., "Two House Sites in the Central Plains: An Experiment in Archaeology," *Plains Anthropologist* 14, no. 44, pt. 2, memoir 6 (1969); Richard A. Krause, *The Leavenworth Site: Archaeology of an Historic Arikara Community*, University of Kansas Publications in Anthropology, no. 3 (Lawrence, 1972).

58. George C. Frison, *Prehistoric Hunters of the High Plains* (New York: Academic Press, 1978); Joe Ben Wheat, *The Olsen-Chubbock Site: A Paleo-Indian Bison Kill*, *Memoirs of the Society for American Archaeology*, no. 26 (1972); Leslie B. Davis and Michael Wilson, "Bison Procurement and Utilization: A Symposium," *Plains Anthropologist* 23, no. 82, pt. 2, memoir 14 (1978).