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Article Title: The Missouri Basin Archeological Survey

Full Citation: Waldo R Wedel, "The Missouri Basin Archeological Survey," *Nebraska History* 28 (1947): 32-40

URL of article: <http://www.nebraskahistory.org/publish/publicat/history/full-text/NH1947MissouriSurvey.pdf>

Date: 5/08/2017

Article Summary: The prehistory of the Missouri Basin is part of a larger story of man's evolution and cultural development. The earliest inhabitants were hunting and gathering peoples who grew no crops and made no pottery. The introduction of agriculture some centuries before the European conquest led to the diversification of cultures in the area.

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Cataloging Information:

Cultures in the Missouri Basin: Folsom, Yuma, Woodland, Upper Republican, Nebraska, Mandan, Arikara

Keywords: Corps of Engineers, Bureau of Reclamation, National Park Service, Smithsonian Institution, University of Nebraska

The Missouri Basin Archeological Survey¹

Waldo R. Wedel

Before discussing the Missouri River phase of the wide-spread River Basin Surveys, it may be well to state briefly what archeology is, what it seeks to do, and how it proceeds. Archeology is much more than the collecting of arrowheads, potsherds, and bones, or the putting together of broken relics in the laboratory. It is not geology or fossil-hunting, though geological and paleontological considerations inevitably enter into certain aspects of archeological research. Archeology may be defined as the reconstruction of the social history of man thru a study of his cultural remains. If archeologists seem extraordinarily absorbed in counting pottery fragments or in measuring and describing bits of stone or bone, it is because those odds and ends are usually the principal surviving clues to the identity, mode of life, and social activities of the preliterate peoples who made them.

In proceeding about his work, the archeologist assumes that wherever man has carried on his domestic and community activities for any length of time, some trace of his former presence will be left. Under favorable conditions, the refuse deposits, discarded or lost implements and utensils, the house remains—often even the bones of the people themselves—will be preserved indefinitely. If these deposits were laid down over a sufficiently long period of time, the products of human workmanship may undergo changes from the bottom to the top. Sometimes, after these village and camp sites had been abandoned for a time and partially covered over by natural agencies,

¹Read at the annual meeting of the Nebraska State Historical Society in Lincoln, Nebr., on October 5, 1946; published by permission of the Secretary of the Smithsonian Institution.

another people with different types of artifacts, different houses, and perhaps even a different physical appearance, re-occupied the same location. Their refuse has left a second layer, perhaps separated from the earlier by a stratum of wind-blown or water-deposited soil. This re-occupation of a given spot by different peoples may be repeated more than once, as we know has been the case at several places in Nebraska, Kansas, and adjoining states. As with geological strata, so here we may assume in the absence of evidence to the contrary, that the topmost layer was put down last and that the successively deeper layers are of progressively greater age. Through careful excavation of such stratified sites we may learn the order in which different, often unrelated, tribes successively inhabited a particular locality. There are, to be sure, other less direct devices for arriving at an understanding of the succession of peoples.

In the Great Plains, which comprise a very considerable section of the Missouri Basin, archeological research has been carried on intermittently for roughly half a century. Within the past two decades especially it has become obvious that the pre-white occupation of the region has covered a very long period of time—a period to be measured possibly in terms of thousands of years. There is not time here, nor is this the place, to recount the findings of systematic archeology or to discuss the various interpretations placed on those findings. At the same time it may be helpful to outline briefly what we know, or think we know, of prehistory in the region.

Present evidence indicates that the earliest inhabitants of the Great Plains were hunting and gathering peoples, who grew no domestic plants and made no pottery. Their origin and physical appearance can only be guessed at. From the nature of their known campsites, it may be surmised that they lived in small bands which roamed from place to place as seasonal conditions or the needs of the moment dictated. It may be supposed also that their hunting methods, skin-working techniques, and other practices paralleled closely those observed by the first Spaniards to visit the hunting tribes of the Plains in the 16th century.

Their remains have been found principally in and immediately east of the High Plains, in a region at present characterized by low rainfall and sparse vegetation. Some of these peoples evidently knew the mammoth and now extinct species of bison and other large game. From the locality in New Mexico where their distinctive form of projectile points was first identified, they are commonly termed the Folsom culture. To a somewhat later period evidently belong the artifacts designated as Yuma. How long these various pre-pottery-making peoples held the Plains we do not know, nor can we say what their relationship was to later groups.

Still undetermined is the time when the cultivation of corn and beans and the making of pottery began in the Great Plains. Without question, it was some centuries prior to the European conquest. The introduction of agriculture encouraged a more settled mode of life, the establishment of semi-permanent villages, and ultimately a marked diversification of cultures. The archeologist, working partly through stratigraphy and partly by other more devious means, now recognizes a succession of these semi-sedentary cultures. Widespread throughout the Plains area, and apparently representing the earliest pottery-makers in the region, are the Woodland remains. Later, came the still more sedentary pit-house dwellers known in the Central Plains as the Upper Republican and Nebraska Cultures—well-defined horizons whose exact counterparts in the Upper Missouri valley remain to be determined. It is the remains from these periods, mostly believed to date after *ca.* 1000 A.D., that are found in such relative profusion on most of the arable stream valleys of Nebraska and neighboring states. From the abundance and character of their village sites, we conclude that they were populous groups, that they dwelt in comparative peace over a long period of time, that they had partially solved the problem of living together in harmony, and that they had learned a degree of control over the local environment. It appears likely, at the same time, that to some extent the story of successive occupancies of the region may reflect the uncertainties

of the environment. The relationships of the various recognized prehistoric peoples to such historic groups as the Pawnee, Arikara, and their Siouan contemporaries is still obscure, but there is no reason to doubt that systematic archeology will some day clarify this problem. At the moment, it is the so-called village tribes of the arable eastern plains whose antecedents seem best known, but even here the remaining problems are legion. In the semi-arid western sections the data on prehistory are tantalizingly scattered and fragmentary.

The Missouri River Basin comprises an area of nearly 530,000 square miles—approximately one-sixth the total land area of the continental United States. From its source at Three Forks, Montana, the Missouri flows nearly 2,500 miles in a general easterly and southerly direction through or along seven states. Included in its drainage basin in the United States is all of the state of Nebraska and portions of the states of Montana, Wyoming, North Dakota, South Dakota, Minnesota, Colorado, Iowa, Kansas, and Missouri. There is no need at this time to dwell on the wide diversity of terrain, climate, native fauna, and flora of this enormous region, nor to press the point that the archeological remains likewise show marked and significant variation from one section to another.

Within the Missouri Basin, present plans of the Corps of Engineers and the Bureau of Reclamation call for the eventual construction of upwards of 100 dams and reservoirs, many of them with power and irrigation as well as silt and flood control facilities. Most of these projects are designed for the tributary streams, but with five huge dams and two-thirds of the total reservoir capacity proposed for the mainstem of the Missouri between Yankton, South Dakota, and the mouth of Yellowstone River. The aggregate area to be flooded is small in proportion to the total valley area, but with dams ranging up to 200 feet in height above stream bed, it is evident that considerable stretches of some of the valleys selected will be inundated.

It has been estimated, probably conservatively, that at least 80% of the archeological remains in the United States

occur along the banks of rivers and creeks. In the Missouri Basin, it is already evident that the townsites, camp grounds, burial places, pictographs, and other aboriginal remains occur mostly in the stream valleys near water, wood, tillable soil, and cover for hunting. Scores of large townsites, some numbering hundreds of house ruins and evidently with populations once counted in the thousands, lie along the main course of the Missouri throughout North and South Dakota. Many of these are situated on benches and terraces 30 to 75 feet above normal stream level and seem certain to disappear beneath the rising waters of the projected reservoirs. Such tributary projects as the Osceola in Missouri, Tuttle Creek in Kansas, Harlan County, Davis Creek, and Boelus in Nebraska, to mention only a few of those in localities whose archeology is partially known, will submerge additional unstudied historic and prehistoric sites. The smaller reservoirs in Kansas, Nebraska, Wyoming, Montana, and other westerly headwater localities will be in a region that, tho semi-arid, is disclosing an increasing number of campsites belonging to early man—the Folsom and other paleo-Indian groups. Here, too, paleontological deposits of importance are in danger of flooding.

The ancient occupants of these diverse localities and periods have left us no written records of their history and activities. Their habitation and burial sites, with such objects of everyday and special use as may have survived passage of the centuries are the sole documents from which scientists may hope to reconstruct the story of man's centuries-long effort to dwell in the varied and often trying environment of the Missouri Basin.

At the request of the Bureau of Reclamation and the Corps of Engineers, the National Park Service has undertaken a survey of the recreational opportunities that may result from creation of multi-purpose reservoirs throughout the United States. Further, in recognition of the fact that numerous archeological and paleontological sites will be destroyed, the National Park Service and the Smithsonian Institution have entered into a memorandum of understanding. In accord with this agreement, the National

Park Service in course of its recreational and historical studies will inform the Smithsonian Institution of the locations of all proposed dams and reservoirs; and the Smithsonian will advise the National Park Service as to the number and importance of the known archeological and paleontological sites located within such reservoir areas and will recommend such surveys in the field as seem indicated. This scientific program, like the river development plan, is of nation-wide scope. The Missouri Valley project is the first of the full-scale River Basin Surveys to be undertaken by the Smithsonian under this cooperative arrangement.

The field office from which the Missouri Valley archeological survey operates is currently located at the Laboratory of Anthropology of the University of Nebraska. Its professional staff includes six full-time archeologists, and plans are under consideration for adding a paleontologist. This staff has been set up in accord with Civil Service Commission procedure. It will engage in fieldwork during the summer and in laboratory research and preparation of reports during the winter. Through these reports, both technical and non-technical, our findings and interpretations will be made available to the interested public. The specimens collected will be divided after they have been studied, with representative collections of type pieces going to the U. S. National Museum; another type series will be placed in Recreation Area museums where such are established; and the remaining materials will be deposited in various established state and local institutions. The basic records of the work will be permanently filed at the Smithsonian Institution, and the completed reports will be published in one of the regular Smithsonian publication series.

Actual fieldwork by the Survey began early in August, of this year, with preliminary investigations at 28 top-priority Bureau of Reclamation projects and five Corps of Engineers units. In each reservoir area, project engineers, surveyors, and other personnel were consulted, and the area was then searched as thoroughly as the available time permitted. Because this work was carried on so late

in the season, maturing crops and grass cover made surface-collecting particularly difficult. It is to be expected that more leisurely surveys, made at a more favorable time of year, will disclose many additional sites. The work of this initial survey, it should be added, has been greatly facilitated by the splendid cooperation of state universities, historical societies, and other interested agencies and personnel in Nebraska and throughout the Basin generally.

Despite the relatively short period of approximately eight weeks spent on the initial survey and the time consumed in traveling a total of about 13,000 miles, it is already apparent that an enormous task is before us. No less than 170 sites were located and recorded, some of them already partially destroyed by construction work. They include stone "tipi" rings and caves throughout Wyoming, Montana, and the Dakotas; artifact-bearing strata several feet beneath the present land surface, exposed by stream-cutting; pit-house villages in Kansas, Nebraska, and the Dakotas, probably attributable to semi-sedentary agricultural peoples; mounds and earthen enclosures in North Dakota; and pictographs in various localities.

Not included in the above count, are several hundred village sites, reported to, but not yet visited by, the Survey, along the mainstem in the Dakotas. Here are some of the largest, best preserved, and most impressive Indian villages in the entire region. They contain much of the story of the development of Mandan and Arikara culture. Their ultimate destruction will efface forever a substantial part of the basic material of pre-history in what has been termed one of the four major archeological areas north of Mexico.

The locating of sites is only the first step; actual excavation is necessary to determine the identity of the people who left the remains and the way they lived. The immediate problem, therefore, is to evaluate the findings of the preliminary survey, and to determine which sites should be further tested and actually excavated. Since we cannot hope to excavate all of the sites that will be destroyed, it becomes necessary to limit our excavation pro-

gram to the most promising, in the hope that time may also be available for sampling some of the less promising. In short, we must strike a balance between the work that *ought* to be done and the work for which there may be time and means.

The present operations of the Survey are a race against time. The work can be considered finished only when the rising waters finally submerge the archeological and paleontological sites, or when construction of dams, spillways, and laterals destroys them. The scale of the investigations will be limited only by the means and personnel available.

To a question frequently asked—why is the federal government doing this work?—there are several answers. In the first place, the scientific problems, like the overall plans of river valley development, cut across state lines. Unlike many of their sister states, some of those in the Missouri Basin have been slow to develop their archeological and other scientific assets; few, if any, have the trained personnel and resources demanded by the great task ahead. It is the full intention of the Smithsonian Institution not to attempt the job single-handed, but rather to enlist the cooperation of State and local organizations in the archeological and paleontological survey program and to utilize their advice and help wherever possible. To insure the fullest coordination of effort on a regional and also nation-wide basis, it is essential that central control be established in a single agency of the government—a responsibility that now rests by agreement with the Smithsonian Institution.

Again, the archeological, historical, and other scientific materials in the Basin are regarded as of much more than merely local or state interest. Many sites contain evidence of a succession of prehistoric floods, of silting and soil erosion in the river valleys, and of probable climatic fluctuations, and they should throw light on modern problems arising from similar phenomena. The archeological record of land use, of development of corn and other domestic food crops, and of shifting population distribution under varying environmental and economic conditions may add

basic information to our understanding of modern settlement problems. The human skeletal material taken from archeological sites will furnish medical science with a record of prehistoric diseases as evidenced in bone pathology. Thus, as the welfare of the present-day residents of the Basin is interwoven with that of people far beyond its limits, so its prehistory is part of a larger story of man's evolution and cultural development. Lacking additional systematic data on the background of native man in the Missouri Basin we cannot hope to complete the story of the people that preceded the white man in America. The archeological, historical, and paleontological resources of the Basin, in short, are national assets. It is the salvage through cooperative endeavor of such of these irreplaceable assets as time and means permit that comprises the work of the River Basin Surveys.