

THE ARCHAEOLOGY of the RED RIVER VALLEY

Michael G. Michlovic



JUST OVER 25 years ago, archaeologist Elden Johnson reviewed the prehistory of the Red River Valley in these pages and synthesized the work in this region of Theodore H. Lewis, Albert E. Jenks, Lloyd A. Wilford, and his own survey of the Lake Agassiz basin, begun in 1959. At that time, the valley was known archaeologically as the home of the Arvilla burials. These long, low mounds, usually found on the Lake Agassiz beach deposits defining the eastern side of the valley, are prehistoric cemeteries, no more than 1,500 years old. Johnson's prediction that more archaeological work in the area would reveal a significant prehistory is solidly supported by the findings of the last decade, which have revised in important ways our understanding of the Red River Valley within a larger prehistoric cultural framework. We know now about many more sites, where they are most likely to be found, how old they are, and what they mean. It appears that the Red River Valley was a heavily traveled crossroad linking the northern plains and the Upper Midwest.¹

¹ Elden Johnson, "The Prehistory of the Red River Valley," *Minnesota History* 38 (Dec., 1962): 157-165; Elden Johnson, *The Arvilla Complex* (St. Paul: Minnesota Historical Society [MHS], 1973). This paper is dedicated to Elden Johnson for his contributions to the archaeology of the Red River Valley and on the occasion of his retirement from the University of Minnesota. My special thanks to John Sherman for his invaluable editorial corrections and suggestions.

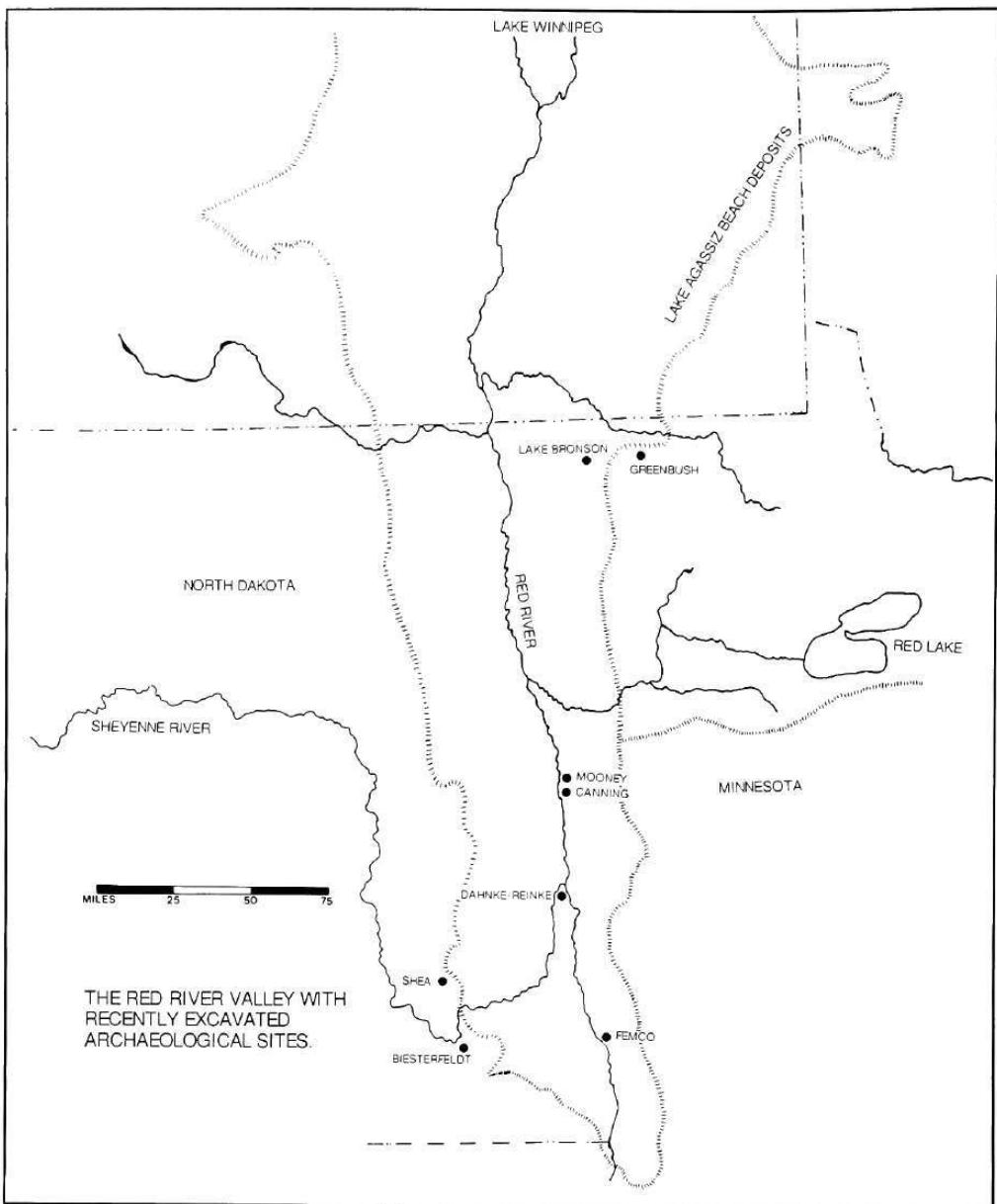
² Michael G. Michlovic, "The Red River Valley in the Prehistory of the Northern Plains," *Plains Anthropologist* 28 (Feb., 1983): 23-31.

³ James T. Teller and Lee Clayton, eds., *Glacial Lake Agassiz* (St. John's, Newfoundland: Geological Society of Canada, Memorial University, 1983).

In the 1970s and 1980s, archaeological work in the United States portion of the Red River area has been sponsored by many agencies and institutions, including the Minnesota Historical Society (1978, 1980, 1981, 1984), the Army Corps of Engineers (1983), the State Historical Society of North Dakota and the Heritage-Hjemkomst Interpretive Center of Moorhead (both 1986), and since 1976, Moorhead State University. Some of this work, especially that sponsored by state historical societies, has been survey or reconnaissance, aimed at discovering new sites and how they are patterned over the landscape. Beyond the surveys, archaeological excavation at seven sites has revealed how people lived, what they ate, where they obtained their necessities and, of course, how long ago they were in the region.²

The Red River Valley is not really a river valley, since the landscape was not formed by the Red River but by sediments laid down 13,500 to 9,300 years ago by ancient Lake Agassiz. The beach deposits of this old lake roughly define the valley about 15 to 20 miles on either side of the Red River. These beaches are about the only surface features to be found in the region, as the interior of the valley is almost totally flat. (The Red flows northward to Lake Winnipeg along a gradient of only one foot per mile!) Because the thick, heavy, clay soils of the valley are unusually rich, the region is often referred to as a breadbasket. It produces, among other crops, sugar beets, small grains, sunflowers, beans, and potatoes.³

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Map by James Hopkins

Surveys have shown that prehistoric sites in the valley are abundant. Most of the 100 new ones found in the plowed fields of Wilkin, Clay, and Norman counties of Minnesota and Cass County of North Dakota are on the levee deposits of the Red River; extrapolating from this information, we might estimate about 1,000 on both sides of the Red between Breckenridge, Minnesota, and Winnipeg. Additional ones along the beach deposits of Lake Agassiz include the Arvilla burial mounds to which Wilford devoted so much of his attention in the early archaeological work in the valley. Almost no sites are found on the flat, open plain of old Lake Agassiz, which is not surprising because campsites in the open plain would have lacked both protection and resources. Reconnaissance in 1986 across the

lake basin southwest of Fargo turned up only one in the lake bottoms. Along the river, on the other hand, a mile-wide forest occupying all of the loops created by the meandering Red provided plenty of wood for fuel and building materials, seeds and berries for food, and a wide range of animals in the woods, like deer, raccoon, squirrel, beaver, and muskrat; furthermore, during the winter, bison probably sought shelter in these gallery woods. And the river itself held catfish, pike, and clams. It is, therefore, perfectly reasonable that most sites should be found nearby.⁴

⁴ Michael G. Michlovic, "Report on the Red River Archaeological Survey in Norman County, Minnesota," *Minnesota Archaeologist* 41 (Fall/Winter, 1982): 53–69, "Archaeo-

Prehistoric peoples' preference for living along the Red has been fortunate for archaeologists, since the river regularly inundates the area. Each time a torrent topped the rim of the river's trench and spread the slow-moving floodwaters over the levees, it left a layer of mud. Over the centuries, the Red River floods buried the prehistoric riverside camps, incidentally saving them for posterity. As a result, not only are there plenty of sites along the Red, but many are layered, or stratified, and contain the remnants of repeated occupations by prehistoric peoples. In a way, the Red's levees can be thought of as a long, winding layer cake of prehistory, with older sites buried more deeply in the levee deposits and more recent ones nearer the surface. Shallow sites, those within six to ten inches of the surface, are easy to find, requiring only a walk through a field, as plows have turned over the soil and scattered artifacts over the acres. Older sites buried more than a foot or so deep can only be discovered by digging one hole after another, most of which give up no clue of an early camp. Every once in a while, as repeated efforts force chance into the archaeologist's corner, a test hole strikes an early site. Dozens of surface sites are known in the valley, but only four buried occupations, or components, have been discovered to date.⁵

PREHISTORIC TIME in the Red River Valley is divided into periods that are used all over North America east of the Rockies and the desert southwest: Paleoindian, Archaic, Woodland, and Mississippian. (Normally, the Mississippian is not referred to in the Red River area as no sites from that era have been discovered.) The dates for these eras vary over the different geographic areas of North America, but in the Red River Valley, they may be dated as follows (in years ago): 10,000 to 7,000 for the Paleoindian; 7,000 to 2,000 for the Archaic; and 2,000 to 300 for the Woodland. There is some confusion regarding these periods, because many archaeologists refer to them as chronological spans *and* as cultural descriptions. Thus, the term *Woodland* denotes a time period *and* a level of

logical Survey and Test Excavations in Cass County, N.D., manuscript, 1987, on file at the State Historical Society of North Dakota, and "Archaeological Studies along the Upper Red River, Minnesota," manuscript, 1985, on file at MHS.

⁵ Michlovic, "Archaeological Survey . . . in Cass County."

⁶ Michael G. Michlovic, "Preliminary Report on the Archaeological Survey of Clay County, Minnesota," manuscript, 1979, on file at MHS.

⁷ David W. Nystuen and Leslie D. Peterson, *The Archaeological Salvage of the Greenbush "Borrow Pit" Site (21-RO-11)* (St. Paul: Minnesota Department of Highways and MHS, 1972); Stanley G. Saylor, "DhLb-1: Early Period Occupation Near Glacial Lake Agassiz, Southeast Manitoba," *Plains Anthropologist* 20 (Nov., 1975): 241-252.



PLANO, or late Paleoindian spear point found near Glyndon in Clay County

cultural development involving the production of pottery, mound construction, and, in some parts of the Upper Midwest, limited gardening of domesticated plants. Furthermore, it is important to realize that this prehistoric scenario is far from substantiated in the Red River area. Almost everything we know about prehistory pertains to the Woodland period. One or two possible Paleoindian and about the same number of Archaic sites have been excavated; very few from either of these early periods are known from survey. For practical purposes, then, it might be more appropriate to divide the prehistory of the valley into two parts—the first 8,000 years, which are practically unknown, and the last 1,000 years, which are better understood.

One Paleoindian surface site near Glyndon in Clay County included an Agate Basin point made from Knife River flint and covered with a thick patina, or weathering cortex, which indicates exposure on the surface for a long time. Elsewhere on the plains such artifacts are dated to around 9,000 years ago. A few other points like the Glyndon one occur in private collections, but these finds are without contextual information and the only apparent pattern to their occurrence is that none from the Paleoindian period have been found along the Red River.⁶

Two sites thought to belong to the later part of the Paleoindian period have been reported for the eastern Lake Agassiz beach deposits. Unfortunately, radiocarbon dates (C-14) were not obtained for either of them, and the diagnostic lanceolate-shaped points that define late Paleoindian culture were not adequately in evidence. One of these sites, near Greenbush in Roseau County, appears to have been a quarry where, from the beach deposits, Paleoindian people mined a poor-quality chert for making stone tools. Such a site, however, provides little information to use in reconstructing what these people ate, how long ago they lived, or precisely to which of the known Paleoindian cultural complexes they belonged.⁷

The problems with identifying Paleoindian sites in the valley are manifold. If any as old as 8,000 or 9,000 years exist, they would have been subject to plowing

and mixture with later materials on the open plain, because soil deposition on the Lake Agassiz bottomland is less than the depth of a plow furrow. Sites on the beach ridges very likely would have been destroyed by thousands of years of erosion. There may be deeply buried ones along the Red, but if there are, they are practically inaccessible because of the water table. Excavations four or five feet deep usually fill up with water; C-14 dates on wood charcoal and soil humus from these depths range only between 3,000 and 4,000 years ago. Presumably, it would be necessary to dig much deeper to get back to 9,000-year-old deposits that might contain Paleoindian artifacts.

Perhaps the Red itself may have destroyed such sites along the river. During the time known as the Altithermal (a climatic era that spans the late Paleoindian and early Archaic periods), the plains were hotter than they are today, so from about 7,000 to 4,500 years ago, the Red may have been much smaller than at present. Deep soil cores taken during construction work show that point bars were deposited as the river moved back and forth across its meander belt. Rather than building up its levees (and burying sites on its banks), the river was moving over and destroying them—and any sites existing there. Geomorphological work shows that the vertical buildup of the levees along at least some parts of the Red did not begin until about 4,500 years ago.⁸

Where can we look for Paleoindian sites then? One possibility is in the delta, or fan deposits, left by streams flowing off the beach ridges and onto the lake plain. Many prehistoric sites are near streams. If the Paleoindian camps were occasionally situated along streams dumping sediments as they flowed onto the Lake Agassiz bottomland, some traces of occupation may be buried in these alluvial fans, safely below the blades and tines of modern agricultural equipment. In 1986, in Cass County, North Dakota, a series of soil cores taken from some of these fans uncovered no artifacts but did show buried soil horizons reflecting old land surfaces that early prehistoric peoples might have lived on.

THE ARCHAIC period is defined by the presence of notched and stemmed spear points, usually two or more inches long, and by tools made of raw copper. We know a bit more about this period than the Paleoindian because of excavations at a remarkably well-preserved location known as the Canning site, near Hendrum in Norman County. This find is now on the National Register of Historic Places.⁹

At the Canning site there is a Woodland component that has been scattered by plowing. The Archaic portion on the levees of the Red is protected, however, by about three feet of flood sediment. This sediment itself tells a story about the valley, for it contains three buried



PORTION of the living floor exposed at the Canning site; faintly visible at left are the soil layers that reflect changing flood patterns of the Red River.

A-horizons, or topsoils. For the characteristic physical properties of topsoil to have developed, there must have been periods when the Red River did not flood as regularly as today. Thus we can speculate that between about 4,000 and 3,000 years ago—the radiocarbon dates on the Canning site—the Red must have been turning on and off, in a manner of speaking, as a result of significant droughts.¹⁰

We know from the Canning site that people were using the Red River gallery woods as a winter camp

⁸ Lawson Smith, "Geomorphological Investigation of the Mooney Site, 21 NR 29, Halstad, Minnesota," manuscript, n.d., on file at Moorhead State University.

⁹ Here and four paragraphs below, see Michael G. Michlovic, "The Archaeology of the Canning Site," *Minnesota Archaeologist* 45 (Spring/Summer, 1986): 3–36.

¹⁰ J. E. Foss *et al.*, "Pedologic Study of Archaeological Sites Along the Red River," in North Dakota Academy of Sciences, *Proceedings* 39 (1985): 51.

and were hunting bison. Such a reconstruction fits well with inferences about prehistoric land use in the valley based on our understanding of native peoples' needs and preferences, which included wood for fuel and building material, shelter from deadly prairie wind chills, and ready access to any game animals that might be found in the riverside woodlands. The presence of bison fetuses and the high percentage of bison cows at the site are evidence of winter occupation. Bison mate in late summer and calve in the spring, so that the fetus is developing in the winter months. Furthermore, during winter when forage is scarce, bulls often separate from the cows and young, leaving what is known as a cow herd. We even know the direction of the wind, since the fire hearths at the site are reddened on their west side.

Of the thousands of broken bison bones that are the primary remains at the Canning site, most are limb fragments that were evidently cut from the carcasses at a kill site and brought to this riverside camp for more complete processing—perhaps crushing or smashing to get at the nutritious and fat-rich marrow. From counting and sorting bones from different parts of the body, we know that at least 20 animals had been killed. Since less than 20 percent of the site was dug, there may well be many more still buried.

This was a camp where much bone processing was done. All of the stone tools were broken or badly worn from use. From the stone flakes found in the scattered debris, it is clear that tools were used, perhaps sharpened or reworked, but not made from scratch here. Spear points and scrapers are the most common tool types (about 20 of these altogether); others include knives and used flakes. Furthermore, there were about a dozen split and drilled beaver incisors, undoubtedly used as jewelry. Pottery sherds, which are ubiquitous at surface sites, were not found at this buried site. Pottery was a technology of the future.

ABOUT 2,000 YEARS AGO people in Minnesota began to make clay pots for cooking and storage. For archaeologists, the presence of pottery defines the Woodland period, the best-known prehistoric phase in

the Red River Valley. The relative abundance of physical evidence supports more precise reconstruction of life in this prehistoric era and invites educated speculation that could revise current thinking on the early Historic period in Minnesota.¹¹

People throughout prehistoric times, including the Woodland period, depended on bison. Wherever archaeologists find bones at a Red River Valley site, bison are among them, often in preponderance. At the Lake Bronson site in Kittson County, for example, bison bones were discovered in association with a ceramic style called Laurel. This site, dated to 1,800 years ago, is on the far eastern edge of the prairie, and the pottery is similar to that used around Rainy River. Bison were evidently a draw even for the eastern people of lake and forest country. Other animal remains recently found at Woodland components include deer, beaver, muskrat, squirrel, raccoon, pike, catfish, clam, and duck.¹²

We know much less about the plant foods these people ate but assume they included prairie turnip, groundnut and various other greens, seeds, and berries common on the prairie. At the Dahnke-Reinke site near the confluence of the Red and Sheyenne rivers just north of Fargo, recent excavations have turned up a valuable jumble of shells and charred seeds—including chokecherry, hackberry, amaranth, acorn, and hazelnut—from a hearth or ash dump. At this site, Robert G. Thompson of the University of Iowa is employing a promising new technique to identify plants.

LAKE BRONSON site, with two linear Arvilla mounds in center. Excavations saved part of the 1,500-year-old site from road construction.



¹¹ The Woodland period is also the time during which mound building became popular. Because of Minnesota statute 307.08, protecting all human burials, however, analyzing mound sites is no longer common; *Laws of Minnesota*, 1976, chapter 48, and 1980, chapter 457. Furthermore, most recent American archaeological research concentrates on how people lived, rather than on how they were buried.

¹² Scott F. Anfinson, Michael G. Michlovic, and Julie Stein, *The Lake Bronson Site (21KT1): A Multi-component Prehistoric Site on the Prairie-Woodland Border in Northwestern Minnesota* (St. Paul: Minnesota Archaeological Society, 1978).

Thompson has recovered small, opaline bodies from plants, called phytoliths, embedded in the burnt encrustations inside of ceramic vessels. Through electron microscopy he has observed and tentatively identified some of these phytoliths as *Cyperus*, a sedgelike plant that lives in wet areas, for example, on river banks or near sloughs.¹³

By adding these finds up we will eventually be able to outline the types of food eaten and, perhaps more significantly, infer how people used the Red River region—during which seasons they lived there, which habitats they used the most, how varied their diet was, and whether their adaptation to the prairie area was significantly different from prehistoric people on other parts of the prairie.

The stone tools and pottery sherds from Woodland sites tell an important story as well. Sites along the Red River often contain a style of cord-roughened pottery tempered with shell called Sandy Lake, a well-known product of the late prehistoric period in central Minnesota. Oddly enough, on the eastern Lake Agassiz beach ridges, we usually find another, readily distinguishable ceramic ware called Blackduck, also common from central Minnesota northward into Manitoba and Ontario. Does this variety reflect some ancient cultural boundary dividing the valley between two groups? Or

is this apparent pattern merely due to an inadequate survey of the area? Recent excavations at the Mooney site near Halstad and at the Femco site north of Breckenridge discovered Red River ware, a third type of Woodland-era ceramic, similar in some ways to Sandy Lake ware, but smooth rather than cord-roughened and tempered with grit and crushed rock instead of shell. These ceramics, though distinctive, in some ways resemble types found farther west in North Dakota, especially in the Sheyenne River Valley. Perhaps this ceramic ware represents a distinct prehistoric ethnic group, or maybe it is the pottery produced by a people influenced by their western neighbors. Answering these questions will give us important clues to the dynamics of prehistoric land use in the valley.¹⁴

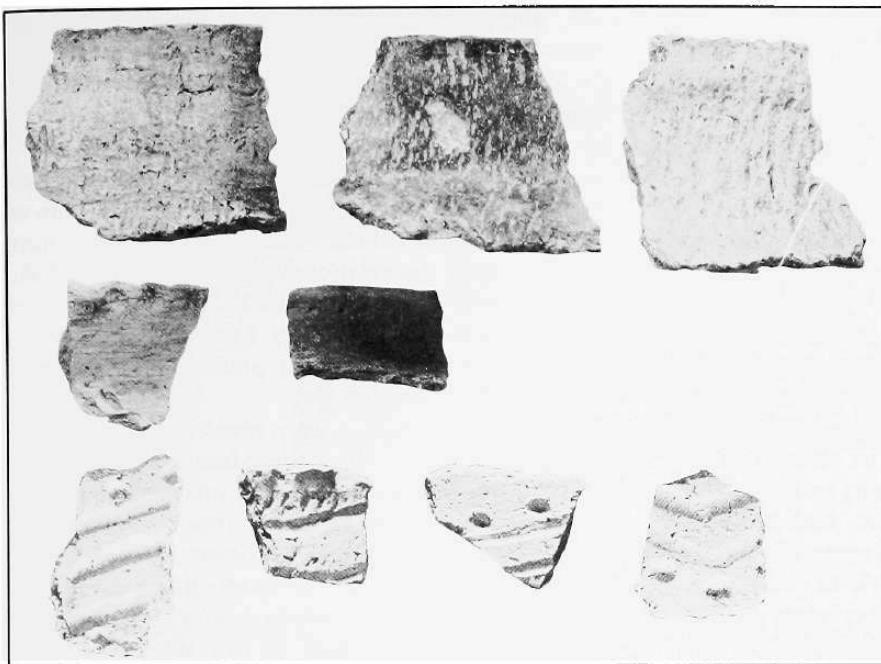
The stone tools found at sites along the Red River illustrate two features of the prehistoric human adaptation in this region. First, while much of the debris from stone toolmaking consists of local cherty rocks, a con-

¹³ Work at the Dahnke-Reinke site is in progress and a final report has not been completed. Remarks here are from conversations with R. G. Thompson.

¹⁴ Michael G. Michlovic, "The Archaeology of the Mooney Site (21NR29)," *Minnesota Archaeologist* 46 (1987), forthcoming.

EXCAVATIONS in progress at the Mooney site, near Halstad in Norman County.





RIM fragments of Sandy Lake pottery (top) and Red River pottery (below)

sistent proportion (about 15 percent) of the flaking debris is Knife River flint, a rock found in western North Dakota, which would have to have been transported between 200 and 250 miles to the Red River Valley. Most likely, a system of intertribal trade, perhaps comparable to the Historic period trade fairs, carried such resources east from their source, moving them from one group to another across the northern plains. The same system would have provisioned people in the Red River Valley with red pipestone from southern Minnesota and copper from the Great Lakes.¹⁵

Second, the diagnostic stone artifacts tell us something about Woodland life-styles. End scrapers, used to prepare hides, and projectile points for hunting and light cutting are the most common artifacts; these tools are associated with a population of hunters. At most Woodland sites in the valley, small triangular points, like styles popular all over the plains, suggest the use of bow and arrows tipped with small, light arrowheads.

Perhaps the most fascinating aspect of the Woodland period occupation of the Red River Valley is the implication these finds have for the early history of

Minnesota. It is widely believed that the prehistoric Dakota occupied the wooded lake country of central Minnesota, where they hunted, fished, and collected wild rice. They may have grown some corn but were certainly not very much devoted to cultivating plants. According to the usual view, this style of life disintegrated in the 18th century when desultory warfare developed between the Dakota and their northern and eastern neighbors, the Ojibway, armed with firearms obtained through trade with the French. During the course of the century, the Dakota were driven out of their ancestral homeland and onto the Great Plains, where they became nomadic, horse-riding buffalo hunters and formidable foes of the United States Army as well as other Indian peoples.

Archaeological discoveries in the Red River Valley and in other parts of eastern North Dakota make this scenario increasingly implausible. Some archaeologists now think that the Dakota people produced Sandy Lake pottery, found at so many Red River sites, before they began using metal pots brought by the Europeans. Sandy Lake pottery seems to be the most recent prehistoric ceramic type in central Minnesota, the territory of the early Historic period Dakota. If the Dakota were not making this ceramic ware, no one seems to know who was. The relationship between Dakota and Sandy Lake is strengthened by the discovery of several sites, most recently at Battle Island, where Sandy Lake pottery and European trade goods occur together in the same general locality.¹⁶

In the Red River Valley, Sandy Lake pottery has been dated by means of a technique called thermolumi-

¹⁵ John C. Ewers, *Indian Life on the Upper Missouri* (Norman: University of Oklahoma Press, 1968), 14–33.

¹⁶ Elden Johnson, "The 17th-Century Mdewakanton Dakota Subsistence Mode," in *Archaeology, Ecology and Ethnohistory of the Prairie-Forest Border Zone of Minnesota and Manitoba*, ed. Janet Spector and Elden Johnson (Lincoln, Neb.: J & L Reprint Co., 1985), 154–166; Guy E. Gibbon, "Battle Island(21AK9): A Multi-Component Site on Big Sandy Lake, Aitkin County, Minnesota," *Minnesota Archaeologist* 46(1987):3–30.

nescence (T.L.) that measures the accumulated radiation that is released from potsherds upon heating. Five T.L. dates on Sandy Lake pottery from the valley range between 900 and 500 years ago, and a single radiocarbon date on charcoal from a pit feature in a Sandy Lake component near Enderlin, North Dakota, gave a date of about 450 years ago. Sandy Lake pottery was also found in the James River Valley and Devils Lake in North Dakota. Throughout the valley, then, this pottery dates back perhaps 500 to 1,000 years and very likely reflects the presence of Dakota peoples.

When the Europeans arrived in the northern Midwest they described some of the Dakota as "Prairie People." (Father Louis Hennepin called them *Thinthonta*, the equivalent of Teton.) It would be strange to so name a people who were only beginning to move onto the prairies but quite appropriate if they had occupied the grasslands for a long time. Thus, it seems likely that some Dakota were living on the prairie in prehistoric times, and the popular notion that they were pushed out of Minnesota is probably not entirely correct.¹⁷

WHAT MAY BE the latest chapter in the prehistory of the Red River region is only now coming to light. In the summers of 1985 and 1987 archaeologists probed a small village, dubbed the Shea site, circled by a three-foot-deep dry moat or fortification ditch. The village is about 80 feet above the Maple River, a tributary of the Sheyenne, in an area where the Lake Agassiz beaches press against glacial till deposits on the west side of the valley. Fortified villages have been known in this vicinity for a long time; one, called Biesterfeldt, excavated in the 1940s, looks much like a Missouri Valley village in central North Dakota, and the pottery types seemed to confirm this relationship.¹⁸ The Shea village, however, is different. It is much smaller than Biesterfeldt, and the pottery is not at all the same. It is chiefly Sandy

Lake, along with other types that are similar to the unusual grit-tempered, plain-surfaced Red River pottery already described. The people who lived at this village hunted bison and small game and collected wild plants. The most impressive find, however, was about two dozen small corncob fragments and kernels which indicate that the inhabitants were apparently more or less permanent residents who may very well have grown corn. If the relationship between Sandy Lake pottery and the Dakota people is real, the occupants of the Shea village might also have been Dakota—Dakota, not only living on the prairie, but in fortified villages as well.

We still have much to learn about the prehistory of the Red River Valley. About three-fourths of the human history of this region is practically unknown. The very few sites known for the earliest of time periods, dating back about 7,000 years, are insufficient for understanding the culture and life of the people living then. Even though the last 2,000 years have been more extensively studied, only the last half of this span is well researched. We need more excavated sites, radiometric dates, animal, plant, and sediment studies, and much more complete collections of artifacts. Only with this information will we begin to see the human heritage of the Red River Valley and appreciate the valley itself as a distinct cultural-geographic region.

¹⁷ See, for example, "Narrative of the Voyage to the Upper Mississippi by Father Louis Hennepin," in *Discovery and Exploration of the Mississippi Valley*, ed. John G. Shea (1852; reprint, Albany: J. McDonough, 1911), 111–149.

¹⁸ W. Raymond Wood, *Biesterfeldt: A Post-Contact Coalescent Site on the Northeastern Plains* (Washington, D.C.: Smithsonian Institution Press, 1971).

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SHEA SITE; the roughly circular ditch encloses almost two acres.





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