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The Demery Site (39CO1), Oahe Reservoir Area,
South Dakota

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THE DEMERY SITE (39CO1), OAHÉ RESERVOIR AREA, SOUTH DAKOTA ¹

By ALAN R. WOOLWORTH and W. RAYMOND WOOD

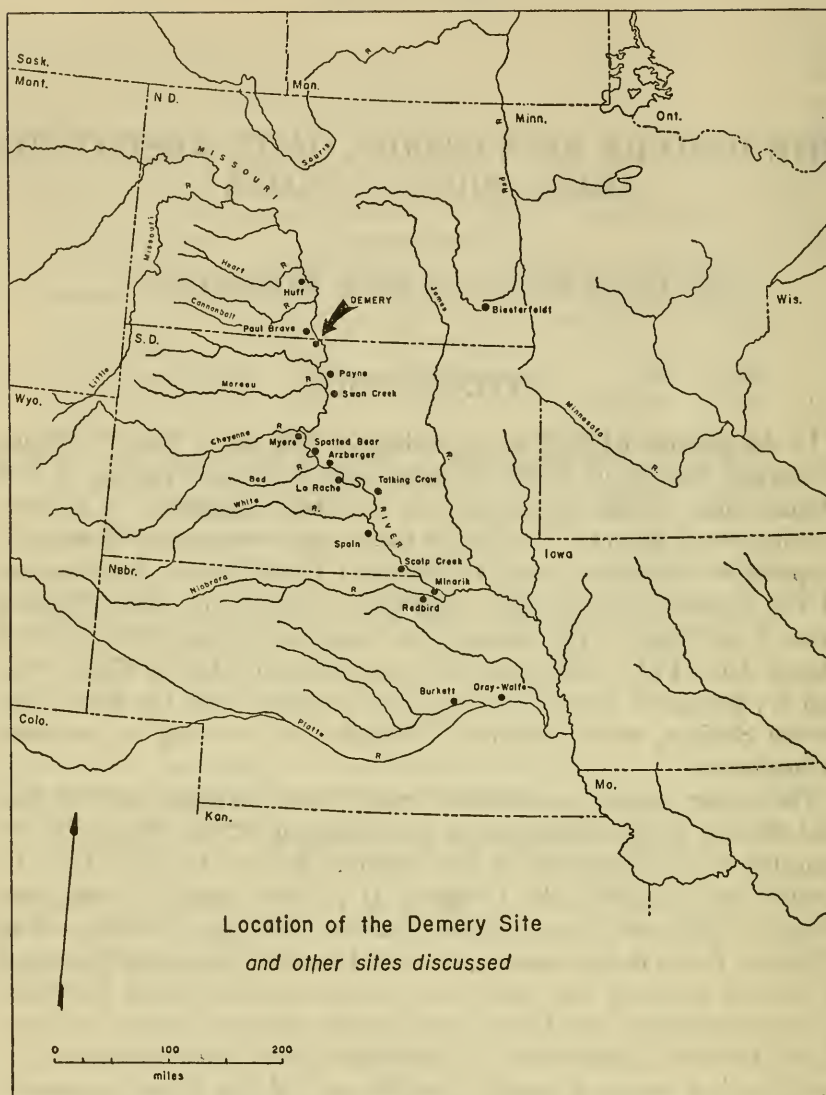
INTRODUCTION

In the summer of 1956 an archeological field party from the State Historical Society of North Dakota carried out excavations at the Demery site, in the upper part of the Oahe Reservoir, in Corson County, South Dakota. Funds for the project were provided under a cooperative agreement with the National Park Service, Department of the Interior, and through appropriations by the North Dakota State Legislature. The excavations were conducted between June 18 and August 31, 1956, under the supervision of Alan R. Woolworth and W. Raymond Wood, then staff archeologists with the State Historical Society, with Frederic Hadleigh-West serving as assistant archeologist.

The major reason for selecting Demery for excavation in 1956 was that the site is the northernmost manifestation of the "Category B" complex on the mainstem of the Missouri River. In 1949, Paul L. Cooper had described the Category B pottery complex from sites along the Missouri River in South Dakota (1949, pp. 303-306). The Category B rim design consists of a solid band of horizontally incised or trailed lines on rim exteriors. Cooper demonstrated the wide spatial distribution of this form of pottery rim decoration, and predicted that the delimitation of the temporal and spatial scope of this archeological complex would provide one of the more important chapters in Plains prehistory. The Demery site is only one of the many sites bearing pottery of this character in the Central Plains and Middle Missouri areas. Because of its extreme northern geographic setting, it was anticipated that Demery would provide data on a peripheral variant of the complex as it was known from work in sites in central and southeastern South Dakota. (See map 6.)

Much of the credit for the successful completion of the work at Demery is due Russell Reid, Superintendent of the State Historical

¹ Submitted February 1962.



MAP 6.—Location of the Demery site and other sites discussed.

Society of North Dakota, for his unflinching assistance in every phase of the work. The field party was established in the town of Fort Yates, N. Dak. Mr. J. W. Wellington, then Superintendent of the Standing Rock Indian Agency, in Fort Yates, did everything in his power to make the summer a pleasant and successful one. The Missouri Basin Project, Smithsonian Institution, loaned photographic equipment and was, as always, helpful in many other matters. Bernard Weinreich, of Bismarck, N. Dak., prepared the photo-

graphic illustrations; their quality is a tribute to his skill. Frederic Hadleigh-West was in charge of mapping the site and the excavations, a task of no mean proportions considering the distances involved and the equipment available. Permission to excavate on tribal land was kindly granted by the Tribal Council of the Standing Rock Indian Reservation. Mr. J. Dan Howard, then Chairman of the Tribal Council, aided the field party in many ways. Crew members included Robert P. Barr and Stephen W. Robinson of Grand Forks, North Dakota; George E. Archambault and William C. Gipp of Fort Yates, N. Dak.; Mark F. Blum of Lincoln, Nebr.; and Craig Gannon of Bismarck, N. Dak. The assistance of each of these contributors is gratefully acknowledged. We are also grateful for the comments and constructive criticism of the manuscript provided by Robert L. Stephenson, Warren W. Caldwell, and Robert W. Neuman, of the Smithsonian Institution, Missouri Basin Project.

The laboratory analysis of the pottery was carried out by the junior author, who also prepared the final maps and the line drawings. The remaining artifacts were processed by the senior author, and both of us are jointly responsible for the discussion and conclusions. The field notes, maps, photographs, and artifacts from Demery are on file in the museum of the State Historical Society of North Dakota, in Bismarck, for preservation and further study.

ARCHEOLOGY OF THE SITE

DESCRIPTION

The Demery site, 39CO1, is in the SE $\frac{1}{4}$ of sec. 21, and in the SW $\frac{1}{4}$ of sec. 22, T. 23 N., R. 29 W., Corson County, S. Dak. It is on the west bank of the Missouri River about 16 miles downstream from the town of Fort Yates. The site lies on a large, flat terrace overlooking the floodplains of the Missouri River and John Grass Creek (map 7). A large gully separates the site area from the terrace to the south, and a low swale to the west leaves the site nearly surrounded by low land. To the west, the terrain is level for nearly half a mile, where the Missouri River bluffs rise gradually from the valley floor to the treeless plains. A small intermittent stream, locally known as Black Eagle Creek or as John Grass Creek, is just north of the site. The reputed cabin site of the Dakota chief, John Grass, is a few hundred feet upstream from the bridge spanning the creek bearing his name on the Kenel to Fort Yates road. The North Dakota-South Dakota boundary is just north of John Grass Creek. Fire Heart Butte, a high, flat-topped prominence, rises above the surrounding upland plains about 5 miles northwest of the site.

The 1,610-foot contour line roughly delimits the area containing cultural remains, but the majority of surface material and most of the

excavations were carried out within an area covered by heavy vegetation (map 7). This area, consisting of about 2 acres, appears to have been the major village area. About 10 percent of the area was stripped of overburden by a bulldozer and a road patrol. Five houses were located by this method and subsequently excavated, and two other probable house sites were located. A speculative projection, based on the distribution of these houses, gives a total of about 30 dwellings in the village.

Demery appears to have been an open, unfortified site. A test trench dug from the east wall of House 4 in excavation 5 to the terrace edge revealed no evidence of fortification, and a close inspection of the terrain and of aerial photographs revealed nothing suggesting the presence of a fortifying ditch. In an effort to find burials, test pits were dug along the terrace edge south of excavation 7, but no positive evidence of either burials or occupational debris was found.

Most of the area bearing heavy vegetation had been cultivated, which obliterated indications of surface features. Only a few acres of grassland near the creek are still in undisturbed sod, and somewhere in this area Will and Hecker (1944, p. 87) reported a number of circular lodge ruins. Early in the field season a single circular depression was noted here, but excavation 2, which explored this feature, yielded the remains of an irregular pit, Feature 1, which was interpreted as a borrow area (map 9).

A few flint chips and body sherds were found near the bridge across John Grass Creek (designated by an "x" on map 7). Surface inspection of the terrace beyond the large gully south of the site, near the remains of the former Demery home, revealed no sherds or other evidence of aboriginal occupation, although there are a few sherds in the State Historical Society collections that are said to be from this vicinity. These sherds resemble those from the major occupation of the Demery site in all details, and they are probably the source for the statement by Will and Hecker (1944, p. 88) that there was a small site contemporaneous with Demery south of the gully.

A number of grassy surface irregularities, as well as many clumps of dense buckbrush, occurred throughout the site area. The excavations revealed no correlation between either these irregularities or the brush patches and the house sites. In fact, the houses appeared to have been on level, grassy areas. Toward the end of August, however, when a dense cover of sunflowers and weeds had overgrown the site, there were spots on level, grassy areas where this cover was exceedingly dense, and such areas we feel were house sites. Since the field season was over we did not have the opportunity to investigate them, although it would clearly have been desirable.

EXCAVATIONS

Six excavation units in different parts of the site were stripped to the approximate base of the plow zone by means of a bulldozer and a road patrol. At this depth the houses, pits, and other features became clearly visible as mixed earth in otherwise sterile soil. Features were marked by stakes while the soil was still moist and their outlines distinct, and later excavated by hand tools. Two other units, excavations 3 and 4, were excavated wholly by hand methods.

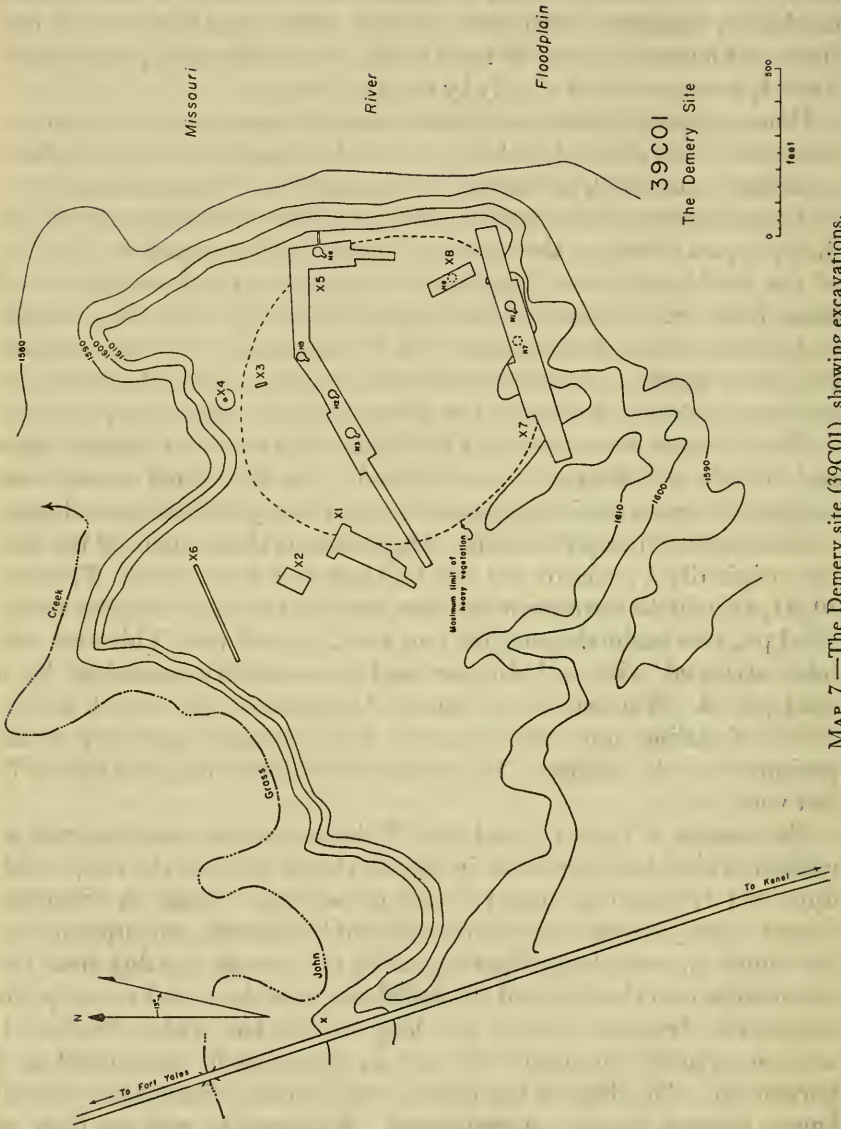
Houses appeared as large circular areas of mixed earth which sometimes contained charred timbers. Four of the houses found were fully excavated and a fifth house was cross sectioned. The presence of two additional houses, designated as Houses 6 and 7 on the site map (maps 7, 8), is postulated on the basis of charred timbers noted on the floor of the road patrol cuts, but time did not allow the investigation of these features. In view of the large areas stripped by the road patrol, houses were infrequent and widely separated. It is not probable that many houses were missed by the excavators, since soil disturbance was rather clearly defined in the dense, buff soil below the plow line.

The site maps were prepared by West with the use of a plane table and alidade, and distances were chained. The individual houses were mapped using a stake in the center of the primary fireplace as a datum.

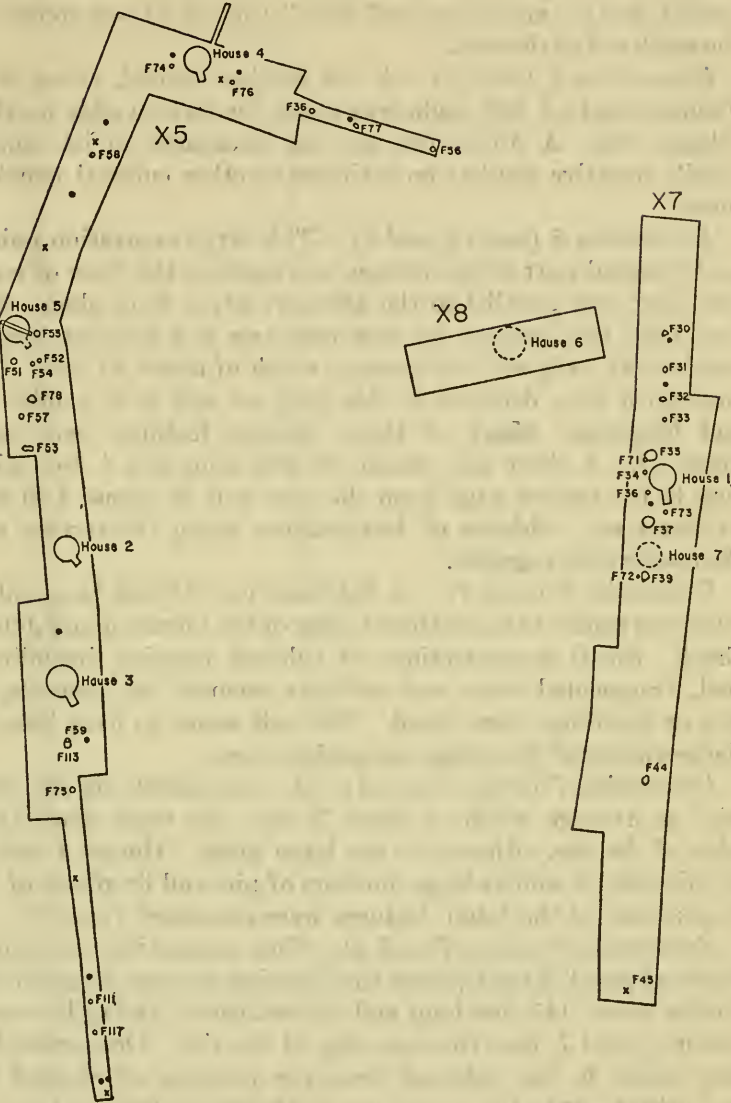
Excavation 1 (map 7).—This unit, in the northwest part of the site, was originally a series of test pits laid out on a 5-foot grid. Features 40, 41, 42, and 43 were recorded here, respectively: an irregular trash-filled pit, two basin-shaped pits, and a bell-shaped pit. This area was later stripped with a bulldozer and subsequently smoothed by a road patrol. Numerous postholes and fireplaces were found, but no definite dwelling units were detected. The area apparently lay on the periphery of the village. The unit was 275 feet long and about 75 feet wide.

Excavation 2 (maps 7 and 9).—This excavation was designed to explore a circular depression in the northwest part of the site, which appeared from surface observations to be about 10 feet in diameter. It was heavily overgrown with weeds and buckbrush and superficially resembled an earth lodge depression. A test trench was dug from the north edge into the pit, and the bulldozer was then used to strip the overburden from an area 80 feet long and 55 feet wide. Feature 1, a large irregular pit nearly 20 feet in diameter, is interpreted as a borrow pit. The floor of the feature was littered with broken animal bones, pottery, and stone fragments. Features 48 and 49, both of them bell-shaped pits, were outside of this feature.

Excavation 3 (map 7).—This excavation was made in the north part of the village area, and consisted of a test trench 28 feet long and 5 feet wide. A single basin-shaped pit, Feature 50, was re-



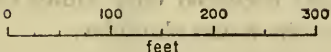
MAP 7.—The Demery site (39C01), showing excavations.



39C01

X5, 7 and 8

- Excavated pit
- x Unexcavated pit
- Unexcavated fireplace
- Probable earth lodge



MAP 8.—Excavations 5, 7, and 8.

corded, and the miniature shell "face" (fig. 24, *c*) was recovered near the south end of the unit.

Excavation 4 (map 7).—A low earthen mound, about 50 feet in diameter and 1.5 feet high, was along the terrace edge north of the village area. A 5-foot test pit was excavated in its center with wholly negative results; no artifacts or other cultural remains were noted.

Excavation 5 (maps 7 and 8).—This large excavation unit, in the north central part of the village, was made in the form of an L, with the short arm parallel to the Missouri River flood plain. The unit was 1,025 feet long on the east-west axis and 310 feet long on the north-south axis, with an average width of about 50 feet. Houses 2 through 5 were detected in this unit, as well as a number of pits and fireplaces. Many of these exterior features were excavated (map 8). A short test trench, 30 feet long and 4 feet wide, was dug to the terrace edge from the east wall of House 4 in an effort to detect any evidence of fortifications along the terrace rim, but the results were negative.

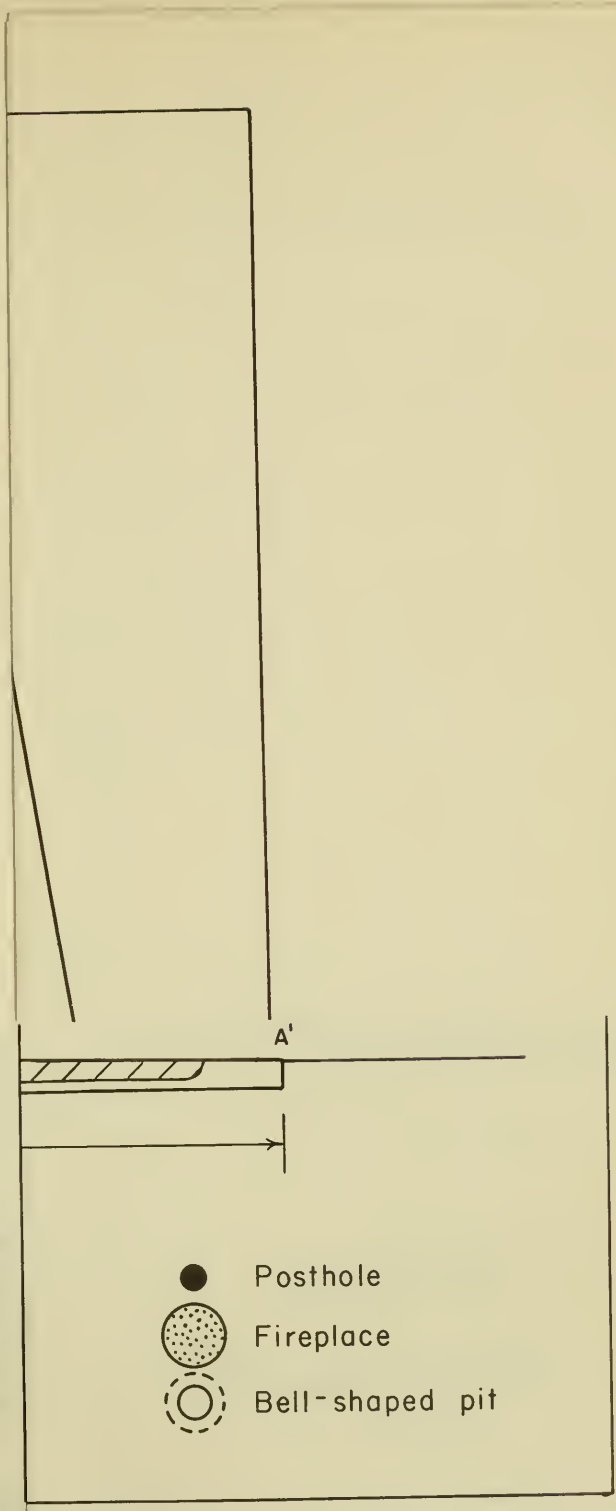
Excavation 6 (map 7).—A bulldozer cut 315 feet long and 12 feet wide was made at the northwest edge of the terrace along John Grass Creek. Small concentrations of cultural remains, including charcoal, fragmented bone, and artifacts occurred at intervals, but no pits or dwellings were noted. The unit seems to have been beyond the periphery of the village occupational area.

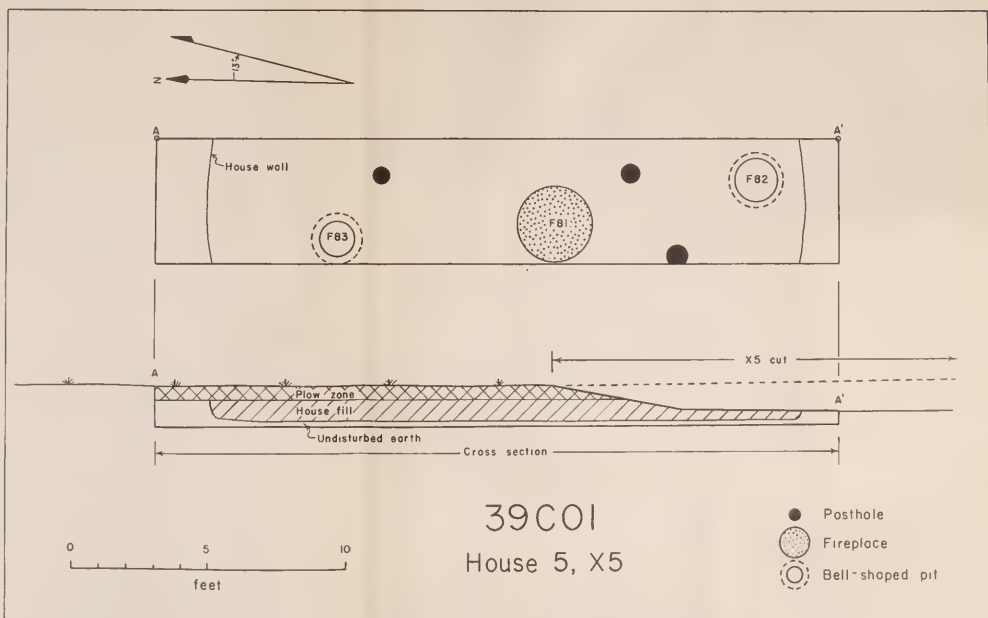
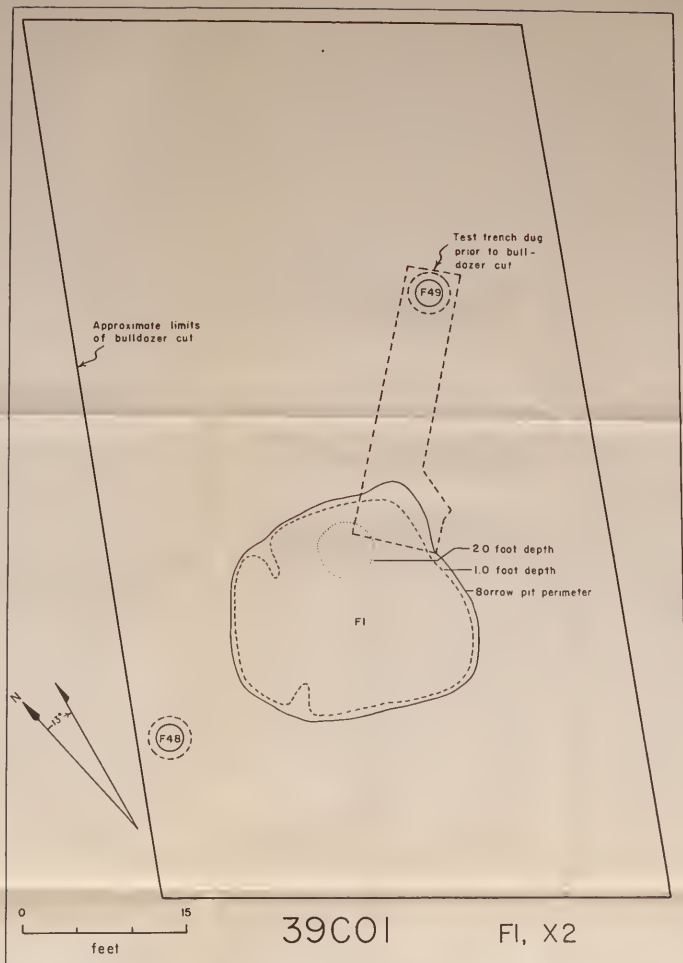
Excavation 7 (maps 7 and 8).—A road patrol cut 725 feet long, with an average width of about 75 feet, was made along the south edge of the site, adjacent to the large gully. Houses 1 and 7 were in this unit, as well as large numbers of pits and fireplaces of varying form; most of the latter features were excavated (map 8).

Excavation 8 (maps 7 and 8).—This excavation was made by a series of parallel road patrol cuts, leaving an area stripped of overburden about 145 feet long and 45 feet wide. It lay between excavations 5 and 7, near the east edge of the site. One probable house site, House 6, was inferred from the presence of charred timbers and mixed earth, but it was not explored for lack of time.

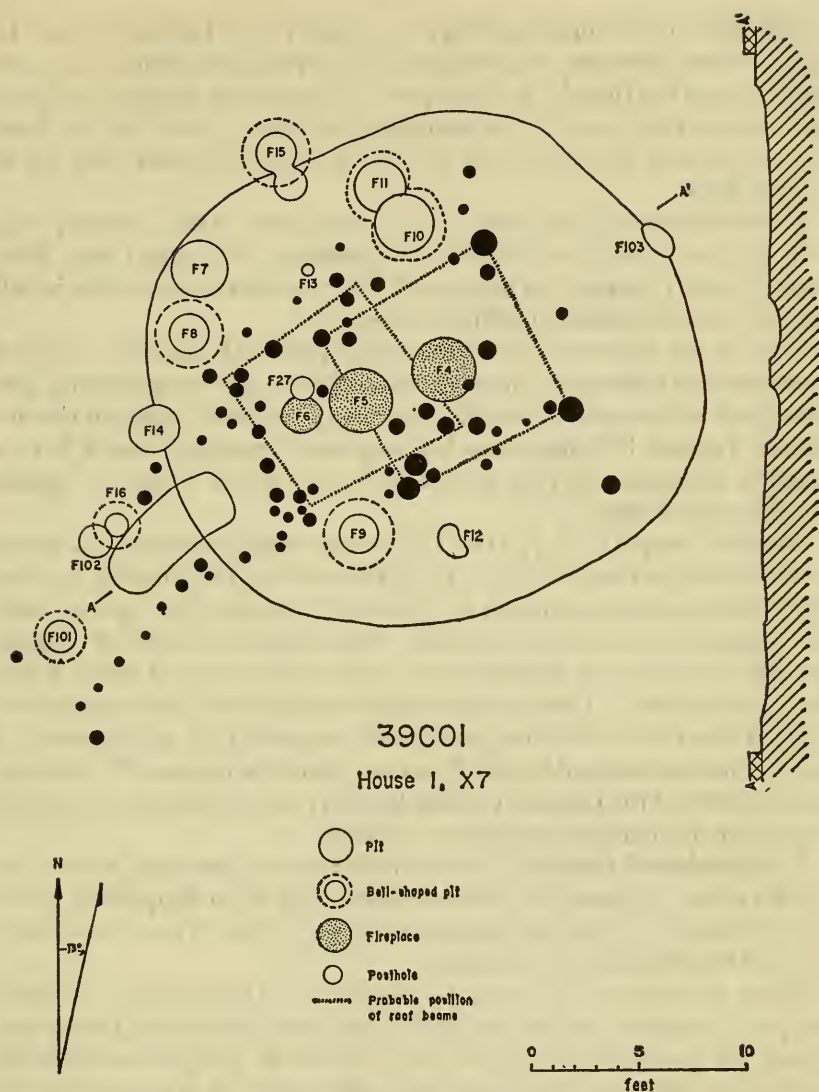
HOUSES

House 1 (map 10, pl. 8, a).—This structure was in excavation 7 near the southeast edge of the site. It consisted of an oval pit oriented along a northeast-southwest axis. It measured 25 feet on the long axis, with a width of 23 feet. The elongated basin-shaped entrance, in the southwest end of the house, was 6.8 feet long, 2.7 feet wide, and 0.5 foot deep. A clearly defined row of posts occurred only along the southeast side, extending 10 feet out from the house shoulder.





MAP B—Upper: Feature 1, excavation 2. Lower: House 5, excavation 5.



MAP 10.—House 1, excavation 7.

There were three basin-shaped fireplaces in the shallow, dish-shaped house floor. Feature 4 was centrally located and was probably the hearth for the original lodge; it was 3 feet wide and 0.6 foot deep. Feature 5 was offset to the southwest from the midpoint of Feature 4, and was the same size as Feature 4. Feature 6 was a small auxiliary fireplace between Feature 5 and the entrance.

The four large center posts around Feature 4 form a square 8.5 feet on a side. Another set of postholes, around Feature 5, may be the result of rebuilding the house and setting the posts nearer the entrance.

These latter posts form an irregular square 7 to 8 feet on a side. In this instance, however, the corners of the square are formed by three postholes rather than by a single post. These posts were much larger and deeper than any of the remaining auxiliary posts in the floor. Center posts of both sets were 0.6 to 1.2 feet in diameter, and 1.5 to 2.0 feet deep.

Five bell-shaped pits were in the house floor. One of them, Feature 10, partly intersects Feature 11, another bell-shaped pit. Features 14 and 15 are in the house wall line; the latter pit, which is bell shaped, has an orifice shaped like the figure 8.

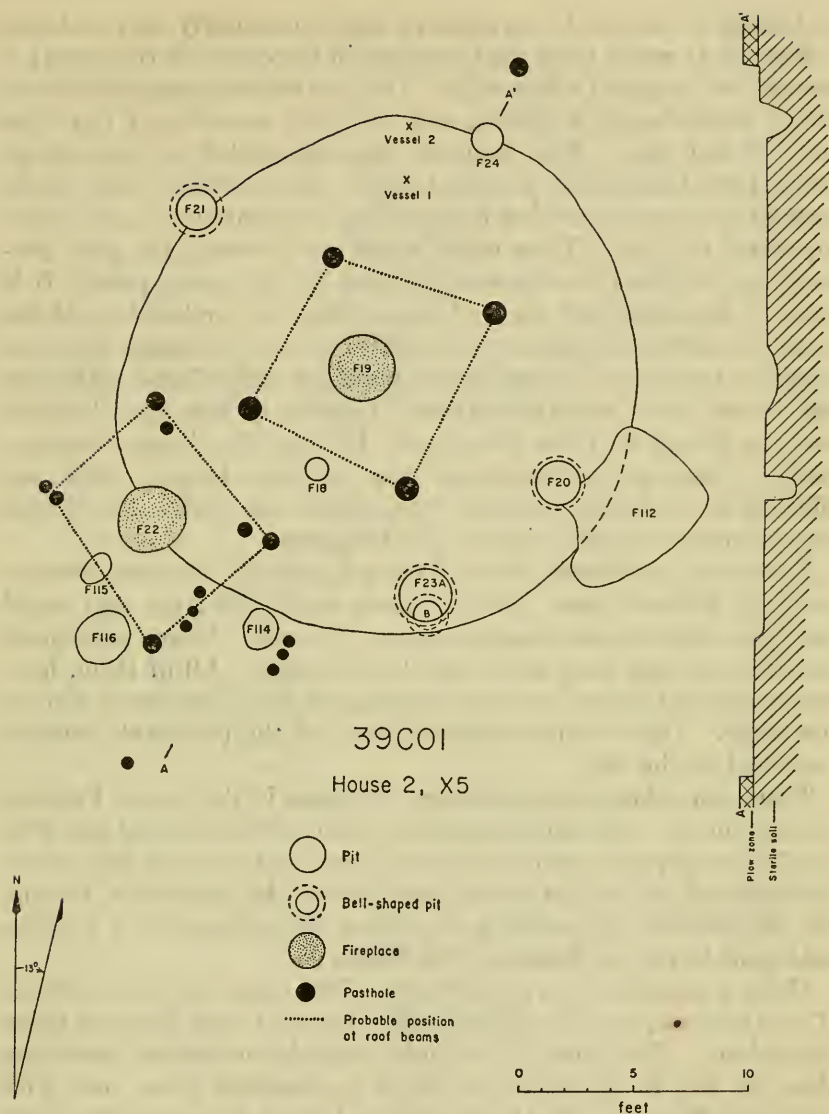
Two of the five small circular to oval pits with shallow U-shaped cross sections intersected the wall line. These and the remaining pits contained refuse and charcoal. The pit in the wall opposite the entrance, Feature 103, may have had a special function, since it is in a position analogous to that occupied by ceremonial altars in certain historic earth lodges.

House 2 (map 11, pl. 7, a).—This house was in excavation 5 in the north central part of the site. The structure was the simplest in plan of those excavated, although its pattern is complicated by the probable presence of a second structure. The house consists of a roughly circular basin-shaped depression 22 feet in diameter, and about 2 feet deep in its center. The entrance faced the southwest, and was marked by two short rows of three posts each, separated by a distance of 4 feet. The posts extended only 3 feet out from the house wall, and perhaps the rest of the passage was not located; rodent disturbance in this area made the definition of features difficult.

A basin-shaped fireplace, 2.6 feet wide and 0.4 foot deep, was in the house center. Around this hearth were four large supporting posts in the form of an irregular square 8 feet on a side. These posts averaged 0.9 foot wide and 1.6 feet deep.

Three bell-shaped pits were in the house. One of these, Feature 23A, had a smaller bell-shaped pit in its floor; Feature 21 partly undercut the northwest wall line; and Feature 20 was in the southeast part of the floor near the house wall, adjacent to an irregular, basin-shaped trash pit, Feature 112. Two circular, basin-shaped pits were in the house. One of them, Feature 24, was in the house wall opposite the entrance, in a position analogous to that of Feature 103 in House 1. The other pit, Feature 18, was between the two center posts facing the entrance; it contained several artifacts. Two shattered pottery vessels were near the north wall, opposite the entrance. Both of them were smashed flat, and must have been broken by the weight of the collapsed roof. One of them contained charred fragments of animal bone. Vessel 1 was restored (pl. 14, a).

Feature 22 was a fireplace in the southwest house wall line. It had a series of seven posts set about it, approximately in the form of a



MAP 11.—House 2, excavation 5.

square, 6 to 8 feet on a side. It appears to be a second and smaller structure overlapping with the floor of House 2, but whether it was earlier or later could not be determined.

House 3 (map 12).—This structure was in excavation 5, in the north central part of the site. The house was contained in an oval depression 2 feet deep, 32 feet long, and 30 feet wide. The long axis was in line with the orientation of the entrance. The shallow entrance passage, facing the southwest, was 8 feet long, 4 feet wide, and 0.5

foot deep; it was lined by a series of small, irregularly-set post holes.

Feature 61 was a large oval fireplace in the center of the house; it was 6.6 feet long and 4 feet wide. This feature was composed of two linked basin-shaped fireplaces, each of which was about 4 feet wide and 0.8 foot deep. This fireplace was surrounded by seven large center posts braced with bone and stone. Four of these posts, in the form of a square 8 to 10 feet on a side, were probably the posts which supported the roof. Three other braced posts were in the same general area, and may have served as braces for the center posts. It is possible, however, that some of them belong to a rebuilding of the house in which the structure was shifted in one or another direction along the long axis. Braced posts are unique to this house within the site, in any event, and this may be a function of size, since House 3 was the largest of those excavated. Perhaps this larger structure needed a more stable foundation than the other houses, which was afforded by jamming bone and stone beside the posts. The center posts averaged 0.9 foot wide and 1.7 feet deep.

The seven bell-shaped pits, and one pit south of the house, were of radically different sizes. Four of them were quite large, and would have provided adequate storage space. The rest of them were much smaller, and may have served another function. All of them, however, contained refuse, particularly Feature 65 in the north wall of the house. This feature contained most of the perishable remains recovered at the site.

There were three small auxiliary fireplaces in the house: Features 25, 46, and 47. One large, irregularly shaped refuse-filled pit, Feature 79, intercepts the south wall of the house, and there are three small, basin-shaped pits in the house floor. One of the latter pits, Feature 29, was between the center posts facing the entrance in a position analogous to that of Feature 18 in House 2.

House 4 (map 13; pls. 7, b, and 8, b).—This house was in the east end of excavation 5, near the terrace edge adjacent to the Missouri River flood plain. The house pit was quite irregular in outline, averaging about 24 feet in diameter. It might be described as an oval with one rather flat side. The house pit was 1.5 feet deep along the walls and attained a maximum depth of 2.8 feet near the fireplace. An elongated, depressed entrance passage was in the southwestern perimeter of the house wall, measuring 6.5 feet long, 3.5 feet wide, and 0.4 foot deep.

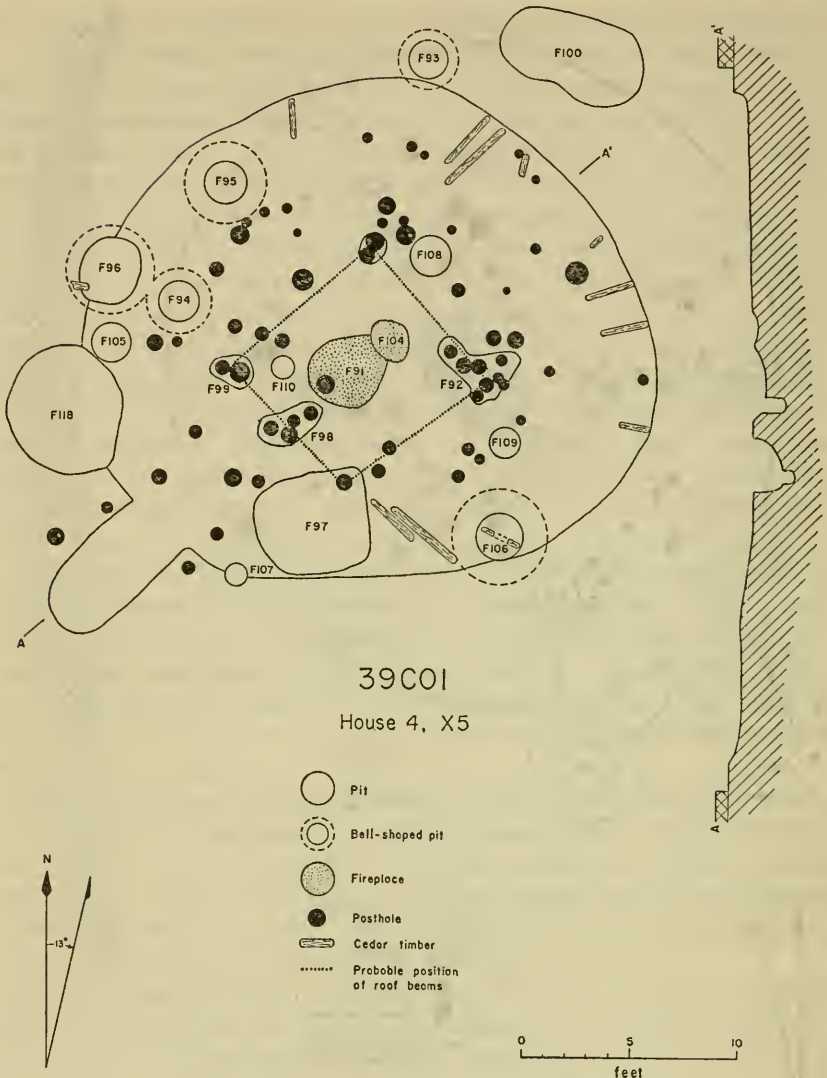
Feature 91, the basin-shaped central fireplace, was 3.4 feet wide and 0.6 foot deep. It was an oval pit surrounded by and filled with white ash and burned earth. Another centrally located basin-shaped fireplace, Feature 104, joined Feature 91 on the northeast edge. The latter pit was oval in outline, measuring 1.8 by 2.1 feet, and was 0.4



MAP 12.—House 3, excavation 5.

foot deep. It is possible that this fireplace belonged to a structure other than the one represented by Feature 91, the primary hearth.

This dwelling appears to have been rebuilt at least once and possibly twice. Hence, the center posts are a maze, but in general they form an irregular square 8 feet on a side around the hearth. These posts average about 0.7 foot in diameter and 2.0 feet in depth. In four instances, two or more of them were in small pits. These pits



MAP 13.—House 4, excavation 5.

may have resulted from a reconstruction in which the old posts were removed and new postholes dug beside the old ones.

Four bell-shaped pits were in the house floor and another was just outside the house wall line. All of them were quite large, and two of them, Features 94 and 96, intersected at their bases. Four small, basin-shaped pits were in the house floor and another intersected the wall line. One large irregular pit, Feature 97, was in the house floor; this pit predates the house, since one of the center posts was intrusive into it. This fact is relevant to the problem of cultural succession at

Demery, since sherds of Thomas Riggs Focus types were in it—pottery which predates the major occupation of the site. Another large pit, Feature 118, intersected the house wall north of the entrance.

The charred wall timbers along the walls inside the house pit are of special interest. They are discussed in more detail later in the text, but they are taken as evidence that the houses were covered by poles, the butts of which were set on the house shoulder outside the house with the tops leaning against the stringers connecting the center posts. These poles were covered by charred grass.

House 5 (map 9).—This structure was in excavation 5 in the northeast part of the site. Time did not permit its complete excavation, but a cross section revealed the basin-shaped central fireplace, two small bell-shaped pits, and three postholes. The entrance was not found. The house pit was 22 feet in diameter, with a central fireplace 2.5 feet in diameter and 0.5 foot deep. This feature was basin shaped, and somewhat more regular than those in the other houses. The house pit was about 1.5 feet deep.

HUMAN REMAINS

Three bones were found in widely separated parts of the site. A femur (and an incisor) were in Feature 32, an irregularly shaped pit in excavation 7; a sacrum was in Feature 77, an irregularly shaped pit in excavation 5; and a cranial fragment was in the backdirt of excavation 2. These bones, all of them from adults, were in refuse-filled pits outside of dwellings; none of them were stained with color or show any other special treatment.

The head was broken away from the femur at the neck, and the epicondyles and surrounding bone of the medial and lateral condyles are missing. The condyles are fused to the shaft, indicating that the individual was more than 17 or 18 years old. The third trochanter is 6 mm. high, and the middle of the shaft is oval, with a slight *linea aspera*. Measurements include:

	Millimeters
Maximum length (from surface of the lateral condyle to the upper extremity of the greater trochanter)	390
Subtrochanteric diameter, antero-posterior	20
Subtrochanteric diameter, lateral	32
Middle shaft diameter, antero-posterior	22
Middle shaft diameter, lateral	27

The crown of the incisor is worn down and the pulp exposed. The pulp cavity, however, had receded with the attrition of the tooth.

The fifth sacral vertebra of the sacrum and part of the fourth are lacking and, since the borders of the bone are broken, length and breadth are not obtainable. Since all the segments are fused, the individual was more than 25 or 30 years old. The cranial fragment appears to be part of the occipital bone; one edge shows part of a complex lamboidal suture.

FEATURES OBSERVED

The 118 features recorded during the excavation of Demery are tabulated below in table 1. While most of the feature numbers were assigned to pits in the houses and in the village area, a number of them were used to designate houses, entrance passages, and other structural details. These features are excluded from table 1 since they are described in detail in the preceding text. Maps 7-9 give a general picture of the major areas investigated at the site, and the location of all features not in or immediately contiguous to the houses.

TABLE 1.—Features recorded during the excavation of the Demery site, 39C01

Feature No.	Excavation No.	Depth	Dimensions	Identification
1	2	2.0	<i>Feet</i> Max. length, 21.0; width, 20.0.	Borrow pit.
4	7	.6	Diam., 3.0-----	Central fireplace, House 1.
5	7	.5	Diam., 3.0-----	Auxiliary central fireplace, House 1.
6	7	.4	Diam., 2.0-----	Auxiliary fireplace, House 1.
7	7	.5	Diam., 2.0-----	Basin-shaped pit, House 1.
8	7	2.0	Orifice, 1.8; base, 3.2--	Bell-shaped pit, House 1.
9	7	2.0	Orifice, 1.8; base, 3.5--	Bell-shaped pit, House 1.
10	7	2.1	Orifice, 2.8; base, 3.6--	Bell-shaped pit, House 1.
11	7	1.2	Orifice, 2.2; base, 2.8--	Bell-shaped pit, House 1.
12	7	1.1	Length, 1.7; width, 1.1.	Oval pit, House 1.
13	7	.6	Diam., 0.5-----	Basin-shaped pit, House 1.
14	7	1.0	Diam., 2.2-----	Basin-shaped pit, House 1.
15	7	3.5	Orifice, 2.0; base, 3.8--	Bell-shaped pit, House 1.
16	7	2.2	Orifice, 1.2; base, 2.2--	Bell-shaped pit, House 1.
18	5	1.3	Diam., 0.9-----	Circular pit, House 2.
19	5	.4	Diam., 2.6-----	Central fireplace, House 2.
20	5	1.9	Orifice, 2.0; base, 2.5--	Bell-shaped pit, House 2.
21	5	1.9	Orifice, 1.8; base, 2.4--	Bell-shaped pit, House 2.
22	5	.6	Diam., 1.7×2.6-----	Fireplace, House 2 (with secondary structure?).
23A	5	1.9	Orifice, 2.4; base, 2.7--	Bell-shaped pit, House 2.
23B	5	1.3	Orifice, 1.5; base, 2.6--	Bell-shaped pit, in base of Feature 23A.
24	5	1.1	Diam., 1.3-----	Basin-shaped pit, House 2.
25	5	.4	Diam., 1.2-----	Auxiliary fireplace, House 3.
26	5	4.6	Orifice, 2.4; base, 5.5--	Bell-shaped pit, House 3.
27	7	1.5	Diam., 1.2-----	Deep, circular pit, House 1.

TABLE 1.—Features recorded during the excavation of the Demery site, 39C01—Continued

Feature No.	Excavation No.	Depth	Dimensions	Identification
			<i>Feet</i>	
28	5	2.7	Orifice, 2.6; base, 4.5--	Bell-shaped pit.
29	5	1.2	Diam., 1.1-----	Deep, circular pit, House 3.
30	7	.2	Diam., 5.0×6.3-----	Irregularly shaped pit.
31	7	.3	Diam., 4.3×6.0-----	Irregularly shaped pit.
32	7	1.2	Diam., 3.8×6.3-----	Irregularly shaped pit.
33	7	1.2	Orifice, 1.3; base, 1.6--	Bell-shaped pit.
34	7	1.0	Diam., 2.8-----	Circular pit with steep sides, House 1.
35	7	1.0	Diam., 12.0×18.5-----	Irregularly shaped pit, House 1.
36	7	4.9	Orifice, 2.3; vase, 4.7--	Bell-shaped pit, House 1.
37	7	.5	Diam., 7.3-----	Basin-shaped pit, House 1.
39	7	1.2	Diam., 12.0×15.0-----	Irregularly shaped pit.
40	1	Ca. 1.0	Diam., ca. 3.0-----	Irregularly shaped pit.
41	1	1.0	Diam., 2.8-----	Basin-shaped pit.
42	1	.4	Diam., 3.0×4.0-----	Basin-shaped pit.
43	1	3.1	Orifice, 2.4; base, 5.5--	Bell-shaped pit.
44	7	.7	Diam., 12.0×14.6-----	Irregularly shaped pit.
46	5	.1	Diam., 1.6-----	Auxiliary fireplace, House 3.
47	5	.1	Diam., 1.2-----	Auxiliary fireplace, House 3.
48	2	3.0	Orifice, 2.5; base, 4.5--	Bell-shaped pit.
49	2	2.1	Orifice, 2.6; base, 3.7--	Bell-shaped pit.
50	3	.5	Diam., 2.3×3.0-----	Basin-shaped pit.
51	5	1.0	Diam., 15.0-----	Irregularly shaped pit, House 5.
52	5	2.9	Orifice, 2.8; base, 3.8--	Bell-shaped pit, House 5.
53	5	.9	Diam., 15.4×19.8-----	Irregularly shaped pit.
54	5	3.0	Orifice, 2.7; base, 4.0--	Bell-shaped pit, House 5.
55	5	2.5	Diam., 11.1×14.5-----	Irregularly shaped pit, House 5.
56	5	.3	Diam., 6.0-----	Irregularly shaped pit.
57	5	1.0	Diam., 6.3×9.0-----	Irregularly shaped pit.
58	5	.2	Diam., 6.0×10.0-----	Irregularly shaped pit.
59	5	1.0	Diam., 14.0×22.0-----	Irregularly shaped pit.
61	5	.8	Diam., 4.0×6.6-----	Two linked fireplaces, House 3.
62	5	1.2	Orifice, 1.0; base, 1.4--	Bell-shaped pit, House 3.
63	5	1.2	Orifice, 1.2; base, 1.8--	Bell-shaped pit, House 3.
64	5	.8	Diam., 1.6-----	Basin-shaped pit, House 3.
65	5	3.8	Orifice, 2.4; base, 4.0--	Bell-shaped pit, House 3.
66	5	1.6	Orifice, 1.4; base, 2.0--	Bell-shaped pit, House 3.
67	5	3.0	Orifice, 3.2; base, 4.2--	Bell-shaped pit, House 3.
68	5	3.0	Orifice, 2.2; base, 3.6--	Bell-shaped pit, House 3.
69	5	.4	Diam., 0.6×1.0-----	Basin-shaped pit, House 3.
71	7	3.8	Orifice, 1.9; base, 4.4--	Bell-shaped pit, House 1.
72	7	2.5	Orifice, 2.8; base, 3.5--	Bell-shaped pit.
73	7	2.4	Diam., 2.6×3.6-----	Oval pit, House 1.
74	5	.8	Diam., 3.8×4.0-----	Irregularly shaped pit, House 4.
75	5	1.6	Diam., 5.0×7.0-----	Irregularly shaped pit.
76	5	.5	Diam., 2.4×2.9-----	Irregularly shaped pit, House 4.
77	5	.9	Diam., 8.6×9.0-----	Irregularly shaped pit.
78	5	3.3	Orifice, 3.7; base, 3.9--	Bell-shaped pit.

TABLE 1.—Features recorded during the excavation of the Demery site, 39CO1—
Continued

Feature No.	Excavation No.	Depth	Dimensions	Identification
79	5	1.5	<i>Feet</i> Diam., 4.8×8.0-----	Irregularly shaped pit, House 3.
81	5	.5	Diam., 2.5-----	Central fireplace, House 5.
82	5	1.5	Orifice, 1.8; base, 2.4--	Bell-shaped pit, House 5.
83	5	1.5	Orifice, 1.1; base, 1.8--	Bell-shaped pit, House 5.
91	5	.6	Diam., 3.4-----	Central fireplace, House 4.
92	5	2.0	Diam., 1.0×3.2-----	Irregular pit, House 4.
93	5	1.6	Orifice, 1.8; base, 2.8--	Bell-shaped pit, House 4.
94	5	2.7	Orifice, 1.6; base, 3.0--	Bell-shaped pit, House 4.
95	5	2.5	Orifice, 2.2; base, 3.8--	Bell-shaped pit, House 4.
96	5	2.6	Orifice, 2.8; base, 4.6--	Bell-shaped pit, House 4.
97	5	2.3	Diam., 4.9×5.5-----	Irregularly-shaped pit, House 4.
98	5	2.0	Diam., 1.5×3.0-----	Irregular pit, House 4.
99	5	2.0	Diam., 1.5×2.0-----	Irregular pit, House 4.
100	5	1.2	Diam., 4.0×7.0-----	Irregular pit, House 4.
101	7	1.6	Orifice, 1.5; base, 2.5--	Bell-shaped pit, House 1.
102	7	0.7	Diam., 1.6-----	Basin-shaped pit, House 1.
103	7	1.0	Diam., 1.0×1.9-----	Basin-shaped pit, House 1.
104	5	.4	Diam., 2.0-----	Auxiliary central fireplace, House 4.
105	5	.8	Diam., 1.8-----	Basin-shaped pit, House 4.
106	5	3.0	Orifice, 2.2; base, 4.4--	Bell-shaped pit, House 4.
107	5	.8	Diam., 1.3-----	Basin-shaped pit, House 4.
108	5	.4	Diam., 2.2-----	Basin-shaped pit, House 4.
109	5	.3	Diam., 1.6-----	Basin-shaped pit, House 4.
110	5	.4	Diam., 1.1-----	Basin-shaped pit, House 4.
111	5	Ca. 3.0	Orifice, 2.2; base, 4.0--	Bell-shaped pit.
112	5	.7	Diam., 5.5×7.0-----	Irregularly shaped pit, House 2.
113	5	2.2	Orifice, 2.0; base, 4.4--	Bell-shaped pit, House 3.
114	5	.6	Diam., 1.4×1.8-----	Basin-shaped pit, House 2.
115	5	1.0	Diam., 1.2×1.6-----	Basin-shaped pit, House 2.
116	5	.8	Diam., 2.2×2.5-----	Basin-shaped pit, House 2.
117	5	1.3	Orifice, 1.0; base, 1.4--	Bell-shaped pit, House 3.
118	5	1.2	Diam., 5.2×6.0-----	Irregularly shaped pit, House 4.

ARTIFACTS

POTTERY

The pottery from Demery is abundant and, despite an overall uniformity in paste and surface finish, is quite varied in the form of the rim and the type of decoration applied to the outer rim. The heterogeneity of the rim forms and decorative elements suggested, prior to excavation, the possibility that the site may have had more than one occupation, and this possibility was one of the reasons the site was chosen for excavation. During the fieldwork, however, and through the laboratory analysis of the materials it became increasingly apparent that only one major occupation was present. A second and minor

occupation by a Thomas Riggs Focus group is suggested by a very few sherds.

The analysis of the pottery proceeded as follows. The rim and body sherds, sacked together from the same find-spot, were first matched for fits, and subsequently segregated. Body sherds were classed according to surface finish, these classes including: smoothed, simple-stamped, cord-roughened, check-stamped, and decorated (incised or trailed). Red-filmed sherds were also separated, but this filming occurred on three surfaces: smoothed, simple-stamped, and decorated. During the sorting, each sherd was individually inspected for temper. A single cord-roughened sherd which appears to contain crushed shell provides the only exception to the statement that all sherds are grit-tempered.

In the descriptions to follow, the unit of description is, insofar as possible, the whole vessel. Since the rim forms and the types of decoration are so varied, it is probable that the estimated number of vessels represented by each of the groups is reasonably accurate. In addition to the reasons cited by Krieger (Newell and Krieger, 1949, pp. 75-77) and by Spaulding (1956, pp. 130-131) for studying "vessel types" assembled from "sherd types," is the fact that there is often a discernible—and sometimes substantial—difference in the percentage of types represented in a count of rim sherds and a count of vessels from a site. In spite of efforts to describe vessel types here, the pottery described below should probably be regarded as rim types, since so few restorable vessels were recovered.

Only a few of the 17 pottery groups from the site are identified as previously named types. The unnamed groups might have been named as types by some workers, and perhaps tentative type names could have been given them here. The permanent nature of "temporary" type names, coupled with the fact that the complex at Demery is involved and geographically diffuse, suggests that type names would not be advantageous. At this time, when many sites closely related to Demery remain unexcavated and unreported—from the mouth of the Grand River in South Dakota to the mouth of the Niobrara River in Nebraska—it does not seem proper to attach type names to the ceramics from a single site, particularly when the range of variation in pottery at sites down the river is unknown, at least to the writers.

Except for the sherds attributed to the Thomas Riggs Focus occupation of Demery, the pottery is sufficiently similar in paste, surface finish, and form to permit a general description of these features that applies to all the ceramics from the major occupation of the site.

GENERAL CHARACTERISTICS

PASTE:

Method of manufacture: The vessels were probably lump modeled and finished with a paddle and anvil. The vessel walls are quite uniform in thickness from the lip to the bottom, but the pots do not appear to have been scraped, since traces of paddle impressions are visible over most of the vessel surface.

Temper: Grit, composed of calcined or decomposed granite, consisting of particles of quartz, mica, and feldspar, ranged in diameter from .5 to 2.0 mm. Temper is nearly always sparse, and many sherds—particularly those from the smaller vessels—appear to have contained no purposefully included grit.

Texture: Smooth to medium fine. The paste is compact and well worked, although many vessels have a tendency to split parallel to the vessel wall.

Hardness: 2.5 to 3.0, the majority about 3 (calcite).

Color: Light buff to black, ranging through several shades of brown and gray. Characteristically, the sherds are a mottled light buff or gray. Smoke clouding is common, and black, charred organic matter sometimes adheres to the interior or exterior surfaces.

SURFACE FINISH: The entire vessel seems to have been first paddled with a grooved or, more rarely, a cord-wrapped paddle. On the large restored vessel (pl. 14, *b*), simple stamps extend from the neck to the base; a number of vessels have vertical or oblique stamps on the outer rim. Shoulders are vertically stamped, and an incised or trailed pattern was sometimes applied to them over a partly smoothed surface. In nearly all cases the stamps are at least partly smoothed; in about 5 percent of the vessels they are unmodified. A few bases are lightly polished, but surfaces are generally dull, with little tendency to reflect light.

FORM:

Lip: Flat to rounded; a few are pointed and a small number are extruded (fig. 13).

Rim/neck: Characteristics of these areas vary with the individual groups and types (fig. 13).

Orifice: The vessel mouth is wide and round in all observable instances.

Shoulder: This area is rounded and steeply sloping, joining the body in a smooth curve. On a few small to medium-sized vessels the shoulders are sharply angular at the juncture with the body (pl. 10, *i*).

Appendages: The loop and strap handles are riveted to the upper shoulder and welded to the lip. Handles on large restored vessel segments are paired on opposite sides of the rim. A number of rim projections (castellations) and some applique nodes occur on some groups. Appendages of this character occur in fours, equally spaced around the rim.

BODY SHERDS

The majority of the sherds are either simple-stamped or smoothed. Most of them show some smoothing although few may be classed as even lightly polished. Every degree of transition from unmodified stamps through partly smoothed stamps to lightly polished surfaces was observed, sometimes on a single large sherd. All sherds that showed any evidence of stamping were classed as simple-stamped. Sherds were classed as smooth when the surface was so smooth that

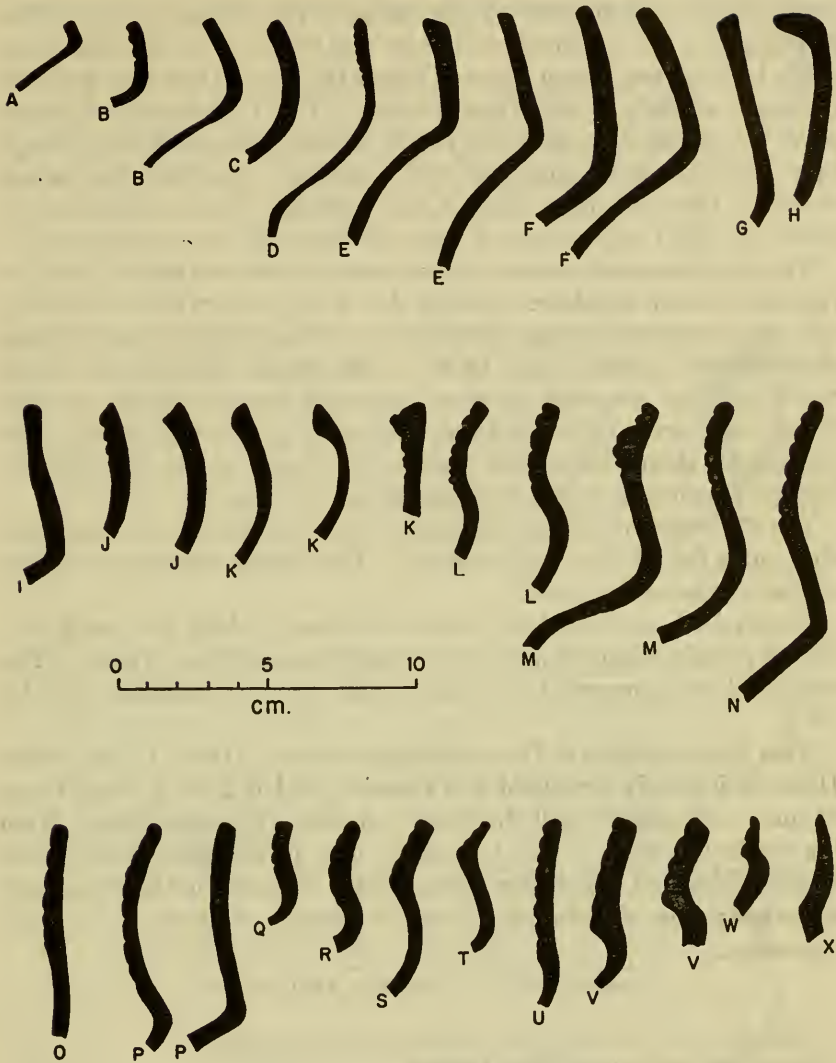


FIGURE 13.—Pottery rim profiles A-X.

irregularities were lacking. A third class was composed of sherds with incised or trailed lines executed on simple-stamped or smoothed sherds.

The 1498 sherds with distinguishable *simple stamps* show that the stamps were applied vertically to the shoulders and rims, but near the base they are random or oblique. These stamps are 5 to 8 mm. wide and are of varying length, but in no instance do they exceed 30 mm. Vessel walls are 1.5 to 6 mm. thick, averaging about 3 mm., although rims are sometimes thicker. There is little variation in the thickness

of the vessel wall in most of the restored vessels and large sherds. For example, the thickness of the base was the same as that over most of the body on the largest restored vessel (pl. 14, *b*); the neck and rim were only slightly thicker than the base. The 1736 *smoothed* sherds share all of the characteristics of the simple-stamped sherds except that they show some striations and a tendency to reflect highlights, although typically they have a dull surface. One *check-stamped* sherd (pl. 9, *h*) was recovered from the back dirt in excavation 8.

The 896 *decorated* sherds which carry incised or trailed lines are from the vessel shoulder. Except for a single curvilinear element (fig. 16, *g*) all patterns are rectilinear. Several patterns and pattern elements are recorded (figs. 14-16). Decoration was applied to the vessel shoulder prepared by some horizontal smoothing, and on most vessels the vertical simple stamps are only partly obliterated. On the thinner shoulders, with a thickness of 2 mm. or less, the exterior designs resulted in raised impressions on the interior.

The 239 *red-filmed* sherds are generally simple-stamped or smoothed, although a few of them are decorated. In all instances the film occurs on the interior of the vessel.

The 61 *cord-roughened* sherds are from vessels which were malleated with a paddle wrapped with a fine vegetal cord with an S twist. The cord used was somewhat less than a millimeter in thickness (pl. 13, *j-k*).

Two large sherds are from *miniature vessels*. One of them, from House 4, is evenly smoothed and rounded, and is from a vessel about 55 mm. in diameter; wall thickness is 5 mm. The other sherd, from the surface, is from a vessel about 65 mm. in diameter, with a base 10 mm. thick and a shoulder 7 mm. thick. The exterior is irregularly smoothed; the interior is likewise rough. Neither vessel was decorated.

DESCRIPTIVE CATEGORIES AND TYPES

1. TALKING CROW STRAIGHT RIM (pl. 9, *e-g*, *i-k*, and pl. 14, *a*).

SAMPLE: 483 vessels, one of them restored.

SURFACE FINISH: The rims and shoulders are vertically simple-stamped and imperfectly smoothed, although a few shoulders, particularly near the neck, are wholly smoothed. Four rims are vertically brushed on the outer surface.

DECORATION:

Lip: The majority of lips are modified by tool impressions: 297 are obliquely impressed; 93 are transversely impressed; 66 are punctated; 2 are cross-hatched; and 25 are plain. Tool impressions occur on the interiors of 79 rims (pl. 9, *i-j*); 57 are obliquely impressed and 22 are transversely impressed.

Rim: The rim exterior is plain.

Shoulder: This area is decorated with incised or trailed lines on 5 vessels.

On 4 of them, decoration occurs on rims with oblique tool impressions on the rim interior. There are at least 2 occurrences of opposed diagonals

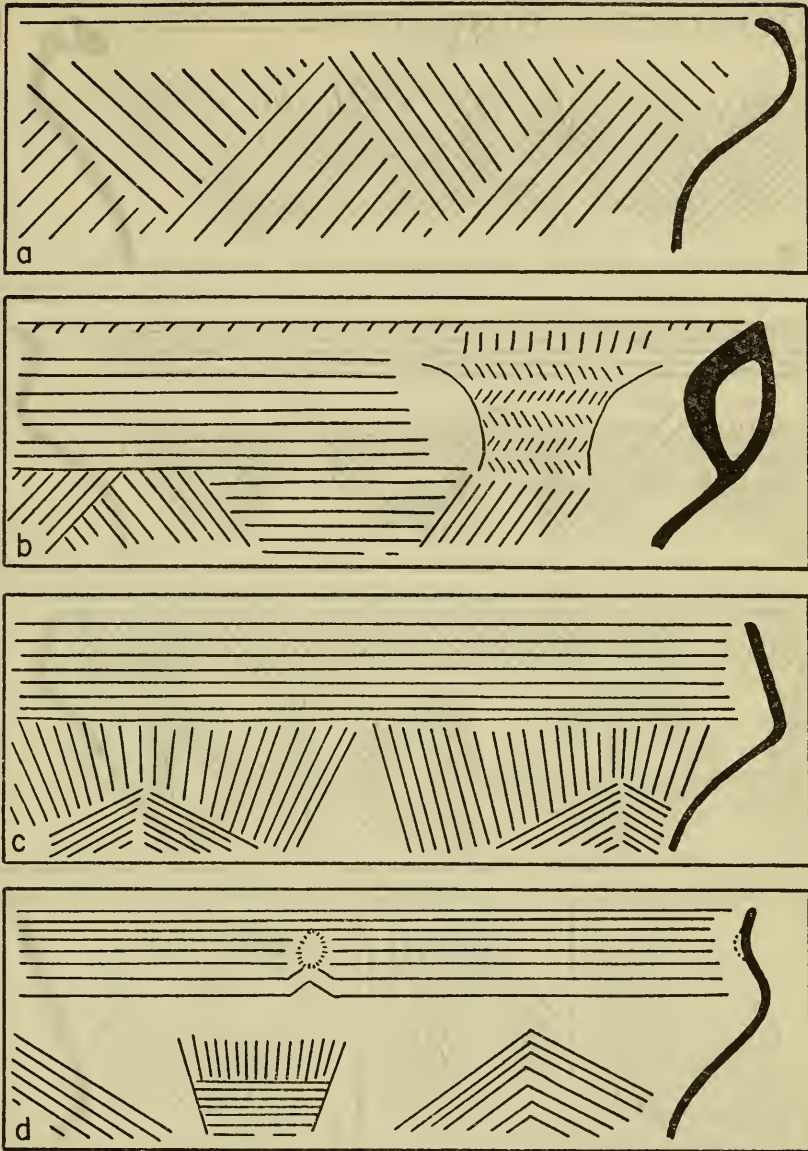


FIGURE 14.—Pottery rim and shoulder design elements.

(fig. 14, *a*) and one elaborate variant of the same pattern (fig. 15, *a*).
The latter pattern is on a vessel with 2 opposed, vertically pierced lugs.

FORM:

Lip: Rounded to flat. On rims with deep or broad tool indentations there is some extrusion due to displaced clay.

Rim: Characteristically straight to slightly outflaring, including rim forms *A-B*, *D-G*, and *I* (fig. 13). Height varies from 15 to more than 55 mm., with a mean of about 35 mm.; thickness is from 4 to 8 mm., with a mean of 6 mm.

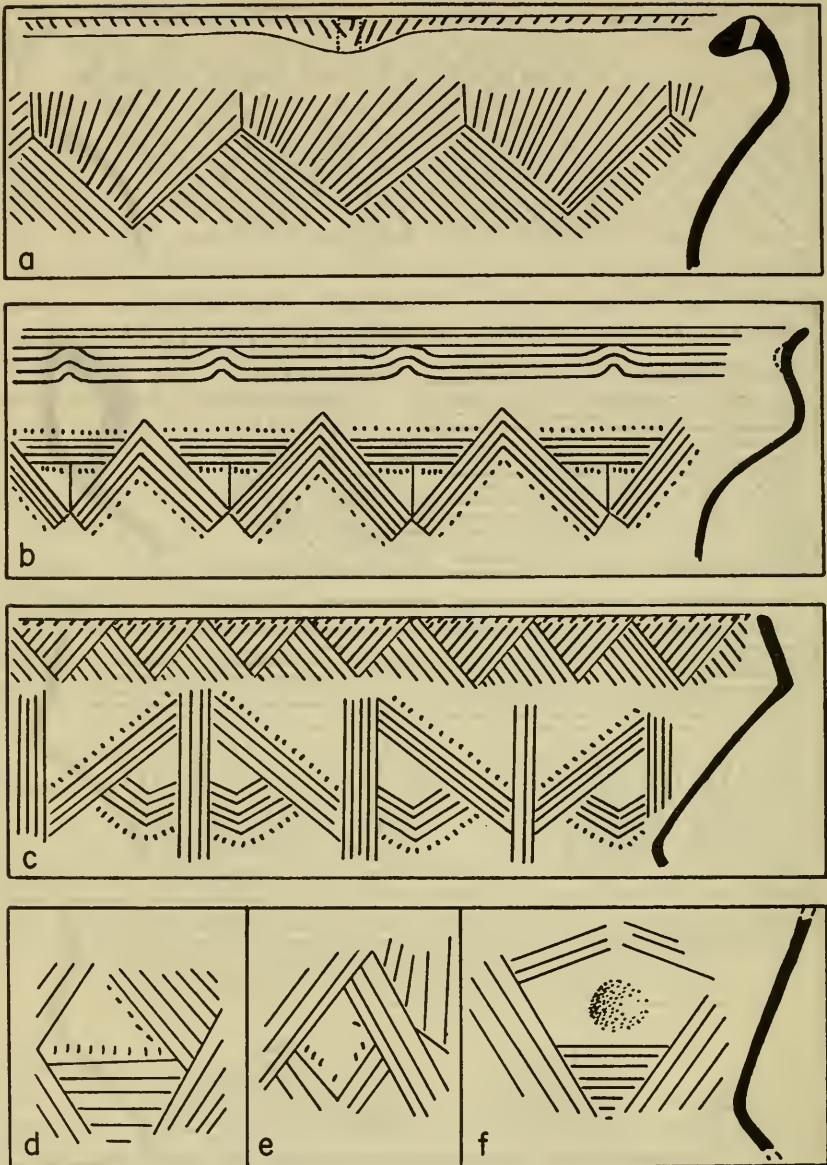


FIGURE 15.—Pottery rim and shoulder design elements.

Neck: Constricted on outflaring rims.

Shoulder: This area is usually about 45 degrees from the vertical, although some are more steeply sloping or more nearly horizontal.

Size: The projected arcs of 9 large rim sherds indicate vessel mouths of 46, 132, 158, 180, 190, 202, 210, 212, and 218 mm. diameter. Some vessel mouths may have been less than 40 mm. wide but probably only a few were more than 225 mm. wide.

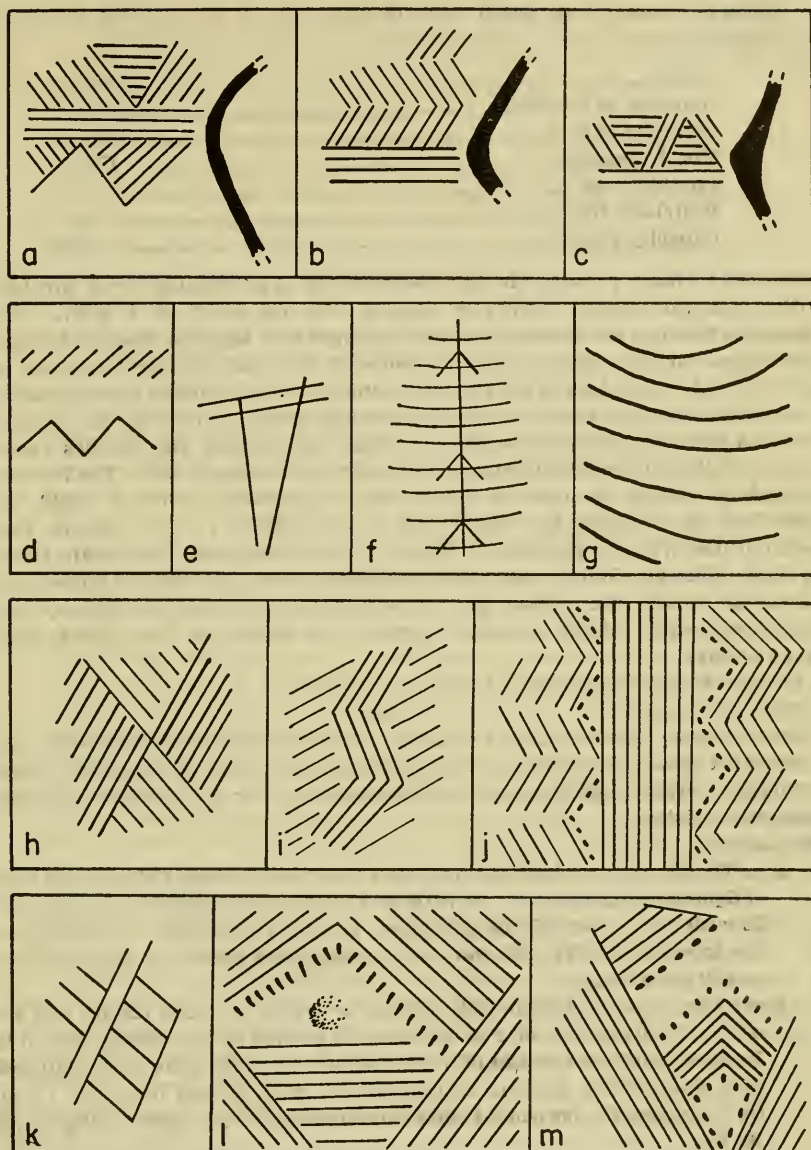


FIGURE 16.—Pottery shoulder design elements.

Appendages: A single plain loop handle was attached to the lip and shoulder of one rim, and there are 4 rim projections (pl. 13, *a*) and 49 lugs in this series. The lugs project out 5 to 8 mm. from the lip, generally at a 90-degree angle (pl. 9, *f-g*). Nine of the lugs are vertically or obliquely pierced (pl. 9). The rim projections, as well as the lugs, are commonly decorated by a continuation of the lip decoration.

Restored vessel: One vessel of this type (pl. 14, *a*) has the following dimensions:

Height.....	213 mm.
Diameter at shoulder.....	265
Diameter at neck.....	172
Mouth diameter.....	175
Lip thickness.....	5
Rim/body thickness.....	2-6
Capacity (liquid).....	5 qts.

COMMENTS: This type most closely resembles the type Talking Crow Straight Rim from the Talking Crow site (Smith, 1951, pp. 36-37, pl. 8, *g-k*). Differences between the Demery and the Talking Crow samples consist of minor deviations in rim size and the presence of different shoulder patterns at Demery. A comparison of the Demery pottery with the Talking Crow Straight Rim from the Spain site (Smith and Grange, 1958, pp. 101-102, pl. 30, *h-j*) reveals more distinctive differences: interior lip notching and handles (present at Talking Crow and Demery) are lacking in the Spain site. The Demery sample is similar to most of the pottery designated by Cooper (1949, pp. 306-308) as Category C. Smith and Grange (1958, p. 102) remark that some of the Wheeler Ridged and Wheeler Plain rim sherds from Scalp Creek (Hurt, 1952, pp. 73-75) are "indistinguishable from the type" as described from the Spain site. There are also similarities between the Demery pottery and certain of the noncollared rims from Arzberger (Spaulding, 1956, pp. 149-164).

2. FLARING RIMS, HORIZONTALLY INCISED (pl. 10, *c-j*).

SAMPLE: 476 vessels.

SURFACE FINISH: Undecorated shoulders were vertically simple-stamped, but decorated vessels were smoothed before the application of the pattern. Many rims show evidence of vertical stamp impressions under the horizontal smoothing and incising.

DECORATION:

Lip: The 411 rims with clear evidence of treatment include 256 indented with oblique tool impressions; 59 with tool impressions transverse to the lip; 22 with vertical or oblique punctates; 28 with oblique tool impressions on the interior rim; 14 with low oblique, elongated punctates along the lip; and 32 plain rims.

Rim: The rims are horizontally incised or trailed between the lip and the neck. Bands consist of 2 to 13 lines; 90 percent of the vessels have 3 to 10 lines, with an average of 7 to a vessel. Twenty rims have stab-and-drag lines, either alone or in combination with incised lines (pl. 10, *j*). On nine rims the horizontal lines are interrupted by incised triangles (pl. 10, *h*).

Shoulder: Twenty-nine vessels are decorated with incised or trailed shoulder patterns. Three complete patterns observed include: Fig. 14, *a*, six examples; fig. 14, *b*, one example; and fig. 14, *c*, one example. One large sherd from a small vessel is unique in having a continuous series of nodes at the angular break of the shoulder (pl. 10, *i*).

FORM:

Lip: Rounded to nearly flat. There are extrusions on a few rims due to coarse tool indentations.

Rim: Characteristically straight to slightly outflaring. Height varies from 8 mm. on small vessels to a maximum of 65 mm. on a large rim decorated

with stab-and-drag lines; the average height is between 35 and 40 mm. Thickness is 4 to 8 mm., averaging between 5 and 6 mm. The thickness of the lip and the mid-rim is nearly the same, with the neck about 1 mm. thicker. Rim forms include *A-B*, *E-F*, and *H* (fig. 13).

Neck: Constricted on outflaring rims.

Shoulder: Most of the shoulders are about 45 degrees from the vertical, although some appear to have been more nearly horizontal.

Body: Several partly restorable rims indicate vessels with a globular body and wide, circular mouths.

Size: Three large rims have mouths of 118, 141, and 180 mm. diameter. A few sherds suggest that mouths may have attained widths of about 200 mm.

Appendages: The 18 handles include 14 loop handles and 4 strap handles; in each instance they appear to have been paired on the rim. They were riveted to the mid-rim or upper shoulder and welded to the lip. Loop handles are invariably decorated with horizontal lines, in effect a continuation of the rim design (pl. 10, *j*) but strap handles are often decorated with herringbones or other incised designs (pl. 10, *g*). Thirty-seven strap handles, detached from the rims, are arbitrarily assigned to this group since handles are lacking on most of the remaining groups; many of them are horizontally incised. There is much variation in the size and form of the strap handles, with widths varying from 12 to 65 mm.

Three rim projections are decorated by a continuation of the lip decorations; they extend vertically from the lip to a height of 5 mm. Twenty-four lugs, extending out at right angles from the rim (pl. 10, *h*) are decorated on the upper surface by the same impressions occurring on the lip, but here the impressions are larger and deeper. One lug is centrally incised (pl. 10, *e*).

COMMENTS: This pottery very closely approximates the type Grey Cloud Horizontal-Incised from the Spain site (Smith and Grange, 1958, pp. 102-103). It differs from this type in having a larger number of horizontally incised lines, in lacking the shoulder patterns common to Grey Cloud vessels, and in the presence of appendages. Grey Cloud Horizontal-Incised grades into Iona Horizontal-Incised at Spain, the latter type having protruded T- or L-shaped lips, lacking at Demery. The Demery sample is similar to most of the pottery designated by Cooper (1949, pp. 303-306) as Category B. This rim category is also related to the type Wheeler Horizontal-Incised from the Scalp Creek and La Roche sites (Hurt, 1952, p. 76); to certain of the horizontally incised noncollared rims at Arzberger (Spaulding, 1956, pp. 153-157); and to the type Evans Incised, from sites of the Redbird Focus in north central Nebraska (Wood, 1956).

3. FLARING RIMS, OBLIQUELY INCISED (pl. 13, *b, g*).

SAMPLE: 15 vessels.

SURFACE FINISH: The finish is not discernable on most sherds due to horizontal smoothing on the rim, and to the fact that most rims are broken from the body at the neck. On one partly restorable vessel (fig. 15, *c*) the entire body below the neck is cord-roughened. Above the angular shoulder the cord impressions are vertical, but below the shoulder they are random. The cord used was less than a millimeter in diameter; it was made from two twisted fibers, but smoothing has obscured the direction of the twist.

DECORATION:

Lip: Oblique tool indentations occur on 11 rims; on 1 rim the lip is punctated, and the other 2 are plain.

Rim: Opposed oblique incised lines form a continuous band around the rim of 11 specimens (fig. 15, *c*); vertical lines occur on 2 rims together with oblique lines; and 1 rim is lightly incised with chevrons (pl. 13, *b*).

Shoulder: One of the two incised shoulders is decorated (fig. 15, *c*) over a cord-roughened surface. The other and fragmentary decoration was imposed over a surface of indeterminate nature.

FORM:

Lip: Flat to somewhat rounded.

Rim: Straight to somewhat outflaring, including rim forms *B* and *F* (fig. 13). Height ranges from 14 to 52 mm., averaging about 30 mm., and thickness from 4 to 8 mm., averaging about 6 mm.

Shoulder: The shoulder is flat and steeply sloping, with an angular break at the lower border on the cord-roughened vessel.

Size: Several measurements of the cord-roughened vessel include:

Height.....	ca. 130 mm.
Diameter at shoulder.....	ca. 150
Orifice diameter.....	ca. 100
Lip/rim thickness.....	7
Rim height.....	21
Body wall thickness.....	3

Appendages: One rim has a pierced lug extending out at a right angle 17 mm. from the rim, with a vertical perforation 9 mm. in diameter. It is on a lip decorated with punctates, although the top of the lug is decorated with transverse tool impressions.

COMMENTS: These rims are related to the recurved rims from Demery (Group 9) bearing obliquely incised lines, although they lack the pinched border below the incised rim design on the latter specimens. This group of rims clearly resembles some of those of the type Iona Diagonal-Incised from the Spain site (Smith and Grange, 1958, p. 100, pl. 30, *e-g*), but the Demery specimens lack the rim protrusion typical of Iona Ware.

4. FLARING RIMS, BEVELED OR BRACED (pl. 13, *c-f*, and pl. 14, *b*).

SAMPLE: 105 vessels, one of which is restored.

SURFACE FINISH: The interior and exterior rims are horizontally smoothed. This is the case with the restored vessel (pl. 14, *b*), where the entire surface of the vessel is smoothed, nearly obliterating the simple-stamping, which extends from the neck to the base. The stamps occur in a somewhat spiral fashion around the vessel body.

DECORATION:

Lip: On four vessels the lip interior is indented by oblique or transverse tool impressions.

Rim: Oblique to transverse tool impressions occur on the uppermost part of the exterior rim; some rims are decorated with oval or circular punctates.

FORM:

Lip: Usually pointed, although some are rounded.

Rim: The straight to outflaring rims are beveled at the lip, the lower edge of the bevel sometimes being extruded by decorative impressions. Rim form *J* is typical, but on three rims, paste extruded by the pressure applied during the decoration is pushed down, resulting in rim form *K* (fig. 13).

Shoulder: The rims join the body in a smooth curve. On the restored vessel (pl. 14, b) the shoulders are rounded and steeply sloping, and the body is globular with a round base.

Size: Measurements of the restored vessel include:

Height.....	313 mm.
Diameter at shoulder.....	355
Orifice diameter.....	255
Lip thickness.....	8
Rim height.....	45
Rim/body thickness.....	3-5
Capacity (liquid).....	18 qts.

Appendages: Lugs on three vessels project out from the lower limits of the lip level. They are decorated by a continuation of the rim design.

COMMENTS: Some of the attributes of this group are shared by pottery from Biesterfeldt, a Cheyenne site on the Sheyenne River in southeastern North Dakota (Strong, 1940, pp. 370-376; Wood, 1955, pp. 3-8). At the Biesterfeldt site the rim is characteristically beveled or "wedge-shaped" in cross section; this rim form occurs on a few of the Demery rims. A few of the rims from the Huff site of the type Huff Plain and Huff Braced Rim (Wood, MS. a) recall this rim form at Demery.

5. FLARING RIMS, CORD-ROUGHENED (pl. 13, *j-k*).

SAMPLE: Six vessels.

PASTE: Generally similar to that described under the heading "General Characteristics," except that the grit is somewhat coarser and the clay is not as well worked. The edges crumble easily on the more coarsely tempered sherds. A single sherd from Feature 51 contains particles of what appear to be shell, which effervesce under the action of diluted hydrochloric acid. It is possible that the shell was originally in the clay, and some of it has been destroyed by chemical weathering, since some of the particles effervesced only slightly even when treated with undiluted acid.

SURFACE FINISH: The exterior rim is vertically cord-roughened, this treatment extending down over the shoulder. There is some horizontal smoothing on necks, although body sherds may or may not be smoothed. The cord used had an S-twist.

DECORATION:

Lip: One rim is marked with oblique tool impressions; another has oblique punctates applied at a low angle to the lip top by a pointed tool; the other four are plain.

Rim/shoulder: No decoration observed.

FORM:

Lip: Flat.

Rim: Slightly outflaring, most rims closely resembling rim form *J* (fig. 13). Rim thickness is 7 to 8 mm.; height is indeterminate, but in excess of 30 to 50 mm.

Body: One large sherd built up from fragments suggests that the shoulder is rounded, probably blending smoothly with the rim. The even thickness of all body sherds, about 4 mm., indicates that the vessel walls were of nearly constant thickness.

Appendages: None observed.

COMMENTS: The cord-roughened surfaces and certain characteristics of the paste set this group of rims apart from the rest of the Demery pottery. From what can be observed, however, vessel form does not appear to depart signifi-

cantly from that observed of the pottery relating to the major occupation of the site by the Demery Component. Since most of the Woodland pottery from North Dakota appears to be sand-tempered (Wood, 1962 a) there seems no good reason to attribute this pottery to a Woodland occupation of the site. Perhaps the nearer affiliations of this pottery may be found in the Campbell Creek types, defined at the Talking Crow site (Smith, 1951, pp. 37-39). A major distinction between the Demery pottery and the Campbell Creek types is the presence of a clearly defined rim-shoulder juncture on most of the Campbell Creek pottery, and the lack of such a juncture on the Demery vessels.

6. FORT RICE CORD-IMPRESSED (pl. 11, *d-h, j-l*).

SAMPLE: 79 vessels.

SURFACE FINISH: The shoulders are vertically simple-stamped and are smoothed. Lips, rims, necks, and interiors are horizontally smoothed.

DECORATION:

Lip: On 6 vessels the lip is obliquely tool-impresed; on one it is obliquely cord-impresed; the remaining lips are plain.

Rim: Horizontally applied cord-impresed lines alternate with curvilinear or triangular elements. From 2 to 8 horizontal lines occur, most vessels having 5 or 6 lines. In the 16 examples of triangular elements, the center of the triangle is plain. At the apex of each triangle is a raised tab (pl. 11, *f-g*); a single exception in which the tab is absent occurred on a curvilinear element, or "rainbow." Ten curvilinear designs were applied over a small applique node on the mid-rim; if a wholly restored vessel rim is typical (fig. 15, *b*), four nodes occurred on each vessel. A horizontal series of punctates occurs on the lower rim of two vessels (pl. 11, *d*). Three vessels, decorated with cord-wrapped stick impressions, are otherwise similar to the above specimens (pl. 11, *l*).

Shoulder: The shoulder of only one vessel is decorated. The pattern consists of a complex rectilinear design (fig. 15, *b*) bordered by oblique punctates.

FORM:

Lip: Predominantly flat, with a few rounded examples.

Rim: Eight forms were observed, of which six are recurved, including rim forms *L-Q* (fig. 13). Two rims, of forms *V* and *W*, are somewhat more angular and might be termed collared. Rims range from 30 to 60 mm. in height, and are 4 to 7 mm. thick.

Neck: Constricted to varying degrees and, except for rim form *N*, they join the shoulder in a smooth curve.

Body: Apparently globular, with round bottoms.

Size: The orifice of the reconstructed rim (fig. 15, *b*) measures 152×156 mm. Since the rim was badly shattered, the difference between the two measurements need not be interpreted that the vessel mouth was oval. The projected arcs of three large rim sherds indicated mouths between 182 and 250 mm. in diameter.

Appendages: There are no handles; nodes are discussed above, under decoration.

COMMENTS: These rims are similar to the type Fort Yates Cord-Impresed from the Paul Brave site (Wood and Woolworth, 1964, pl. 5; Hewes, 1949, pp. 65-66), but they differ in the conformation of the rim, the presence of the applied nodes, and the smaller cords used to impres the design. Fort Yates Cord-Impresed rims have a wedge-shaped cross section due to a thickening near the rim base; only two rims from Demery are so thickened. The type Fort Rice Cord-Impresed, described from the Huff

site (Wood, MS. a) is more nearly like the Demery pottery. There are only minor differences between the Huff pottery and that from Demery, principally in such matters as the number of cord-impressed lines and the degree of rim curvature. This pottery group is, therefore, tentatively identified as Fort Rice Cord-Impressed.

7. FORT RICE TRAILED (pl. 12, e-h, j-m).

SAMPLE: 132 vessels.

SURFACE FINISH: Shoulders are vertically or obliquely simple-stamped and partly smoothed. Necks and rims are horizontally smoothed, although traces of vertical stamps are often visible under the rim designs.

DECORATION:

Lip: The 128 rims with clear evidence of design include 45 with oblique tool impressions; 10 with transverse tool impressions; and 3 with punctates. The other 70 lips are plain.

Rim: The rim is horizontally incised or trailed with 2 to 11 lines. Of the 72 rims carrying complete series, 57 have 4 to 7 lines. Nine rims have stab-and-drag lines (pl. 12, h) either alone or in combination with incised lines. Triangular elements interrupting the horizontal lines occur on 28 rims (pl. 12, k-m). On 22 of these rims the apex of the triangle is near a small applique node or a rim projection.

Shoulder: The shoulders of two vessels are embellished with incised patterns consisting of alternating chevrons and horizontal and vertical lines bordered by oblique lines (fig. 14, d).

FORM:

Lip: Predominantly flat, although a few plain rims are rounded.

Rim: Gently curving recurved rims of nearly constant thickness from the lip to the shoulder include rim forms L-P, and R (fig. 13). A few rims thicken toward the base of the design area, and are more aptly termed collared. The latter rims include forms T-V (fig. 13). Height ranges from 35 to 65 mm., averaging about 45 mm.; thickness, from 4 to 9 mm., averaging about 5 mm.

Neck: Constricted.

Shoulder: Most of the shoulders are at about a 45-degree angle from the vertical, although a few were more nearly horizontal.

Size: The projected arcs of several large rim sherds indicate vessel mouths of 227 and 253 mm.

Appendages: Applique nodes applied to the mid-rim were on 9 vessels, and applique or pinched-out lugs or rim projections occur on 28 vessels. A few of the applique nodes on the mid-rim bear central, vertical punctates.

COMMENTS: The group of rims is related to the flaring rims with horizontally incised lines (Group 2). The latter group, however, lacks nodes applied to the mid-rim. The nearer affiliation of this pottery is with the type Fort Rice Trailed from the Huff site (Wood, MS. a). The only difference between the Huff pottery and that from Demery is the lack of collared rims at Huff (they are rare in Demery) and the smaller number of horizontal lines in the rim design at Huff. This pottery group is accordingly tentatively identified as Fort Rice Trailed.

8. RECURVED RIMS, HORIZONTALLY INCISED AND PINCHED/PUNCTATED (pl. 10, a-c).

SAMPLE: 23 vessels.

SURFACE FINISH: The interior and the exterior rim and the neck are horizontally smoothed.

DECORATION :

Lip: On the 11 rims with lips, 8 are impressed with oblique tool impressions; 1 has oblique tool impressions on the interior lip; 1 has circular punctates; and 1 is plain.

Rim: On the 11 rims complete from neck to lip there are 2 to 7 horizontally incised lines, with more than half of them (6) bearing 5 lines. Below these lines are finger-pinched indentations on 13 vessels, and punctates on 10 vessels (pl. 10, *a-b*). One rim with two horizontally incised lines above a line of punctates is incised with six lines below them; and one atypical rim (pl. 10, *c*) lacks either pinching or punctates.

FORM :

Lip: Flat to somewhat rounded.

Rim: Three forms occur. Rim forms *U-V* (fig. 13) are classed as collared, and comprise six of the eight classifiable rims. One rim is of form *M*, and another is of form *X*.

Neck: Constricted.

Body/size: Sherds are generally small, but one large rim indicates an orifice of about 200 mm. in diameter.

Appendages: None observed.

COMMENTS: A number of characteristics of this pottery, including rim form and decorative elements, are shared with the type Arzberger Horizontal Incised (Spaulding, 1956, pp. 139-141, pl. 8), although none of the Demery vessels appear to have cord-roughened shoulders.

9. RECURVED RIMS, OBLIQUELY INCISED AND PINCHED/PUNCTATED (pl. 13, *h*).

SAMPLE: 12 vessels.

SURFACE FINISH: Originally vertically simple-stamped, then horizontally smoothed on rims and necks. Two rims bear nearly obliterated impressions that suggest they were malleated with a cord-roughened paddle, then smoothed.

DECORATION :

Lip: Oblique tool impressions occur on five lips, and two are plain. The lip is absent on the remaining rims.

Rim: Oblique incised lines occur on 11 of the 12 rims; on one rim a series of 3 oblique lines, forming a chevron, interrupt a series of 10 horizontally incised lines. On the eight sherds retaining the lower rim, three have a finger-pinched border and five are punctated.

Shoulder: One rim bears traces of an incised pattern.

FORM :

Lip: Flat to somewhat rounded.

Rim: The gently recurved rims are of nearly constant thickness from the lip to the neck, except where the finger-pinching thicken the cross section. Rim forms are *U-V* (fig. 13). Rim heights range from 25 to 47 mm.; thickness, from 4 to 8 mm.

COMMENT: These rims are related to the flaring rims with obliquely incised lines (Group 3), although the latter rims lack the rim profile and the modified rim base occurring on this group.

10. RECURVED RIMS, PINCHED IN MID-RIM (pl. 13, *i*).

SAMPLE: 3 vessels.

SURFACE FINISH: The rims are horizontally smoothed on the interior and exterior.

DECORATION :

Lip: Oblique tool impressions.

Rim: A horizontal series of finger-pinched impressions occur on two rims at the mid-rim; the remaining rim is obliquely tool-impressed (pl. 13, *i*).

FORM :

Lip: Flat.

Rim: Gently recurved, with constant thickness from the lip to the neck, of form *L* (fig. 13).

Neck: Constricted.

Body size: No data.

COMMENTS: These sherds seem to be variants of the rims with obliquely or horizontally incised lines with finger-pinched or punctated rim bases (Groups 7-9), but these rims are less complex.

11. RECURVED RIMS, PLAIN (pl. 12, *a-b, i*).

SAMPLE: 18 vessels.

SURFACE FINISH: The rims and shoulders were first simple-stamped and then horizontally smoothed.

DECORATION :

Lip: Oblique tool impressions occur on five lips; one has transverse tool impressions; one has oblique tool impressions on the inner rim; and the rest are plain.

Rim: Plain.

Shoulder: Incised chevrons and oblique incised lines occur on the shoulder of one vessel (fig. 15, *f*).

FORM :

Lip: Round to somewhat flat.

Rim: Gently recurving rims of nearly constant thickness from the lip to the neck include forms *L-M* and *P-Q* (fig. 13). Height varies from 25 to 60 mm., averaging about 40 mm.; thickness, from 4 to 8 mm., averaging about 6 mm.

Neck: Constricted.

Shoulder: On two vessels it is about 30 degrees from the vertical.

Appendages: An applique lug occurs on the mid-rim of one rim, and a lug scar appears on another rim.

COMMENTS: There are close similarities between this group and Examples *D* from the Paul Brave site (Wood and Woolworth, 1964), and "Riggs Plain" from the Thomas Riggs site (Kleinsasser, 1953, p. 28). It also resembles Example *D* from the Huff site (Wood, MS. a).

12. CORD-IMPRESSED RIMS, EXAMPLE A (pl. 11, *a*).

SAMPLE: 1 vessel.

PASTE :

Temper: Sparse, minute particles, including some sand.

Texture: Well-worked clay with a laminated core.

Color: Light brown.

SURFACE FINISH: Interior and exterior horizontally smoothed.

DECORATION :

Rim: Four horizontally cord-impressed lines on exterior.

FORM :

Lip: Pointed.

Rim: Straight, with an added fillet below the lip, of form *K* (fig. 13).

COMMENTS: This rim does not closely resemble any other reported pottery.

13. CORD-IMPRESSED RIMS, EXAMPLE B (pl. 11, *b*).

SAMPLE: 1 vessel.

PASTE AND SURFACE FINISH: See Example A.

DECORATION :

Lip: Oblique tool impressions.

Rim: Three horizontally applied cord-impressed lines.

FORM :

Lip: Flat.

Rim: Straight, with the rim blending smoothly with the shoulder, of form *B* (fig. 13).

COMMENTS: This example may be a cord-impressed variety of the horizontally incised, flaring rim sherds (Group 2).

14. CORD-IMPRESSED RIM, EXAMPLE C (pl. 11, *i*).

SAMPLE: 1 vessel.

PASTE AND SURFACE FINISH: See Example A.

DECORATION :

Lip: Chevrons, composed of shallow, oblique tool impressions on the interior and exterior.

Rim: Seven horizontally applied cord-impressed lines.

Shoulder: Herringbone pattern, the only occurrence of this design in the site sample.

FORM :

Lip: Pointed.

Rim: Straight to slightly recurved, of form *D* (fig. 13).

Shoulder: Flat and sloping, with an angular break at the juncture with the body.

Size: The orifice measures 95 mm. in diameter.

COMMENTS: This example may be another cord-impressed variety of the horizontally incised vessels with flared rims (Group 2).

15. CORD-IMPRESSED RIM, EXAMPLE D (pl. 11, *c*).

SAMPLE: 1 vessel.

PASTE :

Temper: Coarse grit.

Texture: Rather crumbly, with loosely compacted clay.

SURFACE FINISH: Horizontally smoothed on interior and exterior.

DECORATION :

Lip: Crosshatched.

Rim: Five horizontally applied cord-impressed lines.

FORM :

Lip: Beveled down and out.

Rim: Straight, of form *J* (fig. 13).

COMMENTS: This rim does not closely resemble any previously described pottery.

16. RIGGS CROSS-HATCHED RIMS (pl. 12, *d*).

The sample consists of five sherds from four vessels. The lip of one vessel is carefully crosshatched, but the same design on the outer rim is irregularly applied. The paste is coarse and the grit is large-grained. This single sherd is from House 4, while the rest of them are from the surface.

The other sherds are more carefully crosshatched, with oblique tool impressions on the lips of two vessels, and a plain lip on the other vessel. The paste and temper of these sherds is less coarse than that of the vessel from House 4. Each of the sherds of this type is identical to examples as described from the Paul Brave site (Wood and Woolworth, 1964), a component of the Thomas Riggs Focus a few miles north on the Missouri River.

17. RIGGS STRAIGHT RIM (pl. 13, *l*).

The 12 rims from the 9 vessels of this type are distinguishable from the other sherds from the site in having (a) a coarse temper and a crumbly, granular texture, (b) cross sections 8 to 14 mm. thick, as opposed to cross sections 4 to 8 mm. thick in the majority of rims, and (c) contorted cores, in contrast to the more commonly laminated cores. Vertical rim projections occur on two rims.

Four rim sherds are from the surface, and one each is from Feature 51 and Feature 55, irregularly shaped pits near House 5; sherds from 3 vessels were in House 4. A number of fragments of one large vessel were in Feature 97, a large irregular pit in the south side of House 4, and a decorated body sherd (fig. 16, f) was in the same pit. This sherd may be duplicated among those from Paul Brave (Wood and Woolworth, 1964, fig. 1). One of the center posts of House 4 was intrusive into the fill of this pit, providing evidence that the pit was dug and filled before the house was built. This circumstance suggests an occupation of the site by a group predating the occupation represented by the majority of excavated remains. This occupation, attributed to the Thomas Riggs Focus, is presumed to predate the Demery Component.

TABLE 2.—Probable number of vessels represented by the "rim" sherd sample

	Number of vessels	Percent
Demery Component		
1. Talking Crow Straight Rim.....	483	35. 6
2. Flaring rims, horizontally incised.....	476	35. 1
3. Flaring rims, obliquely incised.....	15	1. 1
4. Flaring rims, beveled or braced.....	105	7. 7
5. Flaring rims, cord-roughened.....	6	. 4
6. Fort Rice Cord-Imprinted.....	79	5. 8
7. Fort Rice Trailed.....	132	9. 7
8. Recurved rims, horizontally incised and pinched/ punctated.....	23	1. 7
9. Recurved rims, obliquely incised and pinched/ punctated.....	12	. 9
10. Recurved rims, pinched in mid-rim.....	3	. 2
11. Recurved rims, plain.....	18	1. 3
12. Cord-impressed rim, Example A.....	1	. 07
13. Cord-impressed rim, Example B.....	1	. 07
14. Cord-impressed rim, Example C.....	1	. 07
15. Cord-impressed rim, Example D.....	1	. 07
Total.....	1, 356	99. 78
Thomas Riggs Focus Component		
16. Riggs Cross-Hatched Rim.....	4	30. 8
17. Riggs Straight Rim.....	9	69. 2
Total.....	13	100. 0

CHIPPED STONE

Projectile points (130 specimens) :

The points in this sample are all essentially triangular in outline, with straight to somewhat convex edges. They were made by the careful removal of small pressure flakes from both faces, with a final product having evenly flaked sides and a lenticular or biconvex cross section. Three groups are distinguished on the basis of the shape of the base and the presence or absence of side notches. Seventy-nine of them are made from a light-gray chert, and twenty-two are made from Knife River flint (chalcedony). The remaining 29 specimens

are made from quartzite (7), variously colored cherts (14), Badlands chalcedony (6), and agate and petrified wood (2).

Triangular blade, straight base, unnotched (75 specimens).—These points have straight to somewhat irregular bases, with gently convex blade edges. They range in length from 20 to 58 mm., although 80 percent of them are less than 40 mm. long. Width is 12 to 26 mm., with a mean of about 19 mm. Thickness ranges between 3 and 6 mm. The smallest point has a weight of 0.4 gram, and the largest weighs 16 grams, but only 5 points exceed 2 grams in weight (fig. 17, *a-d*).

Triangular blade, straight base, two side notches (27 specimens).—These points have fairly straight, regular bases, with straight to gently convex blade edges. They range in length from 20 to 41 mm., although 80 percent of them are less than 31 mm. long. Width is 10 to 18 mm., with a mean of about 14 mm. Thickness is from 2 to 6 mm. The smallest point has a weight of 0.6 gram, and the largest of them weighs 2.3 grams, most of them averaging about 1 gram (fig. 17, *e-h*).

Triangular blade, concave base, two side notches (15 specimens).—These points have even, concave bases, with straight to gently convex blade edges. Length ranges from 21 to 44 mm., although 80 percent of them are less than 33 mm. long. Width is from 12 to 18 mm., with a mean of about 14 mm. They are 3 to 7 mm. thick. The smallest point has a weight of 0.7 gram; the largest weighs 3.0 grams, but only one of them exceeds 1.6 grams in weight (fig. 17, *i-l*).

Point fragments (13 specimens).—These fragmentary points consist of the tips of points which have been broken through side notches; the form of the base is indeterminate.

End scrapers (226 specimens) :

The outlines of these specimens tend to be triangular to rectangular, although many of them are irregular in form. The working edge, on the end opposite the bulb of percussion, is generally steeply flaked. Most of them bear large flake scars on the convex upper surfaces (fig. 19, *d-g*), but a few of them are flaked on the upper surface (fig. 19, *c, h*). The smallest scraper measures $18 \times 19 \times 6$ mm., with the largest of them measuring $76 \times 46 \times 15$ mm.; the average is about $40 \times 24 \times 10$ mm. (fig. 19, *c-h*).

Expanding base drills (4 specimens) :

One complete specimen, made of petrified wood, has a short, triangular point on one side of a leaf-shaped flake. The specimen is unifacially flaked; it is 32 mm. wide and 29 mm. long (fig. 19, *a*). The other three specimens have nearly parallel-sided shafts which are broken off a few millimeters from the base (fig. 19, *b*). Bases are 18 to 32 mm. wide, and the shafts suggest lengths originally in excess of

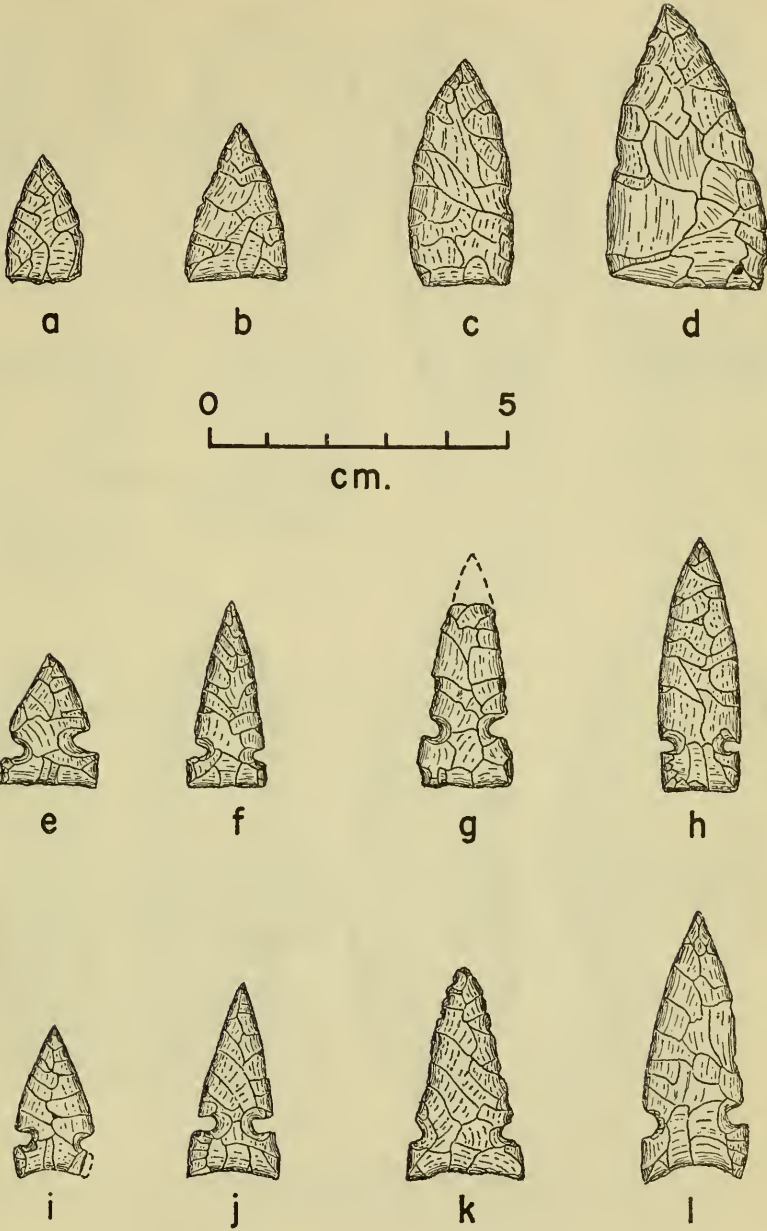


FIGURE 17.—Projectile points.

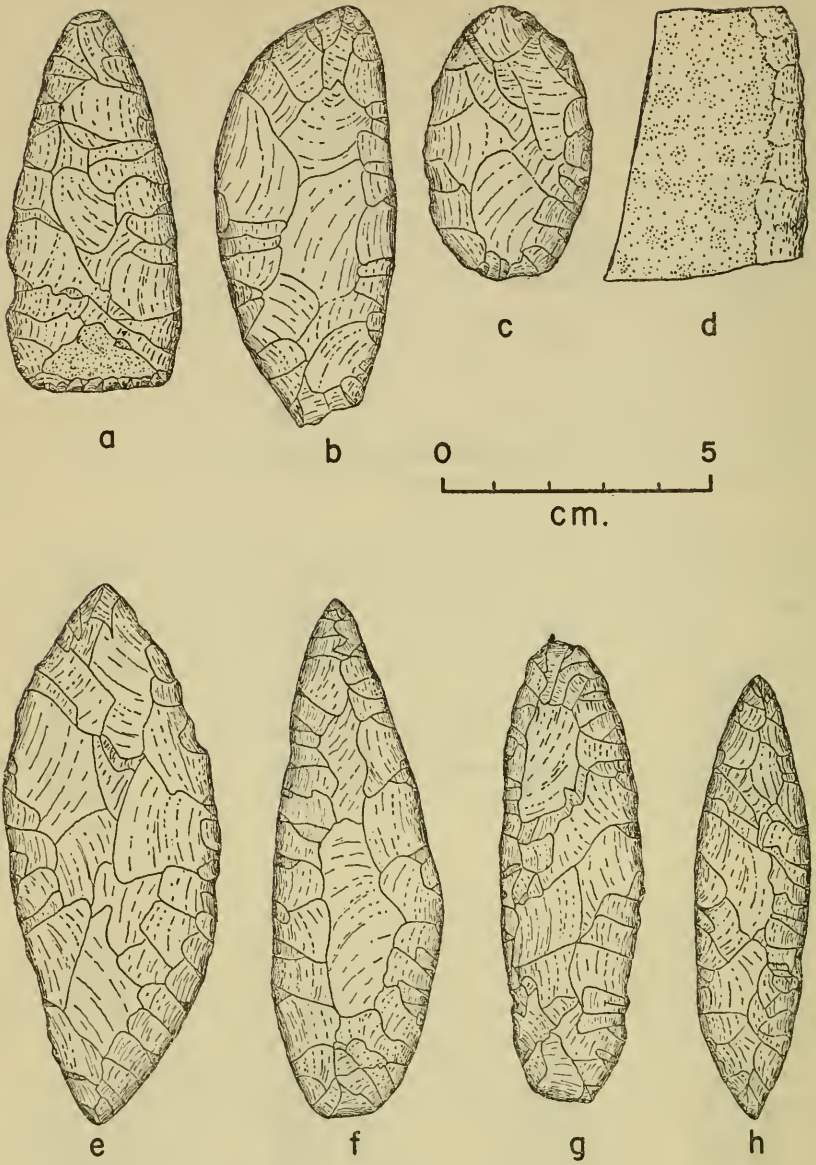


FIGURE 18.—Chipped stone knives.

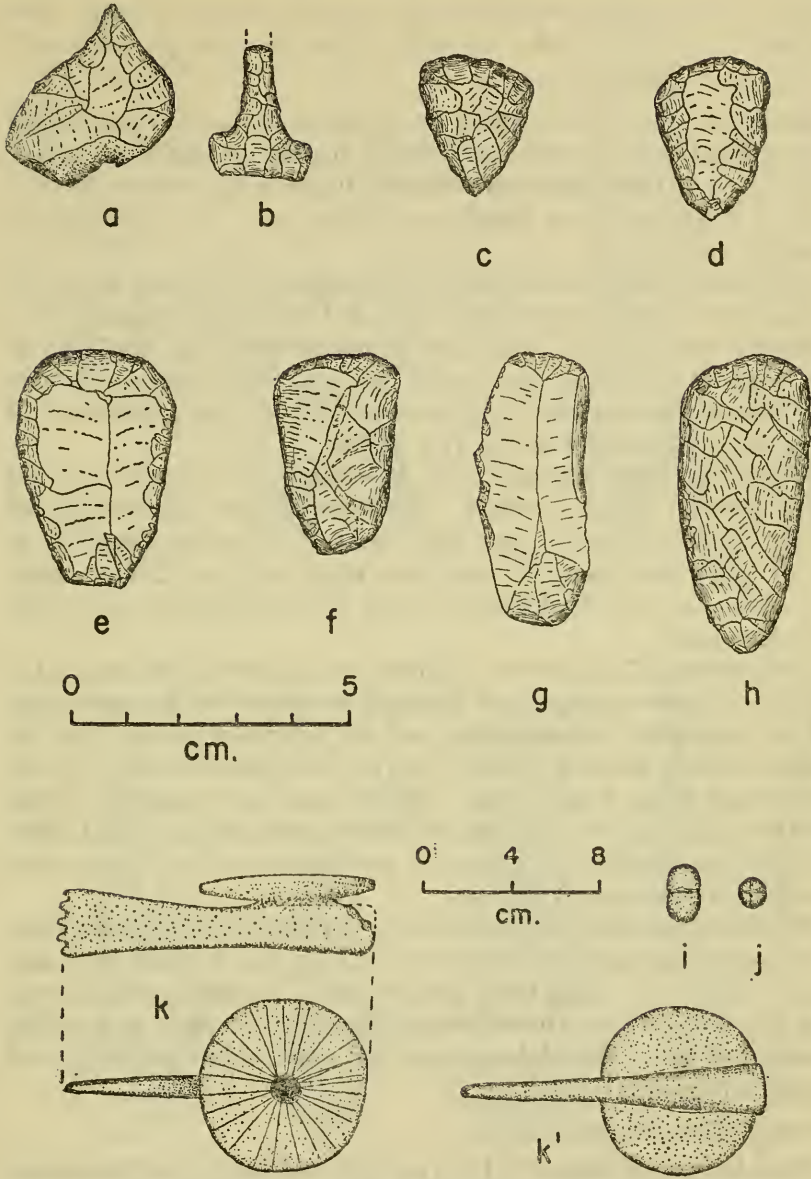


FIGURE 19.—Chipped and ground stone artifacts. *a-b*, Drills. *c-h*, End scrapers. *i-j*, Game pieces. *k*, Catlinite disk-bowl pipe.

20 mm. These shafts are alternately beveled, with rhomboidal cross sections. Material includes chalcedony, quartzite, and petrified wood.

Broad knives (117 specimens) :

Bipointed, convex blade edges (2 specimens).—Leaf-shaped knives with pointed ends are bifacially flaked, having lenticular cross sections. One of them measures $115 \times 36 \times 10$ mm.; the other $100 \times 40 \times 8$ mm. They are made from a gray chert and from fine-grained quartzite (fig. 18, *e*).

Triangular blade, convex bases (35 specimens).—Blade edges are strongly convex; tips are pointed. Each is bifacially flaked, with a lenticular cross section. The three complete specimens are 78 to 95 mm. long, 31 to 33 mm. wide, and 8 to 9 mm. thick, although broken specimens suggest original lengths exceeding 100 mm.; widths of 46 mm.; and thicknesses of 15 mm. (fig. 18, *f*).

Triangular blade, straight bases (3 specimens).—Blade edges are gently convex; tips are pointed. The bases of these bifacially flaked knives are thinned on only one side, resulting in beveled bases. They are 57 to 70 mm. long, 31 to 43 mm. wide, and 8 to 12 mm. thick. Materials were vein chalcedony, Knife River chalcedony, and gray chert (fig. 18, *a*).

Oval knives (77 specimens).—Thirty-one of these knives are oval to round, with convex edges and rounded to somewhat flattened ends. All are lenticular in cross section and are bifacially flaked. The six complete knives are 40 to 115 mm. long and 32 to 68 mm. wide. Thickness ranges from 7 to 11 mm. Broken specimens suggest widths were sometimes as low as 28 mm., and thicknesses ranged up to 14 mm. Knife River chalcedony, quartzite, petrified wood, and gray chert served as raw materials (fig. 18, *c*).

Forty-six specimens have more nearly parallel edges. The six complete specimens range from 60 to 95 mm. long, and from 28 to 30 mm. wide. Thickness ranges from 10 to 13 mm. Broken specimens suggest that original lengths sometimes exceeded 100 mm., and widths exceeded 45 mm. Materials are petrified wood, vein chalcedony, and quartzite (fig. 18, *g*).

Narrow knives (13 specimens) :

These knives are similar in form to the broad knives described above as bipointed, with convex blade edges, but they are narrower and better made than the broad group. These differences may have resulted from their use in a special context. Their size and form is well adapted for insertion in the slotted bone or wood knife handles from the site (fig. 20, *b-c*). The five complete specimens are 62 to 83 mm. long, 15 to 24 mm. wide, and 6 to 10 mm. thick. One broken knife may originally have been 150 to 170 mm. long. Knife River chalcedony, quartzite, and variously colored cherts were used as raw materials (fig. 18, *h*).

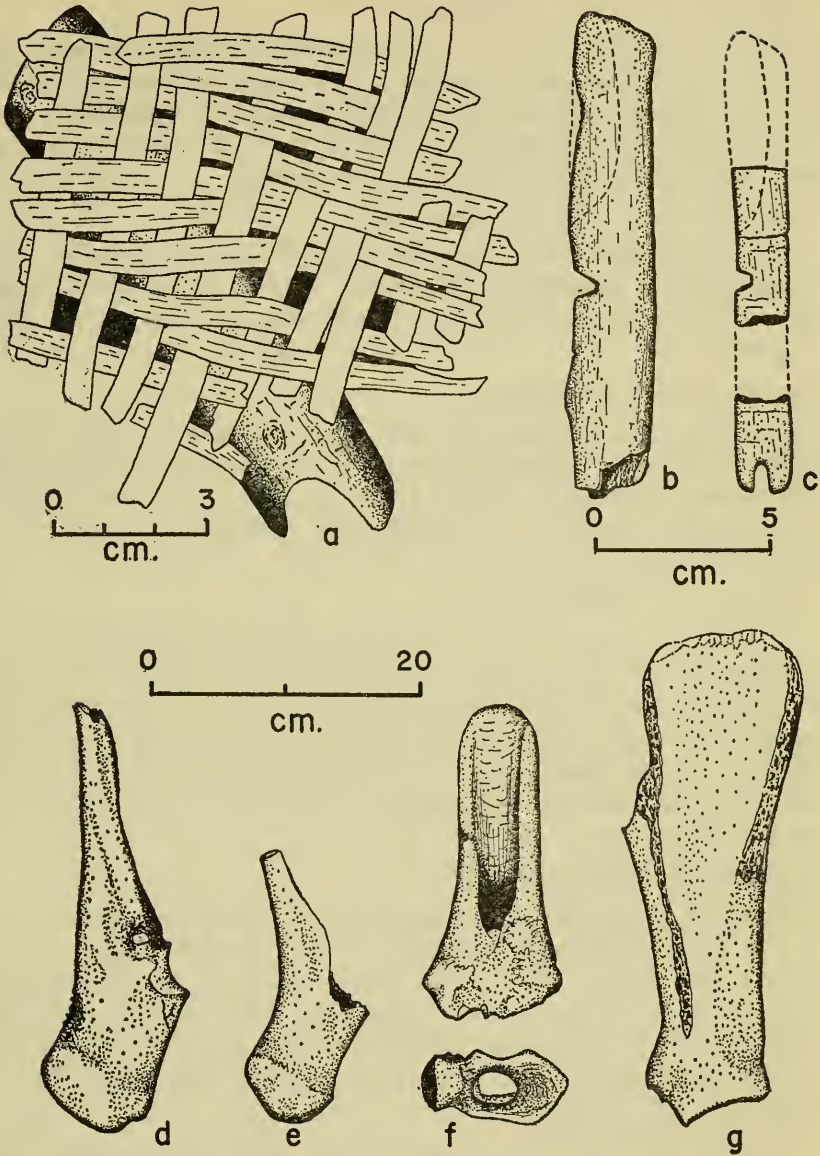


FIGURE 20.—Basketry, woodwork, and bone artifacts. *a*, Charred, twilled basketry fragment. *b*, Slotted bone knife handle. *c*, Charred, slotted wooden knife handle. *d-e*, Bison ulna tools. *f*, Bison radius pick. *g*, Bison scapula hoe.

Asymmetrical knives (10 specimens) :

The form of these specimens is best shown in the illustration (fig. 18, *b*). They have one strongly convex edge, and one edge more nearly straight. The ends are convex to pointed. The three complete specimens are 77 to 102 mm. long, 36 to 55 mm. wide, and 8 to 11 mm. thick. Materials are chert and quartzite.

Vein chalcedony knives (45 specimens) :

These knives were made from slabs of vein chalcedony, one or more edges of which were bifacially flaked to form a sharp cutting edge. They are 20 to 80 mm. long, 15 to 67 mm. wide, and 5 to 10 mm. thick (fig. 18, *d*).

Flake knives (39 specimens) :

Flakes with bifacial flaking on one or more edges are classed as flake knives. The edge is generally even and regular, with carefully detached pressure flakes forming the cutting edge. Flakes are of almost every shape, with lengths up to 102 mm. Materials are quartzite, petrified wood, and chalcedony.

Flake scrapers (154 specimens) :

Flakes with regular, unifacial pressure flaking along one or more edges are classed as flake scrapers. These tools were made from conchoidal flakes of Knife River chalcedony, quartzite, colored chert, petrified wood, and a few pieces of stone which resemble Bijou Hills quartzite. This stone, common in sites along the Missouri River in southern South Dakota and northeastern Nebraska, may have been traded into the area.

Modified flakes (170 specimens) :

Flakes of varying size and form, having one or more edges bearing minute flakes detached by use, are classed as modified flakes. These flakes appear to have been modified by use and not by pressure flaking. Material is chalcedony, petrified wood, chert, Knife River chalcedony, and quartzite. A single flake of smoky obsidian (the only scrap of this material recovered at the site) resembles samples from Wyoming.

Choppers (19 specimens) :

Circular or oval slabs of quartzite, chert, and basalt, detached from the parent material by percussion, may have been used as choppers. Most of them have convex to straight edges modified by coarse, unifacial percussion flaking, although some of them are bifacially flaked. These implements are large, measuring 90 to 260 mm. long and 55 to 30 mm. wide. One of them has shallow notches flaked into the edges and could have been hafted for use as an ax.

GROUND STONE

Grooved mauls (19 specimens) :

Eighteen of these tools were made from oval granite pebbles, with one specimen of fossiliferous stone composed of calcified organic matter. Basically, they are oval stream pebbles modified only by the pecked groove that encircles them. These grooves are centered on 13 mauls, but on 6 of them they are offset toward one end. Only one of them has a polished groove. The ends are usually heavily battered. They range in size from 60×55 mm. to 135×180 mm.; weight ranges from 1/2 to 9 1/4 pounds, with a mean weight of 4 pounds.

Diorite celts (4 specimens) :

Three of these tools are subrectangular in outline and in cross section, having been fully shaped by pecking and grinding (fig. 21, *e*). Lengths range from 115 to 145 mm.; widths, from 55 to 56 mm.; thickness, from 31 to 40 mm. The cutting edges are about the same width as the maximum width, and are blunted from use; polls are battered from use as hammers. A large piece of diorite, pecked over most of its surface, may be a celt in an early stage of manufacture.

Pebble hammerstones (46 specimens) :

These implements were made from granite and quartzite pebbles, and occur in three forms. Five of them, about the size of baseballs, were made from pebbles which have been battered on all surfaces. Another group of six circular hammers are also battered on all surfaces, but they are consistently smaller and are evenly shaped. These latter implements are 50 to 65 mm. in diameter.

The remaining 35 hammers are irregularly shaped river pebbles, tending to be oval in shape. Most of them were battered on one or more faces, and usually on the ends, but none of them were purposefully shaped. They range from 30 to 100 mm. in diameter.

Discoidal hammerstones (8 specimens) :

These tools are disk-shaped sandstone and quartzite stones; sides are flat and cross sections are oval. A shallow pit was pecked into each of the flat surfaces, possibly for finger holds, and the entire circumference of each stone is battered.

Abraders (61 specimens) :

Irregular pieces of fine-grained sandstone, scoria, shale, diorite, and granite either have shallow, cup-shaped depressions or flat, smoothed areas on one or more surfaces that suggest they were used as abraders.

Grooved abraders (67 specimens) :

These objects are composed of scoria and medium- to fine-grained sandstone. The irregular width and form of the grooves precludes

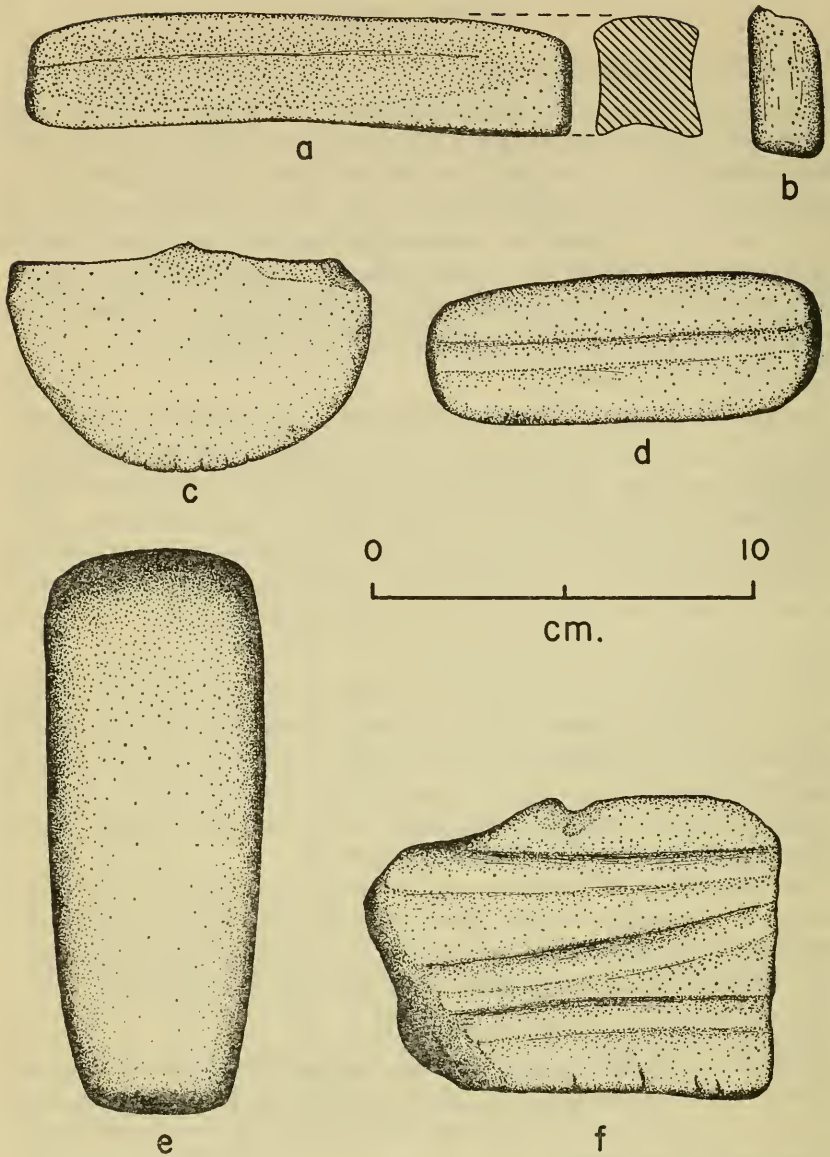


FIGURE 21.—Ground stone artifacts. *a, d*, Arrow shaft smoothers. *b*, Catlinite pipe bowl. *c*, Sandstone disk. *e*, Diorite celt. *f*, Grooved abrading stone.

the possibility that they were used as shaft smoothers; it is more likely that they were used to sharpen awls or other tools. Many of them are small, with shallow V-shaped grooves which suggest that they were used for delicate abrading. They are 30 to 70 mm. long, and average slightly less in width. Other pieces of irregular sandstone have larger, more prominent U-shaped grooves. They vary greatly

in size, ranging from 40 to 170 mm. long and 25 to 110 mm. wide (fig. 21, *f*).

Shaft smoothers (21 specimens) :

Although most of these are fragmentary, they are generally elongated, boat-shaped pieces of coarse- to fine-grained sandstone with convex ends. All specimens have a U-shaped groove of varying depth along one flat side. One complete example is 100 mm. long and 40 mm. wide (fig. 21, *d*).

Catlinite pipes (2 specimens) :

One complete disk-bowl pipe is 140 mm. long and 33 mm. high. The prow projects 60 mm. beyond the forward edge of the platform. The forward end of the prow is serrated, and the platform has 14 paired, incised lines radiating out from the orifice in the platform center. The bowl was drilled with a tapered drill (fig. 19, *k*). A second pipe is a tubular fragment of a cylindrical bowl. The piece is 40 mm. long and 16 mm. in diameter (fig. 21, *b*).

Sandstone disk (1 specimen) :

One-half of a disk of fine-grained sandstone, 97 mm. in diameter and 10 mm. thick, has a lenticular cross section. The surfaces are smooth and even, and there is a shallow depression in the center of one face. The edges are scored by small notches, and one face is smudged with red ocher (fig. 21, *e*).

Game pieces (2 specimens) :

One of these objects is a smooth, oval stone 24 mm. long and 15 mm. wide, with an encircling groove at its midpoint (fig. 19, *i*). The second stone resembles a smooth, fossil fruit stone; it is 8 mm. long and 7 mm. wide, with a raised ridge along the edges. One surface bears a deeply incised \times (fig. 19, *j*).

Mealing slab (1 specimen) :

A large slab of granite with one smooth, depressed surface measures 421 mm. in length, 254 mm. in width, and 127 mm. in thickness. The depressed surface was ground smooth; it was probably used after the manner of a mealing slab, although no manos or mullers were recovered.

Pigments (6 pieces) :

Six pieces of sandstone and chalk may have been sources of paint. Four of them are of very fine-grained sandstone, impregnated with hematite; three of them are brick red in color and the other is light buff. Two small pieces of light yellow chalk have smooth, rounded surfaces.

Unworked stone (2 pieces) :

These items consist of a piece of unmodified calcite 65 mm. long, 22 mm. wide, and 12 mm. thick; and a piece of sheet mica 75 mm. square, with rounded corners. These two items may have been picked up and carried to the site as oddities.

BONE ARTIFACTS

Scapula hoes (100 specimens) :

The scapulae of adult bison were used in the manufacture of these implements, although some smaller specimens may be from young bison or from elk. The supra-scapular border was beveled on the side bearing the scapular fossae, and these fossae are hacked away so that the surface of the bone is nearly flat. In a few instances there are suggestions that the edges were roughened by chopping at points about 100 to 150 mm. from the cutting edge, probably to provide a rough surface for binding a handle to the tool. The cutting edge may either be rounded or straight; the more heavily worn tools are rounded, whereas the others are more nearly square. The articulating end is retained without modification (fig. 20, *g*).

Sixty-four hoes are made from the right scapula, and 36 are from the left scapula. The range in length of the 46 complete hoes is 270 to 480 mm. The shortest hoe, however, was about 40 mm. shorter than any other in the series, and the longest was about 40 mm. longer; excluding these two atypical specimens, the range in length is 310 to 440 mm.

Scapula knives (19 specimens) :

These specimens were made from various parts of bison scapulae. Two groups are identified in the series. The first group consists of 10 specimens made from parts of the scapula on which the spinous processes were hacked down, retaining part of the thin flat bone in the scapula center as a blade. In general, they are paddle shaped, with roughly parallel or convex edges. Parts of the medial or lateral border often project beyond the blade and may have served as handles. Some of them may have been made from broken scapula hoes, since they often have a beveled edge on one end, on the side bearing the scapular processes; this bevel is characteristic of hoe blades. The edge of the scapula opposite the scapular process is sharpened on each of them. The blades are either convex or concave, the latter specimens resembling a scythe blade in some respects. Lengths of complete specimens range from 220 to 390 mm. (fig. 22, *g*).

The other nine specimens classed as knives are oval, triangular, or rectangular scapula fragments sharpened on one or more edges. They resemble the familiar bone tools generally called "squash knives," and are 120 to 165 mm. long (fig. 22, *h*).

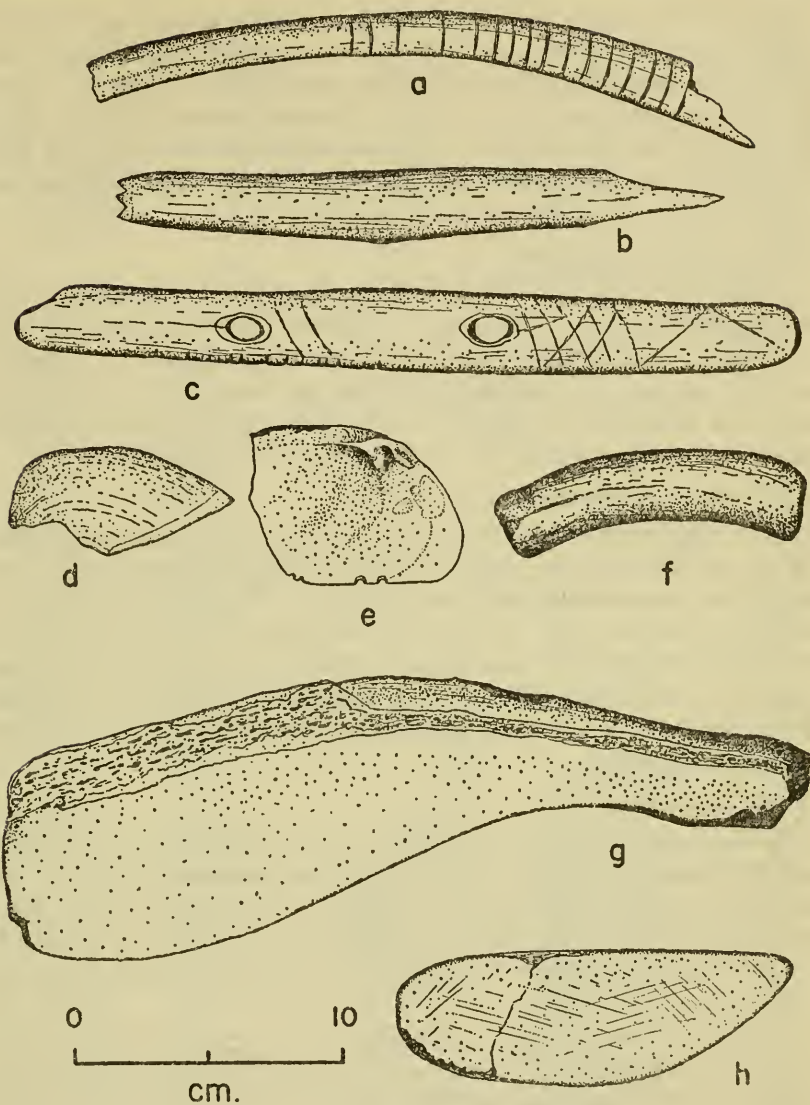


FIGURE 22.—Artifacts of bone, antler, and shell. *a*, Scored bison rib. *b*, Serrated rib tip. *c*, Arrow shaft wrench. *d-e*, Shell scrapers. *f*, Antler cylinder. *g*, Scapula "cleaver." *h*, Bone knife.

Shaft wrenches (13 specimens) :

These tools were made by drilling one or two roughly circular holes through a large rib, and rounding the rib ends. The three complete specimens are 240 and 295 mm. long; one of these has two oval holes spaced 75 mm. apart (fig. 22, *c*). The other two wrenches have a single, centrally located hole. All holes are oval, and all except one have beveled or rounded edges; diameters range from 11 to 16 mm.

Five of them have lightly incised decorations, usually on the concave side of the rib. On one, the incisions consist of random diamond-shaped incisions along the midline; on another, the design is a wavy line with angular crests and troughs. Random crosshatching and × marks occur on two of them. Twelve shallow notches are cut into the edge of one of the latter pieces (fig. 22, *c*). The fifth incised wrench has two incised × marks on one edge.

Knife handle (1 specimen) :

A piece of large rib, 137 mm. long, is cut into rectangular form and smoothly polished. There is a small slot at one end, 60 mm. long and 13 mm. deep, made by removing the cancellous tissue. A V-shaped notch is cut into the handle behind this slot, and 15 mm. from this notch is a smaller one (fig. 20, *b*). A similar specimen, of wood (fig. 20, *c*), is described under the heading, "Perishable Remains."

Fishhooks (2 specimens) :

These implements are made from segments of mammal long bones. On one of them, 40 mm. long and 16 mm. wide, the sharp point forms an angle of about 40 degrees from the shank. The end of the shank is notched to assure a firm attachment to the line (fig. 23, *d*). A second object, superficially resembling a fishhook, probably had another function. This object, 60 mm. long and 20 mm. wide, has a rounded "point," and the end of the shank shows no modification for attaching a line (fig. 23, *e*).

Tubes (5 specimens) :

Both ends of two eagle wing bones are cut, but they are not smoothed and the cancellous tissue is intact. They may represent a stage in the manufacture of a whistle or a tube; they are 62 and 111 mm. long. Both ends of another tube, made from the long bone of a deer or antelope, are cut square. The cancellous tissue is removed and the ends are scored (fig. 23, *i*).

Two other bones seem to be stages in the manufacture of bone tubes. One of these is the proximal end of a deer or antelope metapodial. It is 36 mm. long, and the distal end was transversely cut to a depth of 4 mm. and snapped off. Another specimen appears to be the proximal end of an eagle humerus. At a point below the humeral head, where the bone is oval, it was transversely cut and the end snapped off. Neither of these latter two bones was otherwise modified.

Cancellous tissue abraders (3 specimens) :

These oval pieces of cancellous bone have rounded surfaces which suggest they were used as abraders. They do not seem to be "paint brushes" since they retain no paint in the interstices. Each seems to be made from a femoral head; they are 35 to 40 mm. in diameter (fig. 24, *e*).

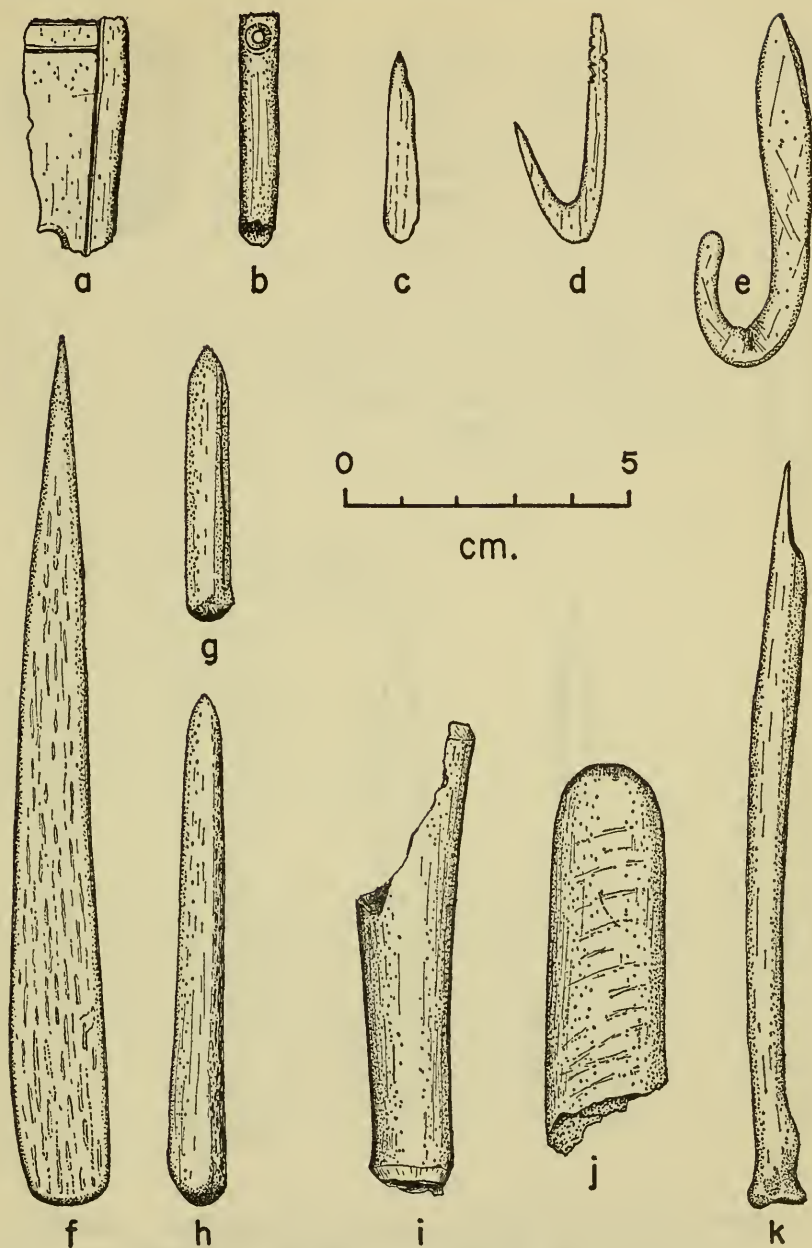


FIGURE 23.—Artifacts of antler and bone. *a-b*, Antler bracelets. *c*, Miniature bone awl. *d-e*, Fishhooks. *f*, Split rib awl. *g-h*, "Rib-edge" awls. *i*, Bone tube. *j*, Pottery modeling tool. *k*, Bird bone awl.

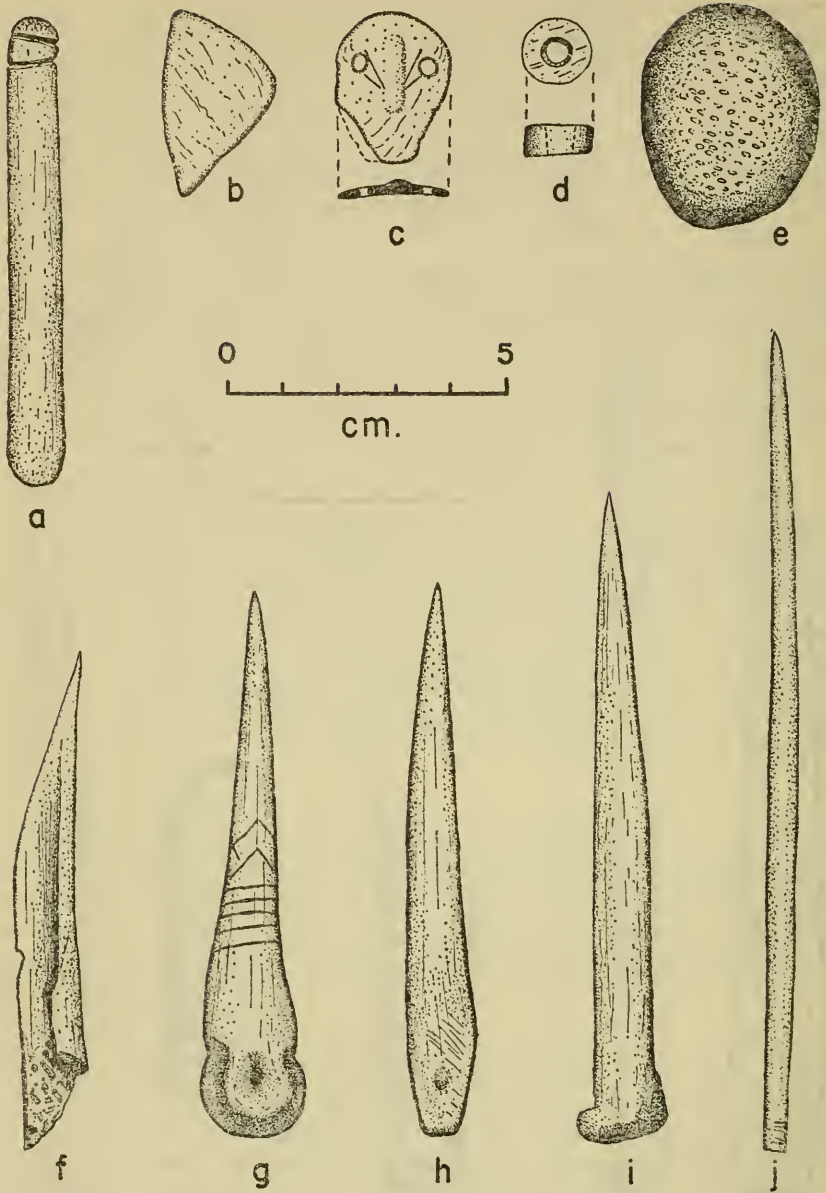


FIGURE 24.—Artifacts of bone and shell. *a*, Pendant. *b*, Modified shell. *c*, Shell "face." *d*, Shell disk bead. *e*, Cancellous tissue abrader. *f-j*, Bone awls.

Scored ribs (4 specimens) :

These objects were made by cutting 8 to 16 transverse notches, 3 to 10 mm. apart, across the convex surface of large ribs. All of these objects seem to be broken, since both ends are fragmentary. They range from 95 to 253 mm. in length (fig. 22, *a*).

Awls (79 specimens) :

The awls from Demery generally have sharp, tapering points, although some of them are rather blunt. Each of the tools with points sharp enough to have served as hide perforators is classed as an awl. The classification of these implements follows that of Kidder (1932), with a few necessary modifications as required by the sample. The awls are divided into six groups, based on the material from which they are derived. The amount of work done to bring them to their final form is the basis for the following classification.

Mammal long bones-----	29
Head of bone left intact except for splitting (24).	
Distal ends of metapodials (18).	
Proximal ends of metapodials (6).	
Head of bone partially worked down (2).	
Circular, tapered awls (2).	
Splinter awl (1).	
Split mammal ribs-----	5
Neural spine awls ("rib edge")-----	39
Scapula splinters-----	2
Bird long bone-----	1
Miniature awls (source uncertain)-----	3
	79
Total awls-----	79

Long bone: head of bone left intact except for splitting (24 specimens).—All of the specimens in this class were made from the metapodials of deer or antelope. They were split by longitudinally sawing the posterior side of the bone and by wedging apart the diastema in the proximal end, and using the resulting splinters, with the ends as butts. A complete metapodial was 237 mm. long, and the longest complete awl is 156 mm. long, revealing that the longest awls were about two-thirds the length of the bone. The butts were rounded and polished by use.

Eighteen awls were made from the distal end of the metapodial (fig. 24, *i*). An unfinished awl is 190 mm. long, but finished specimens are 66 to 156 mm. long. The longer awls are slender and evenly tapered; the shorter ones, thick and stubby, probably from repeated sharpening. Six awls are from the proximal end of the bone. The longest of these is 97 mm. long; the shortest, 69 mm. long; they were highly polished. One of them is incised (fig. 24, *g*).

Long bone: head of bone partially worked down (2 specimens).—

The two specimens of this class, made from the proximal end of metapodials, are of similar size and proportions. They are 98 and 101 mm. long, with long tapering shafts. The butts are smooth and rounded, having been worked so that articulating facets and projecting bone were removed, leaving a smooth, swelling grip (fig. 24, *h*).

Long bone: circular, tapered awls (2 specimens).—These two awls, made from sections of long bones, are 145 and 225 mm. long. There are faint traces of cancellous tissue along one side of the larger awl. The butt of the shorter awl is broken (fig. 24, *j*); the butt of the other is rounded.

Long bone: splinter awl (1 specimen).—The single awl of this class consists of a splinter of long bone which was sharpened on one pointed end. It is smoothed on all surfaces except the butt. Length, 88 mm. (fig. 24, *f*).

Split mammal rib awls (5 specimens).—The five complete specimens in this class were made from split bison ribs, and are 80 to 173 mm. long. They have sharp, tapering points; most of their surfaces are smoothed, although only one of them has a smooth, rounded butt (fig. 23, *f*).

Neural spine awls (39 specimens).—Specimens of this class, usually called "rib edge" awls, were almost certainly made from sections cut from the neural spine of bison thoracic vertebrae (see Wedel, 1955, pp. 119–120). In some cases, the edge is ground down so that the cancellous tissue is nearly gone; in others, part of it remains. They are usually triangular in section and the butts are rounded or faceted. A few of them are long and slender, tapering evenly to form a slender shaft (fig. 23, *h*), but more often they are short and stubby (fig. 23, *g*).

Scapula splinter awls (2 specimens).—Fragments of bison scapula spines, as much as 40 mm. long, are fashioned into awls by grinding one end smooth to serve as the butt, and the other into a sharp point.

Bird long bone awl (1 specimen).—The single awl of this class is made from what appears to be a radius, with one end brought to a sharp, stubby point. Length, 129 mm. (fig. 23, *k*).

Miniature awls (3 specimens).—These awls are made from unidentifiable, thin-walled bones. Two of them are slender and tapered, with sharp points. The third awl has nearly parallel edges and a blunt, stubby point (fig. 23, *c*). They are 32 to 62 mm. long, and 5 mm. wide.

Serrated rib tip (1 specimen):

One end of a large rib, 230 mm. long, is serrated; the bone adjacent to the serrations is polished and beveled from wear (fig. 22, *b*).

Pottery modeling tools (5 specimens):

These five incomplete items were probably made from bison ribs. Four of them have one convex and one broken end; the fifth one is

fragmentary. Surfaces are smooth but they are not polished. The original lengths of these tools exceeded 68 to 160 mm. (fig. 23, *j*).

Ulna chisel (1 specimen):

The proximal end of a bison ulna and part of the shaft were used for this tool, which is 195 mm. long. The humeral articulating facet is lacking. The proximal end has a chisel-shaped edge which is turned at about a 45-degree angle from the flat surface of the bone (fig. 20, *e*).

Ulna picks (6 specimens):

The proximal ends of right bison ulnae have rounded and smoothed tips, perhaps indicating use as digging tools. Three of them are cut or hacked on the posterior surfaces below the distal ends. One of the latter tools has a smooth anterior surface below the distal end; the other two show signs of hacking. This modification probably had a function in hafting these tools (fig. 20, *d*).

Bison radius picks (4 specimens):

These tools were made by cutting away part of the shaft of a bison radius and sharpening the midsection to a chisellike edge. Three of the four specimens have oval holes 25 to 40 mm. in diameter extending longitudinally through the articulating surfaces into the marrow cavity. They range from 247 to 180 mm. in length (fig. 20, *f*).

Digging tools (6 specimens):

This residual category includes tools with polished, blunted points that are not readily identifiable as to function. The blunted to pointed, polished tips suggest that they may have been used as digging tools. Portions of spinous processes from bison scapula were used for three of them, which are 120 to 310 mm. long. One of them is from the medial edge of a left bison scapula; it is 170 mm. long. One tool is part of a bison rib, 134 mm. long, and a final specimen is part of a heavy long bone, 180 mm. long.

Pendant (1 specimen):

The rib of a small mammal has been cut into a segment 85 mm. long; it tapers from 9 mm. in width at one end to 8 mm. at the other. Both ends are convex; the smaller end has two grooves, by means of which it may have been suspended (fig. 24, *a*).

ANTLER ARTIFACTS

Cylinders (11 specimens):

These objects, sometimes called "tapping tools," were made from the proximal ends of mule deer antlers by cutting around the antler to a depth of 4 to 6 mm. and snapping the section off, about 40 mm. below the lowest tine. The attaching burrs are rounded and reduced;

the cut, distal ends are rounded and smoothed. Lengths range from 110 to 150 mm., with diameters from 20 to 40 mm. Only one of them is smooth and polished (fig. 22, *f*).

Tine flakers (15 specimens) :

These tines were cut or broken from the racks of deer, and range in length from 25 to 120 mm. Seven of them consist simply of tips broken from a tine. Thirteen tips have beveled ends or the ends are striated in such a manner that they may have served as a flaking or knapping tool.

Bracelets (3 specimens) :

A small piece of incised and pierced plate antler is probably part of a bracelet or some similar ornament (fig. 23, *a*). Two pieces of long, thin, pierced antler may also be bracelets. They were made from thin strips of the compact outer layer of antler; the ends were perforated by a tapered drill (fig. 23, *b*).

SHELL ARTIFACTS

Miniature shell "face" (1 specimen) :

This object was made from a thin piece of mollusk shell, and is similar in some respects to large gorgets found in North Dakota mounds (Howard, 1953) and elsewhere; differences seem to be largely a function of the much smaller scale of this object. It is 20 mm. wide and 26 mm. high (fig. 24, *c*).

Disk beads (2 specimens) :

One disk bead is 12 mm. wide and 5 mm. thick, with a conical hole drilled from one side (fig. 24, *d*). A roughly circular piece of mollusk shell, 18 mm. wide and 1 mm. thick, may be an unfinished bead.

Scrapers (23 specimens) :

These tools are mollusk shells of a size and form that suggest they were used as scrapers, with the lip of the shell acting as the scraping edge. The shell edges are rounded or beveled, some of them having been worn into a straight edge. Five of them were purposefully shaped into triangular forms (fig. 22, *d*), and three of these are so worn that the hinges are now lacking.

Two small, roughly triangular pieces of shell, 30×40 mm. and 20×32 mm., have smoothly worn edges (fig. 24, *b*), and one shell, retaining the hinge, has a nearly flat scraping edge bearing two shallow serrations (fig. 22, *e*).

PERISHABLE REMAINS

The charred remains of several food plants were in the bell-shaped pits in Houses 3 and 4. The most common of these was corn: kernels,

pieces of cobs, roots, stalks, husks, and leaves were especially plentiful in Feature 65 in House 3. A fragment of braided cornhusk from Feature 65 suggests the treatment of ripened corn in which the ears were husked and braided into long strings. The kernels from Feature 67 in House 3 resemble ethnological specimens which were picked green, roasted on the cob, shelled and dried; those from Feature 65 seem to have been brought to maturity. The size and the internal structure of a bean from Feature 67 resembles red beans of the variety collected by Oscar H. Will on the Fort Berthold Reservation in North Dakota (descendants of which are in the collections of the State Historical Society). The charred, peeled roots of Pomme blanche, or Tipsina (*Psoralea esculenta* Marsh) were in Feature 65 in House 3, and in Feature 94 of House 4. Gilmore (1919, p. 92) states that these roots were dug in June or in early July.

A few items of material culture were also preserved by charring. Perhaps the most significant and interesting of these is a piece of basketry (fig. 20, *a*). The elements are woven under-three-over-three, creating a diagonal pattern known as twilled plaiting. Gilmore, in discussing Arikara baskets made from the inner bark of black willow and boxelder, illustrates two baskets which were apparently woven in the same manner as the Demery fragment (1925, pp. 89-95, figs. 41-42). A piece of peeled wood underlying the basketry may be part of a post foundation; if this is the case, the original basket was about the size of the *sátwa*, a large Arikara work basket that stood knee high (Gilmore, 1925, p. 94). The elements in the Demery specimen are similar in size and form to those in Arikara workbaskets in the State Historical Society collections.

A piece of wood, rectangular in cross section, is cut and slotted in the same manner as a bone knife handle, and is probably correctly identified as a wooden knife handle. A second piece of wood, rounded on one end and bearing a deep notch, is from the same pit. The growth rings are identical in both cross sections, and the pieces obviously belong together: the object is tentatively restored (fig. 20, *c*).

A final perishable specimen is a fragmentary buckskin bag from Feature 65. It was originally 150 mm. or more long and 100 mm. or more deep. It was made by folding a rectangular piece of hide back upon itself, piercing the edges, and lacing it together. Since the top is now gone there is no way to determine how it was closed; since it was found lying flat, it was probably closed by a flap rather than by a drawstring. It was empty when found save for a few ounces of sterile earth, and the surface of the bag indicated that it carried no decoration that involved piercing the hide.

FAUNAL REMAINS

The following species have been identified among the artifacts and the food refuse at Demery :

Animal :	<i>Number of individuals</i>
Artiodactyls :	
Bison	95
Deer and antelope.....	5
Elk	1
Carnivores :	
Canids	12
Badger.....	1
Rodents :	
Rabbit	1
Ground squirrel.....	2
Fish and reptiles :	
Catfish.....	x
Turtles.....	4
Birds :	
White pelican.....	1
Marsh hawk.....	1
American rough-leg hawk.....	1
Ferruginous rough-leg hawk.....	1
Crane.....	1
Crow.....	1

The avian bones were identified by Mr. Loye Miller, Department of Zoology, University of California at Davis; the bison, fish, and turtles, by Wood; and the remaining animals by Dr. J. Arnold Shottwell, Museum of Natural History, University of Oregon.

Comments on the bison bone from Demery, Paul Brave, and Huff have appeared elsewhere (Wood, 1962 b). The remains of other species were too small for an analysis of butchering technique.

DISCUSSION

STRUCTURES

The houses at Demery stand in rather sharp contrast with those of other circular earth lodge village complexes in the Middle Missouri area. The lack of vertical wall posts along the house shoulder implies a style of roofing the dwellings that differs from the technique most commonly illustrated in the historic Mandan, Hidatsa, and Arikara earth lodges in this same general area.

The Demery lodges are small, ranging from about 20 to 30 feet in diameter. They are circular to oval, with the long axis of the house in line with the orientation of the entrance. The entrances, facing the southwest, overlooked the broad expanse of river terrace to the south-

west, rather than the Missouri River or John Grass Creek. The houses were built in pits dug about a foot and a half into the ground, with shallow, dish-shaped floors. A central, unlined basin-shaped fireplace is in the house center, around which are four roof supports set in the form of a square with the posts oriented to the four cardinal directions. There are no postholes on the edge of the house floor; the walls and roof were probably composed of poles set along the edge of the house pit and leaned in against stringers resting on the center posts. Supporting evidence for this inference was observed in the charred timbers in House 4, which extend up to the shoulder of the house pit, where they were removed by the road patrol (pl. 8, *b*). House 2 presents the simplest floor plan; the other three houses fully excavated were rebuilt one or more times, and the posthole patterns are therefore more complex. All of the houses were destroyed by fire, since there were charred beams on the floors, with a film of ash covering the last floor level.

The entrances were usually elongated basin-shaped depressions 4 to 7 feet long, 2.5 to 4 feet wide, and 0.2 to 0.5 foot deep. Both sides of these depressions were lined with small postholes that formed the passage walls; in several of the houses these posts continue into, or originate in, the house floor. Bell-shaped pits were most common along the house walls; in six instances, they undercut the house shoulder, and their mouths were bisected by the house wall. A variety of irregular and basin-shaped pits were also in the house floor, as well as a few auxiliary fireplaces.

From the foregoing description, we may infer that the houses were nearly conical in form, with a covered entryway projecting from the southwest side of the structure. Evidence from House 4 suggests that the roof poles were covered with grass over twigs, and the mottled and disturbed nature of the soil overlying the floor seems indicative of an earth cover over the grass. The house fill, that is, resembles that of structures known to have been earth covered at Like-a-Fishhook Village.

The type of house just described is clearly analogous to the "eagle-trapping lodge" of the historic Mandan, as reported by Bowers (1950, p. 232, fig. 25). The same sort of structure has also been described for the Hidatsa by Wilson (1934, pp. 405-409, 411-415, fig. 40). Such dwellings conform in all major details with the type of house inferred from the floor plans of the Demery houses, although the structures at Demery are larger than those described by Bowers and Wilson, since they served as the principal dwelling type, rather than as an adjunct to it. The lack of wall postholes was also noted in houses at the Spotted Bear site in central South Dakota (Hurt, 1954, pp. 4-8, figs. 6-10).

The house walls at Demery were distinctly visible as a line separating the mixed earth of the house fill from the undisturbed native soil outside the house. The irregular nature of the house walls as mapped is a reflection of the actual situation at the site; the oval shape of the house floor area in Houses 1 and 3 may have resulted from rebuilding, but the flattened arc on the southeast side of House 4 may have some other explanation. The house with the simplest floor plan, House 2, was not rebuilt nor unduly complicated, and here the floor was roughly circular. The source for the innovation of building houses without vertical wall posts at Demery is unknown. These houses stand, therefore, as an interesting variation from a more nearly universal mode of construction.

POTTERY

The ceramics from Demery are varied and complex. Fifteen groups of rim sherds are described that probably relate to a single, major occupation termed the Demery Component. Two pottery types, Riggs Straight Rim and Riggs Cross-Hatched Rim, relate to an earlier occupation by a group which left the remains designated as the Thomas Riggs Focus Component.

The pottery of the major occupation is characteristically very thin and quite hard, and vessels are of excellent quality. The largest restored vessel (pl. 14, *b*) seems to be typical in form and execution. The malleating, shaping, and firing of this vessel required extremely fine control of the techniques of pottery making. This vessel weighs 7½ pounds, and even larger vessels are represented among the sherds. In contrast, the extremely thick sherds of Riggs Straight Rim (pl. 13, *l*), with their contorted cores and less compact paste scarcely approach the pottery of the Demery Component in skill of manufacture. The thinness of the Demery pottery is a characteristic feature of the ceramics, a feature shared by sites of the La Roche Focus and related foci farther south along the Missouri River.

The Demery Component pottery was probably made by building up the vessel by lump modeling, and shaping the walls by malleating it with a grooved paddle or, more rarely, by a cord-wrapped paddle. The six vessels represented by the Group 5 pottery are uniformly and conspicuously cord-roughened from the lip to the base. One vessel of Group 3 and two rims of Group 9 carry nearly obliterated markings that suggest they were originally cord-roughened. Only one-half of 1 percent of the Demery pottery was so treated; the remainder was simple-stamped, or so smoothed that the original surface finish is indistinguishable.

There are 1,356 vessels attributed to the occupation by the Demery Component. The range of variation in rim form, illustrated in fig.

13, includes both flaring rims and recurved ("S-shaped" and "colared") rims, as well as a few residual, unclassified examples. Eighty percent of the rims are flared or straight, with recurved rims of all varieties comprising the remaining 20 percent. There is more variation in design on the recurved rims than on the flaring rims, largely because the cord-impressed designs occur nearly exclusively on the recurved rims: cord impressions occur on flared rims only on the four rims described as Examples A-D. Decoration frequencies are as follows: horizontal incising, 44.8 percent; oblique incising, 3.7 percent; cord-impressing, 6.1 percent; and plain or indented 45.4 percent.

The affiliations of pottery groups 1 to 15 are not susceptible to ready generalizations. Typological considerations intimated, even before excavation, that the site was heterogeneous, and that it contained a mixture of ceramic traits typical of two geographically separated and culturally distinct groups. While superposition did establish the fact that 2 pottery types of the Thomas Riggs Focus—Riggs Cross-Hatched and Riggs Straight Rim—predate the major occupation of the site, the remaining 15 groups still convey an impression of heterogeneity, yet they appear to be characteristic of the major occupation by the Demery Component.

Three of these fifteen groups are tentatively identified as types described from other sites. Group 1 resembles the type Talking Crow Straight Rim, as described from sites in central South Dakota (Smith, 1951; Smith and Grange, 1958). Groups 6 and 7 are tentatively identified as the types Fort Rice Cord-Impressed and Fort Rice Trilled, as described from the Huff site (Wood, MS. a) of the Huff Focus. Many of the other types from Demery, including Groups 2-3 and 8, seem to be related to pottery from central South Dakota, including that of the La Roche and Shannon Foci, and the Arzberger site. Ceramically Demery is "transitional" between sites of the Chouteau Aspect and those of the Huff Focus. This is not to say that Demery is simply a fusion of these two complexes, but it seems obvious that its predecessors drew heavily upon sources both to the north (Huff Focus) and to the south (Chouteau Aspect) for its roster of material culture.

The Demery site is on the west bank of the Missouri River immediately south of the North and South Dakota boundary. Village sites are plentiful along both banks of the Missouri River to the north and south, but collections from nearby sites yield no pottery that suggests they are closely related to Demery. The material from the site cannot be correlated with any known site within the limits of North Dakota. Demery may be regarded as a site-unit intrusion (Willey, 1956, pp. 9-11) into the area, since it appears as a distinct complex in an area

previously dominated by the Thomas Riggs and Huff Foci (Wood, MS. b) and is not closely related to either of these complexes.

There are no cultural predecessors for Demery to the north, but there are no complexes yet described to the south which provide sources for most of the traits that set Demery apart from the Thomas Riggs and Huff Foci. The flared-rimmed pottery at Demery carrying horizontally incised lines (Group 2) is related to pottery in sites downstream along the Missouri River in South Dakota and Nebraska. In 1949, Paul Cooper described a pottery complex along the Missouri River in South Dakota which he called Category B (1949, pp. 303-306), and demonstrated the wide geographic and temporal distribution of the rim design occurring on this pottery. The importance and the complexity of Category B are being revealed as the excavation and analysis of the many sites in the Fort Randall and Oahe Reservoirs in South Dakota have proceeded. A number of sites and foci have been described that are related to this complex and to Demery, including the Arzberger site (Spaulding, 1956); the La Roche and Scalp Creek sites, assigned to the La Roche Focus by Hurt (1952; see also Meleen, 1948); the Myers site (Hoard, 1949); the Shannon Focus, as represented at the Spain site (Smith and Grange, 1958); the Akaska Focus, as represented at the Swan Creek and the Payne sites (Hurt, 1957; Wilmeth, 1958); and sites of the Redbird Focus, north central Nebraska (Wood, MS., 1956). This brief review of related sites makes it evident that the primary orientation of Demery is to the south (see map 6); only a few traits at Demery indicate relationships to the north.

Arzberger appears to predate sites of the La Roche Focus and probably is at least in part ancestral to that complex. The pottery from Arzberger is complex and heterogeneous, but his analysis of the pottery modes at the site led Spaulding (1956, pp. 111-168) to the conclusion that there is only one occupation represented in the remains. The situation at Demery is comparable in that there are a great many varieties of pottery, but the majority of excavated material is attributed to a single occupation. The pottery at Arzberger was simple-stamped, cord-roughened, or check-stamped. All of these techniques occur at Demery, but only simple-stamping was of any importance: only one-half of 1 percent of the pottery was cord-roughened, and there was a single check-stamped body sherd.

The Arzberger pottery was divided into two groups, the Arzberger Group (collared rims) and the Hughes Group (straight or outflaring rims). Certain collared rims of the type Arzberger Horizontal Incised are similar to the horizontally incised rims from Demery with recurved rims and a pinched or punctated lower border (Group 8), and the collared Arzberger Opposed Diagonal rims are similar to the

recurved rims from Demery decorated with opposed diagonals and finger pinchings or punctates (Group 9). There are even greater correspondences between certain of the Demery pottery and the Hughes Group, as the horizontally incised and plain rims of this group are closely analogous to the Group 1, or Talking Crow Straight Rims, and the Group 2 rims from Demery. In brief, there are enough similarities in rim form and decorative elements in these sites to indicate participation in a common tradition, if not contact or contemporaneity.

Since the cord-roughened pottery comprises such a small percentage of the Demery sample, and since cord-roughening seems to be an early trait, we may infer that Demery is later in time than Arzberger. The large number of rims decorated with cord-impressed lines at Demery clearly sets the site apart from Arzberger, since the five cord-impressed rims from Arzberger appear to be trade sherds from a "Middle Mandan" source. The angular and curvilinear "rainbows" on the cord-impressed and incised Demery rims may be duplicated in both the Thomas Riggs and Huff Foci, but it is more likely that Demery acquired these designs from the latter source: the recurved rims carrying these designs at Demery more closely resemble the S-shaped Huff rims than they do the collared Thomas Riggs rims. In sum, Demery appears to postdate Arzberger, for which there are two carbon-14 dates: A.D. 1461 and 1529 (samples M-1126 and M-1126a, run by the Radiocarbon Laboratory, University of Michigan, from samples provided by the University of Nebraska as part of the Missouri Basin Project Chronology Program).

The pottery complex at Demery is most closely related to sites of the Chouteau Aspect (Stephenson, 1954). Among the foci assigned to this aspect are the La Roche (Hurt, 1952), the Shannon (Smith and Grange, 1958), and the Akaska (Hurt, 1957). The outstanding ceramic trait of this aspect is the horizontally incised design applied to straight to outflaring rims. The Group 2 rims from Demery, which comprise 35.1 percent of the site sample, carry this rim design in its most characteristic form. The Demery pottery most closely resembles the type Grey Cloud Horizontal-Incised at the Spain site, which has protruded T- or L-shaped lips that are lacking in Demery. The type Wheeler Horizontal-Incised from La Roche Focus sites (Hurt, 1952, p. 76) similarly differs from the Demery pottery in having protruded lips. The type Nordvold Horizontal-Incised, from the Akaska Focus Swan Creek and Payne sites (Hurt, 1957, pp. 44-45; Wilmeth, 1958, p. 5) has brushed necks, a trait wholly lacking in the Demery sample. The Group 1 sherds at Demery are tentatively identified as Talking Crow Straight Rim, a common type in sites of the Chouteau Aspect (Smith and Grange, 1958). At Demery, this type comprises 35.6

percent of the rims; together with Group 2, these groups make up 70.7 percent of the site sample.

A number of the minority types at Demery, included in the remaining 29.3 percent of the rim groups, are comparable to minority types in Chouteau Aspect sites. The Demery Group 3 rims, for example, resemble the type Iona Diagonal-Incised Rim from the Spain site, although the Demery specimens lack the rim protrusion typical of Iona Ware. Again, the Group 5 rims resemble in a general way some of the Campbell Creek types as defined at the Talking Crow site (Smith, 1951, pp. 37-39). Groups 8 and 9 resemble some of the pottery from Arzberger (Spaulding, 1956, pp. 139-141), and the types Wheeler Horizontal-Incised and Wheeler Incised-Triangle from the Scalp Creek site (Hurt, 1952, pp. 75-76). In none of these instances do the groups from Demery and the types from the other sites approach identity. These correspondences, together with the presence of the type Talking Crow Straight Rim, are, however, indicative of the cultural affiliation of Demery with certain of the South Dakota sites and foci.

OTHER ARTIFACTS

The bone artifacts at Demery are abundant and of good quality. Scapula hoes are common, and except for the removal of the spine and the posterior border, the implements were modified only by the preparation of the broad end for use as a hoe. Other scapula tools include knives made from the thin bone from the scapula center and which resemble the historic "squash knives." A cleaverlike implement is more distinctive, although its function is unknown: it may have been used as a knife. This latter tool is also known from Arzberger (Spaulding, 1956, p. 49, pl. 4, 0). The bison radius picks from Demery resemble those from the Dodd site (Lehmer, 1954, p. 65, fig. 30, *g*) in having a hole through the articulating surface. They differ from those at the Paul Brave site (Wood and Woolworth, 1964, p. 38) and the Thomas Riggs site (Hurt, 1953, p. 34) since the picks from the latter two sites are longitudinally split.

The 79 bone awls from Demery are, for the most part, forms which are common to most sites in the Middle Missouri area. The principal exception is the class commonly termed "rib-edge" awls, but which appear to be made from the neural spine of bison vertebrae (Wedel, 1955, pp. 119-120), rather than from rib edges, as originally suggested by Kidder (1932). These implements, sometimes also called pins or flakers, are lacking at Paul Brave, Thomas Riggs, and Huff, and as far as present evidence is concerned they appear to be lacking also in historic Mandan and Hidatsa sites. Wedel, however, reports them from sites of probable Arikara origin in the vicinity of Mobridge, S. Dak. (1955, pp. 119-120), and Lehmer illustrates them from

the Dodd and Phillips Ranch sites, in the vicinity of Pierre, S. Dak. (1954, pp. 65, 110, fig. 31, *j-n*). Similar specimens occur in the La Roche site (Meleen, 1948, pl. 3, 8-11), the Spain site (Smith and Grange, 1958, p. 111, pl. 34, *m*), in sites of the Redbird Focus in north central Nebraska (Wood, 1956), and in the Lower Loup Focus in central Nebraska (Dunlevy, 1936, p. 197, pl. 13, *b-d*). In central South Dakota, the La Roche Focus probably predates A.D. 1600, but the Redbird Focus is estimated to date somewhat later, from about A.D. 1600 to 1700. The known Lower Loup sites contain trade goods and probably date after 1700, although Wedel (1947, p. 155) has suggested that the complex was in existence by about A.D. 1550. On an earlier time level, Spaulding (1956, pp. 56-57, pl. 4, *b-e*) found them at Arzberger. Wedel (1955, p. 119) has suggested that these tools may be a late time marker in the Central Plains, but in the Middle Missouri area they are present in prehistoric times. They do not occur, however, in sites suspected of affiliation with the historic Mandan or Hidatsa.

The serrated fleshing tools made from bison or elk metapodials were lacking at Demery, but there appears to be a substitute in the form of a serrated rib tip. The wear on the working end of this tool is the same as that on the blade of metapodial fleshers.

Two antler artifacts are worthy of comment: these are the antler cylinders, or "tapping tools," and the pierced strip bracelets. The antler cylinders from Demery are identical to those from sites in the Central Plains. Moving from the Demery site to the south, the first instance of these tools appearing is at the Payne site (Wilmeth, 1958, p. 10, fig. 22), and they occur also at the Spotted Bear site (Hurt, 1954, p. 18, fig. 22, VIII), and at the Scalp Creek site (Hurt, 1952, p. 42, fig. 25, 9). "Tapping tools" also occur in sites of the Redbird Focus (Wood, MS., 1956), in the Leary Oneota site (Hill and Wedel, 1936, pl. 10, *a*), and in sites of the Oneota, Nebraska, and Upper Republican aspects in the Central Plains. Short antler cylinders, usually only slightly longer than their maximum diameter, are in the Historical Society collections from the Biesterfeldt Cheyenne site and the On-a-Slant Mandan village, as well as at the Huff site (Wood, MS. *a*), but they are not known to be present in Thomas Riggs Focus sites. The affiliations of the "tapping tool" are felt to be with Central Plains complexes and with the later sites in the Middle Missouri area.

The two pieces of long, thin, pierced antler may be from bracelets. Similar specimens from Paul Brave (Wood and Woolworth, 1964, pp. 45-46, fig. 11, *a-i*), Double Ditch (Will and Spinden, 1906, pl. 36, *w-z*), and Slant Village are of essentially the same form. We find no record of them south of the vicinity of Mobridge (Baerreis and Dallman, 1961, pp. 316-327, figs. 88-90), and it is possible that the

affiliation of this particular artifact class is with complexes that shared in the development of the Mandan or were in contact with the Mandans. As far as we can determine, these items are uniformly made from antler, although they are often erroneously identified as of bone.

About half of the mollusk shells from Demery show wear on one or more edges opposite the hinge, and are probably scrapers. A similar use of mollusk shell is reported from the La Roche site (Meleen, 1948, p. 18, pl. 4, 1-6), and from the Arzberger site (Spaulding, 1956, p. 59, pl. 5, r-t). Shell scrapers also appear in the Huff site (Wood, MS. a), and there are 51 specimens from the Biesterfeldt site.

A carved shell "face" is similar in many respects to large gorgets recovered in mounds in North Dakota and elsewhere (Howard, 1953). Differences seem to be largely a function of the small scale of the Demery specimen. This is the only Demery artifact which appears to show a "Southern Cult" motif; the oblique incised lines between the raised nose and the eyes seem to be a simplified rendition of the "weeping eye" motif executed on Southern Cult items.

In contrast to the majority of local sites, perishables were relatively abundant at Demery. Among the charred food remains are corn, beans, and *Tipsina* root. Of special interest is the fact that evidence for braided corn was apparently present, and some corn kernels seemed to have been cut green, roasted on the cob, and shelled, giving insight into methods of food preparation and preservation. Other perishable objects included a fragment of twilled basketry, possibly from a large work basket, and a slotted knife handle. Leather work is represented by the remains of a small, rectangular buckskin bag.

CONCLUSIONS

The excavation of the Demery site provides a statement for the northernmost known manifestation of the Chouteau Aspect. The peripheral position of Demery to other sites of this aspect is a factor which in part accounts for the presence of traits that set it apart from other sites of the aspect. The proximity of Demery to another and distinct cultural entity, the Huff Focus, is advanced as an explanation for some of these traits.

Demery is not closely related to sites in its immediate geographic locality, neither those inferred to be earlier in time nor those that postdate it. Despite its proximity to sites which participated in the cultural stream that culminated in the historic Mandan, there are only a few ties with the prehistoric sites relating to that group. The closer relationships of Demery are to the south, downstream along the Missouri River, although there are details of the architectural pattern, the ceramic complex, and some other traits that set the site apart from the most closely related sites. For this reason the major

occupation at the site is designated the Demery Component of an unnamed focus.

The village was built and occupied by a group of people who apparently moved north along the Missouri River from some point south of the mouth of the Grand River. These people lived at Demery for some years, probably peacefully, to judge from the lack of fortifications, and seem to have acquired some artifacts from the nearby and culturally distinct Huff Focus. A lengthy occupation is indicated by the fact that some of the houses were rebuilt by the occupants. In brief, Demery appears to be a site-unit intrusion into Huff Focus territory by a group of people from central South Dakota, who retired to the south after an extended occupation of this peripheral position. The time of this occupation and subsequent dislocation is inferred to have been between about A.D. 1550 and 1650.

The presence of a few sherds identified as types found in Thomas Riggs Focus communities indicates an occupation of the Demery site by this focus, previous to the time of the major occupation by the Demery Component.

LITERATURE CITED

- BAERREIS, DAVID A., AND DALLMAN, JOHN E.
1961. Archaeological investigations near Mobridge, South Dakota. *Soc. Amer. Archaeol., Archives of Archaeol., No. 14.* Univ. Wisconsin.
- BOWERS, ALFRED W.
1950. Mandan social and ceremonial organization. Univ. Chicago.
- COOPER, PAUL L.
1949. Recent investigations in Fort Randall and Oahe Reservoirs, South Dakota. *Amer. Antiq., vol. 14, No. 4, pt. 1, pp. 300-310.*
- DUNLEVY, MARION L.
1936. A comparison of the cultural manifestations of the Burkett and Gray-Wolfe sites. *Chap. Nebr. Archaeol., vol. 1, No. 2, pp. 147-247.* Lincoln.
- GILMORE, MELVIN R.
1919. Uses of plants by the Indians of the Missouri River region. *33d Ann. Rep. Bur. Amer. Ethnol. for 1911-12, pp. 43-154.*
1925. Arikara basketry. *Mus. Amer. Ind., Heye Found., Indian Notes, vol. 2, No. 2.* New York.
- HEWES, GORDON W.
1949. Pottery from the sites excavated by the 1947 North Dakota field session. *Proc. Fifth Plains Conf. Archeol., Notebook No. 1, Lab. Anthropol., Univ. Nebraska, pp. 58-67.*
- HILL, A. T., AND WEDEL, WALDO R.
1936. Excavations at the Leary Indian village and burial site, Richardson County, Nebraska. *Nebraska Hist. Mag., vol. 17, No. 1, pp. 3-73.*
- HOARD, LYON J.
1949. Report of the investigation of the Meyer site, Stanley County, South Dakota. *South Dakota Archaeol. Comm., Archaeol. Stud., Circ. No. 2.*

HOWARD, JAMES H.

1953. The Southern Cult in the Northern Plains. *Amer. Antiq.*, vol. 19, No. 2, pp. 130-138.

HURT, WESLEY R., JR.

1952. Report of the investigation of the Scalp Creek site, 39GR1, and the Ellis Creek site, 39GR2, Gregory County, South Dakota, 1941, 1951. *South Dakota Archaeol. Comm., Archaeol. Stud., Circ. No. 4.*
1953. Report of the investigation of the Thomas Riggs site, 39HU1, Hughes County, South Dakota, 1952. *South Dakota Archaeol. Comm., Archaeol. Stud., Circ. No. 5.*
1954. Report of the investigation of the Spotted Bear site, 39HU26, and the Cottonwood site, 39HU43, Hughes County, South Dakota, 1953. *South Dakota Archaeol. Comm., Archaeol. Stud., Circ. No. 6.*
1957. Report of the investigation of the Swan Creek site, 39WW7, Walworth County, South Dakota, 1954-1956. *South Dakota Archaeol. Comm., Archaeol. Stud., Circ. No. 7.*

KIDDER, A. V.

1932. Artifacts of Pecos. *Phillips Acad., Southwestern Exped. Pap.*, No. 6. New Haven.

KLEINSASSER, GLENN.

1953. Thomas Riggs pottery types. *In* Hurt, *South Dakota Archaeol. Comm., Archaeol. Stud., Circ. No. 5*, pp. 22-31.

LEHMER, DONALD J.

1954. Archeological investigations in the Oahe Dam area, South Dakota, 1950-51. *Bur. Amer. Ethnol. Bull.* 158, *Riv. Bas. Surv. Pap.*, No. 7.

MELEEN, ELMER E.

1948. A report on the investigation of the La Roche site, Stanley County, South Dakota. *Univ. South Dakota Mus., Archaeol. Stud., Circ. No. 5.*

NEWELL, H. PERRY, AND KRIEGER, ALEX D.

1949. The George C. Davis site, Cherokee County, Texas. *Soc. Amer. Archaeol. Mem.*, No. 16.

SMITH, CARLYLE S.

1951. Pottery types from the Talking Crow site, Fort Randall Reservoir, South Dakota. *Plains Archeol. Conf. News Letter*, vol. 4, No. 3, pp. 32-41.

SMITH, CARLYLE S., AND GRANGE, ROBERT T., JR.

1958. The Spain site (39LM301), a winter village in Fort Randall Reservoir, South Dakota. *Bur. Amer. Ethnol. Bull.* 169, *Riv. Bas. Surv. Pap.*, No. 11, pp. 79-128.

SPAULDING, ALBERT C.

1956. The Arzberger site, Hughes County, South Dakota. *Univ. Michigan, Mus. Anthropol. Occas. Contr.* No. 16.

STEPHENSON, ROBERT L.

1954. Taxonomy and chronology in the Central Plains-Middle Missouri area. *Plains Anthropol.*, No. 1, pp. 15-21.

STRONG, WILLIAM D.

1940. From history to prehistory in the Northern Great Plains. *Smithsonian Misc. Coll.*, vol. 93, No. 10.

WEDEL, WALDO R.

1947. Culture chronology in the Central Great Plains. *Amer. Antiq.*, vol. 12, No. 3, pp. 148-156.

WEDEL, WALDO R.—Continued

1955. Archeological materials from the vicinity of Mobridge, South Dakota. *Bur. Amer. Ethnol. Bull.* 157, *Anthrop. Pap.*, No. 45, pp. 73-188.

WILL, GEORGE F., and HECKER, THAD. C.

1944. The Upper Missouri River valley aboriginal culture in North Dakota. *North Dakota Hist. Quart.*, vol. 11, Nos. 1-2.

WILL, GEORGE F., and SPINDEN, HERBERT J.

1906. The Mandans; a study of their culture, archaeology, and language. *Pap.*, Peabody Mus. Amer. Archaeol. and Ethnol., Harvard Univ., vol. 3, No. 4.

WILLEY, GORDON R.

1956. An archeological classification of culture contact situations. *In*: Robert Wauchope, ed., *Seminars in archaeology: 1955*. Soc. Amer. Archaeol. Mem., No. 11, pp. 1-30.

WILMETH, ROSCOE.

1958. Report of the investigation of the Payne site, 39WW302, Walworth County, South Dakota. *South Dakota Archaeol. Comm.*, *Archaeol. Stud. Archaeol.*, Circ. No. 8.

WILSON, GILBERT L.

1934. The Hidatsa earthlodge. Arr. and ed. by Bella Weitzner. *Amer. Mus. Nat. Hist.*, *Anthrop. Pap.*, vol. 33, pt. 5, pp. 341-420.

WOOD, W. RAYMOND.

1955. Pottery types from the Biesterfeldt site, North Dakota. *Plains Anthrop.*, No. 3, pp. 3-12.

——— The Redbird Focus. MS., M.A. thesis, Dept. Anthrop., Univ. Nebraska, 1956.

MS. a. The Huff site, 32M0211, Oahe Reservoir, North Dakota. MS. a submitted to Nat. Park Serv., Reg. 2, on file at the State Hist. Soc. North Dakota, 1961. Bismarck.

MS. b. An interpretation of Mandan culture history. Ph. D. dissertation, Dept. Anthrop., Univ. Oregon, 1961. Eugene.

1962 a. Cord-roughened pottery in north central North America. *Plains Anthrop.*, vol. 7, No. 18, pp. 232-236.

1962 b. Notes on the bison bone from the Paul Brave, Huff, and Demery sites (Oahe Reservoir). *Plains Anthrop.*, vol. 7, No. 17, pp. 201-204.

WOOD, W. RAYMOND, and WOOLWORTH, ALAN R.

1964. The Paul Brave site, 32SI4, Oahe Reservoir area, North Dakota. *Bur. Amer. Ethnol. Bull.* 189, *Riv. Bas. Surv. Pap.* No. 33.