

Biesterfeldt:  
A Post-Contact Coalescent Site  
on the Northeastern Plains

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ter. It contained a few sherds, some bones, and a mollusk shell knife or scraper.

#### Group 3

Broad pits with irregular cross sections (Caches 11, 13). These irregular pits may have been pits of Group 2 which were disturbed by later aboriginal excavations or which caved in, or they may be refuse-filled borrow pits.

| Pit. no. | Diameter<br>(meters) | Depth<br>(meters) |
|----------|----------------------|-------------------|
| 11       | 3.05                 | .90               |
| 13       | 3.00                 | .68               |

Cache 11 (Figure 13): Form—A broad, irregular pit, the center having a flat, circular floor 1.40 meters in diameter. Above this floor the pit walls slope irregularly to the surface. Fill—Largely black mixed earth, containing ash lenses and a layer of gray sandy soil. There were bark fragments just above the pit floor. The fill contained many broken bison bones, sherds, pieces of mollusk shell, bone artifacts, and broken hammerstones.

Cache 13 (Figure 13): Form—A large, irregular pit, the largest at the site. Fill—Consisted largely of mixed humus with several ash lenses, and a layer of bone near the floor. It contained large quantities of broken bison bone and stone, some pottery, a metapodial flesher, and several stones with grinding surfaces. Comments—The original designation for this feature (House 19) was transferred by Strong to a "cache" which excavation showed was a house depression.

#### Refuse-Littered Depressions

Excavation showed that seven of the small, shallow depressions within the ditch (and one of them east of the ditch) were features other than cache or storage pits. They are recorded in the notes as "cache pits," but after excavation proved them otherwise they were not given other designations. Here, they are simply referred to as features, retaining Strong's field numbers to avoid confusion in the existing catalog and note system. They include Features 2, 8, 10, 12, 16, 17, and 19.

All of them appeared as shallow surface depressions containing some mixed earth beneath the sod. They are probably best interpreted as refuse disposal areas in shallow hollows on the former surface.

Very little in the way of specimen material was in them; most of them contained shallow lenses of ash. Feature 2 contained much animal bone, mostly split bison bone, with hammerstones and "grinders." Feature 8 contained some bison bone. Feature 12 produced abundant animal bone and stone. Feature

16 contained mammal and fish bones. Feature 17 contained a rim sherd with inset white glass trade beads and a "fish operculum pendant." Feature 19 produced some bone and stone.

## ARTIFACTS

### Pottery

The ceramics described below are all in the collections of the State Historical Society of North Dakota Museum in Bismarck. The sample available in 1967 consisted of 255 rim sherds and 3,105 body sherds: a total of 3,360 specimens. This figure is 407 sherds less than the 3,767 specimens Strong (1940, p. 373) reported from his excavations. This reduction in numbers is a consequence of an intensive effort to fit and glue sherds together. For example, the 292 rim sherds with which the analysis began were reduced to 255 rims in the course of study, with an apparent "loss" of 37 rims.

Catalog numbers cited for the sample denote the following: the prefix "S," that it was collected by Strong in 1938; the number "7993," that the sherds are accessioned as from the site, probably having been collected by George F. Will or Thad. C. Hecker. A few sherds with no catalog number ("No no.") were found with the collections. Although the latter two categories of sherds lack documentation, all of them conform to the classes established for Strong's original material, and there is no reason to believe they are not from the site.

The bulk of this pottery was initially described by Strong (1940, pp. 373-374, pl. 8), and was further discussed (using the descriptions and illustrations published by Strong) in Will and Hecker's study of village sites in North Dakota (1944, pp. 37-39, pl. 17). The last typological study of this pottery (now superseded by the present statement) is that of Wood (1955).

The pottery rims are described here under nine classes, based on decorative elements and on rim form: cord-wrapped rod, bead-impressed, cord-impressed, tool-impressed, plain smoothed, plain brushed, pinched plain, and Examples A and B. Each class is sufficiently distinct that it has been possible to determine approximately how many vessels are represented by the sherds. Each probable vessel has been given a number (1 through 183 inclusive), and selected attributes of each are given in Tables 1 through 3. The total vessel count is probably within five per cent of the actual number, the principal source of error

2. *Cord impressions* result from the application of a free strand of Z- or S-twisted, 2-ply vegetal cord (Plate 10g, h).

3. A single rim is *mat-impressed*, the twine having been Z-twisted. This rim (Vessel 113, Plate 8a and Plate 10f) is classed as cord-impressed in Table 2, since the distinctive nature of the impressions was not noted until after the table was compiled.

4. *Bead impressions* are the consequence of using a strand of strung glass trade beads in place of the more common free cord (Plate 10d, e).

5. *Tool impressions* were made with the sharp to blunt tips of pointed objects, or with the end of a reed.

6. The moist clay of the rim of Example A was *incised* using the tip of some pointed implement.

7. *Brushed rims* were wiped with a tuft of coarse grass or some similar material, resulting in sharp, parallel scratches with irregular edges.

8. A few rims were finger *pinched* in such a way that they have a sinuous appearance when viewed from above.

All of the above techniques were applied to or basically modified the outer rim. In addition, a few rims bear punctates, cord-wrapped rod, or cord-impressed lines on the inner rim near the lip.

Shoulders of a number of vessels are incised with simple to complex abstract geometric patterns (Figure 14, Plate 10i-n). Some of these decorations occur together with multiple cord-impressed or cord-wrapped rod impressions around the vessel neck; some of these lines on the neck appear to have been discontinuous (Plate 7i). Some of the vessels had oval or elongate punctates along the shoulder below the decorated area. One shoulder sherd (Plate 10l) appears to be decorated with cord-impressed lines.

Seven sherds have inset glass trade beads, or retain their impressions. The beads, pressed individually into the moist paste, were partly fused when the vessels were fired. They are 4 mm in diameter; the few beads remaining (many have fallen out) are of an opaque, white, glassy substance.

A single sherd of uncertain provenience (Plate 10p) is *dentate-stamped*. I am not certain precisely what Strong had in mind when he stated that in some cases "punch stamps or plaited matting (6 sherds) seem to have been used in surface treatment" (1940, p. 374). He might have been referring to the linear check-stamped sherds, although they are well in excess of 6 sherds. The rouletted sherds he mentions, however (1940, p. 374), are the bead-impressed rims.

#### FORM:

*Overall shape:* There are no restored or restorable vessels, but sherds suggest that vessels were globular with wide mouths. Large vessels tend to have rounded shoulders; the smaller ones, angular shoulders. Wall thickness, 2 to 13 mm; mean, 5 mm.

*Lip:* Usually rounded, although some lips tend to be pointed (Figure 15).

*Rim:* The most characteristic rim form is one which is

beveled outward and down at about a 45° angle, but thickened (or braced) rims are rather common (Figure 15). Rims normally thin somewhat below the lip, and thicken toward the shoulder. Rims are high and are straight to flared, with a constricted neck that usually blends evenly into the shoulder.

*Shoulder:* Generally rounded or flattened, but some smaller vessels have sharply angular shoulders.

*Base-bottom:* Apparently rounded, although one basal fragment (not presently in the collections) is said to have been flat (Strong, 1940, p. 373).

**APPENDAGES:** The 7 strap *handles* are welded to the vessel lip and riveted to the neck or shoulder. They are 20 to 42 mm high and 7 to 40 mm wide; cross sections are oval. Outlines are rectangular to hour-glass in shape. Unless some sherds have been lost, there were not 36 handles as Strong 1940, p. 373) states. There are 18 horizontally-applied triangular *lugs*, and two lugs set vertically on rims.

**SPOUTS:** Ten vessels have angular, spout-like extrusions on rims, created by pinching out the rim to interrupt the curvature of the orifice. Rim decorative elements often change at this point on the rim (e.g., Plate 8g).

**COMMENTS:** Two elements at Biesterfeldt set this sample apart from other village sites in the Northern Plains, especially from those along the Missouri River: (1) The presence of a large number of linear check-stamped body sherds, similar to rare sherds from sites on the Missouri River near Bismarck; and (2) the practice of both impressing individual glass trade beads into the moist paste, and using strands of beads in a fashion analogous to the use of free cord for decorating rims.

#### COMPONENT CLASSES:

Cord-wrapped rod-impressed rims

Bead-impressed rims

Cord-impressed rims

Tool-impressed rims

Plain, smoothed rims

Plain, brushed rims

Pinched, plain rims

Example A

Example B

**NOTE:** The rim sherds in Plates 7 to 9 (except Plate 7i) are oriented so that the plane of the orifice is at a right angle to the camera lens.

#### Cord-wrapped Rod-impressed Rims PLATE 7

**SAMPLE:** 115 rim sherds, representing 80 vessels (Table 1).

**FORM:** Fourteen rim forms (Figure 15) are represented in this class:

|      |      |     |
|------|------|-----|
| a-3  | f-3  | l-6 |
| b-7  | h-4  | m-2 |
| c-4  | i-3  | n-2 |
| d-6  | j-18 | p-3 |
| e-12 | k-6  | ?-1 |

One vessel, although classed with this group, is impressed with a fabric or mat (Vessel 113, Plate 8a).  
**Neck:** Two to four horizontal lines of S-twisted cords (8 vessels); Z-twisted cords (2); or cord-wrapped rod impressions (2) encircle the necks of twelve vessels. Two other rims were broken along an S- and a Z-twist so that no more than one line remains.

Vertical fingernail impressions occur below the lip of one vessel.

**Other:** An indeterminable number of vessels had incised shoulders.

**APPENDAGES:** Six vessels each had lugs and strap handles. Both appendages are decorated by 3 to 10 horizontal or oblique cord impressions; one is plain.

**SPOUTS:** Only one cord-impressed vessel had a spout.

**PREVIOUS ILLUSTRATIONS:** Strong, 1940, pl. 8a, b.

Will and Hecker, 1944, pl. 17a, b. Wood, 1955, fig. 2a-e, fig. 3b.

**COMMENTS:** Same as those under Cord-wrapped rod-impressed rims, except that some of these (e.g., Plate 8e) are well within the range of the type Stanley Cord Impressed. At least five rim sherds, representing 4 vessels, can be so classified (Wood, 1955, p. 8).

#### Tool-impressed Rims PLATE 9a, b

**SAMPLE:** 11 rim sherds, representing 8 vessels (Table 3).  
**FORM:** Five rim forms (Figure 15) are represented in this class:

|     |     |     |
|-----|-----|-----|
| e-2 | k-1 | p-1 |
| j-1 | n-2 | q-1 |

Rim thickness ranges from 5 to 11 mm; mean, 10 mm.  
 Rim height, 15 to 32 mm; mean 25 mm.

#### DECORATION:

**Rim:** Parallel vertical, oblique, or horizontal rows of tool impressions occur on the outer rim. The impressions were produced by pointed instruments applied to the moist paste at about a 45° angle (punctates); and by pointed tools laid flat against the rim. There is one rim with three horizontal lines of cord-wrapped rod impressions on the inner rim.

**Neck:** One vessel has two horizontal lines of cord-wrapped rod impressions around the neck.

**APPENDAGES:** One punctated and cord-impressed rim (with two horizontal rows of Z-twisted cord) has a triangular, horizontal lug; one rim has part of a detached, tool-impressed lug.

**SPOUT:** One rim bears a spout.

**PREVIOUS ILLUSTRATION:** Wood, 1955, fig. 1b.

**COMMENTS:** Same as those under cord-wrapped rod-impressed rims, except that some of them (e.g., Plate 9b) are classifiable as Stanley Tool Impressed.

#### Plain, Smoothed Rims PLATE 9c, d

**SAMPLE:** 15 rim sherds, representing 15 vessels (Table 3).

**FORM:** Eight rim forms (Figure 15) are represented in this class.

|     |     |     |
|-----|-----|-----|
| a-1 | e-3 | i-1 |
| b-1 | f-2 | j-1 |
| d-5 | h-1 |     |

Rim thickness ranges from 5 to 12 mm; mean, 9 mm.  
 Rim height, 12 to 24 mm; mean, 15 mm.

#### DECORATION:

**Rim:** Rims are plain, with smoothed surfaces.

**Neck:** One vessel each is encircled by two lines of Z- and S-twisted 2-ply cord.

**Other:** One rim has two fused, white trade beads set into the rim near part of a lug or handle.

**APPENDAGES:** One rim retains part of a vertical lug; another retains part of a lug or handle.

**PREVIOUS ILLUSTRATION:** None.

**COMMENTS:** None.

#### Plain, Brushed Rims PLATE 9e-i

**SAMPLE:** 12 rim sherds, representing 10 vessels (Table 3).  
**FORM:** Seven rim forms (Figure 15) are represented in this class.

|     |     |     |
|-----|-----|-----|
| a-3 | e-1 | o-2 |
| b-1 | i-1 | p-1 |
| c-1 |     |     |

Rim thickness ranges from 7 to 13 mm; mean, 10 mm.  
 Rim height, 14 to 34 mm; mean, 24 mm.

**DECORATION:** Rims are plain; the lower rim is brushed. One rim is pinched (wavy).

**APPENDAGES:** One rim bears a horizontally-projecting lug.

**SPOUT:** There is a spout behind the lug on one vessel.

**PREVIOUS ILLUSTRATION:** Wood, 1955, fig. 3a, c.

**COMMENTS:** Three of these vessels (Nos. 163-165, Plate 9e, f) resemble the type Talking Crow Brushed.

#### Pinched, Plain Rims PLATE 9j

**SAMPLE:** 12 rim sherds, representing 8 vessels (Table 3).  
**FORM:** Six rim forms (Figure 15) are represented in this class.

|     |     |     |
|-----|-----|-----|
| b-1 | e-1 | l-1 |
| c-3 | k-1 | o-1 |

Rim thickness ranges from 7 to 12 mm; mean, 10 mm.  
 Rim height, 18 to 22 mm; mean, 19 mm.

**DECORATION:** None, save for the modification of the rim by finger pinching, consisting of alternating indentations on the interior and exterior surfaces, resembling the treatment on Stanley Wavy Rim (Lehmer, 1954, pp. 43-44, pl. 12).

**APPENDAGES:** None.

**SPOUT:** None.

**PREVIOUS ILLUSTRATION:** None.

**COMMENTS:** Many of these rims are within the range of the type Stanley Wavy Rim.



Bone Beads  
(2 specimens)

Both beads are cut from the shafts of long bones about 7 mm in diameter by first sawing around the shaft, then snapping off the articulating ends. The shorter specimen, 51 mm long, is polished and lightly burned; it may be a bird bone (S-215, Plate 18g). The other bead, 55 mm long, was cut from a bone about the size and proportion of a raccoon tibia, although the lack of landmarks on the bone precludes identification (S-203, Plate 18h).

S-203: House 36

S-215: House 36

Bone Whistle  
(1 specimen)

The tibio-tarsus of a large bird (perhaps Whooping Crane, *Grus americana*) was made into a whistle by cutting a V-shaped notch in one side of the shaft near the distal end of the bone, and by making an opening in the proximal end. One end of the whistle is missing. Present length, 199 mm (S-101, Plate 18i). S-101: House 23

Fish Bone Artifacts  
(2 specimens)

Two elements registered in the Strong field catalog are missing. One of them (S-88) is logged as a "drilled fish (?) bone," the other (S-99) as a "bone awl? (catfish spine)."

S-88: Cache 11

S-99: House 23

Needle (?)  
(1 specimen)

Strong refers to a needle tip in the field notes, but it is not so identified in the field catalog, and it is not now in the collections.

Miscellaneous Cut Bone Fragments  
(13 pieces)

All of these items are fragmentary tools, either made of bison thoracic vertebrae spines or from ribs. Some of them are probably now-unidentifiable parts of shaft wrenches or slotted bone knife handles. Several pieces are cut square on ends, and the ends are excavated; these may be the items Strong (1940, p. 375) refers to as "rib end-scraper handles."

S-29: Cache 3

S-54: Cache 7

S-75: House 7  
S-89: Cache 11  
S-92: Feature 12  
S-111: Cache 13  
S-128: House 16  
S-136: Cache 15 (3 specimens)  
S-156: House 7  
S-194: Cache 1 (2 specimens)

## Worked Shell

Shell Scrapers  
(51 specimens)

Heavy fresh-water mollusk shells are common scraping implements, the shell having been used so that the posterior segment of the shell, and the dorsal part of the shell behind the umbo, formed the working edge. Not all of the shells reveal scraping edges, but this part of the shell is lacking on *every* shell in the collection. Some of the shells are relatively complete (S-154 and 7772, Plate 14 h, i), but others (S-217 and 232, Plate 14j) have been worn down so that scarcely more than the umbo remains. Margins of the shell between the umbo and the posterior edge, or the edges around the umbo, are usually smoothly worn—although some are "flaked" in such a manner that they may also have been used as a rough scraping tool.

|                          |              |
|--------------------------|--------------|
| S-62: Palisade Trench 4  | 2 specimens  |
| S-117: House 11          | 1 specimen   |
| S-154: Cache 20          | 1 specimen   |
| S-185: House 36          | 1 specimen   |
| S-204: House 36          | 2 specimens  |
| S-217: House 36          | 3 specimens  |
| S-221: Palisade Trench 6 | 1 specimen   |
| S-232: Cache 13          | 1 specimen   |
| Other: Site general      | 39 specimens |

## Trade Goods

Glass Seed Beads  
(1 specimen)

Only one bead was recovered that was not inset into pottery as decoration. It is of blue translucent glass which, although patinated, is bright blue when moistened. Length and diameter, 3 mm (S-132, Plate 19a). Beads were also inset into at least seven rim sherds from the site, some of which are white in color (S-118A, S-159, S-230, Plate 7b, c). Most of these beads are now missing, but their molds suggest they were of the same size as the blue one illustrated.

S-132: Cache 5  
 S-118A: Cache 13 (2 rim sherds)  
 S-159: House 16 (1 rim sherd)  
 S-230: Cache 13

Glass  
 (1 fragment)

This small piece of glass is 4.2 mm (about 3/16 inch) thick. If it was originally a mirror, any trace of silvering has vanished. Paul Perrot and Kenneth Wilson (Corning Museum of Glass) have examined the piece and it is their impression that it may very well be later than the major occupation of the site. If it is window glass it is rather unlikely that such a heavy material occurred as early as 1790. Since the sample is from the fill of Cache 13, they suggest it may be a very early example for the Western Hemisphere. Judging from its surface there is no question that the piece is old.

S-234: Cache 13

Teacup Handle  
 (1 item)

Arnold R. Pilling has examined this specimen (S-19, Plate 19b) and offers the following observations: it is an earthenware, with the moulded decoration suggesting a date from the 1870s to 1900. He knows of no ironstone teacup handles as early as 1850, with no real evidence of them before the 1870s. From his information, the common cup had no handle as late as 1840. The cream paste means that it was probably made in the United States—and is probably not an Army issue. In view of Pilling's comments, there is little doubt that the specimen is intrusive.

S-19: Feature 2

Brass Trigger Guard Pendant  
 (1 specimen)

This is the forepart of a brass trigger guard, or finial, of an unidentified early firearm, from which the guard itself was removed. The hole in the specimen was not in the guard in its original form, but was placed there aboriginally (S-42, Plate 19c). The specimen is identified as a pendant since the field notes specify that a "skin knot" was tied in this hole when it was discovered, although it has since been lost. Carlyle S. Smith has informed me that the pointed end of the item was originally stamped with cross hatches representing a pineapple, but these have been ground off.

S-42: Cache 4

Brass Spring  
 (1 specimen)

A piece of brass spring, about 3 mm in diameter, has about 48 coils to the inch (compressed). It is now about 46 mm long (S-33, Plate 19h).

S-33: Cache 3

Brass Rod  
 (1 specimen)

This small piece of brass, rectangular in cross section, may be raw material or is part of some larger item. Both ends were broken by metal fatigue induced by repeated bending. Dimensions: 35 by 6 by 3 mm (S-180, Plate 19d).

S-180: House 36

Brass Bangle  
 (1 specimen)

A small piece of rolled brass, probably a bangle, carries Biesterfeldt site accession number 8035, but has no Strong field catalog number. One "copper dangler" is recorded in the field catalog under number S-193 as "from the base of the dirt heap of Cache 1, so was probably just below the sod line." Whether this item is from Strong's work or not is unknown (8035, Plate 19g).

8035: Unknown

Shaped Brass Item  
 (1 specimen)

This small piece of brass, in the shape of a truncated triangle, measures 17 by 18 by 0.5 mm; it has evenly smoothed edges and corners (S-76, Plate 19k).

S-76: House 7

Brass and Copper Arrowpoints  
 (2 specimens)

The brass point has a triangular blade and a stubby rectangular stem with a small hole near the base; it measures 21 by 6 by 0.5 mm (S-94, Plate 19j). The copper point is less carefully made but has essentially the same form; dimensions, 22 by 8 by 1 mm (S-6, Plate 19i).

Copper: S-6: House 23

Brass: S-94: House 7

Brass and Copper Scrap  
 (6 fragments)

Four pieces of brass and two small pieces of copper are probably waste or scrap elements, or pieces from now-unidentifiable objects. One of the brass elements

techniques and surface treatment at Biesterfeldt can be duplicated in many historic, sedentary Plains complexes. Strong's (1940, p. 374) feeling that it was more "Woodland" in decoration, and that it would eventually be linked up with one of the aspects, possibly Headwaters Lakes . . . in Minnesota, since it has some resemblances to that of the Black Duck focus

has not been verified. There is, for instance, no hint of the cord-roughened sherds one might expect in a "Woodland" context.

The accumulating data on Black Duck have resulted in the description of a distinctive ceramic complex which cannot be related in any meaningful way to the Biesterfeldt pottery. Strong's impression that there was a relationship here was based on very preliminary and incomplete knowledge of Black Duck—not on the data later published by Wilford (1941, p. 239) and Vickers (1949, pl. 8, upper left).

There are neither sites nor ceramic complexes in Minnesota now known which provide a prototype for the Biesterfeldt pottery or other material remains. Thus, there is no question that the relationships of the site lie to the west—along the Missouri River—not to the east, the area from which the Cheyenne purportedly entered the Northern Plains.

In paste, method of manufacture, form, surface finish and texture, and technique of decoration, Biesterfeldt pottery can all but be duplicated in village sites along the Missouri River—not in a single site, but in sites of the Post-Contact Coalescent. As far as our data are concerned, the pottery most closely resembles that from late eighteenth or early nineteenth century protohistoric Arikara villages, not from Mandan or Hidatsa ones. This observation confirms Strong's (1940, p. 374) earlier observations.

The Biesterfeldt pottery most closely resembles material from Swan Creek and the Spiry-Eklo sites near Mobridge, South Dakota. Ceramics from these sites range from "good" Stanley Ware on one hand to Talking Crow Ware on the other, with a large group which Baerreis and Dallman (1961) class as "intermediate." As Lehmer (personal communication) has pointed out, this seems to be a common situation for many of the Post-Contact Coalescent sites on the east bank of the Missouri River.

A particularistic example of the similarities between Biesterfeldt and the Missouri River sites may be illustrated in the pottery shoulder patterns. These incised patterns have already been discussed in the context of the Plains area generally (Wood, 1962, fig. 3, IIIa-b). The full range of shoulder patterns present and identifiable at the site (Figure 14) is discussed in that paper, from which the following comments are abstracted.

One pattern from Biesterfeldt is a simple rhythm of erect, chevron-filled triangles with horizontally incised pendant triangles (Figure 14b). A second pattern (Figure 14c) is similar to ones described for the Pawnee (Wood, 1962, fig. 3, V:e), although the Biesterfeldt example differs in minor details from the Pawnee one. Both of these patterns, however, are rare in comparison with the "Alternating Triangle" pattern (Figure 14e). The latter pattern occurs on pottery in all Post-Contact Coalescent sites. There is only one complex pattern at the site (Figure 14d), fully as intricate as one described for the Pawnee (Wood, 1962, fig. 1j). This pattern, if I have correctly reconstructed its sequence from the fragments remaining, consists of two superimposed patterns mirrored along the axis of reflection, in which there is a regular succession of alternately pendant and erect triangles. Six of the elements combine to form a "spiderweb" motif, otherwise known only from the Spotted Bear site (Hurt, 1954, fig. 18, 6).

The alternating elements of these patterns conform in style to patterns in many other protohistoric and historic villages in the Post-Contact Coalescent, but they do contrast strikingly with the majority of patterns recorded for the Mandan and Hidatsa and their protohistoric antecedents (Wood, 1962, fig. 3). The Biesterfeldt specimens, in fact, most closely resemble recorded Pawnee and Arikara patterns. These specialized ceramic data thus reinforce the orientation of the pottery in the direction of the sedentary tribes along the Missouri, where they most closely parallel those of the Arikara.

Biesterfeldt pottery represents an internally consistent and stabilized ceramic tradition. Pottery was still being made with as much care as it had been before white contact. Although this is an impressionistic judgment, there is nothing to imply any deterioration in the ceramic arts. The only reminders of Euro-American contact on the pottery, in fact, are occasional glass beads set into the walls of a few vessels. In other words, we are dealing with a ceramic tradition not yet modified by the multiple effects of white contact (for a contrasting situation, see Deetz, 1965). Furthermore, factor analysis of pottery from five of the seven houses dug or extensively tested (Appendix) shows there is very little ceramic variation from one house to another. The range of variation between houses is quite narrow, so that the content of one house is all but duplicated in other structures.

These circumstances document the stability of the configuration of ceramic attributes. If pottery was undergoing change, it was changing systematically throughout the community. The internal consist-

area (Lehmer, 1954, p. 69, fig. 27*ac, ad*), and the bison bone scoop resembles the split metapodial scoops from Extended Middle Missouri contexts (*e.g.*, Wood and Woolworth, 1964, p. 38, fig. 7*g*).

Numerous crescentic shell scrapers or knives, worn down from heavy fresh water mollusk shells, were the only shell implements. Many of them were so heavily used that they are reduced to small triangular or rectangular stubs, one side retaining the umbo. These implements are present but rare in the Northern Plains (Meleen, 1948, p. 18, pl. 4, 1-6; Wood, 1967, pp. 96, 109, fig. 12*q-r*).

#### Trade Goods

Euro-American trade goods include forty-seven items from more than half the houses and pits excavated. Distribution was relatively even through the village (Table 5). They include items manufactured by European or Colonial sources, as well as objects duplicating native prototypes, fashioned from material obtained from traders.

All but one of the white and blue seed or pound beads were impressed into pottery as decorative elements. There is one strip of folded lead, steel and brass knives, and a brass rod—none of them modified by the inhabitants. Iron or steel arrowpoints, on the other hand, were fashioned into forms following native prototypes. The one gun part (used as a pendant) and the questionable gunflints recovered intimate that the inhabitants possessed few firearms.

The presence of a number of other trade goods not actually recovered may be inferred or demonstrated from direct and indirect evidence in the site. Steel axes or hatchets were in use, as suggested by the chopping on the elk fleshing tools and scapula hoe butts. Furthermore, the absence of chipped stone drills and bone awls (except for a dubious catfish spine or mandible) implies that steel substitutes were present.

#### Dating

Internal evidence at Biesterfeldt provides us with relatively good leads to the time it was occupied. Two objects of white origin may be dismissed as internal evidence since they are regarded as intrusive: the piece of plate glass and the earthenware teacup handle. The remainder of the white goods is probably part of the aboriginal material inventory.

The single most informative artifact is a brass trigger guard which was modified for use as a pendant (Plate 19*c*). It was originally embellished with a stamped, stylized pineapple. The horse bones in the

site suggest a late date. Recent summaries of the spread of the horse in the Plains (*e.g.*, Ewers, 1955, p. 5) give us no reason to suspect that horses were at all common in eastern North Dakota and western Minnesota until after 1750.

Correspondence with Elden Johnson reveals that the volume of goods of European or Colonial manufacture or origin at Biesterfeldt is very low—at least with respect to the content of late eighteenth century sites east of the Red River. Late eighteenth century sites in Minnesota have far more material. From the viewpoint of the Minnesota sites, the number of trade goods at Biesterfeldt implies it might date in the late seventeenth or early eighteenth century; looking at the site from the Missouri River, the trade goods are about as abundant as they are in the late eighteenth century. The late date implied by the gun part; the horse bones; and typological similarities with late eighteenth to early nineteenth century groups on the Missouri River suggest that the inhabitants were obtaining fewer goods than the Chippewa and other tribes east of the Red River, in present Minnesota, who were nearer the trade centers.

The trade goods are clear evidence of participation in European trade channels—but there is little evidence for participation in widespread native trade networks of the sort described by Ewers (1954) for the Northern Plains. There are no Gulf or Pacific coast shells, but there is catlinite, probably obtained from groups to the southeast and likely deriving from the quarries in southwestern Minnesota.

The Biesterfeldt site, then, appears to postdate 1750, and the inhabitants had obtained European goods at least by 1790. This discussion has passed over the possibility that Biesterfeldt was a Cheyenne village site. Ethnohistorical data, summarized later, suggest a date of about 1790 for the destruction of a Cheyenne village on the Sheyenne River. Thus, the internal evidence and the ethnohistorical data (if we choose to accept the hypothesis that the site is Cheyenne) are consistent in dating the site in the late eighteenth century.

#### Taxonomy

It is obvious, from the preceding discussion, that Biesterfeldt is part of the Plains Village pattern (Lehmer, 1954, pp. 139-140). This pattern, which Willey (1966, pp. 320-329) refers to as the "Plains Village Tradition," includes the following tribes in the Northern Plains: Mandan, Hidatsa, Arikara, and (in the early historic period) probably the Cheyenne and some of the Eastern Dakota. The Biesterfeldt community plan, domestic architecture, the subsist-



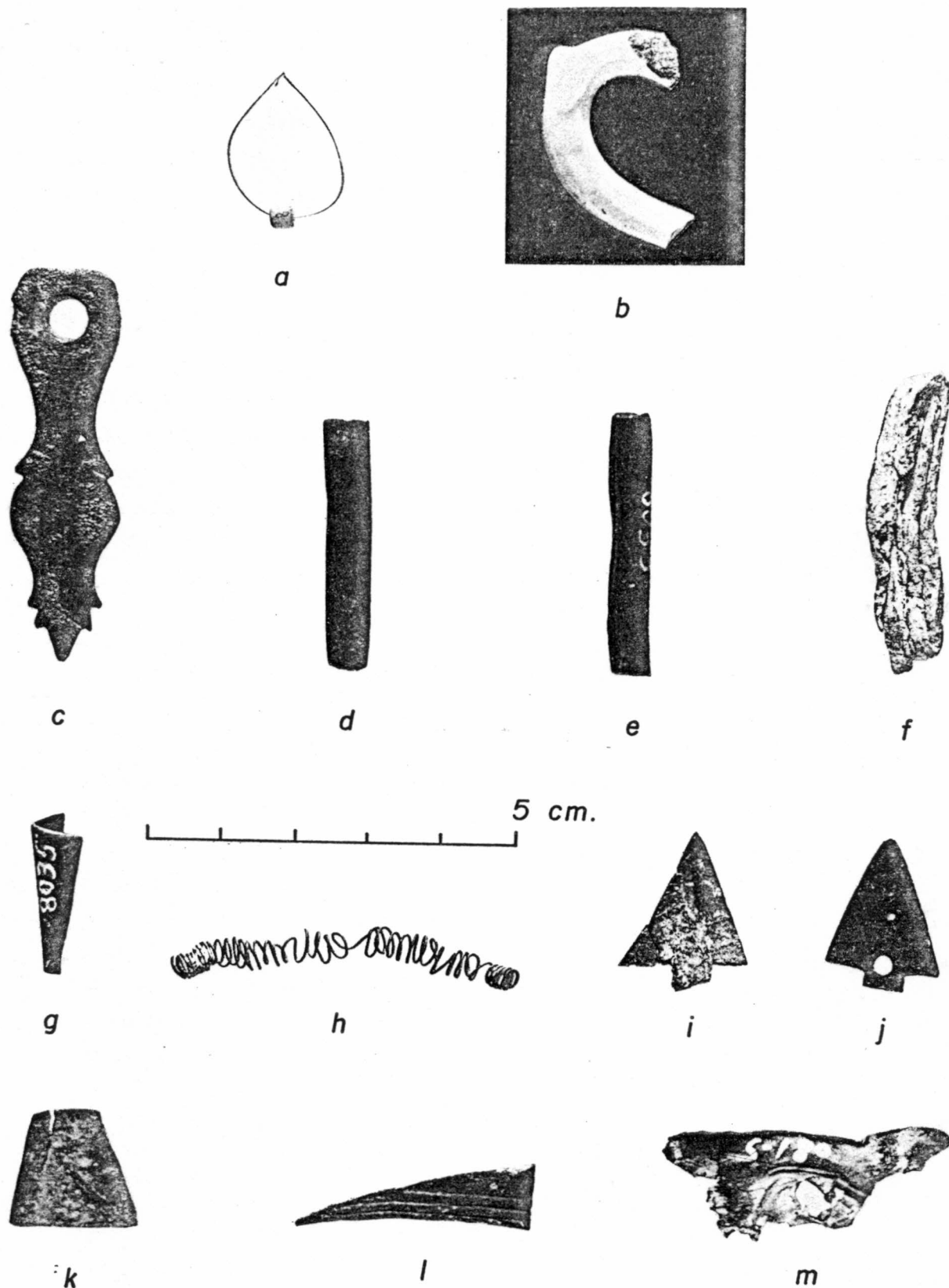


PLATE 19.—Miscellaneous trade and intrusive items. *a*, Glass seed bead. *b*, Teacup handle. *c*, Brass-trigger guard pendant. *d*, Brass rod. *e*, Copper tubular bead. *f*, Lead strip. *g*, Brass bangle. *h*, Brass spring. *i*, Copper arrowpoint. *j*, Brass arrowpoint. *k*, Shaped brass item. *l*, *m*, Brass scraps.