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ARCHEOLOGICAL INVESTIGATIONS AT THE  
CORALVILLE RESERVOIR, IOWA  
By WARREN W. CALDWELL

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# ARCHEOLOGICAL INVESTIGATIONS AT THE CORALVILLE RESERVOIR, IOWA<sup>1</sup>

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By WARREN W. CALDWELL

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## INTRODUCTION

During the winter of 1949, a preliminary reconnaissance of the south-central portion of the Iowa River valley was carried out by the River Basin Surveys, Smithsonian Institution, in an effort to determine the archeological potential of the area to be submerged by the waters of the then projected Coralville Reservoir. Temporal considerations prevented an intensive investigation of the region; however, the recovered data (Wheeler, 1949) made it obvious that further, more thoroughgoing work, was desirable.

In the autumn of 1956, with the dam nearing completion, a more adequate survey became a matter of urgency. Although the Coralville Reservoir lies outside the Missouri Basin, the Missouri Basin Project of the River Basin Surveys was able to undertake the investigations. Funds to carry on the field activities and laboratory research were transferred to the Smithsonian Institution from the appropriation for Archeological Salvage Work Outside the Missouri Basin. For reasons of administrative convenience and economy, the Smithsonian Institution administered the work through its Missouri Basin Project office in Lincoln, Nebr. The research and administrative supervision was by regular Missouri Basin Project staff members.

This report is based upon a 6-week field study carried out during September and October of 1956. An excavation crew, varying from 6 to 10 men, served faithfully in a difficult field situation. In particular, thanks should be extended to Lee G. Madison of the Missouri Basin Project, River Basin Surveys, who officiated as a competent and perceptive field assistant. The following crew members are also deserving of special mention: Richard Adams, Donald Looney, Joseph Miltner, and Raymond Buchmeyer, of Solon, Iowa; Elmer Gardner and Peter Kuipers, of Platte, S. Dak.; Tyler Bastian and Norman Barka, of Beloit College; and Richard Jensen and Carl

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<sup>1</sup> Revised manuscript submitted September 1957.



Hugh Jones, of the University of Nebraska and Brigham Young University, respectively.

Cooperation and kindnesses extended by the State Historical Society of Iowa, by the personnel of Macbride State Park, by Eugene Crosheck and Leo Harapat, and by Mr. and Mrs. Richard K. Adams, of Solon, are gratefully acknowledged. In addition, we feel a distinct obligation to Dr. Theodore E. White, paleontologist, National Park Service; to Dr. Norton H. Nickerson, Department of Botany, Cornell University; and to Dr. Joseph P. E. Morrison, associate curator, Division of Mollusks, U.S. National Museum, who generously provided identifications of nonartifact materials from the sites.

Prehistorically, the State of Iowa, in its strategic geographical position between the well-documented horizons of the Mississippi Valley and the increasingly significant Plains area, remains, to a degree, an archeological hiatus. The far-ranging surveys of Keyes (1942, 1951) and the more intensive analysis of Mott (1938) have provided some basis for a preliminary statement of the problem. Ruppé (1955 a, b, c) has suggested the presence of Oneota, Woodland, Archaic, and possibly Paleo-Indian elements. Local and regional analyses offered by Beaubien (1953, a, b) and Logan (1955) have added significant information, but as yet no definitive synthesis has been outlined. Data resulting from the River Basin Surveys investigations are unfortunately scanty. Comparative analysis in terms of such a small sample, is markedly tenuous. It seems desirable, nonetheless, to present a series of brief analytical statements, phrased largely in terms of suggested relationships, as a building block for more mature synthesis in the future.

## THE CORALVILLE RESERVOIR: THE SETTING

The Coralville Dam and Reservoir have been constructed under provisions of Section 4 of the Flood Control Act of 28 June 1938 as a flood-control project under the immediate supervision of the Corps of Engineers, Rock Island District. The dam, an earth embankment structure 1,400 feet in length and approximately 100 feet in height, provides for a maximum pool of 492,000 acre-feet, reaching a maximum length of 41.5 river miles. The current investigations, confined substantially to the conservation pool, extended from the dam site, 5 river miles north of Iowa City, north and east to the vicinity of Curtis. All sites excavated fell within Newport Township, Johnson County, Iowa. All legal definitions are based upon county and township plats, 1953 and 1956.

The Iowa River has its origin in north-central Iowa, following a meandering southeasterly course to join the Mississippi River approximately 20 miles south of Muscatine, Iowa. In the lower or conservation pool area the river is deeply entrenched in the Iowa



Drift Plains (Raisz, 1951, map), cutting deeply into the limestone below, thus producing a pattern of high, rocky cliffs and steep bluffs. An extensive network of minor tributaries has created a series of confluent canyons and high, supervening ridges, the latter providing as much as 200 feet of relief. Above the conservation pool, the valley is characterized by large areas of low bottom lands bounded by eroded hills.

Before European cultivation much of the area was heavily forested. Even today, only the ridge tops and the more accessible bottom lands have been denuded. The river bluffs and lateral canyons support a heavy growth of oak, hickory, and maple with much underbrush and second growth resulting from sporadic logging activities.

## ARCHEOLOGICAL SITES

Archeological interest in the problem area is of long standing. In the last quarter of the 19th century the aboriginal mound structures of Johnson County were the subject of great local interest and numerous but casual excavations (Davis, 1883; Thomas, 1887; Starr, 1892). Shortly after the turn of the century, intensive reconnaissance, confined to an area substantially coextensive with the projected conservation pool, resulted in a more satisfactory systematization of data (Ward, 1904). Currently, a reevaluation of the earlier work, by Dr. Robert Tidnick of the University of Iowa School of Medicine, has added materially to the factual inventory. Dr. Tidnick's unpublished data have been incorporated freely into the following presentation.

The preliminary examination of the reservoir by the River Basin Surveys located 9 archeological sites; 10 additional sites were recorded by interested amateurs (Wheeler, 1949, p. 4). The current intensive reconnaissance brought to light 10 supplementary occupation areas (fig. 10). It seems probable that still other aboriginal sites must exist in the lesser-known upper pool and on the ramifying highlands peripheral to the reservoir.

In addition to reconnaissance activities, the 1956 field party made extensive tests of three of the previously reported manifestations (13JH2, 3, and 4) and a complete excavation of one of the newly discovered sites (13JH202). Limited testing was also done at sites 13JH201, 203, 204, 205, 206, and 207. A distinct effort was made to relocate sites reported by Keyes (*ibid.*, fig. 1), but lacking detailed legal description, success was minimal.

### THE HENRY AICHER SITE (13JH1)

These mounds, known locally as the Aicher group, are situated just below the dam site (*ibid.*, p. 5) and hence were not excavated. The earthen structures occur at the crest of a high, narrow ridge separat-



ing the drainage of Rapid Creek, a minor eastern confluent, from the trench of the Iowa River. Twenty identifiable mounds are present, following in a series, NE-SW, down the constricted backbone of the ridge. Local informants indicate that previous to extensive farming activities, many more mounds were visible. Of the total group, 19 are conical in shape, ranging from 18 to 30 feet in diameter, with a maximum elevation of about 3 feet. A single low linear mound (ca. 20 feet  $\times$  50 feet) is identifiable. Except the latter, all the mounds show evidence of disturbance, usually in the form of a pit in the apex of the structure. Although most of the uncontrolled excavation is attributable to the last century, there is some evidence of recent digging. Since the site lies just outside of the reservoir, no testing was attempted.

#### THE CROSHECK SITE (13JH2)

The occupation area of this site is situated upon an extensive riverine flat comprising the entire north bank of the river and extending onto the highlands beyond (fig. 11). The flat has been dissected by two intermittent streams into three unequal segments, labeled, from the east: A, B, and C. In the summer of 1956 the entire area was under cultivation; however, it was possible to sample portions of A and B by excavating between the crop rows (12 test pits, each 3 feet square). Section C, in its exposed position, was deemed too badly disrupted by flood waters to warrant attention. Included within and just below the plow zone were limited quantities of chipping debris but no definitive artifacts. Surface collections are more extensive. The previous landowner, Eugene Crosheck, has assembled a substantial collection from all three topographic areas. These data are discussed briefly below. The 1956 Smithsonian party also secured a small surface sample, but limited only to field segments A and B. A detailed description is presented under "Artifacts" in this section.

Two distinct mound groups formerly existed as part of the 13JH2 site complex:

*Crosheck group.*—A series of four mound structures was described by Ward (1904, pp. 33-34) as situated upon the first bench above the bottom land, 300 yards north of the river. An extensive test of the designated area (fig. 11) produced only the basal fragment of an unstemmed point (No. 3 below). Stratigraphic data did not suggest the presence of mound structures. Local informants indicate that they were probably destroyed by recent cultivation.

*Sweeney group.*—Ward indicates another series of mounds on the next rise, about 200 yards north of the previous grouping. Three structures originally were present (ibid.). Recent cultivation has

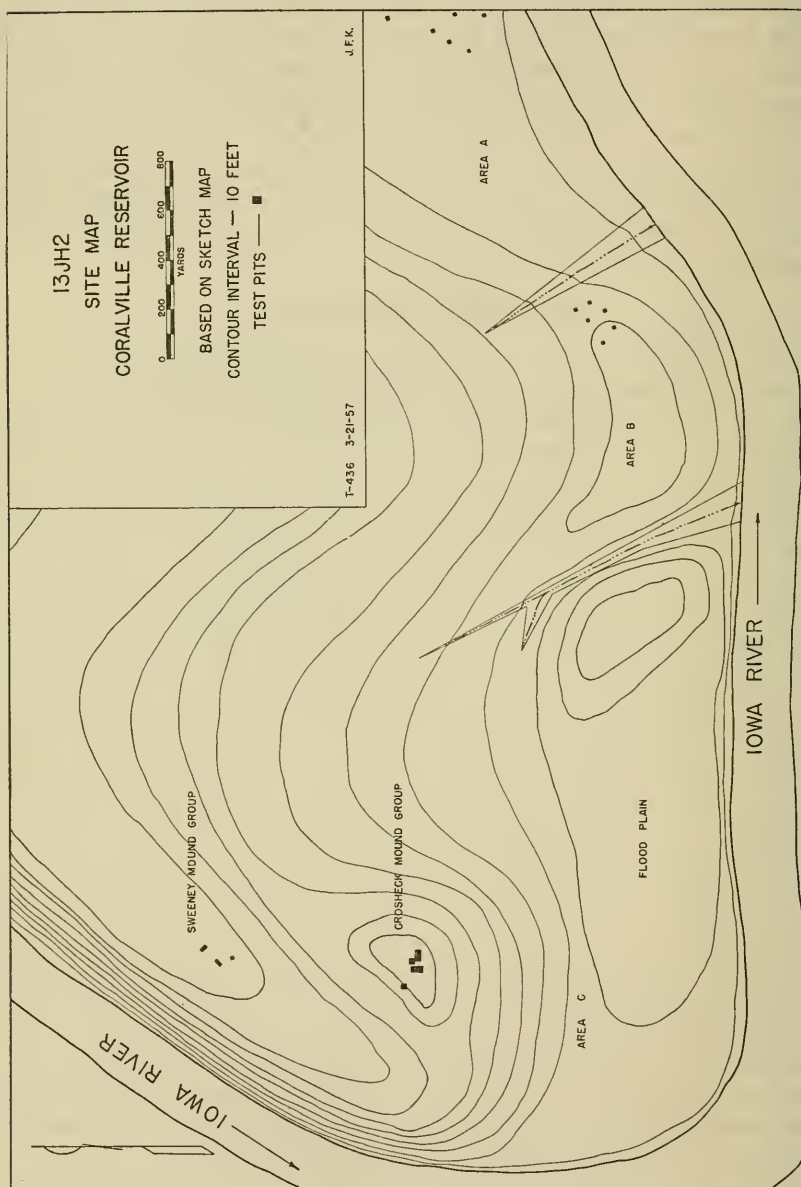


Figure 11.—13JH2, site map.



destroyed all but slight surface protuberances. An extensive test failed to recover any apparent details of construction, and no artifacts were secured.

#### ARTIFACTS

The definitive artifacts from 13JH2, with a single exception, are entirely surface finds.

1. *Leaf-shaped points with a flat or slightly concave basal termination (sample: 4).* Plate 23, a.  
Range of length: 63.0 mm. (one complete example).  
Range of width: 22.0–31.0 mm.  
Range of thickness: 9.0–11.0 mm.  
Cross section: Roughly biconvex.  
Technique: Percussion.
2. *Points with parallel sides and concave bases.* Basal area symmetrically tapered to a chisel edge (basal thinning). A single example (13JH2-5)<sup>2</sup> is characterized by an earlike basal barb (sample: 3). Plate 23, b.  
Range of length: 71.5 mm. (one complete example).  
Range of width: 18.0–22.0 mm.  
Range of thickness: 7.0–12.5 mm.  
Cross section: Biconvex, notably thick except in basal area.  
Technique: Percussion, well controlled.
3. *Fragment, leaf-shaped point, shallow concave base (13JH2-28).* Plate 23, c.  
Length: ———  
Width: 25.5 mm.  
Thickness: 6.5 mm.  
Cross section: Biconvex.  
Technique: Pressure, well controlled.  
Depth: 0.7 foot below surface, in old Croscheck mound group area.  
Typologically, this specimen closely resembles the sample described under No. 1 above, yet it is sharply separated from it in refinement of form and technique of execution.
4. *Elongate triangular point with convex base, base beveled symmetrically to a chisel edge (13JH2-20).* Plate 23, d.  
Length: 58.5 mm.  
Width: 15.5 mm.  
Thickness: 9.0 mm.  
Cross section: Roughly biconvex.  
Technique: Percussion, poorly controlled.
5. *Miscellaneous point fragments.*
  - a. Flat base, deep corner notch (13JH2-27).
  - b. Apical fragments, probably deriving from examples similar to Nos. 1, 2, or 3 above (sample: 3).
6. *"Thumb scraper," convex bit, abrupt bevel to acute scraping edge, fragmentary (13JH2-11).*  
Length: 23.5 mm.  
Width: 23.0 mm.  
Thickness: 9.5 mm.  
Cross section: Plano-convex.  
Technique: Percussion, use pressure.

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<sup>2</sup> Catalog No., Missouri Basin Project, River Basin Surveys, Smithsonian Institution (trinomial site designation plus numerical designation of the individual artifact).

7. *Irregular fragments with retouched edges (sample: 4).* Plate 24, b.  
Cross section: Irregular flake surfaces.  
Technique: Pressure, consciously retouched.
8. *Heavy blades with tapering bodies and convex bits (sample: 3).* Plate 24, h.  
Range of length: 84.0 mm. (one complete example).  
Range of width: 35.0-50.0 mm.  
Range of thickness: 18.0-20.0 mm.  
Cross section: Biconvex, with strong tendency toward plano-convex.  
Technique: Percussion, pressure on bit.
9. *Fragment, crudely shaped blade, tapering body, convex irregularly beveled bit (13JH2-15).* Plate 24, a.  
Length: 107.5 mm.  
Width: 37.0 mm.  
Thickness: 16.0 mm.  
Cross section: Roughly tabular.  
Technique: Percussion, poorly controlled.
10. *Fragment, polished and abraded stone (13JH2-14).*
11. *Hammerstones, one or more surfaces evidencing battering (sample: 3).*  
Plate 25, a.  
Range of maximum diameter: 59.0-64.0 mm.
12. *Fragment, split and smoothed long bone, smoothed epiphysis, cancellous tissue removed, badly weathered (13JH2-26).*  
Length: 54.0 mm.  
Width: 20.0 mm.  
Thickness: 9.0 mm.

#### ANALYSIS

The former landowner has found a wide range of lithic materials at 13JH2, but almost entirely from the surface. Included in Mr. Crocheck's collection are many small triangular points and typical stemmed Woodland forms, with a limited occurrence of large corner-notched examples generally attributed to Hopewell. Frequent large blades also suggest the latter.

Excavation produced only a single point fragment (No. 3 above). This example is strongly reminiscent of the "type 2" form of the Illinois Valley (Cole and Deuel, 1937, p. 55). A small series of related types (see Nos. 1-3 above) were recovered by surface collecting. Superficially similar forms are frequent in the literature (*ibid.*; Fowler and Winters, 1956, fig. 10, I), but the most specific and significant tie is the lanceolate points labeled Nebo Hill (Shippee, 1948). Although other elements of the defined complex are not present, the 13JH2 points appear to fall well within the range of the Nebo Hill materials. The Nebo Hill type points have been noted axially along the Missouri River in Missouri, in southwestern Iowa, and in the vicinity of Manhattan, Kans. The complex remains unstratified and undated, but a relationship to early complexes of the Plains has been suggested (*ibid.*, p. 32). The type points also resemble Archaic forms from the Illinois Valley (McGregor, 1957, p. 272).

Ceramic materials from 13JH2 have been scanty. Oneota materials have been recovered by the former landowner and probably by a University of Iowa field party, but exact data are not available.

It seems likely that 13JH2 was characterized by a long continuity of occupation, possibly extending from the Archaic to the Oneota horizon. The latter is assuredly very recent, possibly historic in range. Site 13JH205 (below), immediately to the east, is characterized by a very scanty artifact assemblage, but suggests, in part, a late Oneota orientation with a temporal range extending into the historic period.

#### SITE 13JH3

As originally described (Ward, 1904, pp. 32-33), site 13JH3 consisted of two low mounds situated on the edge of a high bluff overlooking the east bank of the Iowa River. By 1956 only a single structure remained (34 feet diameter, 3 feet high; fig. 12). A recent trench, now substantially filled, cuts through the mound, roughly paralleling the east-west axis. A single hickory tree grows upon the extreme southern boundary of the mounded area; the decayed stump of another occurs directly north, on the opposite periphery. Rising from the mound toward the west is a gently sloping knoll, the plowed surface of which has produced some occupational debris (chipping materials, point fragments).

Despite the apparent disruption, it was hoped that a test might disclose undisturbed deposits or reveal significant details of construction. A trench, 45 feet in length, was excavated across the body of the structure, oriented to intersect the intrusive pit in a perpendicular manner (pl. 18, *a*). This trench, based on a series of 5-foot squares (0.5 foot vertical control), was excavated into the subsoil adjacent to and beneath the mound. An effort was also made to delimit the outline of the earlier, intrusive pit.

#### STRATIGRAPHY

Two components are present (fig. 13):

- A. A basal stratum of densely compacted yellow-brown loessic clay. A white chalky stain, probably the leached products of the old soil surface, characterizes the upper portions of this stratum in squares 5 and 6.
- B. Superimposed on A is a matrix of closely similar pattern, but markedly less compact and with an apparent charcoal content. Recent sod, coextensive with the adjacent field area, forms a cortical surface for the entire feature. Stratum B is separated from A by a slight unconformity.

Evidence of a premound humus is lacking; the disconformity suggests an old surface from which the sod was removed prior to mound construction. Stratum A is substantially similar to adjacent erosional and field exposures. Stratum B is also similar, but suggests



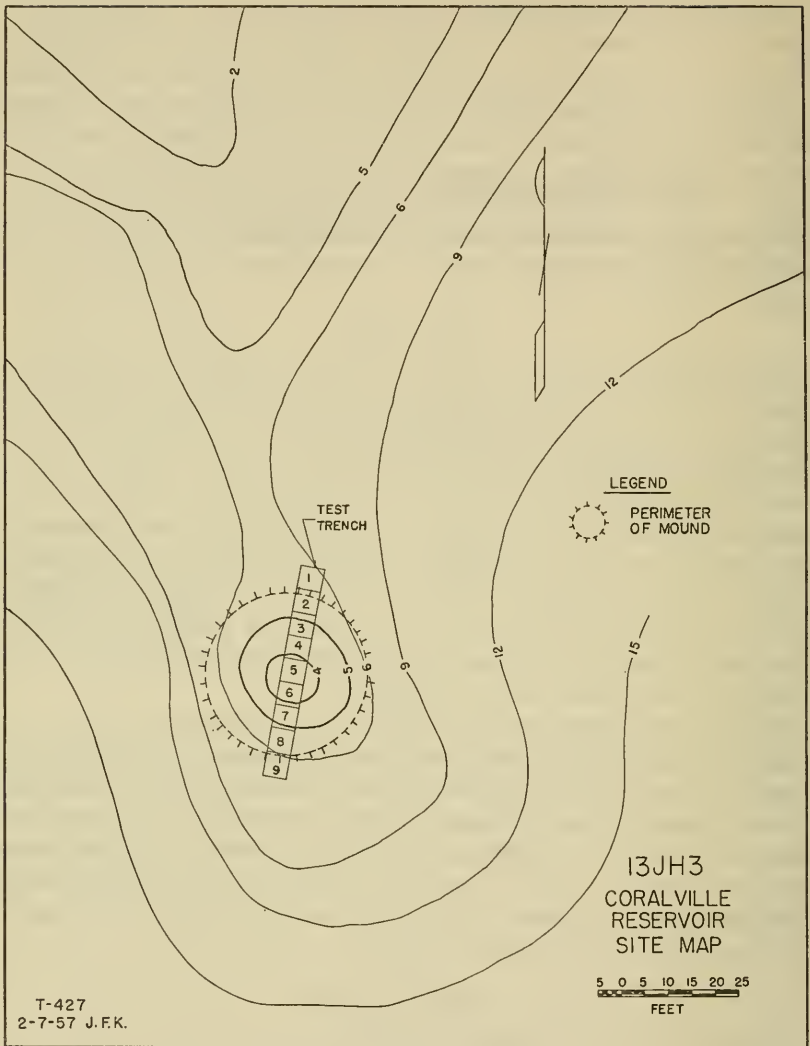
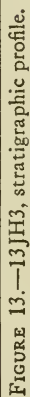


FIGURE 12.—13JH3, site map.

a secondary deposition. It might thus be argued that stratum B is borrow, erected upon a stripped, subsoil surface. There is no local evidence as to the exact origin of the mounded borrow, but recent cultivation has markedly disturbed adjacent areas. The charcoal and artifact content suggest origin in an aboriginal occupation area.

Stratum B is capped by a varying thickness of humic turf. The latter is disrupted in the central portion of the mound by a firepit, the result of recent picknicking. An earlier, more extensive pit, representing evidence of the original disturbance of the site, was apparent beneath the picnic debris. The pit penetrated into the



leached area of stratum A. Excavations carried beneath the intrusion provided no evidence of cultural material.

#### ARTIFACTS

All material objects were included within the mounded fill (stratum B); there is no evidence of any artifacts associated with a disrupted burial or burials.

1. *Pottery: Thin, cord-marked body sherds (sample: 2). Plate 27, a, b.*  
Thickness: 5.5 mm.  
Temper: Fine sand, rounded quartzite pebble inclusions.  
Color: Dark gray.  
Depth: 0-1.0 feet below surface, squares 7, 8.
2. *Miscellaneous projectile point fragments.*
  - a. Apical fragment.  
Depth: 0.5-1.0 foot below surface, square 3.
  - b. Amorphous body fragment.  
Depth: 1.5-2.0 feet below surface, square 4.
  - c. Basal fragment, side or corner notches, convex base.  
Depth: 0.5-1.0 foot below surface, square 7.
3. *Miscellaneous blade fragments (sample: 2).*  
Depth: 0.5-1.0 foot below surface, squares 1, 3.
4. *Fragment, thumb scraper (13JH3-9).*  
Depth: 0.5-1.0 foot below surface, square 3.
5. *Miscellaneous flakes with retouched areas (sample: 8).*  
Depth: 0.5-2.0 feet below surface, squares 2-7.
6. *Tabular limestone inclusions.*

#### ANALYSIS

The artifact sample obtained from the mound structure 13JH3 is minute and largely inconclusive. The large identifiable basal fragment of a projectile point merely suggests a "typical" Woodland form. The two body sherds are somewhat more definitive. They are quite similar, although somewhat more refined in execution, to the dominant ware deriving from Site 13JH202. The latter has been related to the Lake Michigan grouping (below).

On the comparative level, the mound structure itself is equally insignificant. The following traits are tentatively offered as characteristic:

- Conical form
- Turf probably removed prior to construction
- Constructed as a single component
- Mound body probably composed of occupation debris
- No burial evident
- Limestone inclusion

A consideration of these generalized traits will follow in the discussion of Site 13JH4.

#### SITE 13JH4

Site 13JH4 consists of seven conical and a single linear mound situated upon a densely forested ridge top formed by the headward cutting of the northern and southern forks of an unnamed eastern affluent of the Iowa River (fig. 10). The structures range down the ridge top following a northeast-southwest direction (fig. 14). The mounds vary from 20 to 32 feet in diameter and reach a maximum height of 2.5 feet. The easternmost and the westernmost had been previously disturbed. Conical mounds No. 4 and No. 6, and the linear example (No. 7), were chosen for excavation as the most accessible and the least burdened by brush cover.

#### MOUND NO. 4

The diameter of mound No. 4 is 25.7 feet and the elevation is 2.5 feet. The mound was approached via a trench oriented to section the structure adjacent to its medial line. The trench, based upon a 5-foot square unit (0.5 foot vertical control), reached a maximum length of 20 feet. A single offset (one 5-foot square) was excavated to sample the apex and central portion of the mound (pl. 18, *b*).

#### STRATIGRAPHY

Two distinctive strata are present (fig. 15) :

- A. A basal stratum of compact yellow-brown loessic clay similar to that apparent in the adjacent countryside. Included are numerous small pockets of ash, charcoal, and occasional occurrences of aragonite (possibly caliche) crystals. Leached products of the subsoil have created a pervasive "chalky" appearance throughout the exposed portion of the stratum. These deposits form a distinctive dome or core, but not concentrically oriented with the observed outline of the superstructure. This underlying stratum, in detail, is composed of two transcending units:
  1. An upper layer of distinctive ash and aragonite "pockets" inclusive in a dense, friable clay matrix.
  2. Beneath 1, the chalky "color" (cf. 13JH3) is more pervasive, but the "pockets" are not present. It seems probable that 2 is undisturbed subsoil, penetrated by the leached products of 1.
- B. The superstructure of the mound is distinctly less friable than the underlying stratum A, but is of a very similar matrix. Stratum A is separated from stratum B by a moderately abrupt transition, but a disconformity is not present.

It is apparent that mound No. 4 was constructed in two units, the lower containing ash, charcoal, and possibly, fragments of limestone, which are currently evident as aragonite. The matrix of the latter unit appears to be essentially similar to the indigenous subsoil into which it transcends. The inclusions, lacking distinctive patterns as they do (excepting possibly the putative limestone), suggest origin

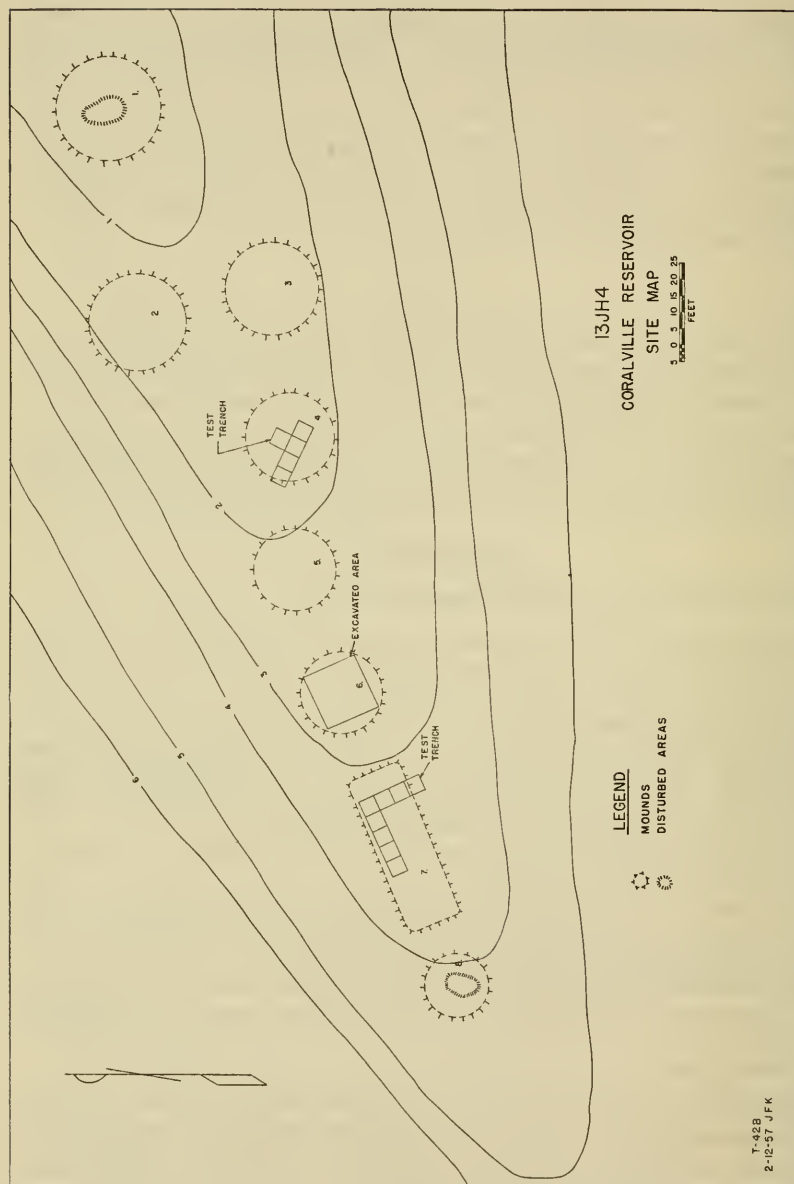


FIGURE 14.—13JH4, site map.

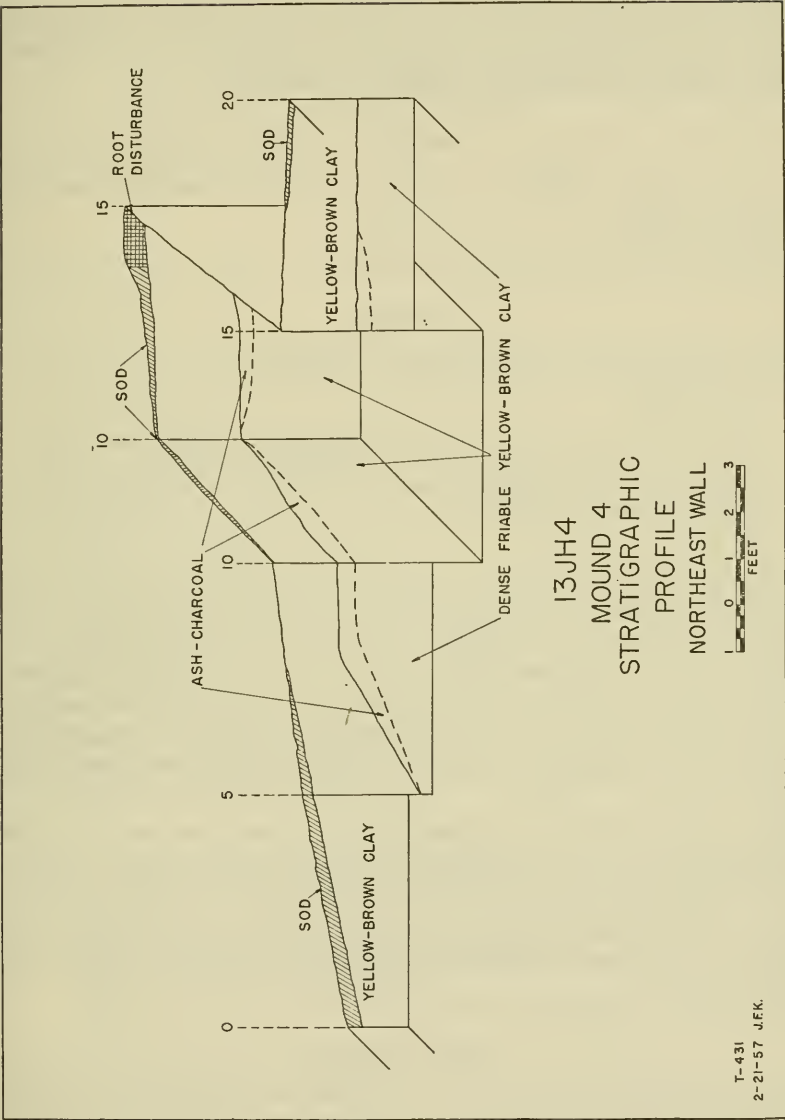


FIGURE 15.—13JH4, mound 4, stratigraphic profile.

in an occupation area. The single included flake (see below) reinforces this possibility. It further seems probable, since no old soil surface is present, that an area, at least coextensive with the current superstructure, was stripped of sod prior to mound construction. The superstructural stratum B, since it is not sharply demarcated from A, was probably formed at the same time. It is of a homogeneous matrix containing no occupation debris.

#### ARTIFACTS

A single flake (13JH4-1), evidencing no purposeful retouching, is the sole artifact.

Depth: 2.4 feet in square 2 (stratum A).

#### ANALYSIS

Mound No. 4 can be summarized as follows:

Conical form

Probable removal of turf prior to construction

Body of mound formed in an abbreviated laminar fashion

Structural materials may derive, in part, from an occupation area

Possible limestone inclusions

No burial is present

The structure of mound No. 4 differs from that of 13JH3 only in that it was formed in two units. The presence of conical mounds of a primary-secondary or laminated structure has been noted in Jo Daviess Co., Ill. (Bennett, 1945, table 2, p. 97). It is not a frequent feature in that area, and the pattern of construction is markedly more complex than in the current example. Mounds are also largely unstratified in the Effigy Mound Culture of Wisconsin (Rowe, 1956, p. 72).

Removal of topsoil or turf prior to mound construction is a widely distributed trait in northwestern Illinois (Bennett, 1945, table 1, p. 96; table 2, p. 98), and is not infrequent in Wisconsin (Rowe, 1956). In total, however, the traits present in mound No. 4 are non-distinctive in terms of the more complex patterns present to the northeast.

#### MOUND NO. 6

The diameter of mound No. 6 is 25 feet and the height is 2.5 feet (fig. 14). Excavation procedure was basically similar to that employed in the testing of mound No. 4 (above). The initial excavation, however, was much expanded in order to sample a more extensive portion of the structure (pl. 19, a).



#### STRATIGRAPHY

Two distinct strata are present:

- A. A basal structure of yellow-brown loessic clay. A chalky, leached constituent, similar to that noted above, was recognized central to the mounded superstructure. Upon the surface of this stratum was a linear grouping and three isolated examples of planar, waterworn limestone slabs (pl. 19, a). Each member was markedly fossiliferous. Surface soil was probably stripped prior to placement of the slabs.
- B. Overlying and surrounding the slabs was a soft yellow matrix similar to the adjacent field pattern.

#### ARTIFACTS

The total inventory of cultural materials was excavated from stratum B:

1. *Conical pipe of pottery (fragmentary) (13JH4-3, 4).*  
Conical body, porous red paste, sand temper, molded hole nonconcentric with longitudinal axis of body. Plate 29, a, b.  
Length: 63.0 mm.  
Maximum diameter: 28.5 mm.  
Minimum diameter: 15.5 mm.  
Bowl fragments deriving from shattering of 13JH4-3 indicate a flat rim and a tapering, internal orifice.  
Projected rim diameter: 55.0 mm.  
Width of rim: 14.0 mm.
2. *Convex triangular projectile point, deep corner notches, flaring stem and slightly concave base (13JH4-10).* Plate 23, e.  
Length: 61.5 mm.  
Thickness: 8.5 mm.  
Cross section: Irregularly biconvex.  
Technique: Percussion, well controlled.
3. *Chipping debris (sample: 2).*
4. *An amorphous fragment of long bone.*

#### ANALYSIS

Mound No. 6 is summarized as follows:

Conical form  
Probable removal of turf prior to construction  
Constructed as a single component  
Artifacts in fill but no other suggestion of derivation from occupation area  
Limestone slabs on stripped soil surface  
No burial evident

Mound No. 6 resembles 13JH3, but with the additional presence of limestone slabs situated upon the subterf surface. The stone inclusions do not resemble the "altars" described by McKern (1928, pp. 261-263), but may possibly be equated to the unassociated stones found in Effigy and Hopewell mounds in Wisconsin and Illinois (see Bennett, 1945, tables 1, 2, pp. 96-98; table 7, p. 114).

## MOUND NO. 7

The length of mound No. 7 is 50 feet, the width 17 feet, and the height 1.0 feet (fig. 14). The mound was sampled via a 20-foot trench oriented to parallel the apparent long axis of the structure. A second trench, deriving from a sterile platform to the southeast, intersects the first to form an L-shaped excavation (pl. 19, *b*). All trenches were based upon a 5-foot square unit with a 0.5 foot vertical control.

## STRATIGRAPHY

Two strata are present (fig. 16):

- A. A basal structure of friable loessic clay similar to the indigenous soil pattern.
- B. An overlay of loosely compacted brown clay separated from stratum A by a visible unconformity. No other evidence of an old soil surface is present. It seems probable that the latter was removed prior to the construction of stratum B.

## ARTIFACTS

No artifacts were recovered from mound No. 7.

## ANALYSIS

Mound No. 7 is summarized below:

Linear form

Turf probably removed prior to construction

Constructed as a single component

Mound No. 7 suggests a much simplified Effigy-linear pattern as outlined by Bennett (1945, p. 101; cf. Rowe, 1956; below). Logan (1955, p. 128) groups conical and linear mounds in northeastern Iowa as a potential but apparently as yet undefined unit. It should be noted that the simple conical mounds of the Chapman Site in Jo Daviess County, Ill., may be most closely related to the linear structures (Bennett, 1945, p. 104). Both linear and conical mounds are definitely associated with the Effigy Mound Culture of Wisconsin (Rowe, 1956, table 1, p. 15, *passim*).

## ANALYSIS AND RECAPITULATION (13JH3 AND 13JH4)

A total of only five artifacts were collected from the three mounds sampled at Site 13JH4. Only two of them possess comparative value.

The conical pipe, by no means as omnipresent as the elbow or platform varieties, is nonetheless present in the literature (McKern, 1928, pl. LIII, 2), occurring in an Effigy Mound context.

The single corner-notched point (type 1, Cole and Deuel, 1937, pp. 53-55) is conventionally described as "Woodland." It is similar to but not identical with examples occurring in the Effigy Mound Culture of Wisconsin (Rowe, 1956, figs. 23, 25).

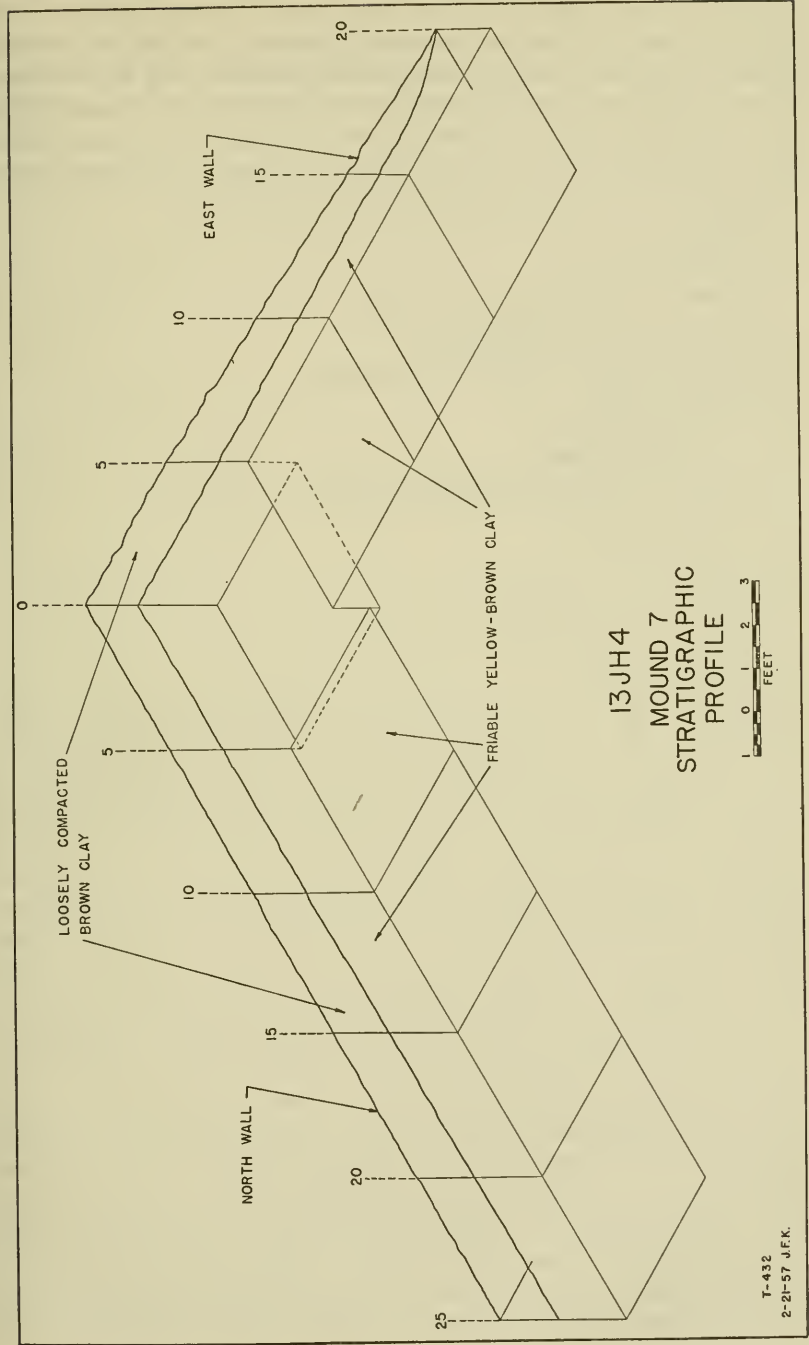


FIGURE 16.—13JH4, mound 7.

In view of the paucity and the random nature of much of the Coralville mound data, it seems most practical to consider Sites 13JH3 and 13JH4 as a total comparative unit. As implied above, the most satisfactory body of suggestively related data comes from Jo Daviess County, Ill., and from the Effigy Mound sites of Wisconsin. In light of the inadequacy of physically contiguous Iowa materials, the major comparative reference will be to the former areas.

Suggested traits of Sites 13JH3 and 13JH4 are:

*Conical mounds:*

1. Conical form, small
2. Topsoil removed prior to construction
3. Structure in a single layer
4. Structure stratified or laminated
5. Pottery: Lake Michigan ware, conical pipe
6. Projectile points
  - a. Triangular, plain?
  - b. Corner-notched
7. Occupation debris included in mound fill
8. Fragments and slabs of limestone included in mound fill
9. No burials present

*Linear mounds:*

1. Linear (rectangular) form
2. Topsoil removed prior to construction
3. Structure in a single layer
4. No burial present

In general, the observed and putative traits are not definitive and offer slight basis for a detailed comparison. In southern Wisconsin, Rowe considers conical and linear mounds, found in the Effigy Mound Culture, as related units of a large and complex series of mound types (Rowe, 1956, pp. 14, 69). No site contains all the known forms, but repeated associations are such as to make a relationship tenable. With one exception, conical mounds are present in all the site groupings (*ibid.*, table 1, pp. 15-17). In all cases, they are many times more frequent than linear forms (*ibid.*). Linear mounds occur at all but four sites and then always as a minority feature (*ibid.*). Conical mounds are present in contexts lacking linears at three sites, but linear mounds without conicals were found only once (*ibid.*).

In describing the effigy, linear, and conical mounds of north-western Illinois, Bennett (1945, p. 95) has considered the structures as falling into two groupings: (1) Linear-Effigy, and (2) Conical. In view of the scarcity of data and the random overlap of many traits, Bennett concludes that with one possible exception, "The linears represent a single manifestation" (*ibid.*, p. 99). In addition, "Pending further excavation, the effigies must be considered as similar to the linears in all respects save form" (*ibid.*). The conicals

also represent a single grouping, but a group that is characterized by considerable complexity and variability (*ibid.*, p. 101). "Satisfactory identification of Lake Michigan pottery in the conical mounds can be made only for MacDonald mound No. 4 and the Chapman group, and the latter perhaps should be considered as a member of the linear manifestation. No Hopewellian pottery was found in the linears" (*ibid.*, p. 108).

Bennett concludes that the Jo Daviess sites examined imply a cultural mixture (*ibid.*). Specific Hopewellian influences are noted.

The lack of complexity characteristic of the mounds excavated at Sites 13JH3 and 13JH4 may be of significance. The conical mounds and the single linear structure are basically similar in construction, and seem to represent a common phenomenon. A single exception is the stratified or laminated fill of mound No. 4, 13JH4. Such construction is not common in either southern Wisconsin or northwestern Illinois, but it is present in both regions, occurring with some complexity in conical mounds of the Portage group (*ibid.*, pp. 37, 38, 101).

In Jo Daviess County, the Chapman group contains the simplest and most distinctive of the conical mounds. They show "ceramic features and other traits linking them to the linears" (*ibid.*, p. 101). Seven of the 9 traits outlined for the conical mounds of the Coralville Reservoir occur in the 16-trait summary of the Chapman group (*ibid.*, pp. 72-73). Certain similarities, commensurate with the generalized nature of the structures involved (1-3, above), are probably of limited comparative value. Traits 5, 6, 7, and 8 perhaps are of more significance. The presence of Lake Michigan pottery occurs in common, although the inclusion of a partial pot is not present at Coralville. It should be noted, however, that the sherds found in the mound at 13JH3 were possibly introduced as old occupational debris. Although greater quantities of included debris are implied for the Chapman mounds, the presence of such fill as a constructional feature is of particular interest. While this is not restricted to the Chapman site, other Jo Daviess mounds are largely debrisless.

Projectile points suggest a "Woodland" tie, but specific relationships are not plain. Similarly, the limestone slabs of mound No. 6, 13JH4, represent an equally diffuse pattern. Fragments, or in some cases slabs of stone, as distinguished from "altars" (McKern, 1928, pp. 261-263), occur in varying association in the mounds of northwestern Illinois (Bennett, 1945, p. 107). No altars, as such, were found at either Site 13JH3 or Site 13JH4, yet the limestone slabs at these loci imply something similar. This pattern, perhaps, is more specifically related to the limestone and sandstone inclusions at the



Raisbeck Site in southern Wisconsin (Rowe, 1956, *passim*). In terms of their usual simplicity of construction, the Wisconsin mounds suggest a possible relationship to those of the Coralville Reservoir. The former are largely unstratified (*ibid.*, p. 72) and with some evidence of the removal of sod as a preliminary to construction. In addition, occupational debris is present in the mound fill. It should be emphasized, however, that as in northwestern Illinois, there are many other traits not found in the Coralville sites. Most important are subfloor pits, a complex, overlapping group of burial patterns, and a greater range of pottery forms. On the basis of listed traits (Bennett, 1945, tables 1 and 2; Rowe, 1956, pp. 75-76), similarities between the sites of southern Wisconsin and northwestern Illinois and those of the Coralville Reservoir are few and inconclusive. In essence, the simple mound form and a related pottery are all that are held in common. Ceramic decorative motifs appear to be closer to those of Jo Daviess County than to those of southern Wisconsin (see 13JH202). Conversely, the simple mound structures suggest a closer tie to the latter area. This varying pattern of relationship may be illusory. As a cursory assessment, Bennett seems to have differentiated Hopewell influences more sharply, hence the seeming close relationship of the Iowa to the Jo Daviess ceramics; what is being compared is more solidly a type or a ware than is the case in southern Wisconsin. Rowe's pottery may include several undifferentiated elements, thus accounting for the apparent lesser similarity.

#### THE ALT SITE (13JH5)

When first recorded (Ward, 1904, pp. 14-15), the Alt Site consisted of three conical mounds situated on the upland just west of the Iowa River. Informants indicated to the Smithsonian field party that recent cultivation had destroyed all of the original structures. As a result, the area was not visited.

#### SITE 13JH6

This mound group (13JH6) located in a schoolyard just west of county road 153, originally consisted of seven low, conical structures 25 to 30 feet in diameter (*ibid.*, pp. 8-10). In the autumn of 1956 only four mounds were visible. All were much disrupted by recent digging. No excavation was attempted, nor were artifacts noted.

#### SITE 13JH7

Site 13JH7 consists of four conical mounds with the probable addition of a single linear structure. The mounds, ranging from 25 to 30 feet in diameter, are oriented along a northwest-southeast

line paralleling the edge of a steep bluff just east of the Iowa River. Wheeler (1949, p. 7) notes that the mounds appeared to be undisturbed. Local informants, however, indicate that in the past, several burials were removed from the structures. No testing was possible during the field season of 1956.

#### SITE 13JH8

This group of three low conical mounds (13JH8), ranging from 24 to 30 feet in diameter, is oriented in an east-west direction along the crest of the bluff north of the wide bottom lands of the upper or maximum pool area (*ibid.*). The site is well outside of the delineated reservoir and hence was not visited.

#### SITE 13JH9

Situated three-quarters of a mile east of 13JH8, this complex "consists of two low conical mounds, 33 feet and 36 feet in diameter, and, about 300 feet to the west, a pair of low conical mounds, 20 feet and 24 feet in diameter. All four of the mounds appear to be undisturbed. Local residents reported that twelve or more similar mounds occur along the bluff to the southeast of the mounds located" (*ibid.*). Since this group, too, is outside of the pool area, it was not visited.

As noted above, an additional series of sites, both mound groups and occupation areas, was reported by interested amateurs (fig. 10). An attempt was made to relocate the indicated sites. However, lacking legal definition or other entree, success was negligible. New sites discovered by the 1956 field party are described below.

#### THE HARAPAT LANE SITE (13JH201)

The Harapat Lane site is situated upon the crest of a narrow "hog-backed" isthmus separating two extensive ravine developments confluent to the eastern edge of the Iowa River canyon. It is, in effect, the erosional remnant consequent to the headward cutting of both ravine growths. Current erosion is not visible, but the grassed-over cuts of recently terminated activity are abundant.

For a period of years the landowner has recovered artifacts (preponderantly projectile points) from the scuffed surface of a narrow lane connecting his cattle barns with the stock pasture to the south. Recent grading and fence construction had exposed a definite post pattern and numerous additional artifacts. Archeological excavation was contingent upon the movement of stock and the demands of cultivation. As a consequence, it was most feasible to sample the site by a partial excavation of the lane, reexposing the post pattern,



and by a series of five shallow tests (Features 3-7) in the adjacent field areas (fig. 17). The occupation base exposed was roughly rectangular, ca. 130' north to south, by 30' east to west (pl. 20, *a*; fig. 17).

#### STRATIGRAPHY

The stratigraphic pattern, exposed in the lane cut and in the five test pits, is basically the same over the entire site. Two definable strata are present:

- A. The basal structure is composed of a friable yellow-brown loess similar to the surrounding field exposures. This is the characteristic capping in the entire Coralville region.
- B. Overlaying A is a thin brown humic fill of midden debris transcending into a thick heavy dark sod.

As far as available data indicate, all previously collected artifacts have come from stratum B, since there is no evidence that farming activities have penetrated beneath the compacted surface of stratum A. The current series (below) definitely is localized in stratum B. The post and pit pattern is apparent only in stratum A and must certainly date from on or near its original surface.

A total of 11 post molds was present. Excavated depths, plotted from the exposed surface of stratum A, ranged from 0.2 to 1.4 feet; the diameter at surface varied from 0.70 to 1.3 feet. It is probable that the total post pattern was not recovered in the restricted area of excavation. The exposed portion, however, does form a roughly linear series with a distinct cluster about a larger pit, designated Feature 1. The latter, 2.5 feet in diameter and 2.1 feet deep, and the similar Feature 2 (3.2 feet  $\times$  1.1 feet), are substantially larger and deeper than the postholes (pl. 20, *b*). Sectioning indicated that both pits had vertical walls and flat bottoms. Small fragments of charcoal were abundant in the interior fill, which otherwise resembles that of stratum B. A function as cache pits might be tentatively offered for Features 1 and 2.

#### ARTIFACTS

The excavated materials from 13JH201 are decidedly limited in quantity and nondefinitive in variety. Surface finds recovered by Leo Harapat, the landowner, however, provide additional data suggestive of somewhat more positive interareal ties (6 below). Only lithic materials have been noted from the site.

##### 1. *Miscellaneous point fragments.*

- a.* Convexly triangular, sloping shoulder, stem fragmentary (13JH201-11).  
Depth: 0.5-1.0 foot below surface, Feature 4. Plate 23, *f*.
- b.* Convexly triangular basal fragment.
- c.* Fragment, small leaf-shaped blade.
- d.* Body fragment, form unknown (13JH201-1).

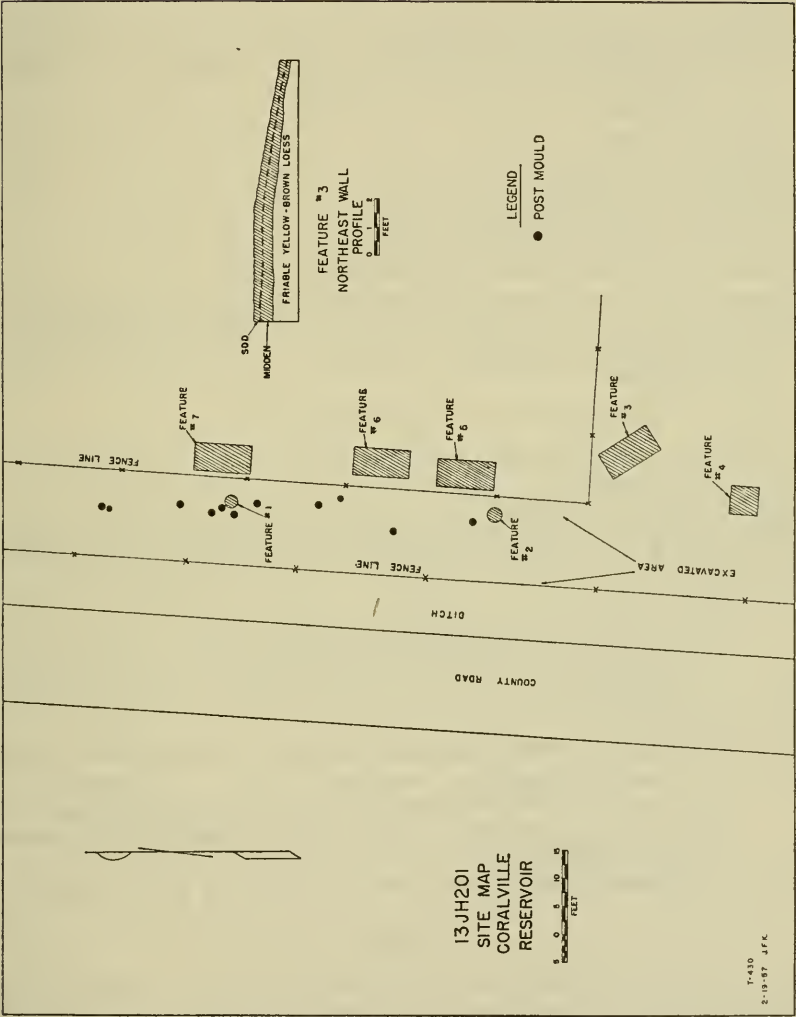


Figure 17.—Site map of 13JH201 and stratigraphic profile of Feature No. 3.

- e. Angular point fragment, form unknown (13JH201-6).  
Depth: 0.0-0.5 foot below surface of lane.
- f. Body fragment, large (triangular?) blade (13JH201-10).  
Depth: 0.0-0.5 foot below surface, Feature 1.
- g. Fragmentary, small leaf-shaped blade (13JH201-15).  
Depth: 0.5-1.0 foot below surface, Feature 6. Plate 23, g.
- 2. *Fragmentary, large, crudely chipped, leaf-shaped blade (13JH201-7). Plate 24, i.*  
Depth: 0.5-1.0 foot below surface, lane.
- 3. *Thumb or end scraper, tongue-shaped body, obtuse triangular base, abruptly beveled scraping edge (13JH201-5). Plate 24, e.*  
Length: 31.0 mm.  
Width: 33.0 mm.  
Thickness: 8.0 mm.  
Cross section: Biconvex; plano-convex.  
Technique: Percussion, well controlled.  
Depth: 0.0-0.5 foot below surface, lane.
- 4. *Irregular flakes with retouched edges (sample: 3).*  
Depth: 0.5-1.0 foot below surface, Features 1, 6, and 7.
- 5. *Spall chopper or celt, fragmentary poll, flaring bit, roughly beveled chopping edge (13JH201-8). Plate 25, b.*  
Length: 71.0 mm.  
Width: 68.0 mm.  
Thickness: 23.5 mm.  
Cross section: Plano-convex.  
Technique: Ground.  
Depth: Unknown, Feature 1.
- 6. *Harapat collection.* Only a brief field examination was possible. The following typological groupings are present:
  - a. Stemless points.
    - (1) Leaf-shaped blade (sample: 1).
    - (2) Large points of pentagonal shape (sample: 3).
    - (3) Elongate points with truncated leaf-shaped body and concave base (sample: 5).
  - b. Stemmed points.
    - (1) Convex triangular body, abrupt shoulder, expanding stem, convex base (sample: 5).
    - (2) Convex triangular body, deep side notches, convex base (sample: 4).
    - (3) Triangular body, deep corner notches, expanding stem, concave base (sample: 4).
    - (4) Triangular body, abrupt shoulder, contracting stem (sample: 2).

## ANALYSIS

Site 13JH201 has produced no evidence of pottery. Since excavations were limited, however, and since surface collection in the stock lane was highly casual, the site cannot be labeled unequivocally as nonpottery or prepottery in orientation. If the totality of excavated and surface-collected materials is considered, it is evident that large stemmed points are in the majority. They fall readily into the heterogeneous type 1, the "so-called Woodland type" of the Illinois Valley (Cole and Deuel, 1937, pp. 53, 55). Exact horizontal affilia-

tions are not patent in the literature, but a Middle Woodland range is suggested. The smaller series of stemless points is, in part, identical to groups 1-3 from Site 13JH2 and to the Nebo Hill materials. The Illinois Valley Type 2 (*ibid.*, p. 55) absorbs the remaining stemless forms. The lithic materials, considered in themselves, suggest the possibility of a late Archaic to Middle Woodland temporal range. Nor is the postmold pit pattern more instructive. Habitation structures have not been widely reported in the literature bearing upon Woodland problems. Under the circumstances, and lacking a complete recovery of data, the pattern excavated at 13JH201 cannot be unequivocally described as a house structure, but a complete house plan from beneath mound No. 9 at the Havana Site (McGregor, 1952, pl. 16, p. 51) has features that are suggestively similar. The artifacts and postmold pattern of 13JH201 are definitely associated (above). On the basis of stratigraphic occurrence, the artifacts must be contemporaneous with or postdate the remnant structure. As a consequence, and even though the large stemless points might indicate an earlier date, a Woodland affiliation seems probable.

#### WOODPECKER CAVE (13JH202)

More truly a rock shelter, the Woodpecker Cave site is situated within a bedded limestone exposure 10 feet above the flood plain of a southwest-trending affluent of the Iowa River. A habitation platform 50 feet in length and averaging 7 feet in width is situated at the top of a steep, dormant, talus slope (fig. 18; pl. 21, *a*). A wide overhang, 17 feet in height, gives protection to the occupation area. The northeast portion of the overhang develops into a low irregular cave (pl. 21, *b*). Both cave and overhang were originally meander-cut, consequent upon a marked increase of water volume in the valley below. More recently, stream erosion has been amplified by mechanical weathering. As a consequence, rock fall in the occupation area is abundant.

The occupation platform and cave were excavated almost in their entirety (pl. 22, *a, b*). The outer portion of the talus slope was only partially sampled because of the encumbrance of rock fall and heavy tree growth. A grid pattern of 5-foot squares, numerical along its SE-NW axis and alphabetical along its NE-SW base, was utilized as a means of horizontal control. The NE-SW axis paralleled the crest of the talus slope forming the outer margin of the habitation platform. Vertical controls were based upon 0.5-foot excavation units, related to surface datum in the northern corner of each square.

The surface of the cave and occupation platform, particularly in the northeastern portion, showed considerable disturbance apparently resulting from rodent action and the trampling of livestock.

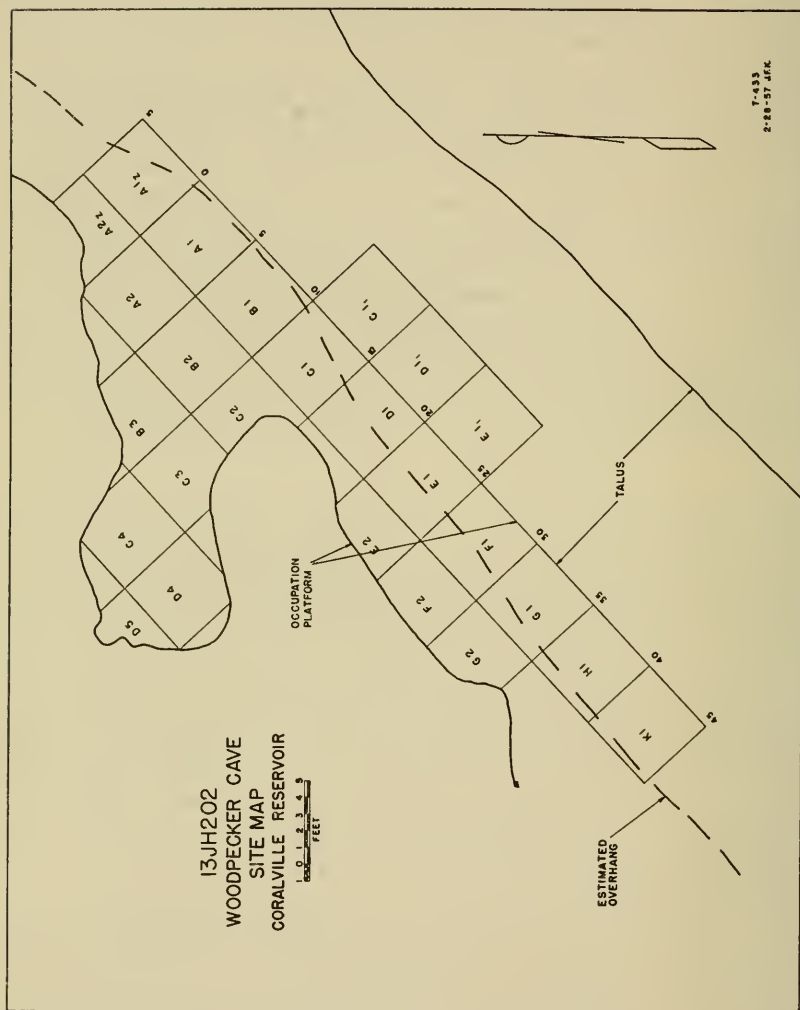


FIGURE 18.—13JH202, site map.



### STRATIGRAPHY

Two distinct strata are present (fig. 19):

- A. The basal structure is composed of a fine yellow-brown loessic matrix containing a compact mass of interlocked limestone fragments. The latter obviously represent roof fall. The limestone constituent of A was so densely compacted that it proved impractical to excavate to the lower limits of the stratum. A maximum depth of 8.5 feet was reached but only in square A1. Stratum A forms a horizontal bed across the mouth of the cave but rises abruptly toward the surface beneath the southwestern portion of the shelter (squares E1, F1). This stratum is not present within the cave proper. It extends only slightly into the southern portions of squares A2 and B2. Except squares C4 and D4, the overlying stratum B (below) extends completely to the sloping bedrock cave floor. In the latter squares, a matrix resembling stratum A is present, but closely cemented, and containing frequent nodules of flint, fragments of charcoal, shell, and fire-cracked rock.
- B. A gray-black organic matrix overlying stratum A and separated from it, in the northern and northeastern portions, by a slight but distinct unconformity. Rodent disturbance is extreme, but does not extend beyond the upper two-thirds of the deposit. Large tabular fragments of limestone, reaching a maximum weight of 350 pounds (estimated), are frequent. Fire-broken rock is abundant and general in distribution; charcoal is scattered. Stratum B is characterized by a generalized ash content. Dense ash lenses are localized just within and adjacent to the mouth of the cave proper as follows:
1. Square E2, at depth 1.0 foot, and extending, against the slanting limestone wall, to bedrock.
  2. Square C2 at 1.5-2.0 feet. /
  3. Square B2, at the 4.5-foot level, a lense of yellow ash and charcoal cemented into a dense mass.

Stratum B represents a ceramic horizon with a minimal quantity of lithic material present. Worked bone and antler are not common, but unmodified mammalian, piscine, and avian remains are exceedingly abundant (see Appendixes). Much of the bone material is calcined and most is shattered or fractured. There is a small but constant inclusion of shell throughout the deposit. Stratum A has produced no definitive artifacts, but human occupation is indicated by the presence of burned bone, charcoal, shell, and fire-shattered stones. The nonartifact pattern is substantially that of B, but less intense in occurrence. The exceedingly heavy rock fall of stratum A suggests a period of somewhat increased precipitation resulting in more apparent frost action.

### ARTIFACTS

The artifact sample recovered from 13JH202 is small, although much more substantial than that from other sites tested in the reservoir. The following typological groupings are, in effect, a direct consequence of the limited inventory.





CERAMICS

Total sample: 463 sherds.

I. *Group A (sample: 319 sherds, 35 rim sherds, portions of 35 vessels). Plate 27, c-f, j, k.*

A. Paste:

1. Temper—fine grit or sand with two varieties of inclusions.
  - a. Pebbles of quartzite, both angular and waterworn.  
Range of diameter: 0.5–1.0 mm.
  - b. Large, angular black crystals, probably hornblende.  
Range of diameter: 1.0–3.0 mm.
2. Texture.
  - a. Surface—medium coarse.
  - b. Core—dense and homogenous in sherds containing grit aplastic, otherwise friable and somewhat lamellar.
3. Color.
  - a. Exterior—gray black—a minority of sherds are wholly or partially oxidized to a variable red-orange color, firing clouds infrequent.
  - b. Interior—identical with above.
  - c. Core—similar to cortex except in heavily oxidized sherds where a “spotted” or variable coloring is encountered.

B. Surface treatment:

1. Exterior—cord-wrapped paddle impressions, covering entire body of vessel. Vertical treatment is most common, but criss-cross of horizontal variants occur.
2. Interior—well smoothed, finger and tool marks indicate horizontal, annular manipulation.

C. Form:

1. Lip—two variants are present:
    - a. Narrowed and rounded, beveled on the interior surface toward a rounded or subapical termination (0.46 of sample).  
Range of thickness: 1.5–3.0 mm.; mean, 2.2 mm.
    - b. Flattened, a definite internal flange occurs in one case, external flanges in two. A rolled lip is present in a single example.  
Range of thickness: 3.5–8.0 mm.; mean, 5.6 mm.
  2. Rim and neck—incurved, a single example, that of a modified “raised corner” variety (pl. 27, *j, k*) (Baker et al., 1941, p. 20; Bennett, 1945, p. 81; Schoenbeck, 1946, p. 36), suggests an outslipping emergence. A vertical rim is also present in a single case. A marked thickening of the rim at the shoulder juncture occurs in 0.11 of the sample.  
Range of thickness: 4.0–8.0 mm.; mean, 5.5 mm.  
Range of height: 22.0–50.0 mm.; mean, 32.8 mm.
  3. Shoulder—smoothly curved.  
Range of thickness: 3.5–11.0 mm.; mean, 6.2 mm.
  4. Body—probably globular.  
Range of thickness: 2.5–8.0 mm.; mean, 4.4 mm.
  5. Base—no data.
- D. Vessel shape: a single shape is present—a wide-mouthed jar with a globular body.  
Estimated mean height: 190 mm.  
Estimated mean diameter: 160 mm.

I. *Group A*—Continued

## E. Decoration.

1. Technique—cord impression, single cord (rim and neck), twisted cord, knotted cord and dentate stamps (lip and shoulder).
2. Motifs.
  - a. Lip.
    - (1) Unmarked (10 cases).
    - (2) Cord-impressed.
      - (a) Chordic or oblique to arc of rim (3 cases).
      - (b) Circumferential or annular (1 case).
  - b. Upper rim.
    - (1) External surface.
      - (a) Cord-impressed, vertical or slightly oblique to lip (8 cases).
      - (b) Dentate stamp.
    - (2) Internal surface.
      - (a) Unmarked (1 example).
      - (b) Cord-impressed, oblique to surface of lip (3 examples).
      - (c) Cord-impressed lines circumferential below lip (3 examples).
      - (d) Parallel cord-impressed lines perpendicular to lip (1 example).
      - (e) Parallel rows of knotted cord impressions (1 example).
      - (f) Vertical dentate stamp (1 example).
  - c. Lower rim.
    - (1) External surface.
      - (a) Parallel, encircling cord-impressions (28 examples).
      - (b) Parallel lines with panels of alternating oblique cord impressions (3 examples).
    - (2) Internal surface.
      - (a) Unmarked (28 examples).
      - (b) Parallel, encircling cord impressions (3 examples).
      - (c) Dentate stamp (2 examples).
      - (d) Knotted cord impressions.
  - d. Shoulder—linear or knotted cord stamp pendant to encircling rim design (6 examples).

II. *Group B* (sample: 29 sherds, 5 rim sherds, portions of at least 3 vessels).  
Plate 28, i.

## A. Paste.

1. Temper—sand, containing large, smoothly angular pebbles.  
Range of diameter: 0.5–3.0 mm.
2. Texture.
  - a. Surface—smooth and hard, variable.
  - b. Core—friable and laminated.
3. Color.
  - a. Exterior—firing clouds frequent, ranging from a dominant orange red to a reduced gray.
  - b. Interior—as above.
  - c. Core—uniformly gray.

## B. Surface treatment.

1. Exterior—cord-marked. The intervening ridges are uniformly smoothed, partially obscuring the cord marks beneath. Direction of marking is predominantly vertical.
2. Interior—roughly smoothed, horizontal, encircling tool marks are apparent.

II. *Group B*—Continued

C. Form.

1. Lip—roughly flattened, an irregular flange, external and internal, occurs on one specimen. Width of lip is variable as a result of pressure distortion incident to the application of dentate and cord neck stamping.

Maximum thickness: 11.0 mm.

2. Rim and neck—straight, rising vertically from shoulder; no neck constriction is present.

Range of thickness: 9.5–11.0 mm.; mean, 10.1 mm.

Range of height: 43.0–53.5 mm.; mean, 48.3 mm.

3. Shoulder—steeply sloping.

Range of thickness: 6.0–8.0 mm.; mean, 6.8 mm.

4. Body—probably globular.

Range of thickness: 5.0–11.5 mm.; mean, 7.8 mm.

5. Base—no data.

- D. Vessel shape—only a single shape is present, a medium-sized, wide-mouthed jar.

Estimated mean height: 240.0 mm.

Estimated mean diameter: 200.0 mm.

E. Decoration.

1. Technique—bosses pushed from interior rim, dentate stamp on interior rim, cord impressions.

2. Motifs.

a. Lip—unmarked.

b. Rim.

- (1) External surface: Round bosses punched from interior; bosses emerge as smooth protuberances from an irregularly smoothed, cord-marked background.

- (2) Internal surface: Vertical dentate stamps pendent from lip in interstices between punched boss negatives; a single example is plain.

c. Shoulder. Irregular, vertical cord impressions overlying the background cord markings. The upper termination of the overlay forms a distinct border just beneath the bosses and grades below into the background decoration of the shoulder.

III. *Miscellaneous cord-marked sherds.*

- A. Rimsherd (13JH202–264): Sand temper, medium coarse texture with laminated core, color red to buff, lip flattened (thickness, 8.5 mm.), rim upright and straight (thickness, 10.0 mm.; height, 38.0 mm.), smoothed cord-marked background, exterior punched bosses, vertical cord stamping at shoulder and just below lip.

- B. Rimsherd (13JH202–220/3): Sand temper with quartzite pebble inclusions, moderately smooth texture with compact core, color buff with external periphery (thickness: 9.5 mm.), rim straight and vertical gray interior, lip beveled from inner flanged ridge toward an irregular, (thickness: 6.5 mm., height: 32.0 mm.), cord-impressed decoration, smoothed near shoulder juncture.

- C. Body sherds (sample: 9) (pl. 28, j): Sand or grit temper, moderately rough texture, compact gray core, gray color with firing clouds present, (range of thickness: 7.5–11.0 mm.), random cord-marked surface treatment, two sherds evidence additional techniques:

1. Trailed line.

2. Short, plain stamps in two parallel lines below an annular series of oblique slashes.

III. *Miscellaneous cord marked sherds*—Continued

D. Body sherds (sample: 19): A heterogeneous grouping, none of which can be categorized into the preceding units. The sherds resemble each other only in the common characteristic of cord-marked surfaces. As is also the case of III A, B, and C above, a close typological relationship to group B is suggested. On an inductive basis, the lack of transitional sherds indicates the necessity for a separate description.

IV. *Sherds with "trailed" decoration* (sample: 2 rimsherds) (pl. 28, *d, e*): Grit temper, moderately coarse texture, gray color, lip flat with narrow external overhang (thickness: 6.5 mm.), neck slightly insloping (thickness: 6.0 mm.), trailed-line decoration, short oblique stamps occur on external surface of lip. Adjacent to the lower border of the latter are five parallel trailed lines. From the lowermost is suspended a series of triangles formed by oblique lines following opposing directions in adjacent paneled motifs. In terms of paste, color, and motif, these sherds suggest a close typological relationship to Group A.

V. *Plain "Wares."*

A. Miscellaneous plain sherds (sample: 4 rimsherds, 11 body sherds, portions of 2 vessels), temper of coarse sand or fine gravel (2.0–5.0 mm.), coarse texture, exterior surface "crinkled" with innumerable firing cracks, core compact, color buff to dark gray with many firing clouds. exterior roughly smoothed with finger or tool marks locally visible, interior rough, lip rounded (thickness: 7.0–9.5 mm.), rim and neck insloping and blending smoothly into shoulder (thickness: 6.5–8.0 mm., height: 21.0–31.0 mm.), shoulder smoothly curved, body form suggests a short-necked "olla." A series of hemiconical stamps occurs on the exterior portion of the lip.

B. Miscellaneous plain sherds (sample: 9 rimsherds, portions of 9 vessels (pls. 27, *g-i*; 28, *f*): Sand temper containing small pebbles (0.5–1.5 mm.), medium coarse texture, compact core, orange to gray color, smoothed body, flattened lip (thickness: 4.5–6.0 mm.), incurved rim (thickness: 5.5–8.5 mm., height: 24.0–35.0 mm.), smoothly curved shoulder (one example sharply angular) (thickness: 7.5 mm.), body form unknown, lip decoration of hemiconical or angular stamps applied vertically (or slightly oblique) to the external edge of lip. This group of sherds, in terms of lip decoration, suggests a typological relationship to Plain Ware A above. The latter is heavier and in general more crudely constructed.

C. Miscellaneous plain sherds (sample: 2 rimsherds, representing 2 different vessels) (pl. 28, *c*): Sand temper, medium smooth texture, compact core, buff color, surface scraped, tool marks still visible on lower rim, body form unknown, lip flattened but with slight inner flange (thickness: 6.5 mm.), rim and neck incurved (thickness: 8.0 mm.; height: 23.0, 33.0 mm.), upper surface of lip punctated to produce an angular, saw-toothed edge.

D. Miscellaneous plain sherds with punctated rims.

1. Rimsherd (13JH202-661/1) (pl. 28, *a*): Sand temper, medium rough texture, compact core, gray color, smoothed or scraped surface, lip beveled toward exterior (thickness: 4.5 mm.), rim incurved and upright (thickness: 5.0 mm.), body form unknown, juncture of lip bevel and rim stamped with a cylindrical tool.



V. *Plain "Wares"*—Continued

D. Miscellaneous plain sherds with punctated rims—Continued

2. Rimsherd (13JH202-606) (pl. 28, *b*): Fine sand temper, coarse texture, compact core, surface irregularly smoothed, lip rolled unevenly outward forming a waved or scalloped edge (thickness: 8.0 mm.), straight rim (thickness: 7.5 mm.; height: 22.0 mm.), body form unknown, upper surface of lip deeply marked with thin rectangular punctate.

E. Plain sherds with undecorated rim.

1. (13JH202-319/2) (pl. 28, *g*): Sand temper, medium-fine texture, compact core, gray color, scraped surface, lip thickened and rolled outward (thickness: 5.0 mm.), rim incurved (thickness: 4.5 mm.).
2. (13JH202-489/2): Gravel temper (diameters to 4.0 mm.), smooth texture, porous core, buff to gray in color, scraped surface, lip thinned and rounded (thickness: 4.5 mm.).

F. Miscellaneous plain body sherds (sample: 45): a heterogeneous group of nondistinctive affiliation.

G. Miscellaneous plain body sherds with shell temper (sample: 8) (pl. 29, *d*).

H. Limestone-tempered sherd (13JH202-680).

I. Potsherd pendant (13JH202-568) (pl. 28, *h*): sand temper, buff color, compact core, surface marked by smoothed cord impressions. The irregular triangular outline is roughly chipped from a thin body sherd. The apical portion is deeply notched on either side; surface wear suggests suspension as a pendant.

Length: 59.0 mm.

Width: 48.5 mm.

Thickness: 6.5 mm.

Depth: 0.0-0.5 feet below surface datum, square D3.

VI. *Tubular pipe of fired clay* (13JH202-402) (pl. 29, *c*): Fine grit temper, smoothed surface, core homogeneous and compact, conical body, rounded apex, opposing extremity fragmentary, ovoid hole asymmetric to long axis of body. The presence of pressure cracks indicates that the hole was pierced while the clay was still somewhat plastic. Functionally, the base of a pipe is suggested (see 13JH4, mound No. 6, above).

Length: 46.5 mm.

Maximum diameter: 16.5 mm.

Depth: 0.5-1.0 foot below surface datum, square C2.

LITHIC MATERIALS

The sample of lithic materials totaled 40 objects.

I. *Stemless points*.

A. Triangular projectile points with side notches.

1. Small points with side notches and flat base (sample: 2). Plate 23, *i*.

Body: Symmetrically triangular, deep semilunate notches and irregularly flat base.

Range of length: 23.5 mm.

Range of width: 12.5-15.5 mm.

Range of thickness: 3.5 mm.

Cross section: Irregularly biconvex.

Technique: Percussion, well controlled.

Depth: 0.0-0.5 feet, 2.0-2.5 feet below surface datum, squares C2 and D1, respectively.



I. *Stemless points*—Continued

## A. Triangular projectile points with side notches—Continued

2. Medium size point with deep side notches and convex base (13JH202-315). Plate 23, *h*.

Body: Convex-triangular.

Length: 42.0 mm.

Width: 25.5 mm.

Thickness: 12.0 mm.

Cross section: Irregularly biconvex, thick in relation to width.

Technique: Percussion, moderately well controlled.

Depth: 0.5–1.0 feet below surface datum, square C1.

3. Elongate point with parallel sides and blunt, flaring barbs (13JH202-71). Plate 23, *n*.

Body: Exceedingly elongate, parallel sides, convex-triangular point, deep semilunate side notches, flaring convex barbs, deep concave base.

Length: 116.0 mm.

Trans-barb width: 30.5 mm.

Body width: 25.0 mm.

Thickness: 10.0 mm.

Cross section: Irregularly biconvex.

Technique: Percussion, well controlled.

Depth: 1.0–1.5 feet below surface datum, square A1z.

## B. Points with regular outline.

1. Convex-triangular point with rounded apex and flat base (13JH202-527). Plate 23, *o*.

Body: Parallel sides transcending into a convex point.

Length: 87.0 mm.

Width: 36.5 mm.

Thickness: 8.5 mm.

Cross section: Biconvex, thinned near apex.

Technique: Percussion, well controlled.

Depth: 2.0–2.5 feet below surface datum, square D1.

2. Convex-triangular points with irregular base (fragmentary) (sample: 2).

Length: 55.5 mm.

Width: 14.0, 26.0 mm.

Thickness: 4.0, 8.0 mm.

Cross section: Irregularly biconvex.

Technique: Percussion, poorly controlled.

Depth: 0.0–1.0 feet below surface datum, squares C2, G1.

II. *Stemmed points*.

- A. Triangular point with corner notches, flaring stem, and flat base (13JH-202-693).

Body: Convex, asymmetric outline, acute barbs, deep corner notches isolating an out-flaring tang, terminated by a flat base.

Length: 50.5 mm.

Width: 29.0 mm.

Thickness: 4.5 mm.

Cross section: Biconvex.

Technique: Percussion, well controlled.

Depth: 0.5–1.0 feet below surface datum, square G1.

II. *Stemmed points*—Continued

- B. Triangular point with sloping shoulder and flat base (fragmentary) (13JH202-401). Plate 23, *m*.

Body: Elongate, isoscelene outline, narrow sloping shoulders, parallel-sided stem, flat base.

Length: Unknown.

Width: 26.5 mm.

Thickness: 9.0 mm.

Cross section: Biconvex.

Technique: Percussion, well controlled.

Depth: 0.5–1.0 feet below surface datum, square C2.

- C. Miscellaneous points with slightly contracting stems (fragmentary, basal portions only) (sample: 2). Plate 23, *k*.

Depth: 0.0–0.5 feet below surface datum, squares C1, A2z.

III. *Knives and scrapers*.

- A. Half-circular knife, retouched about entire periphery (13JH202-283).

Plate 24, *c*.

Length: 57.5 mm.

Width: 42.0 mm.

Thickness: 6.5 mm.

Cross section: Biconvex.

Technique: Percussion.

Depth: 0.5–1.0 feet below surface datum, square B3.

- B. Trapezoidal knife with one beveled, "sabre-like" extremity (13JH202-495). Plate 24, *d*.

Length: 50.0 mm.

Width: 27.0 mm.

Thickness: 5.5 mm.

Cross section: Biconvex but quite flattened.

Technique: Percussion.

Depth: 1.5–2.0 feet below surface datum, square D1.

- C. Asymmetric knives with excurvate edge (sample: 3). Plate 24, *g*.

Range of length: 39.0–66.0 mm.

Range of width: 21.0–29.5 mm.

Range of thickness: 4.5–7.0 mm.

Cross section: Plano-convex.

Technique: Percussion.

Depth: 0.0–0.5 feet; 1.5–2.0 feet below surface datum, squares F2 and E2, respectively.

- D. Irregular flakes with one or more retouched edges (sample: 9).

Depth: 0.0–1.0 feet; 1.5–2.5 feet; 3.0–3.5 feet below surface datum, in squares C1, C3, B2, D1, and E1.

- E. Chipping debris, unaltered flakes, possibly used as scrapers (sample: 6).

Distributed discontinuously from surface to the 4.0 foot depth.

IV. *Celts and choppers*.

- A. Grooved ax, fragmentary (13JH202-274). Plate 25, *c*.

Form: Polished groove ( $\frac{3}{4}$  circumference), smooth polished poll, remaining surface unaltered.

Length: 86.5 mm.

Width: 59.5 mm.

Thickness: 29.0 mm.

Cross section: Plano-convex.

Technique: Pecking, polishing.

Depth: 4.0–4.5 feet below surface datum, square B2.

IV. *Celts and choppers*—Continued

## B. Irregular stones with acute chopping edge (sample: 2).

Length: 113.0, 120.0 mm.

Width: 89.0, 86.0 mm.

Thickness: 51.0, 50.5 mm.

Cross section: Irregularly ovoid.

Technique: Use chipping only.

Depth: 0.5–1.0 feet; 1.5–2.0 feet below surface datum, squares C1 and D1, respectively.

V. *Hammerstones*.A. Irregular stones with one or more pounded or pecked edges (sample: 9). Plates 25, *d*; 26, *b*.

Range of length: 68.0–117.0 mm.; mean, 86.4 mm.

Range of width: 48.5–88.5 mm.; mean, 73.0 mm.

Range of thickness: 34.0–61.0 mm.; mean, 47.6 mm.

Cross section: Irregularly ovoid.

Technique: Use pecking or pounding only.

Depth: 2.0–5.0 feet below surface datum, squares A1, A1z, A2, B1, B2, C1, D1.

## B. Discoidal hammerstone with opposing “finger holds” (13JH202–209).

Plate 26, *c*.

Length: 98.5 mm.

Width: 81.0 mm.

Thickness: 38.0 mm.

Cross section: Flattened ovoid.

Technique: Use pounding about periphery, “finger holds” are the result of natural erosion.

Depth: 4.0–4.5 feet below surface datum, square B1.

VI. *Polishing or abrading stones, one or more polished and striated surfaces* (sample: 2). Plate 25, *e*.

Length: 60.0, 89.5 mm.

Width: 52.5, 55.0 mm.

Thickness: 22.0, 33.5 mm.

Cross section: Trapezoidal to ovoid.

Technique: Use polish only.

Depth: 1.5–2.0 feet; 2.5–3.0 feet below surface datum, squares E1, C1, respectively.

## BONE AND ANTLER MATERIALS

The sample of bone and antler materials totaled 15 objects.

I. *Splinter awls—fragmentary*.

## A. Acute point, smoothed and polished (13JH202–617).

Length: 33.0 mm.

Width: 6.0 mm.

Thickness: 2.5 mm.

Cross section: Irregularly rectangular.

Technique: Splitting, grinding.

Depth: 0.0–0.5 feet below surface datum, square E1.

I. *Splinter awls—fragmentary—Continued*

B. Acute point, irregularly formed, use polish evident at extremity (13JH-202-67).

Length: 49.5 mm.

Width: 9.0 mm.

Thickness: 4.0 mm.

Cross section: Irregular, original osseous surfaces intact.

Technique: Use polish only.

Depth: 0.5–1.0 feet below surface datum, square A1z.

II. *Unidentified bone objects.*

A. Fragment of bone shaft, well smoothed, rounded extremity (13JH202-342).

Length: 23.5 mm.

Maximum diameter: 6.0 mm.

Cross section: Smoothly ovoid.

Technique: Grinding, polishing.

Depth: 0.0–0.5 feet below surface datum, square C1.

B. Proximal epiphysis of long bone, distal portion beveled to expose cancellous tissue (13JH202-178).

Length: 28.5 mm.

Width: 20.0 mm.

Thickness: 14.0 mm.

Depth: 0.5–1.0 feet below surface datum, square B1.

III. *Split and crushed bone (sample: 8).*

Depth: 0.5–1.5 feet; 2.0–4.0 feet below surface datum, squares A2, B1, D1, E1.

IV. *Antler tines abraded at acute extremity (sample: 3).*

Range of length: 14.0–47.5 mm.

Range of maximum diameter: 8.0–14.0 mm.

Two examples are calcined.

V. *European materials (sample: 26).*

Bailing wire and barbed wire. ✓

Staples and nails.

Fragments of a pressed-glass bottle.

Window glass.

Cup handle, heavy china.

Tin can.

Depth: 0.0–1.0 feet; 2.5–3.0 feet below surface datum, squares A1, B2, C1, C4, D1. Only a single example (13JH202-263), a cup handle of china, was found in the 2.5–3.0 feet level.

ANALYSIS

*Ceramics*

It is obvious that the ceramic sample constitutes, by all odds, the most significant group of materials recovered from Site 13JH202. In the preceding section, a series of discrete artifact units or groups has been presented. Each unit is based upon a cluster of traits; nonetheless the number of units and unitary sherd occurrences is still relatively large. It is probable, however, that many of the groupings might be fused into more inclusive units if the sample were larger.

Inspection of figures 20 and 21 suggests the following generalizations:

- A. The vertical and horizontal distribution of the ceramic sample corresponds to physical stratum B.
- B. There is a progressive quantitative increase in ceramic materials, extending from the lowermost portion of stratum B to the immediate subsurface of the deposit. A nonsignificant contraction is apparent in the disturbed surface level.
- C. Ceramic remains undergo a quantitative change in variety from the lower to the uppermost portions of stratum B.
- D. There is a progressive proliferation of "types" in the upper portion of the deposit.
- E. Group A is quantitatively most significant, constituting 0.70 of the total sample. In terms of stratigraphic distribution, it is also the earliest and most persistent.
- F. Other groupings, present in some length of sequence, are represented by short series, discontinuous distributions, or are lacking in homogeneity of unit.

Group A suggests an obvious similarity to Lake Michigan Ware and related or inclusive types (cf. Effigy Mound, Madison Cord Imprinted) characteristic of adjacent portions of Iowa, Illinois, Wisconsin, and Minnesota. A recent but largely generalized statement of this pottery, specifically that variety excavated from Effigy Mound Culture sites in Wisconsin, has been presented by Rowe (1956). Other descriptions were published somewhat earlier by McKern (1928, 1930; see also Bennett, 1945, pp. 80-81). Lake Michigan Ware, although ill defined, has been considered to fall within the Woodland tradition. Rowe (1956, p. 59) indicates that "This ware includes the pottery of the Effigy Mound type, but is so generalized and has a distributional range of such a nature that it cannot be considered diagnostic of the Effigy Mound Culture." It should also be noted that this is not the only pottery type present in the Effigy Mound sites (McKern, 1928, p. 268).

The Group A pottery of Woodpecker Cave is similar, but by no means identical with the Effigy Mound ceramics of Wisconsin. Vessel temper appears to be the same, or nearly so, but the temper of the Cave materials contains in addition many large and irregular inclusions. The latter pottery is characterized by a dense friable paste; the Wisconsin sherds, by all descriptions, have a much more porous texture. Similarly, the Coralville specimens are gray in color and are thin. In the Wisconsin grouping, the paste is of a reddish color and the sherds average relatively thicker.

A cord-marked surface is common to both, although there seems to be more evidence of smoothing in the Wisconsin grouping. Body and rim form also appear to be similar, but the Woodpecker Cave series does not emphasize the outflaring rim so common in the Wisconsin materials. Incurved rims, dominant in the Coralville collection, are of rarer occurrence in Wisconsin (Rowe, 1956, p. 62). A



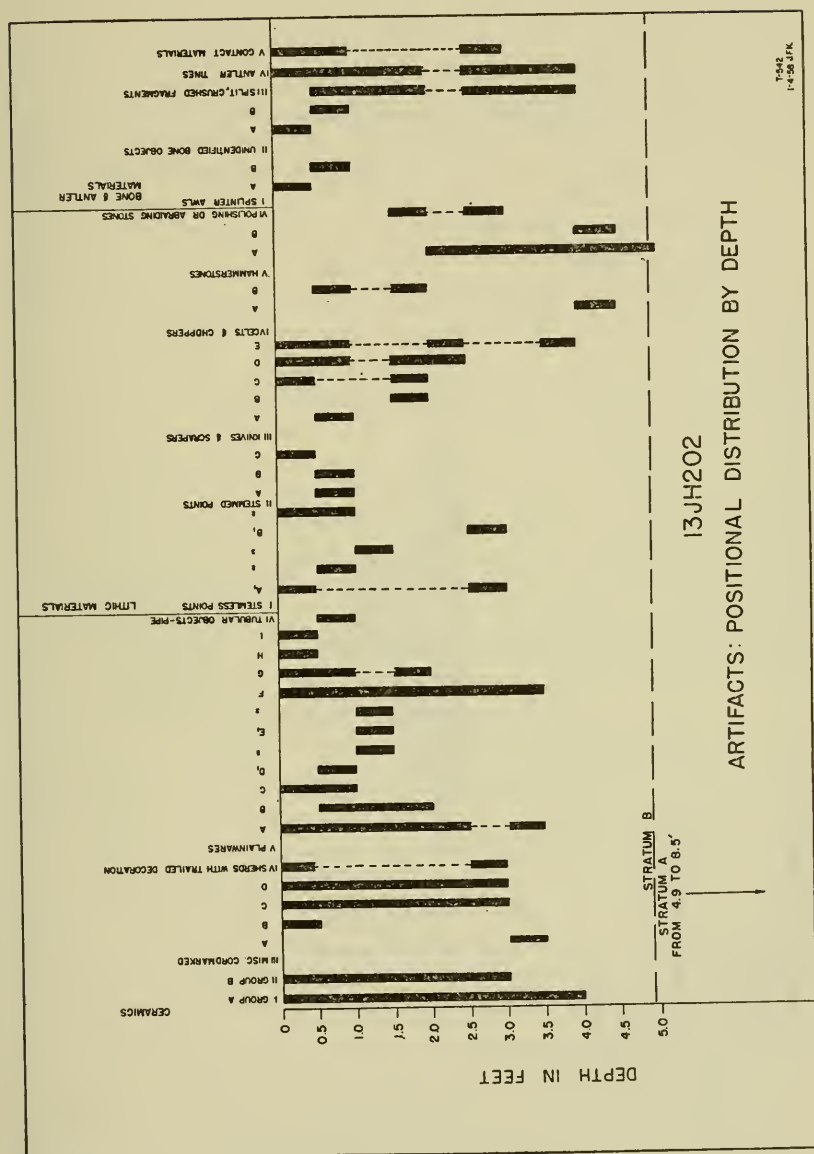


FIGURE 20.—13JH202. Artifacts: positional distribution by depth

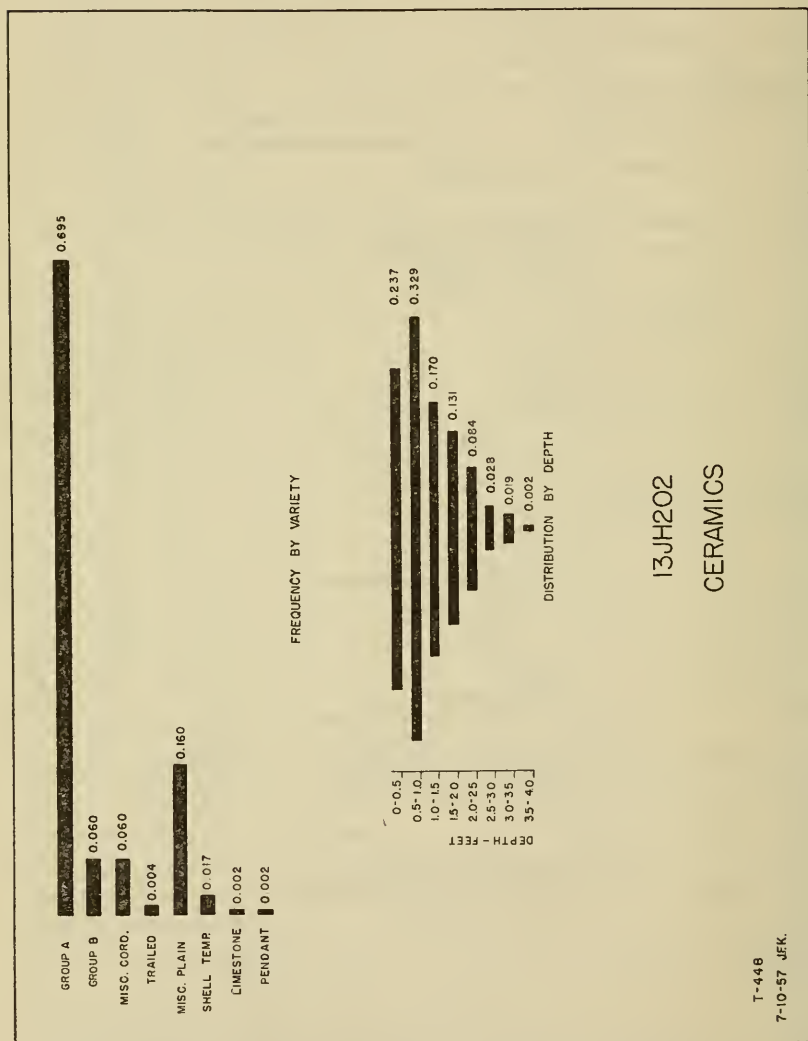


FIGURE 21.—Site 13JH202. Ceramics: Frequency distribution by variety and quantitative distribution by depth.

sherd suggesting a vessel with a "raised corner" orifice, illustrated by McKern (1928, pl. LIV, 9), parallels the single example from Woodpecker Cave.

Rowe indicates that there is great variation in the decoration of the Wisconsin Effigy Mound pottery. Like the Coralville specimens, decorative motifs are substantially limited to rim and shoulder, with single cord imprinting utilized as the commonest technique. Motifs are basically geometric in both potteries. Punctating and indenting of surfaces other than lip or upper rim is not frequent in the Woodpecker Cave series, and piercing of rims is dubious (a single pierced specimen occurs, the piercing seemingly for repair). Sherds with embossed nodes, such as occur in the Effigy Mound pottery, have not been included within group A. The rimsherd, 13JH202-264, categorized in the miscellaneous grouping (IIIA), is of this embossed type. The fact that this rimsherd was not sorted into group A merely reinforces the assumption of divergency within the Lake Michigan Ware and suggests the possibility of further regional categorizing. This sherd also closely resembles group B, identified as Havana Decorated Ware (below). While the evidence is far from conclusive, it stresses a potential Hopewell relationship for the Woodpecker Cave materials. Bennett notes that "Some of the sherds in Wisconsin closely resemble Hopewellian techniques and motifs" (Bennett, 1945, p. 83). The concurrent presence of "Plain Ware" further emphasizes a tie to the east. It should be noted, however, that Rowe (1956, p. 80) does not feel that Hopewell-Effigy Mound relationships in Wisconsin exist on more than a generalized trait basis.

Clear-cut "incising" does not exist in the Woodpecker Cave collection, but the two Trailed Sherds (IV) do have parallels in the Wisconsin materials. In total, the Effigy Mound Culture pottery of Wisconsin seems to emphasize more complex decorative motifs and to be more varied than does the much smaller Iowa sample. The latter stresses annular cord impressions and annular series of punctates on the rim rather than the more elaborate treatments found in Wisconsin.

Bennett (1945) notes that Lake Michigan pottery in Iowa "seems to be identical to Jo Daviess (Ill.) types." Although closely allied, the current sample is not completely consistent with the published data. Specifically, the decorative motifs appear to be somewhat less complex than the Jo Daviess materials. Emphasis is upon simple geometric cord-impressed motifs, occurring as horizontal bands on the rim or as pendant stamps on lip or shoulder.

There are also points of resemblance in common with the ceramics from mound No. 43 of the Suy-Magill group in northeastern Iowa (Beaubien, 1953 a, pp. 59-60). This is particularly evident in the band of cord-impressed decoration encircling the rim and in the

series of oblique string impressions below the lip. The cord-imprinted "chevron" motif is not frequent at Woodpecker Cave, but it occurs, particularly on a single rimsherd from a vessel with a "raised corner" or eared mouth. Bennett (1945, p. 82) indicates that this form of orifice is lacking in Wisconsin (but see above); it suggests a possible relationship to the Tampico materials of Illinois (type 5, Cole and Deuel, 1937, p. 48; Schoenbeck, 1946).

Group B can be included within Havana Ware, specifically allied to the Naples Stamped variety (Griffin, 1952, pp. 107, 109). The excavated sample is much smaller than that of group A (fig. 21), but the temporal span is nearly as great (figs. 20, 21). The close similarity between Lake Michigan and Hopewellian body sherds has been noted in Jo Daviess County (Bennett, 1945, p. 82). A similar situation prevails at Site 13JH202. The plotted depth ranges of groups A and B are based upon both rim and body sherds so far as they can be unequivocally related. The category of Miscellaneous Cord-impressed sherds is composed of specimens nondistinctive as to temper and surface treatment. Individual units might relate either to group A or group B. On the basis of thickness alone they most closely suggest the latter. If they were so classed, it would extend the stratigraphic range almost to that of group A. Quantitatively, however, such a supergroup, by no means, could challenge the marked predominance of group A.

In Jo Daviess County, Bennett (*ibid.*, p. 81) notes the "strong indication that Hopewellian and Effigy Mound were contemporaneous. . . ." Although admittedly based upon a small sample, the situation is substantially similar at Woodpecker Cave. There is, however, a slight priority of the Lake Michigan materials. It is of further interest that the Hopewellian pottery in the Jo Daviess sites appears to belong, preponderantly, to the Naples Stamped variety (*ibid.*, p. 83).

The plain or unmarked Wares represented at 13JH202 are largely nondistinctive. They are also of limited occurrence. The sample is not homogeneous as to temper, color, or surface treatment. The distinctive punctated lip, however, suggests an affiliation with the Weaver Plain category as defined for Illinois (Griffin, 1952, p. 121; type 3a, Cole and Deuel, 1937, p. 47). Griffin (*op. cit.*) notes a gradual shift from specific varieties of Havana Ware to Weaver in the central Illinois River Valley. At 13JH202, it is perhaps significant that the Weaver-like rim sherds are relatively late in terms of the ceramic sequence.

Shell-tempered sherds are few and nondefinitive. Stratigraphically, they occur in a discontinuous pattern within the upper half of the sequence. Shell-tempered pottery and probable Lake Michigan Ware are coeval at Lee Mill Cave (Johnson and Taylor, 1956, p. 11)



in southeastern Minnesota. A similar situation is noted for the Mille Lacs Aspect, Kathio Focus (Wilford, 1955, p. 135).

*Lithic and Other Materials*

Plotted distributions within the site are based upon a small sample: typological groupings are small, and obviously are not a suitable basis for a detailed comparative attack.

*Projectile points.*—The relationship or association of specific point types with temporal and regional pottery assemblages in Iowa is currently unknown. Further, the situation is by no means entirely clear throughout the upper Mississippi Valley. Only local associations are known in some detail. Despite the obvious inadequacies in the current sample and in the comparative data, the following generalizations are offered (figs. 20, 22).

Projectile points or pointlike knives occur only in the upper portions of the deposit. The vertical distribution is entirely above the 2.5-foot level. Within this stratigraphic range, stemless projectile points with regular or notched margins are slightly more frequent than stemmed forms. Further, the stemless forms exhibit a discontinuous but considerably longer continuity than do the stemmed examples. With three exceptions, the point inventory can be related to a generalized middle to late Woodland category. Specific analogues are frequent in Illinois, southwestern Wisconsin, southeastern Minnesota, and in northeastern Iowa (see Rowe, 1956, figs. 23, 25). Three small, triangular points, two with side notches (Cole and Deuel, 1937, type 4), suggest a Mississippian tie. Two examples were excavated from the 0.0–0.5 foot level, the other from the 2.0–2.5 foot level, the latter in an area of rodent disturbance. It seems probable, in the light of other associated data, that all three can be attributed to the most recent horizon of the deposit. Bennett (1945, p. 91) notes that similar points, lacking side notches, are associated with Lake Michigan pottery in a late context from Wisconsin. A similar association is present in Minnesota (Wilford, 1955) and in Jo Daviess County, Ill. (Bennett, 1945, p. 75).

*Knives-scrappers.*—Knife or scraper forms are discontinuously distributed throughout the ceramic horizon of the occupation. Specialized varieties (A, B above), however, are restricted in number and do not occur below the 2.0-foot level. It is unfortunate that the knife-scraper sample is not sensitive in terms of available comparative material.

*Celts, choppers, hammerstones.*—Chopping tools are restricted to the upper portion of the ceramic horizon, but only one distinctive or specialized form was recovered—a “Woodland” grooved ax of non-specific comparative value. Hammerstones, while relatively abundant, are limited to the lower half of the ceramic occupation.



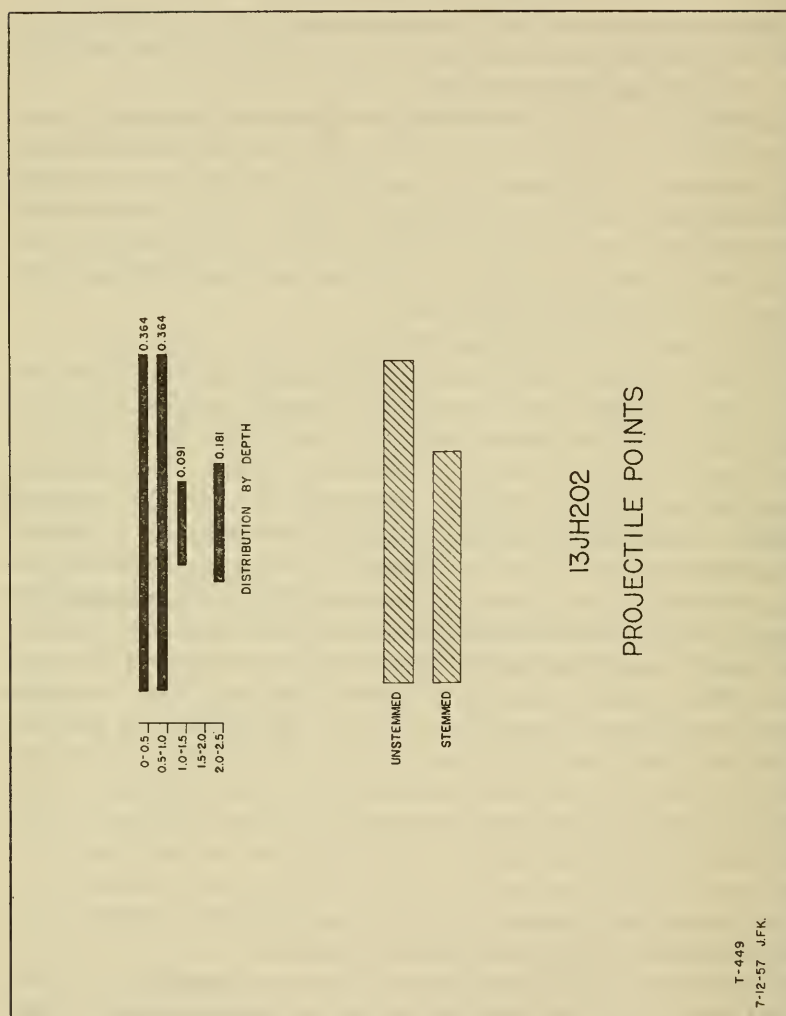


FIGURE 22.—Site 13JH202. Projectile points: Quantitative distribution by depth and stemmed and unstemmed data.

*Bone-antler.*—Bone and antler remnants evidencing human alteration occur throughout the ceramic horizon, but definitive tools (splinter awls) occur only in surface levels. They have limited comparative value.

#### *European Materials*

European materials are concentrated in the upper portion of the deposit, with one exception noted at the 2.5–3.0-foot level. The latter lies within a locus of extreme rodent penetration. The object, a china cup handle, obviously represents a later intrusion.

#### ANALYSIS OF SITE 13JH202

The aboriginal occupation of 13JH202, as expressed in terms of stratigraphic depth, was a relatively long one. The lower levels (stratum A) cannot be equated accurately to any particular cultural manifestation or temporal range. The physical transition from stratum A into stratum B is not markedly abrupt; however, a slight disconformity is present within the northern and northeastern portions of the deposit. Currently, there seems no reason to attribute substantial age to stratum A. In terms of subsistence orientation, A is identical with B, but with the latter suggesting a greater intensity of occupation. Stratum A contains a much heavier accumulation of rock fall than does B. It seems necessary to assume that there was somewhat heavier precipitation, at least seasonally, during the span of stratum A. The occupation of stratum A must have been seasonal. Winter and spring frost action would have rendered the site untenable. Stratum B indicates much more stability and hence presents the possibility of long-term, annual occupations. The definitive occupation of the latter stratum falls within the middle to late Woodland range, possibly very late, in the terminal phases.

The local unconformity separating strata A and B suggests only a slight and local stabilization of surface. Therefore it seems reasonable to consider the deposits of A as representing Archaic or early Woodland seasonal camp debris with no necessary connotation of extreme age.

The overwhelming dominance of a single ceramic type within stratum B suggests the presence of only a single component. In terms of the published data, this horizon most closely resembles the occupation of Minott's Rock Shelter (Keyes, 1943), situated in Linn County, Iowa, approximately 12 miles northeast of 13JH202. Although the Minott presentation is lacking in detail, the major ceramic and lithic remains appear to be quite similar. Cord-marked Lake Michigan ware is dominant at both sites. In addition, the ashy, shell-and-bone-bearing cultural stratum in the Minott shelter (*ibid.*, pp. 23, 31–32) appears substantially similar to stratum B (above).

Large leaf-shaped knives occur at the Minott Site (*ibid.*, p. 25), but not at 13JH202 (*cf.* Beaubien, 1953, fig. 21, p. 60). On the other hand, the latter site has produced a wider range of pottery types. Havana ware does not appear to be present at the Minott Shelter. Plain ware with a hemiconical lip stamp (Weaver?) was found in both excavations, but is apparently considerably more common at 13JH202 (Keyes, 1943, p. 38). A single rimsherd bearing an incised, cross-hatched rim motif (*ibid.*) has no counterpart at the 13JH202 site. The hatched rim suggests a more specific Hopewell affiliation.

Specifically, Minott's Rock Shelter and Site 13JH202 are similar, but are not identical manifestations, probably relatable to a single focus. Again, published data are lacking, and therefore a firm statement is impossible. A tentative suggestion of relationship to Maquoketa "Aspect" or Ryan Focus, though, is offered as reasonable (Logan, 1955, p. 132).

#### SITE 13JH203

Site 13JH203 is a small rock shelter formed by an abrupt overhang of the limestone rimrock overlooking the westernmost meander of Turkey Creek, an eastern affluent of the Iowa River. A triangular occupation platform is present (25.0 feet wide at the base and 9.0 feet deep). Shallow tests revealed a brown-black organic matrix containing abundant rock fall, small amounts of shattered bone, and fragments of charcoal. No artifacts were recovered.

#### SITE 13JH204

The habitation platform of this small rock shelter is covered by a low, narrow overhang (5.0–6.0 feet wide), approximately 8 feet below the rim of a sheer bluff overlooking the westernmost meander of Turkey Creek. Limited tests indicated the presence of an organic "cave soil" matrix, but no definite evidence of human occupation was recovered.

#### SITE 13JH205

The occupation area of Site 13JH205 is situated upon a low triangular remnant of the first terrace above the narrow Iowa River flood plain (fig. 23). The site is peninsular to a high limestone bluff forming the eastern periphery of the Crosheck River flat. The site is separated by an extensive silted creek system from the easternmost portion of Site 13JH2. The area is heavily forested, but is lacking in minor ground cover.

The site was sampled by a series of trenches and pits based on a 5-foot grid pattern, recorded numerically along the approximate north-south axis and alphabetically along the opposite axis. Vertical controls were based upon 0.5-foot excavation levels. Four additional test pits were excavated to investigate the eastern portion of the site.

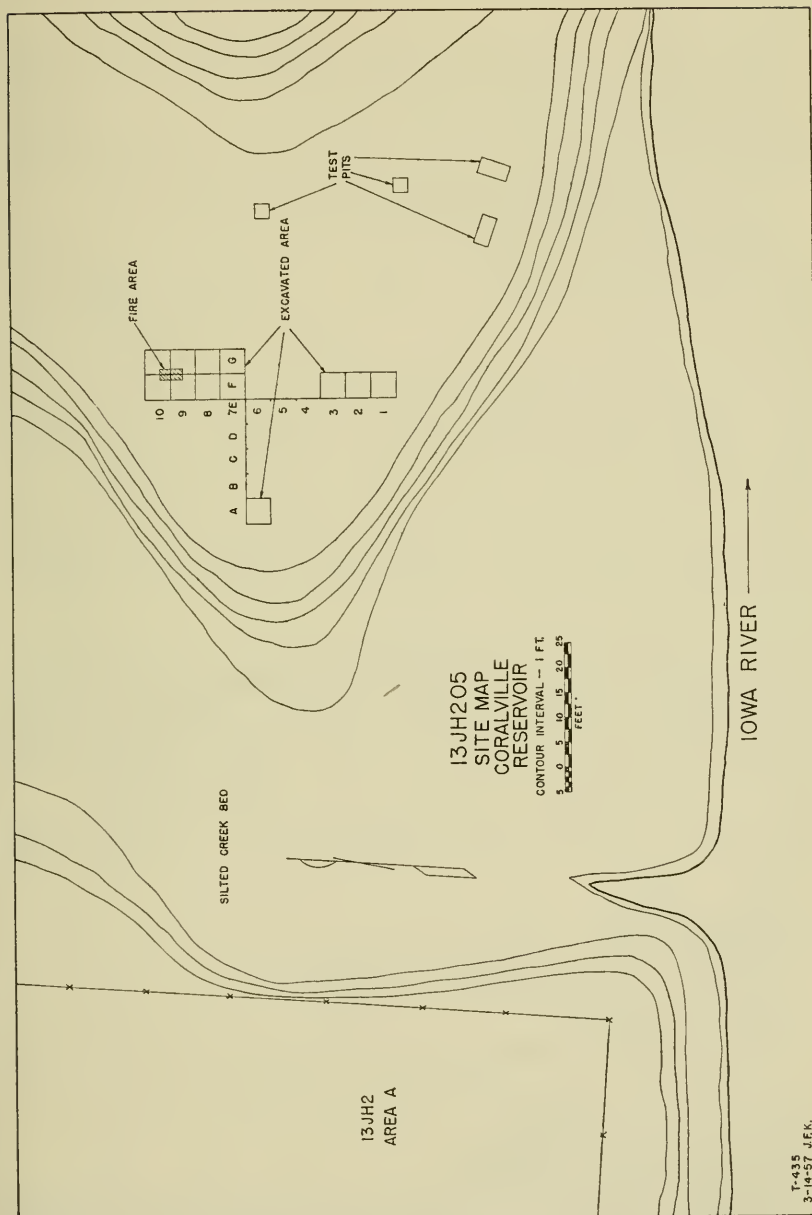


FIGURE 23.—13JH205, site map.

## STRATIGRAPHY

Two distinct strata were present, the upper transcending gradually into the lower.

- A. Basally, the fill is composed of a yellow-brown matrix containing infrequent limestone slabs and waterworn pebbles. Although this stratum may be water deposited in part, it seems equivalent to the normal field matrix indigenous to the locality.
- B. Overlying A, and widening to a thickness of approximately 0.8 feet, occurs a gray-black silt containing an abundant organic increment. This deposit is the result of flood deposition and the decay of forest litter.

A definite hearth, covering an area of  $4.4 \times 2.6$  feet, was noted in squares F9, G9, F10, and G10. Dense ash was first encountered in stratum B at a depth of 0.5 foot. The ash deposit extended downward into stratum A to a maximum depth of 1.1 feet from surface. An irregular lensatic profile was characteristic, feathering to a thin, diffuse margin. The hearth originated in stratum B, the lowermost portion penetrating only slightly (0.25 foot) into stratum A. Adjacent to the dense ash of the fire area were numerous flint chips and widely distributed fragments of blue-white china and stoneware. A grooved ax of diorite was recovered at a depth of 0.5 foot below the hearth. (Square F10.)

## ARTIFACTS

Aboriginal artifacts excavated from Site 13JH205 are notably few and remarkably nondescript. Except objects of European origin, only lithic materials are present. Local reports suggest that, in addition, Oneota pottery has been collected from the site.

1. *Subtriangular projectile point with slightly convex base (13JH205-1). Plate 23, j.*  
Length: 28.0 mm.  
Width: 14.0 mm.  
Thickness: 4.5 mm.  
Cross section: Biconvex, basal portion plano-convex.  
Technique: Well-controlled percussion flaking.  
Depth: Surface find.
2. *Heavy, crudely chipped blades, one convex extremity, fragmentary (sample: 4). Plate 24, j.*  
Range of length: Unknown.  
Range of width: 33.5-50.5 mm.  
Range of thickness: 9.0-13.0 mm.  
Cross section: Roughly biconvex.  
Technique: Percussion, crudely flaked, no evidence of use polishing, considerable areas of unaltered cortex present on one specimen (13JH202-29).  
Depth: 0.0-2.0 foot below surface datum, squares F7, F8, F9.



3. *Miscellaneous projectile point fragments.*

a. Basal fragment, small triangular point (13JH205-55).

Length: Unknown.

Width: 16.0 mm.

Thickness: 6.0 mm.

Cross section: Biconvex.

Technique: Percussion, well controlled.

Depth: 1.0 feet below surface datum, square A6.

b. Basal fragment, probably stemmed with corner notch (13JH205-54).

Cross section: Biconvex.

Technique: Percussion, well controlled.

Depth: 1.0 foot below surface datum, square A6.

c. Apical portion, probable triangular projectile point (13JH205-28).

Length: Unknown.

Width: Unknown.

Thickness: 6.5 mm.

Cross section: Biconvex.

Technique: Percussion, well controlled.

Depth: 0.5 foot below surface datum, square F8.

4. *Irregular flakes with one or more retouching edges (sample: 6).*

Cross section: Irregular.

Technique: Mere selection of flake, retouching derives from use manipulation only.

Depth: 0.0-1.5 foot below surface datum, squares F7, F8, F9.

5. *Chipping debris (sample: 93).*

Depth: 0.0-2.0 foot below surface datum in all excavated squares.

6. *Full grooved ax.*—Deeply grooved about entire circumference, groove separated from tapering irregular poll by narrow flange, body and bit pecked and ground, extreme edge of bit highly polished, upper edge of body ground flat, original cortex of stone unaltered over 25 percent of surface (13JH205-48). Plate 26, a.

Length: 198.0 mm.

Width: 91.0 mm.

Thickness: 55.0 mm.

Cross section: Irregularly ovoid.

Technique: Pecked and ground.

Depth: 1.5-2.0 foot below surface datum, square F10.

7. *Tabular hammerstones with battered peripheries*; two examples show secondary usage as anvils (sample: 4). Plate 25, f.

Range of length: 80.0-103.0 mm.

Range of width: 76.5-98.0 mm.

Range of thickness: 26.0-46.0 mm.

Cross section: Irregularly ovoid, flattened.

Technique: Use battering only.

Depth: 0.0-1.0 foot; 1.5-2.0 feet below surface datum, squares A6, F3, F8 and F10.

8. *European contact materials.*<sup>3</sup>

Whiteware: "Feather-edge" motif, underglaze, small fragments, probably comprising a single plate or saucer. Plate 29, e, f.

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<sup>3</sup> Analysis provided by G. Hubert Smith, archeologist, Missouri Basin Project, River Basin Surveys, Smithsonian Institution.

**Stoneware:** Fragments of a hand-thrown jug, narrow base ring, expanding body, probably with handle. Plate 29, *g*.

**Glass:** A single basal fragment of a modern milk bottle.

**Metal:** Fragment of firebox from an iron stove, probably of the "potbellied" type.

**Depth:** 0.0-1.0 foot below surface datum, squares, A6, F1, F3, F7, F8, F9, and F10.

The "feather-edge" pattern, characteristic of the Whiteware specimens, has a long continuity of use. It extends, in derived form, well into the contemporary period. The utilization of an underglaze process, as distinct from later transfer methods, suggests an early 19th century date. The stoneware jug most probably falls within the same period. Both wares at 13JH205 have been subject to a high oxidizing heat, possibly in the hearth described above. It is also possible that the ultimate shattering of the jug is attributable to the same cause. Marked variation in the surface condition of the sherds suggests exposure to heat, hence the suggestion of damage in use. If this assumption is valid, then the hearth and associated aboriginal artifacts indicate an occupation coeval with the European settlement of the region. The fragments of glass and iron are most logically explained as recent intrusions.

#### ANALYSIS

The material return from Site 13JH205 (fig. 24) is exceedingly limited in quantity and not particularly meaningful in variety. The following systematization is offered in all cognizance of the inherent limitations of the data.

**Surface:** Small triangular projectile point, probably Oneota pottery (?), contact goods.

**Subsurface:** Stratum B (humus and silt zone)—heavy blades (probably digging tools) triangular and corner-notched points, chipping debris, irregular scraping and cutting tools, contact goods. Stratum A—(yellow-brown clay zone)—heavy blades (probably digging tools), three-quarter grooved ax.

The upper levels of the midden have obviously been subject to flood disruption and redeposition. Nonetheless, on a typological basis, the suggested sequence appears to be valid; a thin Woodland occupation succeeded by an equally scanty Oneota residence. The latter is coeval with or followed by historical contact. The china suggests a date commensurate with the first white settlement of the area. This pattern suggests the Oneota-Woodland relationships noted elsewhere in Iowa (Mott, 1938, pp. 290-291).

#### SITE 13JH206

Evidences of occupation occur along the crest of a low knoll 75 yards east of the Iowa River and approximately 100 feet above mean

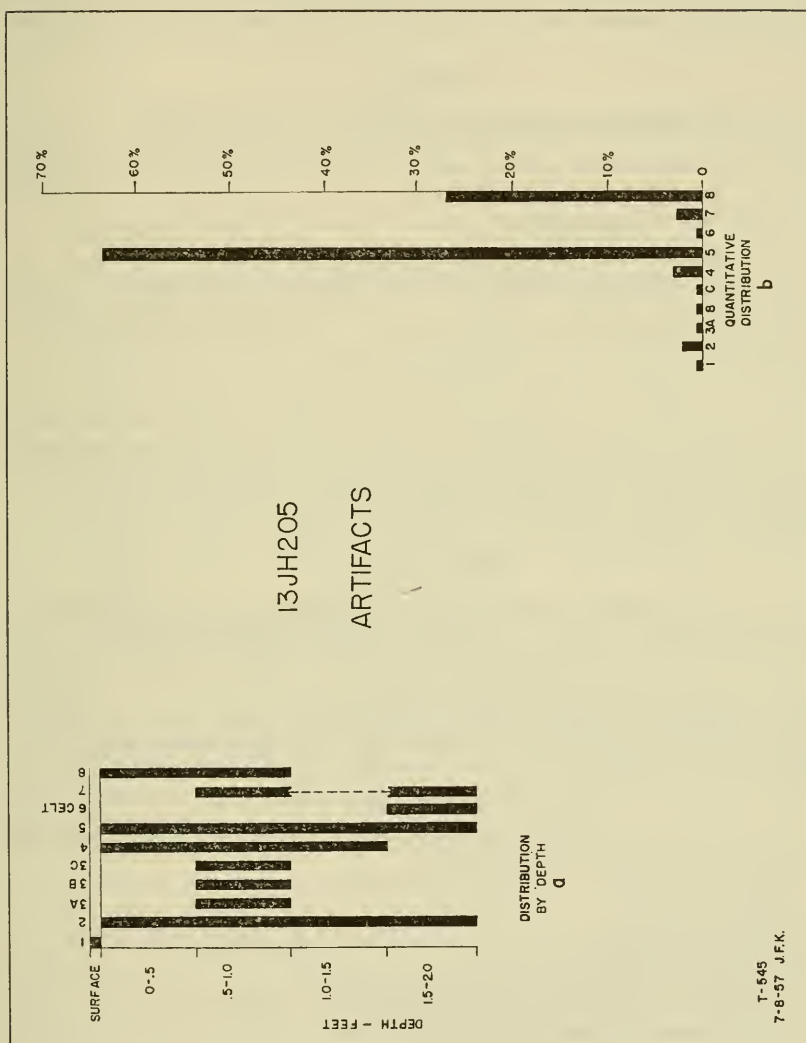


FIGURE 24.—Site 13JH205. Artifacts: a, distribution by depth; b, quantitative distribution.

low water level. Chipping debris is abundant in a road cut through the apex of the knoll and north along the ensuing ridge, paralleling the river for 200 feet. Limited tests produced no definable artifacts, but did indicate that the lithic material derives from the surface of the dense loessic clay occurring just below the sod line (cf. 13JH201).

#### ARTIFACTS

The only artifacts from Site 13JH206 were surface finds.

1. *Basal fragment, corner-notched stemmed point (13JH206-1). Plate 23, l.*
2. *Large flake of chalcedony (13JH206-2).*
3. *Chipping debris (sample: 7).*

#### ANALYSIS

No exact cultural tie can be indicated. The corner-notched, stemmed point suggests a generalized "Woodland" affiliation.

#### SITE 13JH207

The occupation is denoted by scanty midden debris accumulated on a narrow alluvial flat formed by a small, west-flowing tributary of the Iowa River. Limited tests revealed no artifacts; however, a small shell constituent was apparent.

#### SITE 13JH208

A scanty occurrence of chipping debris was noted at the crest of a high ridge above and just east of the Iowa River. No testing was done, but a small, nondefinitive surface collection was obtained. Local informants indicate that numerous artifacts have been recovered from the field below the site, but exact data was unobtainable.

#### ARTIFACTS

1. *Side-notched scraper, rounded beveled bit, deep side notches, flaring stem, convex base (13JH208-1). Plate 24, f.*  
Length: 32.0 mm.  
Width: 23.5 mm.  
Thickness: 10.0 mm.  
Cross section: Biconvex, plano convex bit.  
Technique: Percussion, carefully controlled.
2. *Fragment, corner-notched point (13JH208-2).*

#### ANALYSIS

As was the case with 13JH206, the data are far too scanty to indicate a specific relationship.

#### THE FORST SITE (13JH209)

Scanty lithic debris was noted on the north slope of a small valley confluent with a southwest-flowing tributary of the Iowa River.

Cultural materials have been periodically exposed in the deeply eroded lane connecting the Charles Forst farmstead with the pastures beyond. No tests were made, but artifacts appear to derive from the surface of the loess, just below the sod line. Mr. Forst has accumulated a small collection, which was made available for photographing.

#### ARTIFACTS

Only a brief field examination of the Forst Collection was practicable.

1. *Stemless projectile points.*

- a. Asymmetric triangular body, flat base (sample: 1).
- b. Small triangular body, deep side notches, convex base (sample: 1) (type 3, Cole and Deuel, 1937, p. 55). Suggests Maples Mills.

2. *Stemmed projectile points.*

- a. Large triangular body, abrupt shoulder, stem form unknown (sample 2).
- b. Medium size, triangular body, squared or slightly expanding stem, flat or convex base (sample: 7) (type 1, *ibid.*, pp. 53, 55). "Woodland" points.
- c. Medium size, triangular body, corner-notched, acute barbs, expanding stem, conclave base (sample: 1).
- d. Small subtriangular body, wide corner notch, expanding stem (sample: 1).
- e. Large, markedly convex, triangular body, deep corner notches, stem fragmentary (sample: 3) (type 1, *ibid.*). Conventionally, a Hopewell form.
- f. Leaf-shaped body, contracting, tonguelike stem (sample 1) (type 2, *ibid.*, p. 55). Suggests Red Ochre form.

#### ANALYSIS

In total, a small range of projectile point types is present, but a range of types tentatively assignable to a considerable temporal span. Early, Middle, and Late Woodland forms, as defined for the Illinois River Valley, are present. (Cf. 13JH201, above.)

#### SITE 13JH210

The occupation area is situated on the crest of the first ridge west of the Iowa River, directly opposite Sites 13JH207 and 13JH208. No tests were possible nor were surface finds noted in situ. The previous owner, Albert Bane, has gathered a small collection from the site as a result of long-continued farming activities, but currently it is not available for study.

#### SUMMARY OF CONCLUSIONS

The archeological manifestations in the Coralville Reservoir are characterized by a minimal quantity and by a restricted variety of



information. A brief recapitulation of field activities is indicated below:

13JH1—Visited only	13JH202—Excavated
13JH2—Tested, surface collection	13JH203—Tested
13JH3—Tested	13JH204—Tested
13JH4—Tested	13JH205—Tested
13JH5—Not visited	13JH206—Tested
13JH6—Visited only	13JH207—Tested
13JH7—Visited only	13JH208—Surface collection
13JH8—Not visited	13JH209—Visited, surface collection examined
13JH9—Not visited	
13JH201—Tested, surface collection examined	13JH210—Visited

The following generalizations are offered in full awareness of the patent limitations of the data:

(1) The occupation is represented by mound structures, open occupation sites, and rock shelters.

(2) Mound structures, restricted to ridge tops overlooking the Iowa River or its confluents, are of both linear and conical forms.

(3) Both varieties probably represent complementary portions of a single pattern that is related to the Effigy-Linear Complex of northwestern Illinois and adjacent areas.

(4) Open occupation sites are situated both on ridgetops and on riverine flats.

(a) Sites investigated in the former areas are non- (not necessarily pre-) ceramic, with a possible Archaic-Woodland temporal range.

(b) Rivertime sites are much disturbed by flood action. Pottery has not been excavated, but informants indicate its presence. An Archaic-Oneota-Historic range is suggested.

(5) Restricted by local topography, rock shelters are infrequent. The single excavated shelter suggested two components, a nonceramic (?) horizon, succeeded by a Middle-Late Woodland pottery zone. Probable relationship lies with foci in northeastern Iowa and adjacent portions of Illinois, Wisconsin, and Minnesota.

On the basis of the preceding presentation a Mid- to Late-Woodland affiliation can be fairly demonstrated for Sites 13JH3 and 13JH4, and for the ceramic component of Woodpecker Cave (13JH202). A similar, although admittedly less definitive relationship, is suggested for portions of the inventory recovered from Sites 13JH2, 13JH201, 13JH205, and 13JH209. Traits characteristic of the Oneota Aspect are not unequivocally present in any of the excavated materials. Upon the basis of local information, however, Sites 13JH2 and 13JH205 have been assigned Oneota components, the latter with a transition into the European contact period.

The Archaic Pattern is much more difficult to document. Nowhere in the data is there satisfactory evidence of stratification or of more than putative typological similarity. Nonetheless, and this quite tentatively, a component of Site 13JH2 is suggested as being within the Archaic range.

Apparent spatial relationships lie with cultural manifestations to the east and northeast. The major apparent emphasis lies with the Effigy Mound Culture of northwestern Illinois and southern Wisconsin, although closer ties with as yet undefined foci in Iowa are suggested.

In total, the aboriginal occupation of the Coralville Reservoir was not intensive. An extended temporal range is indicated, but at no time was population numerous. There is no reason to consider the area more than peripheral to adjacent developments. Beaubien (1953 a, p. 56) has noted that northeastern Iowa is "clearly marginal to the primary growth of both cultures [Hopewell, and Effigy Mound Aspect], and it is not evident that a 'pure' complex of either has been strongly developed in the area."

The Coralville data strongly reinforce this presumption. It is evident that a generic tie to Effigy Mound and Hopewell exists, but a detailed statement of areal-temporal relationship on a focus or aspect level must await future excavation and mature synthesis.

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## APPENDIX 1. MOLLUSCAN REMAINS

Identifiable shell materials were excavated from three sites, 13JH202, 13JH207, and 13JH208. During the excavation of Woodpecker Cave it was impossible, of course, to note every specimen, but an effort was made to select a representative sample from each excavation level. The following identifications were provided by Dr. Joseph P. E. Morrison, associate curator, Division of Mollusks, U.S. National Museum:

### MUSSEL SHELLS

#### 13JH202:

##### Quadrulidae (Quadrulinae):

*Fusconaia undata* (Barnes).

*Fusconaia flava* (Rafinesque).

*Crenodonta costata* (Rafinesque).

*Quadrula metanerva* (Rafinesque).

*Quadrula pustulosa* (Lea).

*Tritogonia verrucosa* (Rafinesque).

*Cyclonaias tuberculata* (Rafinesque).

*Plethobasus cyphus* (Rafinesque).

*Pleurobema coccineum* (Conrad).

*Elliptio dilatatus* (Rafinesque).

#### 13JH207:

##### Quadrulidae (Quadrulinae):

*Crenodonta costata* (Rafinesque).

*Quadrula pustulosa* (Lea).

##### Quadrulidae (Lampsillinae):

*Actinonaias carinata* (Barnes).

*Actinonaias ellipsiformis* (Conrad).

*Ligumia recta latissima* (Rafinesque).

*Lampsilis anodontoides* (Lea).

*Lampsilis siliquoidea* (Barnes).

*Lampsilis cardium* (Rafinesque).

*Dynomia triquetra* (Rafinesque).

##### Unionidae (Anodontinae):

*Lasmigona costata* (Rafinesque).

*Alasmodonta marginata* (Say).

*Strophitus rugosus* (Swainson).

### LAND SNAIL SHELLS

#### 13JH202:

##### Endodontidae:

*Anguispira alternata* (Say).

##### Polygyridae:

*Stenotrema hirsutum* (Say).

*Stenotrema leai* (Ward).

*Mesodon clausus* (Say).

*Triodopsis albolabris* (Say).

*Triodopsis multilineata* (Say).

*Allogona profunda* (Say).

##### Haplotrematidae:

*Haplotrema concavum* (Say).

#### 13JH208:

##### Polygyridae:

*Allogona profunda* (Say).

Only the data from Site 13JH202 is of quantitative significance. The positional occurrence of each sampling division was not plotted since in total they represent selected units. It is apparent, however, that there is no patterned alteration in species from the deepest to the uppermost levels of the site. Further, no species is in a position of preponderant numerical dominance although *Elliptio dilatatus* (Rafinesque) is perhaps of most frequent occurrence. While many specimens, particularly the land snails (Endodontidae, Polygyridae, Haplotrematidae), are doubtless of incidental or intrusive origin, most of the species were undoubtedly collected as foodstuffs.

## APPENDIX 2. MAMMAL REMAINS

Site 13JH202 produced the only significant identifiable mammalian remains. An effort was made to retain *all* identifiable bone fragments. Except the minute fragments from stratum A, the substantial total of excavated specimens is included. The sample, therefore, would seem to provide a reasonable index of the mammal constituent of the site, quantitatively and qualitatively. By the very nature of the material, precise speciation was impractical, hence placement is on the genus level only. Identifications were provided by Dr. Theodore E. White, paleontologist, U.S. National Park Service. In table 1, they are listed in terms of quantity and depth.

TABLE 1.—*Mammalian remains from Site 13JH202 in terms of quantity and depth*

Mammal	Mammalian remains found at indicated depth (feet)																	Total
	0-0.5	0.5-1.0	1.0-1.5	1.5-2.0	2.0-2.5	2.5-3.0	3.0-3.5	3.5-4.0	4.0-4.5	4.5-5.0	5.0-5.5	5.5-6.0	6.0-6.5	6.5-7.0	7.0-7.5	7.5-8.0	8.0-8.5	
<i>Odocoileus</i> (deer).....	13	15	14	10	9	9	4	4	3									81
<i>Marmota</i> (wood-chuck).....	7	6	5	3	2	2	2	2	1									30
<i>Sylvilagus</i> (cotton-tail rabbit).....	4	3	2	1	1	1		1										13
<i>Scalopus</i> (mole).....				1														1
<i>Castor</i> (beaver).....				1														1
<i>Canis</i> (dog or dog-like).....	7	3	2	1	1	1												15
<i>Sciurus</i> (squirrel).....	1	1	1				1	1										5
<i>Geomys</i> (gopher).....	4	3	3		2	1	1											14
<i>Procyon</i> (raccoon).....	6	4	6	2	2	1												21
<i>Lynx</i> (bobcat).....		1	1															2
<i>Ondatra</i> (muskrat).....	1						1											2
<i>Mephitis</i> (skunk).....	1																	1
<i>Taxidea</i> (badger).....	1																	1

<sup>1</sup>The total of catalog lots in each depth range.

Inspection of table 1 indicates the following:

(1) No animal bone, identifiable as to genus, occurs below the 4.5 foot level.

(2) The greatest concentration of identifiable mammalian remains lies above the 1.5 or 2.0-foot level.

(3) Deer remains constitute the largest single taxonomic unit.

(4) Other remains are substantially less frequent. The dog, the raccoon, the cottontail rabbit, the woodchuck, and the gopher are well represented, but only the dog need be equated to the aboriginal occupation, and it not unequivocally. As noted elsewhere, the deposits, in part, are badly disrupted by burrowing animals, thus readily accounting for the rodents in the collection.

### APPENDIX 3. HUMAN REMAINS

Human skeletal material was excavated only at Site 13JH202. No apparent burial was noted; however, fragments of human bone were scattered throughout the deposit. The following remains were recovered:

- (1) Occipital fragment, including torus.
- (2) Two frontal fragments, including upper margin of left orbit.
- (3) Right squamous, including a portion of the zygomatic process.
- (4) Lower ramus and right body portion of mandible, second and third molars present, the former badly worn, cusp pattern obliterated.
- (5) Proximal articular surface of right femur, calcined.
- (6) Unidentified vault fragments.

At least two individuals are represented. One, at least, is probably subadult.

### APPENDIX 4. VEGETAL REMAINS

All vegetal materials recovered from Site 13JH202 were retained for possible identification. The total sample is small, consisting largely of nuts or shells. Identifications have been provided by Dr. Norton H. Nickerson, Department of Botany, Cornell University. In table 2, the remains are listed by quantity and depth.

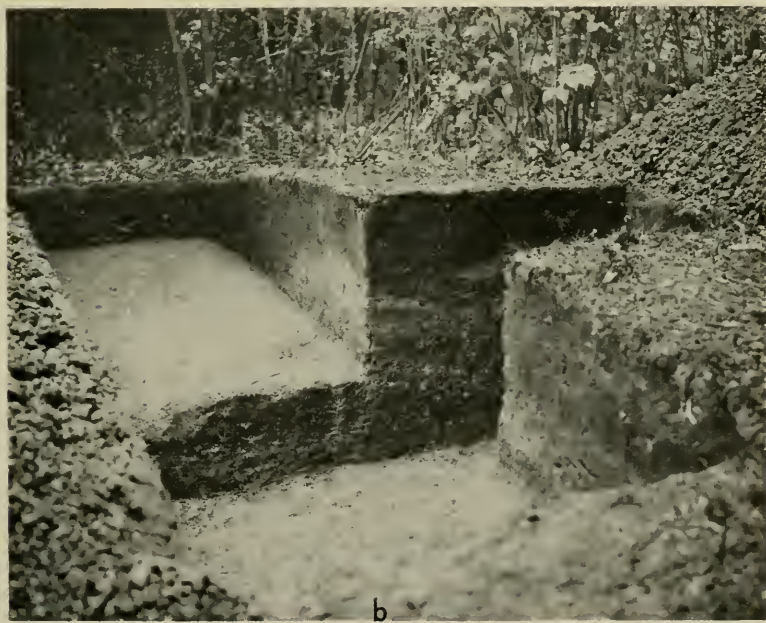
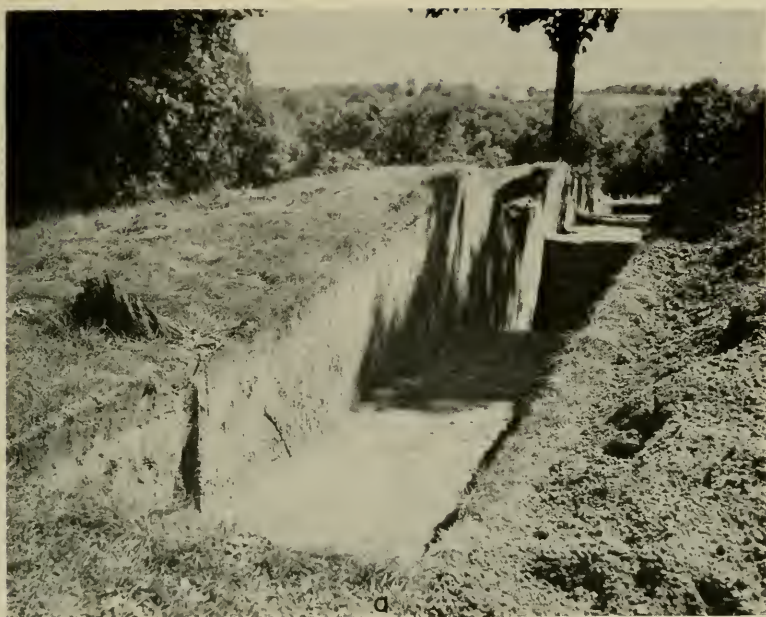
TABLE 2.—*Vegetal remains recovered from Site 13JH202 by quantity and depth*

	Vegetal remains found at indicated depth (feet)																	Total
	0-0.5	0.5-1.0	1.0-1.5	1.5-2.0	2.0-2.5	2.5-3.0	3.0-3.5	3.5-4.0	4.0-4.5	4.5-5.0	5.0-5.5	5.5-6.0	6.0-6.5	6.5-7.0	7.0-7.5	7.5-8.0	8.0-8.5	
<i>Carya cordiformis</i> (bitternut hickory)-----	1	2	1															3
<i>Carya glabra</i> (pig- nut hickory)-----		1	2		1													4
<i>Carya ovata</i> (shag- back hickory)-----	1																	1
<i>Juglans cinerea</i> (butternut)-----	4	1				1												6
<i>Juglans nigra</i> (black walnut)-----	6	4	2	1	3													16
<i>Corylus americana</i> (hazelnut)-----	1		1															2
<i>Arisaema atrorubins</i> (Indian turnip)-----	1																	1
<i>Quercus palustris</i> (pin oak)-----	1																	1

<sup>1</sup>Total indicates number of catalog lots, not individual vegetal specimens.

Vegetal specimens were restricted to the upper portion of the deposit only, hickory and butternut forming a majority of the sample. At the time of excavation varieties of both trees formed the important ground cover upon and adjacent to the site. Since the occupation area was heavily penetrated by burrowing animals, it seems probable that most, if not all, of the vegetal material is intrusive.





*a*, Completed section cut of mound, Site 13JH3. *b*, Mound 4, Site 13JH4; laminated structure apparent.





Site 13JH4. *a*, Mound 6, limestone slabs on loess surface. *b*, Mound 7, test trenches completed.

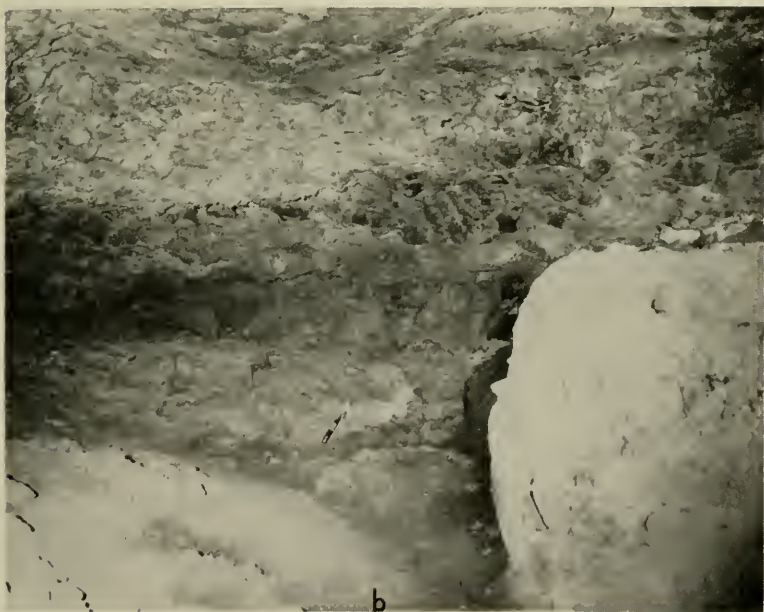


Harapat Lane Site (13JH201). *a*, Completed excavation of the "lane" area. *b*, Feature 2, shallow cache pit and adjacent posthole.

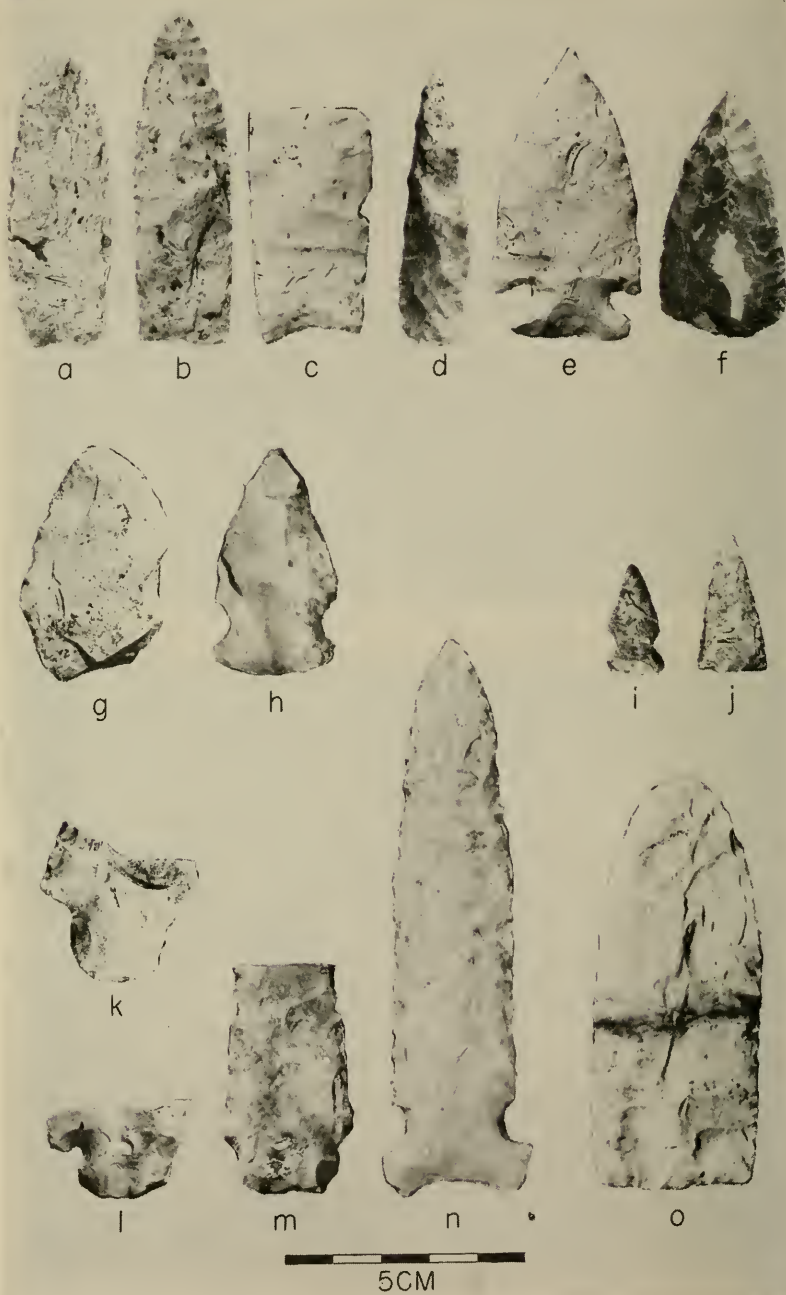




Woodpecker Cave (13JH202). *a*, Shelter overhang and occupation platform prior to excavation. *b*, Cave area before excavation.

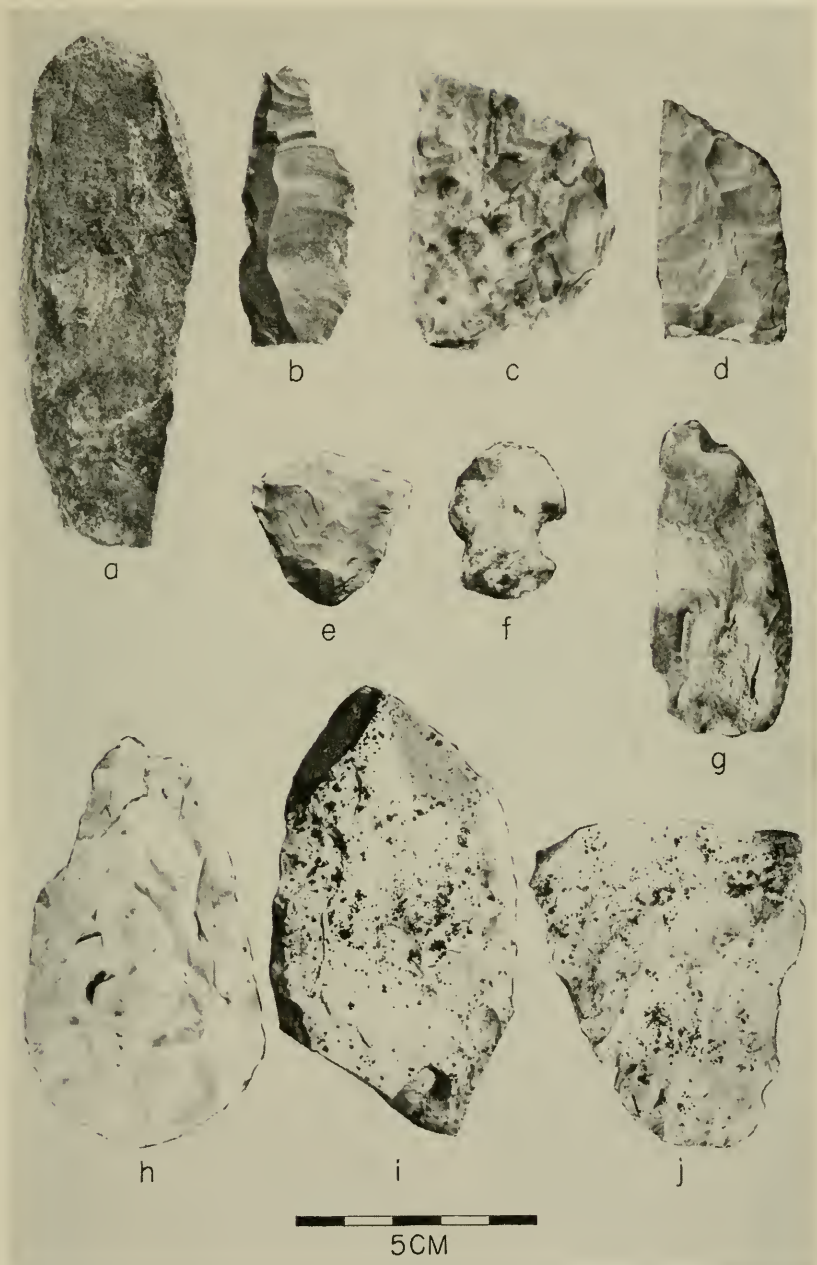


Woodpecker Cave (13JH202). *a*, Occupation platform and cave in process of excavation.  
*b*, Interior (rear) of cave during excavation.

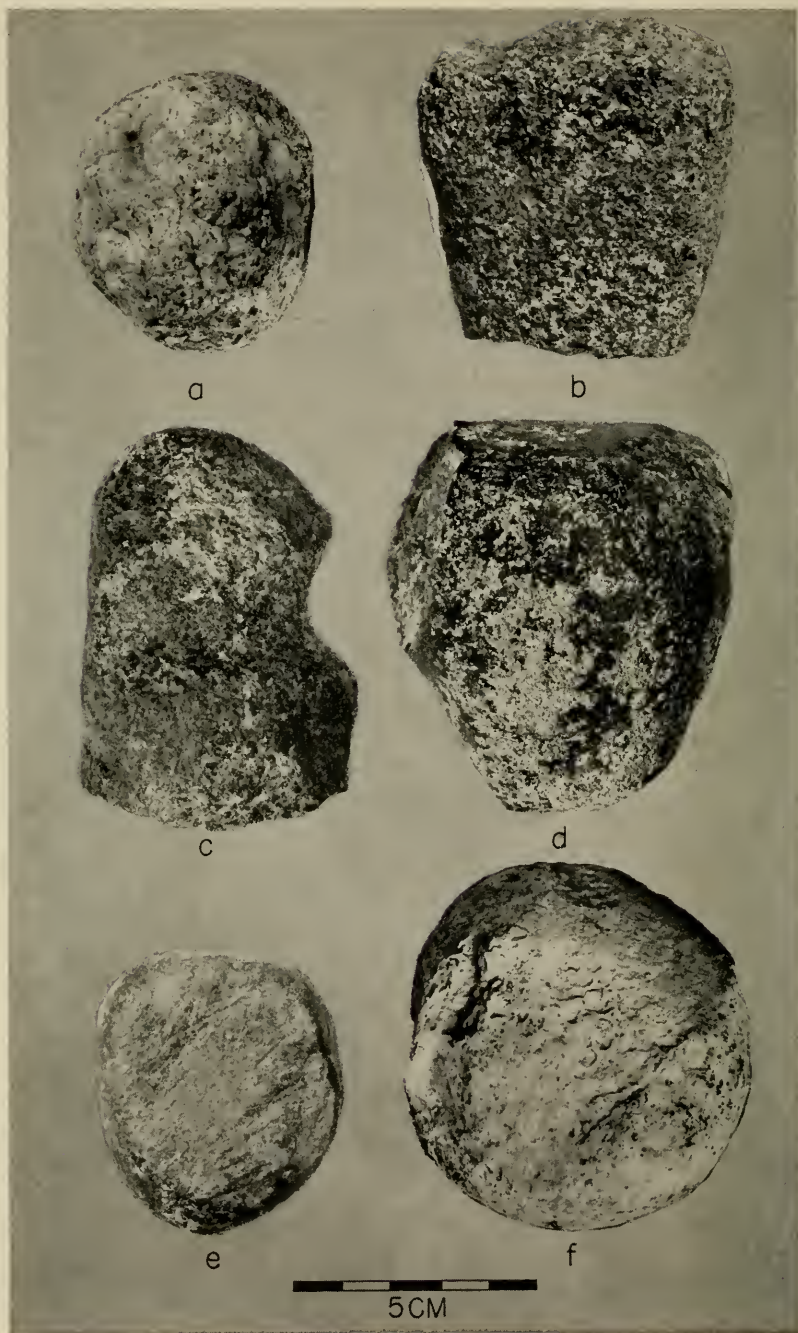


Projectile points and blades from Sites 13JH2, 13JH4, 13JH201, 13JH202, 13JH205, and 13JH206.

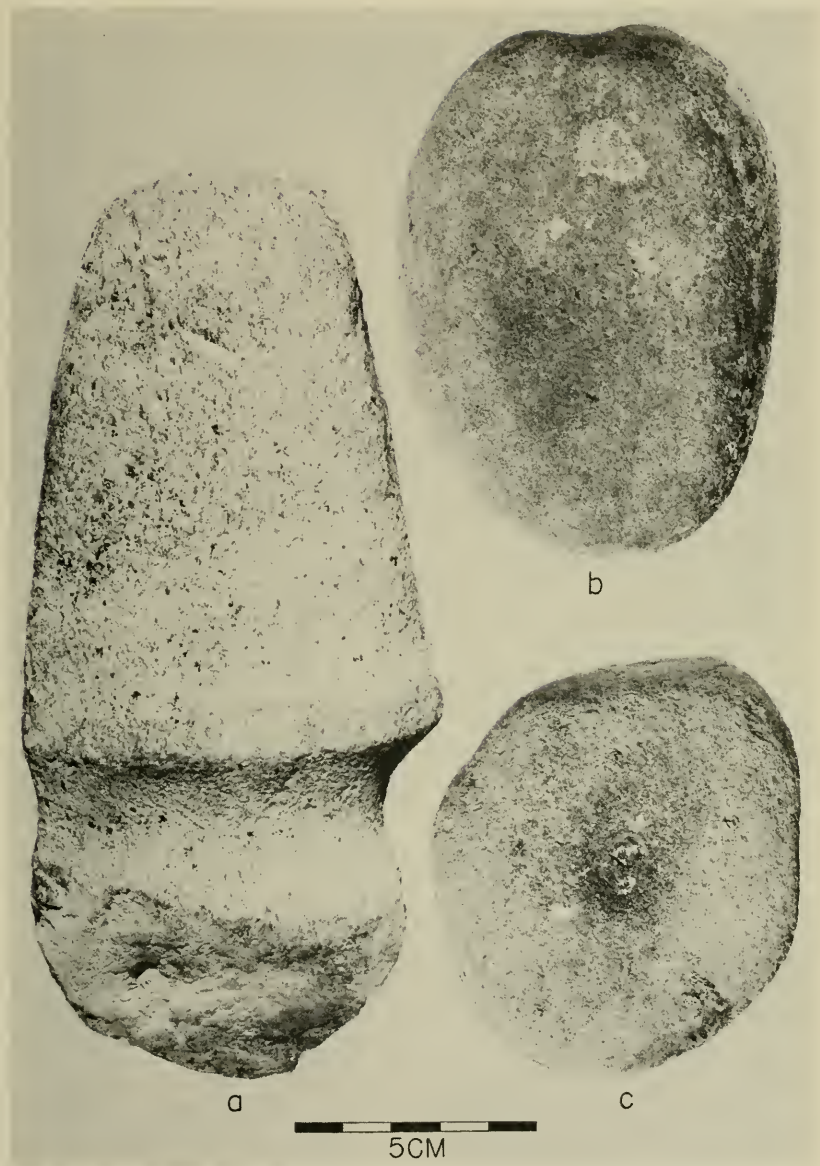




Knives, scrapers, and heavy blades from Sites 13JH2, 13JH201, 13JH202, 13JH205, and 13JH208.

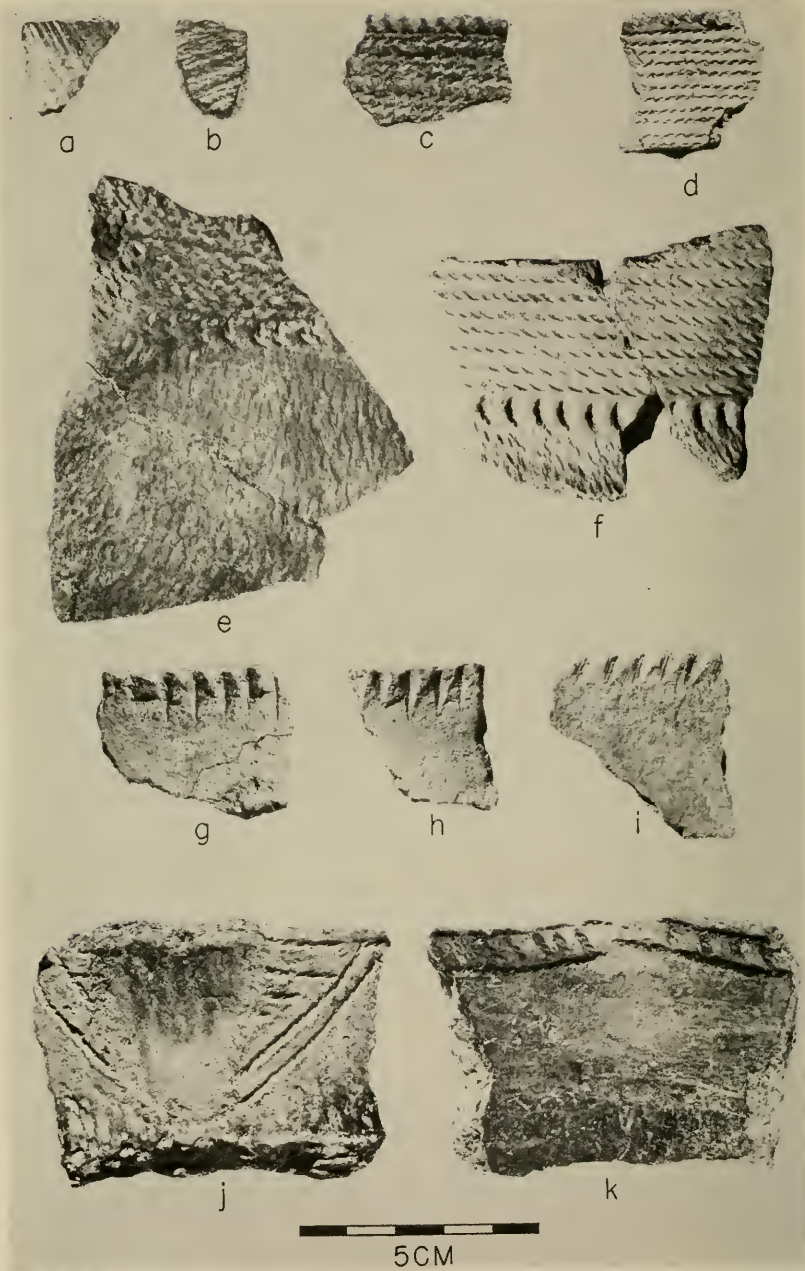


Celts, hammer, and abrading stones from Sites 13JH2, 13JH201, 13JH202, and 13JH205.

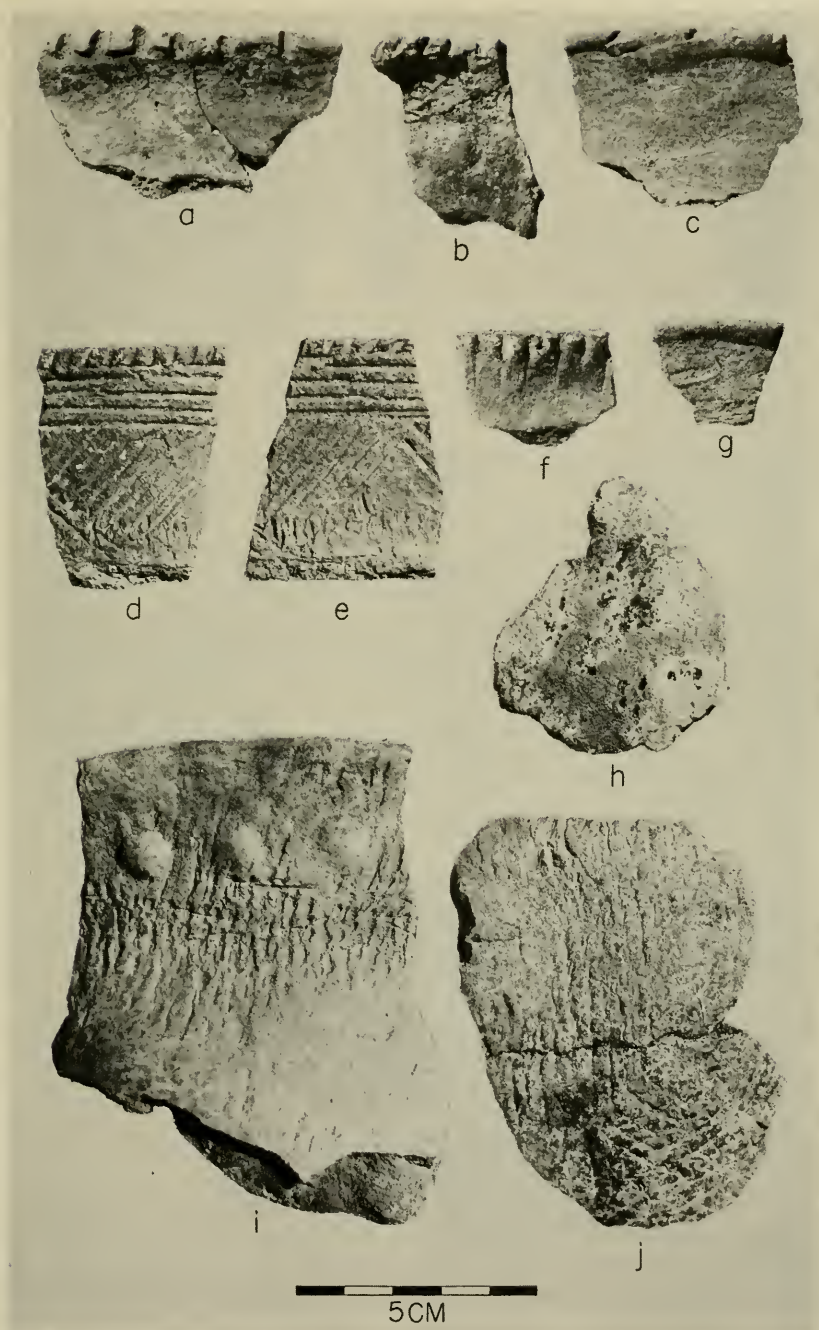


Hammerstones and grooved ax from Sites 13JH202 and 13JH205.





13 JH3: *a, b*. 13 JH2—Group A: *c-f, j* (exterior), *k* (interior). Plain "Wares" (VB): *g-i*.



Miscellaneous Plain "Wares" (V): *a-c, f-h* (pendant). Group B (II): *i*, miscellaneous Cord-marked sherds (IIIC): *j*, from Site 13JH202.





Conical pipes: *a*, body; *b*, vertical view of bowl; *c*, body. Shell-tempered sherd: *d*, White-ware: *e*, *f*, Stoneware jug. *g*, From Sites 13JH4, 13JH202, and 13JH205.