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NOTES ON THE SMITHSONIAN INSTITUTION'S CHIPPED STONE COLLECTIONS FROM UNION COUNTY, ILLINOIS

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This information was collected in August 1982 while examining the Union county, Illinois collections in search of evidence of Middle Archaic utilization of the aboriginal quarry sites located in Union county. Although no Middle Archaic material was found, the Smithsonian Institution's collection of lithic debris from this county is quite remarkable, and could form the nucleus of an intensive/extensive study both of aboriginal stone tool manufacture and patterns of prehistoric chert utilization in the eastern U.S.

There are three major chert types found in the western portion of Union county which were intensively utilized during the prehistoric period. They are Mill Creek, Kaolin, and Cobden cherts.

Mill Creek is perhaps the best known of these cherts. This chert occurs in lenticular nodules as well as in bedded formation. The cortex of the nodular forms is rough and weathered, and the color of the matrix can be blue, beige, grey, yellow, pink, or reddish brown. It was quarried prehistorically at various locations near the town of Mill Creek (Thomas 1894; Holmes 1919; Phillips 1900). Exposures of this lenticular nodular chert have been noted at several places on Mill Creek and Lingle Creek (Phillips 1900) and along the ridgetops and in the headwaters of tributaries of Cooper, Lingle, and Mill creeks in Union and Alexander counties (May 1980). Chert from these source areas was used in the production of bifacially flaked hoes that were widely traded during the Late Woodland-Mississippian period. Spielbauer (1976) provides an excellent summary of the literature pertaining to the workshop sites within this area, and May (1977) gives detailed information about the occurence of these workshops.

Kaolin chert is found in the Clear Creek drainage west of Cobden, near the town of Kaolin, Illinois (Spielbauer 1976), and along the ridges and slopes of Iron

Mountain (May 1980). This high quality chalcedonous-like chert occurs in lenses, large discoidal nodules, and as gravel in Clear Creek (May 1980). Kaolin chert has a medium grained matrix of variable translucency which has been described as transparent grains suspended in an opaque matrix. It occurs in a wide range of colors including white, tan, yellow, pink, brown, orange, and red.

Cobden chert is an exceptionally high quality, smooth grained, dense material which ranges from blue to grey to black; there is also a tan variety. This nodular chert has a distinctive coarse grained, but smooth cortex. A commonly noted diagnostic attribute is a concentric ring pattern in the matrix of the chert. The nodules outcrop at several points along the ridge at the head of Clear Creek, southwest of Cobden, Illinois, as well as in the gullies and ravines that feed into Clear Creek (Fowke 1928). It has also been noted downstream of Big Creek, near Dongola (May 1977).

The major chert type represented within Smithsonian holdings for Union county is Mill Creek chert. Most of this material is a single collection gathered by W.H. Holmes (cat. no. 208099-2114a). This collection is illustrated in B.A.E. Bulletin 60 (Holmes 1919:189-194).

The collection consists of unshaped chert nodules, hamerstones, and roughly 50 large hoe blanks. These artifacts are generally production failures/rejects and represent a variety of stages in the manufacturing trajectory of traditional Mississippian digging tools. This collection of production rejects is a rich source of information about the manufacturing techniques involved in the production of classic Mississippian hoes.

It is interesting to note that there are no finished artifacts of this type in this collection, nor in any of the Union county collections, to the best of my knowledge. However, there are some bifacially chipped side-notched hoes, artifacts which are technologically distinct from the hoe forms which form the majority of the Holmes collection. The collector for these bifacial side-notched hoes was not noted during my examination of the collections. They may or may not be part of the Holmes collection. This information can be found in the catalogue and/or accession files.

A very interesting part of the Holmes collection is a set of about 15 finely made Mill Creek preforms very similar to those generally described for late Archaic traditions. These preforms are approximately 110 mm in length, 50 mm wide, and are finely shaped and thinned into a standarized form. They are all rectangular with straight basal edges and a triangularly shaped distal section. They were not examined for edgewear, but did not appear to have been used.

A separate collection of artifacts from an aboriginal workshop in Union County was made by E. Palmer. These artifacts (cat. no. 71650-63) are also manufacturing rejects related to the production of Mill Creek hoes.

Unfortunately, there did not appear to be any Mill Creek debitage (chipping debris) in either of these collections.

Although there are no finished standard Mississippian hoes in the Union county collections, such hoes are found scattered throughout the museum's holdings. Time constraints prevented the recording of these catalogue numbers. However, it can be noted that there exists an interesting sample of hoes collected by Gerard Fowke which are made from what he calls "micaceous schist". These hoes are from the Alexander Mound, Lawrence county, Alabama, near Town Creek.

Fowke conducted research in this area in 1893-94(B.A.E. 15, p. XXXIV) which resulted in two separate collections. The first is catalogued from 32698 to 327043, and the second is catalogued 327226-279. The latter collection contains the micaceous schist hoes. Fowke reported this research in B.A.E. Bulletin 44, Archaeological Investigations II (1928).

The second Union county chert discussed here is Kaolin chert. This chert is most certainly the material referred to as novaculite by Fowke (1928:530-532). The Museum possesses a very small amount of this material, and it seems to be limited to a collection made by G. Fowke (cat. no. 233401-05). The materials consist of large flakes, a few preforms, and what appear to be Mississippian hoe blanks. Although the quantity of this material is limited, it is high quality, classic Kaolin chert.

The third Union county chert discussed here is Cobden chert. Several different collections were made of this chert and a variety of chipped stone technologies are represented. These include standard bifacial production, blade/ core manufacture, and bifacial discs probably manufactured in the Levallois like manner described by McNerney (1975) for Cobden manufacturing techniques. These holdings are not extremely large, but are remarkable for the technological variety represented.

The materials collected by G. Fowke (233401-05) consist of a large crudely made blade core which is roughly conical in shape, and large crude bifacial preforms which are not disc blanks. There is a finely made, standard pyramidal blade core, apparently collected by Holmes (208114). This core has a single prepared platform, with a series of blade scars indicating a standardized pattern of removal. This core, made from nodular chert, seems to be shaped on one large, very thick flake whose detachment resulted in a suitable core form with the ventral surface serving as the platform for blade removal.

Artifacts of this chert type were also collected by Whepley. His collection consists of several large flakes (279198-99). Technological analysis of these flakes would suggest the type of industry with which they would be associated; however, they were not closely examined at this time.

There is a very nice collection (n = 8) of large Cobden discs obtained by T.M. Perrine from Anna, Illinois (Union county). These large artifacts are all roughly oval and exhibit the distinctive ring pattern associated with Cobden chert. The larger of these discs weighed over 1400 grams. Several of them (including the largest) exhibit a striking platform indicating that they are actually huge flakes. These flakes are not faceted and are cortex covered. It is suggested that these discs were manufactured in the distinctive Levallois-like fashion described by McNerney (1975). The striking feature about this set of artifacts is the fact that all of them exhibit intensive use-wear along the entire margin. The edges are very smooth; some nibbling/ chipping was also observed. These edges were not examined under a microscope, so further information is not available.

During this cursory persual of the Illinois material, attention was paid to the presence of bifacially chipped discs which are assumed to be related to the Middle Woodland tradition in the eastern U.S. The Perrine collection is one such example. Other artifacts, also made from what appears to be Cobden chert are scattered throughout the collection. These discs were not searched for in any systematic manner, and only a few Illinos county collections were examined.

However, this list should aid future researchers looking for Illinois hornstone discs.

Beardstown (Cass county) cat. no. 138984; 15333
French Lick cat. no. 32360
La Salle county cat. no. 32360
St. Clair county cat. no. 138457
cat. no. 15350;27940 (county not recorded by myself)
1 disc in Jefferson county drawer
1 disc in White county drawer
(cat. no. not recorded by myself)

It is pertinent to note that most of these counties are considerably north of Union county, and are located in the lower and central Illinois Valley. This area was the focus of the Illinois Hopewell tradition.

The Smithsonian Institution also has a small collection of chipped stone from Wyandotte Cave, Harrison county, Indiana. The chert from this area is visually very similar to Cobden chert, and both of these high quality hornstone cherts were intensively exploited during the Middle Woodland period. It is assumed that Cobden chert was the source for the Illinois Hopewell tradition, and the chert from the southern Indiana area formed the primary source for the Ohio Hopewell. Fowke described a major workshop area at Wyandotte Cave, and notes that the chert from this county is certainly the source of the discs found at the Hopewell mounds in Chillicothe, Ohio (Fowke 1928:529).

The Wyandotte Cave collection consists of some debitage, production failures for small tools (ie., no large preforms), and some stemmed bifaces which appear to be late Archaic in temporal affiliation.

In addition there are two large ovate shaped bifaces, made from material which resembles the Harrison county/Cobden chert. These artifacts are from Owen county (cat no. 60728-9). Similar material was used for the manufacture of a small, finely made ovate biface which has a "cache blade" appearance, a projectile point, and another preform, all from Sullivan county, Indiana.

This list of the Smithsonian Institution's chipped stone collections from Illinois and Indiana is quite selective. It is by no means offered as a comprehensive inventory; although the information for Union county is fairly complete with regard to the chipped stone materials stored in the Union county drawers. The recording of the bifacial discs from Illinois is quite casual, as is the material listed for Indiana. In the latter instance, only artifacts made from possible Harrison county/Cobden chert were recorded. This lack of thoroughness is due to the fact that these materials were not the major focus of the examination of the Museum collections. However, this information is presented here to describe some of the Smithsonian Institution's chipped stone collections as they relate to chert source areas.

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