

A Site in St. Charles County With a M

Richard Martens

The Water Tower site, located on the Mississippi River bluffs, was discovered by the author in June 1969. Artifacts were collected for two months as the land was cleared for a subdivision. The artifacts represent occupations dating from the Early Archaic through Late Woodland periods.

This is the third article in a series written to document artifacts from destroyed or lost sites (Martens 2006, 2008). This valuable information would otherwise be lost to Missouri's archaeological database. It is hoped that these articles will also provide educational material as well as encourage avocational archaeologists to document their finds.

The site is located near the western border of the city of St. Charles on the south-facing side of a gentle hill sloping from the Mississippi River bluffs to a tributary of Sandfort Creek. The largest concentration of artifacts occurred on the northern portion of the site, near the Missouri-American Water Company's water tower on Ehlmann Road, at an elevation of about 167 m above mean sea level (amsl). Artifacts were scattered over an area of approximately 83,000 m², between 167 and 152 m amsl.

Lithic artifacts in the surface collection are comprised of chert (N=79) and diorite (N=1). These artifacts were assigned to temporal categories ranging from the Early Archaic to Middle Woodland periods as defined by O'Brien and Wood (1998). There are also two Late Woodland pottery sherds. The percentages of chert and diorite artifacts for each temporal period are presented in Table 1. The highest percentages characterize the Middle Archaic

Helton-phase (45%), the Late Archaic-Titterington phase (27.5%), and then other Late Archaic phases (13.8%).

The majority of the artifacts are assignable to the Helton phase, which is poorly represented in the archaeological literature of Missouri. As such, it was decided to provide a detailed description of this phase and associated artifacts.

Helton Phase

The Middle Archaic Helton phase defined by Cook was based primarily on excavations at the Koster site in Greene County, Illinois (1976). He named the phase for Harlin Helton, an avocational archaeologist who brought the Koster site to the attention of Dr. Stuart Struever. The Koster site is located near the Illinois River about 78 km northwest of St. Louis, Missouri and about 48 km north of the Water Tower site. Cook defined the geographical range of the Helton phase to include western Missouri to Illinois and Indiana, then south to Kentucky. He felt that the phase could also encompass portions of southern Wisconsin and northern Tennessee. This range is based on the distribution of similar projectile point types (Godar, Matanzas, and Karnak) and decorated bone pins.

Projectile Points

Justice (1987:120, 138) essentially agrees with Cook's geographical boundaries for Karnak and Matanzas points, but the distribution of his Raddatz point cluster, which includes the Godar point and many variants, extends from Michigan and Wisconsin to Alabama, and from eastern Oklahoma to western New York.

The Raddatz point cluster includes a large group of similarly shaped points. One example is the Brannon (named Faulkner in extreme southern Illinois) side-notched point, first identified by Cook at Koster. The Brannon type exhibits less bold notches (i.e., about 50% smaller than those on the classic Godar point). Further confusion rises because archaeologists in the greater St. Louis area do not use the Raddatz name and include the Brannon point in the Godar point category. Is it any wonder that avocationalists have a hard time identifying their projectile points?

Table 1. Temporal Periods Represented at the Water Tower Site.

	Artifact Ct.	Total Artifact %	Type
Early Archaic	1	1.3	Hardin (N=1)
Middle Archaic	38	47.5	
Helton phase	[36]	[45]	(See Table 2)
Other phases	[2]	[2.5]	Jakie Stemmed (N=2)
Late Archaic	33	41.3	
Titterington	[22]	[27.5]	Etley (N=12)
	-	-	Wadlow (N=2)
	-	-	Adzes (N=7)
	-	-	Sedalia Digger (N=1)
Other phases	[11]	[13.8]	Stemmed (N=4)
	-	-	Kampsville Barbed (N=7)
Early Woodland	3	3.7	Kramer (N=3)
Middle Woodland	5	6.2	Steuben (N=4)
	-	-	end scraper (N=1)
Total	80	100	

Major Middle Archaic-Helton Phase Component: *The Water Tower Site (23SC1018)*

Assemblage, Age, and Distribution

More accurate definition of the Helton-phase assemblage and its age and distribution requires excavation of sites that have relatively unmixed deposits that can yield multiple radiocarbon dates. Fortunately, two such sites, Koster and Black Earth, have been excavated in western and southern Illinois.

The Koster site is well stratified with Helton-phase material located in the three essentially unmixed zones of Horizon 6. The projectile points collected in these zones consisted of Brannon, Godar, Helton, Karnak, and Matanzas. Eight radiocarbon ages ranging from 3770 ± 75 B.C. in the lower zone to 2930 ± 250 B.C. in the upper zone were obtained for Horizon 6 (Cook 1976:70). No artifacts from other temporal periods were reported from this horizon. The Late Archaic Titterington-phase material was concentrated in Horizon 4 at Koster.

The Black Earth site is located on the South Fork of the Saline River in Saline County, Illinois, 250 km southeast of the Koster site. Charcoal samples for radiocarbon dating were collected from undisturbed portions of the deposits in the Middle Archaic levels. The resulting dates for eight samples range from 3955 ± 85 B.C. to 2910 ± 85 B.C. (Jefferies and Butler 1982:102). The oldest date was obtained from Zone 3D, and the youngest date from upper Middle Archaic Zone 3A. The Helton-phase projectile point types collected in Zones 3A–D were the same as those from Horizon 6 at Koster, with the exception that no Helton points were found.

Based on the Koster and Black Earth data, the Helton phase dates from 3955 ± 85 B.C. to 2930 ± 250 B.C. (uncalibrated, 1-sigma). This duration was defined by the earliest and latest mean ages derived from 16 dates from these two sites. O'Brien and Wood (1998:143) assign the Raddatz point type, which includes Godar points, to the 5500–3000 B.C. period, noting that this time span is too long for production of a projectile point type, but they “do not have the information required to shorten it.”

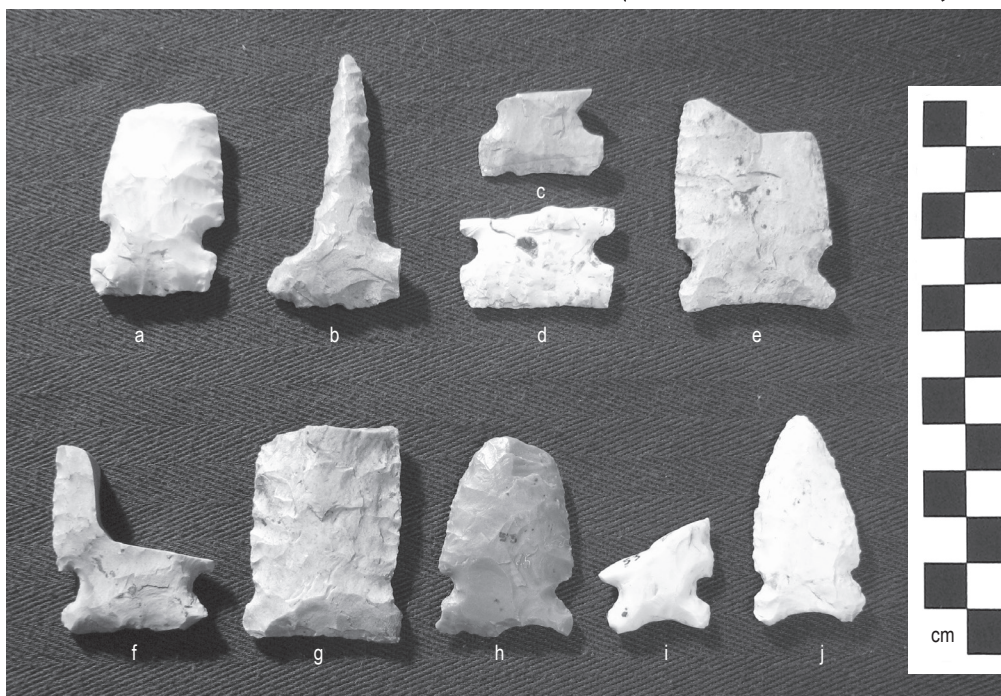


Figure 1. (a–e) Representative Godar points with strong side notches; (f–j) gracile points formerly called Brannon points. Note, points (a, b) have been reworked into end scrapers and (b) into a T-drill.

Flaked and Groundstone Helton-Phase Tools

A total of 15 Godar points were found on the surface of the Water Tower site. The point depicted in Figure 1a was selected by Lopinot (2008:8) as a representative Raddatz point. As noted earlier, Justice states that the Raddatz point type subsumes several named projectile points, including Godar, Brannon, Tama, and others.

Three of the Godar points have been worked into end scrapers (Figures 1a, 1h, one not depicted) and another into a T-drill (Figure 1b), where the drill shaft has been worked down into the notches. Apparently, the Helton-phase people at this site had trade relations that extended into what is now southern Illinois. The point shown in Figure 1g is made of exotic Cobden chert. The nearest source for this material is 182 km southeast of the site in Union County, Illinois (Koldehoff 1985:19; Ray 2007:256–258). The other 14 Godar points are made of Burlington chert, and 11 of these are heat treated. The other Helton-phase artifact types from this site are summarized in Table 2 and are discussed below.

Nine Matanzas points made of heat-treated Burlington chert were collected (examples of the classic form shown in Figures 2a–e). The single straight-stemmed Matanzas point in the collection is shown in Figure 2j. This point type was first identified for the Helton phase at Koster (Cook 1978:166).

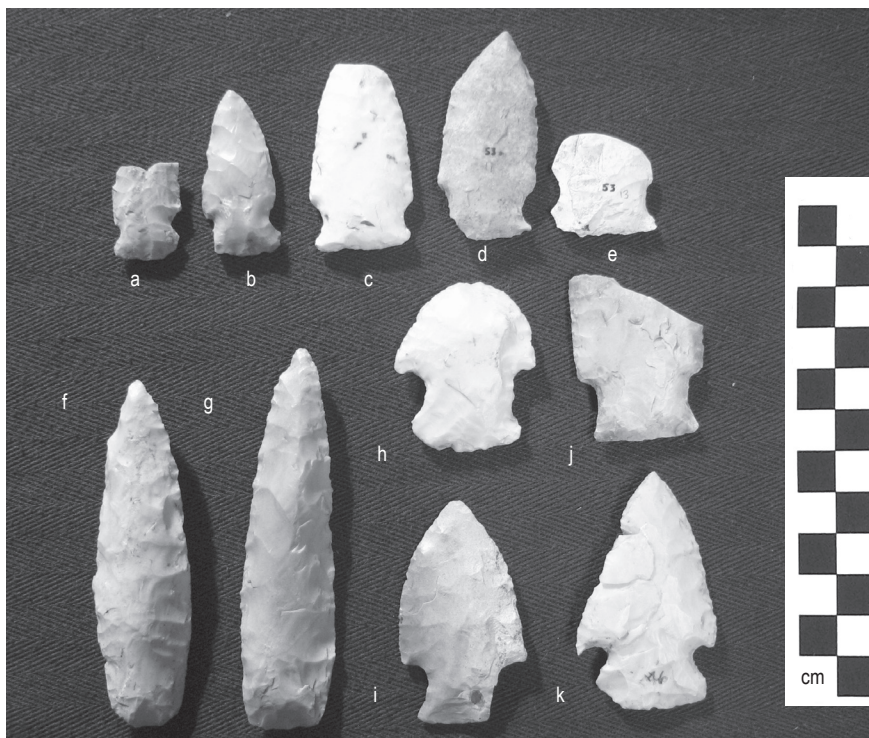


Figure 2. (a–d) Matanzas points; (e) Matanzas reworked into an end scraper; (j) straight-stemmed Matanzas; (f–g) Karnak points; (h–i) Helton points; (k) Helton point from 23SL178/1105, included as a “classic” example of this type.

Two of the four Karnak points are shown in Figures 2f–g. All of these points were made from heat-treated Burlington chert. When resharpened, as these have been, they are quite thick, with maximum width-to-thickness ratios approaching one. Because of their shape, it has been postulated that they were used as knives rather than projectile points. Perino noted that neither Matanzas nor Karnak points were found at the Helton-phase Gibson, Godar, Hemphill, or Klunk mortuary sites (Cook 1976:96).

The Helton point type was first identified by Cook at Koster. Morrow (1984:41) states that they were manufactured into the Late Archaic period and are most common in Missouri and Illinois. Three Helton points were found at the Water Tower site. Two are shown in Figures 2h–i. The point shown in Figure 2h has been reworked into an end scraper. A “classic” Helton, found at the Schoettler Road site (Martens 2008), is shown for comparison in Figure 2k. This site is located about 18 km south of the Water Tower site. Not surprisingly, these point types are found across the Missouri River in St. Louis County. For example, four Matanzas, three Karnak, and three Helton points were also found at the Martens site (Martens 2004:34, 36, 38).

The remaining Helton-phase artifact types found at this site are shown in Figure 3. They include a biface knife, blunt

drill, end/side scraper, and point preform. These artifacts were made from heat-treated Burlington chert. Burlington chert was used almost exclusively (i.e., 94% of the artifacts collected) by the Helton people at the Water Tower site. Further, 83% (29 out of 35) of the chert pieces were heat treated.

A hematite Godar drilled plummet (Figure 3d) from a site overlooking the St. Louis airport (23SL1115) is included to show the range of artifacts associated with the Helton phase. Six of these hematite plummets were first identified among artifacts recovered from the Godar mortuary site and subsequently named by Perino (1961:43). Eleven complete and fragmentary plummets of this type were also found at Koster, five made of hematite and six of limestone. A number of drilled “pendants” could have been used for the same purpose as the plummets found at Koster.

A well made diorite axe bit was also found at the Water Tower site. The top and bottom contract towards the bit, like the $\frac{3}{4}$ -grooved Helton axes from Koster. Based on this similarity, this axe fragment is attributed to the Helton phase.

Helton-Phase Use of Hematite

Fifty-one pieces of hematite were collected at the Water Tower site (Table 2). Hematite is a naturally occurring iron oxide. It can be ground to obtain ochre (red pigment). The oldest use of ochre in association with burials in America is at the Paleoindian Anzick site in southwest Montana (Jones and Bonnicksen 1994). Ochre was probably used

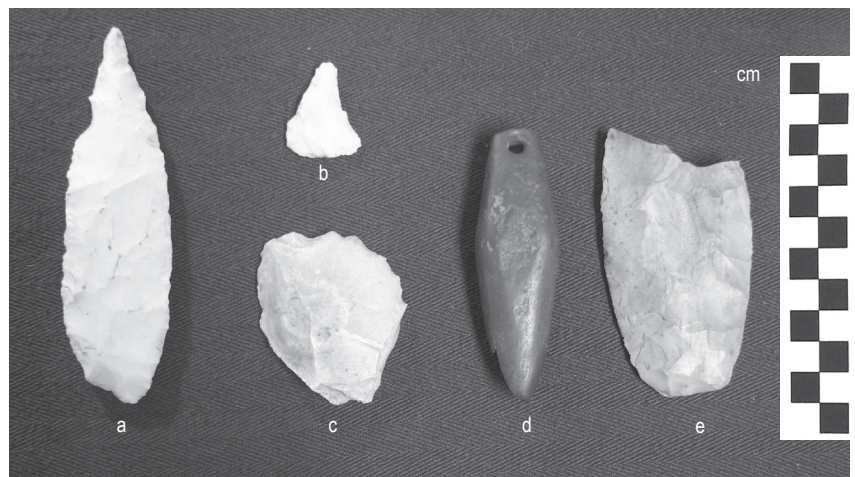


Figure 3. (a) Helton-phase biface knife; (b) blunt drill; (c) end/side scraper; (d) preform. (e) Hematite Godar drilled plummet found at 23SL1115; included to demonstrate the range of Helton artifacts.

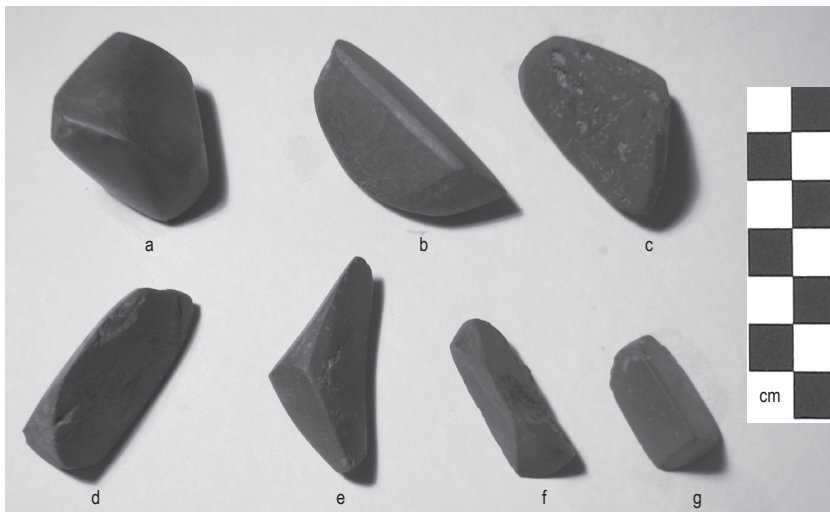


Figure 4. (a–g) Ground hematite which exhibits from five to seven grinding facets, attributed to the Helton phase.

for personal adornment from at least as early as the Middle Archaic period. Abraded hematite occurred in both the Helton and Titterington horizons at the Koster site.

The relative frequency of abraded hematite from these assemblages was calculated by comparing the ratio of abraded hematite-to-projectile points for these phases. The ratio for the Helton phase was .45 (129/285) and that for the Titterington phase was .075 (4/53) (Cook 1976:50, 92–93). These ratios indicate that, for the same number of projectile points, abraded hematite at a Helton-phase habitation site would be six times (i.e., .45/.075) as numerous as that at a Titterington-phase site. Since the Water Tower site collection has 31 points from the Helton phase and only 14 from the Titterington phase, all abraded hematite from this site is attributed to the Helton phase.

Forty-nine pieces of hematite in the collection had flat grinding facets, and one had possible indications of grinding. A high percentage of the ground hematite pieces (82.5%; N=32) exhibits two to seven grinding facets. Seven extensively faceted hematite pieces are shown in Figure 4. The weight and maximum dimensions for these seven specimens range from 15–85 g and 27–42 mm, respectively. The weight of the hematite pieces ranges from 3–460 g; the vast majority (76.5%) weigh between 10–100 g. The length range for all of the hematite is 15–82 mm.

The pieces were apparently broken into sizes that could easily be held in one hand. This permits abrasion against sandstone to obtain the desired ochre. Given the relatively small size and narrowness of the facets, it is possible that only small amounts of ochre were being produced at a time. This is consistent with making body paint or paint for wood, bone, or leather. One would expect to find larger pieces of hematite with broad facets if they were used to make the ochre associated with Helton-phase burials.

Characteristic Artifacts from Helton-Phase Sites

Cook (1976:92–93) presented a list of Helton-phase artifacts by functional category for habitation sites in Illinois (Koster and Modoc Rock Shelter) and in Missouri (Graham Cave). He noted that the Helton-phase bifaces were generally heat treated, unlike bifaces produced by the later Titterington-phase people. He listed the artifacts found at four mortuary sites in Illinois separately, including the Godar site located 5 km due west of the Koster site.

Lithic Artifacts

The Godar site was named for Al Godar, who recovered about 400 projectile points, 24 atlatl weights (the majority were either saddle- or L-shaped), and many other artifacts.

A significant number of artifacts were found in association with red ochre- and limestone-covered burials. Approximately 300 of the projectile points were of the “Godar side-notched or un-notched forms” (Perino 1963:95). The unnotched forms are assumed to be preforms.

Cook’s artifact list has been expanded here to include traits from the Godar mortuary and Black Earth habitation sites in Illinois, compared with material from the Water Tower habitation site in Missouri. The new trait list, organized by tool function and type, is presented in Table 3. Examples of many of these tool types are shown in the text.

Bone Pins

The most important nonlithic Helton artifacts identified by Cook were the geometrically shaped and incised pins made from split, ground, and polished deer long bones. These pins, which may have been used as hair ornaments,

Table 2. Helton-Phase Artifact Type and Distribution.

Artifact Type	Artifact Ct.	Modified Into
Godar	15	end scraper (N=3)
Helton	3	end scraper (N=1)
Karnak	4	
Matanzas	9	end scraper (N=2)
knife & drill	1	
flake drill	1	
side scraper	1	
biface/preform	1	
axe bit	1	
Total	36	
ground hematite ^a	50	
lump hematite	1	

^aMost likely Helton phase, but could be from the Titterington phase.

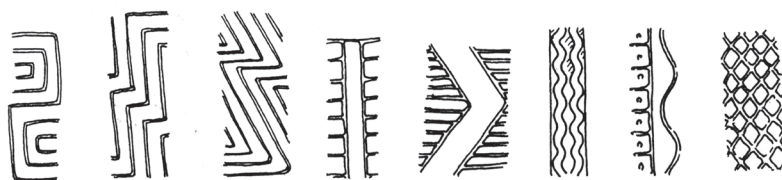
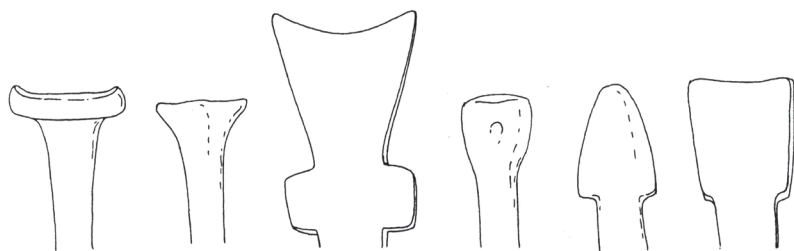
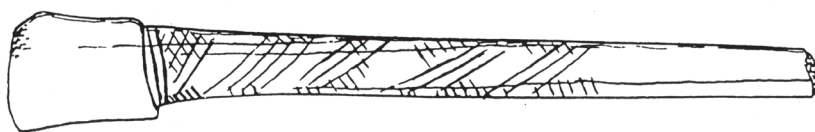


Figure 5. Top: Helton-incised bone pin fragment from Graham Cave (9.2 cm in length). The top-shapes and incised patterns in the middle and bottom rows are representative of those found on pin fragments from the Koster site (from Cook 1976:74).

have unbroken lengths of up to 13 cm. The nearly complete Graham Cave pin (9.2 cm) was excavated from a mixed cultural context (Figure 5). A total of 76 pins and fragments was excavated at Koster. Of these, 39 exhibited top-shaping and/or incising.

Fragmentary incised pins have also been found at other sites in Illinois and Missouri. Bone pin elements closely resembling those found at the Koster site were recovered from the Black Earth site (Breitburg 1982:925–929). Missouri sites which have yielded these pins are Graham Cave (Chapman 1975:176) and Arnold Research Cave (Chapman 1975:164; Shippee 1966:75).

Status Materials

Cook noted that very few exotic materials or artifacts are found at Helton habitation sites. A single copper bead, some galena, and two points made of Cobden (referred to as Dongola) chert were found at Koster. As mentioned earlier, the source for this chert is in Union County in southern Illinois; the copper could have come from Michigan; and the galena could have been obtained from St. Genevieve County, Missouri. Status copper celts and awls were present at the Godar site. An atlatl weight from the Godar site is composed of bauxite, found near Hot Springs, Arkan-

sas about 675 km to the southwest (Cook 1976:97).

Early Archaic to Late Woodland Period (7500 B.C.–A.D. 450)

The lithic material shown in Figures 6–8 ranges from an Early Archaic Hardin point to Middle Woodland Stueben points. The single Hardin (Figure 6a) was selected as an outstanding example of this point type by O'Brien and Wood (1998:126). It is made of nonheat-treated Burlington chert. The two Middle Archaic Jakie Stemmed points (Figures 6b–c) are also made of Burlington chert, but are heat treated. These points, together with the 36 Helton-phase artifacts, represent 47.5% of the flaked artifacts in the collection.

The Late Archaic period is represented by 33 (41.3%) lithic artifacts. The majority of these (N=22) can be assigned to the Titterington-phase occupation (Martens 2008). Representative Etley points are shown in Figure 6d–h. The point depicted in Figure 6g is of particular interest because it is made of nonheat-treated Cobden chert. The remaining Titterington-phase lithic artifacts are represented in Figure 7. These artifacts include Wadlow points (Figures 7a–b), a Sedalia digger (Figure 7c), a large Titterington

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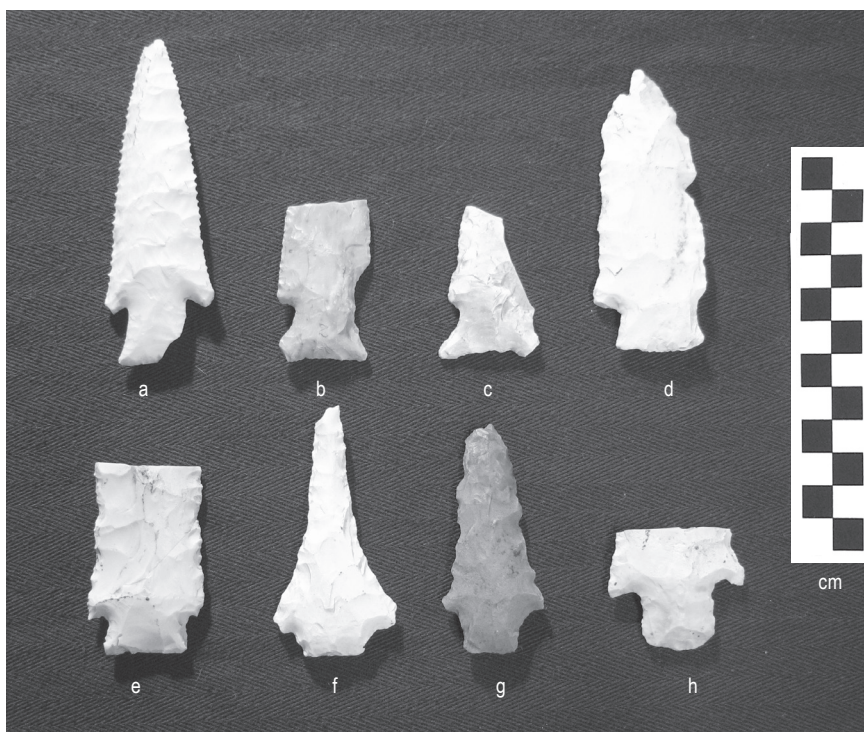


Figure 6. (a) Hardin (the only Early Archaic artifact in the collection); (b–c) Jakie Stemmed (Middle Archaic); (d–h) representative Late Archaic Titterington-phase Etley points.

adze preform (Figure 7d), and a small Titterington adze (Figure 7e).

Points representing other Late Archaic episodes of site use are shown in Figure 8. Seven Kampsville Barbed points occur in the collection. These date to terminal Late Archaic times (Justice 1987:179–180). The points depicted in Figures 8e–g are identified as probable Late Archaic. The point shown in Figure 8e is made of grayish-blue Kincaid chert from 140 km southeast in Jackson County, Illinois (Koldehoff 1985:29–30).

The Early Woodland artifacts consist of three Kramer points. One of the two depicted Kramer points (Figure 8h) is made of Bailey chert, found 160 km to the south in eastern St. Genevieve County, Missouri (Ray 2007:133) and Alexander County, Illinois (Koldehoff 2002:135). Koldehoff also notes that the Alexander County site was the source of Bailey chert for most prehistoric flintknappers in the western part of the Illinois Ozarks. Four Middle Woodland period Stueben points and a scraper were also collected.

The Late Woodland period is represented by two small grit-tempered pottery sherds.

Summary

This report includes descriptions of 80 chert and diorite artifacts from the Water Tower site that have been assigned to temporal categories. Since 45% of these artifacts are attributed to the Middle Archaic Helton phase, they were discussed in detail. This discussion included comparisons with artifacts from other sites in Missouri and Illinois.

The current understanding of Helton-phase geographic distribution is discussed. Radiocarbon dates for two sites in Illinois are also presented. Examples are shown for most of the “classic” Helton-phase artifacts from either the Water Tower site or other sites in Missouri and Illinois.

The Helton-phase projectile points from the Water Tower site consist of 15 Godar points, 3 Helton points, 9 Matanzas points, and 4 Karnak points. Ninety-four percent of the artifacts were made from Burlington chert and 83% of all the points were heat treated. One Godar point was made from exotic Cobden chert.

Table 3. Helton-Phase Materials from the Water Tower Site Compared to a Generalized Helton-Phase Artifact Trait List.

Function	Tool Type	Habitation Sites					Mortuary Site
		Koster	Black Earth	Modoc Rock Shelter	Graham Cave	Water Tower	Godar
Piercing/cutting	points						
	Godar	x	x	x	x	x	x
	Helton	x	-	-	-	x	-
	Karnack	x	x	x	-	x	-
Perforating	Matanzas	x	x	x	x	x	-
	drills	x	x	x	x	x	x
	bone awls	x	x	x	x	-	-
Scraping	end/side scrapers	x	x	x	x	x	-
	scrapers on points	x	x	x	x	x	x
Pulverizing	choppers	x	x	x	x	x	-
	manos	x	x	x	x	-	-
Manufacturing	antler flakers	x	x	x	x	-	-
	preforms	x	x	x	x	x	-
Weights	bannerstones	-	x	x	-	-	x
	plummets	x	-	x	-	-	x
	pebble pendants	x	-	x	-	-	x
Wood working	3/4-grooved axes	x	-	?	-	?	x
	full-grooved axes	x	x	?	-	?	-
Status	copper celts	-	-	-	-	-	x
	copper awls	-	-	-	-	-	x
Ornaments	hematite beads	x	-	-	-	-	-
	incised bone pins	x	x	x	x	-	-
Red paint	hematite lumps	x	-	-	x	x	-
	abraded hematite	x	-	-	x	x	x

General note: This list is based on habitation and mortuary sites in Missouri and Illinois.

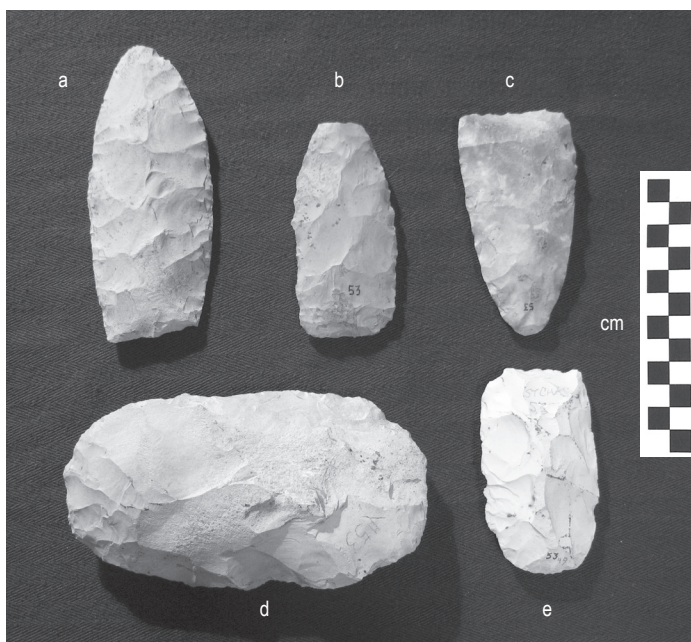


Figure 7. Late Archaic Titterington-phase artifacts: (a–b) Wadlow; (c) Sedalia digger; (d) large adze preform; (e) small utilized adze.

Fifty pieces of abraded hematite were found at the site and are attributed to the Helton-phase habitation. Some 82.5% of the hematite pieces exhibit between two and seven grinding facets. The hand-size pieces and multiple facets indicate the hematite was probably used to make red ochre for paint rather than for funerary applications.

A table of artifact traits was developed for the Helton phase based on material from habitation and mortuary sites in Missouri and Illinois. This table demonstrates the diversity of goods associated with this phase. The Water Tower site artifacts included for comparison demonstrate correlation with the other Helton-habitation sites.

The report concludes with a discussion of the artifacts from other timespans than the Helton phase of the Middle Archaic period. This lithic material represents prehistoric periods ranging from Early Archaic to Middle Woodland and amounts to 55% of the total collection. The major contributors are: Late Archaic (41.3%), divided into the Titterington (27.5%) and other phases (13.8%); Middle Woodland (6%) (N=2); Early Woodland (3.7%) (N=3); Middle Archaic other than the Helton phase (2.5%) (N=4); and Early Archaic (1.3%) (N=5). The two ceramic artifacts in the collection are Late Woodland sherds.

Acknowledgments

The author was fortunate to consult with two very helpful and knowledgeable archaeologists for artifact and material identification. Jack Ray reviewed part of the collection and identified the Helton-phase artifacts found in the Ozark area. Brad Koldehoff reviewed a larger portion of the collection and identified the artifact and chert types found in the greater St. Louis area.

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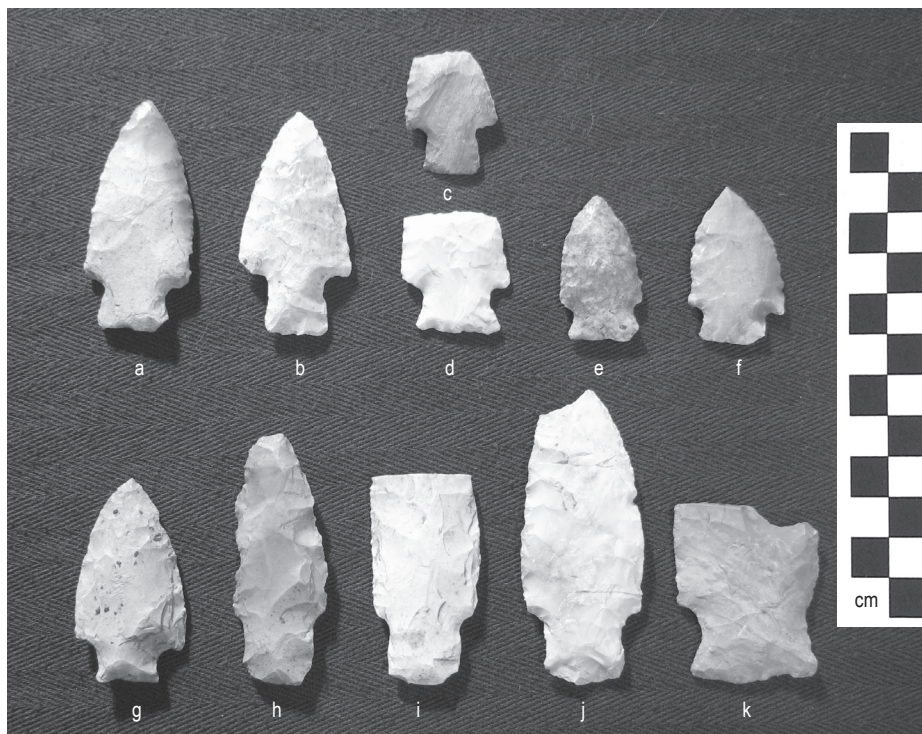


Figure 8. Representative artifacts: (a–d) Terminal Late Archaic Kampsville Barbed points; (e–g) probable Late Archaic points; (h–i) Early Woodland Kramer points; (j–k) Middle Woodland Stueben points.

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