

FORT ANCIENT DEVELOPMENTS IN NORTHEASTERN KENTUCKY

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ABSTRACT

In the past, Fort Ancient research in Kentucky has been hampered by the lack of explicitly defined regional developmental sequences. Recognizing this need, limited excavations were conducted in 1984 at five Kentucky Fort Ancient sites located in a fairly circumscribed region along the Ohio River in northeastern Kentucky. As a result of these investigations, temporally sensitive ceramic and lithic attributes were identified, and a chronological sequence was proposed for the region.

INTRODUCTION

The purpose of this paper is to summarize the results of investigations conducted in 1984 at five Fort Ancient sites in northeastern Kentucky. These investigations represent the second phase of a two phase research project focused on developing a better understanding of how Native American culture in northern and eastern Kentucky was affected by contact with Europeans. This period of contact, encompassing the region's protohistoric and Historic Indian cultural expressions, is considered to have commenced with the entrance of De Soto into the Southeast in 1540 and concluded with the signing of the Treaty of Greenville in 1795 (Henderson et al. 1986:10-17).

Phase I of the project consisted of synthesizing available archival and archaeological baseline data concerning Contact period occupation in the region (Henderson et al. 1986). A number of Contact period sites or potential Contact period sites were identified during this phase of research, but it became clear that in order to be able to understand the effect European culture had on Indian culture, a better understanding of Indian culture was required. Therefore, Phase II was initiated to collect more information about aboriginal culture.

The area selected for investigation during Phase II was restricted to four Ohio River counties in northeastern Kentucky (Bracken, Mason, Lewis, and Greenup). The a priori assumption was that this region represented a meaningful culture area or interaction sphere, and that any changes documented in the material culture would reflect the

indirect or direct influence of European culture on Native culture. The major research goal for Phase II was to document material culture change through time and identify attributes of artifacts or artifact assemblages that were reliable indicators of that change. In this manner, a local chronology could be established and thus a perspective would be gained regarding aboriginal cultural developments in the region. A secondary research goal was to investigate aspects of Fort Ancient subsistence.

In the summer of 1984, limited excavations were conducted at five sites (Figure 1) selected from a list of several sites determined to contain Contact period deposits as a result of the Phase I investigations. These excavations were directed specifically at recovering temporally sensitive data in a controlled, systematic manner, so that the site occupations and therefore the material culture changes could be correctly ordered. Minimal data requirements included 1) stratified as well as single component sites; 2) materials that could produce reliable absolute dates; and 3) good preservation environments for organic debris (i.e., flora and fauna). The sites investigated during Phase II satisfied all these requirements, and the data needed to address the research goals were recovered. Stylistic and morphological changes through time could be documented in the ceramic and lithic assemblages, and good preservation environments at most sites produced excellent floral and faunal data.

Sites don't always cooperate with the archaeologists' research goals, however, and in our case, a project targeted on the period 1540 to 1795 developed into one that embraced the entire Late Prehistoric period (i.e., A.D. 1000 to 1750). Although our research goals underwent minor adjustments due to the realities of the data, the recovery of early, middle, and late Fort Ancient materials provided an opportunity to develop a chronological sequence for the entire Late Prehistoric period in a region where an explicitly defined sequence had not existed before.

This paper begins by providing brief descriptions of each site investigated during Phase II. Next, chronological trends in the ceramic and lithic data are discussed, since the stylistic and morphological changes in these two data sets proved to be the most useful in developing the regional chronological sequence. The results of investigations pertaining to the second research goal, that of examining Fort Ancient subsistence, will follow the discussion of the ceramic and lithic developments. The paper concludes with a discussion of the regional chronology proposed for the study area.

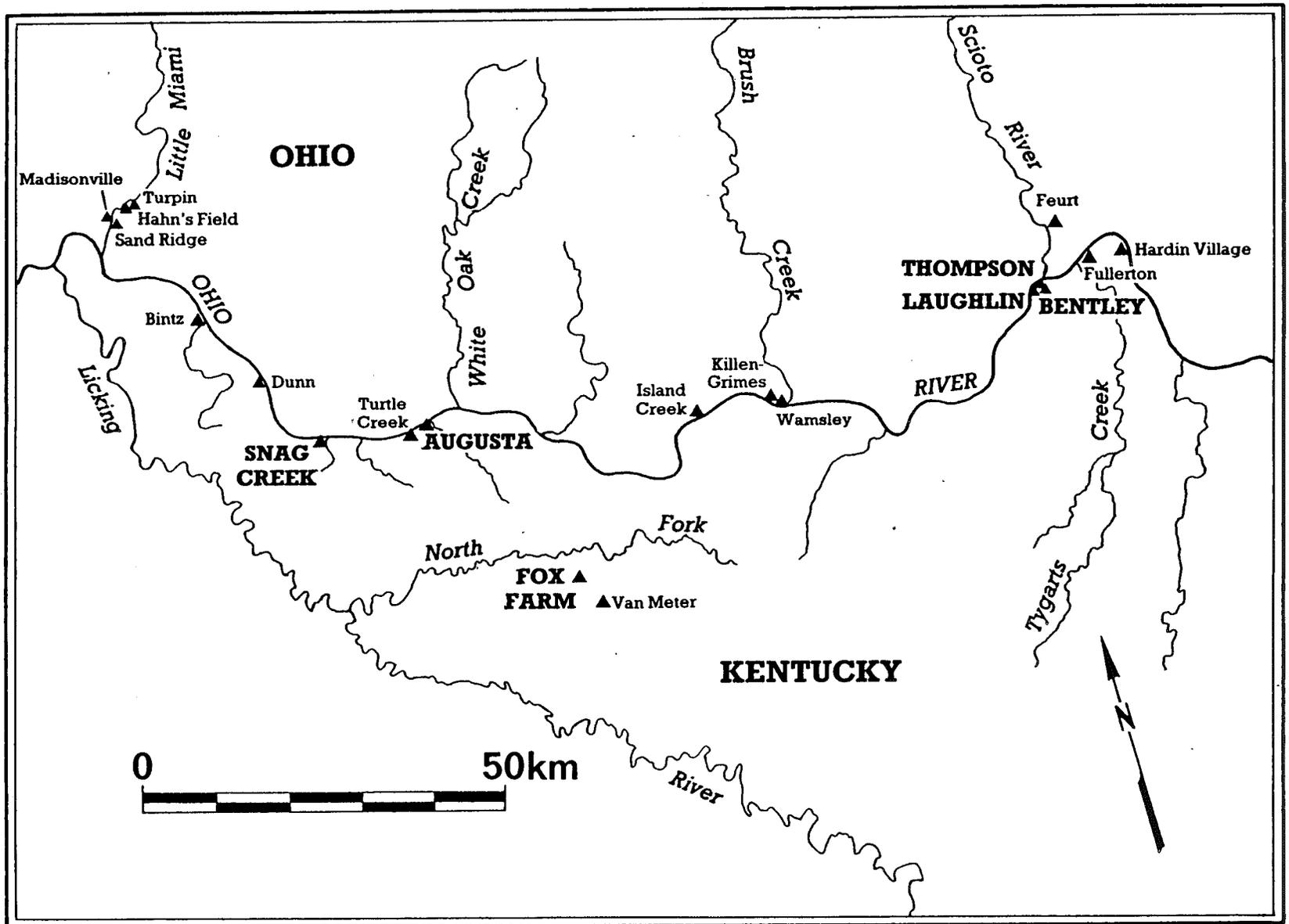


Figure 1. Fort Ancient sites in study area.

SITE DESCRIPTIONS

Six sites were originally chosen for investigation during Phase II. The westernmost site investigated was the Snag Creek Site (15Bk2). The site of Augusta (15Bk200) was located 15 km upstream from Snag Creek. The Fox Farm Site (15Ms1), the only component located in an upland setting, was the central site, and three of the Lower Shawneetown site complex sites, Laughlin (15Lw13), Thompson (15Gp27), and Bentley (15Gp15) (Henderson et al. 1986:131) represented the easternmost sites. Unfortunately, due to extenuating circumstances, the Contact period deposits at the Bentley Site could not be investigated. Thus only five sites were actually examined during Phase II.

A total of seven Fort Ancient components were identified at these sites on the basis of recognizable differences in their artifact inventories. Snag Creek, Augusta, and Laughlin each contained only one component, while Thompson and Fox Farm each contained two. Thompson and Fox Farm probably contain three components, but only limited evidence of the third component was recovered as a result of this research. The components were dated (Table 1) by a suite of 16 radiocarbon and 10 thermoluminescence dates assayed by Beta Analytic, Coral Gables, Florida, and by Dr. Ralph Rowlett, Department of Anthropology, University of Missouri-Columbia, respectively.

SNAG CREEK (15BK2)

The Snag Creek Site is located adjacent to the mouth of Snag Creek on the second terrace overlooking the current Ohio River floodplain. Information collected during Phase I indicated that an Indian raiding party may have camped in this locality in 1791, and local collectors reported the recovery of a copper/brass tinkling cone from the site (Henderson et al. 1986:122). Though artifacts are scattered over the entire length of the site, they appear to be concentrated on small rises on the terrace. Both Late Woodland and Fort Ancient occupations have been documented at the site, which was first reported in 1960 (Clay and Galloway 1960). Five 1 x 2 m units were excavated at the site and a 25 cm thick midden, pit features, and a single extended burial (Jobe 1987b) were identified. The Fort Ancient occupation documented at Snag Creek during these investigations dates to the 1400s.

AUGUSTA (15BK200)

The site of Augusta is located beneath the modern town of the same name on the Ohio River floodplain between Turtle and Bracken creeks. References consulted during Phase I investigations suggested that historic artifacts had been recovered from burials, and local collectors reported the recovery of copper artifacts from the site (Henderson et al. 1986:115-117). Although a number of professional investigations had been conducted at Augusta prior to our research (Granger and DiBlasi 1983; Hale 1981; Webb 1955; Woodbury 1955), no Euroamerican artifacts

Table 1. Radiocarbon and Thermoluminescence Determinations.

Beta Lab. No.	Component	Radiocarbon Age B.P.	Stuiver and Pearson Correction (1986) at Two Standard Deviations
Thompson			
11851	M?	110+/-60	A.D.1660 (1703, 1718, 1824, 1833, 1878, 1917, 1955) 1955
11852	G	490+/-50	A.D.1321 (1427) 1470
11853	G	400+/-70	A.D.1410 (1460) 1650
13367	C	810+/-60	A.D.1042 (1230) 1280
13368	C	920+/-100	A.D.900 (1047, 1091, 1118, 1143, 1153) 1270
Fox Farm			
11856	G	390+/-70	A.D.1410 (1468) 1650
11857	G	530+/-70	A.D.1280 (1409) 1470
13363	N	790+/-70	A.D.1043 (1252) 1290
13364	N	590+/-60	A.D.1280 (1322, 1340, 1392) 1430
Snag Creek			
11858	G	360+/-70	A.D.1420 (1486) 1660
11859	G	520+/-70	A.D.1290 (1414) 1480
13366	G?	890+/-80	A.D.990 (1163) 1270
18184	G	390+/-70	A.D.1410 (1468) 1650
Augusta			
11855	M	470+/-90	A.D.1290 (1434) 1640
13365	M	210+/-60	A.D.1519 (1663) 1955
18183	M	470+/-70	A.D.1305 (1434) 1630

Thermoluminescence Dates

Missouri Lab. No.	Component	Date
Thompson		
85-5-T113	G	A.D.1490+/-40
85-5-T47	C	A.D.850+/-60
85-5-T173	C	A.D.1090+/-80
85-5-T180	C	A.D.1200+/-40
Fox Farm		
85-5-FF76	N	A.D.1375+/-40
85-5-FF60	N	A.D.1035+/-40
85-5-FG20		Greater than 41,000 B.C.
Snag Creek		
85-5-SN13		B.C.800+/-135
85-5-SN13		B.C.550+/-170
Augusta		
85-5-AU25		B.C.1260+/-330

M=Montour Phase; G=Gist Phase; N=Manion Phase; C=Croghan Phase

were ever recovered in direct association with aboriginal material. Two of the three 1 x 2 m units excavated at the site during these investigations documented intact aboriginal deposits (Jobe 1987a). In one of these units, a 50 cm thick midden was encountered, containing two distinct cultural deposits separated by a nearly sterile zone. The other unit contained pit features, a posthole, and a burial. The Fort Ancient occupation documented as a result of these investigations at Augusta dates from the late 1400s to the 1600s.

FOX FARM (15MS1)

Fox Farm is located a little over 10 km south of the Ohio River on Lees Creek, a tributary of the North Fork of the Licking River. Fox Farm is perhaps the best known of the sites investigated during this project. However, good contextual information is lacking for the vast majority of cultural materials previously recovered from it.

The site was excavated first by Smith in 1895 (Smith 1910), and later by Webb and Funkhouser in the 1920s (Webb 1927). Materials recovered from Fox Farm also figured prominently in Griffin's (1943) Fort Ancient research. A copper tube and other copper artifacts were recovered from Fox Farm (Griffin 1943:166, Plate CXX) as a result of these professional investigations. Information learned from local collectors during Phase I indicated that copper artifacts had been found in burials at the site (Henderson et al. 1986:157-158).

Phase II investigations conducted at this large (ca. 16 ha) site were directed at recovering a sample of the general midden deposits. The four 1 x 2 m units that were excavated documented the presence of up to 80 cm of dense midden deposits and a few pit features (Turnbow 1987). An 8-12 cm thick ash layer encountered in one unit produced, in addition to ceramic and lithic artifacts, large quantities of well-preserved organic remains, especially beans and corn cobs. The Fort Ancient occupation documented in the area of Fox Farm investigated during this research began around A.D. 1200, and continued until about A.D. 1500. Other sections of Fox Farm were apparently occupied into the early 1600s, although this could not be determined conclusively from the data recovered as a result of this study.

LOWER SHAWNEETOWN SITE COMPLEX

The Laughlin Site (15Lw13) and the Thompson Site (15Gp27) are located in the same floodplain bottom, adjacent to the Ohio River and across from the former mouth of the Scioto River. Laughlin is situated on a long, low rise that runs parallel to the Ohio. Thompson, located upstream from Laughlin, is situated partially on the same rise. Both sites were first documented as a result of Phase I investigations (Henderson et al. 1986:131-137, 149-150).

According to the eighteenth century documents, a large Indian village of mixed tribal affiliation known as Lower Shawneetown was situated in this locale from 1750 to 1758 (Henderson et al. 1986:21-62). Artifacts recovered from Old Fort Earthworks (15Gp1) (Henderson et al. 1986:132-134) and from the Bentley Site (15Gp15) (Pollack and Henderson 1984) support these documents. Together with Laughlin and Thompson, the Old Fort Earthworks and Bentley represent the archaeological manifestation of this historic Indian village. Late Fort Ancient and Contact period artifacts had been recovered from the surface of both sites as a result of Phase I investigations.

Three 1 x 2 m units and one 1 x 1 m unit were excavated at Laughlin. These units documented the presence of a very diffuse 30 cm thick midden at the site (Henderson and Pollack 1987a). Due to a poor preservation environment, no materials were available for radiocarbon dating, but relative dating of the diagnostic artifacts recovered from the site indicated that Laughlin was occupied in the early 1700s.

Four units excavated initially as 2 x 2 m units at Thompson were completed as 1 x 2 m units due to time limitations. Stratified deposits about 45 cm thick were documented, as were several pit features and a hearth (Henderson and Pollack 1987b). One unit contained a 15 cm thick dense concentration of unburned mussel shells, well-preserved bone and floral materials, as well as other artifacts. As a result of Phase II investigations, occupation at Thompson was documented as having occurred first from around A.D. 1050 to 1200, and again ca. 1400 to 1500. Only limited evidence of an early 1700s occupation of the site was recovered as a result of these investigations.

CHRONOLOGICAL TRENDS IN THE CERAMIC AND LITHIC DATA

The major goal of the Phase II investigations was to recover artifacts and artifact assemblages that could be used to identify changes in material culture through time. In this section, attributes of the ceramic and chipped stone data sets determined to be temporally sensitive as a result of this study will be discussed.

CERAMIC TRENDS

The ceramic analysis sought to identify the most reliable temporal indicators (Turnbow and Henderson 1987). Attributes examined included temper, surface treatment, decoration, and rim and lip form. As a result of the analysis, some adjustments were made to the existing Fort Ancient ceramic typology: new types were proposed (Lees Plain, Todd Plain, and Kenton Fabric Impressed) and some of the previous types were abandoned (Fox Farm Bowl and Fox Farm Saltpan). Temporal changes identified as a result of this study can be discussed in two parts, with A.D. 1400 serving as the watershed. Figure 2 presents a generalized schematic representation of the ceramic developments documented in the study area.

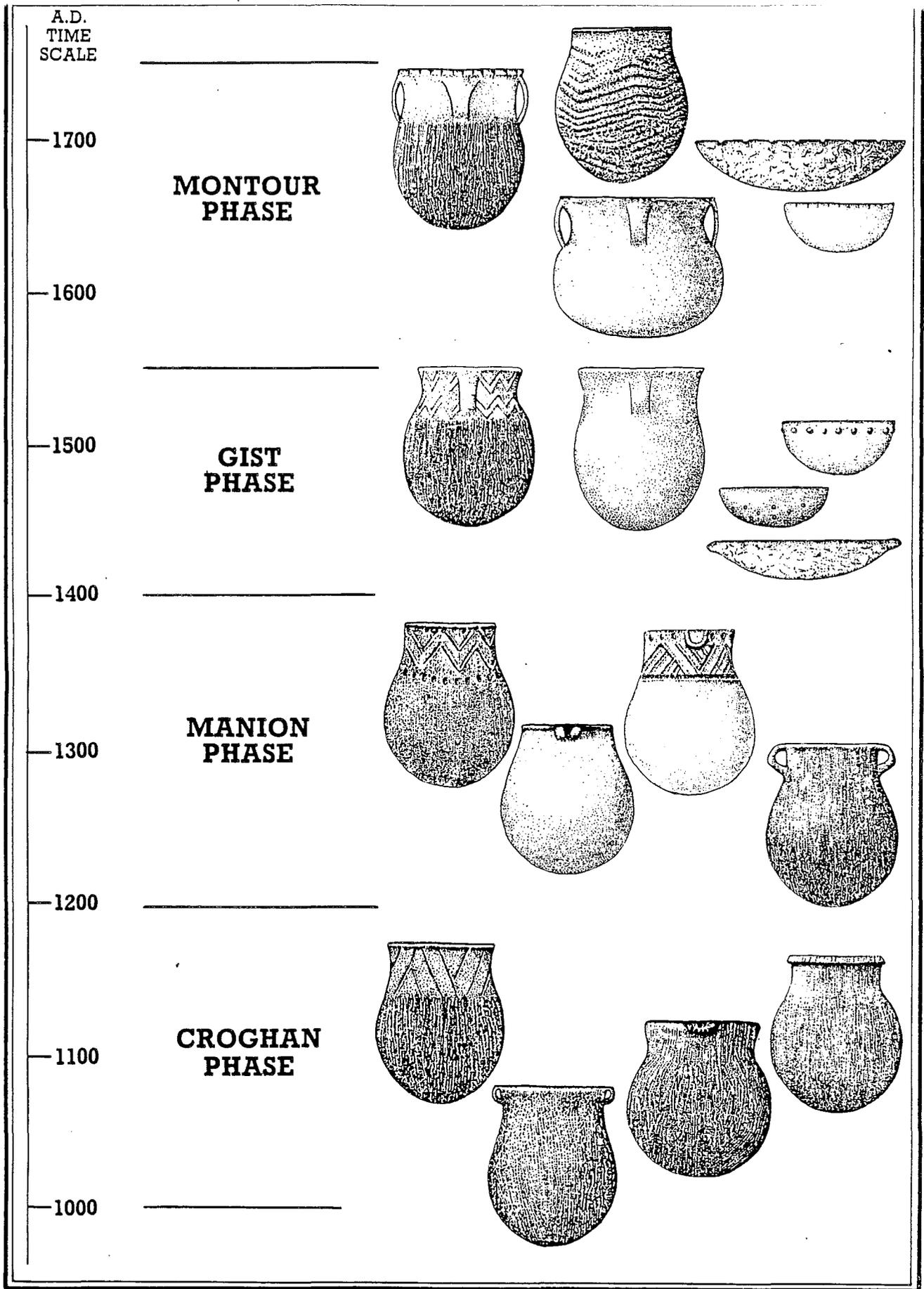


Figure 2. Fort Ancient ceramic stylistic and vessel form developments.

[See Turnbow and Henderson (1987) for more detailed descriptions of the ceramic assemblages recovered as a result of these investigations.]

Ceramic assemblages dating before A.D. 1400 reflect a developmental continuum from the preceding Late Woodland period, supporting the suggestion that in this study area, Fort Ancient culture developed out of a local Late Woodland cultural tradition. Baum Cordmarked Incised (Prufer and Shane 1970), which is associated with the early Fort Ancient (A.D. 1000-1200) components, and Fox Farm Cordmarked (Griffin 1943), which is associated with middle Fort Ancient (A.D. 1200-1400) components, characterize these ceramic assemblages.

As with the preceding Late Woodland period (cf. Ahler this volume; Henderson 1987; Henderson and Pollack 1985; Railey 1987; Riggs 1986), early and middle Fort Ancient ceramic vessels are almost exclusively jars. Jars with vertical or recurved rims and conoidal bases are the most common form, but flared rims are also present. Similar vessel forms have been identified at contemporary sites in central Kentucky (Fassler this volume; Sharp and Turnbow this volume) and in the Little Miami drainage in Ohio (Riggs 1986). Most exterior surfaces are cordmarked to the lip. Lips are generally flattened, with some Baum examples exhibiting cordmarking, another Late Woodland carry-over.

The use of crushed shell as temper, as well as the presence of appendages, rimstrips, and decoration, clearly mark these assemblages as Fort Ancient. Temper can be either crushed rock (either limestone or grit, depending on locally available resources and/or cultural preference), rock and varying amounts of shell, or shell alone. There is an increase in the use of shell tempering throughout this period of time. Loop or thick strap handles are associated with both early and middle Fort Ancient ceramic assemblages, as are semicircular lugs, though stylistic changes through time can be documented for these types of lugs. Double lugs, however, are only associated with middle Fort Ancient (Fox Farm Cordmarked) ceramics, while applied rimstrips occur as decoration only on early Fort Ancient Baum Cordmarked Incised rims. Incised designs, such as line-filled triangles and curvilinear incised lines, appear on Baum Cordmarked Incised and Fox Farm Cordmarked vessel necks, but are more complex and prevalent on the latter.

The character of the study area's ceramic inventory changes after about A.D. 1400 (Figure 2). Middle Fort Ancient ceramics are replaced by a number of new types that reflect changes in vessel form and surface treatment. These new types include Madisonville Cordmarked, Madisonville Plain, Madisonville Grooved Paddle, Todd Plain, and Kenton Fabric Impressed.

The most dramatic ceramic difference between pre- and post-A.D. 1400 ceramic assemblages relates to vessel form. Jar forms of the pre-1400s continue, but a new jar form, the Fort Ancient globular jar is added to the ceramic inventory, as are shallow pans. Simple hemispherical bowls dramatically increase in frequency after A.D. 1400.

Temper at all sites, regardless of location, is exclusively shell, and lip shape becomes mainly rounded. Appendages include thin parallel-

sided or convergent-sided (triangular) strap handles and horizontal lugs. Decoration, in the form of incised rectilinear or curvilinear lines on jars, and beaded bowls occur most commonly in components dating before A.D. 1550. Decoration on lips is primarily restricted to post-1550 components and consists of notching. Simple stamped (grooved paddle) exterior surfaces are also restricted to post-1550 components.

CHIPPED STONE TRENDS

The search for key differences and temporal markers in the chipped stone tool inventory focused on the chipped stone tool with the most potential to reflect temporal differences: the triangular projectile point. Key attributes of triangular projectile point morphology that could be shown to be most sensitive to change through time included length, basal convexity/concavity, and the presence or absence of serration. Overall diversity of chipped stone tool inventories also proved to be temporally sensitive (see Railey 1987b). Differences in chipped stone artifacts could be correlated with the temporal developments identified in the ceramic data. Figure 3 presents the stylistic developments in triangular projectile points documented in the study area. [See Railey (1987b) for more detailed descriptions of the lithic assemblages recovered as the result of these investigations.]

Three of the seven triangular projectile point types were clearly temporally and/or regionally sensitive for the study area. Flared Base Triangular Points (Type 2) were found to be stylistically distinctive and temporally diagnostic for the time period A.D. 1000-1200. Coarsely Serrated Triangular Points (Bell 1960:40) (Type 3) were found to be tightly restricted, both temporally and spatially. These points are very diagnostic for the period A.D. 1200-1400 and their distribution appears to be restricted to the middle Ohio Valley. Concave Base Triangular Points (Type 6) are clearly diagnostic of post-A.D. 1400 components, and persist in their manufacture into and are most diagnostic of the Contact period (i.e., post A.D. 1550).

Two other point styles may be diagnostic, but this will require more research. Straight Sided Triangular Points (Type 5) are not as temporally diagnostic as the other types, because they occur throughout most of the investigated deposits. This point type appears to be more common after A.D. 1400 than before that date, however, and appears to have achieved its height of popularity around A.D. 1400-1500. Short Excurvate Sided Triangular Points (Type 4) may represent resharpened Straight Sided or Concave Base points, though more evaluation of this possibility is necessary. A post-A.D. 1400 temporal association, with the period of greatest popularity extending from A.D. 1400-A.D. 1500, can be suggested for the Short Excurvate Sided points. The seventh triangular projectile point type, Small Tri-incurvate Triangular Points (Type 1), was determined to be non-diagnostic for the study area due to its low frequency of occurrence and temporally variable distribution (Railey 1987b).

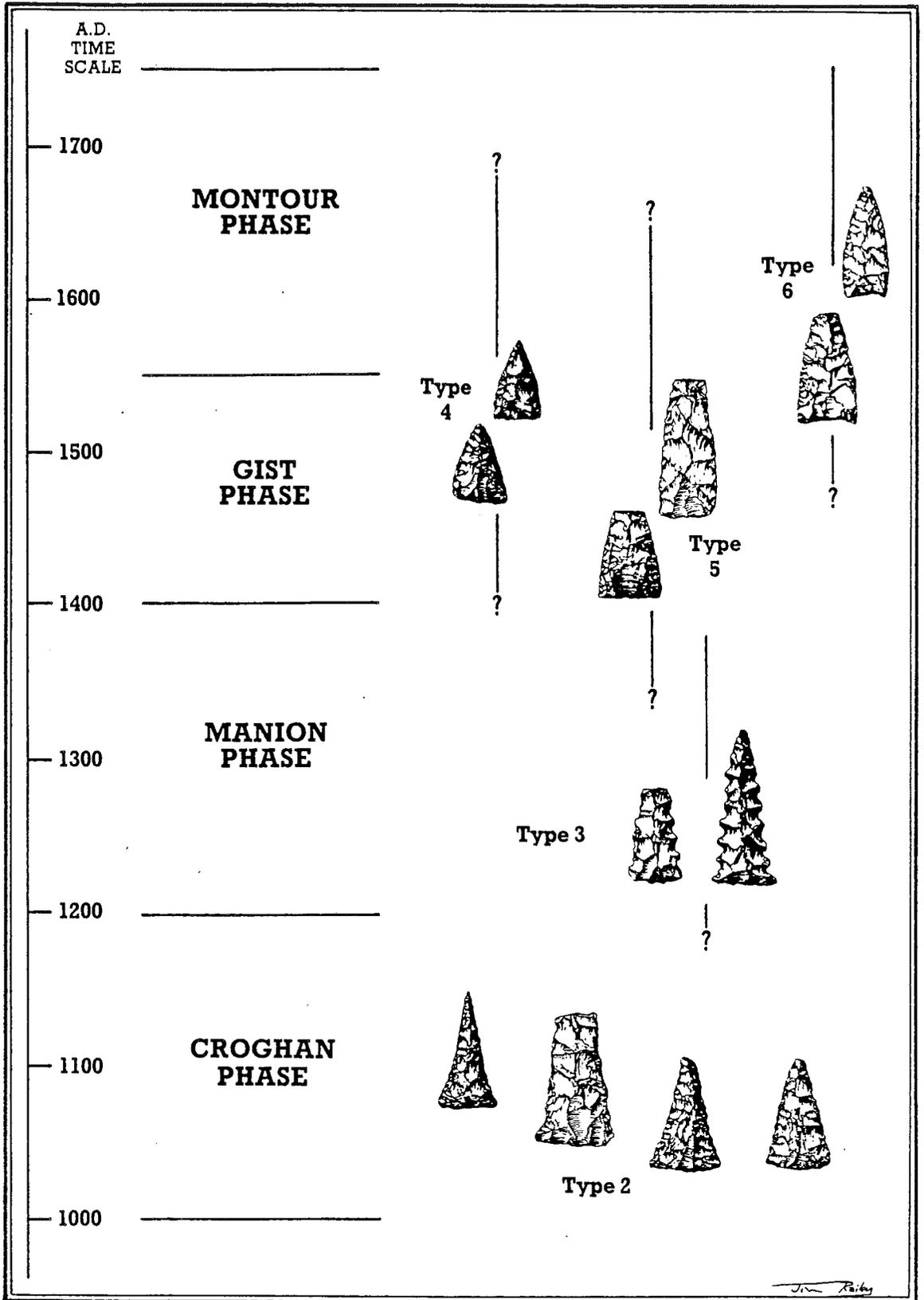


Figure 3. Stylistic developments in triangular projectile point morphology.

Endscrapers were another class of chipped stone tool that was found to be temporally sensitive. Both unifacially- and bifacially-flaked ("tear-drop shaped") endscrapers were recovered mainly from post A.D. 1400 deposits. Bifacially-flaked endscrapers were clearly associated with the latest, (i.e., post A.D. 1550) Contact period components. General trends in Fort Ancient chipped stone tool assemblages through time reflect an expanded inventory recovered from components dating after A.D. 1400.

SUBSISTENCE PATTERNS

The second goal of this project was to collect a sample of floral and faunal remains that could be used to investigate Fort Ancient subsistence patterns. The results of the floral and faunal analyses document the kinds of resources available and utilized at the site localities. However, due to the manner in which these data were analyzed, and given the small samples that would have resulted if these data had been further subdivided and analyzed by component, no attempt was made to identify temporal developments in subsistence strategies within the study area.

FLORAL DATA

Though some variability in plant utilization could be documented between the investigated sites, in general they all exhibited similar botanical inventories. Overall, the data document a high diversity in plant-use by these Fort Ancient peoples (Rossen 1987a). Thompson and Fox Farm contained the most diverse floral assemblages, due in part to the fact that remains from these sites were the most well-preserved and because more cubic meters of deposits were excavated at these two sites. [See Rossen (1987a) for more detailed descriptions of the floral remains recovered as a result of these investigations].

Three distinct plant-oriented dietary components could be identified: nut collecting, wild plant collecting, and plant cultivation. Nut remains were not very abundant at these sites and nut collecting appears to have been only a minor subsistence activity. Most of the recovered nut remains were identified as hickory, with other nut species (black walnut, butternut, hazelnut, and acorn) comprising only a minor percentage. The relative scarcity of nut remains at these Fort Ancient sites contrasts dramatically with the heavy utilization of nut resources documented from Ohio Valley Late Woodland and western Kentucky Mississippian contexts (Rossen and Edging this volume).

Wild plants such as pawpaw, grape, bedstraw, smartweed, pokeberry, and morning glory appear to represent an important secondary Fort Ancient food resource. These plants would have been collected from a variety of environmental contexts (woodland, wetland, and disturbed land habitats).

Cultivated plants appear to have been a major food source. The cultivated plant inventory suggests a heavy reliance on corn, as evidenced by its ubiquitous recovery from all of the investigated sites. That this reliance on corn was established early in the Late Prehistoric (or late in the Late Woodland) is documented by the fact that corn was recovered in substantial quantities from the earliest deposits documented as a result of this research. Its use continues on throughout the Late Prehistoric period. Carbon isotope studies also suggest a heavy reliance on corn by Fort Ancient peoples (Broida 1983; see also Rossen and Edging this volume). The remains of other cultivated plant species, such as beans, squash, and tobacco, were also recovered.

Chenopodium is the only member of the starchy-oily seed complex of Eastern North America that was documented during these investigations. It was recovered from Fox Farm and has only been recovered from one other Fort Ancient site in the Ohio Valley (Wagner 1983; Rossen and Edging this volume). For some as-yet-unknown reason, the Fort Ancient inhabitants of the study area apparently abandoned the use of native North American cultigens almost wholesale.

The archaeobotanical data recovered as a result of these investigations present an image of relatively diverse plant exploitation and a multiple-plant oriented subsistence strategy for the Fort Ancient people in the study area. The use of nuts and native cultigens decreased relative to the previous Woodland and contemporary Mississippian populations, given the paucity of nut remains and the near absence of native cultigens such as chenopodium and maygrass from these sites. Reliance on corn and beans increased, and the use of wild plant resources continued. These data indicate that the Fort Ancient people in the study area made conscious decisions concerning which plants to exploit, and did not simply shift from the use of wild plants to domesticated plants relative to the preceding periods (Rossen 1987a; Rossen and Edging this volume). Rather, they intensified the exploitation of some wild and domesticated species and rejected certain others.

FAUNAL DATA

The faunal assemblage recovered as a result of these investigations is typical for the eastern deciduous forest and northern biome (Breitburg 1987b). Only four out of the five sites provided good faunal data (Thompson, Fox Farm, Augusta, and Snag Creek), however, since bone preservation at Laughlin was very poor. The Thompson and Fox Farm site assemblages exhibited the largest percentage of identifiable remains. [See Breitburg (1987b) for more detailed descriptions of the faunal assemblages recovered as a result of these investigations.]

Based on the skeletal and taxonomic composition of the faunal materials, the assemblage reflects an animal procurement system geared to the exploitation of large terrestrial species (deer, elk, and bear) and the wild turkey. Other mammal species were also exploited,

including carnivores and rodents, although not with the same intensity. Little use of aquatic and semi-aquatic avifauna could be documented. A limited inventory of fish and amphibian/reptilian fauna was also present. A variety of freshwater mussels were included within selected site assemblages (Call 1987), although these constituted only a very small percentage of the faunal assemblage.

The existing model of Fort Ancient animal exploitation, which predicts unusually high reliance on deer, may apply to other Fort Ancient sites, but it apparently does not apply to the Kentucky Fort Ancient sites examined as part of this study. This led Breitburg (1987b) to propose an alternative model to explain the observed pattern of Fort Ancient animal use and exploitation in the study area. The data collected as a result of these investigations document almost equal exploitation of deer (28.9%), elk (30.4%), and bear (30.7%), with turkey (3.4%) and other species (mainly small mammals) accounting for the remaining 6.6%. This regional pattern of exploitation differs quantitatively and qualitatively from that seen at most other Fort Ancient sites (cf. Breitburg 1987b) and from Mississippian sites (Smith 1975), and was clearly an adaptation to the uplands of the Outer Bluegrass region. Acquisition of critical resources was conducted throughout the year and was geared to natural movements of ungulates within a complex ecosystem that included floodplain, rugged forested slope, and upland semi-forested areas containing essential mineral deposits (licks) and seasonably available food sources. Seasonal flushes in fish, bird, and other available animals in floodplain habitats were minor and served as supplemental food sources.

CHRONOLOGY

With the preceding overview of the Fort Ancient ceramic and lithic trends identified, and features of the regional subsistence patterns summarized, what remains to be discussed is the four phase chronological sequence that has been proposed for northeastern Kentucky as the result of these investigations. Changes reflected in the ceramic data and the relationship of these changes to the suite of chronometric dates for each site formed the foundation for the development of this chronological sequence. Ceramic data were used primarily in developing this framework in keeping with the methods by which Fort Ancient phases and regional sequences have been traditionally created, i.e., focused mainly on delimiting differences in regional ceramic sequences (Cowan 1987; Graybill 1981; Griffin 1943; Prufer and Shane 1970; Riggs 1986). Developments in the chipped stone tool assemblage interfaced with the identified ceramic differences.

At this point, these phases should not be considered to represent "cultural" phases, since information regarding settlement patterns, site size, characteristic features and their configurations, house style and size, burial attributes, and the like are lacking or are meager at best. Instead, they should more correctly be referred to as temporal units that characterize the ceramic trends. These trends, however, are considered to be directly related to and indicative of the more

archaeologically difficult-to-identify socio-cultural, economic, or religious changes that occur through time in all cultures. The authors are confident that as more work is undertaken in this region, other aspects of the cultural systems will be identified and the proposed phases will come to be viewed as "cultural" phases. Similarly, it is fully expected that as more data are collected on the Fort Ancient occupation of this region, the temporal and spatial boundaries of these phases will be modified.

CROGHAN PHASE

This is the earliest phase defined for the study area, dating from A.D. 1000 to A.D. 1200. The lower component at the Thompson Site served as the source of data for this phase. Characteristic artifacts include Baum ceramics and Flared Base (Type 2) Triangular Projectile Points.

The Baum ceramics recovered from the Thompson Site are very similar to the Baum ceramics recovered from the nearby Feurt Site (Mills 1917; Griffin 1943:76-78, Plates XX-XXIII) situated on the Scioto River only about 8 km north of Thompson, and may be similar as well to the ceramic assemblage recovered from the recently investigated Scioto County Home Site, which is located across the Ohio River from Thompson (Bowen 1986). The Thompson Site Baum ceramics also resemble the Baum ceramics recovered from Blain (Prufer and Shane 1970) and Kramer (Ullman 1985) (Turnbow and Henderson 1987). Flared Base (Type 2) Triangular Projectile Points are also the most common point type at Blain (Prufer and Shane 1970:79-81).

Although the ceramic and lithic attributes of the artifact assemblage recovered from the lower deposits at Thompson compare favorably with those recovered from the more northerly Baum phase sites in Ohio (Turnbow and Henderson 1987), Thompson is located 65 km south of the Baum phase heartland of Ross County, Ohio (Church 1987). Therefore, it was felt that the concept and integrity of the Baum phase would have been unnecessarily diluted if it was applied to the Thompson materials. This situation coupled with the distinct similarities that exist between the Thompson Site's Baum ceramic assemblage and that of the Feurt Site and the geographic proximity of these sites to one another, led the authors to assign a new phase name, Croghan, to the early Fort Ancient component investigated at Thompson. The Croghan phase thus should be viewed as a southern Ohio/northern Kentucky manifestation of the Scioto River valley's early Fort Ancient Baum phase (Prufer and Shane 1970). It is anticipated that the Croghan phase will remain confined to the lower Scioto River valley/Scioto River-Ohio River confluence area. If this turns out to be the case, another early phase may have to be developed for Fort Ancient components dating between A.D. 1000-1200 found in Bracken and Mason counties, Kentucky, in order to distinguish them from the Croghan phase occupations further upstream on the Ohio River.

MANION PHASE

This phase dates from A.D. 1200-1400. The materials recovered from the lowest deposits of the Fox Farm midden represent the assemblage from which this phase was defined. Characteristic artifacts include Fox Farm Cordmarked, Lees Plain, Fox Farm Net Impressed, and Serrated (Type 3) Triangular Projectile Points.

Subtle changes have been documented in Manion phase ceramics (i.e., temper, decoration, vessel wall thickness, and handle styles) through time. Early Manion phase ceramics exhibit a close similarity to Baum Cordmarked Incised, while later Manion phase ceramics are more similar to Feurt Incised ceramics. Serrated triangular points were recovered from the Manion phase deposits at Fox Farm and from the Feurt Site. These factors indicate that the later Manion phase occupation at Fox Farm is probably contemporary with the Feurt phase component identified at the Feurt Site. This period of occupation at Feurt was apparently more intensive than the Croghan phase occupation at that site, judging from Mills (1917), Griffin (1943), and our inspections of ceramic collections from the Feurt Site housed at the Ohio Historical Center and the University of Kentucky, Museum of Anthropology. This similarity in both ceramics and lithics may also suggest that there was some degree of interaction between the Manion phase occupants of Fox Farm and the Feurt phase occupants of the Feurt Site.

The Manion phase is contemporary with other middle Fort Ancient manifestations such as an as-yet-unassigned phase of occupation documented at the Guilfoil Site in Fayette County (Fassler this volume) and the Florence Site in Harrison County (William E. Sharp, personal communication 1987). Materials recovered from Wamsley (Brose 1982) in Ohio and Fullerton Field in Kentucky (Griffin 1943) also share ceramic and lithic similarities to the Manion phase assemblage documented at Fox Farm and may be contemporary with it.

MADISONVILLE HORIZON

A number of archaeologists actively conducting Fort Ancient research in the middle Ohio Valley were invited to Adams County, Ohio in mid-August 1986 to attend an informal roundtable discussion of various Fort Ancient research issues. One of the main issues discussed was the question of chronology and the "Madisonville phenomenon". All of the participants recognized that at around A.D. 1400, changes in ceramics, as well as other aspects of Fort Ancient culture, could be noted throughout the middle Ohio Valley, and they concluded that these changes signalled an end to the regional cultural expressions (i.e., Anderson, Baum, Feurt, and Manion phases) documented in the area prior to 1400. Though these changes brought an end to pre-1400 regional cultural expressions, they do not represent a migration of people into the area, and neither should they be taken to mean that regional differences did not exist between post-1400 sites. However, it was felt that the use of the term "Madisonville phase" to refer to all late Fort Ancient cultural manifestations throughout the Middle Ohio Valley tended to obscure

potentially different regional cultural expressions and assemblages that might otherwise be identified. Thus at this meeting, a consensus decision resulted in the replacement of the term "Madisonville phase" (Griffin 1943; Prufer and Shane 1970:242) with the term "Madisonville horizon". Changes in the artifact assemblages documented as a result of our investigations in northeastern Kentucky occur around A.D. 1400 and reflect the pattern noted by the Adams County Conference participants.

The Madisonville horizon in our study area can be divided into two phases, one early and one late, on the basis of relatively subtle differences expressed within the ceramic and lithic assemblages. The magnitude of difference between these two phases does not resemble the degree of difference that exists between the Gist phase and the Manion phase artifact assemblages, however. The differences documented in the artifacts and artifact assemblages between the two Madisonville horizon phases in our study area is one of degree rather than kind.

GIST PHASE

This earliest phase of the Madisonville horizon dates from A.D. 1400 to A.D. 1550, and is expressed at the Snag Creek Site and in the upper deposits at Fox Farm. Although the radiocarbon dates suggest that a Gist phase occupation also occurred at Thompson, the generally poor condition of the Madisonville ceramics recovered from this site makes this phase assignment tenuous. Characteristic artifacts include Madisonville Cordmarked, Madisonville Plain, Todd Plain, var. Fox Farm, Fox Farm Colander, and Kenton Fabric Impressed. Straight Sided (Type 5) or Short Excurvate (Type 4) Triangular Projectile Points occur with more frequency than the Concave Base (Type 6) Triangular Projectile Point type. A greater diversity of ceramic vessel forms, including the appearance of the globular jar, simple hemispherical bowls, and pans, and a greater diversity in the chipped stone inventory accompanies the actual differences in the kinds of artifacts recovered in comparison to the preceding phases. Other sites in the region that may also contain Gist phase deposits include the Turtle Creek Site and Fullerton Field (Turnbow and Henderson 1986:2).

MONTOUR PHASE

This phase encompasses the entirety of the Contact period, the span of time that was the initial focus of this project. The Montour phase extends from A.D. 1550 to 1750 and represents the period of time during which intensive culture change, population reduction, acculturation/assimilation, and the final destruction and removal of the study area's native inhabitants occurred. Although Montour phase occupations were conclusively documented only at Augusta and Laughlin, each of the sites selected for testing were expected to exhibit materials that dated to this period of time, based on the information recovered from the Phase I investigations. It is probable that such a component is present at Thompson, given the late radiocarbon date (Table

1) and the presence of diagnostic artifacts such as bifacially-flaked (tear-drop shaped) endscrapers, but only limited evidence for such an occupation was recovered. The reports of Contact period materials from most of these sites primarily consisted of Euroamerican metal ornaments recovered from burials (Henderson et al. 1986). Since only one burial was completely excavated during the course of this study [from Snag Creek (cf. Fouts 1987)], it is entirely likely that the data which were collected were biased against the recovery of such artifacts.

During this phase, Madisonville ceramics continue in use, but subtle stylistic and morphological differences can be identified that serve to differentiate between Montour and Gist phase ceramics, such as a dramatic increase in lip notching on bowls and different rim shapes on pans. Two new ceramic types, Madisonville Grooved Paddle and Todd Plain, var. Augusta, appear during this phase. Concave Base (Type 6) Triangular Projectile Points become the dominant form, and Straight Sided (Type 5) and Short Excurvate (Type 4) Triangular Projectile Points diminish in frequency. Bifacially-flaked, "tear-drop shaped" endscrapers become common.

Trends identified as a result of this research, when considered along with the results of a previous study (Pollack and Henderson 1983), clearly indicate that the material culture trajectory that began in the Gist phase in the 1400s continued into the 1750s. The Madisonville ceramic assemblages recovered from the protohistoric Hardin Village Site (Hanson 1963, 1966) and the Historic Indian Bentley Site (Pollack and Henderson 1984) exhibit the same characteristics as the Montour phase Madisonville ceramic materials recovered from Augusta and Laughlin. One difference, that of the lack of pans at Bentley, suggests that by the eighteenth century, Euroamerican containers may have replaced pans (Pollack and Henderson 1983:20). The morphology of the triangular projectile points recovered from Bentley (Pollack and Henderson 1984) and the abundance of bifacially-flaked "tear-drop shaped" endscrapers in the Bentley Site lithic assemblage reflect the characteristics of a Montour phase lithic assemblage. These data indicate that the Montour phase material culture assemblage of the Protohistoric period, a time of indirect contact with Europeans (i.e., disease), was utilized into the Historic Indian period as well, a time during which the direct arrival of European culture, in the form of large quantities of trade goods, traders and explorers, and eventually settlers, led to the gradual replacement of native material culture.

Late Fort Ancient ceramic assemblages that resemble those recovered from the sites investigated during this study have been recovered from contemporary sites in central Kentucky, including Larkin (see Pollack et al. this volume) and Goolman (Turnbow and Jobe 1985). There are sufficient ceramic differences between central and northeastern Kentucky sites, however, to justify assigning the components to different phases.

CONCLUSION

Limited excavations conducted at five Late Prehistoric sites in northeastern Kentucky (Snag Creek, Augusta, Fox Farm, Laughlin, and Thompson) documented Fort Ancient deposits dating from A.D. 1000 to 1750. Analysis of the recovered materials resulted in the identification of temporally sensitive ceramic and chipped stone trends that could be used to develop a four phase chronological sequence: Croghan (A.D. 1000-1200), Manion (A.D. 1200-1400), Gist (A.D. 1400-1550), and Montour (A.D. 1550-1750).

Prior to the development of this chronological sequence, Kentucky Fort Ancient researchers lacked a regional temporal framework within which to place site occupations, and were forced to rely on cultural historical sequences developed for other areas. It is clear from this research that those sequences were not directly applicable, due to the unique characteristics of the Kentucky data. As a result of this study and the work of others in the central Bluegrass (Fassler this volume; Pollack et al. this volume; Sharp 1984; Sharp and Turnbow this volume; Turnbow and Jobe 1984; Turnbow and Sharp 1987), archaeologists are developing a better understanding of Fort Ancient chronology in Kentucky and can now begin the process of developing and testing models that explain and interpret Fort Ancient culture as it is expressed in Kentucky. The subsistence patterns identified as a result of this study and the four phase chronology proposed for this region make a very significant contribution to Kentucky Fort Ancient research and to Fort Ancient research in general, enabling site occupations to be temporally ordered, thereby providing a foundation for future studies directed at answering more substantive research questions.

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