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Michael P. Hoffman
University of Arkansas, Fayetteville

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CONTROLLED SURFACE COLLECTION AT THE SPINACH PATCH SITE, FRANKLIN COUNTY, ARKANSAS

Michael P. Hoffman

Department of Anthropology, University of Arkansas, Fayetteville

PROBLEM

This paper discusses the technique of controlled surface collection as an interpretative aid at the Spinach Patch site, 3FR1, a prehistoric village site in Ozark Reservoir. The research involved was made possible through a cooperative agreement with the National Park Service, Southeast Region.

THEORY OF CONTROLLED SURFACE COLLECTION

The collection of objects from the surface of archaeological sites is a common, often preliminary, technique of archaeological investigation. Generally somewhat selective surface collection is done over an entire site area and the materials collected bagged and analyzed as a unit. This probably is an adequate technique for initially locating areas of past human habitation and judging the possible periods of occupancy, but it is lacking when attempts are made to make more complex temporal or social interpretations from the data. Gross whole site surface collections simply do not supply the information concerning intra-site debris variability which is necessary to judge continuity or discontinuity of occupation, site or component boundaries, micro-stylistic areas and functional activity areas. These faults of gross surface collections are nowhere illustrated better than in the Phillips, Ford, and Griffin work (1951) *Archaeological Survey in the Lower Mississippi Alluvial Valley, 1940-1947*, in which repeated gross surface collections were not adequate to evaluate the relationships of Baytown and Mississippian cultures when both clay- and shell-tempered sherds were present on a site. Any technique which increases the control of site surface collection potentially can be a more sensitive tool for archaeological interpretation.

Controlled surface collection is such a tool. Simply stated it is merely collecting everything on the surface from small intra-site spatial units of known location and comparatively analyzing and interpreting the material from them. The randomness (collecting everything) and small provenience units give the fine control.

In recent years the most extensive and effective use of the technique of controlled surface collection has occurred in Illinois and was initially stimulated by Lewis Binford, then of the University of Chicago (Binford et al. 1966). This technique,

as utilized in Illinois was directed to the problems of site boundary definition and determination of internal site structure. In the Carlyle Reservoir on the Kaskaskia River in southern Illinois, on several occasions, sites were plowed and allowed to be rained on before surface collecting. Then a grid system of 6-meter squares was established and everything within each of them was picked up and bagged as material from separate provenience units. The material recovered was categorized into groupings which were postulated to have functional or stylistic significance and the frequency in relation to location of the categorized items was compared. In several cases interpretations based on these data allowed fine component or activity separations within sites before excavation was begun.

THE SPINACH PATCH SITE

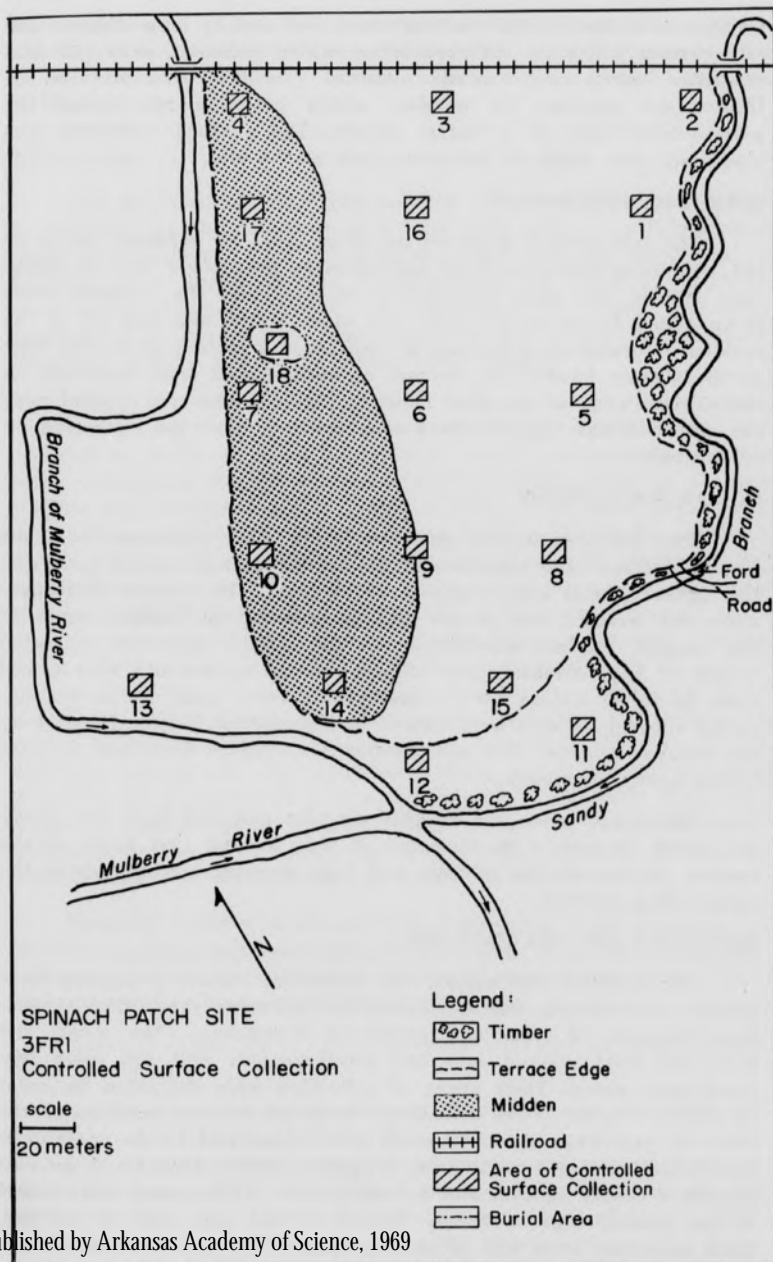
GENERAL DESCRIPTION

During the course of salvage archaeology in the Ozark Reservoir on the Arkansas River it was decided that controlled surface collection could potentially yield valuable information. The initial survey of the reservoir (Hoffman 1965) had as its basic aim the location of sites within or near the reservoir area, and only gross collection was attempted. This initial survey recommended thirteen sites for further investigation (Hoffman 1965: 35). Investigation was to be of three sorts—low level aerial photography of cultivated sites (see Printup, this volume) to determine site boundaries and features, controlled surface collections within sites and excavation based on the aerial photography, and excavation. The remainder of this paper deals with the controlled surface collection on one of these thirteen sites in Ozark Reservoir, the Spinach Patch site.

The Spinach Patch site is in the Mulberry River bottomland section of the Ozark Reservoir region. The whole bottomland is ideal for surface collecting because during the fall, winter, and spring months the soil there is kept perpetually raw by frequent plowing and disking. The lower terraces of the bottomland are almost all cultivated and site survey there can be relatively complete.

The Spinach Patch site, itself, (Figure 1) is in several ways an ideal location in which to use the technique of controlled surface collection. One reason is that natural features delimit the potential area of habitation on three sides, and the problem of delimiting site boundaries is not as difficult as in many locations. Another feature of this site is that nearly all previous collections indicate that only a single archaeological component, the Gober Complex, is represented. The latter fact acts as a control over the temporal element so that changes in the site over time are probably not responsible for internal variation. Still another ideal quality about the Spinach

Surface Collection at the Spinach Patch Site



Patch site is that visual (both ground and aerial) inspection of the site reveals soil color differentiation which indicates areas of concentrated debris and organic material (midden) and an area of lighter soil enclosed by midden, which probably represented the plowed-down base of a burial mound. The surface collection was also made soon after an extensive rain at the site.

SITE PHYSIOGRAPHY

The site area is bounded on three sides by streams, while on the remaining side a railroad embankment presents a modern intrusion. Within this area enclosed by streams and the railroad there is an added factor of elevation, for most of the site and all of the midden is located on a terrace of land about 2 meters above the level of the stream banks. The terrace is highest and most apparent on the western edge of the site. There is also a slight rise of land near the center of the terrace which may indicate a mound destroyed by cultivation.

COLOR VARIATION

Two features of soil color variation were apparent from the ground surface—the boundary of the darkly stained midden area, and the lighter burial area enclosed by midden. The midden is located along the western side of the site, paralleling the western crest of the terrace. Surface observation of the midden gave an estimated length of approximately 300 meters for its north-south extent and from 50 to 80 meters for its east-west extent. Later aerial photography showed its east-west extent was somewhat underestimated by the surface survey. The soil outside the midden area had a light brown sandy consistency.

The burial area was roughly circular and had light tan sandy soil about 25 meters in diameter. It was located just north of the central portion of the midden and was elevated slightly above the surrounding midden.

METHODS OF COLLECTION

The methods for making the controlled surface collection were simple, considerably less elaborate, for instance, than Illinois practices, because of time and personnel limitations. The whole site area was first walked over and physiographic and soil color features were noted. Then areas of collection were delimited in order to obtain representative collections from the various sections of the site. Six east-west bands or zones were visualized in the entire site and collections were made from 3 squares within each band, an east square, a center square, and a west square. These zones were keyed to the meanderings of Sandy Branch on the east side of the site. Each collection area was 10 meters square. The procedure in collect-

Surface Collection at the Spinach Patch Site

ing was to pick up everything portable within the 10-meter square, although this did not prove entirely practical in the squares located in the midden which were littered with fire-cracked rock (squares 4, 17, 7, 10, 9, and 14).

ANALYSIS

One problem that occurred was the determination of categories of analysis. As the problems of a long time span or multiple components presumably were not present at the site, the categories of analysis were aimed at the interpretation of intra-site activity areas, such as burial, domestic, or farming activity areas. The categories used in this analysis were mainly those defined in the Ozark Reservoir Survey report (Hoffman 1965: 19-21).

What is locally called argillite refers to a dark gray stone with conchoidal fracture native to the Boston Mountains to the north of the Mulberry River bottomland. There is considerable controversy concerning the correct identification of the stone by archaeologists and geologists which does not concern us here. What does seem to be important about the stone as a raw material for artifacts is that it was not commonly used to make projectile points, drills, or other finely worked chipped stone tools which were normally made of chert; instead it was used mainly for more coarsely worked tools such as choppers, thicker knives, and, most characteristically, spades, many of which show bit polish. A great use of argillite is characteristic of the Gober Complex, of which the Spinach Patch site is a component, in the Ozark Reservoir region. Also the distribution of spades in the Ozark Reservoir suggests that they were associated with agricultural activities (Hoffman 1965: 74). Thus the presence of spades on a portion of a site, along with a relatively high frequency of argillite flakes (spade chips) would suggest agricultural activities. On the other hand, few spades and a relative paucity of argillite flakes would indicate non-agricultural activities.

Domestic activity in the site was considered to be indicated by fire-cracked rock, chert debitage, daub, potsherds, animal bone fragments, handstones, hammerstones, knives, choppers, and various raw materials used in the manufacturing of objects.

Material indicative of burial activity consisted of fragmentary human bones.

Gross counts of material collected work quite well to delimit the midden area of the site. If all the fire-cracked rock which litters the surface of the midden had been collected the contrast with other parts of the site would have been more dramatic. All the squares in the midden (4, 7, 9, 10, 14, and 17) had total numbers of items which

Square	Argillite Chips	Chert Chips	Chert Knives	Argillite Choppers	Chert Choppers	Argillite Spades	Gary Proj. Points (Chert)	Proj. Point Fragments (Chert)	Straight Stem Proj. Points (Chert)	Corner-Notch Arrow Point (Chert)	Chert Drill	Hammerstones Sandstone	Handstones Sandstone	Nutting Stones	Fire-cracked Sandstone	Animal Bone	Daub	Clay-tempered Pottery	Raw Argillite	Raw Pebble Chert	Quartz Pebbles	Quartz Crystal	Human Bone	Totals
1	23	8	1	1	3					0	1		2		3				2					49
2	1					1								1							1			4
3	18	6							1				4	3										32
4	14	21			3	1							2	2				3						46
5													1											1
6		5	1			1							1	1	4									13
7	22	81			2	1		1							5	2		3	2			1		120
8																								0
9	4	15	1	1				2							3	6	1	11						44
10	19	33	2		1	1	1	2					1	3	2				2	2	2			71
11																								0
12	2						1						1	1						2				7
13																		1			2			3
14	11	30										1	2	4			1							49
15																								0
16		1						1							1									3
17	9	22			2	3			1			1	2		4	1								45
18																		1					14	15
Totals	128	222	5	2	8	8	5	6	2	0	1	2	15	2	34	11	1	16	8	6	5	1	14	502

Table IV Spinach Patch Site, 3FR1.
Surface Collection Counts by Item and Area

Surface Collection at the Spinach Patch Site

squares, both of which had a high number of argillite chips. In all of the midden squares chert chips outnumber argillite chips while the opposite is true of squares with adequate samples and outside the midden. All the animal bone and potsherds occur within the midden squares. Fire-cracked rock occurred in profusion in all squares in the midden area.

The samples of other items which would represent domestic activities also occur mainly in the midden areas but the sample sizes are not large. Most of the chert knives come from these squares and all the chert choppers; most of the chert raw material and all of the argillite raw material do also. Handstones show an interesting distribution; the majority occur in squares outside the midden, a fact that suggests that some of the activities in which they were used were conducted outside of the immediate house area. Most of the projectile points come from the midden area, as does the sole piece of daub.

The burial area is easily discerned from the surface material by the presence of human bone fragments and a general lack of other debris.

Squares 1 and 3 at the north end of the site, though outside of the midden area, still were responsible for high totals of items collected. These totals, however, represent only a limited number of categories. The number of argillite chips predominates over chert chips by a 3 to 1 or higher ratio. In Square 1, 3 argillite spades were found and an argillite chopper (although none were found in Square 3). These facts suggest that the north central and northeastern portions of the site were used for a garden area. This argument is buttressed by negative facts — the absence of potsherds, bone, or many worked chert artifacts, all of which were present in the midden habitation area. The presence of handstones in this area may indicate, as has been stated, that some sort of plant processing occurred in the garden area.

COMPARISONS

A review of the surface collection made during the 1965 survey in nearby sites in the Mulberry River bottoms suggests that the nearby Mulberry Village and the Across from the Spinach Patch sites could be similar garden areas. On the Mulberry Village site (3FR22) 15 argillite and 8 chert chips were collected. The number of argillite spades was 2 and there were 2 sandstone hammerstones, both points of similarity with squares 1 and 3 of the Spinach Patch collection. No midden, no pottery, and no bone were present. The site character was described as, "extremely scattered cultural material over an area several hundred yards square" (Hoffman 1965: 40). The Across from the Spinach Patch site (3FR2) is similar that there is a relatively large

number of argillite spades and other argillite tools, no midden, no bone, and no pottery, but unlike it in that chert chips outnumber argillite ones.

SUMMARY

A visual inspection and controlled surface collection of the Spinach Patch site have indicated that 3 functionally separate areas may be present. One is a habitation area visually demarcated by dark organically stained midden and littered with domestic trash — fire-cracked rock, pottery, animal bone, chert tools, and daub. One would expect to find indications of domestic structures here as well as storage and refuse pits and trash accumulations. In the lighter colored area with scattered human bones we would expect to find burials or the remains of partially plowed-out burials and perhaps indications that a mound was once present. The third functional area is in the north and northeast portion of the site, which reveals argillite debitage, argillite spades, and, negatively, a lack of midden and midden debris; this is the postulated garden area. Excavation here might reveal soil disturbances resulting from past cultivation.

Both aerial photography (Hoffman 1968) and test excavation have occurred at the Spinach Patch site since the controlled surface collections. The aerial photographs confirmed postulates made on the basis of surface collections and suggested additional intra-site structural details (such as the presence of 2 mounds and a plaza area). Minor excavation at the site confirmed the burial/habitation area distinction but no excavation has yet been attempted in the postulated garden area.

The technique of controlled surface collection should become more common in Arkansas, for it can be brought to bear on a number of problems. The Spinach Patch case illustrates its usefulness in postulating activity areas within a single component site. I would particularly recommend its use as a guide for the placement of excavations, as a second step after initial location and collection from a site.

REFERENCES CITED

- Binford, Lewis R., and S. R. Binford, R. C. Whallon, M. A. Hardin
1966 *Archaeology at Hatchery West, Carlyle, Illinois.*
 Southern Illinois University Museum Archaeological
 Salvage Report No. 25. Carbondale.
- Hoffman, Michael P.
1965 *An Archeological Survey of the Ozark Reservoir in*
 West-Central Arkansas. Manuscript on deposit at the

Surface Collection at the Spinach Patch Site

Southeast Archeological Center, Macon, and the University of Arkansas Museum, Fayetteville.

- 1967 Controlled Surface Collections in Five Ozark Reservoir Sites. Manuscript on deposit at the Southeast Archeological Center, Macon, and the University of Arkansas Museum, Fayetteville.

- 1968 Aerial Photography over Ozark Reservoir in West-Central Arkansas. Manuscript on deposit at the Southeast Archeological Center, Macon, and the University of Arkansas Museum, Fayetteville.

Morrell, L. Ross

- 1965 The Texas Site, Carlyle Reservoir. *Southern Illinois University Museum Archaeological Salvage Report No. 23*. Carbondale.

Phillips, Philip, James A. Ford, and James B. Griffin

- 1951 Archaeological Survey in the Lower Mississippi Alluvial Valley, 1940-1947. *Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University*, Vol. XXV. Cambridge.