Table 11

My-140 Artifact Concentration Indices by Site Quarters

Quadrant	N_a/N_sV	CI	%
Northeast	28/103.13	.27	8.41
Southeast	97/123.75	.78	29.13
Southwest	208/237.19	.88	62.46

From Table 11 the southern portion of the site is producing the greatest concentration of artifacts. The high disparity in percentage of recovered materials between the southeast and southwest quarters can be accounted for by almost twice as many squares being placed in the southwest quadrant. The greatest amount of material culture and, inferentially, cultural activity, then, occurred in this southern half as a possible unit. Our next question must necessarily examine cultural assemblages and components which directly relate to this unit.

The first of these, cultural assemblage, refers to a set of related implements restricted to a culturally distinct group of people (Willey and Phillips 1962:52; Wyckoff 1973:76). In other words, a social group exhibits patterns of economic exploitation which conforms with the ecological surroundings as well as their technological, ideological, political and social institutions. Once these patterns have been established they tend to remain relatively consistent until new situations are encountered. Even then social and cultural change tends to be a rather gradual transformation. These new situations may be presented by environmental fluctuations and/or by a series of cultural phenomena such as migration, integration, adaptation, innovation, diffusion or other factors. Secondly, a manifestation of cultural consistency at a particular site is referred to as a component

Table

ESTIMATED AGE RANGES FOR PROJECTILE POINTS
My-140

POINT TYPE	PREVIOUS ESTIMATED AGE	REFERENCE
Duncan	4450 B.P. - 2800 B.P. Middle to Late Archaic	Wheeler 1954:1 Perino 1971:26-27
Frio	3950 B.P. - 1450 B.P. Middle to Late Archaic	Suhm and Krieger 1954:428 Bell 1960:48-49
Hannah	4450 B.P. - 2800 B.P. Middle to Late Archaic	Wheeler 1954:1 Perino 1971:44-45
Marcos	3950 B.P. - 950 B.P. Middle to Late Archaic	Suhm and Krieger 1954:442 Bell 1958:42-43
McKean	3950 B.P. - 1750 B.P. Middle to Late Archaic	Wheeler 1952:45-50 Bell 1958:50-51
Uvalde	5950 B.P. - 950 B.P. Middle to Late Archaic	Suhm and Krieger 1954:486 Bell 1960:92-93
Johnson	6640 ± 70 B.P. (TX-1550)* Early to Middle Archaic	Bartlett 1963:28-29 Perino 1968:40-41

* Date supplied by Frank Schambach, Arkansas Archaeological Survey

(McKern 1939:308). Component identification allows archaeologists to obtain a clearer understanding of local and regional exploitation patterns by cultural groups both synchronically and diachronically.

Diagnostic implements such as projectile points should provide us with information on the number of assemblages at the Dawson site. Based on the clustering of these artifacts a temporal and spatial context may also be constructed. Following the integrative section of this report, most of the projectile points can be placed in a single assemblage. This assemblage relates to a middle through late Archaic occupation. Point types include Duncan, Frio, Hannah, Marcos, McKean, and Uvalde points. On the other hand, Johnson points are somewhat problematical. Normally they are considered to represent an early to middle Archaic context. However, these points at the Dawson site may represent previously utilized implements discovered later and put into service with minor retouching. Only one site, Pawpaw in southwestern Arkansas, has produced Johnson points in a context which has been radiocarbon dated (Schambach, personal communication).

Table 12 presents this datum along with the temporal spans for the other point types. These dates range between 7000 B.P. to 950 B.P. (5050 B.C. to A.D. 1000). More specifically we might tentatively suggest an estimated age for the Dawson site to fall between 4450 B.P. to 1450 B.P. (2500 B.C. to A.D. 500).

In considering the horizontal distribution of these points we find that seven have been recovered from the southwest section while eight are from the southeast quarter. The remaining ten points are from surface collections. Figures 15-18 present the horizontal distribution for not only point types but also for the major recovered implement categories from the Dawson site. From figures 16-18 we find that, out of 100 total reduction bifaces, 77 have been recovered from the southwest quadrant, 14 from the southeast, and 9 from the northeast. In comparison with 163 modified flakes, representing processing activities, we find that 84 are from the southwest section, 65 from the southeast and only 14 from the northeast. By calculating a concentration index for our major categories the following results (Table 13) are obtained.

Figure 15

THE DAWSON SITE

HORIZONTAL DISTRIBUTION OF PROJECTILE POINTS

D = Duncan

F = Frio

H = Hannah

Ma = Marcos

Mc = McKean

U = Uvalde

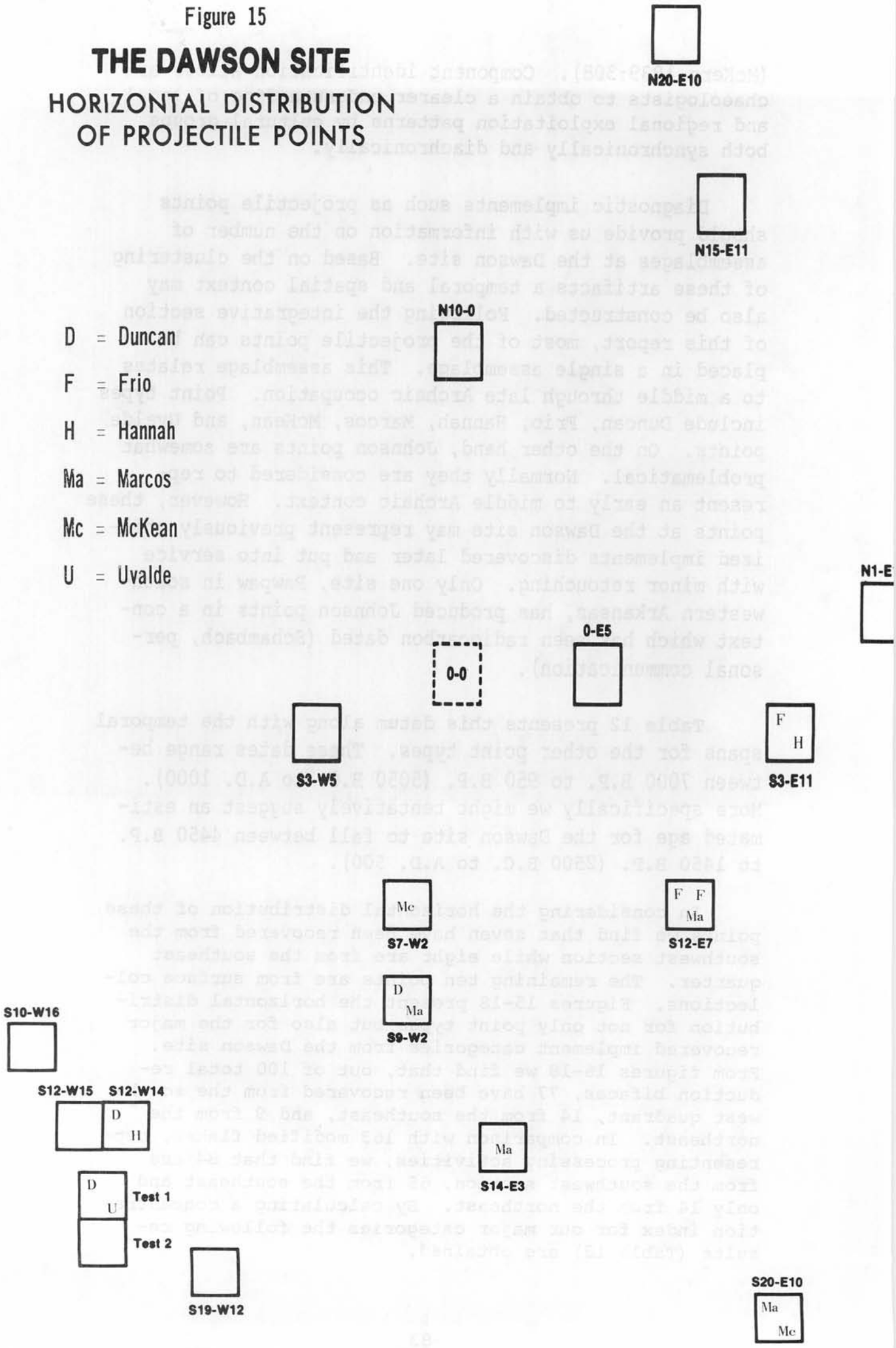


Figure 16

THE DAWSON SITE

HORIZONTAL DISTRIBUTION OF REDUCTION BIFACES

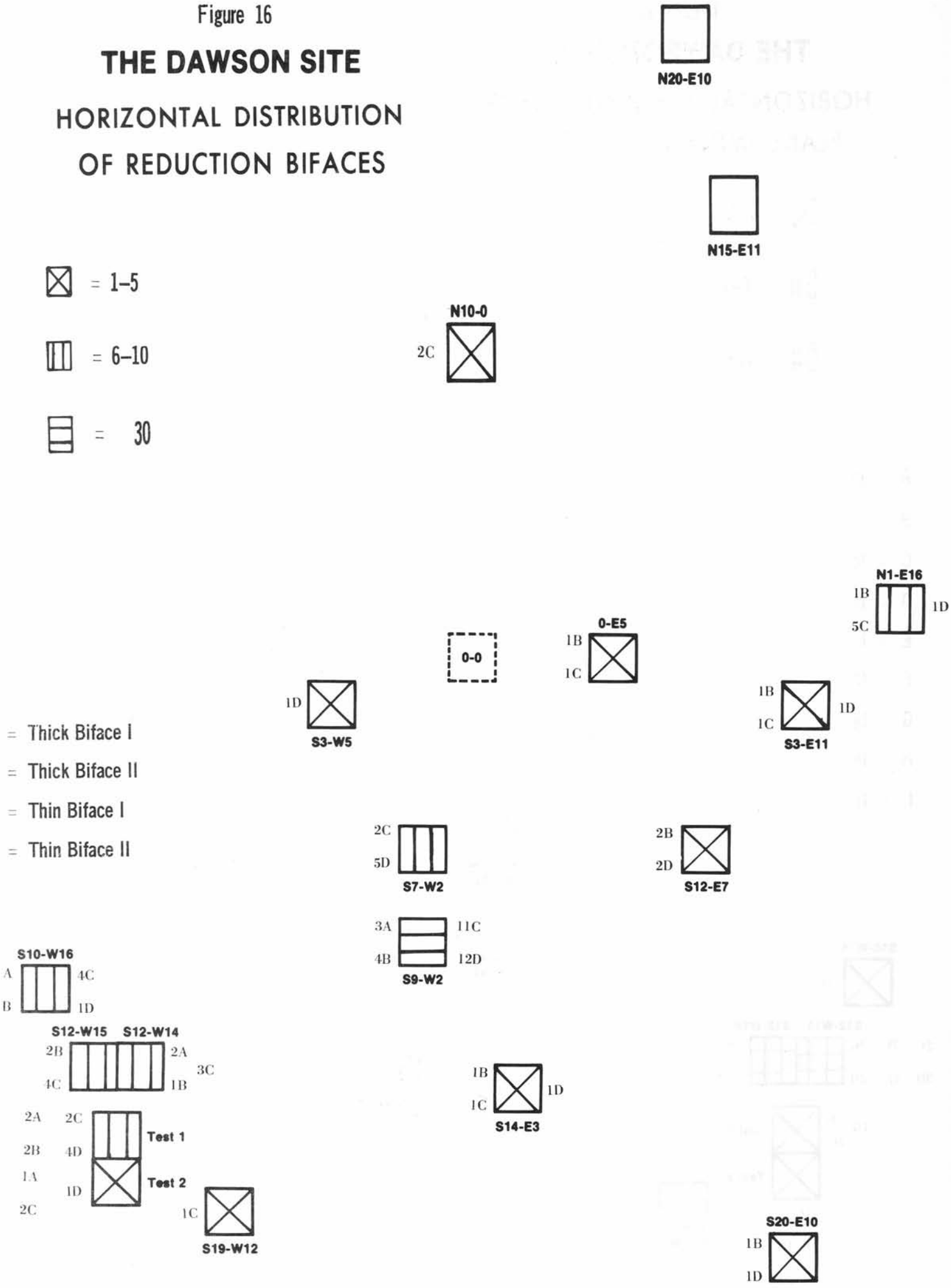


Figure 17

THE DAWSON SITE

HORIZONTAL DISTRIBUTION OF FLAKE IMPLEMENT SERIES I

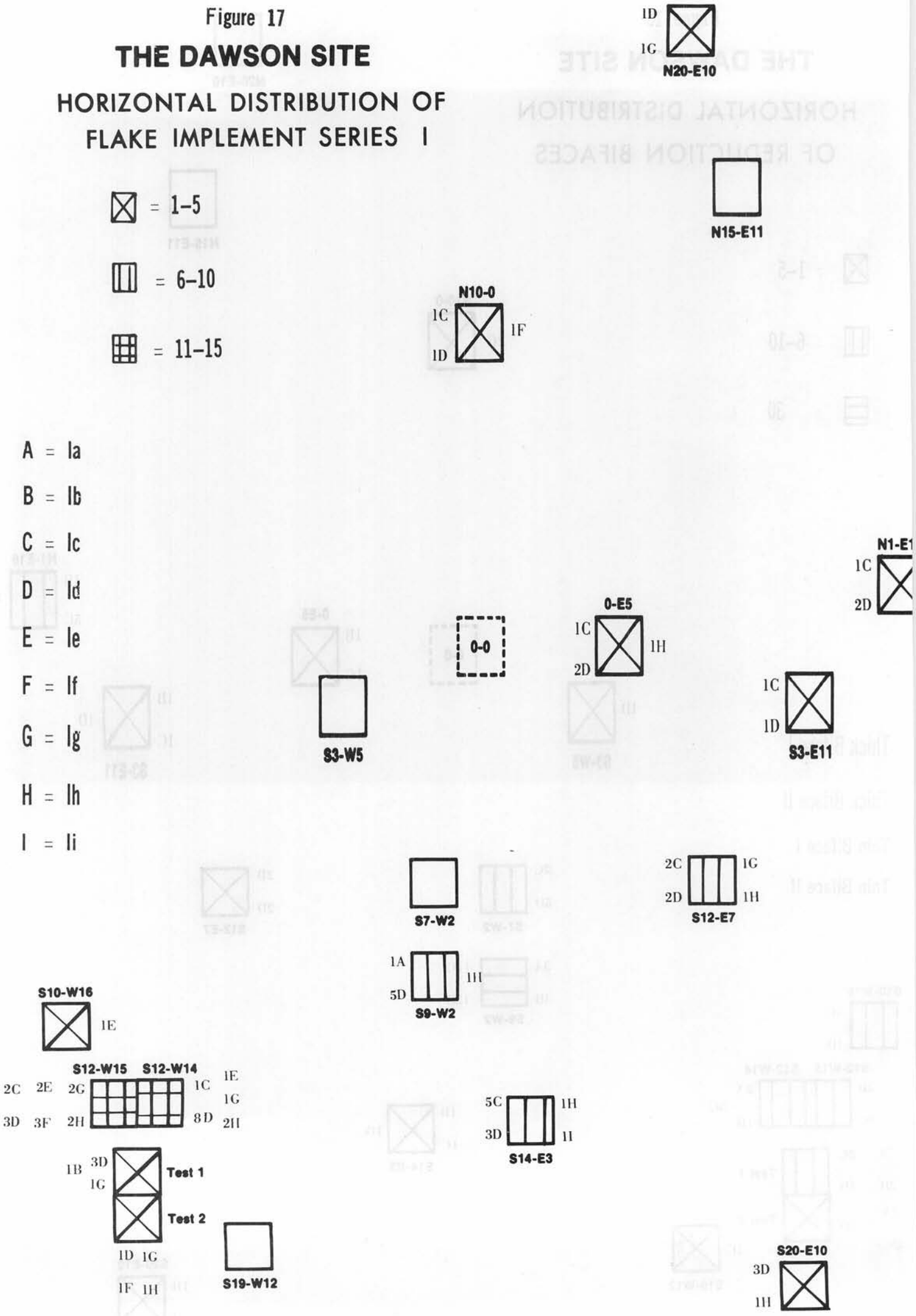


Figure 18

THE DAWSON SITE

HORIZONTAL DISTRIBUTION OF FLAKE IMPLEMENT SERIES II

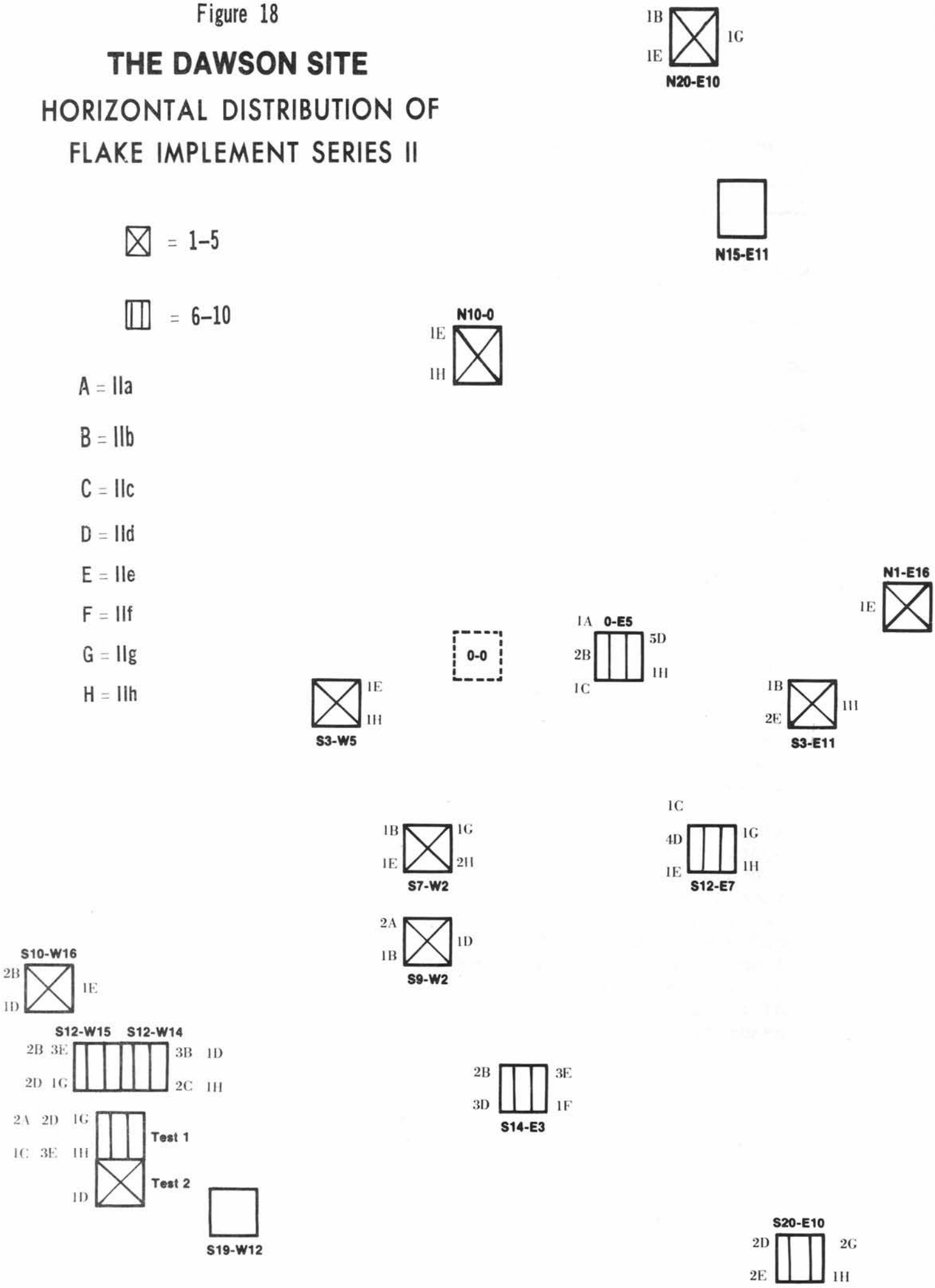


Table 13

My-140 Comparative Concentration Indices by Quadrant

Quadrant	Concentration Indices					
	Reduction Bifaces	Biface Tools	Projectile Points	Flake Tools	Modified Flakes	Grinding Stones
Southwest	.32	.07	.04	.03	.35	.02
Southeast	.11	.16	.10	---	.53	---
Northeast	.09	.05	---	---	.14	---

The index for reduction bifaces and modified flakes is relatively equal in the southwest quarter while there is a much higher concentration of modified flakes in relation to reduction bifaces in the southeast section. This may be evidence that the southeast quarter was used as a processing area while the southwest quadrant served as a reduction station. Three chi-square tests have been constructed to examine this data for significant differences (see Table 14). The null hypothesis is that no significant differences exist between each of the quadrants at the .05 level of significance. The first test, for the southwest and northeast quadrants, upholds our proposition that there is no difference between the observed and expected frequencies for reduction bifaces and modified flakes. The second and third tests, however, indicate that there are significant differences between types of artifacts being recovered from the southeastern quadrant and other areas of the site. These tests, then, tend to confirm the possibility of final lithic processing occurring in the southeast quadrant.

Table 14

Chi-square Tests

Quadrant		Concentration Indices		
		Reduction Bifaces	Modified Flakes	Test Results
1.	Southwest	77	84	$X^2 = .67$
	Northeast	9	14	df = 1 H_o Accepted
2.	Southwest	77	84	$X^2 = 20.39$
	Southeast	14	65	df = 1 H_o Rejected
3.	Southeast	14	65	$X^2 = 4.66$
	Northeast	9	14	df = 1 H_o Rejected

df = Degrees of Freedom $X^2_{95} = 3.84$

With this proposition in mind an examination of vertical distribution is in order. To initiate this discussion lithic debitage from six selected squares, two from each of the producing quadrants, will be examined in detail. These excavation units are: 1) N20-E10; 2) N10-0; 3) S12-E7; 4) S14-E3; 5) S12-W14; and 6) S12-W15. The maximum depth reached in any one of these squares is 24 inches or six levels. At least three levels, or 12 inches, have been excavated for each of these six squares; all but one extended through 16 inches or level 4. Four squares were excavated to level 5 or 20 inches below the surface while only one square reached a depth of 24 inches or level 6. These squares are considered to be representative of both horizontal and vertical distributions.

A concentration index has been calculated for each of the six levels and is presented in Table 15. According to these concentration indices level 4 contains the greatest amount of material which tapers off in levels three through one. A comparison with the concentration index for the total number of recovered tools and implements has also been made (see Table 16).

Level 4 again has the highest density of artifacts while levels 3 through 1 taper off somewhat. From these computations, level 4 appears to represent the original, as well as the most intensive occupation of the site. However, this locality was not completely abandoned afterward. The data for levels 3 through 1 indicate a continued use of the lithic resources available at the Dawson site. Thus, My-140 is representative of a single component site with several occupations occurring over a relatively long period of time. The primary behavioral endeavors appear to have been the collection of lithic resources and their reduction as well as the modification of these resources into finished implements.

A second series of concentration indices was calculated by quarters on the lithic debitage at My-140. This examination was limited to those flakes readily identified as specific parts of the lithic trajectory system. Based on Table 17 an extremely high concentration of tertiary and thinning flakes has been detected for all levels of the southeast quarter. There is one possible explanation of this situation. The southeast quarter may represent an area in which the final stages of manufacture were performed. Figure 16 indicates that all of the Thick Biface I specimens, recovered in context, are from the southwest quarter. Also, the vast majority of Thick Biface II's and Thin Biface I through II specimens are associated with the southwest quarter. A number of these specimens have been broken because of shock wave action (see Faulkner 1972:76-79). More specifically, all of the Thin Biface II's are incomplete, while only three Thin Biface I's are unbroken.

Of the latter the thinnest specimen with the least sinuous edges is from the southeast quarter. On the other hand, the highest concentration index for finished

Table 15

My-140 Flake Concentration Indices for Six Selected Squares

Level	N_f/N_sV	CI	%	P	S	Ty	Tg
1	1275/49.5	25.76	25.57	.30	.79	4.28	1.37
2	1286/49.5	25.98	25.79	.20	.91	5.88	1.39
3	996/45.38	21.95	19.97	.31	.68	4.32	.93
4	1261/30.94	40.76	25.29	.26	.84	6.59	2.81
5	120/12.38	9.69	2.41	---	.24	1.45	.40
6	49/6.19	7.92	.98	---	.32	1.94	----

Where: N_f=total number of flakes N_s=total number of excavated squares V=volume (8.25 cubic feet)

CI=Concentration Index P= Primary decortication flakes S= Secondary Flakes

Ty= Tertiary flakes Tg= Thinning flakes

Table 16

My-140	Implement Concentration Indices		
Level	N_i/N_sV	CI	%
1	106/148.50	.71	31.18
2	98/134.06	.73	28.82
3	61/103.13	.59	17.94
4	64/49.50	1.29	18.82
5	10/20.63	.49	2.94
6	1/4.13	.24	.29

Where: N_i = total number of implements

N_s = total number of excavated squares

V = volume (8.25)

CI = Concentration Index

implements, such as projectile points, biface cutting, and biface scraping implements, as well as drills, are from the southeast quadrant. These factors tend to indicate that the majority of heavy percussion work was carried out in the southwest quarter while the finer, more delicate, processes were performed in the southeast section.

Table 17

My-140 Flake Concentration Indices by Quadrants for Six Selected Squares

Level	Northeast				Southeast				Southwest			
	P	S	Ty	Tg	P	S	Ty	Tg	P	S	Ty	Tg
1	.18	.12	1.76	.67	.30	1.33	6.12	2.42	.42	.91	4.97	1.03
2	.06	.06	1.27	.18	.55	1.94	8.86	3.25	.06	.97	8.61	1.15
3	---	---	.73	.42	.10	1.84	11.25	2.52	.42	.83	4.71	.62
4	---	---	1.33	.36	1.45	3.87	35.84	15.98	.19	1.55	4.17	3.20
5	---	---	.97	---	----	----	1.46	.48	---	1.46	4.37	1.94
6	---	.48	2.91	---	----	----	----	---	---	----	----	----

Where: P = Primary decortication flakes S = Secondary flakes

Ty = Thinning flakes Tg = Thinning flakes

B. Inter-Site Analysis

The Dawson site (My-140) has not provided any material which could be readily dated by radiocarbon or other chronometric dating techniques. Therefore, projectile point frequencies were analyzed from reports on six sites in northeastern Oklahoma for seriation dating (see Figure 19). These sites were chosen because they have rather well stratified deposits, some of which have been radiocarbon dated. They are located in Delaware County, Reed (Dl-11) (Purrington 1970:354-393); Mayes County, Kerr Dam (My-72) (Wyckoff 1963), Packard (My-66) (Wyckoff 1964a), Pohly (My-54) (Ray 1965), and Wolf Creek (My-72) (Kerr and Wyckoff 1964); and Nowata County, Lawrence (Nw-6) (Baldwin 1969).

Seriation is not an absolute dating method. Rather, it permits us to arrange in sequence the components of various sites (Michels 1973:66-82). This in turn produces a means of relative dating and establishing a tentative regional chronology. Seriation is based on the proposition that material items, such as pet rocks, black powder pistols, and projectile point styles, are representative of specific human behavior. Such items begin with a low level of acceptance and increase in popularity through time. Later they are replaced by other implements with a resultant decrease in the number of these items being found in the cultural inventory. Such waxing and waning produces lenticular or "battleship-shaped" curves which are wider in the middle than at either end. The problem, of course, is determining which end represents the initial point of development and which the terminal. Fortunately, this problem has been alleviated by the availability of radiocarbon dates for the beginning, middle, and end of our sequence.

Our information concerning the Reed site (Dl-11) is derived from Purrington's (1970:354-393) dissertation. Dl-11 is a deep midden site belonging to the Spiro Focus. This site has produced numerous projectile points such as Fresno, Scallorn, Reed, Cooper, Edgewood, Gary, and Standlee which have been used in our analysis. This midden has also produced a number of radiocarbon dates which form the basis of the upper end of our seriation. Ranging from 670 ± 55 B.P. (WIS-253) in level nine to

890 ± 55 B.P. (WIS-247) in level five, these dates bracket the temporal span, but not the stratigraphic sequence.

The Kerr Dam site (Wyckoff 1963) consists of two components. The lowest of these contains only expanding stemmed points such as Afton, Marshall, and Williams. The association of this component is unclear, but it may relate to the Afton Complex (Wyckoff 1963:50). The Afton Complex in the Ozark Highland of southwestern Missouri is defined by Wood (1961:88-90). It has been radiocarbon dated from the upper portion of Stratum III at Blackwell Cave at 1150 ± 85 and 750 ± 150 B.C., suggesting a temporal range of between 3100 and 2700 B.P. (Falk 1969:86). For our purposes this component is referred to as Kerr Dam I.

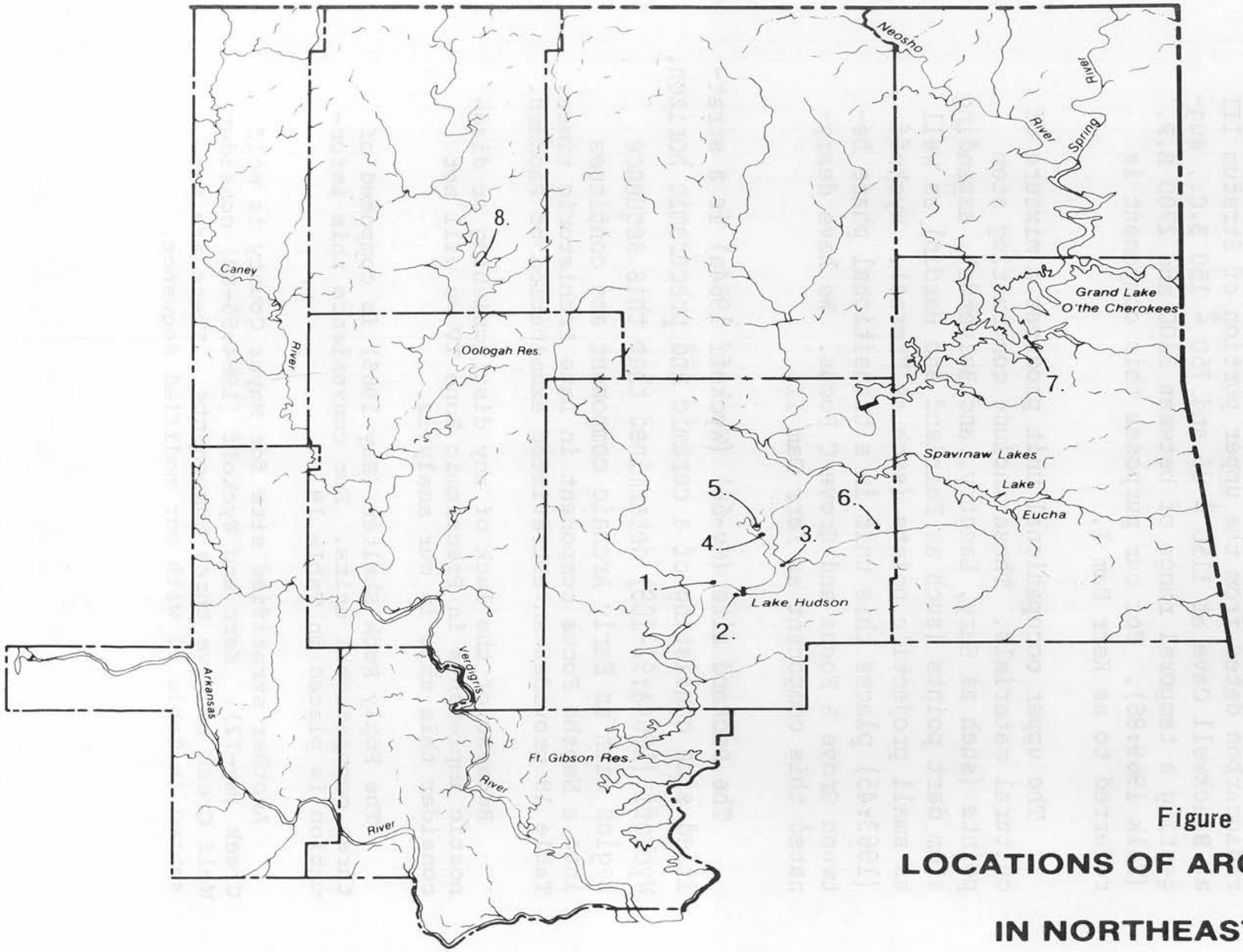
The upper occupational unit produces a mixture of cultural materials. These include contracting stem points (such as Gary, Langtry, and Bulverde), expanding stem dart points (such as Fairland and Hardin) as well as small projectile points (such as Fresno). Wyckoff (1963:45) places this unit in a transitional phase between Grove B Focus and Grove C Focus. We have designated this component as Kerr Dam II.

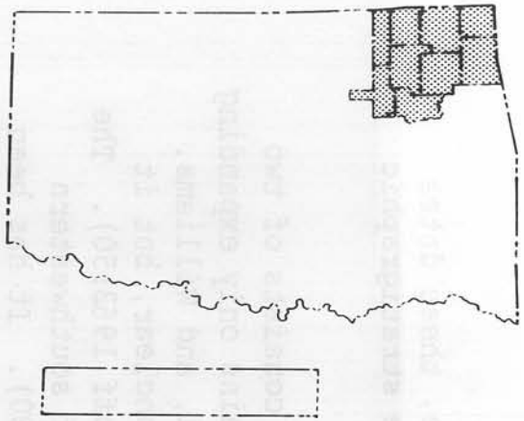
The Packard site (My-66) (Wyckoff 1964a) is a stratified site consisting of a ceramic and preceramic horizon. Wyckoff (1964a:92-109) determined that this sequence begins with an Early Archaic component and continues into a Neosho Focus component in Late Prehistoric times. Table 18 provides an abbreviated examination of Packard.

Because of the lack of any distinguishing or diagnostic implements in Preceramic Zone IV we will not consider this unit in our analysis.

The Pohly Rock Shelter (Ray 1965) is composed of three occupational units. For convenience this information is placed in Table 19.

Another stratified site for Mayes County is Wolf Creek (My-72). Kerr and Wyckoff (1964:55-80) consider Wolf Creek to have three components. These are presented in Table 20 with our modified sequence.





1. DAWSON (My-140)
2. KERR DAM (My-48)
3. WOLF CREEK (My-72)
4. JUG HILL (My-18)
5. PACKARD (My-66)
6. POHLY (My-54)
7. REED (DI—11)
8. LAWRENCE (Nw-6)

Figure 19

LOCATIONS OF ARCHAEOLOGICAL SITES

IN NORTHEASTERN OKLAHOMA

Table 18 Cultural Sequence at the Packard Site (My-66)

Reported Sequence	Assigned Dates	Cultural Remains	Modified Sequence
CERAMIC ZONE			
Neosho Focus (levels 1-4)	----	Representative Points: Fresno, Scallorn, Langtry Pottery: Shell Tempered Sherds	Packard V
Woodland Component (levels 4-5)	----	Representative Points: Snyder, Castroville, Gary, Langtry Pottery: Grit Tempered Sherds	Packard IV

Table 18 Continued

Reported Sequence	Assigned Dates	Cultural Remains	Modified Sequence
PRECERAMIC ZONE			
Preceramic Zone I Grove Focus (levels 6-10)	c. 4700 B.P.	Representative Points: Gary Hidden Valley Duncan Williams Dalton	Packard III
Preceramic Zone II (levels 11-16)	c. 8950 B.P.	Representative Points: Agate Basin Dalton Merserve	Packard II
Preceramic Zone III (levels 17-21)	c. 9416 ± 193 B.P.* (NZ-478)	Representative Points: Agate Basin Big Sandy	Packard I
Preceramic Zone IV	----	-----	-----

*Based on radiocarbon date obtained from a firepit in this zone.

Table 19 Cultural Sequence at the Pohly Site (My-54)

Reported Sequence	Cultural Remains	Modified Sequence
CERAMIC ZONE		
Neosho Focus (levels 1-7, Upper Unit)	Representative Points: Triangular, Fresno, Scallorn, Reed, Gary, Langtry, Bulverde, Marcos, Williams Pottery: Woodward Plain, Neosho Punctate, Grid Tempered Sherds	Pohly III
LITHIC ZONE		
Late Grove Focus (levels 8-15, Upper Unit)	Representative Points: Triangular, Gary, Langtry, Bulverde, Fairland, Williams	Pohly II
Early Grove Focus (layers A-D, Lower Unit)	Representative Points: Gary, Langtry, Bulverde, Duncan, McKean, Uvalde	Pohly I

Table 20 Cultural Sequence at the Wolf Creek Site (My-72)

Reported Sequence	Cultural Remains		Modified Sequence
CERAMIC ZONE			
Woodland/Neosho Focus (levels 1-2)	Representative Points:	Fresno Scallorn Gary Langtry Marcos	Wolf Creek III
	Pottery:	Shell Tempered Sherds Grit Tempered Sherds	
PRECERAMIC ZONE			
Grove C Focus (levels 3-4)	Representative Points:	Gary Langtry Type A-Expanding Stem Type B-Expanding Stem Type C-Parallel Stem	Wolf Creek II
Grove A or B Focus (levels 5-6)	Representative Points:	Gary Langtry Table Rock Stemmed	Wolf Creek I

Finally, the Lawrence site (Nw-6) is a single component site which Baldwin (1969:112) interpreted as Late Archaic with Woodland overtones. This relatively late assignment was modified, however, when radiocarbon dates were calculated (Burton 1970). These dates indicated a temporal span ranging from 2710 ± 70 B.P. (TX-815) to 3460 ± 110 B.P. (TX-816). In addition, expanding stem dart points (such as Afton, Marshall, and Williams) occur along with stemless points (such as Lawrence Category I). Baldwin (1969:91) identified one projectile type, Category O, as being probable arrowpoints. However, by plotting the published measurements concerning length and thickness, the expected bimodal distribution does not appear. For this reason these projectiles are considered to represent the low end range of expanding stem dart points and are included in that category for analysis.

Detailed information presented in these site reports allows us to construct the diachronic curves given in Figure 20. Projectile points are products of human behavior and have been selected for our analysis because of their distinctiveness, recurrent quality, and their readily apparent morphological transformation through time (see Rouse 1967:166-173).

If we interject other artifact categories with our point types certain errors would be committed. The first of these might be referred to as an isochronal error. Stylistic rates of change between projectile points and cutting or scraping implements are neither equivalent nor correlated. Thus, by including these different categories within the same framework the sequential patterning might be distorted or completely masked. The second factor might be designated an interpretative error. Rigorous and systematic artifact classification relating to form and function has been somewhat uneven in the past. In other words, we are not certain that the designation of scraper or knife is equivalent in all cases. If they are superficially considered so, a certain quantative bias might be introduced. Projectile points, more than any other implement type, have been subjected to these rigorous and systematic standards. For this reason, projectile points are considered to be our best indicators of cultural change in northeastern Oklahoma at this time.

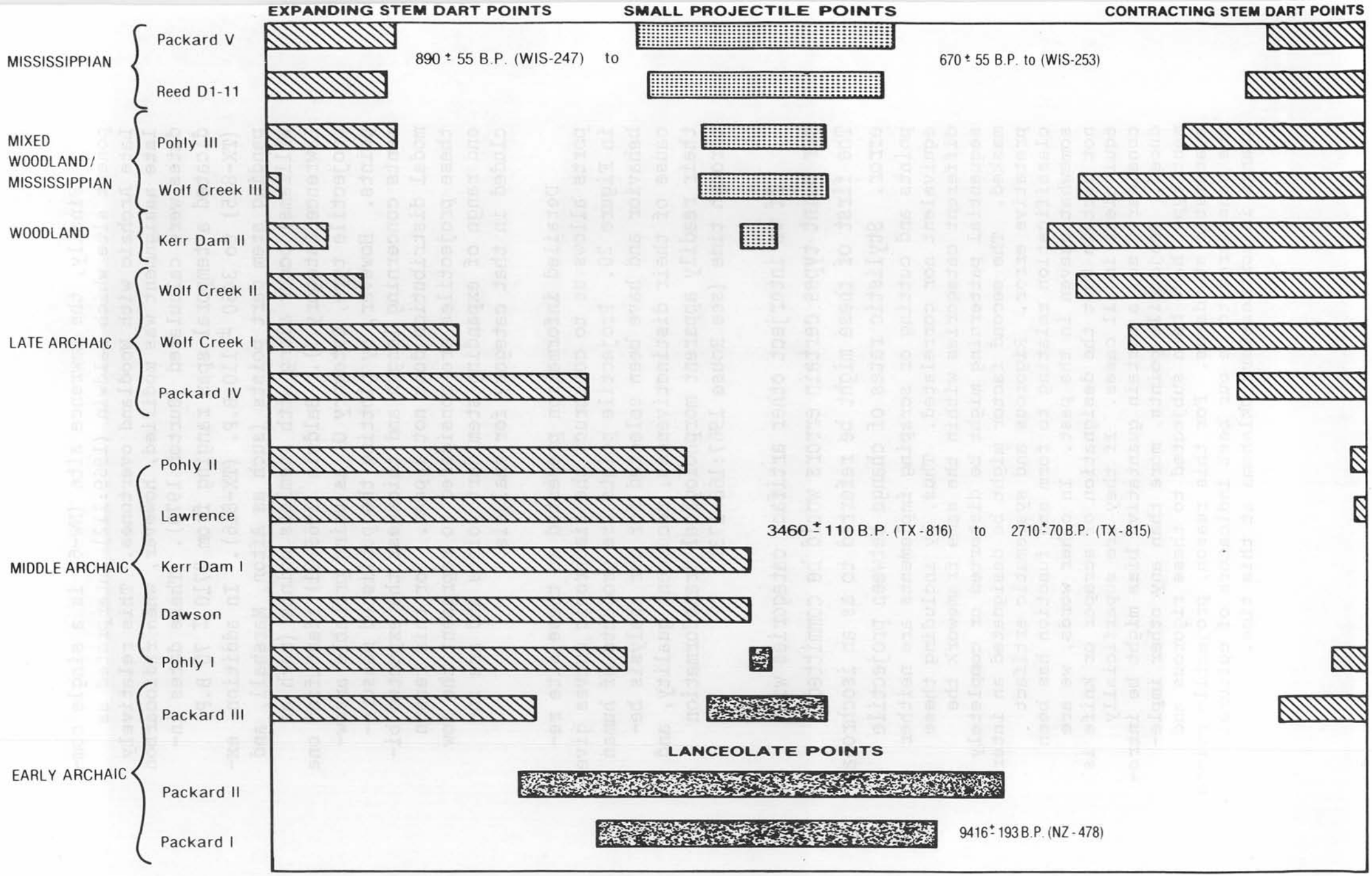


Figure 20. FREQUENCY OF PROJECTILE POINTS FROM SELECTED SITES IN NORTHEASTERN OKLAHOMA

The seriation results are discussed below. Also, the limitations and implications for future research will be outlined.

EARLY ARCHAIC

Lanceolate points have been recognized as the oldest lithic projectiles for a number of years (see Figgens 1927; Cook 1927). In the west these points (Clovis, Folsom, and Plainview) have been associated with various forms of megafauna. Even though mammoth bones have been removed from the confluence of the Verdigris and Arkansas rivers, no cultural material has been found in association with these remains. At this time, our earliest definable cultural evidence for northeastern Oklahoma indicates an Archaic type of adaptation. The Early Archaic is composed of lanceolate points as well as side-notched and stemmed points which fall outside of the Lithic stage lanceolate tradition. For our sequence the Early Archaic includes the components Packard I, II, and III. Packard I dates, according to radiocarbon samples obtained from a deep lying hearth, at 9416 $\pm$ 193 B.P. (NZ-478) or 7466 B. C. Recovered implements from these components suggest hunting as the primary economic activity. These include projectile points and processing implements such as hafted and non-hafted knives, scrapers, choppers, and tanning stones.

These habitations appear to have been occupied for short periods of time and are hence considered to be ephemeral campsites. At this point we should note that as our knowledge of hunting and gathering societies increases, a heavy reliance on plant resources becomes increasingly evident. Thus, because of the ephemeral nature of these Early Archaic campsites, our understanding of the total economic structure may be somewhat skewed.

MIDDLE ARCHAIC

The Middle Archaic period seems to be marked by an increasing use of expanding stem dart points and a decreasing frequency of lanceolate points. From Figure 20 we may conclude that the following components belong to the Middle Archaic: Pohly I, Dawson, Kerr Dam I, Lawrence, and Pohly II.

Radiocarbon dates from the Lawrence site range between 2710 ± B.P. (TX-815) in levels five through six and 3460 ± 110 B.P. (TX-816) in levels six through seven. The cultural remains from these components indicate an expanded economic base. Such items as single and bi-faced mullers, grinding basins, shredders, and manos reveal a greater dependence on plant resources. From this series of sites we also find lithic manufacturing stations. Feature five at Kerr Dam I was interpreted by Wyckoff (1963:36-37) as a possible workshop area. The Dawson site, too, fits into this category of an Archaic lithic workshop.

Faunal remains from Lawrence and Pohly II indicate that deer may represent the primary game animal during this era. Other faunal remains from Lawrence include raccoon, squirrel, turtles (both terrestrial and aquatic), fish, and birds as possible food resources. In this same context coyote, gopher, beaver, badger, and spotted skunk remains were found. Burials appear for the first time at Pohly I and II. Pohly I burials, however, appear to be rather unusual. Burial 1, as Ray (1965:8) designated it, contained three human crania, two mandibles, as well as several split and cracked long bones. Several deer bones were found in association with the skeletal remains. Ray (1965:8) advanced two propositions to explain the mixed nature of this burial: 1) the osteological materials represented a multiple secondary burial which had experienced an unusual amount of disturbance and displacement due to rodent activity and other natural phenomenon; or 2) that this feature actually represented an area of refuse deposition.

> To support this second suggestion is the fact that all of the human and animal long bones recovered from Burial 1 were split down the middle as if to get at the marrow. Also, sections of the same skull were scattered throughout this five foot long area and were often resting on a different skull. Two different mandibles were also found together, without skulls ... (Ray 1965:8)

Ray seems to be suggesting that some form of cannibalism may have taken place at Pohly. If such were the case we might assume from ethnological or cross-cultural data that we are dealing with ritual rather than gustatory cannibalism. Only in extremely rare cases, usually involving stress, do human groups rely on human flesh as a major staple. No other sources dealing with the prehistory of northeastern Oklahoma report similar occurrences. This seems to indicate that such an activity at the Pohly site may have been an isolated incident or that this material is explainable by other means.

Burial 2, also related to Pohly I, was that of an adult female. A projectile point found in association with the pelvis may have been the cause of death. The long bones in this case were not split or cracked. Burials 3 and 5 have been associated with Pohly II. These inhumations, one of an infant and the other of an adult, represent less dramatic circumstances.

The evidence presented from these site components indicate longer habitations and a wider range of subsistence activities. Collecting of plant resources along with hunting plays an equally important economic role. Many of these locations may have served as seasonal (?) base camps from which individual groups exploited the available flora and fauna. Upon their return, meat might be butchered and distributed while plants were being processed and prepared. In some cases, the appearance of cache pits may indicate storage capabilities. Also, we find specialized localities such as the Dawson site being used as lithic collection stations and workshops. The initial stages of manufacturing were performed here. Final reduction and maintenance activities, on the other hand, were conducted at the base camps. Whether or not these sites actually represent seasonal base camps has yet to be determined, however.

LATE ARCHAIC

At the present time our understanding of the Late Archaic is not complete. The major indicator is a decline in expanding stem points (Marshall, Marcos, etc.) which are gradually being replaced by contracting stem

projectiles (Gary, Langtry, etc.). The same inventory of hunting and butchering as well as plant processing implements remain fairly constant from the previous period. The specific types of plants and animals being utilized are unknown. What we might expect is an expanding base for the use of plants. As people begin to comprehend the relationships between seeds and fully matured plants, an attempt to gradually control this process may occur. In other words, these people would be gaining a necessary prerequisite knowledge for the domestication of these plants. This point is underscored by the research at Phillips Springs in southwestern Missouri (Chomko 1976:89) where evidence for the domestication of sunflower and squash appears as early as 4100 B.P. The representative components for this era are Packard IV, Wolf Creek I and II, and Kerr Dam II. There are no radiocarbon dates from any of these components.

WOODLAND

Unfortunately, the succeeding or Woodland horizon is even less well clarified by our seriation. The only components which fall into this era, Kerr Dam III and Pohly III, contain highly mixed material with later Neosho Focus materials. This occurs in the form of grit and shell tempered pottery found from the same contexts. From our seriation of projectile points, contracting stem dart points begin to decline with the appearance of small projectile or arrow points. The types of subsistence activities, settlement patterns, and population densities are therefore extremely obscure at this point. Bell and Baerreis (1951:27-33) remark that our best source for a Woodland horizon in northeastern Oklahoma is from the Cooper sites in Delaware County. This is not considered an indigenous development as "the occupation in Oklahoma represents the southernmost thrust of peoples who had previously migrated to Missouri and eastern Kansas" (Bell and Baerreis 1951:27). Currently this expansion is best known from sites in Delaware County such as Cooper (Dl-33 and Dl-49) and Cooper Shelter (Dl-48) and an unnamed site, Dl-37 (cf. Purrington 1970; McHugh 1963). Purrington (1970:534) maintains that these northern immigrants seemed to have had a small impact upon the indigenous Delaware County people. "One significant effect that the Cooper Focus people might have had on the native Delaware Countians is the possible

introduction of maize which might have contributed to the population explosion and increased sedentism of the local peoples" (Purrington 1970:534).

LOWER MISSISSIPPIAN

Somewhat later a second intrusion occurred in northeastern Oklahoma, this time from the south. Caddoan people moved into Delaware County and occupied such sites as Reed (Dl-1, Dl-2, Dl-4, Dl-10, and Dl-11) and Huffaker (see Baerreis 1954 and 1955). The major pottery is Woodward Plain with some red filmed, incised, and engraved wares also appearing. This Mississippian horizon is indicated in our seriation by Reed (Dl-11) which has been radiocarbon dated between 890 ± 55 B.P. (WIS-247) and 670 ± 55 B.P. (WIS-253) or A.D. 1060 to A.D. 1280. On the basis of point types a continued increase in small projectiles and a decrease in contracting stem dart points occur. At the same time, a small increase in the number of expanding stem dart points is present. It appears that the bow and arrow never completely replaced lances even in the historic period. This may account to some extent for the increase in expanding stem points. The Spiro intrusion into this area appears to have developed a symbiotic relationship with the indigenous population, each equally influencing the other. For Mayes County our understanding of this process of cultural interaction remains nebulous at best.

UPPER MISSISSIPPIAN

At this point an hiatus in the prehistoric record is encountered. The next emergent archaeological culture in northeastern Oklahoma is the Neosho Focus, a late Mississippian phase manifestation. Early interpretations of this focus (Baerreis 1940 and 1941; Bell and Baerreis 1951:71) affiliated it with the Oneota Focus, a Siouan culture located to the north. More recently, however, the Neosho Focus is considered an indigenous development related to the Fort Coffee Focus of east central Oklahoma. As Wyckoff (1971:196) remarks, "The close relationships of the Neosho Focus to the Fort Coffee Focus are obvious, especially with reference to material goods." Furthermore, he continues,

"That these two manifestations are contemporaneous is evident. That they are the same people is a distinct possibility" (cf. Freeman 1962; Bell, et. al. 1969; Wyckoff 1970:153).

For our seriation chronology Packard V is the only component represented. Although no radiocarbon dates are available from Packard V, Jug Hill (My-18) provided two such dates from undisturbed features related to the Neosho Focus. These dates are A.D. 1400 ± 100 (0-2162) and A.D. 1625 ± 100 (0-2126) (Wyckoff 1971:166; Wyckoff 1967) and represent the termination of our sequence.

Three types of habitation sites are associated with the Neosho Focus. Packard V probably represents a small, open hunting camp with no discernible features. Another site, Jug Hill (My-18), contrasts with this as an open village site in which one structure with a rectangular pattern of post holes was found. The mixed components of Wolf Creek III and Pohly III represents a third type in the form of rock shelters.

Faunal remains indicate an expansion of the subsistence base for Neosho Focus people. Although deer remain important, bison bones imply forays into the Prairie-Plains where these animals were readily available. Fresh-water resources were also being exploited as indicated by mussel shell. We would expect mussel shell to have appeared earlier in our sequence, but they have not been found in earlier contexts. Another subsistence activity for the Neosho Focus was the collecting of acorns and hickory nuts. Horticulture may also have been practiced as some sites have yielded bison scapula hoes.

Although tracing prehistoric cultures into the ethnographic present is difficult, Wyckoff (1971:212) suggests a possible identification with the Wichita. This assumption is supported by the work of John (1975: 304-306; 338; 344) who maintains that pressure from the Osage and the breakdown of French trade forced the Wichita to migrate from the Arkansas and Illinois River valleys. Moving to the Red River new villages were constructed and trade reestablished with the French through Natchitoches.

C. A Commentary on Seriation

The strength of our seriation chronology lies in its correlation with available radiocarbon dates. Let's now briefly examine some of the basic elements needed for a successful seriation (cf. Rouse 1967). The first of these deals with the units of seriation. These units must have a temporal referent. In this case our units are projectile points which are the end products of specific actions or events. Following from this, even though projectile points are being used, the actual seriation orders the time at which these actions were performed. A second element concerns the criteria of seriation. These criteria must be recurrent qualities shared by a number of these units. Since the methods of production tend to follow a certain mental template on the part of the flint knapper, this requirement has been fulfilled. This in turn allows us to correlate our units with one another. The careful reader by now may have noticed that not all of our units are equivalent. When considering dart points, specific features, such as expanding or contracting stems, were examined. Yet small projectile points have been lumped together. For our purposes this lumping appears to be practical since contracting and expanding stemmed dart points continue and the presence of radiocarbon dates at the upper end provides the necessary continuity.

A third element of any seriation is to determine the temporal continuity or tradition of a technological system. Any outward manifestation of a technological system will undergo change. Our problem then is to determine if these changes have internal continuity. Even though point styles may change, the underlying production or manufacturing techniques may continue to be the same. For example, a shift from the production of expanding to contracting stem dart points may occur, yet the basic manufacturing process may involve the same cobble reduction strategy. Thus one of the more reliable means to assess cultural continuity may be the detailed study of the lithic reduction system itself. Such a study has not been undertaken for the archaeological cultures of northeastern Oklahoma, pointing to the need for future research. Such a limited geographical analysis might also reveal whether or not we are dealing with one or more ethnic groups living in coexistence during the Archaic and Woodland periods.

Returning to our previous concept we maintain that few, if any, traditions exist in a vaccuum. Eventually, contact with other traditions will occur. This situation has been considered a primary factor for the introduction of both the Woodland and early Mississippian (Spiro Focus) phases. When this happens four possibilities may result (Rouse 1967): 1) the indigenous tradition will become extinct, leaving only the intruding tradition; or conversely, 2) the intruding tradition will become extinct, leaving only the indigenous form. From another point of view we have 3) an integration between the two traditions resulting in the formation of a new tradition; or in opposition to this, 4) the two traditions may coexist while retaining separate identities. For northeastern Oklahoma these four results have not been intensively studied and again require future study.

The final element to be discussed is the limiting of a seriation to a specific geographical area. This has been partially discussed above, but one more statement should be made for clarification. By using this limiting element we are able to examine culture change temporally while holding geographical and cultural form factors relatively constant.

Our discussion of seriation chronology demonstrates a number of gaps in our knowledge concerning the culture history of northeastern Oklahoma. Such activities as subsistence systems, settlement patterns and their relationships to microenvironments are poorly understood in all phases. Furthermore, sites representing the critical junctures or transitions between Early and Middle Archaic, Late Archaic and Early Woodland, Late Woodland and Early Mississippian, as well as that between the Spiro and Neosho Foci are almost entirely absent. At the same time our understanding of the relationships and interactions between Spiro Focus sites at Reed and Huffaker with the indigenous populations of Mayes and even Delaware Counties is minimal at best. Partially this is a result of the nature of salvage archaeology. Yet, these are questions that archaeologist will be attempting to answer in future studies.

Overall, then, we have attempted to design a master pattern on the basis of seriation. Yet, our pattern is

not complete. Seriation of cutting, scraping, and drilling implements as well as pottery should be constructed and compared. Once this has been established a master pattern may be established and new data or information dealing with artifacts and site components can be readily inserted.

D. Summary Perspective of The Dawson Site

The Dawson site is located along the Neosho River in Mayes County, Oklahoma. The Oklahoma Highway Archaeological Survey tested this site in January of 1977. More intensive testing occurred the following spring. This was accomplished since approximately one-half of the site will be affected by the construction of the Lindsey-Mayes Bridge Project. The excavation strategy was designed to test the horizontal and vertical distribution within the construction area. Less than one-half percent of the total site was tested. This work revealed no occupational features.

Analysis of cultural remains indicated that My-140 is a single component site with possibly the same group of people returning to the locale several times. The major activity was collecting of lithic resources and initial reduction. In other words, My-140 was used primarily as a lithic workshop with cobble reduction being the main production strategy employed.

Temporally, the Dawson site has been placed in the Middle to Late Archaic. After this time it was probably used infrequently. For comparative purposes a seriation chronology was established and the overall sequence discussed. This chronology allowed us to examine a number of gaps in our current reconstructions and to present possible future research designs. Overall, My-140 provides some insight into the nature of specialized sites during the Middle to Late Archaic. The Dawson site, then, represents one more link in our chain of knowledge concerning the prehistory of northeastern Oklahoma.

REFERENCES CITED

Ahler, Stanley A.
1971 Projectile point form and function at Rodgers Shelter, Missouri. Missouri Archaeological Society, *Research Series* 8. Columbia, Missouri.

Alland, Alexander A., Marco Bicchieri, Lewis Binford, Donald W. Lathrap, William S. Laughlin, Richard B. Lee, Lorna Marshall, Stuart Struever, and Sherwood L. Washburn.
1968 Hunting vs. gathering as factors in subsistence. In *Man the Hunter*, edited by Richard B. Lee and Irven DeVore, pp. 92-94. Chicago:Aldine.

Baerreis, David A.
1940 The Neosho Focus. *Society for American Archaeology Notebook* 1:108-109.

1941 Recent developments in Oklahoma archaeology. Oklahoma Academy of Science, *Proceedings* 21:125-126. Norman.

1951 The preceramic horizons of northeastern Oklahoma. University of Michigan, Museum of Anthropology, *Anthropological Papers* 6:1-121. Ann Arbor.

1954 The Huffaker site, Delaware county, Oklahoma. *Bulletin of the Oklahoma Anthropological Society* 2:35-48. Oklahoma City.

1955 Further material from the Huffaker site, Delaware county. *Bulletin of the Oklahoma Anthropological Society* 3:53-68. Oklahoma City.

Baerreis, David A. and Reid A. Bryson
1965a Climatic episodes and the dating of Mississippian cultures. *The Wisconsin Archeologist* 46(4):203-220.

1965b Historical climatology and the Southern Plains: A preliminary statement. *Bulletin of the Oklahoma Anthropological Society* 13:69-75. Oklahoma City.

Baldwin, Jane
1969 The Lawrence site, Nw-6: A non-ceramic site in Nowata county, Oklahoma. *Bulletin of the Oklahoma Anthropological Society* 18:67-118. Oklahoma City.

1970 The Lightning Creek site, Nw-8, Nowata county, Oklahoma. Oklahoma River Basin Survey, *Archaeological Site Report* No. 18. Norman.

Banks, Larry
n.d. A comparative analysis of lithics at the Martin-Vincent site. *Manuscript* on file with the Oklahoma Archeological Survey. Norman.

Baugh, Timothy G.
1970 The Vandever-Haworth site, Wg-16, Wagoner county, Oklahoma. Oklahoma River Basin Survey, *Archaeological Site Report* No. 17. Norman.

Bell, Robert E.
1958 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society, *Special Bulletin* No. 1. Oklahoma City.

1960 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society, *Special Bulletin* No. 2. Oklahoma City.

1972 The Harlan site, Ck-6, a prehistoric mound center in Cherokee county, eastern Oklahoma. Oklahoma Anthropological Society, *Memoir* No. 2. Oklahoma City.

Bell, Robert E. and David A. Baerreis
1951 A survey of Oklahoma archaeology. *Bulletin of the Texas Archeological and Paleontological Society* 22:7-100. Lubbock.

Bell, Robert E., Gayle S. Lacy, Jr., Margaret T. Joscher, and Joe C. Allen
1969 The Robinson-Solesbee site, Hs-9, a Fulton Aspect occupation, Robert S. Kerr Reservoir, eastern Oklahoma. Oklahoma River Basin Survey, *Archaeological Site Report* No. 15. Norman.

Blair, W. F. and T. H. Hubbell
1958 The biotic districts of Oklahoma. *The American Midland Naturalist* 10(2):425-454.

Bobalik, Sheila J.
1977 Archeological investigations at proposed Clayton Reservoir 1976. Oklahoma Archeological Survey, *Archeological Resource Survey Report* No. 5. Norman.

Brose, David S.
1975 Functional analysis of stone tools: A cautionary note on the role of animal fats. *American Antiquity* 40(1):86-94. Washington, D. C.

Bryson, Reid A., David A. Baerreis, and Wayne M. Wendland
1970 The character of late-glacial and post-glacial climatic changes. In *Pleistocene and Recent environments of the Central Great Plains*, edited by Wakefield Dort, Jr. and J. Knox Jones, Jr., pp. 53-74. Department of Geology, University of Kansas, *Special Publication* 3. Lawrence: The University of Kansas Press.

Burton, Robert J.
1970 Addendum. In The Lightning Creek site, Nw-8, Nowata county, Oklahoma. Oklahoma River Basin Survey, *Archaeological Site Report* No. 18. Norman.

Chapman, C. H.
1948 A preliminary survey of Missouri archaeology, Part IV: Ancient cultures and sequences. *The Missouri Archaeologist* 10(4):133-164.

Chomko, Stephen A.
1976 The Phillips Springs site, 23HI126: Harry S. Truman Reservoir. *Report* to the National Park Service, Midwest Region. Omaha.

Collins, Michael B.
1975 Lithic technology as a means of processual inference. In *Lithic technology: Making and using stone tools*, edited by Earl Swanson, pp. 15-34. The Hague:Mouton Publishers.

Cook, Harold J.
1927 New geological and palaeontological evidence bearing on the antiquity of mankind in America. *Natural History* 27(3):240-247.

Dort, Wakefield, Jr. and J. Knox Jones, Jr.
1970 *Pleistocene and Recent environments of the Central Great Plains*. Department of Geology, University of Kansas, *Special Publication* 3. Lawrence:The University of Kansas Press.

Engbretson, Gus
1974 Amphibians and reptiles of Oklahoma. In *Field guide to Oklahoma*, edited by Paul G. Risser, pp. 103-118. Oklahoma Biological Survey, University of Oklahoma. Norman.

Falk, Carl R.
1969 Archaeological salvage in the Kaysinger Reservoir, Missouri: 1966. *Report* to the National Park Service, Midwest Region. Omaha.

Faulkner, Alaric
1972 Mechanical principles of flintworking. Ph.D. dissertation, Department of Anthropology, Washington State University.

Figgens, Jesse D.
1927 The antiquity of man in America. *Natural History* 27(3): 229-239. New York.

Freeman, Joan E.
1962 The Neosho Focus: A late prehistoric culture in northeastern Oklahoma. *Bulletin of the Oklahoma Anthropological Society* 10:1-25. Oklahoma City.

Frison, George C.
1967 The Piney Creek sites, Wyoming. *University of Wyoming Publications* 33(1). Laramie.

1968 A functional analysis of certain chipped stone tools. *American Antiquity* 33(2):149-155.

Gray, Fenton and M. Hassan Roozitalab
1976 Benchmark and key soils of Oklahoma: A modern classification system. Oklahoma State University Agricultural Experiment Station *Bulletin* mp-97. Stillwater.

Gray, Fenton and Clyde Stahnke
1970 Classification of soils in the savanna-forest transition in eastern Oklahoma. Oklahoma State University Agricultural Experiment Station *Bulletin* B-672. Stillwater.

Griffin, James B.
1964 The northeast Woodlands area. In *Prehistoric man in the New World*, edited by Jesse D. Jennings and Edward Norbeck, pp. 223-258. Chicago:University of Chicago Press.

1978 Eastern United States. In *Chronologies in New World archaeology*, edited by R. E. Taylor and Clement W. Meighan, pp. 51-70. New York:Academic Press.

Gruger, Hanna
1973 Studies on the late Quaternary vegetation history of northeastern Kansas. Geological Society of America *Bulletin* 84:239-250.

Hellack, Jenna
1974 Mammals of Oklahoma. In *Field guide to Oklahoma*, edited by Paul G. Risser, pp. 140-146. Oklahoma Biological Survey, University of Oklahoma. Norman.

Hofman, Jack L.
1975 Archaeology at the Easton site (Lf-213), LeFlore county, Oklahoma. Oklahoma Highway Archaeological Survey, *Papers in Highway Archaeology* No. 1. Oklahoma City.

Huffman, George G.
1958 Geology of the flanks of the Ozark Uplift. Oklahoma Geological Survey *Bulletin* 77. Norman.

Irving, Washington
1956 *A tour on the prairies*. Norman:University of Oklahoma Press.

Kerr, Henry P., III and Don G. Wyckoff
1964 Two prehistoric sites, My-72 and My-79, in the Markham Ferry Reservoir area, Mayes county, Oklahoma. *Bulletin of the Oklahoma Anthropological Society* 12:55-86. Oklahoma City.

King, James E.
1973 Late Pleistocene palynology and biogeography of the Western Missouri Ozarks. *Ecological Monographs* 43(4): 539-565.

King, James E. and Everett H. Lindsey
1976 Late Quaternary biotic records from spring deposits in Western Missouri. In *Prehistoric man and his environments: A case study in the Ozark highland*, edited by W. Raymond Wood and R. Bruce McMillan, pp. 63-78. New York:Academic Press.

Latrobe, Charles J.
1836 *The rambler in North America 1832-1833*. Second edition. London:R. B. Seeley and W. Burnside.

McDermott, John F. (editor)
1940 *Tixier's travels on the Osage prairies*. Norman:University of Oklahoma Press.

McHugh, William P.
1963 A transitional Archaic and Woodland site (D1-57) in Delaware county, Oklahoma. M.S. thesis, Department of Anthropology, University of Wisconsin.

McKern, William C.
1939 The midwestern taxonomic method as an aid to archeological culture study. *American Antiquity* 4(4):301-313. Salt Lake City.

McMillan, R. Bruce
1976 The dynamics of cultural and environmental change at Rodgers Shelter, Missouri. In *Prehistoric man and his environments: A case study in the Ozark highland*, edited by W. Raymond Wood and R. Bruce McMillan, pp. 211-232. New York:Academic Press.

Michels, Joseph W.
1973 *Dating methods in archaeology*. New York:Seminar Press.

Newcombe, W. W. and W. T. Field
1967 An ethnohistoric investigation of the Wichita Indians in the Southern Plains. In *A pilot study of Wichita Indian archaeology and ethnohistory*, edited by Robert E. Bell, Edward B. Jelks, and W. W. Newcombe, pp. 240-250. Dallas.

Nuttall, Thomas
1905 A journal of travels into the Arkansas Territory during the year 1819. In *Early Western Travels*, edited by Reuben Gold Thwaites. Cleveland:Arthur H. Clark Company.

Oldfield, Frank and James Schoenwetter
1975 Discussion of the pollen-analytical evidence. In *Late Pleistocene environments of the Southern High Plains*, edited by Fred Wendorf and James J. Hester, pp. 149-177. Fort Burgwin Research Center, *Publication* No. 9. Ranchos de Taos.

Perino, Gregory
1968 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society, *Special Bulletin* 3. Oklahoma City.

1971 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society, *Special Bulletin* 4. Oklahoma City.

Polone, Dock J., Claude T. Newland, and Bill G. Swafford
1975 *Soil survey of Mayes county, Oklahoma*. United States Department of Agriculture, Soil Conservation Service.

Purrington, Burton L.
1970 The prehistory of Delaware county Oklahoma: Cultural continuity and change on the western Ozark periphery. Ph.D. dissertation, Department of Anthropology, University of Wisconsin.

Ray, Max
1965 A report on excavations at the Pohly site, My-54, in northeastern Oklahoma. *Bulletin of the Oklahoma Anthropological Society* 13:1-68. Oklahoma City.

Rouse, Irving
1967 Seriation in archaeology. In *American historical anthropology: Essays in honor of Leslie Spier*, edited by Carroll L. Riley and Walter W. Taylor, pp. 153-195. Carbondale: Southern Illinois University Press.

Schneider, Fred
1972 An analysis of waste flakes from sites in the upper Knife-Heart region, North Dakota. *Plains Anthropologist* 17(56):91-100.

Scholtz, James A.
1969 A summary of prehistory in northwest Arkansas. *The Arkansas Archeologist* 10:51-60. Fayettville.

Shaeffer, James B.
1965 Salvage archaeology in Oklahoma, Vol. I, papers of the Oklahoma Archaeological Salvage Project Nos. 8-15. *Bulletin of the Oklahoma Anthropological Society* 13:77-151. Oklahoma City.

Shaeffer, James B. (continued)
1966 Salvage archaeology in Oklahoma, Vol. II, papers of the Oklahoma Archaeological Salvage Project, Nos. 18-21. *Bulletin of the Oklahoma Anthropological Society* 14: 1-86. Oklahoma City.

Sheets, Payson D. and Guy R. Muto
1972 Pressure blades and total cutting edge: An experiment in lithic technology. *Science* 175:632-634.

Shelford, Victor E.
1963 *The ecology of North America*. Urbana:University of Illinois Press.

Suhm, Dee Ann and Alex Krieger
1954 An introductory handbook of Texas archaeology. *Bulletin of the Texas Archaeological Society* 25. Austin.

Sutton, George Miksch
1967 *Oklahoma birds*. Norman:University of Oklahoma Press.

Tringham, Ruth, Glenn Cooper, George Odell, Barbara Voytek, and Anne Whitman
1974 Experimentation in the formation of edge damage: A new approach to lithic analysis. *Journal of Field Archaeology* 1(1/2):171-196.

Wedel, Waldo R.
1961 *Prehistoric man on the Great Plains*. Norman:University of Oklahoma Press.

Wendorf, Fred
1975 Summary and conclusions. In *Late Pleistocene environments of the Southern High Plains*, edited by Fred Wendorf and James J. Hester, pp. 257-278. Fort Burgwin Research Center, *Publication* No. 9. Ranchos de Taos.

Wendorf, Fred and James J. Hester (editors)
1975 *Late Pleistocene environments of the Southern High Plains*. Fort Burgwin Research Center, *Publication* No. 9. Ranchos de Taos.

Wheeler, Richard Page
1952 A note on the McKean lanceolate point. *Plains Archaeological Conference Newsletter* 4(4):45-50.

1954 Selected projectile point types of the United States: II. *Bulletin of the Oklahoma Anthropological Society* 2:1-6. Oklahoma City.

Wood, W. Raymond
1961 The Pomme de Terre Reservoir in Western Missouri prehistory. *The Missouri Archeologist* 23:1-131. Columbia.

Wood, W. Raymond and R. Bruce McMillan
1969 Archeology and paleoecology of the Western Ozark Highlands. *Final Report* to the National Science Foundation. University of Missouri, Archeological Research. Columbia.

Wright, H. E. Jr.
1970 Vegetational history of the Central Plains. In *Pleistocene and Recent environments of the Central Great Plains*, edited by Wakefield Dort, Jr. and J. Knox Jones, Jr., pp. 157-172. Department of Geology, University of Kansas, *Special Publication* 3. Lawrence:The University of Kansas Press.

Willey, Gordon R. and Philip Phillips
1962 *Method and theory in American archaeology*. Chicago: Phoenix Books.

Wyckoff, Don G.
1963 The Kerr Dam site, a stratified site in the Markham Ferry Reservoir area, Mayes county, northeast Oklahoma. Oklahoma River Basin Survey, *Archaeological Site Report* No. 1. Norman.

1964a The cultural sequence at the Packard site, Mayes county, Oklahoma. Oklahoma River Basin Survey, *Archaeological Site Report* No. 2. Norman.

1964b The Jug Hill site, My-18, Mayes county, Oklahoma. *Bulletin of the Oklahoma Anthropological Society* 12:1-53. Oklahoma City.

1967 Radiocarbon dates from Oklahoma River Basin Survey excavations. *Oklahoma Anthropological Society Newsletter* 15(2):6-8. Norman.

1970 Archaeological and historical assesssment of the Red River basin in Oklahoma. In *Archeological and historical resources of the Red River basin*, edited by Hester A. Davis, pp. 67-134. Arkansas Archeological Survey, *Research Series* No. 1.

1971 The Caddoan cultural area: An archaeological perspective. Manuscript on file with the Oklahoma Archeological Survey. Norman.

1973 The Lowrance site of Murray county: 1969 excavations by the Oklahoma Anthropological Society. *Bulletin of the Oklahoma Anthropological Society* 21:1-155. Oklahoma City.

Wyckoff, Don G. and Thomas P. Barr
1968 The Posey site, Three Forks locale, eastern Oklahoma. Oklahoma River Basin Survey, *Archaeological Site Report* No. 10. Norman.