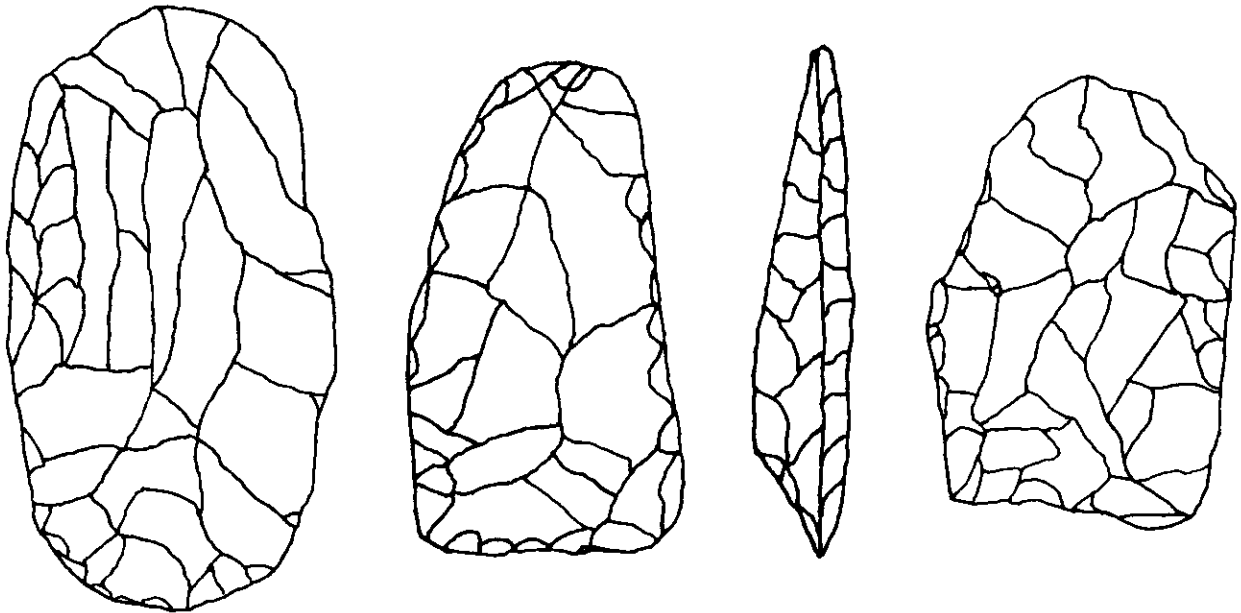




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Bifacial Tools from Site 41WH2

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Contents

Hunter-Gatherer Mobility: Limitations of Interpretation Leland W. Patterson	1
Modified Bone Artifacts from Site 41CH161 W. L. McClure	9
The Albany Scraper in Southeast Texas Leland W. Patterson	11
Bifacial Tools from 41WH2, Wharton Co., Texas L. W. Patterson and J. D. Hudgins	15
Dates for the Formation of Huntington Mound, Fort Bend Co., Texas Leland W. Patterson	20
Napoleon and the American Dream A Book Review by Sheldon Kindall	21

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Hunter-Gatherer Mobility: Limitations of Interpretation

Leland W. Patterson

Introduction

The mobility of hunter-gatherer cultures has become a popular subject for study by archeologists in North America. Torrence (1994:126) has given some reasons why this subject has become so popular. For example, "One possibility is that Binford put forward some suggestions linking technological organization and mobility, it has been supposed that the latter was good to know about. Secondly, I suspect that the reason mobility is viewed as so important is that it is frequently imagined as a necessary precursor to greater things, of which agriculture is generally the most common discussed."

Many archeologists do not understand or choose to ignore the complex nature of mobility in relation to other aspects of the organization and lifeways of hunter-gatherers. While hunter-gatherer lifeways may seem simple, compared to those of complex societies, even the hunter-gatherer level of society represents a complex, nonlinear adaptive system in which multiple manifestations can occur from small changes in variables (Lewin 1992:11; Waldrop 1992:146,255). This is why it is difficult to formulate any general rules relating mobility to other aspects of hunter-gatherer behavior. There are numerous examples in which there is no correlation between mobility and social or economic type (Torrence 1994:126). Kelly (1995) has given an excellent summary of the diversity of hunter-gatherer lifeways, based on numerous ethnographic examples.

Because of limitations in data, the mobility pattern of a hunter-gatherer social group cannot be directly described in detail from the archeological record, although mobility patterns are available from ethnographic records (Kelly 1995:Chapter 4). Archeologists infer details of hunter-gatherer mobility from the nature of cultural remains, such as house remains, site size, and monumental earthworks. There has been an increasing tendency to infer details of hunter-gatherer mobility from the organization of lithic technology (Carr 1994). As a result, many investigators have attempted to formulate rules that relate degree of mobility to some aspect of lithic technology. Kelly (1994:133) states that technology should be produced and used under sets of rules. This paper questions the concept that many general rules can be formulated for degree of mobility, such as relationship of mobility to the organization of lithic technology. Some other problems in the study of hunter-gatherer mobility are also discussed.

Definition of Mobility

Shott (1989:222) has noted that two important components of mobility are (1) frequency, the number of residential moves per unit of time, and (2) magnitude, the distance covered in those moves. Kelly (1995:149) has further observed that there is no single scale of mobility, since mobility varies along several potentially independent behavioral dimensions. Parameters of mobility include frequency of moves, distances of moves, and types of moves (residential and logistical). Models of mobility are often limited, as these models describe extreme conditions, while most hunter-gatherer behavior falls in a continuum between the extremes given by the models. Variations in mobility can occur during a single year with changes in subsistence patterns, or from year-to-year due to changes in resource availabilities.

Story (1990:269) has observed that "It would be imprudent to assume that there was but one seasonal schedule. Indeed, much of the success of hunters and gatherers surely rested on their ability to implement a number of economic responses, to be able to adjust to the good as well as

the bad times. The tendency for archeologists to reduce an economic system to one model runs the risk of stripping the system of its main mechanism for survival." Kelly (1995:100) has noted that a hunter-gatherer lifeway is not static, even over short periods of time. Most hunter-gatherers will have both residential and logistical moves within the seasonal round.

The best known mobility model is the forager-collector model by Binford (1980). In this model, "foragers" are distinguished by their residential moves to locate near resources, whereas "collectors" make use of permanent base camps, with logistical groups moving out to collect resources for transport back to the base camp. The subsistence activities of most hunter-gatherer groups will fall between these extremes, however, with groups acting as both "foragers" and "collectors" in a spectrum of actions that are dependent on the availabilities of various resources. While limitations of this model are well recognized (Ebert and Kohler 1988:113), some archeological studies still attempt to apply the concepts of "foragers" and "collectors" (Odell 1994:70), at least in a general manner. Kelly (1995:117) has noted from ethnographic data that not all foragers are highly mobile, nor are all collectors nearly sedentary. Most hunter-gatherers make both residential and logistical moves during the yearly subsistence round.

Some other models of mobility are based on the geographic distributions of resources (Cleland 1976) and land use related to site types (Pagoulatas 1992). As with Binford's (1980) model, these other models define only extremes without having methodology to address the spectrum of changes in hunter-gatherer strategies.

Description and Measurement of Mobility

The mobility of a prehistoric hunter-gatherer group cannot be directly measured or described in detail. Radiocarbon dating is not accurate enough to determine if a site was used in any specific year, which precludes determination of frequency and distance of moves. Also, it is not possible to determine which specific social group occupied a site at any given time. The duration of stays at a site cannot be directly determined either. An accumulation of artifacts at a site may represent several visits per year, one visit in each of several years, a short stay by a large group, or a long stay by a small group. Studies of hunter-gatherer mobility using archeological data are based on indirect inferences, using types and quantities of artifacts, site dimensions, etc.

Interpretation of Large Sites

In the current literature, large size hunter-gatherer sites tend to be classified as base camps. However, there are several possible interpretations of any large site. These possibilities include long residential stays, frequent yearly reuse of the site, seasonal aggregation, and repeated reuse of the site during single yearly rounds. It is not possible to determine the length of a long residential stay, which might be from one month to many months, depending on availability of resources.

There is a tendency to describe hunter-gatherer mobility and lifeway in terms of limited numbers of large key sites in a region. This can be misleading, because complete yearly mobility cycles have not been defined. There may be use of both large and small sites in seasonal rounds to exploit various resources. Seasonal exploitation patterns might be variable from year-to-year, not even using the same large sites every year. Studies in western Kentucky are a good example of possible over-emphasis of a few large sites. Dye (1996:155) has used data from a few large sites in this region to propose that environmental change and population growth promoted shifts away from residential mobility to complete sedentism. But Prentice (1996:29) refers to seasonal rounds of site occupation and resource exploitation that covered most of Native American prehistory in the Green

River area of Kentucky. By using only some large sites as examples, Dye (1996) has not defined complete seasonal rounds and associated mobility patterns.

Thomas (1986:241) has observed "Most regional studies of prehistoric hunter-gatherers require that residential areas be operationally distinguished from areas used logistically. While base camps can sometimes be separated from procurement areas on the basis of site structure, assemblage level signatures remain ill-defined and the available base camp diagnostics are notoriously difficult to apply."

Interpretations of Small Sites

Some archeologists have a tendency to generally assume that small hunter-gatherer sites represent satellite sites of large sites, used for extended logistical "collecting" trips. Several interpretations are possible for small sites. A small site can be a logistical satellite of a large site, an occupation location of a small group dispersed from a large group for seasonal subsistence activities, a specialized activity area, or simply a short-time occupation where seasonally available resources do not justify a long stay.

Even rather mobile hunter-gatherer groups can have a series of large and small sites. The mosaic of food resources in a region would seldom be even enough to cause residential stays for uniform time periods throughout the year. The availability of various food resources can be still more variable from year-to-year.

Indications of Mobility

Archeologists use a variety of data types other than the organization of lithic technology to judge degree of mobility of hunter-gatherers. Some of these data types are social complexity, presence of houses, presence of cemeteries, amount of pottery, presence of horticulture, size of sites, diversity of artifact types, and presence of monumental earthworks. There are usually problems, however, in using these types of data as indicators of degree of hunter-gatherer mobility. Increased social complexity does not necessarily indicate a more sedentary lifestyle. There are multiple factors involved in social complexity (Brown and Price 1985:439). In the western part of Southeast Texas, organized burial practices with use of exotic grave goods in the Late Archaic period may not reflect a more sedentary lifestyle. The characteristics of campsites in this area are not different from the characteristics of campsites in the adjacent central part of Southeast Texas where there is no organized mortuary tradition during the same time period (Patterson 1996:68).

Thomas (1986:242) has noted that archeologists often use diversity of artifact assemblages to distinguish residential utilization ("base camps") of sites from logistical satellite locations, but that this line of reasoning is incorrect. "In many (if not most) archaeological assemblages, sample diversity is a direct, linear function of sample size."

Indication of seasonality at a site is sometimes used as an indication of mobility. However, this does not show degree of mobility, but only that resources were being exploited on a seasonal basis. Thomas (1986:241) notes that "Most archaeologists now realize that simple enumeration of seasonal indicators, or absence thereof, on a site or surface no longer provides sufficient grounds for assigning season of occupation."

The presence of houses does not necessarily indicate a completely sedentary lifestyle, because houses may have been occupied only on a seasonal basis by groups that practiced both horticulture and hunting and gathering, such as the Algonquians of the East Coast (Wooldridge 1995:21). Sassaman and Ledbetter (1996:76) have observed that "Architectural variation, like sedentism, must therefore be viewed as a multidimensional continuum that includes individual mobility, group

