Preface

The following collection of essays investigates human mobility across space and time. In these studies, anthropologists examine the reasons for and effects of movements in modern and past populations and task groups. Our purpose is to present new research that raises questions about human adaptations and to offer fresh methodological and analytical frameworks to extract information about mobility from the ethnographic and archaeological record. Rather than provide the reader with an allegedly comprehensive definition that narrows the research focus to only a few of the many facets of human mobility, this volume embraces a diversity of approaches. As a result, we intentionally sought contributions that addressed not only archaeological perspectives but also human behavioral ecology, ethnoarchaeology, and biological anthropology. These multiple research trajectories offer opportunities to examine how human mobility is practiced in the ethnographic world and the possible ways in which those activities might be represented in the archaeological record.

Mobility is a critical aspect of human adaptation to environments. In small-scale societies, mobility is a strategy for organizing individuals, labor groups, and consumers to cope with the variation in spatial and temporal distributions of critical resources. As important as subsistence strategies are in dictating human movement, factors other than the search for food also structure population mobility and its archaeological effects. Information gathering, raw material collection, social networking, trade, mate search, and population fission present mobility needs that contrast with those of daily food searches. Although usually considered most pertinent to hunter-gatherer studies, mobility strategies also are significant components of more sedentary adaptations. Residential mobility, hunting, wild plant resource gathering, gardening, pastoral nomadism, labor exchange, trade, and a range of social and demographic movement are vital tactics among food-producing social systems of all sizes.

In the simplest terms, decisions regarding mobility affect many aspects of social organization, population distribution, and subsistence strategies. This in itself makes it an important area of anthropological research. But the wealth of potential lines of inquiry also creates numerous analytical and methodological hurdles. Due to the ever-changing nature of the scientific problem and the dense web of interactions between causal factors and mobility-related decisions, it would be naive to narrow the study of human movements to a simple equation of external stimuli with specific outcomes. This complexity is compounded by the many ways that mobility can be measured. The number of moves, distance
traveled, frequency of movement, and even who is moving are all relevant to the study of human mobility and are legitimate units of comparison. Realistically, our knowledge of how these few descriptive variables are expressed among modern peoples in contrasting environments, with a range of subsistence and social organization, is still underdeveloped. Understanding how environments and behavior may affect mobility can only be addressed through further inquiry into the complexities seen in cross-cultural research. In particular, the potential variability represented in the broader geographical extent and temporal depth of the archaeological record demands methodological and theoretical advances in addressing mobility and its systemic roles and tactics.

In light of these considerations, it is easy to imagine the difficulties that await scholars trying to infer mobility strategies from the archaeological record. As a detective needs to retrace the path of interactions that produced observed clues, the archaeologist needs to establish whether particular components of sites are indicative of specific kinds of mobility and to investigate connections between patterned human behavior and independently established stimuli. Similar behaviors encountered even in apparently identical contexts, however, may have been caused by different events. Evaluating plausible explanations requires rigorously informed comparative methodologies that can measure mobility with consistency. It also requires controlled understanding of the principles governing human movement derived from ethnographic data.

It is well recognized that the record of the past is not directly reflective of behaviors that we can see in the present. But information in the record is not only about the things that are preserved for us to study. The movement of stone raw material, for example, may be more reflective of variable currencies used in social alliances or situational collection embedded within other critical activities, rather than being a measure of a procurement system. The need for appreciation of actual interactions that can be determined independently of the archaeological record prompted the inclusion in this volume of studies focusing on aspects of mobility derived from behavioral ecology, ethnoarchaeology, and biological anthropology.

The study of mobility is at the core of many important archaeological inquiries (including migration, territory size and location, settlement patterns, and subsistence strategies). Because questions about mobility are essential to so many archaeological problems, we chose in this volume to be inclusive rather than exclusive. In the words of noted historian Lytton Strachey:

It is not by the direct method of scrupulous narration that the explorer of the past can hope to depict a singular epoch. If he is wise, he will adopt a subtler strategy. He will attack his subject in unexpected places; he will fall upon the flank and rear; he will shoot a sudden revealing searchlight into
obscure recesses, hitherto undivined. He will row out over the great ocean of material, and lower down into it, here and there, a little bucket, which will bring up to the light of day some characteristic specimen, from those far depths, to be examined with a careful curiosity. (Strachey, *Eminent Victorians* [New York: Modern Library, 1918], vii)

In order to cast light on mobility from multiple angles, this collection of essays contrasts ethnoarchaeological and archaeological approaches.

Testing and refining hypotheses are the means by which scientific knowledge moves toward a greater ability to describe relationships and predict their outcomes. Ethnographic information is derived from a different scale of observation than is archaeology. As long as we recognize that it represents a separate but relevant frame of reference for structuring data and describing organizational relationships that are the object of archaeological inquiry, ethnographic information can augment appreciation of potential variability in behavior. Ethnography offers details about the interactions between activities and provides controls for understanding how events are interrelated. Modern human behavior is a rich source for modeling the past and seeking relationships for the development of hypotheses that can be tested using archaeological data.

Ethnoarchaeological research is an additional link between observable modern behavior and the kinds of remains preserved in the archaeological record. While much ethnoarchaeology has been artifact-focused, the chapters in this volume are informed by human behavioral ecology. Several seek associations between significant ethnographic activities and ways to investigate their dynamic interactions through the static components in archaeological sites. Rather than providing a narrow material focus, this recognizes the potential for archaeology and ethnography to do complementary research by emphasizing the behavioral parameters that influence different aspects of mobility. Ethnoarchaeological observations expand archaeological interpretations by examining economic dynamics, organization of living and workspaces, indigenous geography, interactions with neighboring communities, and the influences of environments on the ways in which populations and task groups move within different scales of territory. The results are detailed data sets with enormous potential to contribute to our understanding of past human organization and modern behavioral variability.

Archaeology, however, provides the largest—if sometimes mysterious—record of human adaptation. The time depth that the archaeological record encompasses cannot be ignored. Indeed, this time-transgressive knowledge is critical to creating a historical and evolutionary framework for improved insight about modern human behavior.

By bridging the gap between archaeological and ethnographic inquiries,
this volume provides a venue for new insights into raw material acquisition and use, site structure, settlement organization, group composition, and changes in subsistence. We feel that the results presented here invigorate the quest for improved scientific understanding of mobility in human adaptations, technology, and social organization. This synthetic methodological presentation expands anthropological knowledge about a diverse range of mobility-related activities from the archaeological and ethnographic records.

The twelve essays that follow cover a broad topical and geographical landscape. The ethnoarchaeological chapters explore relationships between human settlement, subsistence, and tool use behaviors and their potential archaeological signatures.

The first two chapters serve partly as a warning to archaeologists. They show the limits of some of the analytical constructs commonly used to evaluate mobility in the archaeological record. Lewis R. Binford questions the validity of the archetypal notion of “band” as employed by many anthropologists and suggests that such a hypothetical level of organization does not exist among most mobile hunter-gatherers. He finds that families are generally the fundamental units of decision-making and the largest culturally defined social unit. Gustavo Politis explores detailed behavioral data, ideology, material culture, and campsite information for the Nukak of Colombia. He exposes multiple layers of analysis that are sometimes ignored by ecological or archaeological approaches to mobility.

The next four chapters provide innovative methods for approaching mobility from an ethnographic point of view. Nathan Craig and Napoleon A. Chagnon use GIS analysis to create a landscape view of settlement dynamics among the Yanomamö of Venezuela. Their study compares data on village and garden locations, demography, and population movements. Robert L. Kelly, Lin Poyer, and Bram Tucker examine the mobility of the Mikea of Madagascar through characteristics of household architecture and associated features that would be archaeologically visible. Michael S. Alvard addresses sustainability and transitions from hunting to agriculture among the Wana hunter-horticulturalists of Sulawesi, using GPS data on house sites, fields, and hunting areas. Finally, Russell D. Greaves examines biseasonal changes of residence and subsistence mobility of the Pumé foragers of Venezuela, linking behavioral activity budgets to archaeological patterns of landscape use.

The archaeological section of this book offers glimpses into the organization of raw material procurement, technological strategies, and the effects of mobility on tools during and after use. These chapters also explore archaeological signatures of mobility through analyses of settlement systems and direct osteological evidence. They provide a wider temporal and geographical depth that complements the ethnoarchaeological chapters.
Marsha D. Ogilvie examines past human activity levels for transitional horticulturalists and committed agriculturalists from the American Southwest. Her analysis of lower limb bone morphology connects gracilization to decreasing mobility, with an earlier decline among females in transitional populations. Claudia Chang’s study of pastoral archaeology in southeastern Kazakhstan presents a case evaluation of equestrian mobility and agricultural sedentism. Pei-Lin Yu investigates the shift from atlatl to bow and arrow in North America, Spain, and Japan. She surmises a correlation, with decreased mobility options related to population packing in productive environments. The next two chapters investigate connections between raw material economy at archaeological sites and behavioral inferences. They both advocate contextualization of lithic activities in order to extract mobility-related information from stone tools. Frédéric Sellet illustrates, with an example from a Paleoindian site, how transported tools and local manufacture can be examined independently of raw materials to address long-term planning, risk minimization, and mobility. In a complementary study, Paul T. Thacker argues that comparisons of lithic raw materials often overemphasize the role of exotic sources in reconstructing past mobility strategies. He demonstrates the relevance of ecological modeling of local toolstone use in landscape analyses with a discussion of Portuguese Pleistocene/Holocene sites. Finally, Peter Veth explores the colonization of the Australian Western Desert, showing that transformations in later Pleistocene settlement and mobility are related to the onset of hyperaridity.

All of these examples emphasize the value of varied comparative approaches in improving comprehensive knowledge of mobility for deciphering the archaeological record. If we admit that our understanding of human mobility is imperfect and perhaps even rudimentary, then the potential arenas of interest and relevance are enormous.

Human behavioral variability and cultural differences are the essence of human adaptability. The capacity to inhabit an immense range of physical habitats with unique periodicities and ranges of climatic and biomass variation is at least partially dependent on strategies of population and labor movement within these environments. The complexity of a number of these systems is ingenious. Although some cases are moderately well understood, our comparative sense of system differences is as yet minimally developed. The value of this open-ended set of comparative studies should be obvious to researchers interested in using all tools at our disposal to address issues of modern human mobility and learning to read the vast archaeological record of environmental adaptations. These studies are offered with the hope that they can stimulate the use of many domains of knowledge to address issues of human strategic use of landscapes in the past and observable present.