

# PART II

## Discovering the Variety of Human Experience

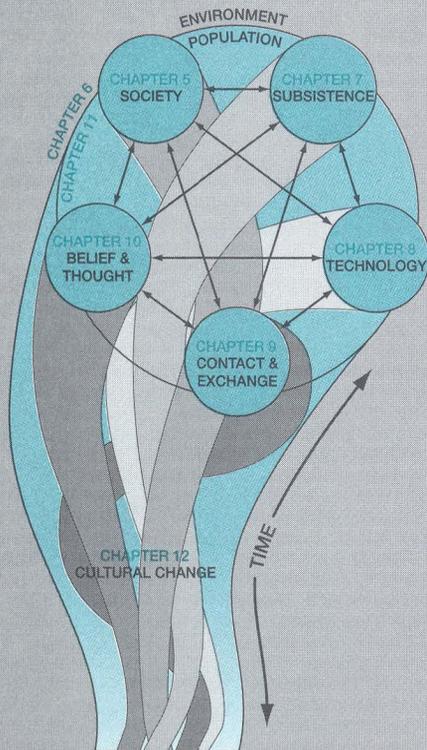
In Part I certain basic problems were tackled. The methods were set out by which the space–time framework of the past can be established. We need to know *where* things happened, and *when* they happened. That has always been one of the basic objectives of archaeology, and it remains so.

For traditional archaeology, it was indeed the main task. It seemed sufficient to classify the various finds into different assemblages, which themselves could be grouped to form archaeological cultures, as we saw in Chapter 3. It seemed plausible to Gordon Childe, and to most of those who followed him, that these cultures were the material remains of distinct groups of people, of what we would today call ethnic groups – not in the racial sense, but groups of people with their own distinctive lifestyle and identity. As Childe put it, writing in 1929:

We find certain types of remains – pots, implements, ornaments, burial sites, house forms – constantly recurring together. Such a complex of regularly associated traits we shall term a “cultural group” or just a “culture.” We assume that such a complex is the material expression of what today would be called a “people.”

Since the 1960s, however, it has been realized that this conventional way of treating the past is a limiting one. The concept of the archaeological culture is merely a classificatory device that does not necessarily relate to any reality in the archaeological record. And certainly to equate such notional “cultures” with “peoples” is now seen to be extremely hazardous. These issues will be looked at again in Chapter 12.

What archaeologists eventually recognized is that progress comes from asking a different set of questions. These form the basis of the organization of Part II. They have to do with the nature of a society or culture, and how such societies change over time.



Model of the interrelated parts of a social system, which forms the basis for the organization of Part II.

At its simplest, a society may be viewed as having several interconnecting parts, as indicated in the accompanying diagram. The British archaeologist Christopher Hawkes, writing in 1954, argued that it is easiest in archaeology to find out about technology and diet, and most difficult to discover social organization or what people believed and thought. Archaeologists should therefore start by analyzing aspects of society like technology and diet. This is not an argument we accept. As will be shown in Chapter 5, it is essential first to have some idea about the social organization of the society being studied in order to be able to go on to ask the right questions about other aspects of that society. For example, groups organized as mobile hunter-gatherer groups, subsisting by hunting and gathering food, and constantly on the move, are never in one place long enough to build towns or cities – nor is their population sufficient or their social and economic organization complex enough to support such communities. It would be pointless therefore to expect to find towns or cities among such societies. But equally one must study what mobile hunter-gatherer societies *do* build in the way of structures, and learn what traces these may leave in the archaeological record. Modern observers commonly underestimate the capabilities of simpler societies, believing, for instance – as most archaeologists once did – that the famous monument of Stonehenge in southern England could only have been built by more advanced visitors from the civilization of Mycenae in Greece. (It is explained in Chapter 5 what type of society is now thought to have been responsible for erecting Stonehenge.)

We thus start, in Chapter 5, with the question, “How were societies organized?,” and go on in subsequent chapters to consider environment and diet before turning to tools and technology, contact and exchange between societies, the way people thought, and the way people evolved and colonized the world – biological anthropology and population. In Chapter 12 we ask, “Why were things as they were?” and “Why did they change?,” and in some ways these are the most interesting questions of all. In their *History of American Archaeology*, Gordon Willey and Jeremy Sabloff have argued that, in the 1960s, archaeology moved on from a period preoccupied with classification, description, and the function of things, and entered an Explanatory Period. Certainly explanation has come to be seen by many as a central goal of archaeological research.

# 5

## How Were Societies Organized?

### Social Archaeology

Some of the most interesting questions we can ask about early societies are social. They are about people and about relations between people, about the exercise of power and about the nature and scale of organization.

As is generally the case in archaeology, the data do not speak for themselves: we have to ask the right questions, and devise the means of answering them. There is a contrast here with cultural or social anthropology, where the observer can visit the living society and rapidly form conclusions about its social and power structures before moving on to other matters, such as the details of the kinship system or the minutiae of ritual behavior. The social archaeologist has to work systematically to gain even basic details, but the prize is a rich one: an understanding of the social organization not just of societies in the present or very recent past (like cultural anthropology) but of societies at many different points in time, with all the scope that that offers for studying change. Only the archaeologist can obtain that perspective, and hence seek some understanding of the processes of long-term change.

The first question to address is the size or *scale* of the society. The archaeologist will often be excavating a single site. But was that an independent political unit, like a Maya or Greek city-state, or a simpler unit, like the base camp of a hunter-gatherer group? Or was it, on the other hand, a small cog in a very big wheel, a subordinate settlement in some far-flung empire, like that of the Incas of Peru? Any site we consider will have its own hinterland, its own catchment area for the feeding of its population. But one of our interests is to go beyond that local area, and to understand how that site articulates with others. From the standpoint of the individual site – which is often a convenient perspective to adopt – that raises questions of *dominance*. Was the site politically independent, autonomous? Or, if it was part of a larger social system, did it take a dominant part (like the capital city of a kingdom) or a subordinate one?

If the scale of the society is a natural first question, the next is certainly its internal organization. What kind of society was it? Were the people forming it on a more-or-less equal social footing? Or were there instead prominent differences in status, rank, and prestige within the society – perhaps different social classes? And what of the professions: were there craft specialists? And if so, were they controlled within a centralized system, as in some of the palace economies of the Near East and Egypt? Or was this a freer economy, with a flourishing free exchange, where merchants could operate at will in their own interest?

These questions, however, may all be seen as “top-down” questions, looking at the society from above and investigating its organization. But increasingly an alternative perspective is being followed, looking first at the individual, and at the way the identity of the individual in the society in question is defined. The questions that arise in this “bottom-up” perspective are about the way such important social constructs as gender, status, and even age are constituted – for increasingly archaeologists are coming to realize that these are not “givens,” that is they are not unproblematic cross-cultural realities but constructs specific to each different society. These insights are leading to new fields: the archaeology of the individual and the archaeology of identity.

Different kinds of society need different kinds of question. For example, if we are dealing with a mobile group of hunter-gatherers, there is unlikely to be a complex centralized organization. And the techniques of investigation will need to vary radically with the nature of the evidence. One cannot tackle an early hunter-gatherer camp in Australia in the same way as the capital city of a province in China during the Shang Dynasty. Thus, the questions we put, and the methods for answering them, must be tailored to the sort of community we are dealing with. So it is all the more necessary to be clear at the outset about the general nature of that community, which is why the basic social questions are the first ones to ask.

Precisely because the scale of a society is crucial in determining the way many different aspects of its social organization work in practice, this chapter deals first with smaller, simpler societies, building toward larger, more complex ones. Certain questions, such as settlement archaeology or the study of burials, are therefore discussed in the context of each type of

society. This involves some repetition between sections but it allows us to deal more coherently with the different social aspects of societies organized on approximately the same scale. We then turn to the “bottom-up” issues, to ask questions about the individual and the archaeology of identity which have general relevance.

## **ESTABLISHING THE NATURE AND SCALE OF THE SOCIETY**

The first step in social archaeology is so obvious that it is often overlooked. It is to ask, what was the scale of the largest social unit, and what kind of society, in a very broad sense, was it?

The obvious is not always easy, and it is necessary to ask rather carefully what we mean by the “largest social unit,” which we shall term the *polity*. This term does not in itself imply any particular scale or complexity of organization. It can apply as well to a city-state, a hunter-gatherer band, a farming village, or a great empire. A polity is a politically independent or autonomous social unit, which may in the case of a complex society, such as a state society, comprise many lesser components. Thus, in the modern world, the autonomous nation state may be subdivided into districts or counties, each one of which may contain many towns and villages. The state as a whole is thus the polity. At the other end of the scale, a small group of hunter-gatherers may make its own decisions and recognize no higher authority: that group also constitutes a polity.

Sometimes communities may join together to form some kind of federation, and we have to ask whether those communities are still autonomous polities, or whether the federation as a whole is now the effective decision-making organization. These points are not yet archaeological ones: however, they illustrate how important it is to be clear about what we wish to know about the past.

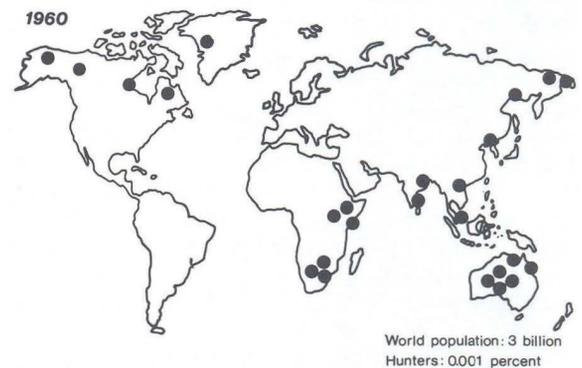
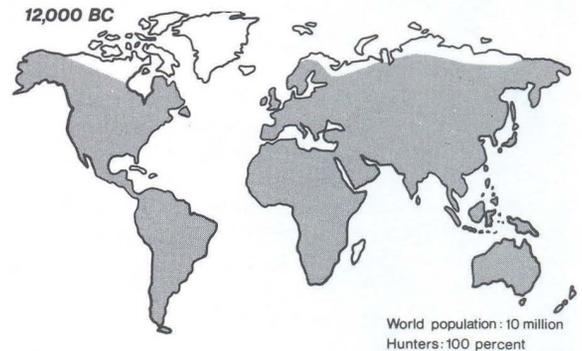
In terms of research in the field, the question is often best answered from a study of settlement: both in terms of the scale and nature of *individual sites* and in relationships between them, through the analysis of *settlement pattern*. But we should not forget that *written records*, where a society is literate and uses writing, *oral tradition*, and *ethnoarchaeology* – the study from an archaeological point of view of present-day societies – can be equally valuable in assessing the nature and scale of the society under review.

First, however, we need a frame of reference, a hypothetical classification of societies against which to test our ideas.

### **Classification of Societies**

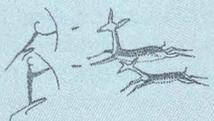
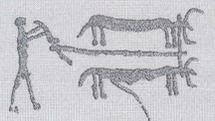
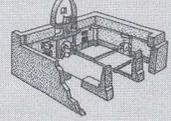
The American anthropologist Elman Service developed a four-fold classification of societies that many archaeologists have found useful, though his terminology has since been amended. Associated with these societies are particular kinds of site and settlement pattern.

**Mobile hunter-gatherer groups (sometimes called “bands”).** These are small-scale societies of hunters and gatherers, generally of fewer than 100 people, who move



(Above) Before the advent of farming, all human societies were hunter-gatherer groups; today these scarcely exist.  
(Right) Classification of societies.

## 5 How Were Societies Organized? Social Archaeology

	MOBILE HUNTER-GATHERER GROUPS	SEGMENTARY SOCIETY	CHIEFDOM	STATE
	 <p>San hunters, South Africa</p>	 <p>Man plowing, Valcamonica, Italy</p>	 <p>Horseman, Gundestrup cauldron</p>	 <p>Terracotta army, tomb of first emperor of China</p>
TOTAL NUMBERS	Less than 100	Up to few 1000	5000–20,000+	Generally 20,000+
SOCIAL ORGANIZATION	Egalitarian Informal leadership	Segmentary society Pan-tribal associations Raids by small groups	Kinship-based ranking under hereditary leader High-ranking warriors	Class-based hierarchy under king or emperor Armies
ECONOMIC ORGANIZATION	Mobile hunter-gatherers	Settled farmers Pastoralist herders	Central accumulation and redistribution Some craft specialization	Centralized bureaucracy Tribute-based Taxation Laws
SETTLEMENT PATTERN	Temporary camps	Permanent villages	Fortified centers Ritual centers	Urban: cities, towns Frontier defenses Roads
RELIGIOUS ORGANIZATION	Shamans	Religious elders Calendrical rituals	Hereditary chief with religious duties	Priestly class Pantheistic or monotheistic religion
ARCHITECTURE	Temporary shelters   <i>Paleolithic skin tents, Siberia</i>	Permanent huts Burial mounds Shrines   <i>Neolithic shrine, Çatalhöyük, Turkey</i>	Large-scale monuments   <i>Stonehenge, England - final form</i>	Palaces, temples, and other public buildings   <i>Pyramids at Giza</i>  <i>Castillo, Chichén Itzá, Mexico</i>
ARCHAEOLOGICAL EXAMPLES	All Paleolithic societies, including Paleo-Indians	All early farmers (Neolithic/Archaic)	Many early metalworking and Formative societies	All ancient civilizations, e.g. in Mesoamerica, Peru, Near East, India and China; Greece and Rome
MODERN EXAMPLES	Inuit San, southern Africa Australian Aborigines	Pueblos, Southwest USA New Guinea Highlanders Nuer and Dinka, E. Africa	Northwest Coast Indians, USA 18th-century Polynesian chiefdoms in Tonga, Tahiti, Hawaii	All modern states

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seasonally to exploit wild (undomesticated) food resources. Most surviving hunter-gatherer groups today are of this kind, such as the Hadza of Tanzania or the San of southern Africa. Band members are generally kinsfolk, related by descent or marriage. Bands lack formal leaders, so there are no marked economic differences or disparities in status among their members.

Because bands are composed of mobile groups of hunter-gatherers, their sites consist mainly of seasonally occupied camps, and other smaller and more specialized sites. Among the latter are kill or butchery sites – locations where large mammals are killed and sometimes butchered – and work sites, where tools are made or other specific activities carried out. The base camp of such a group may give evidence of rather insubstantial dwellings or temporary shelters, along with the debris of residential occupation.

During the Paleolithic period (before 12,000 years ago) most archaeological sites seem to conform to one or other of these categories – camp sites, kill sites, work sites – and archaeologists usually operate on the assumption that most Paleolithic societies were organized into bands. Ethnoarchaeology (see below) has devoted much attention to the study of living groups of hunter-gatherers, yielding many insights relevant to the more remote past.

**Segmentary societies (sometimes referred to as “tribes”).** These are generally larger than mobile hunter-gatherer groups, but rarely number more than a few thousand, and their diet or subsistence is based largely on cultivated plants and domesticated animals. Typically, they are settled farmers, but they may be nomad pastoralists with a very different, mobile economy based on the intensive exploitation of livestock. These are generally multicommunity societies, with the individual communities integrated into the larger society through kinship ties. Although some segmentary societies have officials and even a “capital” or seat of government, such officials lack the economic base necessary for effective use of power.

The typical settlement pattern for segmentary societies is one of settled agricultural homesteads or villages. Characteristically, no one settlement dominates any of the others in the region. Instead, the archaeologist finds evidence for isolated, permanently occupied houses (a *dispersed* settlement pattern) or for permanent villages (a *nucleated* pattern). Such villages may be made up of a collection of free-standing houses, like those of the first farmers of the Danube valley in Europe, c. 4500 BC. Or they may be clusters of buildings grouped together – so-called *agglomerate* structures, for example, the pueblos of the American Southwest,

and the early farming village or small town of Çatalhöyük, c. 7000 BC, in modern Turkey.

**Chiefdoms.** These operate on the principle of ranking – differences in social status between people. Different lineages (a lineage is a group claiming descent from a common ancestor) are graded on a scale of prestige, and the senior lineage, and hence the society as a whole, is governed by a chief. Prestige and rank are determined by how closely related one is to the chief, and there is no true stratification into classes. The role of the chief is crucial.

Often, there is local specialization in craft products, and surpluses of these and of foodstuffs are periodically paid as obligations to the chief. He uses these to maintain his retainers, and may use them for redistribution to his subjects. The chiefdom generally has a center of power, often with temples, residences of the chief and his retainers, and craft specialists. Chiefdoms vary greatly in size, but the range is generally between about 5000 and 20,000 persons.

One of the characteristic features of the chiefdom is the existence of a permanent ritual and ceremonial center that acts as a central focus for the entire polity. This is not a permanent urban center (such as a city) with an established bureaucracy, as one finds in state societies. But chiefdoms do give indications that some sites were more important than others (site hierarchy), as discussed later in this chapter. Examples are Moundville in Alabama, USA, which flourished c. AD 1000–1500, and the late Neolithic monuments of Wessex in southern Britain, including the famous ceremonial center of Stonehenge (see boxes, below).

The personal ranking characteristic of chiefdom societies is visible in other ways than in settlement patterning: for instance, in the very rich grave-goods that often accompany the burials of deceased chiefs.

**Early States.** These preserve many of the features of chiefdoms, but the ruler (perhaps a king or sometimes a queen) has explicit authority to establish laws and to enforce them by the use of a standing army. Society no longer depends totally on kin relationships: it is now stratified into different classes. Agricultural workers or serfs and the poorer urban dwellers form the lowest classes, with the craft specialists above, and the priests and kinsfolk of the ruler higher still. The functions of the ruler are often separated from those of the priest: palace is distinguished from temple. The society is viewed as a territory owned by the ruling lineage and populated by tenants who have an obligation to pay taxes. The central capital houses a bureaucratic administration of officials; one of their principal purposes is

to collect revenue (often in the form of taxes and tolls) and distribute it to government, army, and craft specialists. Many early states developed complex redistributive systems to support these essential services.

Early state societies generally show a characteristic urban settlement pattern in which *cities* play a prominent part. The city is typically a large population center (often of more than 5000 inhabitants) with major public buildings, including temples and work places for the administrative bureaucracy. Often, there is a pronounced settlement hierarchy, with the capital city as the major center, and with subsidiary or regional centers as well as local villages.

This rather simple social typology, set out by Elman Service and elaborated by William Sanders and Joseph Marino, can be criticized, and it should not be used unthinkingly. For instance, some scholars found the concept of the tribe a rather vague one, and prefer to speak of “segmentary societies.” The term “tribe,” implying a larger grouping of smaller units, carries with it the assumption that these communities share a common ethnic identity and self-awareness, which is now known not generally to be the case. The term “segmentary society” refers to a relatively small and autonomous group, usually of agriculturalists, who regulate their own affairs: in some cases, they may join together with other comparable segmentary societies to form a larger ethnic unit or “tribe”; in other cases, they do not. For the remainder of this chapter, we shall therefore refer to *segmentary societies* in preference to the term “tribe.” And what in Service’s typology were called “bands” are now more generally referred to as “mobile hunter-gatherer groups.”

Certainly, it would be wrong to overemphasize the importance of the four types of society given above, or to spend too long agonizing as to whether a specific group should be classed in one category rather than another. It would also be wrong to assume that somehow societies inevitably evolve from bands to segmentary societies, or from chiefdoms to states. One of the challenges of archaeology is to attempt to explain why some societies become more complex and others do not, and we shall return to the fundamental issue of explanation in Chapter 12.

Nevertheless, if we are seeking to talk about early societies, we must use words and hence concepts to do so. Service’s categories provide a good framework to help organize our thoughts. They should not, however, deflect us from focusing on what we are really looking for: changes over time in the different institutions of a society – whether in the social sphere, the organization of the food quest, technology, contact

and exchange, or spiritual life. For archaeology has the unique advantage of being able to study processes of change over thousands of years, and it is these processes we are seeking to isolate. Happily there are sufficiently marked differences between simple and more complex societies for us to find ways of doing this. As we saw above in the description of Service’s four types of society, complex societies show in particular an increased specialization in, or separation between, different aspects of their culture. In complex societies people no longer combine, say, the tasks of obtaining food, making tools, or performing religious rites but become specialists at one or other of these tasks, either as full-time farmers, craftspeople, or priests. As technology develops, for example, groups of individuals may acquire particular expertise in pottery-making or metallurgy, and will become full-time *craft specialists*, occupying distinct areas of a town or city and thus leaving distinct traces for the archaeologist to discover. Likewise, as farming develops and population grows, more food will be obtained from a given piece of land (food production will *intensify*) through the introduction of the plow or irrigation. As this specialization and intensification take place, so too does the tendency for some people to become wealthier and wield more authority than others – differences in social status and *ranking* develop.

It is methods for looking at these processes of increasing specialization, intensification, and social ranking that help us identify the presence of more complex societies in the archaeological record – societies here termed for convenience chiefdoms or states. For simpler hunter-gatherer groups or segmentary societies, other methods are needed if we are to identify them archaeologically, as will become apparent in a later section.

## Scale of the Society

With this general background in mind one can develop a strategy for answering the first, basic question: what is the scale of the society? One answer may come from an understanding of the settlement pattern, and this can only come from survey (see below).

For a first approximation, however, an elaborate field project may be unnecessary. If, for instance, we are dealing with archaeological remains dating to before about 12,000 years ago, then we are dealing with a society from the Paleolithic period. On present evidence, nearly all the societies known from that enormously long period of time – spanning hundreds of thousands of years – consisted of mobile hunter-gatherers, occupying camps on a seasonal and

temporary basis. On the other hand, where we find indications of permanent settlement this will suggest a segmentary society of agricultural villages or something more complex.

At the other end of the scale, if there are major urban centers the society should probably rank as a state. More modest centers, or ceremonial centers without urban settlement, may be indicative of a chiefdom. To use these classificatory terms is a worthwhile first step in social analysis, provided we bear in mind again that these are only very broad categories designed to help us formulate appropriate methods for studying the societies in question.

If it is clear that we are dealing with communities with a mobile economy (i.e. hunter-gatherers, or possibly nomads), highly intensive techniques of survey will have to be used, because the traces left by mobile communities are generally very scanty. If, on the other hand, these were sedentary communities, a straightforward field survey is now called for. It will have as its first objective the establishment of *settlement hierarchy*.

### The Survey

The techniques of field survey were discussed in Chapter 3. Surveys can have different purposes: in this case, our aim is to discover the hierarchy of settlement. We are particularly interested in locating the major centers (because our concern is with organization) and in establishing the nature of the more modest sites. This implies a dual sampling strategy. At the intensive level of survey, systematic surface survey of carefully selected transects should be sufficient, although the ideal would be a total survey of the entire area. A random stratified sampling strategy – as outlined in Chapter 3 – taking into account the different environmental areas within the region, should offer adequate data about the smaller sites. However, random sampling of this kind could, in isolation, be misleading and subject to what Kent Flannery has called “the Teotihuacán effect.” Teotihuacán is the huge urban site in the Valley of Mexico that flourished in the 1st millennium AD (see box, pp. 90–91). Random stratified sampling alone could easily miss such a center, and would thus ruin any effective social analysis.

The other aim of the strategy must be, therefore, to go for the center. Means must be devised of finding the remains of the largest center in the region, and as many lesser centers as can be located. Fortunately, if it was an urban site, or had monumental public buildings, such a center should become obvious during even a non-intensive survey, so long as a good overview of the

area as a whole is obtained. In most cases the existence of such a prominent site will already be well known to the local population, or indeed recorded in the available archaeological or antiquarian literature. All such sources, including the writings of early travelers in the region, should be scrutinized in order to maximize the chances of finding major centers.

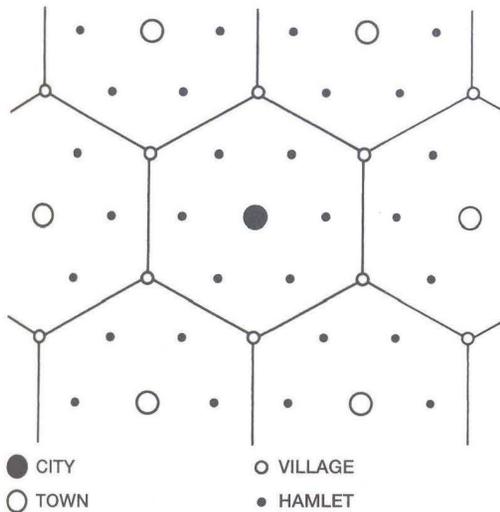
The main centers usually have the most impressive monuments, and contain the finest artifacts. So it is imperative to visit all the major monuments of the period, and to follow up the circumstances of any particularly rich finds in the region. Where appropriate, there is plenty of scope too for remote sensing methods such as were described in Chapter 3.

### Settlement Patterning

Any survey will result in a map of the areas intensively surveyed and a catalog of the sites discovered, together with details of each site including size, chronological range (as may be determined from surface remains such as pottery), and architectural features. The aim is then to reach some classification of the sites on the basis of this information. Possible site categories include, for instance, Regional Center, Local Center, Nucleated Village, Dispersed Village, and Hamlet.

The first use we will make of settlement pattern information is to identify the social and political territories around centers, in order to establish the political organization of the landscape. Many archaeological approaches here give prominence to Central Place Theory (see below), which we feel has some limitations. It assumes that the sites in a given region will fall neatly into a series of categories according to variations in site size. All the primary centers should be in one size category, all the secondary centers in the next, etc. This technique cannot cope with the true situation which is that secondary centers in one area are sometimes larger than primary centers in another. More recent work has found a way of overcoming this difficulty (the XTENT technique), but we will deal here with the earlier methods first.

**Central Place Theory.** This theory was developed by the German geographer Walter Christaller in the 1930s to explain the spacing and functions of cities and towns in modern-day southern Germany. He argued that in a uniform landscape – without mountains or rivers or variations in the distribution of soils and resources – the spatial patterning of settlements would be perfectly regular. Central places or settlements (towns or cities) of the same size and nature would be situated equidistant from each other, surrounded by a constellation



*Central Place Theory: in a flat landscape, with no rivers or variations in resources, a central place (town or city) will dominate a hexagonal territory, with secondary centers (villages or hamlets) spaced at regular intervals around it.*

of secondary centers with their own, smaller satellites. Under these perfect conditions, the territories “controlled” by each center would be hexagonal in shape, and the different levels of center would together give rise to an intricate settlement lattice.

Such perfect conditions do not occur in nature, of course, but it is still quite possible to detect the workings of Central Place Theory in the distributions of modern or ancient cities and towns. The basic feature is that each major center will be some distance from its neighbors and will be surrounded by a ring of smaller settlements in a hierarchically nested pattern. In political and economic terms the major center will supply certain goods and services to its surrounding area and will exact certain goods and services in return. Even in an area so far from uniform as Mesopotamia (modern Iraq), Central Place Theory has its uses (see box overleaf).

**Site Hierarchy.** Despite the reservations we have expressed about Central Place Theory, the analysis of site sizes is a useful basic approach. In archaeological studies, the sites are usually listed in rank order by size (i.e. in a site hierarchy), and then displayed as a histogram. There are normally many more small villages and hamlets in a settlement system than large towns or cities. Histograms allow comparisons to be made between the site hierarchies of different regions, different periods, and different types of society. In band societies, for example, there will usually be only a narrow

range of variation in site size and all the sites will be relatively small. State societies, on the other hand, will have both hamlets and farmsteads and large towns and cities. The degree to which a single site is dominant within a settlement system will also be evident from this type of analysis, and the organization of the settlement system will often be a direct reflection of the organization of the society which created it. In a general way, the more hierarchical the settlement pattern, the more hierarchical the society.

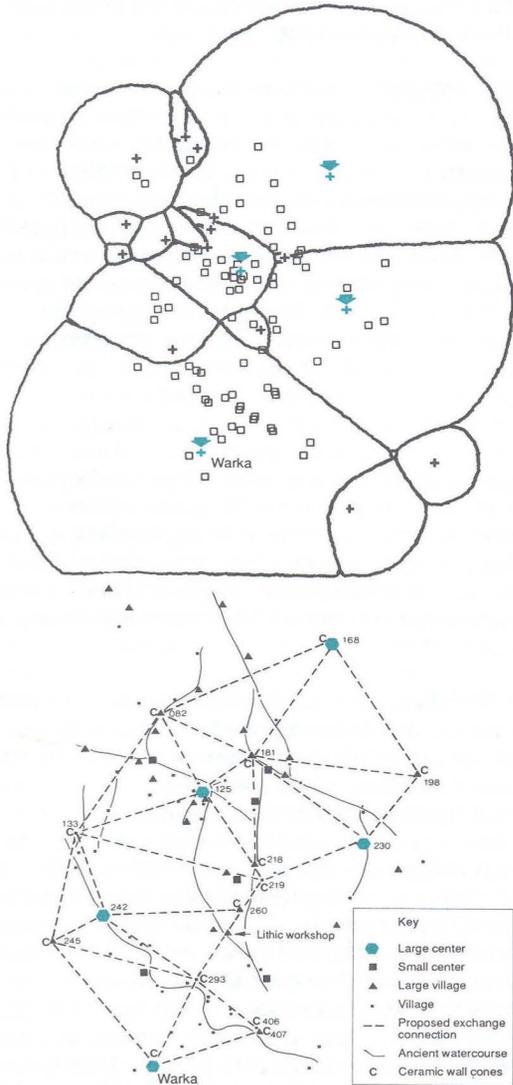
**Thiessen Polygons.** Another relatively simple method that can be used in the study of settlement patterns is the construction of Thiessen polygons. These are simple geometrical shapes that divide an area into a number of separate territories, each focused on a single site. The polygons are created by drawing straight lines between each pair of neighboring sites, then at the mid-point along each of these lines a second series of lines, at right angles to the first. Linking up the second series of lines creates the Thiessen polygons, and in this way the whole of an area can be apportioned among the sites it contains. It should be noted, however, that this procedure takes no account of differences in size or importance of sites; a small site will have as big a polygon as a large site. Thus it is important to use only sites of the same rank in the settlement hierarchy when this technique is being applied. A further question, more difficult to resolve, is contemporaneity, since clearly it would be meaningless to draw Thiessen polygons between sites which were not in occupation at the same time.

**XTENT Modeling.** One of the shortcomings of Central Place Theory and other approaches is that sites occupying the same level in a settlement hierarchy might not be of the same size. Thus the capital city of a state on the periphery of a distribution could be smaller than a secondary city in the center. We are now able to cope with this using the technique of XTENT modeling. This has the aim of assigning territories to centers according to their scale. To do this, it assumes that a large center will dominate a small one if they are close together. In such a case, of so-called *dominance*, the territory of the smaller site is simply absorbed in the study into that of the larger one: in political terms the smaller site has no independent or autonomous existence. This approach overcomes the limitation of the Thiessen polygon method, where territories are assigned irrespective of the size of the center, and where there are no dominant or subordinate centers.

In XTENT modeling, the size of each center is assumed to be directly proportional to its area of

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influence. The influence of each center is thought of as analogous to a bell or bell-tent in shape: the greater the size of the center the higher the tent. Centers are considered to be subordinate if their associated bell tents fall entirely within that of a larger center. If they protrude beyond, they will have their own autonomous existence as centers of political units.

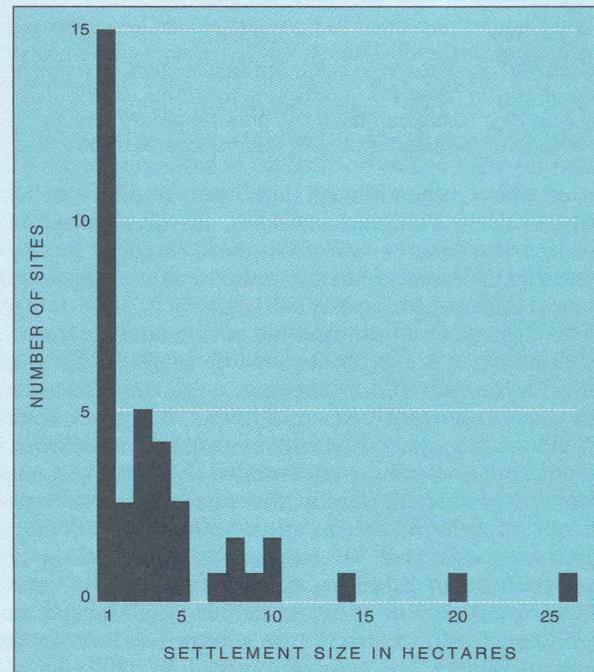


(Top) XTENT model territories, Late Uruk period, Warka area, Mesopotamia. Arrows indicate four centers that emerge as autonomous. Compare Greg Johnson's hierarchy (above) for the same region. Note how four of the five "large centers" correspond with the autonomous ones in the XTENT model.



## SETTLEMENT PATTERNS IN MESOPOTAMIA

Gregory Johnson's work in the Diyala region of Mesopotamia, to the east of Baghdad in modern Iraq, provides a good illustration of the way in which Central Place Theory can be applied to archaeological survey results. Thirty-nine settlements of the Early Dynastic



Site hierarchy for 39 settlements in the Diyala region, expressed as a histogram. As is usually the case with such hierarchies, there is a decline in the number of sites as site size increases. There are normally many more small villages and hamlets in a settlement system than large towns or cities. Any analysis of this kind has to make certain assumptions – for instance, that evidence for sites in each category has been uniformly preserved, which may not always be the case.

period (c. 2800 BC) are known from this area. They range in size from 25 ha (60 acres) to just over one-tenth of a hectare (0.25 acre), and on this basis Johnson divided them into five categories: large towns, towns, large villages, small villages, and hamlets.

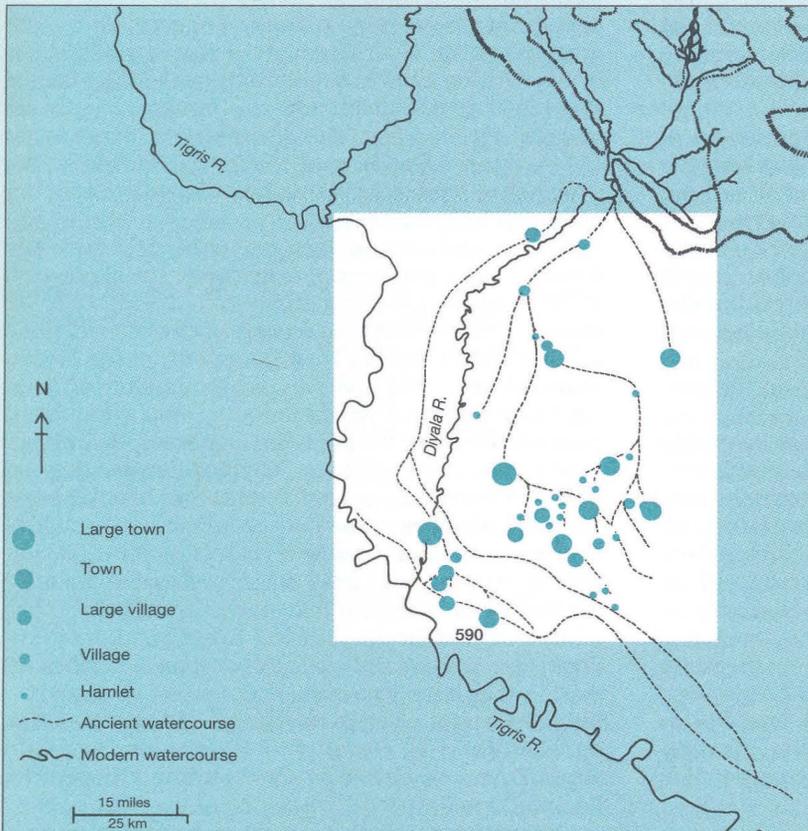
The distribution of sites suggested that there were four lattice cells, each lattice cell being the network of settlements grouped around a first order center or central place. In theory, each cell should have had a large town at the center, towns at each of the four corners, and large villages at the mid-points between the towns and at the

mid-points between the towns and the large towns. Small villages and hamlets completed the pattern to create a model settlement lattice which could be compared with the real pattern as revealed by the Diyala survey. Discrepancies could then be identified and explained.

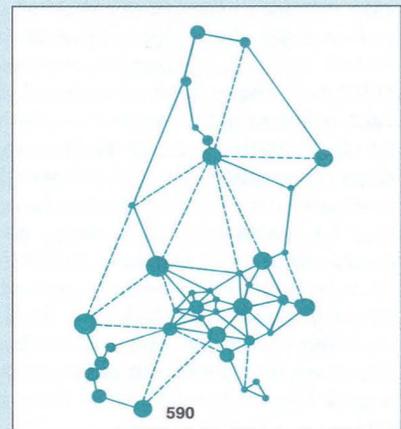
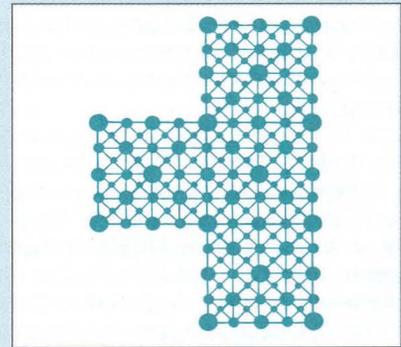
It is precisely the discrepancies from the expected pattern that are of interest. Johnson found that maximization of usable land (which would have been implied had there been even spacing of settlements) was less significant in determining settlement location than were water

transport networks. Settlements of successively smaller size were located along watercourses – lines of communication – between the larger settlements.

Nevertheless, it was only after considerable modification that the lattice model could be made to fit the Diyala evidence. Several of the predicted primary and secondary centers were lacking, while others were smaller than they were expected to be. Thus, though the exercise was certainly valuable, it highlighted the difficulties of applying Central Place Theory to a real archaeological case.



Early Dynastic settlement pattern in the Diyala region of Iraq, based on survey work originally carried out by Robert Adams.



Derivation of the proposed settlement lattice for the Diyala region, from the idealized, regular four lattice cells (top) to the final pattern (above) that seemed best to fit the actual settlement locations on the ground.

## PART II Discovering the Variety of Human Experience

Although the XTENT model can never offer more than a simple approximation of the political reality, it does allow a hypothetical political map to be constructed from appropriate survey data (see illustration on p. 180).

By methods such as these, information derived from settlement surveys can be used to produce what is in effect a political and administrative map, even though such maps will always rely on certain basic assumptions that cannot easily be proved. And while the examples given in the box (pp. 180–81) have been

drawn from studies of state societies, it is possible to apply similar techniques to the settlement patterns of less complex societies, such as the Neolithic of southern Britain (see box, pp. 198–99). In the Iron Age of southern Britain, more hierarchically organized societies developed, with prominent hillforts dominating the tribal territories. A pioneering analysis by David Clarke interpreted the social position of the Iron Age site of Glastonbury in these terms, as belonging within a territory dominated by such a fortified center.

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## FURTHER SOURCES OF INFORMATION FOR SOCIAL ORGANIZATION

If the first approach by archaeologists to the study of social organization must be through the investigation of settlement and settlement pattern, this should not exclude other possible avenues of approach, including the use of written records, oral tradition, and ethno-archaeology.

Here it is appropriate to mention the argument of Lewis Binford, that if we are to bridge the gap between the archaeological remains and the societies those remains represent we need to develop a systematic body of what he terms *Middle Range Theory*. For the moment, however, we believe it is difficult to justify the division of archaeological theory into high, middle, and low. We choose not to use the term Middle Range Theory.

Some scholars also lay great emphasis on the concept of *analogy*. Arguments by analogy are based on the belief that where certain processes or materials resemble each other in some respects, they may resemble each other in other ways also. Thus it may be possible to use details from one body of information to fill the gaps in another body of information from which those details are missing. Some have considered an analogy a fundamental aspect of archaeological reasoning. In our view this emphasis is misplaced. It is true that archaeologists use information from the study of one society (whether living or dead) to help understand other societies they may be interested in, but these are usually in the nature of general observations and comparisons, rather than specific detailed analogies.

### Written Records

For literate societies – those that use writing, for instance all the great civilizations in Mesoamerica, China, Egypt, and the Near East – historical records can answer many of the social questions set out at the

beginning of this chapter. A prime goal of the archaeologist dealing with these societies is therefore to find appropriate texts. Many of the early excavations of the great sites of the Near East had the recovery of archives of clay writing tablets as their main goal. Major finds of this kind are still made today – for example, at the ancient city of Ebla (Tell Mardikh) in Syria in the 1970s, where an archive of 15,000 clay tablets yielded evidence of a previously unknown language and state of the 3rd millennium BC.

In each early literate society, writing had its own functions and purposes. For instance, the clay tablets of Mycenaean Greece, dating from c. 1200 BC, are almost without exception records of commercial transactions (goods coming in or going out) at the Mycenaean palaces. This gives us an impression of many aspects of the Mycenaean economy, and a glimpse into craft organization (through the names for the different kinds of craftspeople), as well as introducing the names of the offices of state. But here, as in other cases, accidents of preservation may be important. It could be that the Mycenaean wrote on clay only for their commercial records, and used other, perishable materials for literary or historical texts now lost to us. It is certainly true that for the Classical Greek and Roman civilizations, it is mainly official decrees inscribed on marble that have survived. Fragile rolls of papyrus – the predecessor of modern paper – with literary texts on them, have usually only remained intact in the dry air of Egypt, or buried in the volcanic ash covering Pompeii (see box, pp. 22–23).

An important written source that should not be overlooked is coinage. The findspots of coins give interesting economic evidence about trade (Chapter 9). But the inscriptions themselves are informative about the issuing authority – whether city-state (as in ancient Greece) or sole ruler (as in Imperial Rome, or the kings of medieval Europe).

The decipherment of an ancient language transforms our knowledge of the society that used it. The brilliant work of Champollion in the 19th century in cracking the code of Egyptian hieroglyphs was mentioned in Chapter 1. In recent years, one of the most significant advances in Mesoamerican archaeology has come from the reading of many of the inscribed symbols (glyphs) on the stone stelae at the largest centers. It had been widely assumed that the Maya inscriptions were exclusively of a calendrical nature, or that they dealt with purely religious matters, notably the deeds of deities. But the inscriptions can now in many cases be interpreted as relating to real historical events, mainly the deeds of the Maya kings (see boxes, pp. 130–31 and 406–07). We can also now begin to deduce the likely territories belonging to individual Maya centers (see box, p. 205). Maya history has thus taken on a new dimension. Despite numerous attempts, however, the Indus or Harappan is the last of the great scripts to remain undeciphered.

A more detailed example of the value of written sources for reconstructing social archaeology is Mesopotamia, where a huge number of records of Sumer and Babylon (c. 3000–1600 BC), mainly in the form of clay tablets, have been preserved. The uses of writing in Mesopotamia may be summarized as follows:

<b>Recording information for future use</b>	<ul style="list-style-type: none"> <li>- Administrative purposes</li> <li>- Codification of law</li> <li>- Formulation of a sacred tradition</li> <li>- Annals</li> <li>- Scholarly purposes</li> </ul>
<b>Communicating current information</b>	<ul style="list-style-type: none"> <li>- Letters</li> <li>- Royal edicts</li> <li>- Public announcements</li> <li>- Texts for training scribes</li> </ul>
<b>Communicating with the gods</b>	<ul style="list-style-type: none"> <li>- Sacred texts, amulets, etc.</li> </ul>

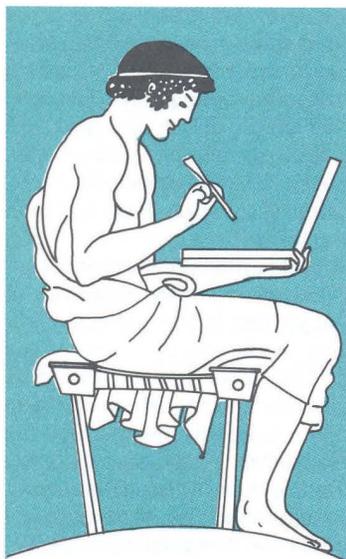
The Sumerian king list provides an excellent example of annals recording information for future use. It is extremely useful to the modern scholar for dating purposes, but it also offers social insights into the way the Sumerians conceived of the exercise of power – for example, the terminology of rank that they used. Similarly, inscriptions on royal statues (such as those of Gudea, ruler of Lagash) help us to perceive how the Sumerians viewed the relationship between their rulers and the immortals. This important kind of information concerning how societies thought about themselves and the world – *cognitive* information – is discussed in more detail in Chapter 10.

Of even greater significance for an understanding of the structure of Sumerian society are the tablets associated with the working or organizing centers, which in Sumerian society were often temples. For instance, the 1600 tablets from the temple of Bau at Tello give a close insight into the dealings of the shrine, listing fields and the crops harvested in them, craftspeople, and receipts or issues of goods such as grain and livestock.

Perhaps most evocative of all are the law codes, of which the most impressive example is the law code of Hammurabi of Babylon, written in the Akkadian language (and in cuneiform script) around 1750 BC. The ruler is seen (illus. p. 185) at the top of the stone, standing before Shamash, the god of justice. The laws were promulgated, as Hammurabi states, “so that the strong may not oppress the weak, and to protect the rights of the orphan and widow.” These laws cover many aspects of life – agriculture, business transactions, family law, inheritance, terms of employment for different craftspeople, and penalties for crimes such as adultery and homicide.

Impressive and informative as it is, Hammurabi’s law code is not straightforward to interpret, and emphasizes the need for the archaeologist to reconstruct the full social context that led to the drafting of a text. As the British scholar Nicholas Postgate has pointed out, the code is by no means complete, and seems to cover only those areas of the law that had proved troublesome. Moreover, Hammurabi had recently conquered several rival city states, and the law code was therefore probably designed to help integrate the new territories within his empire.

Written records undoubtedly contribute greatly to our knowledge of the society in question. But one should not accept them uncritically at face value. Nor should one forget the bias introduced by the accident of preservation and the particular uses of literacy in a society. The great risk with historical records is that they can impose their own perspective, so that they begin to supply not only the answers to our questions, but subtly to determine the nature of those questions, and even our concepts and terminology. A good example is the question of kingship in Anglo-Saxon England. Most anthropologists and historians tend to think of a “king” as the leader of a state society. So when the earliest records for Anglo-Saxon England, *The Anglo-Saxon Chronicle*, which took final shape in about AD 1155, refer to kings around AD 500, it is easy for the historian to think of kings and states at that period. But the archaeology strongly suggests that a full state society did not emerge until the time of King Offa of Mercia in around AD 780, or perhaps



The variety of historical evidence. (Left and above) Scribes were accorded high status in ancient civilizations. Among the Maya, a rabbit god (left) is shown as a scribe on an 8th-century AD painted vase. A scribe from Classical Greek times (above left) is depicted on a 5th-century BC bowl. Egyptian military scribes (above center) record on papyrus rolls the submission of Egypt's New Kingdom foes – a relief carving from Saqqara. The Inca (above right) had no writing system as such, but kept records of accounts and other transactions using knotted ropes called quipu.



Clay tablets and coins. (Left) Some of the 15,000 clay tablets discovered in the royal palace at Ebla (Tell Mardikh in modern Syria), dating from the late 3rd millennium BC. The tablets formed part of the state archives, recording over 140 years of Ebla's history. Originally they were stored on wooden shelving, which collapsed when the palace was sacked. (Below) Hoard of Arabic coins found in Gotland, Sweden, from the Viking period (8th/9th centuries AD). Coin inscriptions can be informative about dating (Chapter 4) and trade (Chapter 9), and also about the issuing authority.





Inscriptions. (Above) The famous law code of the Babylonian king Hammurabi, c. 1750 bc. The laws are carved in 49 vertical columns on a black basalt stela, 2.25 m (7 ft 4 in) high. In this detail the king is seen confronting the seated figure of Shamash, god of justice. See also main text p. 183.

Early medieval documents. (Below) An Anglo-Saxon king and his council depicted in an 11th-century AD manuscript. Historical documents require careful interpretation just as much as archaeological evidence.



Seals and seal impressions. (Above) Rollout impression from a cylinder seal of c. 500 bc which depicts the Persian king Darius in his chariot hunting lions. The inscription is written in the cuneiform script, like Hammurabi's law code (left). The scene is intended to convey the authority, strength, and dominant status of the king. Such seals were used to mark ownership or authenticity. Many thousands have been recovered from Mesopotamian sites.

Oral tradition. (Below) Scenes from the Hindu epic, the Ramayana, on a late 18th-century AD temple-hanging, Mathura, India. The story describes the exploits of a great ruler (Rama) in his attempt to rescue his consort, carried off to Sri Lanka by a demon king. The legend may have its origins in southward movements of Hindu peoples after 800 bc but – as always with oral tradition – the difficulty comes in disentangling history from myth.



## PART II Discovering the Variety of Human Experience

King Alfred of Wessex in AD 871. It is fairly clear that the earlier “kings” were generally less significant figures than some of the rulers in either Africa or Polynesia in recent times, whom anthropologists would term “chiefs.”

Thus, if the archaeologist is to use historical records in conjunction with the material remains, it is essential at the outset that the questions are carefully formulated and the vocabulary is well defined.

### Oral Tradition

In non-literate societies, valuable information about the past, even the remote past, is often enshrined in oral tradition – poems or hymns or sayings handed on from generation to generation by word of mouth. This can be of quite remarkable antiquity. A good example is offered by the hymns of the *Rigveda*, the earliest Indian religious texts, in an archaic form of the language, which were preserved orally for hundreds of years, before being set down by literate priests in the mid-1st millennium AD. Similarly, the epics about the Trojan War written down by Homer in about the 8th century BC may have been preserved orally for several centuries before that time, and are thought by many scholars to preserve a picture of the Mycenaean world of the 12th or 13th century BC.

Epics such as Homer’s *Iliad* and *Odyssey* certainly offer remarkable insights into social organization. But, as with so much oral tradition, the problem is actually to demonstrate to which period they refer – to judge how much is ancient and how much reflects a much more recent world. Nevertheless, in Polynesia, in Africa, and in other areas that have only recently become literate, the natural first step in investigating the social organization of earlier centuries is to examine the oral traditions.

### Ethnoarchaeology

Another fundamental method of approach for the social archaeologist is ethnoarchaeology. It involves the study of both the present-day use and significance of artifacts, buildings, and structures within the living societies in question, and the way these material things become incorporated into the archaeological record – what happens to them when they are thrown away or (in the case of buildings and structures) torn down or abandoned. It is therefore an *indirect* approach to the understanding of any past society.

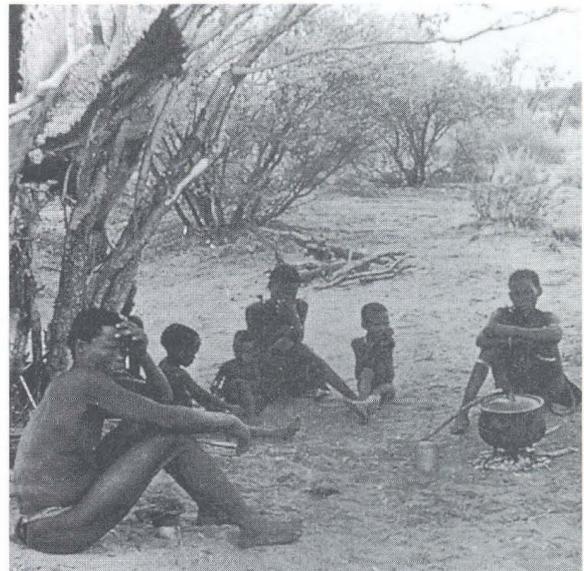
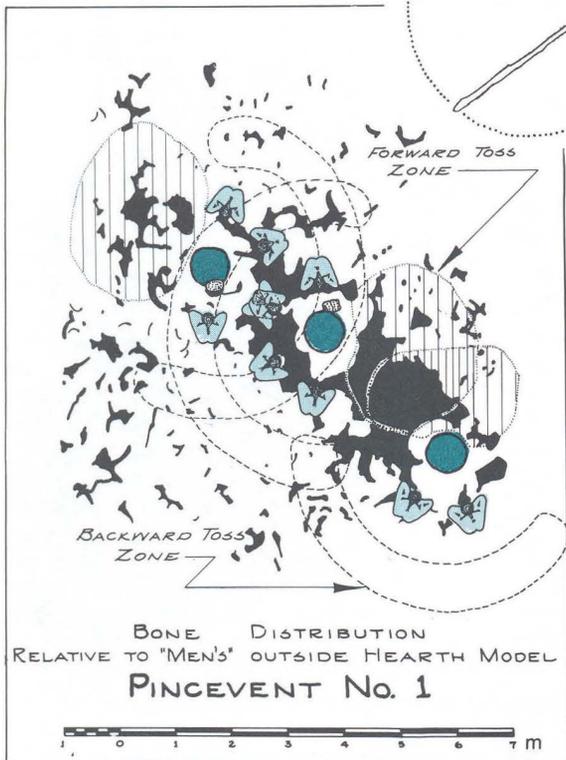
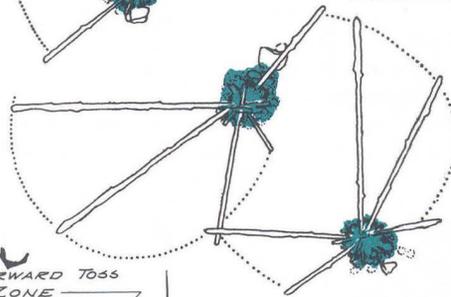
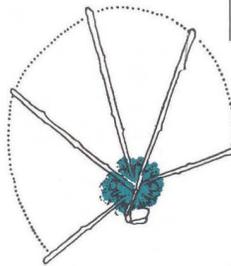
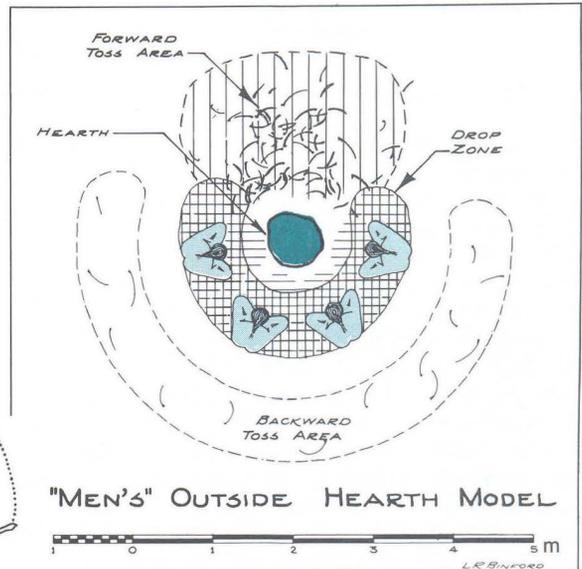
There is nothing new in the idea of looking at living societies to help interpret the past. In the 19th and early 20th centuries European archaeologists often

turned for inspiration to researches done by ethnographers among societies in Africa or Australia. But the so-called “ethnographic parallels” that resulted – where archaeologists often simply and crudely likened past societies to present ones – tended to stifle new thought rather than promote it. In the United States archaeologists were confronted from the beginning with the living reality of complex Native American societies, which taught them to think rather more deeply about how ethnography might be used to aid archaeological interpretation. Nevertheless, fully-fledged ethnoarchaeology is a development really of only the last 25 years. The key difference is that now it is archaeologists themselves, rather than ethnographers or anthropologists, who carry out the research among living societies.

A good example is the work of Lewis Binford among the Nunamiut Eskimo, a hunter-gatherer group of Alaska. In the 1960s Binford was attempting to interpret archaeological sites of the Middle Paleolithic of France (the Mousterian period, 180,000–40,000 years ago). He came to realize that only by studying how *modern* hunter-gatherers used and discarded bones and tools, or moved from site to site, could he begin to understand the mechanisms that had created the Mousterian archaeological record – itself almost certainly the product of a mobile hunter-gatherer economy. Between 1969 and 1973 he lived intermittently among the Nunamiut and observed their behavior. For instance, he studied the way bone debris was produced and discarded by men at a seasonal hunting camp (the Mask site, Anaktuvuk Pass, Alaska). He saw that, when sitting round a hearth and processing bone for marrow, there was a “drop zone” where small fragments of bone fell as they were broken. The larger pieces, which were thrown away by the men, formed a “toss zone,” both in front and behind them.

Such seemingly trivial observations are the very stuff of ethnoarchaeology. The Nunamiut might not provide an exact “ethnographic parallel” for Mousterian societies, but Binford recognized that there are certain actions or *functions* likely to be common to all hunter-gatherers because – as in the case of the processing of bone – the actions are dictated by the most convenient procedure when seated round a camp fire. The discarded fragments of bone then leave a characteristic pattern round the hearth for the archaeologist to find and interpret. From such analysis, it has proved possible to go on to infer roughly how many people were in the group, and over what period of time the camp site was used. These are questions very relevant to our understanding of the social organization (including the size) of hunter-gatherer groups.

Ethnoarchaeology: the work of Lewis Binford. (Right) From observations among living Nunamiut Eskimo in Alaska, Binford derived this model of bone processing around an outside hearth. Small bone fragments fall in a "drop zone" around the men, while larger pieces are thrown both in front and behind them in two "toss zones." (Below center) At the Paleolithic site of Pincevent, France, dating from about 15,000 years ago, the excavator Leroi-Gourhan interpreted three hearths as being evidence for a complex skin tent (reconstruction, center right). (Below) Binford applied his "outside hearth model" to the three Pincevent hearths, and deduced from the distribution of bones that his model fitted the evidence better than that of Leroi-Gourhan: i.e. that the hearths lay outside, and not within a tent. (Below right) Classic semicircular arrangement around an outside hearth as demonstrated by Nharo Bushmen at Ganzi, Botswana, c. 1969.



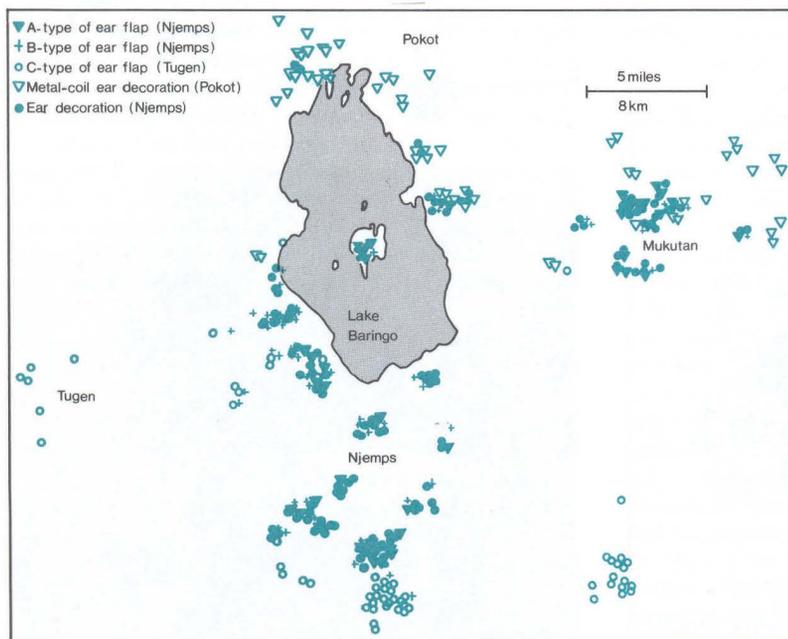
## PART II Discovering the Variety of Human Experience

With the benefit of his observations at the Mask site, Binford was able to reinterpret the plan of one habitation at the French Paleolithic site of Pincevent, occupied during the last Ice Age about 15,000 years ago. The excavator, André Leroi-Gourhan, interpreted the remains as indicating a complex skin tent covering three hearths. Binford at the Mask site had noted how when wind direction had changed, people seated outside next to a hearth would swivel round and make up a new hearth downwind so as to remain out of the smoke. The distribution of debris around the Pincevent hearths suggested to Binford that two of them were the result of just such an event, one after the other as wind direction changed and a seated worker rotated his position. He further argued that this kind of behavior is found only with outside hearths, and that therefore the excavator's reconstruction of a covering tent is unlikely. Recent analysis, however, suggests that these hearths had slightly different functions. Work at Pincevent and other similar sites in the Paris Basin is finding useful insights, as well as errors, both in Leroi-Gourhan's focused interpretations and in Binford's generalized observations from ethnoarchaeology.

Ethnoarchaeology is not restricted to observations at the local scale. The British archaeologist Ian Hodder, in his study of the female ear decorations used by dif-

ferent tribes in the Lake Baringo area of Kenya, undertook a regional study to investigate the extent to which material culture (in this case personal decoration) was being used to express differences between the tribes. Partly as a result of such work, archaeologists no longer assume that it is an easy task to take archaeological assemblages and group them into regional "cultures," and then to assume that each "culture" so formed represents a social unit (see Chapter 12). Such a procedure might, in fact, work quite well for the ear decorations Hodder studied, because the people in question chose to use this feature to assert their tribal distinctiveness. But, as Hodder showed, if we were to take other features of the material culture, such as pots or tools, the same pattern would not necessarily be followed. His example documents the important lesson that material culture cannot be used by the archaeologist in a simple or unthinking manner in the reconstruction of supposed ethnic groups.

At this point it is appropriate to move on to consider how one actually sets about systematically searching for evidence of social organization in archaeological remains, using the techniques and sources of information just outlined. Here we will find it useful to look first at mobile hunter-gatherer societies, then segmentary societies, and finally at chiefdoms and states.



*Ethnoarchaeology: the work of Ian Hodder. In the Lake Baringo area of Kenya, East Africa, Hodder studied the female ear decorations worn by the Tugen (right), Njemps, and Pokot tribes, and showed on a map (left) how these ornaments were used to assert tribal distinctiveness. Other features of the material culture (e.g. pots or tools) would reveal a different spatial pattern.*

## ANCIENT ETHNICITY AND LANGUAGE

Ethnicity (i.e. the existence of ethnic groups, including tribal groups) is difficult to recognize from the archaeological record. For example, the view that Mousterian tool assemblages represented different social groups, as suggested by François Bordes, has been criticized (see discussion in Chapter 10); and the notion that such features as pottery decoration are automatically a sign of ethnic affiliation has been questioned. This is a field where ethnoarchaeology is only now beginning to make some headway.

One field of information, however, once overused by archaeologists, has in recent years been much neglected: the study of languages. For there is no doubt that ethnic groups often correlate with language areas, and that ethnic and linguistic boundaries are often the same. But it should also be remembered that human societies can exist quite well without tribal or ethnic affiliations: there is no real need to divide the social world up into named and discrete groups of people.

Ethnicity should not be confused with race, which insofar as it exists (Chapter 11) is a physical attribute, not a social one. The *ethnos*, the ethnic group, may be defined as “a firm aggregate of people, historically established on a given territory, possessing in common relatively stable peculiarities of language and culture, and also recognizing their unity and difference from other similar formations (self-awareness) and expressing this in a self-appointed name (ethnonym)” (Dragadze 1980, 162).

This definition allows us to note the following factors, all of them relevant to the notion of ethnicity:

- 1 shared territory or land
- 2 common descent or “blood”
- 3 a common language
- 4 community of customs or culture
- 5 community of beliefs or religion
- 6 self-awareness, self-identity
- 7 a name (ethnonym) to express the identity of the group
- 8 shared origin story (or myth) describing the origin and history of the group

Ethnicity, however, is a much-abused term, and one that is sometimes used to mask directly political motives. Since 1992, for instance, within the former republic of Yugoslavia, there has been serious fighting between Serbs, Croats, and others (mainly Muslims) over territories. The irony is that there are relatively few underlying differences among the communities involved, the principal distinctions being religious (Orthodox Christian, Roman Catholic, and Muslim respectively). It is sad that blind prejudice along ethnic and religious lines which underlay the horrors of the Holocaust during World War II should once again lead to the mindless slaughter in Yugoslavia termed “ethnic cleansing.” The perversion of ethnicity is the curse of our age.

It seems likely that in some cases the scale of the area in which a language came to be spoken was influential in determining the scale of the ethnic group that later came to be formed. For instance, in Greece in the 7th and 6th centuries BC the political reality was one of small, independent city states (and some larger tribal areas). But in the wider area where Greek was spoken there was already an awareness that the inhabitants were together Hellenes (i.e. Greeks). Only Greeks were allowed to compete in the great Panhellenic Games held every 4 years in honor of Zeus at Olympia. It was not until later, with the expansion of Athens in the

5th century BC and then the conquests of Philip of Macedon and his son Alexander the Great in the next century, that the whole territory occupied by the Greeks became united into a single nation. Language is an important component of ethnicity.

In Mesoamerica, Joyce Marcus has drawn on linguistic evidence in analyzing the development of the Zapotec and Mixtec cultures. She notes that their languages belong to the Otomanguean family, and follows the assumption that this relationship implies a common origin. Marcus and Kent Flannery, in their remarkable book *The Cloud People* (1983), seek to trace through time “the divergent evolution of the Zapotec and Mixtec from a common ancestral culture and their general evolution through successive levels of sociopolitical evolution” (Flannery and Marcus 1983, 9). They see in certain shared elements of the two cultures the common ancestry suggested by the linguistic arguments.

Using glottochronology (Chapter 4) Marcus suggests a date of 3700 BC for the beginning of the divergence between the Zapotec and Mixtec; she then seeks to correlate this with archaeological findings.

It is questionable whether glottochronology can be used in this over-precise way. But this criticism in no way undermines the relevance of her introduction of the Zapotec and Mixtec languages into the discussion of the social evolution of the two cultures.

## TECHNIQUES OF STUDY FOR MOBILE HUNTER-GATHERER SOCIETIES

In mobile hunter-gatherer societies economic organization and to a large extent political organization are exclusively at a local level – there are no permanent administrative centers. The nature of such societies can be investigated in several ways.

### Investigating Activities within a Site

Having identified various sites by employing the methods outlined in Chapter 3, the first approach is to concentrate on the individual site, with an investigation of the variability *within* it. (Off-site archaeology is discussed in the next section.) The aim is to understand the nature of the activities that took place there, and of the social group that used it.

The best approach depends on the nature of the site. In Chapter 3 a site was defined as a place of human activity, generally indicated by a concentration of artifacts and discarded materials. Here we need to be aware that, on sites of sedentary communities (generally, food-producers living in permanent structures), the remains are different in character from the temporary camp sites of mobile communities, whether hunter-gatherers or nomad herders. Sedentary communities are considered in a later section. Our focus in this section is on mobile communities, particularly hunter-gatherers of the Paleolithic period. Here the timescale is so great that the effects of geological processes on sites must be taken into account.

Among mobile communities a distinction can be drawn between *cave sites* and *open sites*. In cave sites, the physical extent of human occupation is largely defined by debris scattered within the cave itself and immediately outside it. Occupation deposits tend to be deep, usually indicating intermittent human activity over thousands or tens of thousands of years. For this reason it is vital to excavate and interpret accurately the stratigraphy of the site – the superimposed layers. Meticulous controls are needed, including the recording in three dimensions of the position of each object (artifact or bone), and the sieving or screening of all soil to recover smaller fragments. Similar observations apply to open sites, except that here one needs to allow for the fact that occupation deposits – without the protection provided by a cave – may have suffered greater erosion.

If it proves possible to distinguish single, short phases of human occupation at a site, one can then look at the distribution of artifacts and bone fragments within and around features and structures (hut founda-

tions, remains of hearths) to see whether any coherent patterns emerge. For the way such debris was discarded can shed light on the behavior of the small group of people who occupied the site at that time. This is where ethnoarchaeology has proved of great value. Lewis Binford's research among the Nunamiut Eskimo, described above, has shown for example that hunter-gatherers discard bone in a characteristic pattern around a hearth. The human behavior documented among the living Nunamiut therefore helps us understand the likely behavior that gave rise to similar scatters of bone around hearths on Paleolithic sites.

Often, it is not possible to distinguish single, short phases of occupation, and the archaeologist recovers instead evidence resulting from repeated activities at the same site over a long period. There may also be initial doubt as to whether the distribution observed is the result of human activity on the spot (*in situ*), or whether the materials have been transported by flowing water and redeposited. In some cases, too, the distribution observed, especially of bone debris, may be the result of the action of predatory animals, not of humans. These are questions to do with formation processes, as discussed in Chapter 2.

The study of such questions requires sophisticated sampling strategies and very thorough analysis. The work of Glynn Isaac's team at the Early Paleolithic sites of Koobi Fora on the eastern shore of Lake Turkana, Kenya, gives an indication of the recovery and analytical techniques involved. The first essential was a highly controlled excavation procedure with, within the areas chosen for detailed sampling, the careful recording of the coordinates of every piece of bone or stone recovered. Plotting the densities of finds was a first step in the analysis. One important question was to decide whether the assemblage was a primary one, *in situ*, or whether it was a secondary accumulation, the result of movement by water in a river or lake. The study of the orientation of the long limb bones proved helpful at Koobi Fora: if the bones had been deposited or disturbed by flowing water, they are likely to show the same orientation. In this case the remains were found to be essentially *in situ*, with only a small degree of post-depositional disturbance.

Isaac's team was also able to fit some fragments of bone back together again. The network of joins could be interpreted as demarcating areas where hominids broke open bones to extract marrow – so-called *activity areas*. (Different techniques had to be applied to try to determine that it was indeed humans and not preda-



Glynn Isaac's research at the Early Paleolithic site of Koobi Fora, Kenya, East Africa. (Top row) Location of bones and stone artifacts plotted at site FxJj 50. (Second row) Lines joining bones and stones that could be fitted back together, perhaps indicating activity areas where bones were broken open to extract marrow, and stone tools were knapped.

tory animals that had broken open the bone. This specialized and important field of study – taphonomy – is discussed in detail in Chapter 6.) A comparable analysis of joins among stone artifacts proved rewarding. Webs of conjoining lines were interpreted as indicating activity areas where stones were knapped. In these ways, the site was made to yield important information about specific human activities.

Broader interpretive questions arise from the consideration of individual camp sites of modern hunter-gatherer communities. One issue is the estimation of population size from camp area. Various models have been proposed, and these have been compared with ethnographic examples among the !Kung San hunter-gatherers of the Kalahari Desert. Another question is the relationship between people (in kinship terms) and space in hunter-gatherer camps: recent studies have shown a strong correlation between kin distance and

the distance between huts. Both questions are discussed in the box overleaf.

These are speculative areas at present, but they are now being systematically researched. Such inferences are bound to become part of the stock-in-trade of the Paleolithic archaeologist.

### Investigating Territories in Mobile Societies

The detailed study of an individual site cannot, for a mobile group, reveal more than one aspect of social behavior. For a wider perspective, it is necessary to consider the entire territory in which the group or band operated, and the relationship between sites.

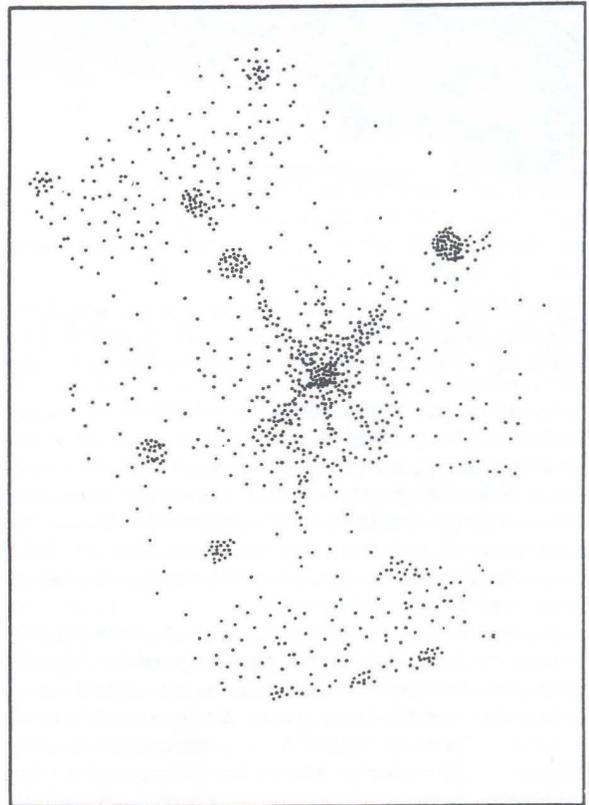
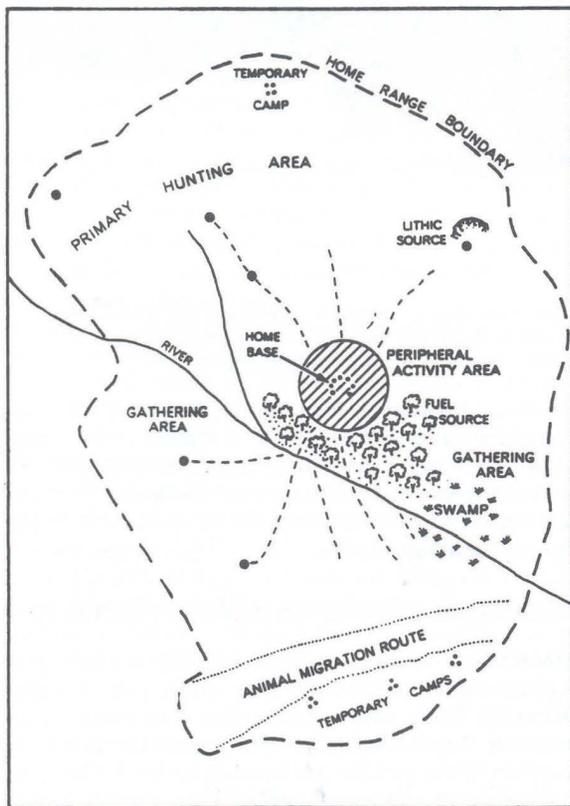
Once again, ethnoarchaeology has helped to establish a framework of analysis, so that one may think in terms of an annual home range (i.e. the whole territory covered by the group in the course of a year) and

## PART II Discovering the Variety of Human Experience

specific types of site within it, such as a home base camp (for a particular season), transitory camps, hunting blinds, butchery or kill sites, storage caches, and so on. Such concerns are basic to hunter-gatherer archaeology, and a regional perspective is essential if insight is to be gained into the annual life cycle of the group and its behavior. This means that, in addition to conventional sites (with a high concentration of artifacts), one needs to look for sparse scatters of artifacts, consisting of perhaps just one or two objects in every 10-m survey square (this is often referred to as off-site or non-site archaeology – see Chapter 3). One must also study the whole regional environment (Chapter 6) and the likely human use of it by hunter-gatherers.

A good example of off-site archaeology is provided by the work of the British anthropologist Robert Foley in the Amboseli region of southern Kenya. He collected and recorded some 8531 stone tools from 257 sample locations within a study area covering 600

sq. km (232 sq. miles). From this evidence he was able to calculate the rate of discard of stone tools within different environmental and vegetation zones, and interpret the distribution patterns in terms of the strategies and movements of hunter-gatherer groups. In a later study, he developed a general model of stone tool distribution based on a number of studies of hunter-gatherer bands in different parts of the world. One conclusion was that a single band of some 25 people might be expected to discard as many as 163,000 artifacts within their annual territory in the course of a single year. These artifacts would be scattered across the territory, but with significant concentrations at home base camps and temporary camps. According to this model, however, only a very small proportion of the total annual artifact assemblage would be found by archaeologists working at a single site, and it is vitally important that individual site assemblages are interpreted as parts of a broader pattern.



Robert Foley's model (left) of activities within the annual home range of a hunter-gatherer band, and the artifact scatters (right) resulting from such activities. Notice how artifacts appear between the home base/temporary camp sites as well as within them. The home range might be 30 km (19 miles) north-south in tropical environments, but considerably more in higher latitudes.

## SPACE AND DENSITY IN HUNTER-GATHERER CAMPS

An important question to ask of any settlement site is the size of the population. The interpretation of ethnographic work undertaken by John Yellen among the !Kung San hunter-gatherers of the Kalahari Desert shows how this problem can be tackled. In the dry season, Yellen had noted that large aggregate camps are established for the entire band, ranging from 35 to 60 individuals. In the rainy season, when the band splits up, camps are occupied for just a few days by a single nuclear family, or by several families linked by marriage. Yellen noted that !Kung camp sites are formed of a circle of huts, each of which is a private activity space for a single person, with a shelter, hearth, and hearthside activity area, orientated inward around a central area. Yellen indicated that there is a strong relationship between the area of the camp (established by drawing a line around the perimeter of the hut circle) and its population.

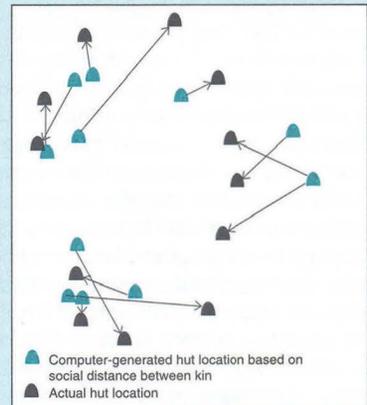
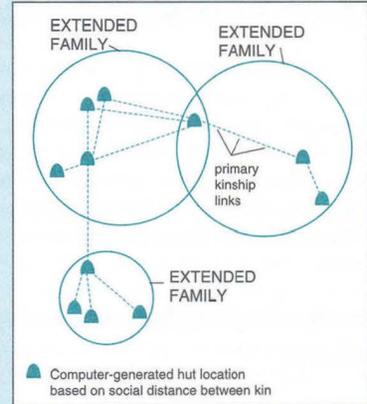
More recently, the Cambridge archaeologist Todd Whitelaw has stressed that this general relationship between camp area and population does not take account of all the relevant factors, including the spacing between huts and the differences between dry and rainy season camps. He took note of the observation that huts and fires belonging to members of the same extended families are close to each other, and he plotted to what extent social distance between kin matched physical distance between huts (measured around the circumference of the camp circle).

Using the data for the two years (1968–69) in which Yellen had observed dry-season camp structure, he obtained a good correlation between closeness of kin and proximity of huts. He then went an interesting step further. Using the

information about kinship distance gathered for two specific camp sites, but not at this stage utilizing any prior information about where the huts were actually located, he constructed a model layout using a non-metric multi-dimensional scaling (MDSCAL) computer routine. This method – described in more detail in a separate box, pp. 206–07 – can be used to construct a spatial structure using only information about relative distance between units.

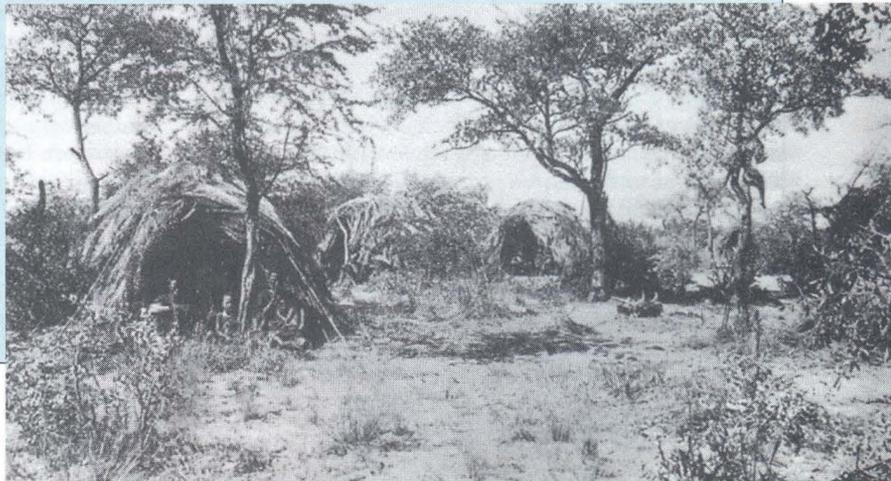
The hut locations produced by the computer utilizing the model for one dry-season camp are seen in the diagram top right; the actual locations of the huts are shown in the diagram, right. The arrows run from the computer locations to the actual locations. Impressively, in most cases the arrows are quite short; that is, the model produced a good approximation to the actual camp plan, although it was utilizing only data about kinship distance.

This is a good example of the way ethnographic work can enrich a general understanding of a problem, in this case the structure of hunter-gatherer settlement sites. Of course, not all hunter-gatherer settlements are the same. But Whitelaw's study brings out some of the relevant factors, allowing a fresh look at the plans of hunter-gatherer camp sites.



*Hut locations in a San dry-season camp. (Top) Todd Whitelaw's model of what the locations might be if one analyzes only the evidence for social relationships using a MDSCAL computer program. (Above) The MDSCAL locations compared with the actual ones.*

*San hunter-gatherer camp, photographed in about 1927.*



## **TECHNIQUES OF STUDY FOR SEGMENTARY SOCIETIES**

Segmentary societies operate on a larger scale than bands. They usually consist of farmers based in villages – permanent sedentary communities. The settlement is therefore the most appropriate aspect of such societies to investigate first. As we shall see, however, the cemeteries, public monuments, and craft specialization evident in these societies also form useful areas of study.

### **Investigating Settlements in Sedentary Societies**

Although a completely excavated settlement from just one period is the ideal case for analysis, it is not often attainable. But much information can be obtained from intensive survey of surface features and from sample excavation. The initial aim is to investigate the structure of the site, and the functions of the different areas recognized. A permanent settlement incorporates a greater range of functions than a temporary hunter-gatherer camp. But the site should not be considered in isolation. As in the hunter-gatherer examples, it is necessary to consider exploitation of the territory as a whole. One means of achieving this is by so-called site catchment analysis, discussed in Chapter 6.

An intensive surface survey of the site can give good indications of the variation in deposits beneath. This was the technique used by Lewis Binford in 1963 at Hatchery West, a Late Woodland occupation site (c. AD 250–800) in Illinois. After a local farmer had plowed the topmost surface of the site, and after the summer rains had washed the surface to expose the artifacts, the surface materials were collected from each 6-m square. The resulting distribution maps gave useful indications of the structure of the site below. There were deposits of discarded debris (middens) where there was a high density of potsherds and, between them, houses in areas with a low density of sherds. The patterns indicated by the distribution maps were tested by excavation.

This was a favorable case, where there was a shallow depth of soil, and a close relationship between surface scatter and underlying structures. Remote-sensing techniques can be helpful in revealing site structure, especially aerial photography (Chapter 3). And remote sensing can also be a useful preliminary to excavation. At the Late Neolithic site of Divostin in the former Yugoslavia, Alan McPherron was able to use the proton magnetometer (Chapter 3) to locate the burnt clay floors of the houses in the village, and thus draw an

approximate plan before excavation began. Often, however, the conditions are unsuitable for such methods. Furthermore, the site in question may be much larger than Hatchery West (which was less than 2 ha or 4.9 acres) and surface materials, especially pottery, may be abundant. For such sites a survey sampling method, such as random stratified sampling (Chapter 3) may be necessary. On a large site, sampling will also be required in the excavation. There are disadvantages in using small sampling units: they allow one to excavate a wider variety of different parts of the site, but fail to reveal much of the structures (houses, etc.) in question. In other words, there is no substitute for good, wide excavation areas.

For effective analysis of the community as a whole, some structures need to be excavated completely, and the remainder sampled intensively enough to obtain an idea of the variety of different structures (are they repeated household units, or are they more specialized buildings?).

In general, the settlement will be either agglomerate or dispersed. An agglomerate settlement consists of either one or several large units (clusters) of many rooms. A dispersed settlement plan has separate and free-standing house units, usually of smaller size. In the case of agglomerate structures there is the initial problem of detecting repeated social units (e.g. families or households) within them, and the functions of the rooms.

In a now-famous analysis published in 1970 of the agglomerate settlement of Broken K Pueblo, Arizona, in the American Southwest, James Hill undertook a detailed study of the functions of this 13th-century AD site. First he plotted the association of different types of artifact with different rooms. Then, in an ethnographic study of living Pueblo Indians, he identified for the modern period three different types of room – domestic (cooking, eating, sleeping etc.), storage, and ceremonial – and distinctions between rooms used by males and by females. From this ethnographic evidence he derived 16 implications to test against his archaeological evidence, in order to discover whether or not the three room types and male/female distinctions could be identified at Broken K Pueblo itself. His testing suggested that the artifact patterning did indeed indicate the existence of similar distinctions at Broken K.

In recent years there have been criticisms of Hill's conclusions. New work implies that Pueblo architecture, not the artifacts found in them, may be a better guide to room function in prehistoric times. And the



*Broken K Pueblo, Arizona: research linked rooms containing firepits and corn grinders with domestic activities; smaller rooms with storage; and two rooms where floors were sunk below ground with ceremonial.*

analogy between modern and prehistoric male/female distinctions is not satisfactorily demonstrated here. Cemetery analysis (see below) can provide a better correlation between sex and specific artifact types. But Hill's approach was a pioneering and interesting one in social archaeology, and his methods were commendably explicit, and therefore open to critical appraisal by other scholars (Chapter 12 considers this issue in more detail).

William Longacre undertook similar research at a similar time at the nearby Carter Ranch site in Arizona, with results that have also recently been criticized. To some extent these problems of method – in particular, how to correlate ethnographic with archaeological data – are being solved by the kind of detailed ethnoarchaeological research, for instance by Ian Hodder, described in a previous section.

Another informative example of settlement study is offered by Todd Whitelaw's reinterpretation of the Early Minoan site (c. 2300 BC) of Myrtois in southern Crete. The excavator, Peter Warren, had suggested that this was a centralized community with a measure of craft specialization (see below). His published report was so commendably thorough as to allow Whitelaw to make a different suggestion – that there was a domestic (household) organization of production rather than craft specialization. By careful study of the function of the rooms (from the remains and features found in them), and their spatial arrangement, he was able to

show that the settlement consisted of 5 or 6 household clusters, each probably with 4–6 individuals. Each cluster had cooking, storage, working, and general domestic areas – there was no evidence of centralization or specialized manufacturing.

The study of sedentary communities is made much easier when separate houses can be identified at the outset. In the 1930s, Gordon Childe excavated the extraordinarily well-preserved Neolithic village of Skara Brae in the Orkney Islands, north of Scotland. He found a settlement, now dated to around 3000 BC, where the internal installations (e.g. beds and cupboards) were still preserved, being made of stone. In such cases, the analysis of the community and the estimation of population size become much easier.

### The Study of Ranking from Individual Burials

In archaeology, the individual is seen all too rarely. One of the most informative insights into the individual and his or her social status is offered by the discovery of human physical remains – the skeleton or the ashes – accompanied by artifacts deposited in the grave. Examination of the skeletal remains by a physical anthropologist (Chapter 11) will often reveal the sex and age at death of each individual, and possibly any dietary deficiency or other pathological condition. Communal or collective burials (burials of more than one individual) may be difficult to interpret, because it will not always be clear which grave-goods go with which deceased person. It is, therefore, from single burials that one can hope to learn most.

In segmentary societies, and others with relatively limited differentiation in terms of rank, a close analysis of grave-goods can reveal much about disparities in social status. One must take into account that what is buried with the deceased person is not simply the exact equivalent either of status or of material goods owned or used during life. Burials are made by living individuals, and are used by them to express and influence their relationships with others still alive as much as to symbolize or serve the dead. But there is nevertheless often a relationship between the role and rank of the deceased during life and the manner in which the remains are disposed of and accompanied by artifacts.

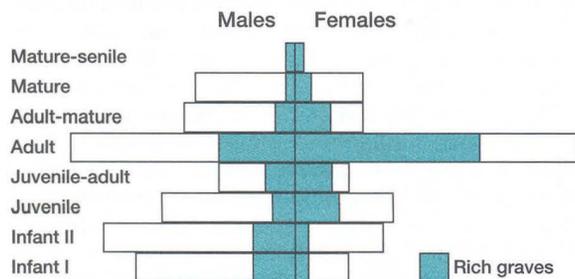
The analysis will seek to determine what differences are accorded to males and females in burial, and to assess whether these differences carry with them distinctions in terms of wealth or higher status. The other common factor involved with rank or status is age, and the possibility of age differences being systematically reflected in the treatment of the deceased is an obvious one. In relatively egalitarian societies, achieved status

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– that is, high status won through the individual’s own achievements (e.g. in hunting) in his or her own lifetime – is something commonly encountered, and often reflected in funerary practice. But the archaeologist must ask, from the evidence available, whether the case in question is one of achieved status, or involves instead status ascribed through birth. To distinguish between the two is not easy. One useful criterion is to investigate whether children are in some cases given rich burial goods and other indications of preferential attention. If so, there may have been a system of hereditary ranking, because at so early an age the child is unlikely to have reached such a status through personal distinction.

Once the graves in the cemetery have been dated, the first step in most cases is simply to produce a frequency distribution (a histogram) of the number of different artifact types in each grave. For further analysis, however, it is more interesting to seek some better indication of wealth and status so that greater weight can be given to valuable objects, and less weight to commonplace ones. This at once raises the problem of the recognition of value (for we do not know in advance what value was given to objects at the time in question). This important subject is discussed in more detail in Chapters 9 and 10.

From the point of view of social questions, the work of the British archaeologist, Susan Shennan, is useful. In an innovative study of burials at the Copper Age cemetery at Branč in Slovakia, she assigned points on a scale of “units of wealth,” making the assumption that the valuable objects were those that took a long time to make, or were made of materials brought from a distance or difficult to obtain. This allowed her to produce a diagram of the wealth structure of the cemetery in relation to age and sex. Some individuals, particularly females, had much more elaborate sets of grave-goods than others. She concluded that there was a leading family or families, and status tended to be inherited through the male line, females possibly obtaining their rich artifacts only on marriage.



*Branč, Slovakia: age and sex distribution of burials.*

Sophisticated quantitative techniques can be used to analyze artifact patterning in a cemetery, including factor analysis and cluster analysis (see box).

Ranking is not expressed solely in the grave-goods, but in the entire manner of burial. Some workers, among them Joseph A. Tainter, have developed a more sophisticated approach, seeking to use a much wider range of variables. For instance, in Tainter’s study of 512 Middle Woodland burials (c. 150 BC–AD 400) from two mound groups in the lower Illinois river valley, he chose 18 variables that each burial might or might not show. He used cluster analysis to investigate relationships between the burials, and concluded from this that there were different social groups. The variables used are worth quoting, as they could be adapted to many different cases:

### Checklist of Variables for Burials

- 1 Uncremated/cremated
- 2 Articulated/disarticulated
- 3 Extended/not extended
- 4 Earthwalls/log walls
- 5 Ramps/no ramps
- 6 Surface/sub-surface
- 7 Log-covered/not log-covered
- 8 Slab-covered/not slab-covered
- 9 Slabs in grave/no slabs
- 10 Interred in central location/not interred in central location
- 11 Supine/not supine
- 12 Single/multiple
- 13 Ocher/no ocher
- 14 Miscellaneous animal bones/none
- 15 Hematite/no hematite
- 16 Imported sociotechnic items (status indicators e.g. royal crown)
- 17 Locally produced sociotechnic items
- 18 Technomic items (utilitarian objects e.g. tools)

This list of variables illustrates another important point: that what one is seeking to study is social structure as a whole, not just personal ranking. In life, and in some cases in death, the individual has a whole series of roles and statuses that we seek to detect and understand. To rank individuals in a simple linear order in terms of one variable or a combination of variables may be a considerable oversimplification.

### Collective Works and Communal Action

Segmentary societies did not always bury individuals in cemeteries, so archaeologists cannot rely on this



## EARLY WESSEX

Prehistoric Wessex (the counties of Wiltshire, Dorset, Hampshire, and Berkshire in southern England) preserves a rich collection of major monuments from the early farming period, but few remains of settlements. Yet the analysis of the scale and the distribution of the monuments does allow the reconstruction of important aspects of social organization, and illustrates one approach to the study of early social relations. This has also been the favoured study area of the early postprocessual archaeologists.

In the early phase of monument construction (the earlier Neolithic, c. 4000–3000 BC), the most frequent monuments are long earthen burial mounds, termed long barrows, which are up to 70 m (230 ft) in length. They lie mainly on the chalklands of Wessex where the light soils were suitable for early farming.

Excavations show that the monuments usually contained a

wooden burial chamber: some of them have a chamber of stone. With each cluster of mounds is associated a larger, circular monument with concentric ditches termed a causewayed camp or enclosure.

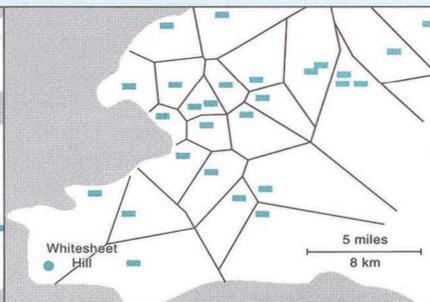
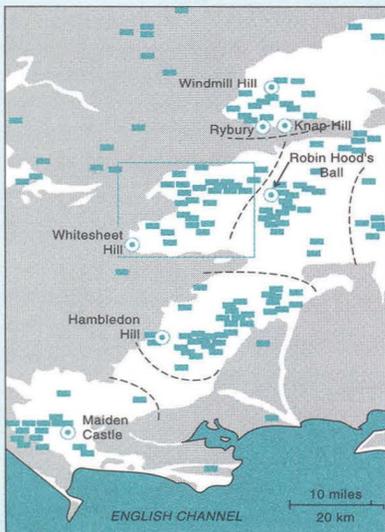
Analysis of the spatial distribution and the size of the long barrows suggests a possible interpretation. Lines drawn between them divide the landscape into several possible territories, which are roughly equivalent in size. Each monument seems to have been the focal point for social activities and the burial place of the farming community inhabiting the local territory. A group of 20 people would have needed about 50 working days to construct a long barrow.

The distribution of these long barrows has also been analyzed using GIS to produce viewshed maps of the intervisibility of the monuments (see main text). The first monument builders were constructing a social landscape

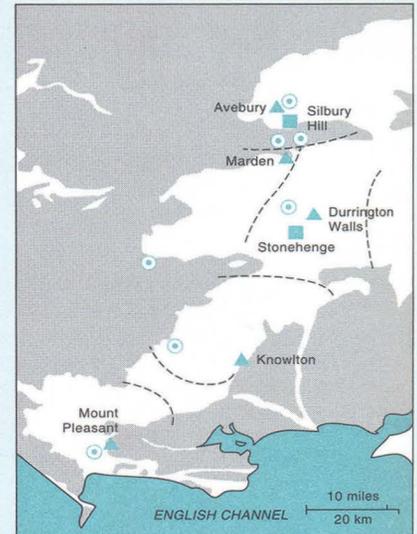
and thereby a different world from that of the Mesolithic foragers which it replaced.

In the early phase of construction there is little suggestion of the ranking of sites or individuals: this was an egalitarian society. The causewayed enclosures may have served as a ritual focus and periodic meeting place for the larger group of people represented by one whole cluster of long barrows. (The 100,000 hours' labor required to construct one could be achieved in 40 working days by 250 people.) This would have been what anthropologists now term a tribal or segmentary society.

In the later phase (the later Neolithic, c. 3000–2000 BC), the long barrows and causewayed camps went out of use. In place of the latter, major ritual enclosures are seen. These were large circular monuments delimited by a ditch with a bank usually outside it: they are termed henges. Each would have



*In the early phase, clusters of burial mounds establish a social landscape (left), each cluster with its causewayed enclosure. Analysis indicates (above) that each mound was the territorial focus for a small group of farmers. This was a segmentary society, where no one group was dominant.*



*In the later phase, the causewayed enclosures were replaced by major henge monuments. Their scale indicates centralized organization, and hence perhaps a chiefdom society. At this time the two great monuments Stonehenge and Silbury Hill were built.*

required something of the order of 1 million hours of labor for its construction. The labor input suggests the mobilization of the resources of a whole territory. About 300 people working full time for at least a year would be needed: their food would have to be provided for them unless the process were spread over a very long period.

During this period (c. 2800 BC) the great earth mound at Silbury Hill was built. According to its excavator, it required 18 million hours of work, and was completed within 2 years. A few centuries later (c. 2100 BC) the great monument at Stonehenge took final shape, with its circle of stones, representing an even greater labor investment, if the transport of the stones is taken into account: a massive corporate endeavor.

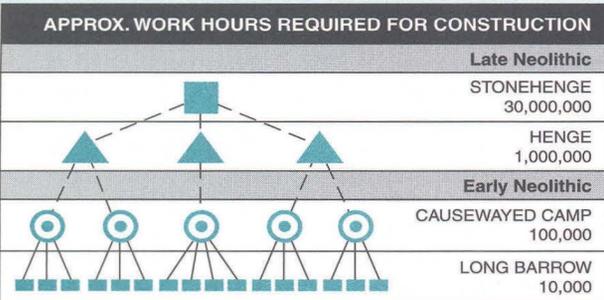
Although burials with rich grave-goods directly reflecting the wealth of

prominent individuals are not found until the succeeding phase, the Early Bronze Age, the analysis of spatial organization among the monuments, and the consideration of the labor input contributed by their builders, do allow inferences to be drawn about the social organization of the time.

The **postprocessual approach** of the “Neo-Wessex school” of British archaeologists (see p. 216), while accepting much of the above, emphasizes the experience of the individuals moving through the landscape and among the monuments, whose actions and beliefs are shaped thereby, so that new kinds of social relations emerge. This is a constructed landscape which in turn acts upon the *habitus* of individuals in daily life and plays a role in determining the formation of the society in which they live (see also Archaeology of the Individual p. 215 below).

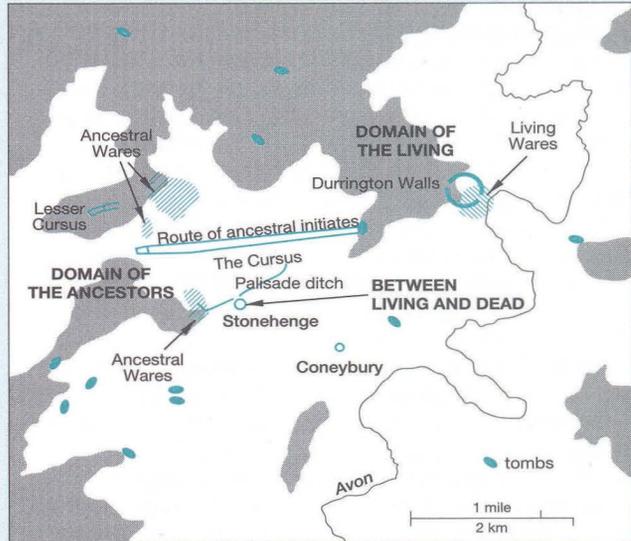
Ethnographic analogy has also recently been used in relation to Stonehenge by Mike Parker Pearson and Ramilisonina to great effect, drawing upon the recent tradition of megalithic funerary monuments in Madagascar where standing stones are still erected and ancestor worship remains very important. By such cross-cultural analogy, they have concluded that the landscape of Wessex was divided into the domain of the living and the domain of the dead.

In this landscape Stonehenge “can be interpreted as belonging to the ancestors, a stone version for the dead of the timber circles used for ceremonials by the living. By extension, Avebury and many other stone monuments of this period can be understood as built for the ancestors in parallel to the wooden monuments constructed for the living.” (Parker Pearson & Ramilisonina 1998, 308)



*Analysis of the scale of the Wessex monuments in terms of labor hours needed for their construction suggests the emergence of a hierarchy in the later phase that may mirror a development in social relations and the emergence of a ranked society. Stonehenge, built at this time, is the greatest of the Wessex monuments. In the earlier Neolithic the scale of monuments is commensurate with an egalitarian, segmentary society.*

- KEY**
-  Stonehenge
  -  Henge
  -  Causewayed camp
  -  Long barrow



*A different way of viewing the landscape around Stonehenge based on the work of Mike Parker Pearson. He divides it into areas associated with the living and with the dead, reflected in the use of different materials for construction (timber and stone) and different types of pottery.*

## **PART II Discovering the Variety of Human Experience**

source of information being available. Similarly, settlement sites can be difficult to locate, and the remains scanty. The original ground surface may have been destroyed, either by plowing or erosion, so that house floors or structures are not preserved. For instance, all that remains for the early farming period of northern Europe in the way of houses and domestic evidence is often just a few postholes (where timber uprights for house frames were set in the ground) and the lower levels of rubbish pits. In all such cases, the archaeologist in search of social evidence needs to turn to another prime source: public monuments.

We all perhaps have a mental image of such major monuments as the temples of the Maya or the pyramids of Egypt, erected by centrally organized state societies. But a great many simpler societies, at the level of chiefdoms or segmentary groups, have built substantial and conspicuous structures. One thinks of the great stone monuments of western Europe (the so-called “megaliths,” see box, pp. 488–89), or the giant stone statues of Easter Island in the Pacific Ocean. Indeed monuments like the Easter Island figures have in the past been interpreted, wrongly, as a sure sign of “civilization.” When the indigenous society displays no other characteristics of “civilization,” fantastic explanations have been put forward involving long-distance migrations, vanished continents, or even visitors from outer space (see box, p. 562). Such unsubstantiated notions are looked at again in Chapters 12 and 14. For now, we may turn instead to the techniques archaeologists apply when searching for social information from such monuments, particularly among segmentary societies. These involve questions about the size or scale of the monuments; their spatial distribution in the landscape; and clues about the status of individuals buried in certain monuments.

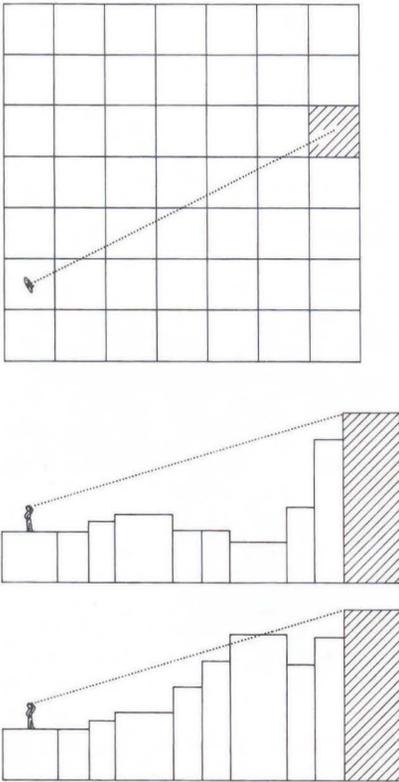
**How Much Labor Was Invested in the Monuments?** To begin with, the scale of the monument in terms of the number of hours it may have taken to build should be investigated, using evidence not just from the structure itself but also from experimental archaeology of the kind described in Chapters 2 and 8. As explained in the box, in the Wessex region of southern England the largest monuments (so-called causewayed enclosures) of the Early Neolithic period seem to have required some 100,000 hours of work to construct – within the capabilities of 250 people working together for perhaps 6 weeks. This does not suggest a very complex level of organization and might indicate a tribal, segmentary society. But by the Late Neolithic one of the biggest monuments, the great mound of Silbury Hill, demanded 18 million hours, which excavation of the

site showed had been invested over a span of no more than 2 years. The workforce must have been of the order of 3000 individuals over this period of time, which suggests the kind of mobilization of resources indicative of a more centralized, chiefdom society.

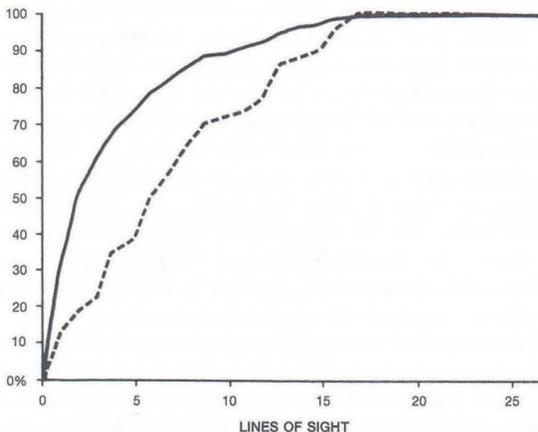
**How Are the Monuments Distributed in the Landscape?** It is also useful to analyze spatial distribution of the monuments in question in relation to other monuments and to settlement and burial remains. For instance, the burial mounds (long barrows) of southern Britain around 3500–2800 BC each represented about 5000–10,000 hours of labor. Their distribution in well-defined regions can be examined by drawing Thiessen polygons around them (see above), and by considering land use, such as the relationship of long barrows to areas of lighter chalk soils most suitable for early agriculture. It has been suggested that each mound was the focal point of the territory of a group of people permanently established there – a symbolic center for the community.

The very act of creating a fixed area for the repeated disposal of the dead implies an element of permanence. The American archaeologist Arthur Saxe has suggested that in those groups where rights to the use of land are asserted by claiming descent from dead ancestors, there will be formal areas maintained exclusively for the disposal of the dead. In this perspective, collective burial in monumental tombs is not simply a reflection of religious beliefs: it has real social significance. Most of the megalithic tombs of western Europe might thus be regarded as the territorial markers of segmentary societies, because the spatial distribution does not suggest any higher level of organization. This and other ideas about the megaliths are more fully discussed in Chapter 12.

A different kind of analysis of the distribution of monuments, in particular their visibility and inter-visibility, has been made possible through the use of Geographic Information Systems (see Chapter 3). One such study was undertaken by the British archaeologist David Wheatley of the Neolithic long barrows of prehistoric Wessex (see box, *Early Wessex*, pp. 198–99). Using GIS he generated a *viewshed* map for each long barrow in the Stonehenge and Avebury groups. These maps showed the locations in a direct line of sight from (and therefore also to) each monument, calculated from a digital elevation model of the landscape. The area of land which might theoretically be visible from each barrow location was then worked out. Wheatley was able to show statistically that, in general, the areas visible from the Stonehenge group tend to be larger than would be expected through the



Line of sight: a line is drawn between two cells of a digital elevation model to see whether there is a line of sight or not.



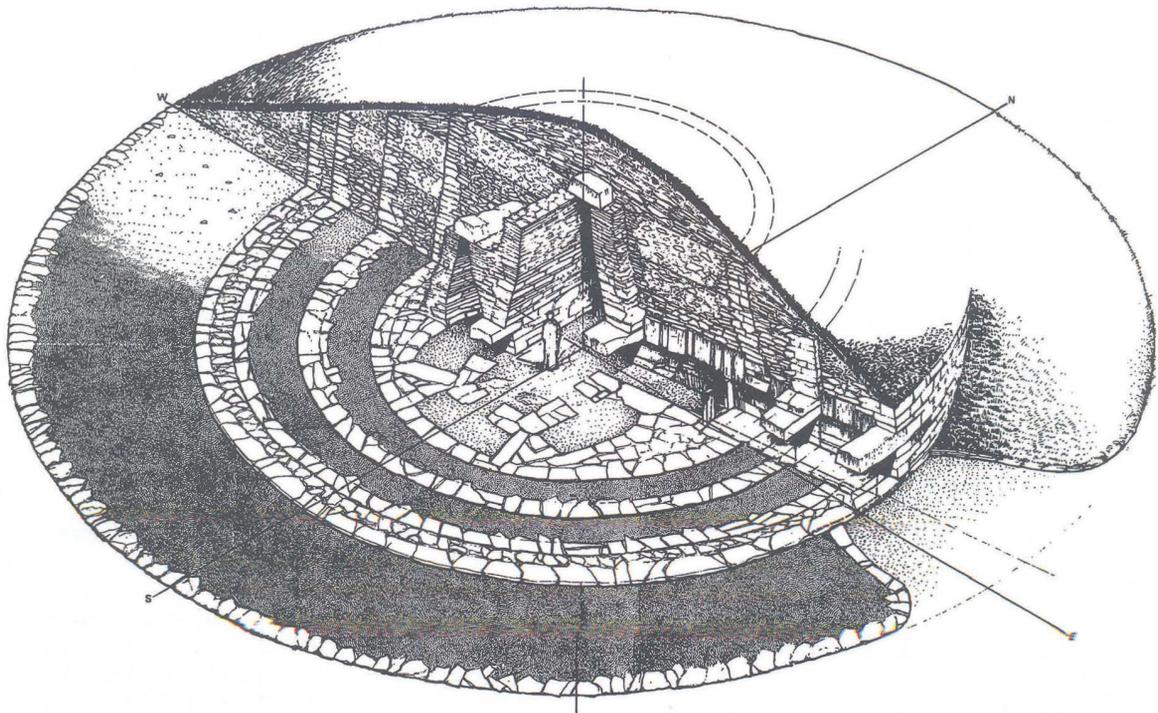
Cumulative viewshed analysis for the intervisibility of barrows of the Stonehenge group: percentages of projected intervisibility (solid line) compared with actual (dotted line). The results suggest that there is greater intervisibility between the barrows in this group than would be expected by chance.

operation of pure chance. The same could not be shown for the Avebury group of barrows. Taking this a stage further, he added together the viewshed maps for each monument, resulting in a *cumulative viewshed* map demonstrating the intervisibility within a defined group of monuments. Another statistical significance test ascertained that the barrows of the Stonehenge group tend to be in locations from which a large number of other barrows in the group are visible; again this could not be shown for the Avebury group.

Although such results are suggestive, they do not conclusively demonstrate that the long barrows on Salisbury Plain were deliberately sited to maximize their visibility or intervisibility, since these might in fact be a by-product of their location rather than a reason for it. Such studies also cannot take into account the effects ancient woodlands would have had on visibility. It is, however, possible that the choice of the location for constructing a barrow was partly guided by the desire to incorporate visual references to existing monuments. Thus, during the burial rituals at the new barrow, the permanence of the prevailing social order would have been visible all around. On the basis of the viewshed analysis of the Stonehenge long barrows, therefore, the monuments might be better interpreted as social foci for entire communities rather than territorial markers for individual distinct family groups (in which case it might be expected that their viewsheds would not overlap very often). Similar interpretations have also been advanced for the arrangement of bones within some chambered tombs, and of the architectural arrangement of chambers and forecourt at the West Kennet barrow.

#### Which Individuals Are Associated with the Monuments?

Finally it is necessary to investigate the relationship between individuals and monuments. When the monument is associated with a prominent individual, it might indicate that that person held high rank, and might therefore suggest a centralized society. This would not be the case for a monument associated with multiple burials of individuals of apparently similar status. For instance, in the chambered tomb at Quanterness in the Orkney Islands, off the north coast of Scotland, dating to c. 3300 BC, remains of a large number of individuals were found, perhaps as many as 390. Males and females were about equally represented, and the age distribution could represent the pattern of deaths in the population at large; that is to say, that the age at death of the people buried in the tomb (46 percent below 20 years, 47 percent aged 20–30 years, and only 7 percent over the age of 30 years) could in proportional terms be the same as that of the whole



*Quanterness, Orkney Islands: reconstruction of a chambered tomb dating to about 3300 bc. Burials found within it imply that this was the product of a segmentary society, not a hierarchical one, despite the sophistication of the architecture.*

population. The excavators concluded that this was a tomb equally available to most sectors of the community, and representative of a segmentary society rather than a hierarchical one, which the sophistication of its architecture might at first have suggested.

Similar observations apply to ritual monuments other than tombs, which similarly can give insights into social organization. So, too, can any other major corporate works, whether agricultural or defensive.

### **Relationships between Segmentary Societies**

*Segmentary agricultural societies have a whole range of relationships with their neighbors – marriage ties, exchange partnerships, etc. The first step in investigating such relationships archaeologically is to look for the ritual centers that served for periodic meetings of several groups. A study can then be made of the sources of some of the artifacts found at these centers (the techniques are explained in Chapter 9), to indicate the geographical extent of the network of contacts represented at each center.*

Some of the major public monuments in southern Britain discussed in the previous section seem to have

been just such ritual centers. In particular, the causewayed enclosures of the Early Neolithic have been interpreted as central meeting places – social and ritual centers for the tribal groups in whose territory they lay, and also for larger, periodic meetings with participants from a much greater area. Stone axes at these sites came from far-away sources, hinting at just how broadly based the social interconnections were at this early time.

Similarities and differences in the style and appearance of certain types of artifact – for instance, decorated pottery – can provide important clues to the interactions between societies. However, as we saw in an earlier section, Ian Hodder has shown that while various features of material culture are used to maintain tribal distinctions, others are not patterned in this way. At present archaeologists have not found a reliable way to distinguish in the archaeological record such symbols of ethnic differentiation and to “read” them correctly – for instance, to distinguish them from symbols of rank, or of some other type of specialization, or from mere examples of decorative fashion. Conventions of communication are considered further in Chapter 10.

## Farming Methods and Craft Specialists

In segmentary societies the existence of settled villages, cemeteries, public monuments, and ritual centers all indicate greater social complexity than in band societies. One way to try to measure how societies begin to show still greater complexity is to look at farming methods and the growth of craft specialists. Here we shall be concerned with social implications; more detailed questions about how archaeologists look at dietary aspects of farming, and technological aspects of craft production, are considered in Chapters 7 and 8 respectively. The increasing need for communities to exchange goods as craft production developed is the subject of Chapter 9.

As the farming way of life took root in different parts of the world after 10,000 years ago, there is evidence in many areas for a gradual *intensification of food production*, manifested by the introduction of new farming methods such as plowing, terracing, and irrigation, the use of poorer quality land as better land grew scarce, and the exploitation for the first time of so-called “secondary products” such as milk and wool (the meat of domestic animals being the “primary product”). How archaeologists can identify such evidence is discussed in Chapters 6 and 7. What we should note here is that these are all developments requiring a greater expenditure of human effort – they are *labor-intensive* techniques – and new and varied kinds of expertise. For instance, plowing allows once unproductive poor-quality land to be cultivated but it takes more time and effort than cultivating better-quality land without the plow. Moreover, activities like terracing involve cooperative effort on the part of a whole community. These are all activities that can be looked at to measure the likely number of work hours and size of labor force required. As in the case of public monuments, a really significant increase in the effort

expended (for instance, on the introduction of irrigation) would suggest some more centralized organization of the workforce, perhaps signaling the transition from a non-hierarchical, segmentary type of society to one that is much more centralized, such as a chiefdom.

If we turn now to *craft specialization* as a source of social information, there is a useful distinction to be drawn here between segmentary societies and centralized ones. In segmentary societies, craft production is mainly organized at the household level – what the American anthropologist Marshall Sahlins in his book *Stone Age Economics* (1972) has termed the Domestic Mode of Production. In more centralized societies such as chiefdoms and states, on the other hand, though the household unit may still play an important role, much of the production will often be organized at a higher, more centralized level.

This distinction is useful at the practical level of survey and excavation. Even small villages in segmentary societies will show signs of household craft production in the form of pottery kilns or perhaps slag from metalworking. But only in centralized societies does one find towns and cities with certain quarters given over almost entirely to specialized craft production. At the 1st millennium AD metropolis of Teotihuacán, near modern Mexico City, for instance, the specialized production of tools from the volcanic glass obsidian took place in designated areas of the city.

Quarries and mines to extract the raw materials for craft production developed with the crafts themselves, and provide another indicator of economic intensification and the transition to centralized social organization. For example, the flint quarries of the first farmers of Britain, around 4000 BC, required less specialized organization than the later flint mine at Grimes Graves in eastern Britain (c. 2500 BC), with its 350 shafts up to 9 m (30 ft) deep and complicated network of underground galleries.

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## TECHNIQUES OF STUDY FOR CHIEFDOMS AND STATES

Most of the techniques of analysis appropriate to segmentary societies remain valid for the study of centralized chiefdoms and states, which incorporate within themselves most of the social forms and patterns of interaction seen in the simpler societies. The investigation of the household and degree of differentiation on the rural village site are just as relevant; so too is the assessment of the degree of intensification of farming. The additional techniques needed arise because of the centralization of society, the hierarchy of sites, and the organizational and communicational devices that

characterize chiefdom and state societies. Once again, it is the nature of these devices that interests us, not simply the classification of society into one form or another.

### Identifying Primary Centers

Techniques for the study of settlement patterning were discussed earlier in the chapter. As indicated there, the first step, given the results of the field survey, is to consider the size of the site, either in absolute terms, or

## PART II Discovering the Variety of Human Experience

in terms of the distances between major centers so as to determine which are dominant and which subordinate. This leads to the creation of a map identifying the principal independent centers and the approximate extent of the territories surrounding them.

The reliance on size alone, however, can be misleading, and it is necessary to seek other indications of which are the primary centers. The best way is to try to find out how the society in question viewed itself and its territories. This might seem an impossible task until one remembers that, for most state societies at any rate, written records exist. Their immense value to the

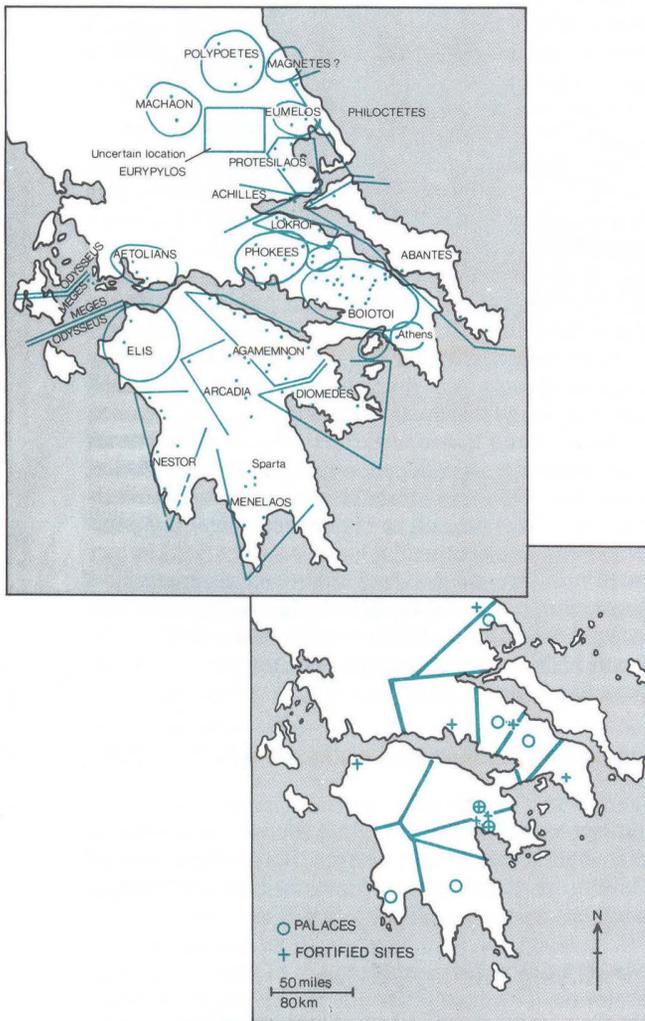
archaeologist has already been outlined. Here we need to stress their usefulness not so much in understanding what people thought and believed – that is the subject of Chapter 10 – but in giving us clues as to which were the major centers. Written sources may name various sites, identifying their place within the hierarchy. The archaeological task is then to find those named sites, usually by the discovery of an actual inscription including the name of the relevant site – one might for example hope to find such an inscription in any substantial town of the Roman empire. In recent years, the decipherment of Maya hieroglyphs has opened up a whole new source of evidence of this sort (see box, opposite).

In some cases, however, the texts do not give direct and explicit indications of site hierarchy. But place-names within the archive can sometimes be used to construct a hypothetical map by means of multi-dimensional scaling – a computer technique for developing spatial structure from numerical data. The assumption is made that the names occurring together most frequently in the written record are those of sites closest to each other. The British archaeologist John Cherry has developed such a map for the lands of the early Mycenaean state of Pylos in Greece (c. 1200 BC) (see box, overleaf).

Even myth and legend can sometimes be used in a systematic way to build up a coherent geographical picture. For instance, the so-called “Catalogue of Ships” in Homer’s *Iliad*, which indicates how many ships each of the centers of Greece sent to the Trojan War, was used by Denys Page to draw an approximate political map of the time. It is interesting to compare it with a map drawn using only the hard archaeological data for fortified sites and palace centers in Mycenaean Greece: the archaeological and the historical pictures correlate very well.

Usually, however, site hierarchy must be deduced by more directly archaeological means, without placing reliance on the written word. The presence of a “highest-order” center, such as the capital city of an independent state, can best be inferred from direct indications of central organization, on a scale not exceeded elsewhere, and comparable with that of other highest-order centers of equivalent states.

One indication is the existence of an archive (even without understanding anything of what it says) or of other symbolic indications of centralized organization. For instance, many controlled economies used seals to make impressions in clay as indications of ownership, source, or destination. The finding of a quantity of such materials can indicate organizational activity. Indeed, the whole practice of literacy and of symbolic



Late Bronze Age Greece: a map of territories derived from Homer's *Iliad* (top) compares well with a territorial map (above) based solely on archaeological evidence.

expression is so central to organization that such indications are of great relevance.

A further indication of central status is the presence of buildings of standardized form known to be associated with central functions of high order. In Minoan Crete, for instance, the “palace” plan around a central court is recognized in this way. Therefore, a relatively small palace site (e.g. Zakros) is accorded a status which a larger settlement lacking such buildings (e.g. Palaikastro) is not.

The same observation holds true for buildings of ritual function, because in most early societies the control of administration and control of religious practice were closely linked. Thus, a large ziggurat in Mesopotamia in Sumerian times, or a large plaza with temple-pyramids in the Maya lowlands, indicates a site of high status.

Failing these conspicuous indicators, the archaeologist must turn to artifacts suggestive of the function of a major center. This is particularly necessary for surface surveys, where building plans may not be clear. Thus, on site surveys in Iraq, workers studying the Early Dynastic period, such as Robert Adams and Gregory Johnson, have used terracotta wall cones as indicators of higher-than-expected status for the smaller sites where they are found. The cones, known to form part of the decoration of temples and other public buildings on larger sites in the region, suggest that such smaller sites may have been specialized administrative centers.

Among other archaeological criteria often used to indicate status are fortifications, and the existence of a mint in those lands where coinage was in use.

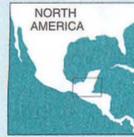
Clearly, when settlement hierarchy is under consideration, sites cannot be considered in isolation, but only in relation to each other. The exercise is one of early political geography.

## Functions of the Center

In a hierarchically organized society, it always makes sense to study closely the functions of the center, considering such possible factors as kingship, bureaucratic organization, redistribution and storage of goods, organization of ritual, craft specialization, and external trade. All of these offer insights into how the society worked.

Here, as before, the appropriate approach is that of the intensive site survey over the terrain occupied by the center and its immediate vicinity, together with excavation on as large a scale as is practicable. Again, this is a sampling problem, where the objective of comprehensiveness must be balanced against limited

## MAYA TERRITORIES



The Classic Maya lowlands of AD 300–900 were a densely settled area with many large population centers. The first clues to their political organization came with the discovery of “emblem glyphs,” hieroglyphic compounds that seemed to identify individual cities. It is now known that these combinations are the titles of Maya kings and describe each as the “divine lord” of a particular polity. The discoveries showed that the lowlands were at this time divided into a dense “mosaic” of numerous small states.

Today, a lively debate continues as to what degree this arrangement reflects the full political landscape. Some scholars think such states were autonomous and of roughly equivalent strength and influence. Others see evidence for a hierarchical ranking between kingdoms, arranged either in a “quadripartite” model of regional states, or a more loosely structured “hegemonic” system, in which dominant powers exercised some control over subject states, without interfering directly in their internal affairs. Increasingly the picture is one of confederations and shifting alliances. These reconstructions give greatest prominence to centers known from surveys such as: Copán, Tikal, Calakmul, Palenque and Caracol.



Copán



Tikal



Calakmul



Palenque



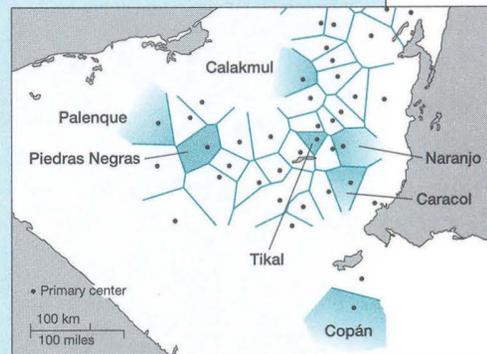
Caracol



Naranjo



Piedras Negras



Emblem glyphs (left) of 7 of the most important Classic Maya states, shown also on the map of the arrangement of Classic Maya political territories c. AD 790 (above).

## MULTI-DIMENSIONAL SCALING (MDSCAL)



Multi-dimensional scaling (MDSCAL) is a multivariate statistical technique, which, like factor analysis and cluster analysis, seeks to simplify complex information. The main aim is to develop spatial structure from numerical data. The starting point is a series of units, and some way of measuring or estimating the distances between them (often in terms of similarity and difference, where a larger difference is treated as much the same as a larger distance). The method allows one to reach the best arrangement (usually in two dimensions) of the various units in terms of similarities and differences.

One interesting feature of the method is that it does not need fully quantitative measures of similarity and difference: it is sufficient to know, for each unit, which the nearest unit is, and then the next and so on in rank order. For this reason, the method is sometimes called non-metric multi-dimensional scaling.

An ingenious use of the approach, which can serve as an example, was employed by the English archaeologist John Cherry. The problem was to try to reconstruct something of the geography of the Mycenaean kingdom of Pylos in Greece (c. 1200 bc). The information for the computer program

came entirely from the palace archives recorded on clay tablets found at Pylos. The tablets, which mention many place names, give no direct geographical information whatever, although they contain sufficient hints about the approximate location of some places to have allowed speculative maps to be drawn. Cherry's rather different approach involved just one interesting assumption: that if two or more place names occurred on the same tablet, they were likely to be fairly close to each other in reality. So he studied the frequency with which certain place names were recorded on the tablets, and then compiled a table (or "incidence matrix") showing their co-occurrence on individual tablets. The computer then went to work using the MDSCAL program, and produced as its output a spatial configuration based entirely on these data. Bearing in mind that the MDSCAL map shows relationships rather than distances, Cherry was then able to compare his configuration with the positions of the same sites, suggested by other scholars, on a real geographic map.

While the results remain hypothetical at this stage and have to be tested against further discoveries in the field, there are a number of intriguing similarities between the MDSCAL and geographic maps. For example, the computer was able to separate the towns of the kingdom's two provinces. It also confirmed much of the north-to-south order of the towns in the western province, if one ignores Pylos. Thus, on both MDSCAL and geographic maps, pi-\*82 is the most northerly town, followed by me-ta-pa etc. Pylos appears unexpectedly at the top of the MDSCAL map probably because, as the "capital" of the kingdom, its interactions were different in kind from those amongst the satellite towns.

The essential point, however, is that Cherry used information about relationships between pairs of units (in this case places mentioned in the tablets) to produce an ordered spatial configuration of those units. That is the essence of non-metric multi-dimensional scaling.

	a-ke-re-wa	a-pu <sub>2</sub> -we	e-ra-te-re-we	e-re-e	e-sa-re-wi-ja	ka-ra-do-ro	me-ta-pa	pa-ki-ja-pi	pe-to-no	pi-*82	pu-ro	ra-u-ra-ti-ja	ri-jo	ro-u-so	sa-ma-ra	ti-mi-to a-ke-e	za-ma-e-wi-ja
a-ke-re-wa		1	1	1	0	0	0	0	1	0	0	0	1	1	0	1	0
a-pu <sub>2</sub> -we			0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
e-ra-te-re-we				0	1	0	1	0	0	1	0	0	0	0	0	1	1
e-re-e					1	0	0	0	0	0	0	0	0	0	0	0	1
e-sa-re-wi-ja						0	0	0	0	0	0	1	0	0	1	1	1
ka-ra-do-ro							0	1	0	0	0	0	1	1	0	0	0
me-ta-pa								0	1	1	0	0	0	0	0	1	0
pa-ki-ja-pi									1	0	1	0	0	1	0	0	0
pe-to-no										0	0	0	0	0	0	0	0
pi-*82											1	0	0	0	0	0	0
pu-ro (=Pylos)												1	0	0	1	0	0
ra-u-ra-ti-ja													0	0	1	1	0
ri-jo														0	0	1	0
ro-u-so															0	0	0
sa-ma-ra																1	0
ti-mi-to a-ke-e																	0
za-ma-e-wi-ja																	

Table ("incidence matrix") showing 17 of the towns recorded on the tablets found at Pylos, and which of these names occur together on the same tablet (1 = link indicated; 0 = no link)

## 5 How Were Societies Organized? Social Archaeology

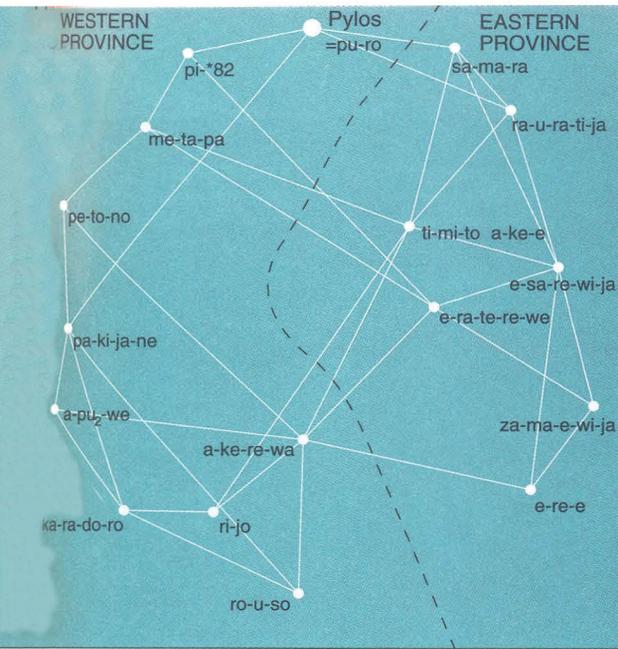
resources of time and finance. In the case of smaller centers, just a few hectares in extent, an intensive area survey will be perfectly appropriate. But for very large sites, a different approach is needed.

**Abandoned Sites.** Many of the most ambitious urban projects have been carried out at abandoned sites, or at sites where the present occupation is not of an urban character, and does not seriously impede the investigation. (The problems of continuously urban sites, i.e. ones that remain major centers today, are considered below.) The first requirement, which may present practical difficulties if the site is forested, is a good topographic map at something like a scale of 1:1000, although this may not be convenient for sites several kilometers in extent. This map will indicate the location of major structures visible on the surface, and some of these will be selected for more careful mapping. On sites where extensive excavations have already been conducted, their results can also be included.

Such topographic maps are among the most cost-effective undertakings of modern archaeology. One of the most interesting examples is Salvatore Garfie's survey of the site of Tell el-Amarna, the capital city of the Egyptian pharaoh Akhenaten, as part of the British project of survey and excavation there. The site was occupied for only 13 years in the 14th century BC, and was then abandoned. The buildings were of mud brick and are not well preserved as surface features, so the map draws heavily on excavations over the course of a century. In the New World, there have been several projects of comparable scale, one of the most notable being the University of Pennsylvania's great mapping project at the Maya city of Tikal, and similar work is now under way at several Maya sites. Perhaps the most ambitious project of all, however, has been the survey at the greatest Mexican urban center, Teotihuacán (see box, pp. 90–91).

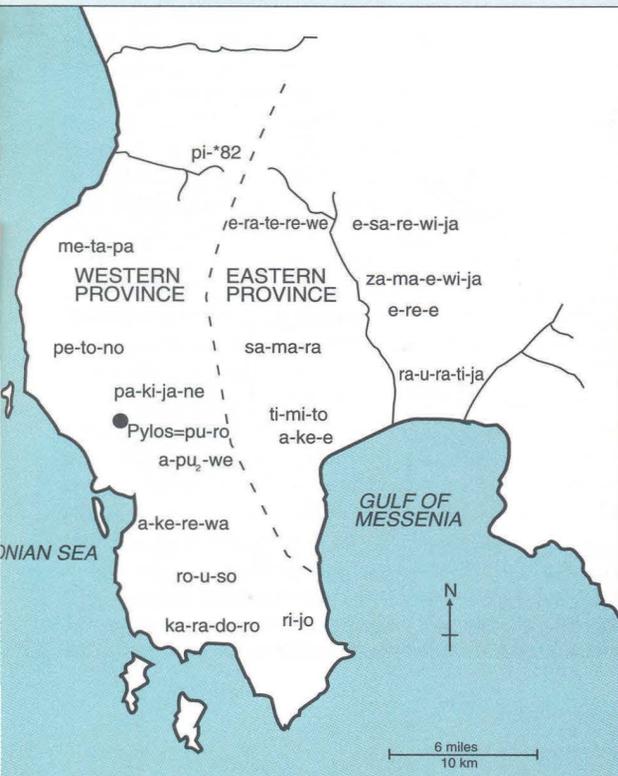
The preparation of a topographic map is only the first stage. To interpret the evidence in social terms means that the function of any structures revealed has next to be established. This involves the study of the major ceremonial and public buildings – temples have a social as well as religious function – and other components of the city, such as areas for specialist craft manufacture, and residential structures. Differences in standards of housing will reveal inequalities between rich and poor and therefore an aspect of the social hierarchy.

Quite often, however, the function of large and presumably public buildings is difficult to establish, and there is a temptation to ascribe purposes to them



The MDSAL output or map produced from the information in the incidence matrix, showing general relationships among the towns rather than distances. The computer has successfully reproduced the division of towns into two provinces, with a north-to-south ordering in the western province similar to that on the geographic map.

Geographic map of the Pylos area, with towns positioned approximately by John Chadwick using conventional archaeological and other evidence. The dashed line indicates the known division of the kingdom into two provinces.



## PART II Discovering the Variety of Human Experience

based on guesswork. For instance, the excavator of Knossos on Crete, Sir Arthur Evans, gave names such as “the Queen’s Megaron” to some of the rooms there, without any good evidence for the term. Similarly, Sir Mortimer Wheeler allocated terms like “College” and “Assembly Hall” to buildings within the “Citadel” of Mohenjodaro, one of the great Harappan cities, without supporting evidence that they actually served such purposes.

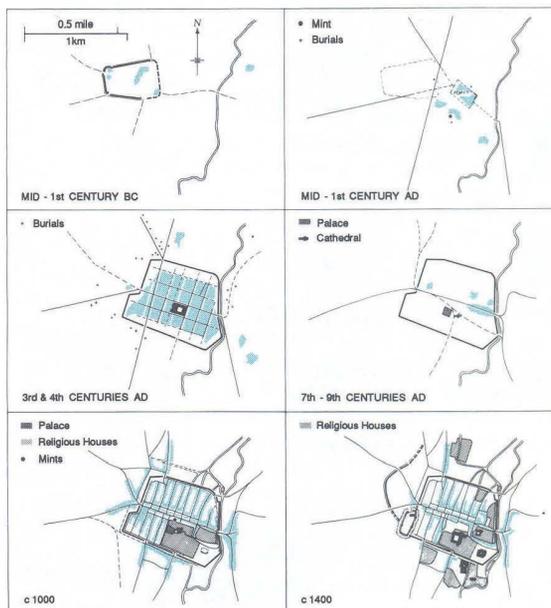
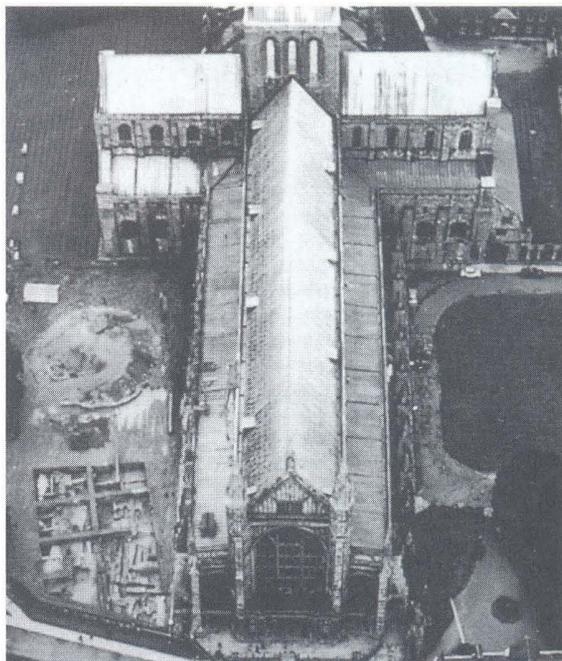
One way to begin studying the city in detail is the intensive sampling of artifact materials from the surface. At Teotihuacán the topographic map (at a scale of 1:2000) was used as the basis for surface sampling on foot. Trained fieldworkers covered the whole site, walking a few meters apart, and collected all the rims, bases, handles, and other special sherds and objects visible to them. The data from Teotihuacán have been processed in an ambitious computer project by George Cowgill. In this way the spatial distribution of specific artifact types can be mapped, and inferences made about the patterns of occupation in different periods.

A stage beyond intensive surface sampling can be the kind of combined surface examination and selective excavation carried out at Tell Abu Salabikh, described in Chapter 3, which revealed the largest area of housing known from any 3rd-millennium BC site in southern Iraq.

Usually, however, excavation on a large scale will be needed for a major center such as a city. Some of the most famous and successful excavations earlier this century have been of this kind, from Mohenjodaro in the Indus Valley in what is now Pakistan to the biblical city of Ur in present-day Iraq.

With luck, the preservation conditions for the last period of occupation will be good. If the site is located in the vicinity of a volcano, this last period may very well be superbly preserved by volcanic ash and lava. Pompeii in southern Italy and Akrotiri on the Greek volcanic island of Thera (Santorini) have been mentioned in earlier chapters as examples of cities buried and preserved for posterity, but there are others: for example, Cuicuilco was the great rival to Teotihuacán in the Valley of Mexico until volcanic eruptions destroyed the city some 2000 years ago. In such extreme circumstances, however, preliminary topographic mapping of the kind just described may not be possible, since structures will be buried too deeply to show up on the surface.

**Occupied Sites.** The problems are similar, but much more difficult in practice, with continuously urban sites: early centers that remain urban centers to this day and have, therefore, not only a complex strati-



Occupied site: Winchester, southern England. (Top) Excavations in progress beside the cathedral. (Above) The complex development of the city up to AD 1400, based on a decade of excavation and many years of post-excavation analysis. Inhabited areas are shown in color.

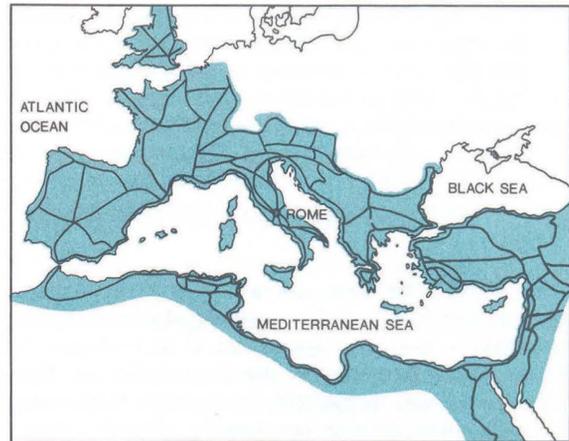
graphic succession, but modern buildings on or around the site. For such sites, the approach has to be a longer-term one, taking every opportunity provided by the clearing of a site for new construction, and building up a pattern of finds that eventually take on a coherent shape. This has been very much the story of urban archaeology in Britain and Europe, where the remains of Roman and medieval towns are generally buried beneath modern ones. In a way, this is a kind of sampling, but one where the location from which the sample is taken is not the choice of the research worker but is determined by availability. The work of the Winchester Research Unit in southern England between 1961 and 1971 is a good example. By excavating beside the cathedral, it was possible to trace the history of older structures. Evidence from previous archaeological work, together with the more recent excavations, have provided a good impression of the Roman, Saxon, and medieval towns underlying the present city of Winchester. Another good example is the city of York, discussed in detail in Chapter 13, and the issue of salvage or rescue archaeology in cities and elsewhere threatened with destruction is discussed in Chapter 14.

### Administration beyond the Primary Center

Investigation of the mechanisms of organization need not be restricted to the primary, capital center. Outside the main center there may be many clues indicating a centrally organized administration. It is useful, for example, to search for *artifacts of administration*. Perhaps the most obvious of these are the clay sealings found at secondary centers where the redistributive system is administered. Equally useful are other imprints of central authority, such as the imperial seal in any empire, or royal emblems such as the cartouche (the royal name in a distinctive cigar-shaped frame) of an Egyptian pharaoh, or the display of a royal coat of arms. Nor need the existence of a central jurisdiction be indicated by only the actual emblems of power: a Roman milestone on a road, for instance, carries with it the message that it is part of a centrally administered system of imperial highways.

A second approach is to look at *standardization of weights and measures* (see *Measuring the World*, pp. 399–401). Such standardization is found within most centrally administered economic systems. In many cases, the standard units came to be utilized outside the boundaries of the particular state as well.

The existence of a good *road system* is important to the administration of any land-based empire, although less significant for the smaller nation states that could be crossed by an army on foot in the course of a couple



*Administration beyond the primary center: the elaborate road network of the Roman empire (shown here in about AD 150) gives a clear indication of central administration.*

of days. The road system within the Roman empire gives one of the clearest indications of central administration, and would do so even if written records were unavailable. The Inca road network indicates central organization of a society without such records.

Clear indications of the exercise of military power can give the most direct insight possible into the realities of administration: control of territory often depended heavily on military might. Defensive works on a major scale offer similar insights and mark decisive boundaries. The Great Wall of China, begun in the late 3rd century BC, is perhaps the best-known example.

### Investigating Social Ranking

The essence of a centralized society and of centralized government is a disparity between rich and poor in ownership, access to resources, facilities, and status. The study of social organization in complex societies is thus in large measure the study of social ranking.

**Elite Residences.** Residential structures can indicate marked differences in status. Large and grandiose buildings, or “palaces,” are a feature of many complex societies, and may have housed members of the social elite. The difficulty comes in demonstrating that they actually did so. Among the Maya, for example, recent research has shown that the term “palace” is too general, covering a variety of structures that had different functions. Perhaps the best solution is to combine detailed study of the structure itself (architecture, location of different artifacts) with ethnoarchaeological or

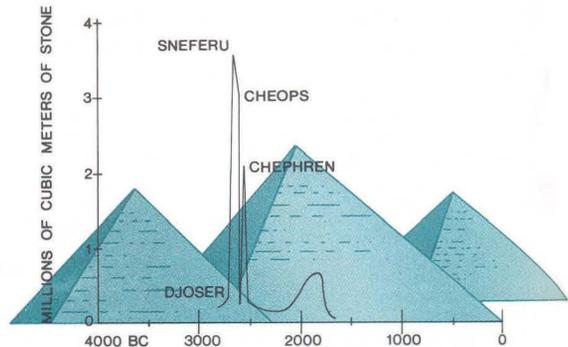
## PART II Discovering the Variety of Human Experience

ethnohistoric research. David Freidel and Jeremy Sabloff did this successfully in their analysis of the island of Cozumel, off the east coast of Mexico's Yucatán peninsula. Using 16th-century Spanish descriptions of elite residences, they were able to identify architecturally similar structures in the pre-Columbian archaeological record dating to a couple of centuries earlier. Test excavations helped clarify the functions of the buildings.

**Great Wealth.** The very existence of great wealth, if it can be inferred to have been associated with particular individuals, is a clear indication of high status. For instance, the treasures of the Second City at Troy, unearthed (or so he claimed) by Heinrich Schliemann in 1873, must indicate considerable disparity in the ownership of wealth. The treasure included gold and silver jewelry as well as drinking vessels, and there can be little doubt that it was intended for personal use, perhaps on public occasions.

**Depictions of the Elite.** Perhaps even more impressive than wealth, however, are actual depictions of persons of high status, whether in sculpture, in relief, in mural decoration, or whatever. The iconography of power is further discussed in Chapter 10, but in many ways this is our most immediate approach to social questions. Although such depictions are not often found, it is not uncommon to find symbolic emblems of authority such as Egyptian cartouches, to which may be added artifacts such as royal scepters or swords.

**Burials.** Undoubtedly, the most abundant evidence of social ranking in centralized societies, just as in non-centralized ones, comes from burial, and from the accompanying grave-goods. As discussed in the section on segmentary societies, a profitable approach is to consider the labor input involved in constructing the burial monuments, and the social implications. The largest and most famous such monuments in the world are the pyramids of Egypt, over 80 of which still exist. At the most straightforward level of analysis they represent the conspicuous display of wealth and power of the highest ranking members of Egyptian society: the pharaohs. But fascinating new research by, amongst others, the British archaeologist Barry Kemp and the American archaeologist Mark Lehner, is beginning to shed further light on the social and political implications of this colossal expenditure of effort – which involved in the case of the Great Pyramid at Giza the shifting of some 2.3 million limestone blocks, each weighing 2.5–15 tons, during the 23-year reign (2589–2566 BC) of pharaoh Cheops (Khufu). As the



The colossal building effort required to erect the pyramids reflects the centralization of power in the hands of pharaohs such as Djoser, Sneferu, Cheops, and Chephren.

accompanying diagram shows, there was a brief period of the most immense pyramid building activity in Egypt, dwarfing what had gone before and what followed. The peak period of this activity indicates the harnessing of huge resources by a highly centralized state. But what happened afterwards? Kemp has argued that the reduction in pyramid building coincides interestingly with a transfer of social and economic resources to the provinces, away from the main area of the pyramids.

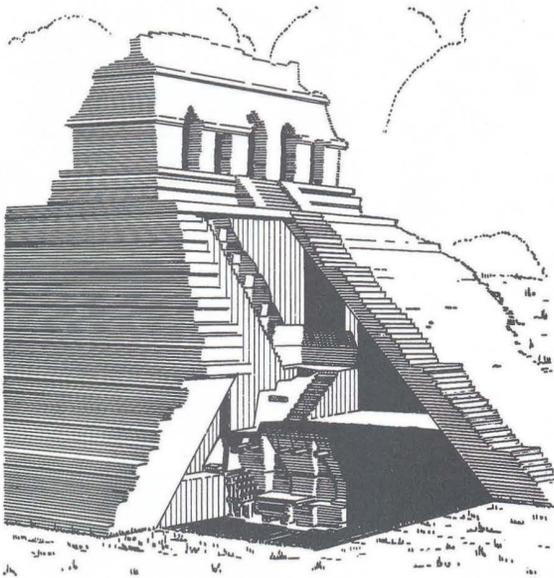
The pyramids and other burial monuments are not the only source of information about social organization and ranking in ancient Egypt. Magnificent grave-goods have often been recovered, most spectacularly those belonging to the boy pharaoh Tutankhamun (box, pp. 62–63). Nor of course were the ancient Egyptians alone in building monuments for their dead rulers and burying the richest artifacts with them. In the New World one thinks, for instance, of the Temple of the Inscriptions at Palenque, which held deep within it the tomb of the Maya city's ruler, Lord Pacal, who died in AD 683 and was buried with his superb jade mosaic mask. Major excavations at Copán, Honduras, likewise revealed a splendid Maya noble's tomb beneath the famous Hieroglyphic Stairway there.

In many early civilizations the ultimate power and rank of the dead ruler were emphasized by the ritual killing of royal retainers, who were interred with the monarch. Such funeral rites have been brought to light in the Sumerian Royal Graves at Ur, in modern Iraq, and among the burials of the Shang dynasty at Anyang in China. The huge army of terracotta warriors buried next to the tomb of the first Chinese emperor, Qin Shi Huangdi, represents a development of this practice, where the life-size terracotta figures take the place of members of the real imperial army.

There are many examples too of elite burials among smaller-scale state societies and chiefdoms. One of the most skillfully conducted excavations in western Germany in recent years has been that of a Celtic chieftain's grave at Hochdorf, dating to the 6th century BC, where Jorg Biel painstakingly recovered the collapsed remains of a wagon, drinking vessels, and many other grave-goods, including the wheeled bronze couch on which the dead chief lay, covered with gold jewelry from head to foot. The Shaft Graves at Mycenae in Greece and the Anglo-Saxon ship burial at Sutton Hoo in England represent similar discoveries by earlier generations of archaeologists.

However, all these remarkable burials are of individuals uniquely powerful in their societies. To obtain a more comprehensive picture of a ranked society it is necessary to consider the burial customs of the society as a whole. In many cases, it has proved possible to discover something about the elites that existed at a level below that of the ruler. Research carried out over many years at Moundville, Alabama, is a good example (see box overleaf).

There is undoubtedly more scope for useful investigations of social structure through cemetery analysis in ranked societies. Up to now, most sophisticated cemetery studies have been devoted to less centralized societies, as reviewed in a previous section. Cemetery



*Cutaway view of the Temple of the Inscriptions, Palenque, Mexico, showing at the base the hidden burial chamber of Lord Pacal, ruler of this Maya city who died in AD 683, as we know from inscriptions at the site.*

data of the early historic period in the Old World have conventionally been studied with a view to illustrating the existing historical texts, or refining typological schemes as an aid to chronology and the study of art history. Only now is the focus shifting toward studies of disparities in social status (see pp. 216–17).

### Investigating Economic Specialization

Centralized societies differ from non-centralized ones in a number of important respects. In general, the more centralized structure allows greater economic specialization, and this in turn brings increased efficiency of production. Centralization is often associated with an increased intensification of farming, for not only do centralized societies normally have higher population densities, but they must also produce enough surplus to support full-time (as opposed to part-time) craft specialists. The greater degree of craft specialization is made possible only by the organizing abilities of a more centralized society, which is able to manage and promote an increase in agricultural productivity.

**Intensified Farming.** The initial development of new farming methods for more intensive food production was discussed above in the section concerned with segmentary societies. In centralized societies the process is taken a stage further, with a still greater emphasis on labor-intensive techniques such as plowing. In addition, major public works such as irrigation canals are often undertaken for the first time, made possible by the coercive, organizing powers of a central authority. Another indicator of growing intensification may be the reorganization of the rural landscape into smaller units, as the population increases and the amount of land available for each farmstead thereby diminishes.

**Taxation, Storage, and Redistribution.** An important indicator of centralized control of a society is the existence of permanent storage facilities for food and goods, which the central authority will draw on periodically to feed, reward, and thus indirectly control its warriors and the local population. It follows that taxes, for instance in the form of produce to replenish state storehouses, will also be found among centralized societies: without them the controlling authority would have no wealth to redistribute. In chiefdom societies “taxation” may take the form of offerings to the chief, but in more complex societies the obligation is generally formalized. Much of a state’s bureaucracy will be devoted to the administration of taxation, and direct indications of bureaucracy, such as recording and accounting systems, in general document it.

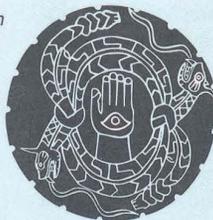
## SOCIAL ANALYSIS AT MOUNDVILLE

During its heyday in the 14th and 15th centuries AD, Moundville was one of the greatest ceremonial centers of the Mississippian culture in North America. The site takes its name from an impressive group of 20 mounds constructed within a palisaded area, 150 ha (370 acres) in extent, on the banks of the Black Warrior river in west-central Alabama. Moundville was first dug into as long ago as 1840, but major excavations did not take place until this century, in particular by C.B. Moore in 1905 and 1906, and D.L. DeJarnette in the 1930s. More recently Christopher Peebles and his colleagues have combined systematic survey with limited excavation and reanalysis of the earlier work to produce a convincing social study of the site.

*Changing settlement patterns in the Moundville region. In Phase I (AD 1050–1250) Moundville was simply a site with a single mound, like other similar sites in the area. By Phase II, however, it had grown larger, establishing itself as the major regional center. After its heyday in Phase III, Moundville disappeared as a significant site in Phase IV (after 1550), when the region no longer had a dominant center.*

Peebles and his team first needed a reliable chronology. This was achieved through an analysis of the pottery by Vincas Steponaitis, using in the first instance a seriation study (see Chapter 4) of whole vessels from a sample of burials at the site. The resultant relative

*Slate palette from Moundville incised with a hand-and-eye motif within two entwined horned rattlesnakes. Diameter 32 cm.*



chronology was then cross-checked with excavated ceramics from known stratigraphic contexts, whose radiocarbon dating helped convert the scheme into an absolute chronology.

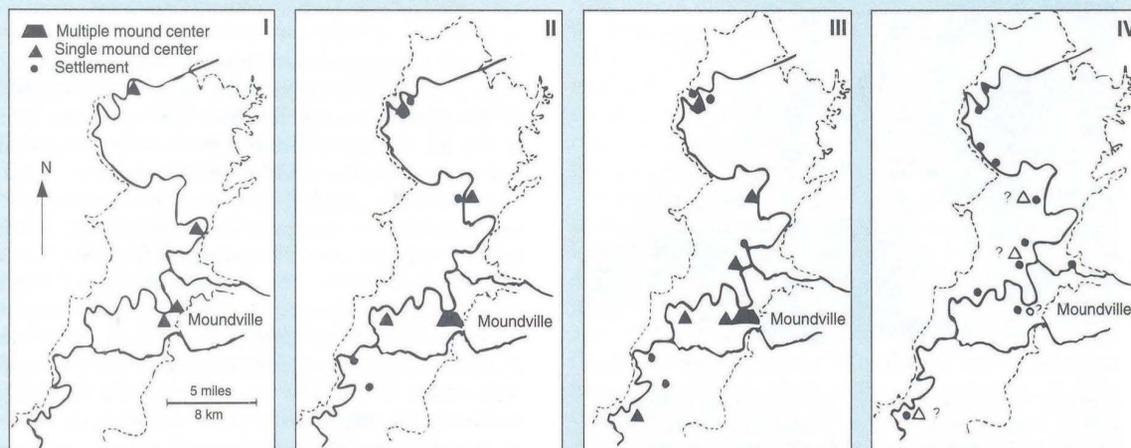
Using this framework, it was now possible to study the development of the site through several phases. Preliminary survey of neighboring sites also established the regional settlement pattern for each phase.

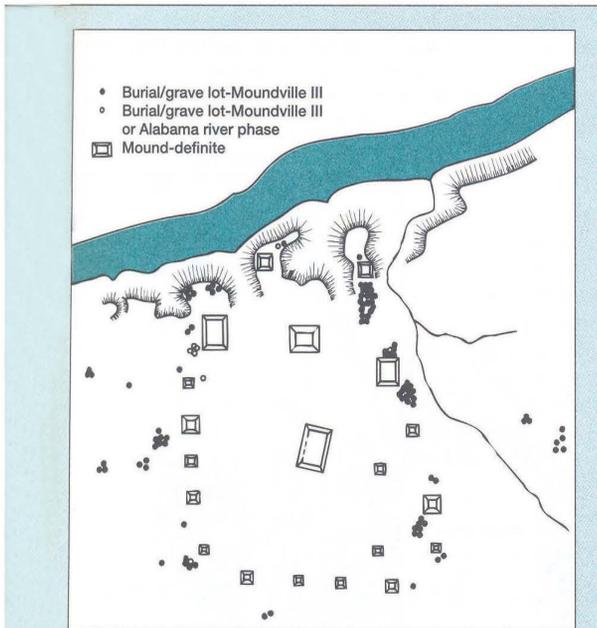
Over 3000 burials have been excavated at Moundville, and Peebles

used the technique of cluster analysis (see box, p. 197) to group 2053 of them according to social rank. Peebles observed that the small number of people of highest rank (Segment A: classes IA, IB, and II in the pyramidal diagram) were buried in or near the mounds with artifacts exclusive to them, such as copper axes and ear spoils. Lower-ranking individuals of Segment B (Classes III, IV) had non-mound burials with some grave-goods but no copper artifacts, while those of Segment C, buried on the periphery, had few or no grave-goods.

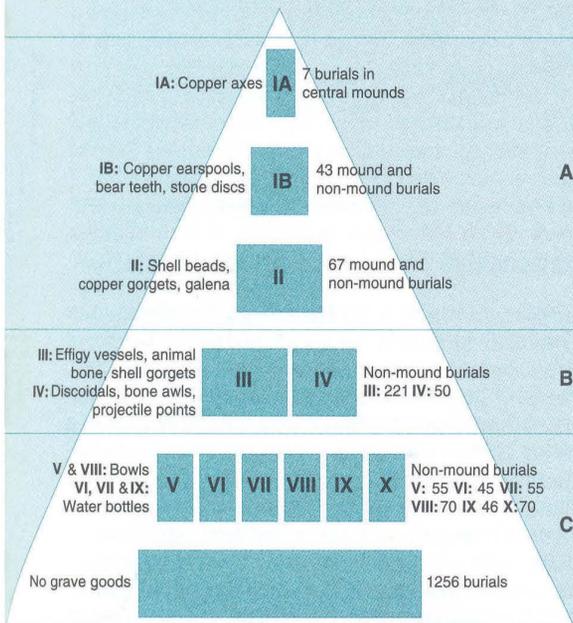
Peebles found interesting differences according to age and sex. The 7 individuals in Class IA, the top of the social pyramid, were all adults, probably males. Those of Class IB were adult males and children, while Class II comprised individuals of all ages and both sexes. It seems clear that adult males had the highest status. The presence of children in Class IB suggests that their high status was inherited at birth.

There is much more to say about the work at Moundville. But it should be clear from this summary how the various dimensions of information already examined come together to suggest a regional organization with a well-marked hierarchy of sites, controlled by a highly ranked community at Moundville itself – what Peebles terms a chiefdom society.





Phase III at Moundville, AD 1400–1550, when the ceremonial center was at its height.



Pyramid-shaped social hierarchy at Moundville, based on a cluster analysis of 2053 burials. Artifacts listed against each cluster (Classes I–X) are grave-goods.

A good example of a research project that has helped clarify this interaction of taxation, storage, and redistribution in one part of the world is the work of the American archaeologist, Craig Morris, at the city of Huánuco Pampa (see illus. p. 214), a provincial capital of the Inca empire high up in the Andes. This city, at one time inhabited by some 10,000–15,000 people, had been built from scratch by the Incas as an administrative center on the royal road to Cuzco, the imperial capital. We know from written accounts by early Spanish chroniclers that Inca rulers exacted taxation in the form of labor on state lands and state construction projects, including building Huánuco Pampa.

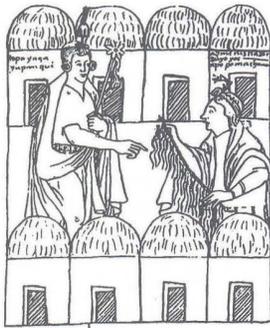
Many of the goods thus produced were stored in state warehouses – but to what purpose? Close analysis by Morris of a sample of some 20 percent of the more than 500 warehouses at Huánuco, as well as other structures there, suggested that stored potatoes and maize were used primarily to supply the city at this high altitude, where food production was difficult. But the city itself functioned to accommodate highly organized ceremonies in its huge central plaza, during which feasting and ritual maize-beer drinking took place, thus redistributing much of the stored wealth to the local populace.

As Morris states, this ceremonial aspect of administration seems to have been very important in early state societies. The sharing of food and drink reinforced the idea that participation in the empire was something more than working in state fields or fighting in a distant war.

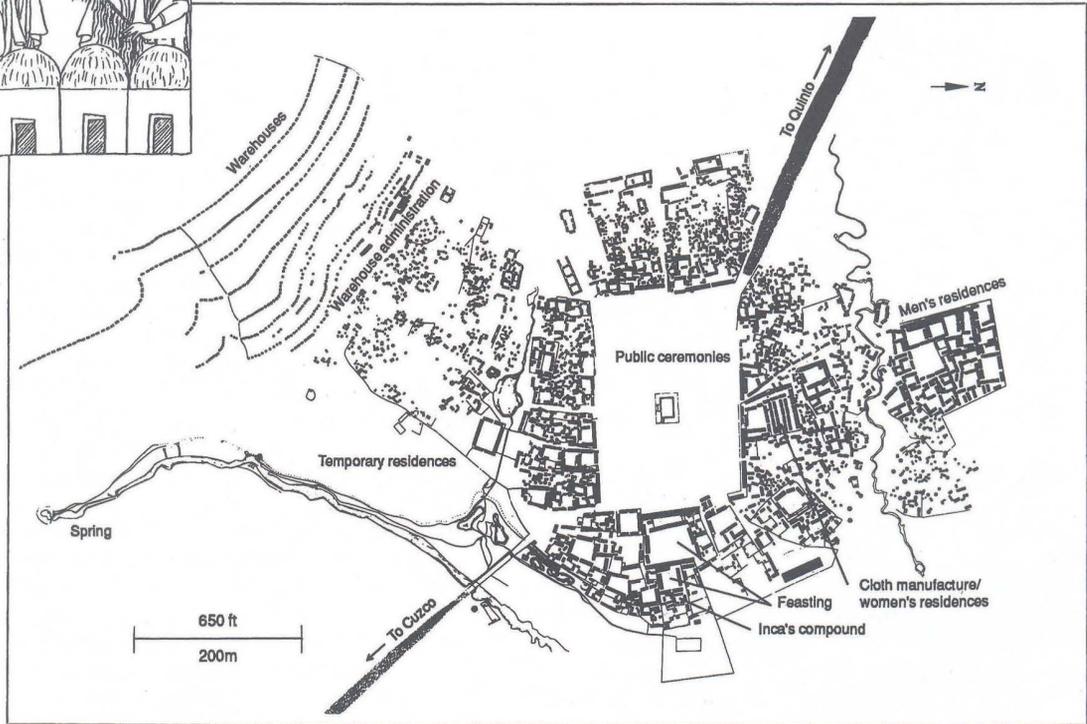
**Craft Specialists.** The increased importance of craft specialists is another indicator of a centralized society that can be identified archaeologically. Full-time craft specialists leave well-defined traces, because each craft has its own particular technology and is generally practiced in a different location within the urban area.

Huánuco Pampa again provides a helpful example. Although craft production here was much less developed than in many early cities elsewhere in the world, Morris successfully identified a compound of 50 buildings given over to the making of beer and clothing. Thousands of special ceramic jars and dozens of spindle whorls and weaving implements provided the archaeological clues; the ethnohistoric record linked these with beer and cloth production, more particularly with a special social class of Inca women known as *aklla*, who were kept segregated from the rest of the population.

Morris was able to show from his study that the distinctive architecture of the compound – enclosed by a surrounding wall with a single entrance thus



*Economic specialization: Huánuco Pampa, Peru, a provincial capital of the Inca empire. Warehouses at the site (left, the Inca emperor checks warehouse accounts with an official) were used to store state goods that were later redistributed among the populace at public ceremonies held in the central plaza. Analysis of the site by Craig Morris also identified areas set apart for craft specialists, such as a compound where women made clothing and beer.*



restricting access – and the density of occupational refuse suggested the presence of permanently segregated *aklla* craft specialists.

Detailed archaeological research of this kind is being carried out in many parts of the world, particularly into the specialized production of pottery, metal, glass, and lithic materials such as obsidian (all of which are discussed more fully in Chapter 8). The work of the Italian archaeologist, Maurizio Tosi, at the site of Shahr-i-Sokhta in modern Iran is a case in point, providing as it does an impression of the scale of craft specialization and its relationship to the central administration on the Iranian plateau during the 3rd millennium BC. By studying the evidence of craft production in different parts of the site, Tosi showed that some activities (notably textiles and leather-working) were restricted to residential areas, while others (such as stone tool, lapis lazuli and chalcedony working) were strongly represented in specialist workshop areas.

## Relationships between Centralized Societies

External contacts between centralized societies cannot be understood simply in terms of the exchange of goods: they are also social relations. Traditionally, these have been examined, if at all, within the framework of dominance models, where the “influence” of a primary center on outlying secondary areas is considered, often in what has been called the “diffusion” of culture (see Chapter 12). Most interactions between societies, however, take place between neighbors of roughly equal scale and power. These interactions have been termed peer polities. They need to be more carefully considered than has so far been the case in archaeology: one or two broad headings can be listed.

The role of *warfare* in early societies needs further investigation. War need not be undertaken with the objective of permanently occupying the lands of the vanquished in a process of territorial expansion.

The American archaeologist David Freidel made this point in his study of Maya warfare, based on the wall paintings at the site of Bonampak and deductions from early written sources. According to his analysis, the function of Maya warfare was not to conquer new territory, and thus enlarge the frontiers of the state, but instead to give Maya rulers the opportunity of capturing kings and princes from neighboring states, many of whom were later offered as sacrifices to the gods. Warfare allowed rulers to reaffirm their royal status: it had a central role in upholding the system of government, but that role was not one of territorial expansion.

A recent study by Kent Flannery has emphasized the role of charismatic military leaders in the formation of state societies. There is evidence from the Southwest of the United States for endemic warfare, not least in the 11th and 12th centuries AD, and it has been suggested that this may have been accompanied by institutionalized cannibalism (see pp. 286–87).

*Competition* is a frequent undertaking between societies, sometimes within a ritual framework. The study of places where games were played, or of certain ceremonial areas, may reveal that many interactions between societies took a competitive form. Such seems to be the case for the ball courts of Mesoamerica and was certainly so for the great Panhellenic games of ancient Greece, of which the Olympic Games were the most famous.

One of the most frequent features accompanying competition is *emulation*, where the customs, buildings, and artifacts employed in one society come to adopt the form of those used in neighboring ones. This proves to be so in almost every area, but these issues of style and symbolic form have scarcely been handled yet by archaeologists. In so far as they involve the use of symbols, and hence a consideration of what people think as much as what they do, they are discussed further in Chapter 10.

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## THE ARCHAEOLOGY OF THE INDIVIDUAL AND OF IDENTITY

The discussion so far in this chapter has started with the concept of the society and its organization. This is a deliberate feature of the structure of this book, where before questions are asked about the variety of human experience it is necessary first to form some view about the scale of society and its complexity – a holistic view. But at the same time this might be criticized as a “top-down” approach, where one begins with questions of organization and of hierarchy, of power and of centralization, and only then turns to the individual who actually lives in society, to that person’s role, gender, and status and to what it was really *like* to live there at that time and in that social context.

It would be equally valid to start with the individual and with social relationships, including kinship relations, and to work outward from there: what one might term a “bottom-up” approach. This might involve the consideration of networks of social relationships, and indeed this approach has been developed by Clive Gamble in his work on the Paleolithic period. Gamble contrasts two differing anthropological views of culture: the cognitivist approach, involving mental representations of social structures, and the phenomenological approach, which stresses the active engagement of people with their environment. The latter in particular can be seen to operate at the level of the individual. “The rhythms and gestures of the body during performance of social life, the habitual actions of living, mean that social memory is passed on in non-textual, non-linguistic ways.” These experiences are

undergone through individual, inter-personal contacts which are effected through the development of networks. “The elaboration of the extended network through symbolic resources led to the regional social landscape.”

This would also be the tendency of many social anthropologists and sociologists, and indeed of economists interested in personal transactions at the micro-economic level. In Chapter 10, “What Did They Think?,” this is the outlook from the outset, beginning with a consideration of the cognitive map of the individual, adopting the philosophical standpoint which is there identified as “methodological individualism.”

In some ways this approach has initial resemblances with that adopted by interpretive archaeologists of the postprocessual school, although the philosophical background is a different one. They emphasize, following in part the work of the French sociologist Pierre Bourdieu, that social concepts, such as the categories which we habitually use when speaking of age or gender or class, are constructs of our own society and ultimately of ourselves. This point is exemplified below in relation to gender, where the seemingly obvious point is made that biological sex as an objective category is to be distinguished from the social roles which we ascribe to men, to women, to warriors, to midwives etc. which are indeed sex-related but are in fact constructs which are very differently conceived when we compare one specific society with another.

## PART II Discovering the Variety of Human Experience

Archaeologists such as Julian Thomas and Roberta Gilchrist have applied Bourdieu's concept of *habitus* (which we might define as socially constituted structuring principles or dispositions operating within each individual) – a rather abstract notion, but still a useful one – to the archaeology and material culture of the Neolithic (early farming period) and the medieval world. A remarkable thing about the archaeological record, with its long time trajectories, is that it allows us to trace the emergence and development in the world of entirely new concepts – e.g. of value and wealth (as discussed in relation to prehistoric Varna in Chapter 10, pp. 404–05), of ownership, of kingship, and indeed many of those by which we organize our very thinking. Bourdieu (1977, 15) speaks of:

a permanent disposition, embedded in the agents' very bodies in the form of mental dispositions, schemes of perception and thought...such as those which divide up the world in accordance with the oppositions between the male and the female, east and west, future and past...etc. and also, at a deeper level, in the form of bodily postures and stances ...ways of standing, sitting, looking, speaking or walking

These things, although they may at first seem to us as natural “givens” are culturally specific: they are developed and adopted by humans in society. One may thus regard *habitus* as an informing ideology that is communicated and reproduced through a process of socialization or enculturation in which material culture plays an active role. Thomas and other archaeologists of the “Neo-Wessex” school have emphasized that conventions and rituals, such as those practiced at the Neolithic monuments of Wessex in the 3rd millennium BC, will have helped to shape the world view, the dispositions, indeed the *habitus* of the early farmers, just as the environment of the medieval nunneries, material as well as spiritual, discussed by Gilchrist, will have shaped the *habitus* of the community of nuns. The buildings in which one lives and their customary use affect the patterns of daily life of the individual, and the individual's experience and expectation of what is normal and commonplace. At a different level, the frequent experience of ritual practice, to the extent that it becomes normal and natural, governs the expectations and assumptions of everyday life. These ideas lead us to see at how deep a level social categories and roles are indeed the constructs of the very societies which use them.

These concepts are not to be taken for granted: indeed the techniques of archaeology allow us to see

when such constructs are first given material form (as in the differentiation in dress of ornament of men and women in the European Bronze Age, or the earliest emblems of prestige displayed by an individual whom we might identify as a chief).

There are many dimensions or vectors of identity. As noted below, gender has been the most extensively discussed in recent years. But age and age grades are not unproblematic, and have recently been the subject of attention. The problems of recognizing prestige and high status have been discussed earlier along with the concept of ranking (which belongs as much in a “top-down” discussion as in one taken from the “bottom up”). In recent years ethnicity has come to the fore again (see box p. 189), not least for the misuse of archaeology by political groups for contemporary political ends (see Chapter 14, “Whose Past?”).

The theme of the archaeology of social inequality has perhaps not been very comprehensively addressed yet, but in the field of historical archaeology there have been systematic studies of the material culture of some underprivileged groups, including some interesting studies of town areas known from documentary accounts to be considered poor. The infamous Five Points slum area of lower Manhattan, described by early 19th-century writers including Charles Dickens, has been investigated through rescue excavations at the site of a new federal courthouse at Foley Square which give some graphic insights. For instance, the excavated area included the site of a cellar brothel at 12 Baxter Street, historically documented (in the 1843 indictment of its keeper) as a “disorderly house – a nest for prostitutes and others of ill fame and name, where great numbers of characters are in the nightly practice of revelling until late and improper hours of the night.” The excavations give further insights based upon the material culture:

The quality of the household goods found in the privy behind 12 Baxter far exceeded that of goods found anywhere else on the block. The prostitutes lived well, at least when they were at work. One attraction was the opportunity to live in a style that seamstresses, laundresses, and maids could not afford. Afternoon tea at the brothel was served on a set of Chinese porcelain that included matching teacups and coffee cups, saucers and plates, a slop bowl and a tea caddy. Meals consisted of steak, veal, ham, soft-shell clams and many kinds of fish. There was a greater variety of artifacts from the brothel than from other excavated areas of the courthouse block.... Other personal items suggested the occupational hazards of prostitution. Two glass urinals,



*A view of the rescue excavation of the 19th-century slum area of Five Points in lower Manhattan, New York. The cellar of a brothel was investigated and yielded much information concerning the daily lives of inhabitants. While of a low social rank, the prostitutes at least enjoyed the use of a set of Chinese porcelain (inset) for afternoon tea.*

designed especially for women, were probably used when venereal disease confined a prostitute to bed. (Yamin 1997, 51)

Not far from Foley Square another excavation, that of the African Burial Ground, formerly known as the Negroes Burial Ground, recorded on a plan of 1755, has proved highly informative and has had wide repercussions. The rescue excavation of 420 skeletons there in 1991 provoked outrage in the African-American community of today, which felt it had not been adequately consulted, and ultimately led to the establishment of a Museum of African and African-American History in New York City. There were no grave markers, and other than wood, coffin nails, and shroud pins, few artifacts were found. The large size of the sample will allow study of nutrition and pathology. Certainly the controversy and the excavation have proved a stimulus toward the development of African-American archaeology, already well-defined through the investigation of plantation sites.



*A Yoruba priestess and a Khamite priest perform a libation ceremony for the ancestors over the grave of a person buried in the 17th-century African Burial Ground in lower Manhattan, New York.*

## INVESTIGATING GENDER

An important aspect of the study of social archaeology, which falls within the scope of the archaeology of identity, is the archaeological investigation of gender. Initially this was felt to overlap with feminist archaeology, which often had the explicit objective of exposing and correcting the androcentrism (male bias) of archaeology (pp. 46–47). There is no doubt that in the modern world the role of women professionals, including archaeologists, has often been a difficult one. For instance, Dorothy Garrod, the first woman professor of archaeology in Britain (see p. 32), was appointed to a Chair in 1937, at a time when female undergraduates in her university (Cambridge) were not allowed to take a degree at the end of their course, as male undergraduates did, but only a diploma. There was – and still is – an imbalance to be rectified in the academic world, and that was one of the early objectives of feminist archaeology. A second was to illuminate the roles of women in the past more clearly, where often they had been overlooked, and to rectify the male bias in so much archaeological writing.

These were sound objectives, but they did not sufficiently define the problems – the early approach has been criticized by later archaeologists of gender as being little more than: “Add women and stir.” But the study of gender is much more than simply the study of women. An important central idea soon became the distinction between sex and gender. It was argued that sex – female or male – may be regarded as biologically determined and can be established archaeologically from skeletal remains (Chapter 11). But gender – at its simplest woman or man – is a social construct, involving the sex-related roles of individuals in society. Gender roles in different societies vary greatly both from place to place and through time. Systems of kinship, of marriage (including polygamy, polyandry), inheritance, and the division of labor are all related to biological sex but not determined by it (see box overleaf). These perspectives permitted a good deal of profitable work in the second phase of gender studies in archaeology, but they have now in their turn been criticized by a new “third wave” feminism, as “essentialist,” as emphasizing supposedly “inherent” differences between women and men, and emphasizing women’s links to the natural world through reproduction.

The work of Marija Gimbutas on the prehistory of southeast Europe is now criticized by more recent workers in the field of gender archaeology as falling into this “essentialist” tendency. In her pioneering work she argued that the predominantly female figu-



*An image symbolizing female power? Neolithic anthropomorphic female vase, from Vidra, Romania.*

rines seen in the Neolithic and Copper Age of south-east Europe and in Anatolia demonstrate the important status of women at that time. She had a vision of an Old Europe influenced by feminine values which was to disappear with the succeeding Bronze Age with the dominance of a warlike male hierarchy, supposedly introduced by Indo-European warrior nomads from the east. Such thinking continues to dominate Indo-European studies, where the proposal that proto-Indo-European speech might have been introduced into Europe in Neolithic times (see box p. 467) has been criticized on the grounds that Indo-European society was male-dominated and warlike in character while the iconographic representations from the Neolithic period are claimed as predominantly female.

Marija Gimbutas became something of a cult figure in her own right, and her support for the concept of a great Mother Goddess representing a fertility principle has been embraced by modern “ecofeminist” and New Age enthusiasts. The current excavations at the early Neolithic site of Çatalhöyük in Turkey, where female figurines of baked clay have indeed been found (see box, pp. 44–45), are now visited regularly by devotees of the Goddess whose views are respectfully entertained by the excavators, even though they do not share them. But there are sceptical voices. Ian Hodder has argued instead that “the elaborate female symbolism in the earlier Neolithic expressed the objectification and subordination of women.... Perhaps women rather than men were shown as objects because they,

unlike men, had become objects of ownership and male desires.” Peter Ucko’s careful study of comparable material from the Aegean showed, moreover, that many of these figurines lacked features diagnostic of sex or gender. And Lynn Meskell, in an avowedly feminist critique, has written of “pseudo-feminism” in relation to the Mother Goddess metanarrative, seeing the work of Gimbutas as:

steeped within the “establishment” epistemological framework of polar opposites, rigid gender roles, barbarian invaders and culture stages which are now regarded as outmoded. It is unfortunate that many archaeologists interested in gender are drawn to historical fiction and emotional narratives. ... At this juncture sound feminist scholarship needs to be divorced from methodological shortcomings, reverse sexism, conflated data and pure fantasy ... (Meskell 1995, 83).

The third phase in the development of gender archaeology, in tune with the “third wave” of feminists of the 1980s, takes a different view of gender in two senses. First, in the narrower sense, and “led by women of colour, lesbian feminists, queer theorists and postcolonial feminists,” it recognizes that the field of gender and gender difference is more complex than a simple polarity between male and female, and that other axes of difference have to be recognized. Indeed the very recognition of a simple structural opposition between male and female is itself, even in our own society, an over-simple representation of the way these matters are conceptualized. In many societies children are not regarded as socially male or female until they reach the age of puberty – in the modern Greek language, for instance, while men and women are grammatically male and female in gender, the words for children generally belong to the third, neuter gender.

This leads on to the second point, that gender is part of a broader social framework, part of the social process – in Margaret Conkey’s words “a way in which social categories, roles, ideologies and practices are defined and played out.” While gender is, in any society, a system of classification, it is part of a larger system which operates simultaneously along a number of vectors of social difference, including age, wealth, religion, ethnicity and so forth. Moreover these are not static constructs but fluid and flexible, constructed and re-constructed in the practice, indeed the *praxis*, of daily life. These experiences come to shape the *habitus* of the individual in relation to that person’s own sexuality and gender role, and to their perceptions of the gender roles of others.

The complexities in analyzing burial data with respect to gender are indicated by the study by Bettina Arnold of the so-called “Princess of Vix” burial from east-central France. The grave contained skeletal remains which analysis indicated were female, but the grave-goods consisted of various prestige items normally thought to be indicative of males. This exceptionally rich 5th-century BC burial was initially interpreted as a transvestite priest because it was deemed inconceivable that a woman could be honored in such a way. Arnold’s careful reanalysis of the grave-goods supported the interpretation of the burial as an elite female. This may lead to a fresh assessment of the potentially powerful, occasionally paramount role that women played in Iron Age Europe. But this work may yet lead on to a wider consideration of gender distinctions in the Iron Age in a context which may reassess whether in individuals of very high status the traditional bipolar concept of gender is appropriate.

The process of “the construction of gender through appearance” is one which Marie Louise Stig Sørensen has considered in relation to the burials of the Danish Bronze Age. She argues persuasively that in the changing nature of the grave-goods through time we are seeing not simply the reflection of changing gender roles in society, but are obtaining rather some insight into how these roles themselves were constituted or constructed by the changing appearance (in terms of form of dress, of the materials used for clothing, of personal ornaments, and of the use of these together to give a specific ensemble) of the individuals whose roles were defined thereby. Her work involves the gender roles of men as well as of women, and reminds us that a masculinist approach may exist alongside a feminist approach to gender archaeology. Indeed Paul Treherne’s study “The warrior’s beauty: the masculine body and self-identity in Bronze Age Europe” could be regarded as a “masculinist” study not because his purpose is to exclude the feminine but because he sets out to trace the role of the warrior and the male ideal both during the European Bronze Age and in later representations of that Bronze Age.

The objective of placing gender analysis in archaeology within the wider context of the various dimensions of social life, including age and status, although extolled in programmatic papers in a number of edited volumes devoted to the archaeology of gender, cannot yet be exemplified in many case studies. One such, however, is the analysis by Lynn Meskell of social relations (including gender relations) within the Egyptian workmen’s village of Deir el-Medina, built around 1500 BC to facilitate the work of constructing the pharaonic tombs in the Valley of the Kings and in use

## GENDER RELATIONS IN EARLY INTERMEDIATE PERIOD PERU



A good example of the appraisal of archaeological evidence within the framework of a study of gender roles is provided by Joan Gero's analysis of Queyash Alto in the highlands of Peru during the Early Intermediate Period (EIP – c. 200 BC–AD 600).

The site of Queyash Alto is located on a narrow terraced ridge and consists of an alignment of rooms and open courtyards. Gero's excavations identified three functionally distinct areas, one domestic and two non-domestic. An upper terrace contained

structures and superimposed house floors with evidence for domestic occupation, probably high status to judge from the presence of decorated ceramics, imported spondylus (spiny oyster) shells, figurines and copper tupu pins. These pins were used as clothes fasteners exclusively by women in the Andes in Inca times and more recently. Since copper first came into use for making artifacts in the EIP, access to such prestige items is taken to indicate the owners' high status.

Further evidence for the presence of women in this part of the site was suggested by the frequency of spindle whorls. While spinning is not necessarily a female occupation, there is a long record of women being the primary spinners in this region. Only women were buried beneath the lowermost house floors, possibly as progenitors or founding mothers of a matriline.

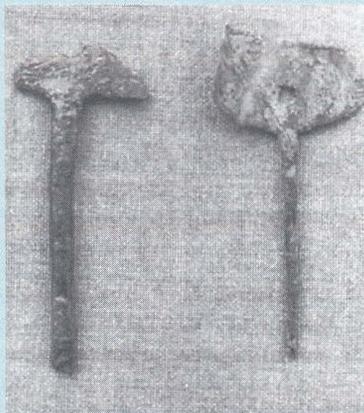
In contrast to the residential terrace, material from the ridge top suggested non-domestic activities, including an area for production and storage of beer and an open courtyard that appears to have been a site for ritual feasts.

Abundant remains of serving and drinking vessels were found here, as well as ladles and spoons. Stone tools associated with meat preparation and a profusion of panpipes complete the picture of communal consumption. More copper tupu pins and spindle whorls were also found here, indicating that high-status women were involved in the feasting.

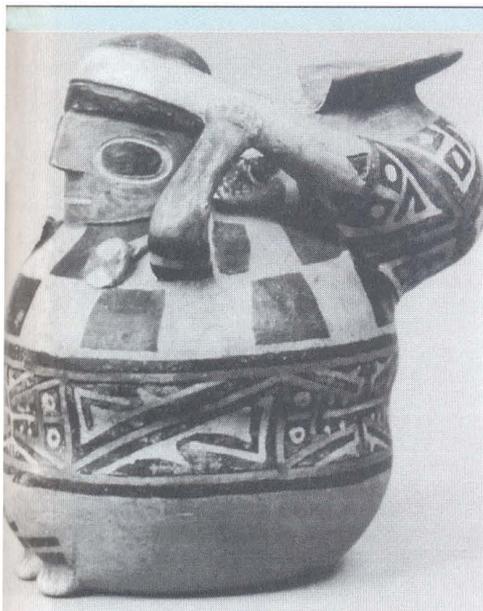
The formal architectural layout of the site, with restrictions on access and movement, indicated that the feasts were more than simply community gatherings to celebrate or appeal for good harvests. Gero suggested rather that they were taking place against a background of an EIP competitive political context which witnessed the emergence of a more ranked society and the consolidation of power in the hands of fewer individuals, perhaps heads of lineages.

It was this appearance of new hierarchical power relations that underpinned the need for feasts at Queyash Alto. A kin group could thus demonstrate that it had sufficient economic resources and status to summon other lineages, to impress them and perhaps repay their labor, and create more obligations. High-status women were participating in these political feasts – probably both as guests and as members of the groups providing the feasts.

To try to illuminate the nature of the women's participation in the feasting, Gero also looked at evidence in the iconography of the EIP Recuay-style pottery associated with the same valley. Effigy vessels include models of both women and men, whose clothes and ornaments, although clearly differentiated by gender, are of equal elaboration and prestige. Also, males and females are represented singly, rather than in pairs, except in scenes of ritual copulation, suggesting that the EIP women held rights and authority in



Two of the five copper tupu pins recovered from Queyash Alto (above). The same type of object was still in use in this region for fastening Inca garments (opposite, top right) and into more recent times (left).



High-ranking Inca women wearing tupu pins to fasten their garments (right).

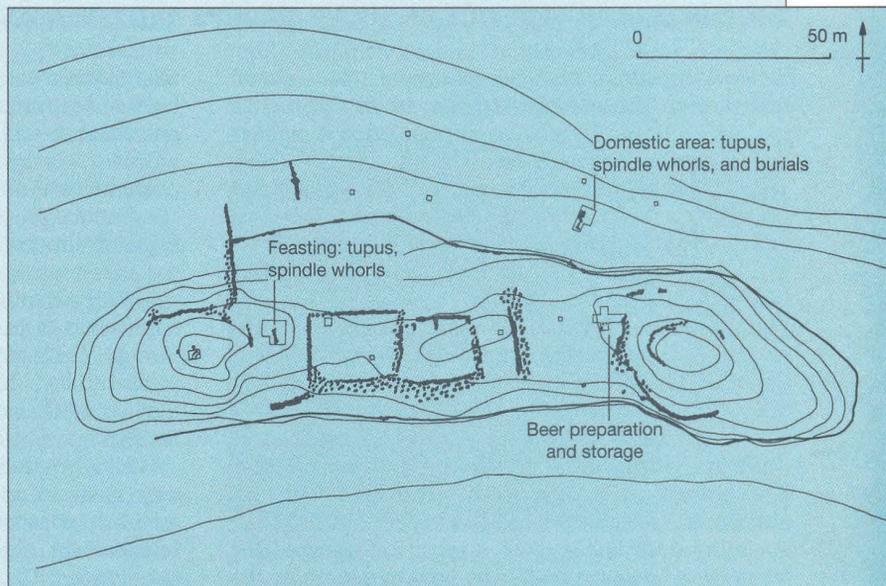
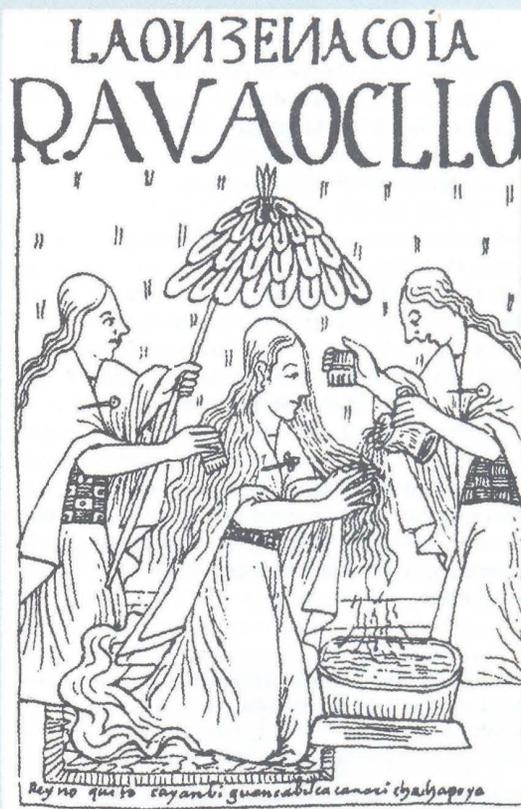
A Recuay effigy vessel (left) showing a prestigious female, apparently also wearing tupu pins.

their own right, neither deriving status from, nor sharing power with, a "husband."

The iconography of these vessels allows the identification of separate areas of activity, and perhaps of control or power, for the Recuay men and women. Men are shown with llamas and other animals, weapons, and musical instruments, women with infants held in outstretched arms, or holding ritual items like shells, cups, and mirrors, or standing guard on roofs. From this Gero has argued that it is irrelevant to try to determine whether men's or women's status was "higher," because evidently both men and women participated in a "mosaic" of power.

Both the feasting practices at Queyash Alto and the elaborate Recuay ceramic tradition coincide with an intensification of hierarchical power relations in the north-central highlands of Peru during the EIP. The two strands of evidence can be seen as reiterating themes of power and ritual, inseparably linked with a complex gender system. There seems little doubt also that the intensification of hierarchy required changes in the gender ideology and the high status that women enjoyed at that time.

Queyash Alto: site plan showing the excavated evidence for the functionally distinct areas.



## PART II Discovering the Variety of Human Experience

for about four centuries. Preservation is excellent, and since this was a literate society there are text-based insights. The village was very much a design-build enterprise with stereotyped house plans, and this regularity aided the analysis of room function, as did a wealth of finds and installations. The first room from the street could be identified as “notionally female-oriented, centered round elite, married, sexually potent, fertile females of the household,” while the second room or divan room appeared to be “even more ritually inclined, focusing on the sphere of elite, high-status males” of the household. Meskell was able to give detailed consideration to the use of space in these dwellings, in relation to food processing and other activities, and text references to servants encouraged consideration of differing statuses, even within a village which was, from the standpoint of the pharaoh and his officers, entirely composed of persons of relatively low status. The existence of well-preserved burials, some of them named in inscriptions, gave a further dimension to the analysis, permitting detailed consideration of the life and work of individual craftsmen and their partners.

*A house in the village of Deir el-Medina, Egypt, where the workmen who built the tombs of the pharaohs in the Valley of the Kings lived. Lynn Meskell has shown that the plans of the houses followed standard, gender-oriented organization.*



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## THE MOLECULAR GENETICS OF SOCIAL GROUPS AND LINEAGES

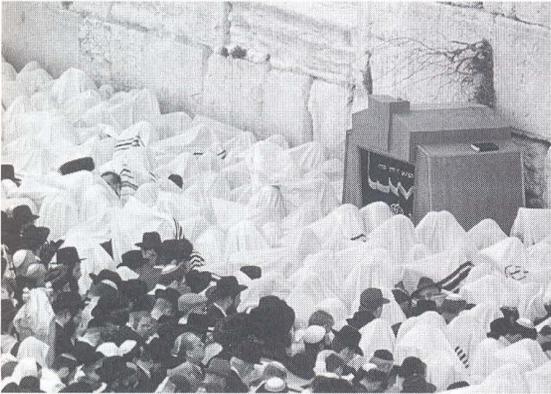
Molecular genetics has had an impact upon several branches of archaeology, as reviewed in Chapter 11 (pp. 455–59) and in relation to population dynamics and change in Chapter 12 (see box, pp. 468–69). There are possibilities for social archaeology also, although it is clear that the relationships established are essentially biological: the discussion is not about gender so much as about sex, to use the terminology discussed in the last section.

At present there are two lines of approach: the first to examine genetic relationships at the individual level, the second to examine the long-term genetic history of the wider social group – or “tribe” in cases where that term is applicable.

When the techniques for working with ancient DNA have progressed further, we can expect to see some notable advances in the social archaeology of burial, operating at the family level. A sample of ancient DNA taken from bone can readily be used to determine the sex of a burial, but the potential for studying family

relationships goes much further. In the study of royal burials, for instance with the mummies of Egyptian pharaohs, it should be possible to establish whether mummy A is the mother of mummy B, on the basis of mitochondrial DNA (mtDNA), inherited solely from the mother (see p. 457) – although a reliable chronological framework will be needed since the determinations if positive would not exclude the reverse possibility that B is the mother of A. Comparable approaches to paternity, and relationships in general through the male line, are possible using Y-chromosome studies, although the adequate preservation of nuclear DNA may be more problematical than for mtDNA.

While there have so far been no sophisticated cemetery analyses of this kind, using ancient DNA to establish a whole pattern of family (i.e. genetic) relationships, the same logic has been used with Y-chromosome DNA samples from living individuals of the Jewish faith in order to reconstruct relationships of



*A study of the DNA of a living population: Mark Thomas and David Goldstein examined the DNA of priests (Cohanim) of the Jewish faith, seen here praying at the Western Wall, Jerusalem. The requirement of the Jewish faith that the priesthood is inherited patrilineally means that the sample of Cohanim examined all shared a Y-chromosomal haplotype and thus enabled the researchers to trace an ancestral mutation dating back to c. 2650 years ago, possibly associated with the First Temple in Jerusalem.*

considerable antiquity. Work was undertaken by Mark Thomas, David Goldstein, and their colleagues to investigate with the use of DNA the degree of observance over time of the requirement in the Jewish faith that priests (Cohanim) should follow strictly patrilineal inheritance (descent traced through the male line). Samples were therefore taken from 306 male Jews from Israel, Canada, and the United Kingdom. The Cohanim in the sample all shared a specific Y-chromosomal haplotype, indicative of common ancestry in the male line, and the time at which the Cohen chromosomes were derived from a common ancestral chromosome could be estimated at c. 2650 years ago, a date which the authors suggested might be associated with the historic destruction of the First Temple of Jerusalem in 586 BC and the dispersal of the priesthood. While the dating can hardly be precise enough to warrant a specific association of that kind, the example gives an insight into the potential of the approach.

Of wider application is the study of what may be termed “population-specific polymorphisms,” where the DNA is analyzed of members of a social group, for instance a tribal group or an indigenous group defined on the basis of the language of its speakers. Work by Antonio Torroni and his colleagues on samples from group members defined in this way in Central America have found a very high within-group consistency. Since the samples in question were of mtDNA, they imply either a high degree of endogamy within the

group (marriage within the group) or a strict matrilineal residence pattern (marriage partners living with the wife’s family).

In Europe it has been observed that, when the distribution within a population of a specific polymorphism is studied, the haplogroup studied in the mtDNA (i.e. in the female line) is in general less spatially localized in the population than are comparable polymorphisms in the Y-chromosome (i.e. in the male line). It is interesting to speculate why this should be. One suggestion has been that a stable and long-term patrilineal residence pattern would, over time, favor local genetic features, and hence spatial diversity, in the Y-chromosomes (and conversely, matrilocality might correlate with spatial diversity in the distribution of mtDNA haplotypes). An alternative explanation would be that, while the mean number of childbirths per male and per female of the population must obviously be approximately the same, the variance is likely to be greater for males, especially in ranked societies where high-ranking males may have preferential access to women.

The most comprehensive analysis of ancient DNA yet undertaken from a prehistoric cemetery comes from the Norris Farms cemetery in Illinois, in the Oneota cultural tradition and dating from c. AD 1300, where 260 skeletons were excavated. The cold, dry conditions favored DNA preservation and Anne Stone and Mark Stoneking were able to obtain mtDNA results from 70 percent of samples, and nuclear DNA (Y-chromosome) data from 15 percent of samples. In addition to undertaking sex identification by means of nuclear DNA, they used the data to reconsider the differing current views on the peopling of the Americas (see p. 456), preferring a “single wave” hypothesis with a date of expansion between 37,000 and 23,000



*A study of the DNA of a past population: analysis of skeletons in an Oneota cemetery at Norris Farms, Illinois, has provided a large amount of data.*

## PART II Discovering the Variety of Human Experience

years ago. Detailed cemetery topography was not reported, but one can see that when excavations reveal what are considered by archaeologists to be “family

clusters” of burials, the application of DNA analysis to investigate genetic relationships will be highly interesting and valuable.

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### SUMMARY

This chapter has shown that a formidable battery of techniques is now available to archaeologists who wish to investigate the social organization of early societies. Only the salient themes have been touched on, but these will have made it clear that the potential for understanding the more complex and highly organized societies represented by states and chiefdoms is especially great.

We can investigate these societies through their site hierarchies and, in the case of state societies, through their urban centers. It should in this way be possible to identify the ruling center using archaeological methods alone, and the extent of the area over which it held jurisdiction.

The study of the buildings and other evidence of administration at the center gives valuable information about the social, political, and economic organization of society, as well as a picture of the life of the ruling elite. We can identify and analyze their palaces and tombs, and the evidence left by craft specialists working under their direction. Road systems and lower-order administrative centers give further information about the social and political structure. The study of

the differences in the treatment accorded to different individuals at death, in both the size and wealth of grave offerings, can reveal the complete range of status distinctions in a society. Gender studies are now adding new insight into the structure of society, and molecular genetics can also now be used to illuminate aspects of social archaeology.

As we have seen, similar approaches may be applied to segmentary societies: the study of individual settlements, the evidence for social ranking revealed by burials, and the existence of cooperative communal mechanisms for the construction of major monuments. The small-scale camps of mobile hunter-gatherer societies and the seasonal movement between different sites may also be studied using the methods outlined in this chapter, especially when the insights provided by ethnoarchaeological research on living societies are used in conjunction with direct study of the archaeological record.

We conclude the chapter by indicating the importance in recent studies of a “bottom-up” perspective in social archaeologies: the archaeology of individuals and of identity.

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### FURTHER READING

**The following works illustrate some of the ways in which archaeologists attempt to reconstruct social organization:**

Binford, L.R. 1983. *In Pursuit of the Past*. Thames & Hudson: London & New York.

Gero, J.M. & Conkey, M.W. (eds.). 1991. *Engendering Archaeology. Women and Prehistory*. Basil Blackwell: Oxford & Cambridge, MA.

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