

### III

## CULTURAL PERSPECTIVES IN ARCHEOLOGY

# THE DESERT CULTURE IN SOUTHWEST ASIA

*by Frank Hole*

## INTRODUCTION

The occasion to write a short essay in honor of a distinguished colleague's career gives me the opportunity to approach my own area of interest from a fresh perspective. Although Edward Norbeck is well known to have broad interests within anthropology, it is not so common to recognize him for his contributions to archeology. He did, however, in a paper with Jesse Jennings in 1955, set forth the essential ideas that continue to underlie our conceptions of the widespread and enduring set of archeological remains that have come to be known collectively as the Desert culture. In this essay I take the Desert culture as a point of departure for a reexamination of my area of specialization, Southwest Asia.

Archeologists have few tools at their disposal to aid them in interpreting the ambiguous and often scant remains of once vigorous, well-adapted, and skillful people. We sometimes attempt to "flesh out" the bare bones of prehistory with carefully drawn ethnographic analogy; sometimes we are lucky to find pictures drawn by the people themselves on bone or stone; and rarely we find sites where there is good preservation of artifacts made of organic materials. We have been able to answer some questions about past environments and the nature of perished remains through the use of ancillary investigations in zoology, palynology, and geomorphology. Nevertheless, at best we can reconstruct only certain outlines of the physical world in which people lived, and we have made little progress in inferring such things as family life, dress and decoration, religion and mythology, relations among separate groups of people, seasonal changes in adaptation, and so on. Perhaps some of these matters will always lie beyond our reach, but they are not beyond our imagination.

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If we are careful and retain a healthy degree of critical objectivity, we may find that we can stimulate our imaginations about regions or sites that lack good preservation by using ideas derived from even distinct and distant contexts. Thus, whereas at first glance there seems little profit in comparing Desert culture people of the western United States with the Epipaleolithic people of the Eastern Mediterranean, on closer examination we find many interesting parallels, which may help us understand the early Levantines better.

The term Desert culture was coined and defined in the 1955 article by Jesse Jennings and Edward Norbeck. Since then, despite many advances in knowledge of the archeology of particular sites and regions in the desert West of America, the term has retained its utility as a convenient way of naming a widespread style of life and an accompanying set of artifacts that were used by various groups of American Indians during the Archaic archeological stage (variously from 12,000 years ago to the present). Pinning a label such as "Desert culture," "Classic," or "Neolithic" on an archeological site is often of disservice, because having done it, one is tempted simply to put the matter out of mind, the classification having satisfied the immediate urge to create order out of chaos. The question one should ask is, "if the term applies, what does it imply?"

#### WHAT'S IN AN ARCHEOLOGICAL NAME?

In America, archeologists recognize stages of cultural development such as Paleoindian, Archaic, and Formative. The terms that have served a similar purpose in Europe and the Near East are Paleolithic, Mesolithic, and Neolithic. Within any particular region there are archeological "cultures" that manifest the characteristics of each cultural stage. Two examples are the Desert culture (Archaic) of the Intermontane West of North America and the Epipaleolithic (Mesolithic) of the Levant, or eastern Mediterranean region. In America one recognizes that the stages are sequential although in any particular area local cultures may never have progressed to the ultimate stage. In Southwest Asia, on the other hand, all cultures evidently reached at least Neolithic status, which implies cultivation of cereals and animal husbandry. A problem in each region has been to determine the factors that resulted in stability or changes in the archeological cultures. In Southwest Asia the emphasis has been on discovering the dynamic events associated with the origins of domestication, whereas in America, archeologists have been concerned more with elucidating the specific nature of a relatively static adaptation to a harsh and demanding environment.

Archeologists in the two regions have had fundamentally different attitudes toward the archeological cultures. This difference is partly implied in the names used: *epipaleolithic* suggests a terminal or late paleolithic, whereas *Desert culture* connotes no time and implies a wandering, largely vegetarian life. *Epipaleolithic* emphasizes the technological continuity with hunting people. We think of paleolithic hunters, and for the most part the tools found in paleolithic sites are thought to pertain to killing, butchering, and the processing of hides. It is popularly believed that the paleolithic people ate plant food only to supplement game, so that when consideration is given to styles of life it is inevitable that the hunt is thought to govern peoples' movements.

The contrast with the conceptions of the Desert culture could hardly be more pronounced. The Desert West lacks big game animals: antelope and rabbits were the chief quarry. The former were hunted seldom because there were rarely enough in one place to warrant much effort; the latter provided skins, which were essential, and thus rabbits were hunted deliberately in large roundups.

In America there are excellent ethnohistoric records (e.g., Steward 1955) that clearly support the prevailing conception of the Desert culture. In the absence of similar eye-witness accounts in Southwest Asia, and in consequence of more than ten thousand years of abusive exploitation of the land following domestication, it is difficult for most observers of the land today to conceive of vegetarian foragers. Although the environment in Southwest Asia may have been less extreme in places than in the Desert West, by no stretch of the imagination was it largely an inexhaustible game reserve. Hunting alone, as compared with gathering of plant foods, could have supported relatively few people at any time. In Southwest Asia we have been misled by negative information: finding stone tools and bones of animals in sites, we have tacitly assumed that hunting was the predominant mode of subsistence until agriculture was introduced. A brief review of the evidence for the Desert culture will suffice to suggest that this popular view of Southwest Asia is probably incorrect.

#### THE DESERT CULTURE

The Desert culture is found between the Rocky Mountains and the coastal ranges, a region of great topographic and vegetational variety, which is generally arid and in places is extreme desert (figure 1). Most writers emphasize the severity of the environment and the necessity for humans to have the capability to exploit a wide range of plant, animal, and insect sources of food. In consequence, relatively small bands of

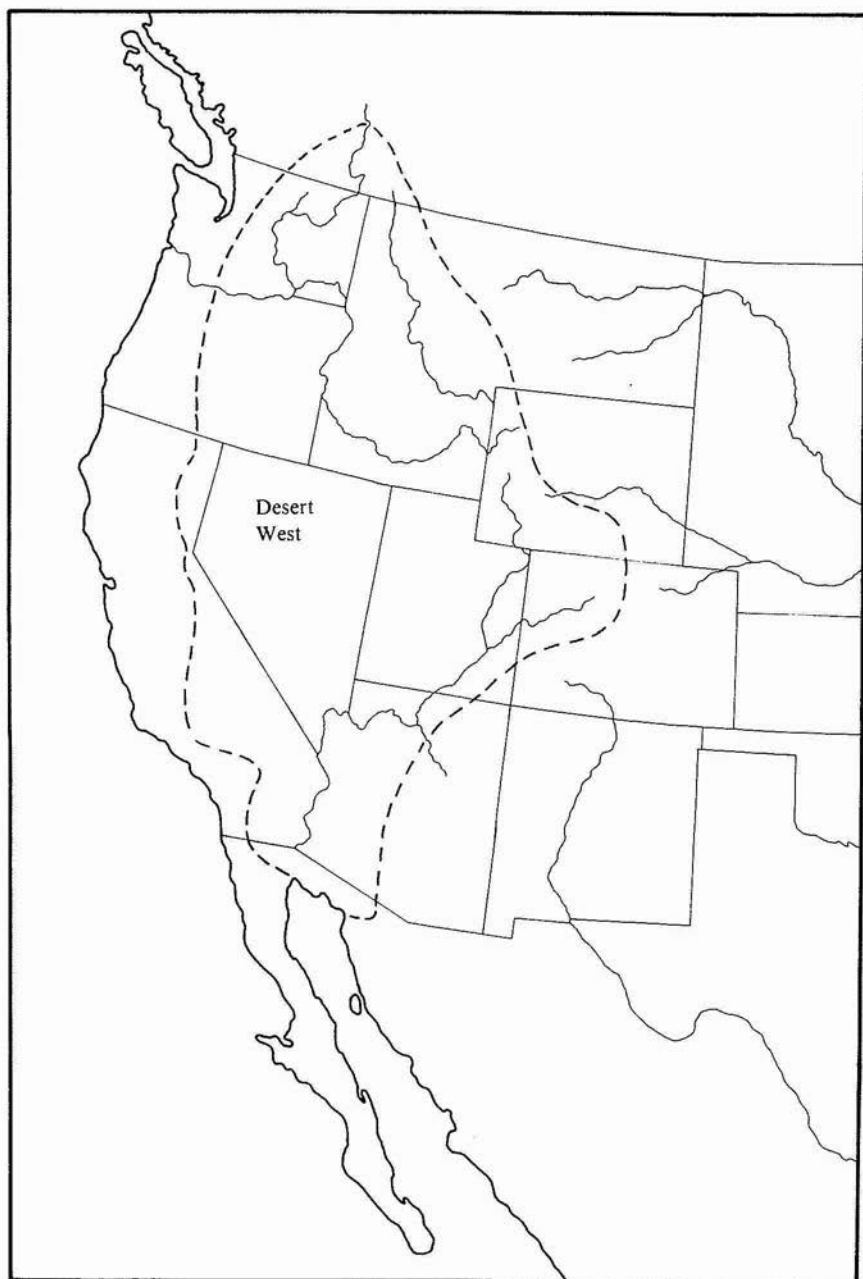


FIG. 1. REGION WITHIN WHICH DESERT CULTURES ARE FOUND. (After Jennings 1964: Fig. 1)

mobile foragers were the norm throughout the region and permanent settlements were rare.

For archeologists, a fortunate consequence of aridity is the excellent preservation of artifacts in some sites. Danger Cave in Utah is an example, although Jennings (1957:279) remarks that "nothing of the slightest conceivable value to an aboriginal user was found." By Near Eastern standards, the site contained a veritable treasure trove, including basketry, cordage, sandals, wooden implements, coprolites, bits of fur blankets, and other similarly perishable material.

"The twin hall marks of the Desert culture were the basket and the flat milling stone" (Jennings 1957:7), but general traits include: "cave and overhang locations for settlement, bark or grass beds, seasonal gathering, intensive exploitation of resources, small-seed harvesting and special cooking techniques [for mushes and cakes], basketry . . . , netting and matting, fur cloth, tumpline, sandals, atlatl, pointed hardwood dart shafts, varied (relatively small) projectile points, preferential use of glassy textured stone, flat milling stone and mano, a high percentage of crude scraper and chopping tools, digging stick, firedrill and hearth, bunt points, wooden clubs, horn-shaft wrenches, tubular pipes, use of olivella and other shells, vegetable quids" (Jennings 1964:154).

The sites that have attracted the most attention are caves, some of which were occupied intermittently during ten thousand years. Apart from these sites having well-preserved remains, there must be tens of thousands of transitory camps where the local foragers passed some time; but of these we have much less evidence. It is also interesting that there are a number of sites such as Humboldt Cave in Nevada that served as caches for Shamans' medicine bundles, feather bundles, sickles, baskets, and many other normally perishable items including food (Heizer and Krieger 1956; Jennings 1974:166). At Lovelock Cave in Nevada there is a basket maker's kit, which includes the fox skin pouch, a coil of weft material, and awls (Hole and Heizer 1973:fig. 69). There are no comparable finds from Southwest Asia, its general aridity notwithstanding.

#### THE EPIPALEOLITHIC

Like *Desert culture*, the term *epipaleolithic* embraces a number of chronological and regional variants on a general theme. The sites in Southwest Asia all contain microlithic tools, bone tools such as awls, some carved bone, engraved stone, "sickles," and mortars and pestles. It is the milling stones that make a comparison with the Desert culture relevant.

The sites in question begin with the Kebaran between 18,000 and

15,000 B.C. Changes in the microlithic tools some three thousand years later allow us to recognize the Geometric Kebaran A around 12,000-11,000 B.C. By 10,000-9,500 B.C., the Natufian and Geometric Kebaran B begin, the latter in the Negev and Sinai. By 8000 B.C., the Geometric Kebaran B is superseded by the Prepottery Neolithic A and, in the Negev and Sinai, by the Harifian, a terminal epipaleolithic culture (Bar-Yosef 1975:364).

There are two major changes in the local archeological sequence implied: at the beginning, the Kebaran use of grinding and pounding implements for the processing of plant foods; and later, at the time of the Natufian, the greatly increased frequency of these tools along with greater sedentism. From the Natufian onward, the commitment to the use of cereals increased until full scale agriculture developed. In all of the sites, there is evidence for hunting of gazelles, deer (especially in the Kebaran sites), and occasionally wild cattle. There is no convincing evidence for animal husbandry in the period under consideration (Simmons and Ilany 1975-77; Henry 1975). Incidental consumption of fish, turtles, and other small game is also attested.

Like the Desert West, the Levant is a region of topographic diversity, arid conditions, great seasonal changes in temperature and precipitation, and consequently restricted biotic and floral assemblages. Eastward from the coast the region becomes progressively drier until true desert is reached in the sub-sea-level bottoms of the Jordan-Dead Sea valley and beyond to the western Mesopotamian desert across the final range of low mountains. At its best this region closely resembles some of the interior valleys of southern California where oaks are plentiful as a consequence of "Mediterranean" climatic regimes, and at its worst it resembles Death Valley. Thus, the juxtaposition of varied and generally harsh environmental conditions prevails in both regions (figure 2).

In the Levant, most sites are in open locations, although some caves and rock shelters, often with limited arrays of artifacts, have been found. The most impressive site yet excavated is Ein Mallaha, a permanent village alongside a marsh and lake (Perrot 1966). Other sites, such as El Wad, a small cave in Mount Carmel, may have been more temporary campsites, but there were many burials there (Garrod 1957). Rock shelter sites overlooking the Dead Sea contain a limited range of stone artifacts, which suggest transitory activities. Sites in the Negev likewise indicate use of locales where hunting and harvesting of plants were seasonally productive. That there are sites in each of the major environmental zones is evidence of a lifestyle of mobility and opportunism during which a kind of seasonal round was followed.

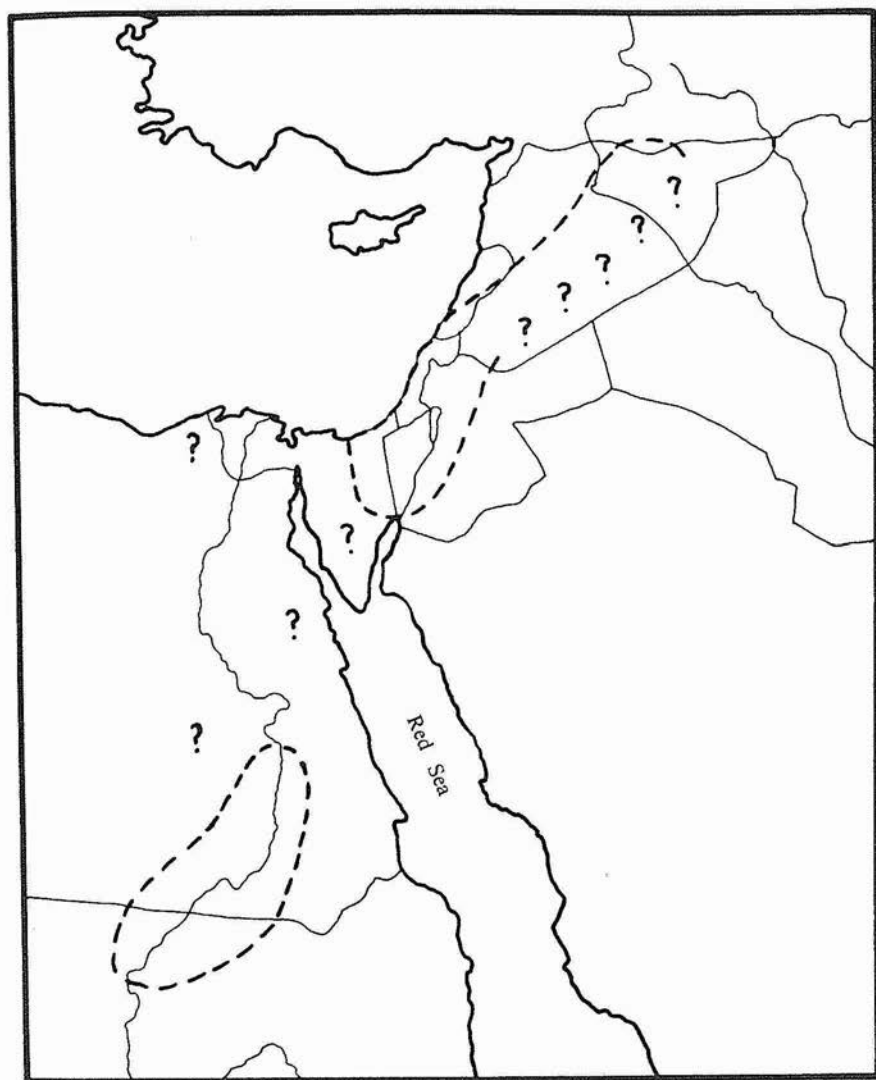


FIG. 2. REGIONS WITHIN WHICH EPIPALEOLITHIC CULTURES WITH MILLING STONES HAVE BEEN FOUND. ? indicates areas of possible distribution in which little, if any, archeological investigation has been conducted.



## IMPLICATIONS

For the Near Eastern archeologist, whose inventory of artifacts from any of the epipaleolithic sites is limited to stone and bone tools, a few shell beads, animal bones, some human burials, and traces of huts, it is startling to learn of the quantity and variety of perishable material used by people who occupied a similar environment in America. It is equally revealing to read of actual instances of people making use of the various opportunities that the desert affords. In combination, these sources seem to imply that we may have constructed a biased view of late paleolithic peoples in Southwest Asia. This seems especially true in regard to our preoccupation with hunting. To help correct this view it is useful to consider the potential of the desert environment.

To illustrate the point I shall summarize some ethnographic information (Spencer and Jennings 1965:253-258) on the Luiseño Indians of Southern California, who lived in an environment similar to that found in the eastern Mediterranean. The homeland of the Luiseños ran from the coast near San Diego back some fifty miles inland. In this area an average of fifteen inches of rain falls from December through March. The hillsides and valleys are lightly wooded, with oaks and pines growing at higher elevations. Along the coast, fish, sea mammals, and shellfish supplemented a largely vegetable diet.

Of major dietary importance were acorns, gathered each autumn and stored in granaries for use through the winter. The remainder of the diet was supplied by seeds from some sixty species of shrubs and grasses. The Luiseños also collected fruits such as plums and cherries, and they were able to use cactus and various greens. It should be noted that "the seasonal yield of the many edible wild plants produced a varied diet, marked with momentary abundances. Ordinarily, a plenitude of vegetable foods existed so that failure of even a highly important one could be compensated for by more intensive gathering of others or by drawing upon previously accumulated stores" (Spencer and Jennings 1965:255).

Meat was provided largely by rabbits, which were hunted singly or in mass drives. Deer, a highly desired quarry, were too scarce to depend upon. Sea mammals, fish, and shellfish constituted other important sources of food, as did insects. The latter were so numerous that they could be driven into traps where they were roasted and stored for later use over several months. Even caterpillars were collected and stored (see Essig 1971).

In the poorer regions of the Desert West, this same theme of dependence upon plant foods with only supplementary use of animal protein is repeated. One particularly informative account concerns the

Coahuilla Indians of Southern California, who lived somewhat inland and south of the Luiseño (Barrows 1971:306-314). These people lived in a region where an abundance of mesquite (*Prosopis juliflora*) provided the staple of the diet. In addition there were screwbeans (*Prosopis pubescens*), species of *Chenopodium*, a weedy plant with small seeds, and a small sage (*Salvia columbariae*), which was used to make nutritious cakes and a beverage. In parts of their territory these people were also able to gather acorns, pine nuts, and cactus and palm fruit. Barrows (1973:313) maintains that "there was no single staple, on the production of which depended the chances of sufficiency or want. Any one of several much used products might be gathered in sufficient quantities to carry the entire tribe through a year of subsistence. There was really an abundant supply of wild food, far more than adequate, at nearly all times of the year, for the needs of the several thousand Indian inhabitants of former times, although hardly a score of white families will find a living here after all the Indians are gone."

Writers on the Desert West agree that the use of these varied plant resources depended upon baskets and milling stones. The former served during harvest to hold the seeds and later in leaching (in the case of acorns), parching, and steeping or boiling. Most of the small seeds were parched and then ground to remove or score their tough husks so that the kernel was accessible. The pounding and grinding were carried out in stone mortars and on flat stones respectively. Although the technology is not elaborate, it is essential for the use of many of the food plants, and we can be certain that bulk processing of the smaller seeds could not have been accomplished without them. Survival in the Desert would not have been possible before the invention of these implements and the skills to use them in harvesting, processing, cooking, and storing seeds. In the Desert culture meat was not essential for subsistence; animals, however, especially rabbits, provided skins, which were required for bedding, clothing, and other uses.

Does this picture of the Desert culture have any relevance for the Kebaran-Natufian or any other epipaleolithic culture of Western Asia? I submit that it does and that we have been rather late in recognizing it. We have been preoccupied with hunters, partly, I suspect, because our chief evidence comes from the flints and bones found in cave deposits of Pleistocene age. The cave sites are in areas where we might least expect to find seed gatherers, and in any case, all organic material other than bone has perished. An equally important reason is that studies of paleoclimate indicate that major changes have not taken place in Southwest Asia in the last twelve thousand years. This implies a corresponding similarity of vegetation, a point that is reinforced by the finding of the same species throughout the Holocene. What cannot be judged, however,

is the extent to which the modern vegetation cover corresponds to that of the past. For example, the Near Eastern mesquite tends to be a scrubby shrub. We know, however, that this plant will grow to great size if it is not eaten by livestock and cut for fuel. Further, in spite of constancy of climate, farming and grazing of livestock have seriously changed both the ground cover and the water table in many regions. What we see throughout the Near East, therefore, is a landscape that has been modified to accommodate agriculture and industry; little, if any, pristine vegetation remains to enlarge our perspectives. What we regard as weedy undesirable plants today once sustained large numbers of people. Similarly, we rid fields of agricultural pests such as locusts and thereby eradicate a valuable potential source of food. Suffice it to say that, except for cactus, one finds precisely the same complex of plants in Southwest Asia as in Southern California. It is clear, therefore, that a similar life style was possible in both areas.

We must conclude that reconstructions based chiefly on flint tools have been biased, particularly where plant gatherers are concerned. As Jennings (1957:279) put it, the contrast between the abundance of useful flint tools and the scrappy remains of other objects at Danger Cave "make[s] me suppose that flint was cheap, expendable and unimportant, whereas cordage, basketry, buckskin, bone and horn tools, handles, arrows all represented greater skill, a greater expenditure of effort, and had actually a higher practical and investment value than did the stone."

There seems little doubt that the epipaleolithic culture developed directly out of the Upper Paleolithic of the same region. It is set apart from the latter by microlithic tools and the presence of grinding stones. If we grant the probability that the earlier Upper Paleolithic people *were* chiefly hunters, then we must account for the introduction of milling stones and a shift toward a vegetable diet near the end of the Pleistocene. Such a shift could be accounted for in several ways: pressure on resources and the consequent use of alternative sources of subsistence, spread of an idea and technology from elsewhere, and local invention. Although these points might be debated, we do have some suggestions of the second, an introduction from elsewhere.

There is a distribution of milling stones of approximately equivalent age (15,000-10,000 B.C.) from Israel through the Negev (Marks 1975:353-361) into Egyptian Nubia and the Sudan (Wendorf 1968a:940-946; 1968b:1050-1051; Wendorf and Schild 1975:145-146). Most of these sites are in places that today cannot support cereal grains because toward the end of the Pleistocene there began a gradual dessication of these southerly regions, depriving the people, and various species of animals, of their livelihood (Wendorf 1968a:945). There is at least the possibility, therefore, of a slow migration of people toward the Levant and western

Mesopotamia. At the same time these people may have carried cereal grains from North Africa into their present habitats (Wright 1976).

The point of these remarks is not to identify the place where seed processing began, but to suggest that the region bounded by Israel on the North and the Sudan on the South saw some of the earliest use of the equipment that was necessary to sustain a Desert culture. In time, as skills developed and modern vegetational patterns were established in Southwest Asia, these seed processors developed the flourishing epipaleolithic societies of the Levant. By the time of the Natufians, the only step that prevented these people from becoming agriculturalists was the planting of grain in fields outside their occurrence in the wild.

As an accident of political geography and of accessibility, archeologists have concentrated their work in the hilly and mountainous, relatively well-watered regions of Southwest Asia. If we take the concept of a Desert culture seriously, however, we will explore the desert margins of these regions and carefully investigate oases, stream courses, seasonal lake and marsh areas, and other potential focal points of forager activity (Garrard, Price, and Copeland 1975-77). When we have explored the vast desert stretches of Mesopotamia, we may find it less anomalous that large "Natufian" villages exist on the banks of the Euphrates (Cauvin 1972; Moore 1975; Wilkinson and Moore 1978).

In the future, an inventory of the multiple sources of plant food that would have been available to foragers in Southwest Asia would be worth conducting. Many of these species have their counterparts in America, where excellent ethnobotanical studies have been conducted. With such an assessment we could much more accurately predict the scope of our problem and delineate the places where we might look for archeological evidence.

Barrows's contention that only a handful of Europeans could survive where thousands of Coahuilla Indians lived is worth recalling here. We are accustomed to calculating the carrying capacity of land in Southwest Asia in terms of agricultural potential, and in those terms there is little good land. It may well be, however, that for desert foragers most of the land was not only usable but highly productive. By a curious turn of events it would seem that the very land that foragers would find attractive was also the habitat into which the farmers would put their domestic stock. Today we regard such plants as mesquite, screwbean, and *Chenopodium* chiefly as animal fodder, and thus dismiss them from consideration, but nutritionally they have a value comparable to that of the cereals. Today we relegate to the livestock the difficult task of processing the small seeds and tough pods while humans enjoy the more prestigious and easily prepared cereals.

We are still a long way from knowing how and even where agricul-

ture began. The knowledge of plant foods and the skill to use them are necessary to agriculture but they are not sufficient causes. More than twenty years ago American archaeologists discussed a similar problem: why did so many of the Desert culture people avoid taking up agriculture even when they had examples available to copy (Wauchope 1956:108-109)? In part the answer is certainly a matter of cultural preference, but it also has an element of environmental rationality about it. In reference to the absence of agriculture in central Texas, Kelley (1952:143) said "the economic adjustment for the entire group was too delicately balanced, too close to the base survival level, to permit successful experimentation with a farming economy by one group which might deprive other groups of their only seasonal source of food."

In other words, in a marginal agricultural region, the usurpation of a locally rich environment for propagation of one species might destroy the native vegetation, which was used seasonally by many groups. We can add to this that in any arid area it is unwise to commit oneself to a single food, because unpredictability is the norm and catastrophic losses are common. Moreover, as noted above, livestock are competitors with humans for certain plants.

The Desert culture example has emphasized the fact that people can sustain a way of life in a harsh environment over many millennia with primary dependence on vegetable foods. Although this is a commonplace observation in America, the possibility has been scarcely considered in Southwest Asia in spite of the fact that agricultural origins have been a major topic of investigation. The traditional attempt has been to discover the link between the hunters of the paleolithic and the farmers of the neolithic. The Desert culture example tells us that this pursuit may be fruitless: what we must seek is evidence of seed processing in the late Pleistocene during the terminal stages of the paleolithic. It is the development of artifacts such as baskets and milling stones rather than of projectile points and scrapers that is crucial.

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