The Peoples of the Hills

ANCIENT ARARAT AND CAUCASUS

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CHAPTER 1

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Anatolia has been described as the bridge uniting the Near East and Europe; but it has always been much more than that. The Caucasus range is at once a barrier and a funnel leading from the steppes of southern Russia to the highland zone of the Near East. It is this zone, especially eastern Anatolia and the Urmia basin of north-western Iran, as well as Trans-Caucasia, which falls within the compass of this book. No brief or facile summary can possibly provide an adequate understanding of the physical geography of these regions, yet no grasp of their past is conceivable without such an understanding. During certain periods the zone from the Caucasus to Lake Urmia and westward to the upper Euphrates enjoyed a cultural unity and sometimes also a political unity which justifies the geographical limits of this book. At other times no such cohesion is apparent.

Geology is ever present to the eye of the traveller through Anatolia and Iran, in most of which the hillsides are bare and eroded, exposing the variegated colours of the rocks. This is especially true of the central plateau of Anatolia, of the eastern Urmia basin and of the Araxes valley and much of Soviet Azerbaijan. But it was not always so, and it is one of the tasks of the student of the ancient Near East to make use of all available evidence, however tentative, to reconstruct the natural environment of earlier periods. This book will take in material dating back to about 7,000 B.C., if the evidence of radio-carbon dates is accepted. These dates do offer a mainly consistent pattern. During the subsequent millennia slight changes in climate and thus also in environment have indeed occurred: man-made changes certainly have wrought their havoc on the landscape. The efforts of modern governments, including notices urging public awareness and appreciation of forests, seem to have come almost too late to have any significant effect, though this may be too pessimistic an assessment. Meanwhile the forces of erosion, unleashed by centuries of deforestation and by the depredations of the goat, still continue to take toll of the irreplaceable resources of soil.

The annual rainfall of most of the Anatolian plateau is low, with a
poor distribution over the year as a whole, the wet season being from March to mid-May. There is also a considerable fluctuation in rainfall from year to year, so that areas which in some years yield a good harvest in others become marginal for cultivation: this is especially so in central Anatolia, where recent extensions of arable farming with tractors and deep ploughing have brought the risk of a dust bowl. But such conditions cannot have obtained in prehistoric times, not even today do they apply to more than a part of the Anatolian plateau. In all the coastal regions, in the highlands of eastern Anatolia and in most of Trans-Caucasus annual rainfall is higher than in central Anatolia, and vegetation and general ecology are accordingly different. Only in Iranian Azerbaijan, centred round Lake Urmia, are conditions more closely comparable with those of the semi-arid regions of Turkey.

The highland zone from the Euphrates eastwards, though rightly reckoned as within the Near East, enjoys, or suffers, extremes of seasonal temperatures more appropriate to central Asia. Much of this zone lies within the critical limit of winter, with an annual minimum of thirty days of frost in terms of mean daily temperatures. In the region of Kars, Erzurum and Van winter is longer and far more extreme than the comparatively moderate heat of summer which seldom lasts as much as three whole months from the middle of June. The Black Sea littoral enjoys, in contrast, a maritime climate with rain all the year round and with, towards the south-east corner of the Black Sea, an almost sub-tropical luxuriance surpassed only on the southern shores of the Caspian Sea. This verdure extends to Abkhazia, and to a lesser degree north of central Georgia. The Taurus range provides a sharp frontier along the north for the Atlantic storms of winter and spring sweeping east across the Mediterranean and Syria. A similar contrast can be seen near Bayburt, on the road from Trabzon to Erzurum, where the plateau is bathed in hot sunshine in July and August but the clouds from the Black Sea to the north reach the very crest of the mountains and almost spill over. Summer there ends with the incursion of the cold west winds from the north, eventually bringing snow. The same occurs in Azerbaijan, especially north of Lake Urmia, a region with one of the widest ranges of temperature from summer to winter of any part of the world; here, however, as in the Van region, the presence of a large lake must exercise at least a slight moderating influence on the continental climate.

Some attempt must be made to reconstruct the natural environment during the last nine or ten millennia. The sheer weight of evidence makes the physical conditions of today, except where altered by man, the prime source for reconstruction of those of earlier periods. From the results of palaeo-climatology it seems apparent that during the last glaciation the climatic snowline was as much as 2,700 ft lower than that of today, though

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in places only 2,000 ft lower. With this went an alpine vegetation in the highlands of eastern Anatolia and in Caucasus, with meadows and scrub and some glacier. Two radio-carbon dates show that loess ceased to be deposited by about 9,000 a.c., suggesting that by then the dry northerly winds, blowing during the glacial periods from the steppes of Eurasia, were not so prevalent. In post-glacial times climatic conditions do not seem to have fluctuated very significantly in the Near East. Relatively small climatic changes could have disproportionately wide effects on the climate of a whole region, especially from the growth and shrinkage of lakes. Such changes may well have affected Lake Urmia, today nowhere more than one hundred feet deep and with wide areas of salt flats under water only in the spring. Large areas of inland drainage are also comprised within the confines of the Anatolian plateau, among these being the Konya Plain, the Salt Lake basin and the catchment areas of the lakes along the northern foothills of the Taurus. Some evidence exists to support the theory that large lakes, since then either drastically shrunk or completely vanished, existed in early post-glacial times over much of these areas, with consequent deposition of alluvium. Such extensive sheets of water suggest a lower rate of evaporation than today, appropriate to a lower average temperature, and their effect on the climate would have been considerable. Only a slight decline in average annual precipitation would, however, have been quite sufficient to cause, with a slight rise in average temperature, the drying up of much of the land previously under water perennially or seasonally. If the annual rainfall should fall below twelve inches the growth of even deep-rooted trees will cease, bringing about another factor making for aridity and erosion. Thus contemporary environmental conditions obtaining over most of central Anatolia would come into being, perhaps with surprising rapidity. The balance between aridity and a sufficiency of rainfall for plant and tree growth, between semi-desert or steppe conditions and those suitable for primitive village cultivation, has always been a delicate one in much of the Near East, certainly throughout post-glacial times.

This delicate balance must have affected the extent of forests over much of Anatolia and Caucasus, though in the mountainous regions the work of tree-felling and the subsequent grazing by goats must have played the main part in deforestation and consequent erosion. Once started, this process tends to gather momentum, as the soil becomes less capable of retaining moisture and is no longer anchored to the hillsides by the roots of trees, scrub and grasses. Archaeological evidence, such as the occurrence of stag antlers at the Hittite capital of Boğazköy (Hattusa), may provide indications of forest where none survives now. Even clearer evidence is to be seen in the massive diameter and great quantity of timbers used in such buildings as the burnt palace of Beycesultan Level v,
in south-western Anatolia. Wooden frame construction is still widely used in the highland zone of the Near East, with an in-filling of mud brick or of stones set in mud; but the dimensions of the timbers used today are modest compared with those in prehistoric buildings, and popslar, so easily and quickly grown along the banks of streams and irrigation ditches, is far the commonest type of wood used. One of the most impressive monuments surviving to attest the skill in carpentry of the early peoples of Anatolia is the tomb-chamber of the great tumulus at Gordun, opened up in 1957. These are but some of the indications which lead to one general conclusion, that the forest-covered acreage of Anatolia and probably that of the Zagros mountains also, has much diminished during the last three or four millennia, more especially since the Hellenistic period. Along the Pontic ranges and in Caucasus, however, vast forests still survive, in a zone blessed with a far higher rainfall than that of the now treeless Anatolian plateau or of the Urmia basin.

The pattern of settlements in the highland zone during successive periods, and the varying importance of arable farming and of sheep and cattle, are subjects as yet hardly studied at all, save in the Soviet Union. The direct evidence of animal bones from excavations is the most tangible criterion, without which theories on the evolution and changes of patterns of settlement are liable to be mainly speculative. It is in the study of animal bones from prehistoric sites that Soviet archaeologists have so far made one of their outstanding contributions, directly relevant to sites in Trans-Caucasus.

Palaeo-botany has provided evidence illuminating the earliest stages of the cultivation of emmer and einkorn wheat and two-row barley, with subsequent mutations resulting in improved strains; but still the problem of the ultimate geographical sources of the wild grains found in the earliest excavated settlements awaits solution, and is likely still to do so until a very extensive programme of botanical research directed to this end has been completed. While the occurrences of wild wheat far to the east, including Afghanistan, might be taken to suggest at least one nucleus of early agriculture thereabouts, the absence to date of discoveries of sites of an antiquity comparable with that of Çatal Hüyük in the Konya Plain, let alone Jericho, reduces the significance of these discoveries. Plant remains other than those of cereals can also be of great interest. Pollen analyses are of immense use not only for relative chronology and palaeo-climatology but also for detailed recording of the flora of a given site.

It is a commonplace that any settlement must be near a reliable source of water, whether river, lake or spring, the last being most favoured by

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the Anatolian peasant today, who is surprisingly fastidious concerning the quality of his drinking water. Who is to say that his ancestors, even as early as neolithic times, were not similarly appreciative of clear cold springs? The importance of these in the religion of prehistoric Anatolia, with the veneration of so many divinities attached to source of fresh water, suggests that such an appreciation prevailed at least as early as the second millennium BC. Since such springs are more often to be found along the edges of mountain-girl plains than in the middle, it is there that most sites are found.

Apart from water, the demands of primitive agriculture, of stock-breeding and of a continued reliance to a large degree on hunting all dictated the location of early sites. In later periods, more specifically in the Iron Age, the needs of defence, whether of one isolated site or of a chain of fortified sites deliberately arranged, often led to the construction of settlements on spurs and in commanding and relatively impregnable positions. Nearly all sites in such locations are found, on examination, to yield surface pottery and sometimes other evidence pointing to a date in the Iron Age. Or the whole there was more continuity from the early first millennium BC into later centuries, in Anatolia into Hellenistic and Roman times, than from the Late Bronze Age into the Iron Age, when in many regions there was a great change in the distribution and type of settlements. In some parts of Anatolia, however, many mounds with earlier occupation are crowded by Iron Age levels whose extent and depth make excavation of the underlying levels likely to be prohibitive in expense, time and effort: frequently such sites have flat summits but steep sides, suggesting fortifications. In contrast to these mounds are the many which scarcely protrude above the level of the surrounding plain or valley, and which must usually represent one period of occupation with subsequent and final abandonment. Commonly the stratified levels of such sites are found, on excavation, to continue down to some depth below the modem level of the plain: accumulation of alluvium can be very rapid. Therefore there must be many, perhaps very many, pre-historic mounds now completely buried beneath subsequent alluvium: such sites are likely to remain long, if not for ever, undetected. It is permissible to hazard a guess that a large proportion of them will be of fourth millennium BC and earlier date.

The incompleteness of many surveys must be emphasized. It is especially difficult to discover ancient settlements in forest-clad hills, though these were in some regions numerous from quite early times: for example, little or nothing of pre-Classical date has been found along the Pontic littoral east of the districts of Samsu and Bafta, though there the easy access from central Anatolia makes the presence of prehistoric settlements hardly remarkable. In the fertile land down by the Black
Sea coast of Turkey traces of sites have probably largely been buried or washed away long since. In Abkhazia it is not settlement sites but the stone-lined cist-graves, or dolmens, which form the major class of monument. Summer encampments in mountain pastures, resembling those terraced yokes in modern Turkey, must likewise be hard to detect. Hill forts, however, such as those of Urartu around Lake Van, are often quite easy to detect, from their predictable positions on spurs commanding a plain or valley. These had a permanent function, but on inaccessible mountain tops only the crudest defences are normally found, for such were built for purely temporary use as refuges. Many hill sites must await the time and energy of archaeologists prepared to spend days tramping over hills with little or no results. The archaeologist carrying out a survey must be ready to find sites of widely differing periods and of various types, largely depending on the nature of the terrain. No survey can ever be definitive, and an immense amount of reconnaissance work remains to be done in areas already surveyed in preliminary fashion. Social anthropology may help in suggesting solutions to questions of the patterns of settlement during successive cultural periods; but in the absence of written records the answers must necessarily be largely tentative.

Not only local conditions of water supply, soil, vegetation, fauna and climate influenced the birth and development of villages and towns; there was also the influence, so often intangible in the surviving record, of contacts with other settlements, near and far off. Such contacts depended on natural routes across mountain ranges, the plains and valleys of the Anatolian plateau, the Urmia basin and Trans-Caucasia and also the obstacles of the coasts. It is not surprising that the courses of many modern highways still follow these prehistoric routes. Passes over the Taurus, for example, must always have been in certain defined places; further east, the Malatya-Maras road was always important, linking the eastern highlands with Cilicia and the Amuq. The Caucasus is crossed in the centre by the Daryal Pass; the Zigana Pass over the less formidable Pontic range is likewise important, even though there is no proof that this was a route used before Xenophon. River valleys in the highland zone tend, however, to be more in the nature of barriers than natural routes; with their long, winding and precipitous gorges and their rapids inhibiting navigation, with their wide seasonal fluctuation in flow and their drop in altitude in a relatively short distance to the coastal plains, such rivers as the Kizil írmak (the ancient Ilyas, now the Red River) and the Ceyhan (Pyramus), flowing into the Black Sea and the Mediterranean respectively, in no way provided routes for communication in any direction. The upper Euphrates, in its northern branch [Kara...
Contacts and connections between neighboring regions and over much greater distances were possible from the earliest times, along the natural routes largely above-mentioned. Mountains formed obstacles to political unity, but trade was a different matter. Artifacts thought or known to originate elsewhere, and usually easily portable, and substances not existing naturally in the area of the site, give proofs of trade or diffusion. Before the introduction of copper-working, different types of stone comprise most of these imported materials. On the mechanics of this early trade, whether or not it was really organized and to what extent, it is rather fruitless to speculate. One thing, however, needs emphasis: travel over long distances was perfectly possible even in neolithic times, as analogies with the period just before the introduction of the steam engine indicate. Nomads in the nineteenth century AD are known to have moved, with their sheep, all the way up from the Aleppo region in the spring to the Sivas region of central Anatolia and back again in the autumn, an annual return journey of about seven hundred miles. How much easier would travel without flocks of sheep have been! Archaeologists have sometimes tended to exaggerate the deterrent effect of geographical obstacles to movement and trade. It was also erroneously believed that a long period, even of centuries, should often be allowed for the diffusion of prehistoric cultures. But early man could move as far and as fast as his feet and his determination would take him.

The demands of trade necessitated knowledge of and access to the sources of the relevant raw materials, both in neolithic times and later. Anatolia and Trans-Caucasia are rich in minerals and other materials. The Turkish villager of today has a keen eye for any ores that he may pick up. Copper, tin, and antimony are all known in good quantities in Trans-Caucasia, the presence of tin being of special importance: it is not found in Anatolia, nor apparently in Iran, though it may occur in or near Afghanistan. The number of deposits worked in antiquity must be beyond reckoning, largely because so many were too small to be of any interest for commercial purposes nowadays, or are too remote to be accessible or to repay the expense of road-building. The copper deposits of Turkey include Ergani Madeni in the south-east and sources near Kastanomu and in the extreme north-east, in ancient Colchis; iron occurs near Divriği and Hasançelebi, both also in east central Anatolia; gold and silver occur in the Taurus near Bulgarmadeni, and silver also at the place where it is noted in the name (Turkish: gişimdük), at Gümüşhanı, on the Trabzon-Erzurum road, and at Gümüşhacıköy, west of Amasya and south-west of Samsun; there is also silver in the Ergani Maden area. Antimony is found at Turhal, near Amasya. Alluvial gold must be

available in many places in Anatolia, and copper is known from the Kültepe tablets to have been one of the major exports of the native Anatolian cities to Ashur, by means of the Assyrian caravans; but the precise sources of this copper remain unknown. Tin (antimoni) and the Kültepe (Kültepe) and the other trading posts which they had set up: its absence in Anatolia may be associated with the lack of granite, with which cassetite, or tin ore, is almost always found. The Hittites were the earliest masters of iron-working, but whence they obtained their iron ore is unknown: one possibility would be from Divriği, though rather far from the centre of their territory. Until less secrecy surrounds the results of the various geological surveys and until these are made readily available to archaeologists the whole subject of the prehistoric sources of metals in the highland zone must remain largely obscure. In addition to metals other minerals were exploited in antiquity, one of these being salt, readily found in and around Lake Urmia and the Salt Lake of central Anatolia.

In neolithic times obsidian, ranging from transparency to an opaque jet black, was an important item of trade, prized for its cutting qualities and thus used for all manner of tools and weapons. Recent studies have shown the sources of much of the obsidian found at widely separated sites, from Jericho to Ali Kosh in Khuzistan. Yet it would be safer to say that certain possible sources have been located, and others eliminated for certain, by using spectrographic analysis of trace elements. This method has led to the distinguishing of at least two regions providing obsidian, central Anatolia and the eastern highlands from Lake Van to Armenia, but it cannot tell the archaeologist whether the recorded sources are the only ones producing obsidian with those particular trace elements. There are so many small occurrences of natural, unworked obsidian, perhaps especially in eastern Anatolia, that it would be rash to try to pinpoint the sources of individual specimens very precisely. Nemrut Dağı, the extinct volcano overlooking Lake Van, is the best known source in that region. Tilkitepe, in the shadow of the castle-rock of Van, has produced some of the largest known cores of obsidian, from which flakes had been struck.

Apart from mineral resources, Anatolia and Trans-Caucasia are rich in plant life. Anatolia is situated at the meeting of three principal zones of distribution of plants: these are the so-called Euro-Siberian zone (Europe, Russia and Siberia), the Irano-Turanian zone (the steppes of central Asia, Iran and central Anatolia) and the Mediterranean zone. The Black Sea littoral belongs to the first zone, the Anatolian plateau to the second and the south coast of Turkey to the third. Recent work has shown a large percentage of plants which are endemic, that is, confined
to Turkey: this is particularly true of the Taurus ranges, where the Irano-Turanian and Mediterranean botanical zones meet. The distribution of trees is also relevant to prehistory. Deciduous forests of oak, ash and beech cover large areas of the Pontic coast including Abhazia, and extend up the lower slopes of the mountains, with coniferous forest above, the forest line lying just below 6,000 ft. Above this altitude are open alps, or mountain pastures. The slopes of the Caucasus are likewise wealthy in timber. The Urmia basin, however, is now at least relatively treeless, somewhat comparable with that other region surrounding a lake of heavily saline water, the basin of the Salt Lake. To the south, in the Kenya Plain, even as early as the neolithic town of Çatal Huyük houses were being built of mud brick but in imitation of wooden framed buildings: already, therefore, timber may have been becoming scarcer in that part of Anatolia. On the north side of the Pontic range the tree cover is less dense than on the side facing the Black Sea, and the conditions of the plateau are soon reached. scrub-oak and juniper are among the few trees on the plateau, though nowadays poplars have been planted along many miles of stream banks and irrigation ditches: these are in great demand for roof beams for village houses, and have the advantage of rapid growth. Cedars, black pines and silver firs are common in the Mediterranean zone.

Even more important than the different varieties of timber available for building were the species of edible plants. Of these of course the most important are the cereals, but also the most problematical because of the unsolved questions of their origin. The wild prototype of einkorn wheat apparently occurs in the Marmara region and in most of Turkey and in the Levant, but not in the highlands of eastern Anatolia or in the Caucasus; the wild prototype of emmer wheat occurs in the Levant and in the Zagros foothills; the wild prototype of barley occurs over most of the highland zone, except in the Araxes valley and northward. Too much emphasis should not, however, be placed on the precise habitats of these wild prototypes today.

Leguminous and orchard plants and trees have been and still are abundant and ubiquitous in the highland zone, except in the semi-arid regions. Citrus fruits occur only in the Aegean and Mediterranean coastal regions; but apples, plums, apricots, peaches and mulberries are common in the eastern highlands, including the districts round Lake Van, where they are hardly enough to survive the severe winters. Today they are also abundantly grown in the Pontic region. Woody plants in general grow much more rapidly in the Near East than in Europe, so that orchard farming must have been more obviously profitable. It goes without saying that for all foods demand and supply would always have been strictly localized.

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The vine is a hardy plant at home in much of Anatolia, Trans-Caucasia and the Urmia basin, the grape-bearing type being vitis vinifera, thought to have originated around the Caspian Sea. It requires long dry summers, mild or hot, and cool winters; but it will not survive either humid summers, which bring fungi, or very cold winters, with temperatures below about -18 centigrade. Viticulture may well have begun either near the Caspian or in a region including Colchis, where at two sites dating to the fourth millennium BC the earliest material evidence has been found, in the form of grape-pips, in accumulations associated with stores of cheeses, hazelnuts and acorns, these too being for food, at the same sites. These accumulations could indeed have been the outcome of food-gathering rather than of harvesting of cultivated vines, but this seems rather unlikely. A modification to the theory that viticulture originated in the Caucasus or in the sheltered parts of eastern Anatolia is that, side by side with the distribution of the wild vine in the same regions, viticulture originated in the Zagros foothills of northern Mesopotamia and in Syria and Palestine, and that hence it followed the cultivation of cereals all over the eastern Mediterranean and Aegean. The later history of the westward spread of viticulture does not decisively favour either postulated homeland, though the balance of archaeological and also linguistic evidence might seem slightly in favour of the traditional theory of an origin in Caucasus.

Natural belts of vegetation have been distinguished for the period 6,000-5,000 BC, in the climatic conditions of post-glacial times and before serious impact by human settlements. The greatest area was covered by deciduous or mixed forest and is classified as 'warm temperate'; predominantly coniferous forest, 'cool temperate', covered the slopes of the Pontic and Caucasian ranges; along the Pontic and Caspian shores and in a narrow piedmont strip of the Fertile Crescent the vegetation was subropical in its luxuriance; round the estuary of the Araxes was an area of gallery woodland, also subropical, but not far upstream were semi-desert, shrub and grass; conditions in the Urmia basin were probably similar to those in central Anatolia, with semi-arid grasslands and parklands, or steppes. If correct, this reconstruction of vegetational cover indicates a generally higher rainfall than today, for the disappearance of trees from so much of the highland zone and central Anatolia cannot be ascribed entirely to man. Generalizations on any main region must take into account local peculiarities.

The fauna of the highland zone remains quite varied even today, with leopard and bear in the mountains, as well as wolves, and with boar in surviving swamps. Fish still abound in rivers and fresh water lakes. Partridge, little shot, occur over wide regions. Larger birds include the stork, pelican, and crane, the last being shy and confined to the remotest
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highlands; there is also a great variety of birds of prey and of vultures. Nevertheless undoubtedly in early post-glacial times the fauna was both more varied and more abundant. The men of Çatal Hüyük hunted aurochs, wild pig, red deer, wild sheep, roe deer, two species of wild ass, abundance of game was then not universal, even in areas relatively close to the wide grasslands of the Konya Plain in which Çatal Hüyük stood. 37 Jarmo, in the Zagros foothills, has provided a long list of fauna. 28 Until such lists are available for early settlements in the intervening highland zone, it seems premature to try to reconstruct the fauna of Anatolia and Trans-Caucasia as a whole for early post-glacial times.

The domestication of animals is too wide a subject for discussion here. 29 Sheep and goats, whose bones are generally indistinguishable, provided much of the food for the earliest settlements; but they also provided wool and skins for clothing. Textiles were primarily woollen, but wild flax, though not found at Çatal Hüyük, is native to the Zagros region, and was cultivated at an early period.

The great wealth of the highland zone in natural resources was at times counteracted by varied climatic conditions and difficulties of access. A rather better natural environment, with much greater forest cover, was, however, a general feature. Slow deterioration of the climate has combined with the shortsightedness of man, only at this late hour restrained by governmental control and reforestation, to turn far wider regions than before into treeless, semi-arid steppe. Much of the highlands has more in common today with central Asia than with either the Russian plains or the Mediterranean littoral; it was not always so.

A brief comment on terminology – for it is quite impossible to omit a number of special terms used by archaeologists, particularly those used to differentiate successive periods of cultural development. In the nineteenth century classification by form, method of manufacture and material of artifacts of stone and metal led to the introduction of the familiar terms 'palaeolithic', 'neolithic', 'bronze age' and 'iron age', to which were in due course added 'mesolithic' and 'chalcolithic'. This last is often referred to as 'enolithic', as in the Soviet literature. The term 'copper age' has also been used for parts of Anatolia, especially the central plateau. Some of these terms have more meaning than others, 'neolithic' representing in one word a recognizable cultural stage, as does 'palaeolithic' before it. The unsatisfactory character of these terms has long been recognized, and various alternatives have been suggested. 30 Some of these are long-winded, while others imply acceptance of the traditional terms. If it is admitted that many chronological terms have

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become mere labels of convenience, the reader needs not be troubled too much by such complexities, which are of the archaeologists' own making. To abolish all existing terms without international agreement risks adding to the confusion. A recent scheme based on radio-carbon dates and referring to successive millennia has much to commend it for the earlier periods; 31 but no such arrangement can properly be applied to later periods, when finer subdivisions are required. In Trans-Caucasia the Soviet archaeological terminology has been developed without any regard to terms used in Turkey and Iran, and vice versa. With no possibility of applying the Soviet periods to the whole zone dealt with in this book, and with the manifold regional variations and local cultural provinces, new terms have been applied wherever justifiable by the context, as in the third millennium BC. Elsewhere existing terms have been as much as possible synthesized into a comprehensible whole, though complete consistency cannot be achieved.
CHAPTER 2

THE EARLIEST SETTLEMENTS

Man the hunter was forced to roam far and wide in pursuit of his food supply, and was at the mercy of changes in the habits of his quarry, in turn affected by climatic changes. Man the cultivator and herdsman was equally dependent on an adequate rainfall and vulnerable to the fluctuations of the harvest. The life of the earliest villagers, in Anatolia and elsewhere in the Near East, can never have been easy: the return for hours worked must usually have been meagre. Flocks and herds often perished in seasons of drought. Yet in spite of all these hazards these first villagers had taken that decisive step which has been appropriately given the name of the Neolithic Revolution. It was indeed a revolution, for they had begun the long process of bringing their natural environment under control, instead of being in all essentials controlled by their environment. This perhaps explains the much more rapid cultural advancement than during the long succession of Palaeolithic cultures. Once man had begun, however tentatively, to mould his environment to his own ends, the scale of time becomes quite suddenly shortened: advances no longer take thousands of years but only centuries.

Reference to the scale of time in these remote periods has been made possible by the application of nuclear physics to archaeology in the form of radio-carbon (carbon 14) dating. The accuracy of this method has greatly improved over the last twenty years. Most significant is the pattern of relative chronology emerging from the radio-carbon dates.

Physical anthropology, in spite of its severe limitations in the face of paucity and poor preservation of skeletons, shows that the Near East was at first peopled entirely by long-headed races, the so-called Eurafican and the Proto-Mediterranean. Gradually, during the periods following the Neolithic Revolution, round-headed groups came into the Near East and mingled with the earlier races. Certain common features, however, suggest that during the formative period, when the first essays in agriculture and stock-breeding were being made, the population of much of the Near East shared the same ancestry. Upper Palaeolithic people were
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of modest stature, five feet eight inches for men and five feet one inch for women being the average. It was their descendants who brought about the Neolithic Revolution.

Knowledge of the Upper Palaeolithic cultures and their immediate successors in the Near East is based on the incomplete evidence at present available from widely scattered areas. Throughout the highland zone from the Anatolian plateau to the Caucasus and into Iran much fundamental investigation remains to be carried out. Caves and rock shelters in the districts above Antalya, on the Mediterranean coast of Turkey, have been investigated by Turkish archaeologists, who have carried out excavations and recorded rock paintings visible above ground: long sequences from Lower Palaeolithic to Neolithic have been found here, the major sites being Beldibi and Kara‘in. The lack of obsidian in the Belbasi industry of the Antalya region suggests little contact with the Anatolian plateau during Mesolithic times, perhaps c. 10,000–9,000 BC. The Antalya sites were probably always relatively isolated. The search for parallels with the paintings at Beldibi must lead to reference to the rock paintings in the far south-east of Turkey, near Siirt, or even further to the great group of rock carvings at Kobistan, forty miles south of Baku and near the Caspian shore: there the earliest drawings have been termed Mesolithic, a dating defended by indicating deposits up against one carved rock face, in which had been found a sequence of flint artifacts and evidence of changes in the repastarian art according to the height up the rock of an individual drawing.

Even Palaeolithic man moved over considerable distances when the need arose, and when there was a demand for a particular raw material, such as obsidian. This stone, popularly called volcanic glass and varying from opaque black to virtual transparency, is found very widely at early sites in the Near East. Through spectrographic analyses of the impurities, or trace elements, the general region of origin can be located; and thus significant evidence for trade and for cultural contacts affecting perhaps the whole life of Neolithic and earlier sites has come to light. One of the main sources was Nemrut Dağı, the extinct volcano at the west end of Lake Van; but innumerable sources still unrecorded assuredly awaited discovery in eastern Anatolia, even if all those from one region exhibit generally uniform and identifiable characteristics. Obsidian artifacts of Middle Palaeolithic type have been found in the Hakkâri, Van and Kars provinces of eastern Turkey. The earliest stratified occurrence of obsidian in the Near East is in Layer c of the Shanidar cave, dated by radiocarbon samples to 30,000 years before the present day; obsidian also occurs in the Zarzi cave, about eighty miles further south in the Zagros mountains. Even at a time when metal-working had reached an advanced stage at sites of the Halaf culture, during the fifth millennium BC, there was a flourishing trade in obsidian between the Van region and upper Mesopotamia.

In Caucasus climatic conditions were especially severe in Upper Palaeolithic times, but this is not the earliest period represented. Lower Palaeolithic hand-axes of Achulean type and flakes have been found on the Black Sea coast and inland in the Georgian districts of Imereeti and Kartli; and flake tools said to be Mousterian (Middle Palaeolithic) come from the same areas. The Upper Palaeolithic sequence is represented by blades, scrapers, cores and flakes of flint and a few only of obsidian. In the cave of Sakazhia, near Kutaisi, cave bear, cave lion, elk and bison have been distinguished in the bones recovered, indicating a cold climate in keeping with the last glaciation. In the Mingrelian district of Georgia the lower layer of a camping place at Odishi has yielded flint and obsidian microliths of the very end of the Upper Palaeolithic or its immediate sequel. In Armenia, especially round Mount Artin and along the Hrazdan River, artifacts attributable to a succession of Lower, Middle and Upper Palaeolithic cultures comparable with their equivalents in western Europe have been found.

Palaeolithic hunters did not dwell in the damp and murky depths of their caves but on platforms immediately inside or outside the entrance. Open air sites were also inhabited by hunting groups, if only seasonally. In Russia, where natural caves are lacking, there are widespread Upper Palaeolithic shelters dug into the loess, the wind-blown soil deposited in the dry conditions of glacial times. The discovery of similar open sites in Anatolia and elsewhere in the Near East must surely come, though not easily: it is most unlikely that such sites, contemporary with the caves and rock shelters, did not exist.

Evidence for the transition from a pattern of living predominantly in caves and rock shelters to one mainly in open sites must be sought outside Anatolia and Causasia. This transition was a salient feature of the Neolithic Revolution, though a consequence rather than a cause. The sites investigated in the Zagros region suggest that this phase may be dated approximately 10,000–9,000 BC. Unfortunately most of the Zagros sites seem to provide no such a continuous sequence as isolated, chronologically overlapping but widely disparate cultures belonging to the formative centuries of the Neolithic Revolution and the preceding phases. Of comparable significance for the transition from food collection to food production is the Natufian culture of Palestine, from whose earliest phase, the Lower Natufian, derived the precocious community of Pre-Pottery Neolithic A Jericho.

The development of cultivation of cereals and other food plants and the domestication of certain animal species need have required no more than a few centuries, though clearly these were not achieved overnight.
Moreover, much of the Upper Paleolithic way of life persisted on the Anatolian plateau and elsewhere in the Near East. It is to Anatolia that the discussion must next turn, before further consideration of the highlands of eastern Turkey and Caucasus.

For the understanding of the achievements of Neolithic man the relatively meagre remains of relevant date in eastern Turkey, Trans-Caucasia and north-west Iran provide inadequate evidence. The site of greatest interest, although of limited relevance, owing to its situation on the Anatolian plateau, is Çatal Hüyük. Study of its inhabitants as hunters, farmers, builders, artists, craftsmen and inventors, together with some attempt to understand their religion, can assist comprehension of contemporary settlements in widely separated regions. Çatal Hüyük was not the earliest settlement on the Anatolian plateau; the site of Soberde, by Lake Sugla, some sixty miles west-south-west of Çatal Hüyük, and the unexcavated Asikli Hüyük near the Salt Lake are both probably slightly older; so too is the aceramic site of Haydil, near Lake Bürdül, showing a far westward extension of early settled communities not later than 6,700 B.C. Thought there was much typical of its time, probably more than the available evidence can prove, the uniqueness of Çatal Hüyük is incontestable.

Hunting was no more antiquated survival at Çatal Hüyük, as the numerous large obsidian lanceheads, the most distinctive type in the chipped stone industry, indicate. There are also many arrowheads, of two sizes, possibly used with a long and a short bow. Very large scrapers suggest the skinning of animals and the cleaning of hides. Whatever the meaning of many of the wall paintings which are the most arresting element in the achievements of this community, some undoubtedly depict hunting and the ritual and magic closely associated with it in the religion of this people. Such must be the explanation of the great red bull covering most of the north wall of one shrine in Level II and surrounded by puny little men, none of whom is shown attacking it; the extraordinary scenes of baiting found on the walls of a shrine in Level IX, with men pulling at the animal’s tongues, must likewise be seen in this context. The association of the leopard, much hunted, with the female figure called by the excavator, on the basis of much later analogies, the Mistress of Animals may indeed symbolize the submission of wild creatures to the advancing forces of agriculture and stock-breeding.

The town beside the Çarşamba River, thirty-two acres in extent, could never have been founded with the support of hunting alone. The palaeobotanical evidence is rather clearer than that for the domestication of animals. By the time of Çatal Hüyük IX at least fourteen food plants were being cultivated. Some plants were used for their oil; fruit and nut seeds were probably brought from the Taurus foothills. The absence of direct proof of digging or turning the soil, in the form of picks and hoes, has little significance, for such implements may well have been made of wood. Numerous querns, rubbing stones, pestles and mortars provide typical indications of agriculture. The evidence as a whole suggests that the women of Çatal Hüyük played a very great role in farming, while hunting was let entirely to the men, who may also have had sole responsibility for the flocks and herds. The lack of paintings depicting agricultural scenes must be set against the prominence of the female in the reliefs and figurines.

The town of Çatal Hüyük exhibits a certain uniformity, not only in the plan of the buildings but also in building materials and methods; but it would be anachronistic to refer to town planning at this time. Tradition and force of habit, not centralized authority, must have been the factors resulting in architectural continuity at Çatal Hüyük. An artist’s vision of the whole town may perhaps be discernible in the wall painting in which either the units making up the town or the individual buildings forming one unit are shown against a background of a volcano in eruption. The problems of construction and repair of contiguous buildings, of necessity terraced up the sides of the large mound, dictated some of the solutions. Perhaps the most distinctive feature is the absence of doorways at ground level into the individual houses and shrines, which had much in common. Access was by way of the roof and down a wooden ladder set against the wall, a means of entry with modern parallels in widely separated parts of the world, wherever security or climate make this appropriate. Architectural construction at Çatal Hüyük was not static and unchanging, but reflected a growing confidence in the use of mud brick and a correspondingly diminished reliance on timber: before Level I the buildings were of wood construction, the frame having only a limy filling of mud bricks; not until Level IV was the wooden frame abandoned, with engaged brick piers replacing the vertical posts. Decorative as well as structural innovations and repairs often resulted in numerous layers of paint, whether on a flat mural or over a plastered relief: the scheme of the decoration might change or remain much the same. In Level VII at Çatal Hüyük there were up to 120 layers of plaster made from the white earth used for this purpose, and for floors and ceilings as well as walls; in Level VIII a there were up to one hundred layers. The number of layers of plaster in buildings of the same level tends to be approximately the same. All this evidence serves to stress the fallacy of the suggestion that mud brick buildings, properly maintained, cannot last more than a few years. It is not unreasonable to suggest that at Çatal Hüyük walls were plastered annually, thus providing evidence of the minimum duration of each level.
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For paints the artists used an assortment of minerals, including iron oxides, copper ores, mercury oxide, manganese and galena. Different shades of red are the predominant colours, obtained from iron ore, cinnabar and perhaps also haematite. The plaster reliefs cannot have presented many technical problems, though different techniques were used for different subjects. Animal horns and horns were much used for attachments to fix the reliefs more firmly to the walls. Not only mural paintings but also reliefs in plaster, painted or plain, sculpture in stone and modelling in clay gave opportunities for the display of the talents of this precocious community. Although a painted black bulb occurs as early as Level ix, relief decoration is the special hallmark of the earlier shrines, in one of which were found only reliefs, with no paintings. Reliefs may perhaps be associated with clay statuettes, since both are the product of modelling, of manipulating a soft material into the shape required. After Level v reliefs disappear, no longer fashionable at Catal Huyuk; at about the same time clay supplants stone as the most popular material for statuettes. Stone-carving had at first been the usual method of fashioning such figurines, very probably cult-statues and often heiloons from earlier shrines, carefully preserved when the time to destroy and rebuild arrived, and when the fixed images on the walls were deliberately defaced. These contrast with the relatively crude human and animal figurines of clay, many found in pits outside the shrines. The evidence for continuity of cult is reinforced by traces of wear and repairs on some stone statues. Towards the end of the history of Catal Huyuk, in Level ii, one shrine yielded nine statuettes, eight being of clay. These in some respects comparable with the rather later figurines from Hacilar vi, a fact suggesting that by this time (c. 5500 B.C.) the artistic traditions of Catal Huyuk, at least in sculpture in the round, had spread over a wide zone of the Anatolian plateau. This was the artistic form most likely to be diffused, simply because the statuettes were so easily portable. The wall paintings and reliefs can hardly have been seen by so many outsiders, who may have been debarked from entering the shrines.

Much of the achievement of the artists at Catal Huyuk can be appraised in relation to technical precocity and standard of craftsmanship in a number of materials. Wood, bone, textiles and even metals received their attention. Clay was used for pottery, though on a limited scale and for a rather restricted and conservative range of forms. Vessels for cooking, eating, drinking and storage were in later periods normally of pottery; but here other materials were equally or more popular, especially wood and basketry. Though the beginnings of pottery in Anatolia could lie in the Konya Plain, the quantity at Catal Huyuk is too small for any firm conclusions: it has been excavated in a small sounding right down to Level xii, where straw-tempered and cream-burnished wares were

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recovered. The forms are primitive, the commonest being the hole-mouth jar, but the quality is such as hardly to suggest the first faltering work of the earliest potters. Catal Huyuk can be compared with those other settlements elsewhere in the Near East, such as Jericho, which long flourished without need of pottery. Wood was used for many purposes at Catal Huyuk, among others as an alternative medium for vessels, proof of which is apparent from a truly remarkable series of vessels and boxes from Levels vi b and vi a, including dishes 50 cm long perhaps for meat, 'egg-cups', round bowls and dishes and oval bowls with ledge handles. Fire is the ally of the excavator, and these vessels, made without aid of nails or glue, were preserved on house floors and in burials through carbonization. Fir and perhaps other soft woods were roughed and gouged out with obsidian scrapers and other tools, much of the abundant obsidian industry at Catal Huyuk being in all probability devoted to this craft. In making vessels emery and sand must have been used in the final process of smoothing the surface. A modern parallel is the type of handled jar termed in Turkish cam bardak, or 'pine glass', a deep, narrow-necked jar carved out of a section of tree-trunk: to keep these watertight and to prevent splitting they have to be kept full of liquid. Harder woods, oak and juniper, were used in building; timbers were squared, greenstone axes, adzes and chisels being employed. This skill seems to have been surpassed in Anatolia, at least in surviving material, until the eighth century B.C., when the Phrygians made the elaborately ornate furniture found in the tumuli at Gordium.

Chipping, grinding, polishing and drilling were techniques all used by the artisans of Catal Huyuk in the production of tools, weapons, vessels, statuettes and ornaments of stone. Numerous types of stone were used, save only the hard igneous rocks such as granite. Obsidian mirrors found in burials were set in lime plaster and polished by an unknown technique. The perforation of large objects like maceheads presented no difficulty; but it was another matter with the drilling of some of the stone beads, including those of obsidian, which have perforations too fine for a modern steel needle. It is quite uncertain how this was achieved: the use of copper drills seems doubtful.

The discovery of both copper and lead at Catal Huyuk, from Level ix upwards, is indeed of the first importance for the history of technology, all the more so from the analysis of what seemed a lump of copper from Level vi as in fac copper slag. The ability to smelt ore to remove their natural impurities implies the mastery of metallurgy as early as the seventh millennium B.C., a possibility which cannot be indisputably proved without some additional evidence. The lead at Catal Huyuk, however, suggests smelting as early as Level ix, since in Anatolia it is found only in the form of the ore galena, which cannot be used in its natural state. The
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absence of metal implements at Çatal Höyük may be fortuitous, in the light of the finding of a copper awl, 4 cm long, at Suheide." 38

Such materials as bone, used for a variety of articles, and rushes, coiled and tied together to make baskets, presented no technical difficulties. A developed bone industry was an almost universal feature at Neolithic sites throughout the Near East. Baskets were all the more important before pottery had come into general use. Mats and woven rush carpets were found in many buildings. Belt-hooks and fasteners, spatulate and miniature vessels, these last made also of antler, characterize the bone industry.

Weaving of rush mats and coiling of baskets were simple processes compared with the weaving of textiles, of which Çatal Höyük affords abundant evidence, direct and indirect. The same good chance which, through fire, preserved the wooden vessels has brought about the survival in carbonized state of woven cloth. Some fragments of this were of amazingly fine two-ply yarn, spun from two very fine threads of wool.

These are the oldest known textiles, at least a millennium older than the linen from the Fayum villages in Egypt. 28 The balance of evidence seems strongly in favour of wool rather than linen as the material, wool being abundant, whereas there is a complete absence of flax seeds among the many seeds found in the excavations. As for indirect evidence, the disappearance of wall paintings may well have been the outcome of a change in fashion to the use of textile hangings as mural decoration, towards the very end of the history of Çatal Höyük. Most probably the wall paintings preceded and inspired the textiles, not vice versa; but by the Early Chalcolithic period at Hacilar the fine painted pottery so characteristic of that site was surely imitating textile patterns, not inspiring them. 39 Some of the paintings of Çatal Höyük, however, certainly betray direct imitations of textiles, even the stitching along the borders sometimes being depicted. A suggestion that the stamp-seals found here could have been used for printing patterns on textiles is attractive but surely anachronistic.

Life and death, birth and burial, seem to be the dominant themes of the religion of this remarkable Neolithic community, in whose precise theological beliefs lengthy speculation must be tempting but idle. The timespan from the seventh millennium B.C. until classical times is too great for any direct comparisons to be treated without caution, even though the links between the religion of Anatolia in the Bronze Age and in Hellenistic and Roman times are beyond dispute. Continuity of population from the Early Neolithic period till the Early Bronze Age cannot, in the nature of available evidence, be proved, but may well have been significant. The weird imagery of so many of the rooms led Mellaart from the first to describe them as shrines and to distinguish them from mere

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houses. The evidence supports this distinction. The shrines are marked out by a combination of a number of features, seldom found at all in the houses, comprising wall paintings, reliefs, cattle horns set into benches, rows of bull's heads, cult statuettes in the principal room, ochre burials, human skulls on platforms and perhaps also obsidian mirrors and bone belts-fasteners. The absence of animal sacrifices within these rooms is hardly remarkable, given the lack of any access from the roof except by ladder.

It must remain largely an enigma what exactly happened inside the shrines, whether, for example, the worshippers were entirely of a priestly caste or whether they include the laity. The excavations have provided no indication of how the shrines, once built, were subsequently maintained and embellished. Hands are a feature of the wall paintings frequently recurring in various forms: normally they are of adults but sometimes of children, more often the right hand than the left. To this day the hand is widespread as an amulet to ward off the evil eye, and red-painted hands even occur in the modern Küçükköy, the village close to Çatal Höyük, on either side of some doorways. This is a remarkable coincidence, copying of the Early Neolithic paintings being ruled out by the existence of these modern parallels before the excavations began in 1951. Inside the shrines hands wet with paint could be laid on sacred relics of animal heads or of a goddess, presumably to draw strength therefrom. Where many hands occur together the idea of 'all hands' may indeed be intended, and this is sometimes shown in association with a net pattern, probably depicting a hunting net or netting and suggesting the purpose of the molder. Within the sacred walls many births may have taken place; and the dying may perhaps have been brought there. After each new set of burials, as Mellaart suggests, the platforms would have had to be rebuilt. Spring and autumn are two seasons for refurbishing of houses in Anatolia today. In Çatal Höyük, in those days of fleeting youth, disease and early death, the afterlife and provisions for it figured no less prominently in the popular mind than in other communities in the prehistoric Near East.

The care taken with burials is exemplified by one which had the brain removed from the cranium and a ball of cloth inserted in its place. Most lie in the contracted position on the left side. Individual burials are rare, and frequently successive generations seem to have shared a common grave beneath the platform of the shrine or house, with consequent disturbance of the skeletons and grave-goods of the earlier burials. Paintings which cast light on events between death and final burial give additional evidence on funerary customs: in one shrine scenes of vultures attacking headless corpses can have but one interpretation, that the bones had first to be stripped of all flesh by these scavengers. These were indeed
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vultures, not priests or other persons dressed as such. But the argument for a priestly caste as inhabitants of the quarter uncovered by the excavations seems to be reinforced by the greater wealth of grave-goods with burials in the shrines compared with those in the houses. Red ochre was used to paint the skull only or the whole skeleton of some burials, though only a small percentage of the total of almost five hundred excavated. Ochre burials give a link both with the Upper Palaeolithic and with later cultures elsewhere in the Near East. Among these was one with the skull painted in red ochre and two large sliced cowrie shells, of a type found in the Red Sea, dropped from the eye sockets. Long-distance trade is thus suggested, and there is a clear parallel with Pre-Pottery Neolithic B Jericho, with its famous plastered skulls; similar to these are red-plastered skulls with cowrie-shell eyes found in Level II at Tell Ramad in southern Syria. Trade is also indicated by beads, including those of dentalium shell from the Mediterranean; none of the materials used is to be found near Çatal Hüyük, and many come from afar. Grave-goods naturally constituted the principal source of small finds, the women having an assortment of jewellery and cosmetic equipment, including obsidian mirrors; the men were given hunting weapons, particularly a flint dagger, and belts with fasteners of polished bone.

The people of Çatal Hüyük lived and died amid scenes bearing little relation to the humdrum activities of daily life, their religion finding expression through strange devices of bull and ram, dancing hunter and the paintings, reliefs and stelae erected in any overzealous espousal of one or other theory attempting to explain their significance in terms familiar to the anthropologist or to the student of comparative religion. These works of art, the paintings especially posing unprecedented problems of conservation, naturally raise more questions than they answer.

Seeing through a glass darkly is surely better than not seeing at all, a restriction forced on the student of the continuity, changes and diffusion of material cultures on the Anatolian plateau outside Çatal Hüyük. Only two excavated sites, Hacllar and Can Hasan, cast strong light on the early village economy of Anatolia, and that almost entirely on periods later than Çatal Hüyük. Artistic and technical achievements comparable with those of the town in the Konya plain may well have flourished in several unknown localities; but this is necessarily conjecture.

The obsidian industry, a deciding factor in the choice of Çatal Hüyük for excavation, gives the clearest link between that site and the smaller, less advanced but longer known site of Mersin, in the Cilician plain. Here

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A radio-carbon sample from close to the base of the mound gave a date of c. 6,000 B.C. with adjustment to the half-life of 5,730 B.C. any discrepancy is reduced. Mersin came within the limits of a Syro-Cilician cultural province providing the link between the cultures of the Levant and those of the Konya Plain and remoter regions of the Anatolian plateau. The distribution of the dark-faced burnished pottery distinctive of this province is very wide, extending as far east as the Mosul region of the Tigris valley, at Tell Hassuna, where in Level II three successive layers of a campsite were uncovered. This occupation was of a temporary character and distinguished from the following levels by the absence of painted pottery. This illustrates the ease of movement across the grasslands of the Fertile Crescent, a phenomenon repeated in later periods. Thus there may theoretically have been contact between the Anatolian plateau and the Zagros highlands and Urmnia region far to the east, via the Cilician plain, north Syria and upper Mesopotamia. No such contact is apparent across the highlands of eastern Turkey, though the evidence is too meagre for any sound conclusions. Hassuna II in any case falls in the sixth millennium B.C.; for any much earlier connections the sites of Bouqras, on the Euphrates near the confluence of the Khabur, and Çayönü, near Diyarbakir, may perhaps prove significant.

Early Neolithic sites in the Konya Plain and eastwards as far as the area of Kayseri have yielded surface finds making them broadly comparable with Çatal Hüyük, even though local or regional peculiarities are revealed at Ajjik Hüyük. To the west of the Konya Plain two sites on the shores of Lake Beyşehir, Çukurkent and Alan Hüyük, and Kızılıkaya, a mound north of Antalya on the road over the Tauros to Burdur, are the most important of a number of settlements attributable broadly to the Early Neolithic period, the seventh and early sixth millennia B.C.

The Late Neolithic period in Anatolia seems to have been relatively brief, at Hacllar ending c. 5,600 B.C. Evidence for this stage is most firmly based on the stratified material from Mersin xxvi-xxv and Hacllar xxvi. The very term 'Late Neolithic' is little more than a useful label for a phase in which the two marked advances on the previous period were an improvement in the pottery and a greater talent in modelling clay figurines, apparent almost exclusively at Hacllar.

The people of Hacllar relied less on hunting than their predecessors to the east at Çatal Hüyük. Though only a village, Hacllar displays significant architectural advances in Level VI in the construction and layout of houses since the time of Çatal Hüyük. Buildings were on a larger scale, wide doorways from the courtyards replacing the rooftop access of the Çatal Hüyük houses and shrines. The thickness of the walls at Hacllar, together with evidence in one house of a staircase with balustrade, indicate
an upper storey. In the same district of Burdur today two-storeyed houses have a rooted verandah facing south and small rooms opening off it; the upper rooms would scarcely have been used in winter. The settlement of Haçilar v1, larger than that of Haçilar ii in the Early Chalcolithic period phase in the history of the site. It is for its clay statuettes that Haçilar v1 is best known, a remarkable collection being found in three houses next to one another, thirty-five of a much larger total being restorable. These were modelled round a core, and were finished with a fine red or cream slipped and burnished surface. The absence of heads is the result of their being made as a separate piece formed with a peg for insertion into the body. Eyes and hair were incised, but the mouth was never shown. The fact that some statuettes remained unbaked shows that they were the work of local artists. As the excavator says, the goddess is found standing, seated, kneeling, squatting, reclining and enthroned. His theory that two ethnic groups are represented among the statuettes is supported by provisional conclusions on the physical anthropology of the inhabitants of Haçilar, in which two dolichocephalic races have been distinguished, the Proto-Mediterranean stock so widespread as the basic ethnic stratum of the earliest settlements in the Near East and a sturdier Euro-African race. The brachycephalic element present at Çatal Hüyük seems lacking at Haçilar, suggesting that those newcomers in the preceding period to the Konya Plain had even by the Late Neolithic period not penetrated that far west. The differences among the distinct races may, however, reflect different ages and ranks rather than the same way as from Haçilar of the Mistress of Animals, the finest of which shows the goddess seated on a leopard holding a leopard cub in her arms, reveal an improvement in modelling on the similar statuettes from Çatal Hüyük; but more significant is their indication of religious continuity from the earlier and larger site to the later village 150 miles to the west. There was to be no other urban community, able to support professional artists and craftsmen, in Anatolia for many centuries after the abandonment of Çatal Hüyük.

Mersin xxvi-xxvii is by contrast obscure and of minor interest except as a link in the long sequence of levels giving that site its importance. The obsidian industry of the Lower Neolithic levels continued to decline and the ground stone industry to develop, indicating the general replacement of food gathering by food production as the mainstay of the economy.

The common denominator of all cultures ascribed to the Early Chalcolithic period in different parts of the Near East is the appearance and development of painted pottery. Haçilar most clearly shows this pheno-

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menon as a local achievement, gradually emerging to maturity. At Mersin the pattern is complicated by the mingling of influences from north Syria and further east with those from the Konya Plain, in an area at no period noted for its cultural originality but rather as a meeting place for elements from beyond the Gильatzian plains. Present evidence shows fairly clearly that there was an Early Chalcolithic culture, as such based on a village economy, with a broadly comparable style of painted pottery extending from upper Mesopotamia westwards across the Euphrates to the Amuq Plain (Phase 8) and to Mersin, with offshoots southwards into Syria and Palestine. This culture was first recognized at Tell Hassuna, where the primitive and temporary camping sites of Level 1 were overlaid by a succession of building levels (b-vi) of a village with houses of rectangular plan and pottery of distinctive decoration.

In the Konya Plain there is a lacuna in the known archaeological record immediately following the description of Çatal Hüyük East, the Early Neolithic town. The unexcavated deeper levels of the adjoining mound of Çatal Hüyük West will eventually yield the evidence to fill this gap. Two trial trenches at Çatal Hüyük West have revealed two successive styles of painted pottery, described as Early Chalcolithic i (Çatal Hüyük West) ware and Early Chalcolithic ii (Can Hasan 2b) ware respectively. These two phases correspond to Mersin xxiv-xxv and xxvi-xxvii. At Çatal Hüyük West, however, there was a general cultural continuity apart from this ceramic change.

Fifty miles to the south-east lies the site of Can Hasan, near Karaman, where excavations have been in progress since 1951. Many figurines and other works of art suggest survival of some of the skills manifest at Çatal Hüyük, though with stylistic changes. Level 3 at Can Hasan, with its red-on-brown ware, can be equated chronologically with Çatal Hüyük West and with the earlier part of the time-span of Haçilar i. The pottery characteristics of Can Hasan 2b, the ensuing period, is red-on-cream ware, shown by radio-carbon dates averaging c. 6,000 B.C. to be contemporary with the later phases of Haçilar i. Architectural similarities to that site are discernible; and there are wall paintings with purely geometric patterns, resembling the meander motif and thus comparable with some of the painted pottery from the same level. Gone altogether and for good are the representational themes of the Çatal Hüyük wall paintings. The carving of personal ornaments on stone was well developed; but more important is the evidence for advances in metal-working, attested by a copper macehead and bracelet from Can Hasan 2b. Haçilar represents a separate and distinctive Early Chalcolithic cultural province, not directly related to that of the Konya Plain. The boundary between these two provinces, probably running through the Anatolian lake district, is not yet known. In terms of the sequence in the Konya
Plain, Hacilar v–ii may be more or less equated with Early Chalcolithic I and Hacilar i with Early Chalcolithic II, together covering the centuries c. 5,600–5,000 BC. The village of Hacilar had a chequered history, punctuated by several destructions by fire, until a rebuilding on largely new lines in Hacilar I. The painted pottery is the most distinctive feature of Hacilar, without which it would never have attracted the excavator’s attention. Here is a style of ceramic painting unrivalled anywhere in the ancient Near East for its bold patterns and fine finish: the Halaf pottery may be technically its equal, but hardly aesthetically. Wide bowls in Hacilar v–ii were largely succeeded in Hacilar ii by the most typical form, an oval cup with pinched in mouth. A taste for oval vessels, with some sub-rectangular shapes, was a feature of the pottery of Hacilar throughout the Early Chalcolithic period. In Hacilar v–v decoration was mainly geometric; in contrast that of Hacilar iii–ii was altogether bolder and more curvilinear. This was the produce of professional potters, as indicated by the discovery in the centre of the village of Hacilar iiA of three adjacent buildings evidently serving as potters’ workshops, with stacks of cups, bowls and jars.

In Hacilar i there came a change in the pottery, with larger vessels and less imaginative decoration, patterns being more strictly linear and largely derived from basketry. The appearance of white paint for decoration on a dark surface is an innovation pointing forward to a tradition destined to have a very long life in western Anatolia and to appear elsewhere, as in Mersin xiiA. The people of Hacilar i may have included some newcomers, but their presence is unknown from very far away, not too distant related to the earlier inhabitants and intermingled with them. In their turn they were to be overwhelmed by a disaster at once local and widespread, the downfall of the Early Chalcolithic cultures of which Hacilar had been the brightest jewel.

On the Anatolian plateau and eastward to the Caucasus and Lake Urmia the fifth and fourth millennia BC may fairly be termed a dark age, only partially known but certainly marked by a decline in the general level of material culture in Anatolia. Such a decline is not, however, apparent in the regions to the east, for in Trans-Caucasia and the Urmia basin the available evidence suggests no earlier dating comparable with that exemplified by Catal Hüyük, Hacilar and Can Hasan, but rather a steady if unspectacular progression from the relatively few known settlements dating back into the sixth millennium BC. Throughout all these regions there ensued, from the second half of the fourth millennium BC, a cultural advance marking an awakening in the east and a revival in the west.

The inadequate and unbalanced nature of the archaeological record may well give the cultures of the Late Chalcolithic period in Anatolia, the term used for this long time-span, the appearance of being more backward than they really were. Reliance on pottery for the interpretation of these cultures and of their interrelations is inevitably very heavy indeed. Metal must have been far more plentiful than finds might suggest, for it was hoarded and melted down for re-use. There are many sites of Late Chalcolithic date in parts of southern and western Anatolia, few known in central and none in northern Anatolia. But of these sites few have been excavated, and fewer still have provided an uninterrupted, stratified sequence of building levels. Indeed only Mersin with its neighbourhood of Beycesultan, in the upper Meander valley in south-western Anatolia, have so far yielded such a long sequence throughout the whole period.

Can Hasan may to some degree be taken as the type site in the Konya Plain, with the Early Chalcolithic of Level 2b being followed by the Middle Chalcolithic of Level 2a and of the subsequent phase during which this site was deserted: Can Hasan 2a comprised five layers and ended c. 4,500 BC, or slightly later. Then ensued the Early Chalcolithic culture, distinguished by its pottery, heavy and dark in colour, found over most of the Konya Plain: its introduction marks the real break with the traditions of the earlier periods. Fresh sites were chosen by the newcomers; and present evidence suggests that these sites were abandoned in their turn at the end of this period, dated at Can Hasan, where Level 1 has six building levels, to c. 4,000–3,500 BC. A northern homeland for this culture and likewise for the Late Chalcolithic of south-western Anatolia seems probable. White-painted bowls and triangular arrowheads rather like those from the Konya Plain occur at Yazır, an excavated site near Sivrisari, in the bend of the upper Sakarya (Sangarius) River. Beycesultan is the principal site of the south-west Anatolian Late Chalcolithic cultural province. A long succession of twenty-one levels with a depth of deposit of ten metres has made this the best documented site on the whole Anatolian plateau for this long dark age of retrogression and subsequent resistance to change. A time-span of c. 4,750–3,200 BC has been suggested for this sequence, divided into four phases (Late Chalcolithic I–IV) by ceramic changes, though with more continuity than innovations throughout these many centuries. Metal-working is well attested, especially by a hoard of copper implements from Beycesultan XXXIV, including awls, needles, a chisel and a fragment of a dagger blade, the earliest known anywhere. There is no reason to doubt the existence of a flourishing metal-working craft in Anatolia in the fifth millennium BC and thereafter, especially in the light of the earlier evidence from Catal Hüyük; but hammering rather than casting remained the usual technique.
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The impression conveyed by the known evidence from two sites in central Anatolia is that the region within the great bend of the Halys was then inhabited by people of little artistic or technical skill, content to live as villagers dependent on farming and stock-breeding. At Büyük Galıe, in the forests near Alaca, was a tiny hamlet of three or four houses, a short-lived settlement of two levels, certainly of the later fourth millennium BC. Six levels including this period have been distinguished at Alaca Hıyık. The burials at these two sites were intramural, in accord with the tradition which in the third millennium BC continued to mark off this region from the southern and western parts of the Anatolian plateau. If burial customs are a guide to ethnic affinities, it is just possible that already in the fourth millennium BC in central Anatolia the population was of similar stock to that of the Early Bronze Age. They would thus have been Hittites, who inhabited these lands till the arrival of the Hittites from c. 2,000 BC, and thereafter survived as the predominant element. Intramural burials suggest a different origin for the more advanced people of Late Chalcolithic Beycesultan and surrounding areas.

In eastern Anatolia, including districts within the Turkish administrative provinces of Malatya and Sivas, the sequence of prehistoric cultures differs markedly from that obtaining in regions west of the upper Euphrates. Present evidence for any period before the third millennium BC is very patchy and still largely limited to surface finds. An aceramic neolithic site in the Elazığ region, one of many sites threatened by the construction of the Kebar dam, suggests the existence of settled communities there not later than c. 6,000 BC. This region was particularly open to influences from Syria and upper Mesopotamia, and thus cannot be considered typical of eastern Anatolia as a whole in the earliest periods. But southern influences should not be exaggerated, even though a few clear hints of contacts with the Hassuna and Halaf traditions of painted pottery were found in the writer’s survey carried out in 1956 and now rendered largely obsolete by the intensive work of the teams collaborating in the rescue operations in the basin of the Kebar dam. The general pattern of settlement, with periods of very thin population, had, however, been made apparent by this earlier survey. When the excavations at Anam tape (Malatya) are completed, it may be possible to add to the scanty data now available for the period c. 6,500–c. 3,000 BC in the fertile region of Malatya, just west of the upper Euphrates. Evidence for this period from the Kebar dam basin is already forthcoming from Pulur and Korucutepe, the latter having several levels with mud-brick houses, though the precise area of this settlement in the fourth millennium BC is not yet certain. The pottery is buff to grey burnished, with straight rims and often decorated

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with applied finger-impressed rope ornament. Obsidian arrowheads are narrow, unlike the wide type found at this site in the levels of the third millennium BC. The crops cultivated included emmer wheat and six-row barley. A radio-carbon date of c. 3,900 BC has been obtained for the great burning which marks the violent end of this cultural period and almost certainly also the arrival of newcomers, probably from the north-east.

Further to the east Tilkitepe, a very small mound close to Van, has produced a sequence of three main levels of which the earliest, Tilkitepe III, yielded Halaf pottery, painted and burnished, of the very finest quality. This was associated with evidence of the obsidian trade, including some of the biggest cores found anywhere. The exports of obsidian to northern Mesopotamia have been long known from many early village sites, including Tell Ampakiyah. Exactly where this obsidian was obtained cannot be said with precision, although Nemrut Dağ, the extinct volcano at the west end of Lake Van, has a good claim to have been the source of the Tilkitepe material, unless any closer source as yet unknown was exploited. The obsidian from the Van region is often visibly distinguishable by its becks of brown, and now spectrophotographic analyses have brought proof of the general region of origin of many occurrences of obsidian in the Near East. With the development of metallurgy, first clearly apparent in the Halaf culture, the Mesopotamian communities had less need of obsidian. This will explain why the penetration of the region of Lake Van from northern Mesopotamia at a period not later than c. 5,000 BC was not followed by continuing contact and influence from the southern plains. The fifth and fourth millennia BC in these remote highlands remain impenetrably obscure; but too little field work has been carried out to make any conclusion that these regions were devoid of settled population at all valid. Certainly at Karaz, close to Erzurum, there seems to have been occupation dating back into the fourth millennium BC, in an area naturally open to influences from Trans-Caucasia.
west of the upper Euphrates. This was partly the result of geographical
proximity; but equally important was the fact that in the Zagros region,
which developed in the Zagros region had a character essentially
unconnected with the other centres in the Levant and in southern
Anatolia; but, whereas those two regions were in many respects one,
the cultures which developed in the Zagros region had a character essentially
their own, only later subordinated to successive Mesopotamian influences.
Not until the late sixth millennium bc, at the earliest, did the indigenous
cultures begin to be seriously affected by these external elements; before
this, the cultural influence had rather flowed from the highlands down
into the Mesopotamian plain. Even thereafter the local cultures were
strong enough to adapt to their own uses rather than slavishly to imitate
Halaf, Ubaid and later Mesopotamian cultures.

The final Upper Palaeolithic (or Mesolithic) period and the subsequent
Proto-Neolithic period in the Zagros region have been alluded to above
in connection with the transition from a pattern of living mainly in caves
and rock shelters to the occupation, seasonally or permanently, of open-
air sites. While Jarmo and the Kermanshah district both lie beyond the
geographical scope of this book, it is in these areas that any understanding
of the earliest settlements around Lake Urmia must be sought.

The expedition of the University Museum of Philadelphia has for some
years been endeavouring to reconstruct the pattern of life in the Solduz
plain immediately south of Lake Urmia, through excavations at the great
mound of Hasanlu and at smaller sites of different periods in the

same plain. In this valley lying athwart an important route up from
northern Mesopotamia, later Assyria, the number of ancient mounds in the
Solduz plain was found to equal the number of modern villages therein,
affecting a striking example of continuity in pattern of settlement
in an area where dry farming was and still is possible. Hasanlu itself is
much too large and high a mound for the occupation levels of the fourth
and fifth millennia bc, let alone any even earlier levels that may lie
hidden, to be accessible. Such occupation has, however, been found at
the mound of Haji Firuz, a site of modest area, where excavations have
revealed a succession of six levels. A radio-carbon date of 5,152 ± 82 bc
for the second level from the top (Haji Firuz v) and a date of 5,537 ± 89
bc for an earlier level are consistent with the affinities of the pottery of
Haji Firuz, soft-baked and with chevron and other simple linear patterns
in red paint, with what may be broadly termed the Hassuna tradition.
Kermanshah, for which radio-carbon dates indicate a time-span within
the upper and lower limits of c. 6,250–c. 5,850 bc, Tepe Sarab itself is in
many respects closely comparable with Jarmo, and the excavator of both

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sites hesitates to say which is the earlier. The importance, or at least the
chronological priority, of both sites has now been overshadowed by the
results obtained from the excavations at another site in the district of
Kermanshah, Ganj Dareh Tepe. A radio-carbon date of 8,450 ± 150
bc has been obtained from the bottom metre of this seven-metre high
mound, where there are occupation layers probably of temporary encampments, since there is no trace of permanent buildings; then these
layers were succeeded by four or five levels with mud brick architecture,
the lowermost of these being preserved by the effects of a fierce
burning, some of the buildings being constructed of large plano-convex
bricks faced with thick mud plaster. A very interesting feature of this
burnt village is the occurrence of pottery of very primitive type, heavily
tempered with straw and evidently fired only during the burning of the
settlement, originally being merely sun-dried. Such evidence suggests
very considerably the craft in the Kermanshah district, more clearly
than at almost any other site in the Near East, and dating back to the
eighth millennium bc. Some walls in the next two levels were faced with
white plaster. In the upper part of the mound of Ganj Dareh Tepe was a
level with buildings of smaller mud bricks, no longer plano-convex, with
plastered floors. A second date of 6,560 ± 170 bc suggests a total lifetime
for this site of c. 6,500–c. 6,500 bc, though it need not have lasted more
than 1,500 years. The discoveries at Ganj Dareh Tepe suggest prima
facie that the significance of Tepe Asiab, Tepe Sarab and even of Jarmo
must not be underestimated. Nothing of comparable antiquity has yet
been found in the Urmia basin or further north.

At a small mound some four hundred metres from the main mound of
Yanik Tepe, twenty miles south-west of Tabriz towards Lake Urmia, a
succession of up to nine phases, not all distinct building levels, has been
found in a sondage of 15 × 5 metres. Two radio-carbon dates of 5,184
± 82 bc and 5,297 ± 71 bc indicate a general contemporaneity with
Haji Firuz to the south. The total depth of deposit is 5.50 metres,
mostly belonging to this early period, which, though by absolute date
classifiable as 'Early Chalcolithic', is typologically comparable with
Tepe Sarab and even Jarmo, and therefore could with some justice be
termed 'Late Neolithic'. In the context of the northern part of the
Urmia basin the latter seems the more appropriate term. Present evidence
suggests that this is the earliest cultural phase in this region. The pottery
is scarce, poor in texture and firing and limited in forms: heavy bowls
and short-necked, straight-sided jars with hole mouth preponderate;
there are also flat-bottomed dishes; some bowls are carinated, sections
are thick and the fabric is heavily tempered with straw. Such is the
preponderant plain ware, mostly light buff or greenish in colour; but in
the upper levels there is a proportion of painted pottery. While the
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chevron decoration at once suggested a date contemporary with Haji Firuz, other features seemed at the time of discovery to indicate an even earlier dating: first, some of the painted ware has a chalky pink slip applied over a red burnished ground, a parallel with Braithwood’s ‘slip-paint’ feature of Tepe Sarab though not of Jarim; the ground stone industry of Yanik Tepe is comparable with that of Tepe Sarab, described by the excavator as of Jarim type. This similarity is especially discernible in the bracelets and bowl from Yanik Tepe, all of alabaster, perhaps from the same source as that used in the fifteenth century AD for the dado of the Blue Mosque in Tabriz. Figurines are numerous at Jarim, are of a skilled bone industry, for personal ornaments as well as the common awls and needles. Well constructed houses of mud brick with rectangular plan and hard lime plaster floors suggest a relatively sophisticated village, its architecture of the same standard as that recently uncovered at Haji Firuz. No such neat buildings have been found at Tepe Sarab or Jarim, though Ganj Dareh Tepe seem to have been ahead of all these sites.

There is thus good evidence to support the argument that the first settled communities did not appear till the mid-sixth millennium BC in the northern Urnia basin, an argument not inconsistent with the known evidence from Trans-Caucasia.

A slight hint of ethnic continuity between this Zagros zone and the centres of the Neolithic Revolution west of the Euphrates may possibly be discernible in the burnt Level v at Haji Firuz, where a massacre seems to have occurred, the victims being buried on the site in three graves for the twenty-eight bodies. The interesting feature is the use of red ochre, sprinkled over the bodies.

The Araxes valley is not at present known for certain to have sites as early as the sixth millennium BC; but further excavations are likely to yield earlier radiocarbon dates, if not from mounds in the Ararat plain then from earlier sites in the hills nearby. The plain around Erevan is the likeliest area for the oldest settlements in the Armenian SSR, Professor Sardarian believes that the deepest levels of sites in the plain are neolithic and date from c. 6,000 BC, a belief based partly on comparisons with material from caves and particularly from open-air settlements and an obsidian workshop at the foot of Mount Artin. An outcome of this was of indigenous origin, derived from the surrounding hills.47

A transitional aceramic neolithic phase is attested in the Armenian SSR by the Artin sites; large cores were found at the workshop, at which obsidian scrapers, borers, awls and other tools were fashioned. Hunting remained the mainstay of the economy, there was no ground stone industry and there is no proof of food production, whether agriculture or stock-breeding, at the principal sites of Baroz and Zagha. Yet there are remains of stone walls, indicating that here were no merely ephemeral camping sites. On the south-west side of Mount Arzoghas have been found settlements with deposits at their base attested to a neolithic phase and thus immediately antedating the introduction of a food-producing economy: there are traces of dependence on hunting, but in the overlying level of the domestication of animals and of a typical early farming economy. It is this indication of a transition from food-gathering to food-production which suggest an indigenous origin for the following neolithic culture of the Ararat plain. In other parts of Trans-Caucasia no such stratified remains preceding the advent of villages dependent on agriculture and livestock have yet been found to provide evidence of the transition from the earlier hunting economy. A chronological priority for sites in the Armenian SSR would hardly be unexpected, though this might imply some still undetected influence from the south.

It may well have been from the early sixth millennium BC that settled life in the Ararat plain became firmly rooted. So high a dating must indicate no priority for the earliest known settlements around Lake Urnia. The special fertility of the middle Araxes valley, or Ararat plain, could itself account for early advances. This period is exemplified by the deepest levels of two mounds, Mashtots-Blur i and Keghityak-Blur i, the latter situated not far north of Ershadiyan. The introduction of pottery and the foundation for the first time of villages in the plain mark this period off from the preceding one. No firm chronology, however, will be possible for Armenian sites until radio-carbon dates become available for these early periods. There seems to be a rather meagre number of sites at the earliest sites to extend till the establishment of the Early Trans-Caucasian culture in the late fourth millennium BC, discussed below. Therefore either the dating proposed by Sardarian has to be lowered or a lacuna in the occupation of these villages has to be postulated.

Radio-carbon dates suggest that some of the earliest known permanent settlements in Trans-Caucasia lie in the middle reaches of the Kura valley, at Şorun Tepe and Tepe Tepe, in north-western Azerbaijan SSR, and at Shulaveri, south of Tbilisi, the capital of the Georgian SSR. Owing to modern political geography, this cultural province extending along the Kura basin is divided between the spheres of archaeologists working from Tbilisi and from Baku, the sites being far closer to the former. At Şorun Tepe a date of 5,500 ± 70 BC was obtained, which could provide support for Sardarian’s high dating of the earliest villages in the Ararat plain. But the dates from Shulaveri 1 (4,560 ± 210 BC) and 3 (4,531 ± 50 BC, from depths of 6-4,120 and 2-2 m, respectively) point rather to the fifth millennium BC as the time of the first settlements in the Kura basin.
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A priority of a few centuries for the Araxes valley might still be allowable,18

The general impression conveyed by the discoveries at sites attributable to the fifth and fourth millennia B.C., with some dating back to c. 5,500 B.C., is one of the evolution of a pattern of local cultures showing evidence of common traditions. This is particularly apparent in architecture, since round houses are found not only at Shulaveri, but also down south of Tbilisi, near Tegut, and at the small mound in the Ararat plain close to Echmiadzin. These houses are very small, only three metres in diameter at Tegut and from barely two metres to 4-5 metres at Shulaveri. Whether or not the round houses of the third millennium B.C. owed their origins to the period this type of house. Round houses of 8-9 m. diameter are claimed by Sardarian to have been found in the Armenian SSR.

In the Ararat plain the earliest settlements yielded soft-baked pottery tempered with sand and straw, the forms including a variety of round-bottomed vessels, bowls, jars and cups, these last having decoration of incised spiral motifs, some painted being handled. In Mashots-Blur 1 and Khaghach-Blur 1 the microcystic obsidian industry typical of the preceding period gradually disappeared, being replaced by large flades and the microlithic obsidian industry typical of the pre-bone ground stone industry including polished stone axes and hammers, types destined to have a long history in Trans-Caucasia. Small querns, storage jars and the numerous denticulated sickle-blades all add up to have been domesticated and are in evidence in the rock carvings so widely distributed in Trans-Caucasia. Whatever the precise dating of these earliest villages in Armenia, there appear to have been rectangular buildings of up to 13 × 10 m. in area as well as the above-mentioned round houses.

It is at Tegut, near Echmiadzin, that pottery gives a hint of southern influences or at least contacts: here, besides the plain straw-tempered and of Halaf type; this is thin in section, light reddish or orange-buff in hue, flaring or convex neck and globular body. The Halaf pottery also occurs in north-west Azerbaijan, in the form of a jar now in the Baku Museum, and at Kuttepe (Nakhichevan) in the Araxes valley. Halaf culture in upper Mesopotamia would be less remarkable if there were evidence of their presence in the Urmi basin, but there is none yet known.

The striking designs of the Dalma painted pottery, with its bold chevrons, triangles, lozenges and sweeping bands, are altogether indigenous to the Hasansu area and perhaps to quite a wide region round about. The paint is purplish black on a cream ground and with a maroon slip over the inside. No comparison of this ware with Halaf pottery, except for their being contemporary, can be valid: not only are forms, patterns and colours so different, but the Dalma ware is inferior in fabric, with straw temper, and is on the whole very friable. At Yankie Tepe, where a slight shift in the centre of the village between the Chalcolithic period and the Early Bronze Age (Early Trans-Caucasian I) made it possible to investigate Chalcolithic levels where they were not concealed underneath any later deposits, only a few painted sherds from the lower Chalcolithic levels represent a northward extension of Dalma cultural influence; but the Dalma impressed ware, whose decoration consists of finger-depressions, combed ornament and other impressions in the wet clay, is also represented by a few examples from Yankie Tepe.21 The small proportion of these wares in the whole assemblage from the Chalcolithic levels at Yankie Tepe does not detract from their great importance for relative chronology based on correlations with the Hasansu area about one hundred miles to the south, and for absolute chronology through the radio-carbon dates from Dalma Tepe and Pidideli Tepe, in the same Solduz plain.

Whereas Dalma Tepe flourished in the second half of the fifth millennium B.C., three radio-carbon dates from Pidideli Tepe cover approximately the first half of the fourth millennium B.C. Pidideli Tepe has painted pottery with decoration in black to dark brown paint on a plain buff to cream ground, a type of pottery which falls under the rather broad classification of the Ubaid tradition. This affected the fringes of eastern Anatolia adjoining the Fertile Crescent and much of western Iran, and was remarkably persistent, just as in Mesopotamia, long after it had died out in its original Mesopotamian homeland. Moreover it spread up into the whole Urmi basin, being first recorded in stratified context at the large site of Geoy Tepe, near Reza’iye, in Period II. Surface finds by the writer suggest that this Pidideli painted pottery in the Ubaid tradition was commoner along the west than along the east side of Lake Urmi, where, as in Geoy Tepe II, the most popular type of painted pottery had simple designs in black or dark brown paint on a red burnished surface, an altogether different style from that of Pidideli. This painted ware was characteristic of the later Chalcolithic levels at Yankie Tepe. Both this site and the stratigraphy of Geoy Tepe prove that the red burnished ware of the Urmi basin made its appearance well before the first Pidideli ware, possibly being introduced from the east.22

An indigenous origin for this red burnished pottery in the Urmi basin might seem to be suggested by the succession of nine Chalcolithic levels
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At Yanik Tepe, some with sub-phases, with a total depth of deposit of some nine metres. A strong ceramic continuity is apparent, though in the deepest levels the pottery was on the whole thicker and less well fired than in the later levels. The few painted sherds from the deeper levels suggest a date in the fifth millennium bc. Thereafter the standard ware, tempered, became overwhelmingly dominant and thus continued till the Chalcolithic level. There must have been a hiatus after the end of the smaller site beside Yanik Tepe, but the Chalcolithic sequence betrays great length of time and strong conservatism. A simple open shallow bowl and a short-necked jar are typical forms, others including large shallow platters, pedestal bowls, goblets with tall slender stems and pot-stands. A rare form of decoration comprises a schematic rendering in relief of a human face, the eyes being represented by small pieces of obsidian set into the clay before firing. The normal style of decoration is more prosaic, with patterns in dark brown or black paint over the red burnished slip. A mound richly by the north shore of Lake Urma, where there are few other sites, has yielded sherds of goblets with painted decoration, not found on this form at Yanik Tepe.

Apart from the above-mentioned Halaf imports, parallels in Trans-Caucasia for the Dalma and Fisledi material are relatively scarce, although perhaps the painted pottery found by Jessen in the Mill steppe of Soviet Azerbaijan, just north of the Azaxes, may have affinities with Dalma ware; the decoration comprises chevrons and other simple linear patterns, and is purplish, brown or black on a buff or pinkish-buff ground. Parallel can be sure until forms are recovered. A more certain link with the Dalma pottery of the Urnia basin is discernible at Ilanli Tepe, in Soviet Azerbaijan, where in a small settlement of 50 × 50 metres have been found remains of rectangular and curvilinear buildings constructed of ‘hogg-backed’ mud bricks. The inhabitants used the sling, includes large jars up to one metre high, rather poorly made; a better with ‘painted’ decoration consisting of very small triangles in a rather random scatter, applied to the wet clay with the end of a stick. The pottery suggests that this decoration manifests the extension into Balkans across south Russia to Trans-Caucasia, and thus a northern connection simply from the south part of the Urnia basin northward style of decoration, combing of the surface, is dated to the early fourth millennium bc, this occurs at the same time at Yanik Tepe, but there it was concealed, being applied to the clay for the better adherence of the slip. No links with the south in this period of lingering, if indirect, Ubaid influence on the pottery of the Urnia basin is clearly discernible in Trans-Caucasia, by which time the local cultures had probably become firmly enough rooted to develop along their own lines.

It is in the middle Kura valley that the largest concentration of settlement sites attributable to the period of c. 5,500–c. 3,250 bc has been investigated by Georgian and Azerbaijan archaeologists. The above-mentioned radiocarbon dates indicate the high dating which must be given to these villages.Some Tepe, perhaps the earliest site, has evidence of a bone industry in the form of picks; obsidian was obtained from Mount Keşegi, just east of Lake Sevan; impressions on some of the pottery indicate the weaving of mats and textiles. The pottery is rather uninspiring, black or dark red, only a small percentage being burnished. Flat bases, projecting outward instead of the vase, may suggest parallels with the earliest period of Yanik Tepe. The lack of large contrasts with their occurrence on pottery at sites on the Mill steppe and at Kültepe (Nakhichevan) this difference probably being one of date.

In the fifth millennium bc Shulaveri 1 has a range of relatively crude pottery, including hole-mouth and necked jars, some with a low pedestal base. Decoration takes the form either of incision, usually in herringbone patterns or chevrons, or of knobs or pellets and notches in a row along the rim; a scene in relief is a very early example of a motif appearing much later at different times in Trans-Caucasia. The obsidian industry of this level was highly developed and abundant; the ground stone industry was sophisticated, with serpentine and basalt used for celts and other implements. Antler sleeves exemplify the bone industry, and may have been used for digging tools. Imirisi-Gora, situated near Shulaveri, has a similar material culture. In Shulaveri the houses were no longer round but oval; and the pottery seems to display less decoration but more use of burnishing.

Some of the pottery collected by T. Chubin handwritten and dated by him to the fifth and fourth millennia bc is tempered with straw and some with chips of basalt. Tsopi, Aruchlo and Sadachlo are all sites in the same part of eastern Georgia as Shulaveri, each with its own ceramic peculiarities. Dark grey, reddish-brown and yellow-brown wares occur at Tsopi, where a model may illustrate the role of stock-breeding in the village economy of this period in eastern Georgia. At Aruchlo the pottery displays a profusion of knobs and semi-circular lug, the knobs being commonly arranged in two rows, either just below the rim or vertically, as on the necks of jars; similar decoration occurs at Soma Tepe. As at Shulaveri axeheds of serpentine and granite demonstrate an advanced
ground stone industry at Aruchlo. The date of the material from this site is estimated at c. 3,400 BC. According to T. Chubinshvili, a bulla from Aruchlo with a design of a horned animal has parallels with Geyik Tepe III and perhaps also with the Mesopotamian cylinder-seals of Jemdet Nasr style with a row of horned animals. If correct, this parallel might imply a low date, towards c. 3,000 BC, for the later occupation there. At Sadarche there is occupation of the fourth and third millennia BC. Here therefore in the middle Kura valley there flourished a culture marked by its long duration, its distinctive architecture, and its relatively well-preserved pottery, with considerable skill in stone-working. Further afield, in north Ossetia, pottery similar to that from Tsepin has been found at Shau-Legat; and there are said to be later parallels in northern Caucasus. At Semde Kaldé, the Fox Cave, in the Chiatura region of north-west Georgia, the pottery includes forms dating to c. 3,350–3,000 BC, though earlier sherds may occur too, seeing that the chipped and ground stone industries have older affinities; this is especially true of ground axeheads of serpentine and basalt like those from Shulaveri.

The rupestrian art of Trans-Caucasia cannot be discussed here in detail, nor can it be associated with any certainty with settlement sites. The largest group of rock drawings is that of Kobistant, forty miles south of Baku and not far from the Caspian Sea. On the Aphonian peninsula close to Baku and its oil fields, in the Dagebene area, there is a small cave of drawings of three highly stylized human figures, a goat and an ox. Arslanov, a specialist in these rock drawings, believes that in this cave there is a chronological sequence like that based on evidence from the Upper Palaeolithic and Neolithic of Iran and by implication applicable to other drawings. The goat is ascribed to the Early Bronze Age (third millennium BC), although at a Late Bronze Age site nearby goats occur carved on some of the slabs forming a stone-built enclosure, showing the survival even into the earliest thirteenth century BC of this rupestrian art. The ox in this small cave seems to have a goat's head, perhaps reflecting the survival of a tradition of many oxen in a period of abundant goats. The scenes at Kobistant are innumerable and would require long study at first hand to yield their full story. Stratified deposits of changing rock drawings, the large oxen probably representing primigeni and being typical of the early phases. But just how early these were is an unsolved question. Strange female figures suggest a fertility cult. Long rowing boats are the subject of some of these drawings; presumably they were used on the Caspian Sea, but when and by whom those of cattle, must be much later, not before c. 2,000 BC. Though almost certainly dating back in part to the neolithic period or earlier, the Kobistant group is probably mostly later than many of the rock drawings of Armenia, found on Mount Aragats, in the mountains of Gegharkunik and Syunik and at Zazga and Nahtpe. Emphasis on hunting and the small scale of men and beasts are noteworthy features. At Nahtpe a hand of hunters accompanied by a woman and child, are shown armed with bows and arrows, spears, and harpoons; they have dogs with them, and are hunting what appear to be wild sheep, chamois, and deer. As in the hunting scenes at Çatal Hüyük, which could be more or less contemporary, so here too in the rock drawings of Armenia there is often conveyed a sense of swift movement. This art is nothing if not spontaneous, even if its significance must ever remain largely obscured from modern eyes. Generally the style is more stereotyped and the drawing the later it seems likely to be. Failing a discovery similar to that of the paintings of Çatal Hüyük, it may continue to prove impossible to link the rupestrian art to precise periods in the occupation of village sites.

The fourth millennium BC might be thought especially detailed discussion in that it was the prelude to the great Early Trans-Caucasian culture which was to dawn in the last quarter of that millennium. Unfortunately, however, the available evidence is still very meagre, only relatively few sites having levels definitely attributable to the period c. 4,000–3,500 BC. Such sites are mostly those which continued into the following millennium, when they were to enjoy their greatest prosperity. Kültepe TA in the Nakhichevan region of the Araxes valley, is the best known site of this period, there represented by 8–9 m. depth of deposit, from virgin soil at about 10 m. up to 128 m., when the sequence of levels is interrupted by a sterile layer one foot thick. The plain pottery is rather crude, and includes hole-mouth jars and others with a short neck; there is also a proportion of painted ware, the paint being carelessly applied. Spindle-whorls point to the practice of weaving. Some metal objects from these early levels (Kültepe TA) are of pure copper, others containing from 0.4 per cent to 0.7 per cent arsenic; only hammering and annealing seem to have been known. Some flint blades occur, but more important was the obsidian industry, the raw material coming from the same source east of Lake Sevan as was used by the inhabitants of Šomutep. Stone hammer and adzes attest a developed ground stone industry. Bone was worked into picks, awls and sickle-handles, these set with small flint or obsidian blades. Kültepe is not unique in this part of Trans-Caucasia in having occupation attributable to the fourth millennium BC, for at the base of the high mound of Karakoçktepe, downstream from Nakhichevan, Chalcolithic remains seem to have been reached. Kültepe, however, is especially important for its very long succession of occupation levels and for the two radio-carbon dates which...
help to provide a bare chronological outline for Trans-Caucasia before the Early Trans-Caucasian culture: one date is from a sample obtained from a depth of 18-20 m, not far above virgin soil, and is of 3,887 ± 90 B.C.; the other is from a depth of 15-25 m., and is of 2,982 ± 150 B.C. This second date is surely too low, the more so in the light of a third radiocarbon date from this site, from a depth of only 8-10 m., of 2,920 ± 90 B.C. 84

In and about the Ararat plain are several sites with occupation probably immediately preceding the change to the Early Trans-Caucasian culture. Such as Shengavit 1, Shresh-Blur 1, Mokha-Blur 1 and Sev-Blur 1, Keghizak 1 is described as transitional to the following cultural period. Kültepe (Nakhichevan) is of the same period. A light yellow burnished slip over a fabric fired at a modest temperature, with sand mixed with the clay, is characteristic of the pottery of these fourth millennium B.C. villages, of the period termed Late Neolithic by Sardarian. Geometric and representational patterns, such as sprigs, appear incised on some of this pottery; there is also punctated ornament. From Kültepe (Nakhichevan) come cups with ledge-handles, with light yellow slip or painted in red, grey or dark brown. The agricultural economy evolved along lines already laid down in the fifth millennium B.C., with an improved ground stone industry exemplified by axes, hammers and hoes. Hunting seems, however, to have remained a significant source of food.

With the close of this cultural period in Armenia and of its equivalent in Georgia a new era was about to be born. Its advent is shrouded in obscurity, the threads of such evidence as there is being discussed below. The old simple order of village life was to give way to a culture not perhaps at first much more advanced, but with greater potentialities and altogether wider ramifications. The geographical scope of this book can henceforth be limited to the wide highland zone, now that Trans-Caucasia, north-western Iran and eastern Anatolia were to become one.

Chapter 3

FROM CAUCASUS TO EUPHRATES - THE EARLY TRANS-CAUCASIAN CULTURE

During the last quarter of the fourth millennium B.C. the whole vast zone from the Caucasus to beyond the upper Euphrates and to Lake Urmia began to manifest a general uniformity of material culture which was to continue for over one thousand years. This suggests an ethnic unity, which, in the nature of purely prehistoric evidence, can hardly be proved. One day, however, it may become more acceptable through data from physical anthropology. Such data are at present lacking, so that for any theory concerning the population of this highland zone in the third millennium B.C. recourse to other territories and later periods is unavoidable. The one conceivable alternative source of evidence is that put forward by proponents of glottochronology, those philologists who purport to be able to reconstruct by means of statistics the sounds of a spoken language of many centuries before the earliest surviving written records from the region. 1 The present writer believes that, while linguistic development is an invaluable source of information on the origins of an ethnic group, often the only such source, it cannot be made to yield reliable evidence beyond the limits of common prudence. Mathematical skill may lead far from historical probability. Some conclusions on ethnic affinities are given below. Some preliminary warnings are appropriate: of the uneven knowledge of the different regions of the immense zone occupied by this culture; of problems of terminology; of the meagre framework of a detailed chronology.

Much more is now known of this culture than was so in the first decade after the Second World War. This knowledge is mainly the outcome of the work of numerous Soviet archaeologists in the Trans-Caucasian republics of Armenia, Georgia and Azerbaijan, where it has become a point of honour to investigate this culture, there termed Kura-Araxes, where a great quantity of material has been excavated and where many specialists are at work on it. This body of material is supplemented by that from a few widely scattered excavations in Turkey and Iran and from surveys largely conducted by the writer. 2 The rescue operations in