The five millennia between approximately 9000 B.C. and 4000 B.C. were vital ones in the history of the Middle East and indeed of all mankind. There is no need to go into the details of what this critical period involved, for most readers will have some idea of the multifaceted impact of the interrelated changes often called, in shorthand form, the “Neolithic revolution.” At the beginning of this time the ways of life were apparently entirely dependent on hunting, gathering and perhaps fishing, by the end—which I place, rather arbitrarily, at about 4000 B.C.—the main emphasis of subsistence was on various forms of food-production and settlement was based on occupation in large sedentary villages and even substantial towns. Along with these primary shifts went great increases in population size and density, the invention of important elements such as pottery, metallurgy, and complex architectural forms, plus developments in social and political organization, religion and ideology, at which we can do little more than speculate at the moment. By 4000 B.C., after what to a prehistorian accustomed to the hazy evolution of earlier cultures from the explosion, southern western Asia had quite literally been transformed into something new and unique. A platform had been built for the next leap into the complex world of urban life locally, while through various channels the principles of the new way of life were seeping in all directions to transform to greater or lesser degrees large areas of the Old World.

The role of Iran in this transformation has become clear only in very recent years. I use the word clear in a very relative sense because we are still unable, for lack of enough information, to understand most of what was happening in Iran throughout this period. Nevertheless it is fair to say that the 1960’s saw a very significant advance as far as the Neolithic, particularly its earlier stages, is concerned. Many new sites were discovered, some of the blank areas on the archaeological map were at least given some semblance of occupation and, perhaps most important, the chronology of the Iranian Neolithic was pushed back to reveal a much greater antiquity and a more complex array of developments than had hitherto been suspected. Until around 1960 only about 120 Neolithic sites were “known” in the sense that something reasonably detailed had been published about them, and the oldest went back to what we would now consider the middle part of the Neolithic. Today at least two dozen sites are known (excluding caves with temporary or brief encampments and sites that have only been surface collected) and the number increases yearly, though admittedly very few have yet been published in any detail; and a few of these Iranian sites go back to the eighth and possibly even the seventh millennium B.C. and must represent the activities of groups who were involved in the beginnings of the great change.

The reasons for the slow development of interest in the Iranian Neolithic are various. In part it reflects modern political events, including the fact that, unlike Iraq and Syria, Iran was not a mandated country when Western archaeologists were beginning to interest themselves in the earlier phases of Middle Eastern prehistory between the two world wars. Access was difficult and expensive and until the 1930’s virtually no foreign archaeologists other than French ones worked in the country. Equally important, I suspect, in dampening enthusiasm was the prevailing hypothesis that the beginnings of animal and plant domestication and of sedentary life must have taken place in the great river valleys of lowland regions or in well-favored oases. As a largely upland and plateau zone, Iran tended to be ignored by those interested in the early stages of agriculture, and what Neolithic was known could be explained in terms of diffusion from other regions. When the war of 1939-45 broke out and imposed a halt of nearly a decade in the research of Western archaeologists, practically all our knowledge of the Iranian Neolithic was derived from the site of Sialk near Kashan on the western edge of the Dasht-e-Kavir desert, excavated by Roman Ghirshman for the French Archaeological Mission from 1935 to 1937. In the basal levels of the North Mound at Sialk were several thick series of deposits, the earliest of which the excavator tentatively interpreted in spite of its well-developed painted pottery as reflecting a transitional phase of adaptation to a new way of life under conditions of increasing aridity; the later levels (Sialk II and III) represented the inevitable complexity of sedentary life and a communal to food-production. This interpretation seemed to be supported by Pumpey’s old evidence from the site of Anau in Soviet Turkmenia, and by the meager evidence from the few other sites in Iran where Neolithic traces had been found in the course of soundings in mounds; Tepe Hissar in northeast Iran, excavated by Erich Schmidt for the University of Pennsylvania and the Philadelphia Museum of Art and the American Institute for Art and Archaeology in the 1930’s; Chansheh All near Tehran investigated by Erich Schmidt for the University Museum and the Boston Mu-
search in Khuzistan which uncovered a long se-
sequence of local Neolithic development; Herbert
Wright, Jr. of the University of Minnesota con-
tained his investigations in the climatic back-
ground of Neolithic times, especially through the
study of pollen sequences from lake-bod cores in
the Zagros mountains; while Robert Adams of the
Oriental Institute surveyed the Khuzistan region in
1960-61 and located a large number of sites going
back to the sixth millennium. At about the same
time, in the northwest, Robert Dyson and T. Cuyler
Young, Jr. for the University of Pennsylvania
Museum had excavated in the mounds of Haji
Firuz and Dalma in Azerbaijan, south of Lake
Rezayeh, and had uncovered Neolithic settlements
going back to around 6000 B.C. A British group
under Charles Barney had found at Yanik Tepe
near Tabriz evidence of Neolithic occupation be-
longing to the centuries just before 5000 B.C. In
Luristan a Danish expedition excavated the site of
Tepe Girhan in the Helwan valley in 1963, with
Peder Mortensen investigating the Neolithic de-
posits. In 1965 two Canadian groups, T. Cuyler
Young, Jr. for the Royal Ontario Museum and the
writer for the University of Montreal, began inves-
tigations at Godin Tepe and Gajn Dareh Tepe re-
spectively in the Gomas-Ab valley of southern
Kurdistan. Most recently C. Lamberg-Karlovsky
of Harvard University has extended the Neolithic
trail eastward by uncovering fifth millennium occu-
pations at the base of Yabia Tepe in Kerman on the
southern Plateau.

Some of these sites are still being excavated
but at others the work has been (one hopes
temporarily) suspended. Only the findings from
Tepes Ali Kosh and Sozab, excavated in 1961-63
by Hole and Flannery in the Del Luran Plain of
Khuzistan, have yet been published in any detail.
Thus these archaeologists who are involved in
making some sense of the Iranian Neolithic still
have a long way to go. Some things are gradually
coming into better focus, it is true, but others are
as puzzling as ever. So this brief article is not
intended as an authoritative synthesis of this slice
of Iranian prehistory but only as a tour d’horizon
to indicate where we stand today in our knowledge
and ignorance of the Neolithic of Iran.

What the precise origins of the Iranian (or,
for that matter, any other Middle Eastern) Neo-
lithic are, we are still a long way from knowing.
In the Zagros, at least, the latest hunting-gathering
culture seems to have been the Zarzian who lived
apparently in caves and rock-shelters, and just
possibly were already involved in some kind of
plant and animal control by the tenth millennium.
So far, however, there is no clear demonstration in
either Iran or Iraq of direct continuity from the
Zarzian to the earliest food-producers. In Iraqi
Kurdistan the earliest evidence of food-producing
seems to come from the Soleski’s site of Zawi

we still do not have conclusive evidence for food-
production in this basal level, though further
digging may reveal it. The eighth millennium,
which up to recently has been something of a blind
spot in the prehistory of Iran and Iraq, is well
represented in the succeeding levels of Gajn Dareh
from about 7500 to 7000 B.C. In these levels
preliminary studies by Dr. Dexter Perkins of
Columbia University suggest that goats at least
were being reared. Up to now the evidence for
cereal domestication in this site is more elusive,
but the presence of many milling and grinding
stones and of large clay containers and bins tempts
one to think that some kind of plant foods,
whether wild or domesticated, were being pre-
apared and stored. One of the lower levels of Gajn
Dareh was partially destroyed in a fire and this
accident has revealed two rather surprising aspects
of the early Iranian Neolithic. The first is the pre-

(top to bottom) Workmen collecting ash samples for flotation of
seeds from Ali Kosh Phase levels in Tepe Ali Kosh,
excavated under the direction of Dr. Frank Hole,
Rice University, Texas.

Tepe Sozab, Del Luran Plain. The step trench was
cut into the eroded west edge of the site.

Foundation stones of a structure dating from the
sixth millennium at Chogha Sefid, excavated in 1968-69.
These stones are adobes or a platform of dense
yellow clay bricks that cap a core of soft gray mud
bricks, one of the sixth millennium.

Chemi Shinidar where sheep were being
domesticated by the earliest ninth millennium. Per-
haps Bradwell’s site of Karim Shahir represents
the same stage in the Iraqi piedmont. In Iran the
ninth millennium evidence is still vague but there
is some reason to believe that similar develop-
ments were taking place in the Zagros area at
least. Tepe Asial near Kermanshah, though it
has yielded no radiocarbon determinations, could
belong to this period, and recent studies of the
animal bones indicate an early stage of goat do-
maination here. At the site of Gajn Dareh Tepe
not far away there is a meter of deposits, appar-
ently without solid architecture, which may go
back to the mid-ninth millennium; unfortunately

(below) Port of the second principal occupation level at
Gajn Dareh Tepe, a village of brick and mud structures
partially destroyed by fire. Three huts lightly-baked or
perhaps sun-dried clay containers are visible in two
of the rectangular rooms—one free-standing and
porous, the other adhering to the adjoining walls and
floors. About 7500 B.C.

(bottom) Excavations at the early Neolithic site of Tepe
Asil in north Kermanshah in 1969 by R. J. Bradwell of
the Oriental Institute. The site was occupied
sometime between 9000 and 7000 B.C. by people who
had partially domesticated goats and who collected
clam from the nearby Kara Su river.

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B.C. and is the oldest so far known in the Middle East. This pottery takes the form of both small pots and very large jars and trays, with no traces of painting, and some of it may be ancestral to the earliest pottery at Tepe Guran.

Ganj Dareh was abandoned around 7000 B.C. or shortly after, but it is probable that by this time the advantages and disadvantages of the new style of life had caught on in a number of communities in the Zagros. The site was inhabited in the early part of the seventh millennium and the upper levels at Tepe Guran, and it is more likely that the earliest pottery at Tepe Guran.

It is about this time, too, around 6000 B.C., that we find the first traces of occupation by what seem to be food-producers in the Sulduz valley of Azerbaijan, south of Lake Rezayeh, at the site of Haji Firuz and a few others. On the Iranian plateau, Stalak was first settled about this time or slightly later. Hsuan-na and Samena influences from Iraq may have been partly responsible for some of this spread. Perhaps some changes were also creeping into the lives of the surviving seal and gazelle hunting peoples around the Caspian, though it is hard to be sure what these changes were or to what extent their traditional ways were modified; pottery seems to have reached them by the sixth millennium but we are still uncertain when food-production was adopted. The routes of diffusion across the eastern part of the Iranian plateau are even more vague. Presumably the Jarmo-like villages of the Jezait culture and the vigorous later cultures typified at Anau and Numazgā in Soviet Turkmenia were inspired from Iraq, as were the food-producing groups of northern Afghanistan of the sixth millennium; but so far eastern Iran is almost completely blank as far as the Neolithic is concerned. What was happening in Khorasan, Beluchistan, and Baluchistan, the areas through which we suppose some of the Neolithic elements passed eastward into Afghanistan and Pakistan, is still wholly unknown.

Thanks to the work of Hole and Flannery on the Deh Luran Plain, we are much better informed on what was happening in southwestern Iran, in the region of Khuzistan where the Zagros range peters out adjacent to the Mesopotamian Plain. There is no evidence that the earliest Neolithic had its origins here, in a low latitude steppe environment where presumably the necessary domesticates were not at home. But sometime around 7000 B.C. (give or take a few centuries— the radiocarbon dates are "chronomical" for this period) the Bus Mordah phase at the base of Tepe Ali Kosh shows people building small mud-brick structures, perhaps for winter occupation only, and raising sheep and goats, and some wheat and barley to supplement their hunting and collection of wild plant food. Perhaps they represent transhumant groups of simple farmers without pottery who had moved southward along the Zagros into an unoccupied region and had by now gained sufficient control over their animal and plant resources so that they could maintain a foothold in this marginal habitat. Over the next few thousand years their successors developed a greater commitment to food-production, adopted pottery and simple irrigation, built larger and more permanently occupied villages distributed over a wide area of Khuzistan, and with considerable stimuli from the contemporary peoples of Lower Mesopotamia evolved, in the direction of life in villages and minor towns. By the fourth millennium, a trend toward the abandonment of some villages and a clustering in larger towns is observable, perhaps in part due to excessive soil salinity, but this prelude to Elamite civilization is beyond the scope of this article. Long before this, however, it seems that the Fars region had been settled, perhaps by around 5500 B.C. at Tepe Djiraj and later at Tal-i-Mushki, Bukun, and Tal-i-Iblis by groups using plain-soil pottery.

Tepe Hālil Firuz, Azerbaijan, is typical of the small early mound which dot the Sulduz Valley. Excavation of the Neolithic, sixth millennium, levels at this site was undertaken by the University Museum in 1961 and 1968.

In the Neolithic village of Haji Firuz, free-standing square houses are usually of mudbrick with clay floors. The "Sniper House," discovered in 1968, is the best preserved. It has a small doorway with a raised sill, mudbrick steps down to the floor and a horseshoe hearth to the door.
lead in Iranian cultural development. Given the resources available and the technological level, it had probably reached a rather stable equilibrium which it maintained for many thousands of years.

On the plateau we have a better picture of the final stages of the Neo lithic, at sites like Sialk (period III) and those in Fars and Kerman. Here we can see metallurgy, in the form of smelted copper, growing in importance, towns becoming larger and more complex, trade increasing across wider areas, population growing in size and density, and agriculture becoming more intensive. Where to draw the line to mark the end of the Neolithic is a difficult problem. I have put it at about 4000 B.C. here, thus including much of what is often called the Chalcolithic, because the fourth millennium was a period when, although basically Neolithic peoples undoubtedly continued to colonize many regions either unoccupied or inhabited by surviving hunters and gatherers, the Neolithic "revolution" was essentially accomplished. A new set of cultural, social, and technological phenomena was emerging, particularly in southwestern Iran, in large part the result of events originating outside Iran itself. These outside features in combination with the indigenous ones led to the distinctive Iranian Bronze Age cultures of the fourth and third millennium B.C.

On the basis of this imperfect array of information, what kind of picture emerges about the Iranian Neolithic? With all the hesitancy of the prehistorian still groping in near-darkness I propose the following reconstruction. From a center in the Zagros range and its flanking hills in Iran and Iraq, groups of essentially intensive collectors and hunters began by the tenth millennium to modify their cave-dwelling, mobile way of life, perhaps in part under the impetus of the somewhat warmer and less arid climatic conditions then existing. Some of these groups may have been living in relatively sedentary ways, though we have as yet no good example from Iran of permanent-structured settlements dependent on hunting and collecting, such as apparently existed at this time in Syria and Israel. In the ninth millennium the trend toward greater sedentariness was probably speeded up with more regular control over certain animals and crops in the form of simple cultivation in clearings and seasonal transhumance. In the next few thousand years a complex set of factors, probably including human population pressure on available land, led both to an intensification of the agricultural system and to the expansion of some groups into regions hitherto uninviting for food-producers. Agriculturalists now for the first time spread into parts of Iran outside the original center of domestication, to Khuzistan, the Lake Rezayi basin, and the central and southern plateau. In this latter region there may have been fairly early an emphasis on migratory stockbreeding, on trade and, by the late fifth millennium, a simple metallurgical industry.

This reconstruction is of course not a very original one and in many ways it duplicates what has been suggested for other areas of the Middle East at this time. The contribution of the work of recent years by archaeologists of many nationalities has been to show that Iran was indeed deeply involved in the development of the Neolithic of southwestern Asia, and, in such things as the invention of pottery and the elaboration of various forms of brick and mud architecture, may even have been in the van. Even after 5000 B.C., when the lowland zones of Mesopotamia were taking the lead in cultural developments, it is likely that the highland zone of Iran had far more influence on the events of neighboring regions than is usually thought.

A listing of the problems to be resolved and the gaps to be filled before we can say whether this picture and the moderately faithful reflection of prehistoric reality would be far too long for this short survey. Perhaps the most important general task is to find out more about the earlier stages of the Neolithic outside the Zagros; we are, comparatively speaking, somewhat too heavy in data from this zone and it perhaps distorts our impression of the Neolithic as a particularly pressing problem for central and eastern Iran, while the Caspian area poses a set of fascinating problems of its own. Wilma Coon is justly in claiming food-production here as early as about 6000 B.C. Was the Caspian foreshore really as important a "breeding ground" for the diffusion of the Neolithic eastward to central Asia and westward to Europe as he also suggested? Even within the fairly well explored Zagros some valleys have yielded no earlier phases of a Neolithic, for example the Rumaghan and Tarkhan valleys, or topographical, climatic or other environmental factors responsible or have the sites not yet been identified? Again, how late did full-fledged food-collectors and hunters survive in each region, and how did they influence the local Neolithic patterns?

We must also find out more about the climatic, environmental, and economic background of the Neolithic events. What kinds of agriculture were practiced in each region in terms of crops, fallow periods, types of land use, the differential importance of plants versus animals? What part did seasonality of occupation and activity play in creating the variability observable in the earlier sites? How far back can we trace a pattern of genuine pastoral nomadism in Iran? What were the climates and environments at the beginning of and during the course of the Neolithic in the various zones of Iran, and how did these influence the directions of development? What was the role of trade and trading networks in the initial dispersal of ideas and elements (e.g., by the trade in obsidian from Anatolia after about 7000 B.C.), and later in the founding of specialized villages for production and export of certain resources?

To what extent can we talk about fully independent developments in Iran and how much importance should we allow for influences from outside, particularly from Mesopotamia in the later stages? What is the origin of the Susiana cultural pattern, including the abundant painted and decorated pottery and irrigation-oriented agriculture, which appeared in Khuzistan about 5000 B.C.—was it in the preceding local Neolithic phases, or from outside, or both? How real, in view of the apparently accidentally preserved pottery at Gaj Darreh Tepe, is the concept of an aceramic or pre-pottery Neolithic—and therefore how much longer can we claim that Iran has the oldest pottery west of Japan? Is this eighth millennium pottery the origin of the later softwares of much of Iran and Iraq? What physical types were responsible for the various Neolithic manifestations and how much continuity was there biologically with preceding and following periods?

Like most of their colleagues elsewhere, Neolithic archaeologists in Iran are hampered by the fact that too often they are trying to work up synthesis and formulate hypotheses on the basis of widely scattered sites in different natural environments dug and published with various degrees of plausibility. Most archaeologists today recognize that a more profitable kind of research is one that involves the study of restricted zones in considerable detail, in order to establish micro-traditions and measure adaptations to local conditions through time and by combining the best features of both ecological and taxonomic approaches.

This type of research has barely begun in Iran although there are a few promising beginnings in the Neolithic time range. When enough of these studies are available we shall have more success with our reconstructions. In the meantime, however, some of the "old" sites excavated before 1960 could profitably be tested again in the light of the more advanced archaeological technology now available.