Meetings

Near Eastern Prehistory

A seminar on "The Early Appearance and Development of Agricultural Communities in Iran and Southwestern Asia" was held in the Institute of Archeology of the University of Tehran, 15–25 February 1960, under the chairmanship of Dean A. A. Siassi, with Robert J. Braidwood and Ezat O. Negahban as co-chairmen. The session was organized to take advantage of the presence, in or near Tehran, of a number of prehistoric archeologists and natural historians, both foreign and Iranian, and to consider new evidence bearing on Near Eastern prehistory (*1*). Background papers were submitted by Pierre Bessaignet (UNESCO), Linda and Robert J. Braidwood (Chicago), M. L. Dewan (FAO), M. H. Ganji (Tehran), R. Ghirshman (Delegation Archéologique Français en Perse), Bruce Howe (Harvard), Indu Shekhar (Tehran), Ezat O. Negahban (Tehran), H. Pabot (FAO), Charles A. Reed (Illinois), E. H. Rieben (FAO), D. Sheikhnia (Tehran), M. L. Smith and L. Aksoy (CENTO Institute of Nuclear Science), L. Van den Berghe (Ghent), P. J. Watson (Chicago), and R. A. Watson (Minnesota).

In the general sessions, beginning with the appearance of Acheulean type hand-axes (in Iran as well as in southwestern Asia generally) about 100,000 years ago, Howe described a trend towards increasing cultural complexity and variety as time went on. Following Acheulean types of tools of wide distribution and uniform type, there came the Mousterian industry, which begins to vary regionally. A date might center around 60,000 years ago. Next came the even greater variance in industries of the Upper Paleolithic blade tool tradition, ending in a flourish of microlithic tools. This stage covered the remainder of the last glacial period, from about 40,000 to 15,000 or even 12,000 years ago. Howe then considered the archeological traces of the very interesting transitional range of the next 2000 years, for which little open sites yield traces of intensified food collection. In a theoretical sense this transitional period must contain the incipient phases of plant and animal domestication. However, the archeological evidence for this period is so slight that its elements of food production cannot yet be defined. Indeed, the artifactual material appears still to be a part of the previous tradition associated with food collectors. It is rather by hindsight from the next stage that we postulate this incipient stage.

In his account of the first bona fide traces of the village farming communities Braidwood wondered if a reversal of the trend towards regional intensification might not now be observed. In considering archeological evidence for the earliest village farming communities the following factors must be borne in mind.

1) Increased size and depth of accumulation, including house structures, indicating permanence, stability, and at least eventual population increase. Ethnological data suggest that there may be a few exceptions to a general rule that these features imply food production.

2) The so-called "neolithic" traits—ground stone (for example, celts and milling stones), pots, weaving, and so on—probably suggest new species and genera of tools which attend establishment of the village farming community. Certain of these traits now appear to have entered the record at different times, either before or after the achievement of food production; but, Braidwood asked, "Would a constellation of these traits have been possible without (i) an assured and surplus food supply, (ii) circumstances which allowed the rise of specialist craftsmen, (iii) a blurring of Howe's regional specialization as trade, and even an exchange of ideas beginning to be evidenced?"

3) Obvious proof of the village farming community stage depends on the contextually certain traces of the plant and animal domesticates.

4) Slightly weaker evidence of the village farming community stage would be artifacts for which the simplest explanation suggests techniques of food production.

Along with the immediate consequences which these four points suggest, there must have come vast changes in other realms of human culture. Matters of art, religion, politics, law, the moral order are at issue, but we have much more to learn before significant reconstructions of these can be made.

Next Negahban approached the question of whether the formative and earliest stages of the village farming community way of life may be identified on the Anatolian and Iranian plateaus. Strong typological suggestions of this early stage have been gathered from the Iranian plateau, but their serious study is impeded by lack of excavation into deposits of this stage. He next explained the archeological evidence of the well-formed village farming communities known from some eight sites in two subdivisions of cultural development, a northern and a southern one. He then posed certain questions regarding factors in the transition from food collecting to food production. He asked: (i) What was the effect of cli-

matic change, *if* it occurred on the activities of man in developing this new way of life? (ii) What was the effect of a deterioration of plant and animal resources, *if* it occurred, and did it impel man towards a new type of food quest? Considering these points, one asks: To what degree had man as an increasingly successful food collector become a destroyer of the natural environment?

Shekhar then painted a picture of the brilliant achievement of a later, and urban, civilization in the Indus Valley. Again, lack of information prevents our knowing what were the antecedents of this civilization. The question of the formation of the Indus Valley civilization is one of the great challenges facing archeology today, and work in India, Pakistan, and Iranian Baluchistan will be required before it is met. The available materials from both northern and southern Baluchistan suggest directions for further research.

Next, as the seminar turned its attention to the paleo-environment, P. J. Watson took up the artifactual and nonartifactual traces of food production in southwestern Asia. This discussion was based upon her ethnological investigations into present-day nonmechanized agricultural procedures as well as on her knowledge of the archeological record. Such artifacts as digging stick weights, stone sickle blades, grindstones, and wheat and barley were singled out. The point was made that these last two items as domesticates were, in fact, artifacts and no longer nonartifactual material. Combining her impressions of present-day nonmechanized procedures with the implications to be drawn from the artifacts, she arrived at a reconstruction of early food production that shares many elements with today's practices of planting, reaping, threshing, and winnowing. Such items as the animal-drawn plow, the rotary quern, and the metal sickle, are, of course, not present in the earliest stages.

Further exploration of the paleo-environment followed in Reed's consideration of the animals of the pertinent area and time range (*2*). Provocatively describing man's place in nature from the zoologist's point of view, Reed emphasized the importance of the natural habit of social behavior among those animals which became domesticated. The cat appears to be a single exception. Reed defined domestic animals as those whose reproduction man controls. It follows that they also are artifacts. Since the social behavior of the potential domesticates must be assumed to be some millions of years old, it is striking that, with this preadaptation, domestication was so long delayed. Reed favored the uplands about the Fertile Crescent as the locale for early domestication and, on the archeological record to date, showed that the dog and the goat were present in domesticated form at both Jarmo in Iraq and Jericho in Palestine at a date which he took to be about 8500 years ago. On present evidence, Reed rejected both the notion of climatic change and changes in human physical type as determinative factors in animal domestication. He saw the achievement of a necessary but unspecified level of cultural evolution as the requisite for domestication, thereby throwing the problem back upon the archeologists. He also concluded that animals were domesticated after permanent human settlements were achieved and that plant domestication may well have preceded animal domestication.

Next followed a joint consideration of the physical factors in the paleo-environment by R. A. Watson, Dewan, and Ganji. Watson supposed that archeologists expect aid of geologists in geochronological dating and in the reconstruction of past climate and physical environments. Before adequate geological aid can be given, he averred, two things would be needed. Much further study and description of the general geomorphological features of southwestern Asia will be necessary. This will also involve reassessment of the

older, simplistic generalizations on such features as end-Pleistocene lakes, sand dunes, fluvial and marine terraces, and glacial and periglacial phenomena.

Dewan emphasized that, of the whole range of soils to be found in southwestern Asia, those most pertinent to early agriculture would be the alluvial soils and the brown soils. He described their characteristics, properties, and distribution. These data he covered in much more detail in his very useful background paper.

In elaborating on his own useful background paper, Ganji also emphasized the limitations of present climatic data in arriving at a detailed picture of present climate for southwestern Asia. Thus, the projecting of climate into the past is that much more difficult. However, it is clear that gross climatic change within the last 10,000 to 15,000 years is not evidenced, although frequent minor cyclic variations can be traced. Ganji urged attention to the paleobotany of grains as a clue to understanding past climates. He summarized his observations on Iran in two detailed maps, one of rainfall and one of his adaptation of the Koeppen system for delineating the climate as applied to Iran.

Although diffident about discussing paleobotanical matters, Pabot made stimulating contributions to the central question of the seminar. He suggested that the wild wheats may have a distribution slightly further to the southeast of the Kermanshah area than those shown on Helbaek's map of 1959 (*3*). He also stated that he had never observed wild wheat throughout the country of the Syrian saddle except below the latitude of the Beirut-Damascus road. Southern Turkey is not under consideration here. He further stated that he would not expect the plant communities of the lush East Mediterranean strip or those of the Caspian or Black Sea littorals to have included the wild wheats, although he added that, in his opinion, the presently suggested prototypes of wheat are not yet proved to have been the ancestors of the domesticates. Pabot was firmly convinced that the present natural habitat of the wild wheats lies above approximately 1000 meters. He also made stimulating comments about how the wild grains may have been taken into domestication and first utilized. He remarked that the wheats under primitive conditions may have been rather rare grains and are adapted to areas of disturbed soil conditions. Furthermore, the reaping process could have involved plucking plants out by the roots. Interestingly, Pabot concurred with the notions of Reed and of the archeologists that the transition to cereal domestication may have taken about 2000 years.

Sheikhnia then emphasized the importance of the forest trees and of fruit trees and viticulture in the development of the village farming community way of life.

Rieben posed a very interesting problem which he realized was not immediately relevant to the purpose of the seminar but which is, nevertheless, of potentially great importance. He described nearly horizontal layers of mud and gravel just east of Tehran. These features might represent either an extinct lake beach or the trace of a more recent large artificial canal.

Smith discussed in general terms the potential contribution to archeology of the physical sciences, considering matters of identification, utilization of materials, and physical chronologies. He clearly described the radioactive carbon method of age determination, noting the degree of physical and statistical error which is necessary in expressing the age determination. Even more important is the possibility of contamination of samples *in situ* which might result in larger degrees of error than those expressed by the statistical formula. The still remote possibilities for dating baked-in-place pottery by means of the earth's magnetism were discussed. The possibilities for identification of materials by neutron activation and beta-ray back scatter were also considered.

Bessaignet introduced the subject of the pertinence of social-anthropological studies to archeological interpretation, noting the cautions necessary in extrapolating backwards from present-day tribal behavior to a reconstruction of past social organization.

In originally proposing the seminar the co-chairmen had hoped that it might clarify understanding of how and under what circumstances man, for the first time in his history, achieved food production and settled community life in southwestern Asia. One of the most important challenges in any scientific research is that of finding how to pose the questions properly for further research, and it was the firm conviction of the organizers of this seminar that the *questions* had become more clear. The proceedings of the seminar will be published by the Institute of Archeology of the University of Tehran.

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2. C. A. Reed, *ibid.* **130**, 1629 (1959).
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