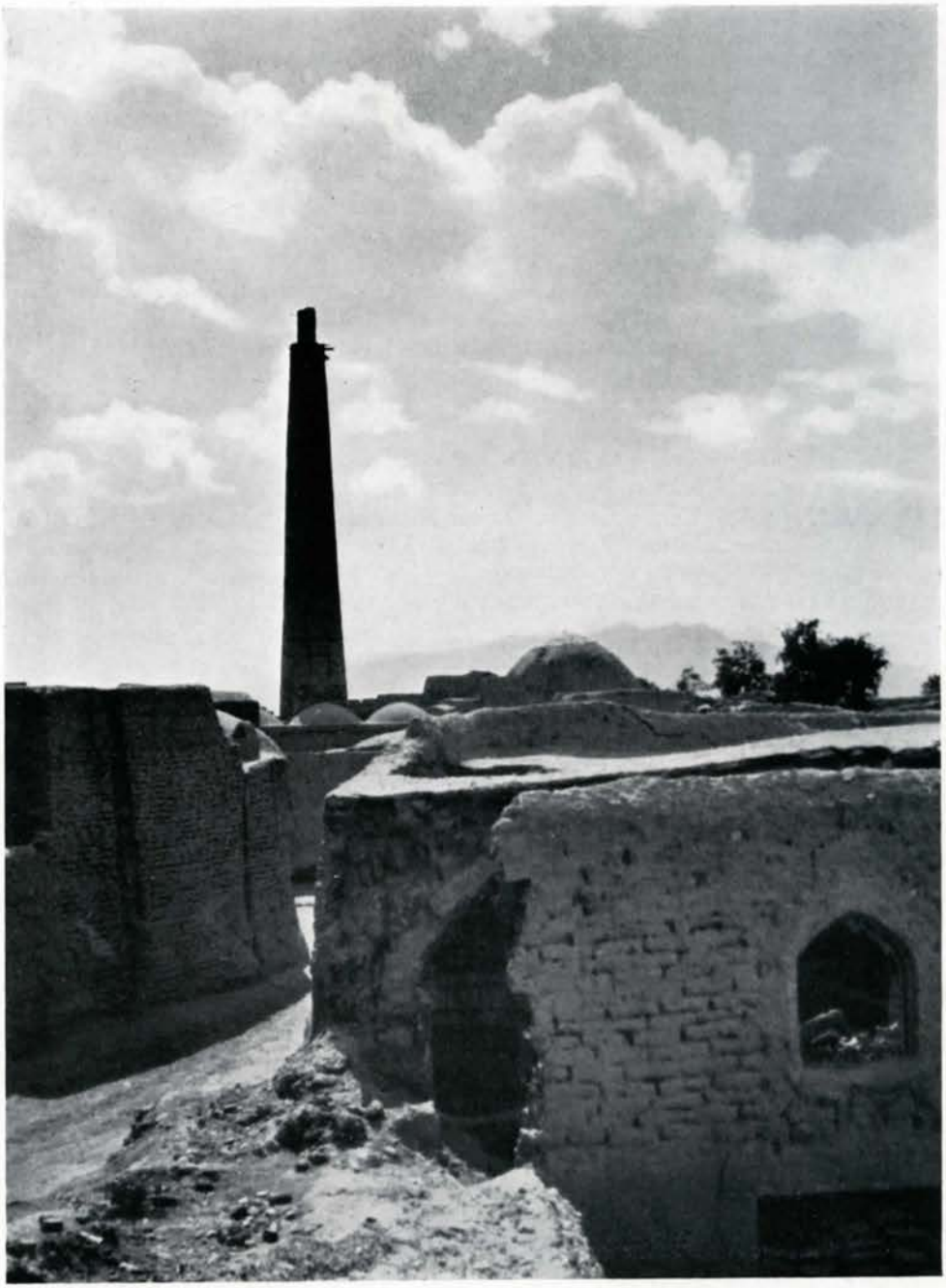


THE OLD MINARET OF THE MAIN MOSQUE IN DAMGHAN

TEPE HISSAR: EXCAVATIONS OF 1931

The Joint Expedition to Persia of the University Museum
and the Pennsylvania Museum of Art

By ERICH F. SCHMIDT

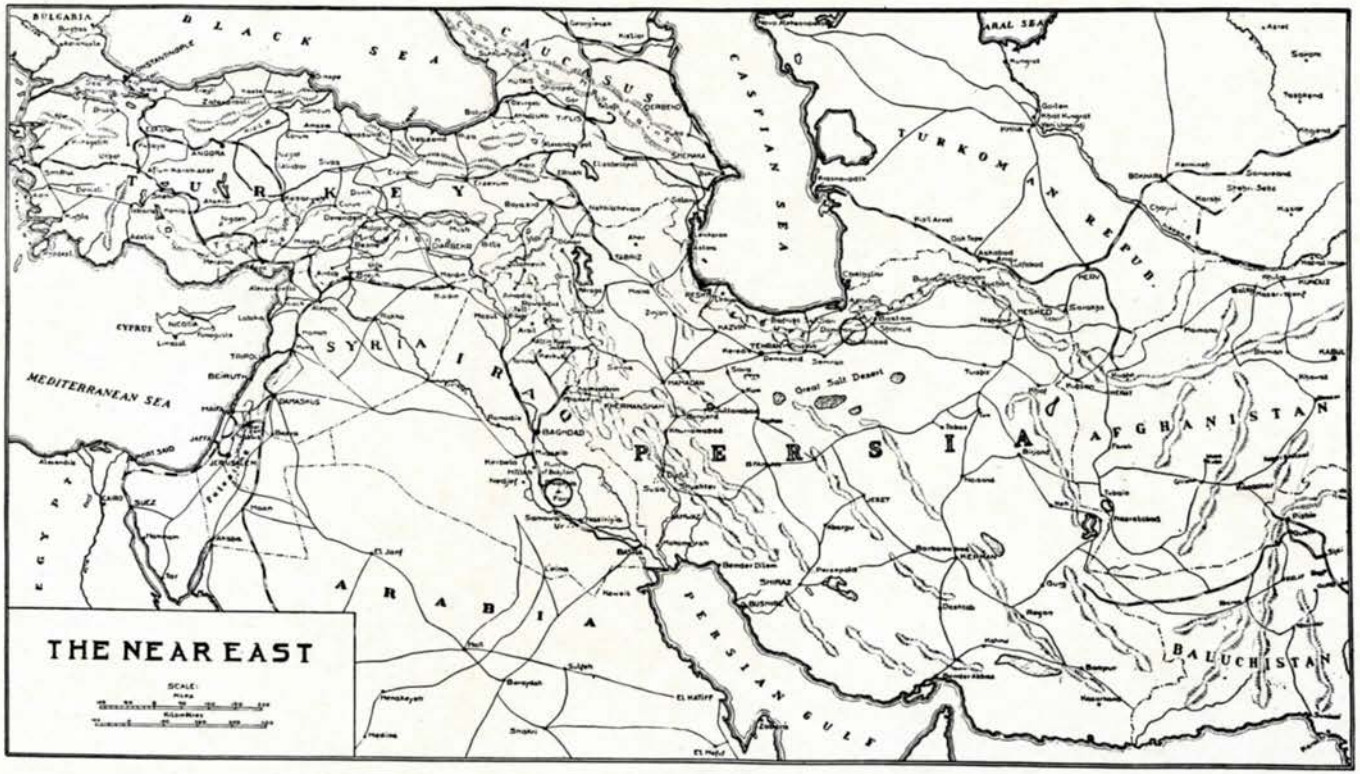
THE EXPEDITION

The Aims of the Expedition

It is the aim of every archaeological expedition to uncover remains of peoples and cultures of the past. They may be houses of the commoners, palaces of the rulers, or places of worship; modest domestic utensils and tools, or great works of art; weapons or ornaments; the remains of human beings and animals, or, more seldom, objects of floral matter. These remains combined enable the archaeologist to reconstruct a fairly complete picture of the material culture of past peoples. Many finds give him a glimpse as to the less tangible aspects of their lives. But only those advanced human groups that were able to perpetuate their thoughts by written characters decipherable to us, give us definite knowledge, through the medium of their inscriptions, of such features as social relations, literature, law, religious beliefs, politics, and, not to be forgotten, their very language.

As a rule, an archaeological expedition has one principal working focus from which minor activities radiate. In other words, there is a large scale excavation of an important mound, combined with explorations, and with soundings of other culture deposits in the environment. The excavation, if carried through in a mound inhabited for a considerable time, will give the vertical cross-section of the culture deposits and their 'guide fossils' by means of which the horizontal section, namely the settlement history of the entire region will be determined.

The aims of the Joint Expedition to Persia were two-fold. Paradoxically, the first phase of its activities was the test of a Tell in Mesopotamia, namely Fara [Plate LXXIV], supposedly the Sumerian Shuruppak. Our experiences at this splendid site and an extract of the results of the test



THE NEAR EAST—THE SITES OF FARA AND DAMGHAN ARE INDICATED BY CIRCLES

have already been described in these pages.[1] Our second and principal task was the excavation of Tepe Hissar, near Damghan [Plate LXXIV], in northeastern Persia, and the examination of the neighborhood for the location of the Parthian capital, Hecatompylos, and other sites. The organization of the two Philadelphia museums sponsoring the expedition required consideration. The University Museum is mainly interested in pre-Christian remains, while post-Christian sites, preferably Sasanian and early Islamic, are of major interest to the Pennsylvania Museum of Art. We could hope—according to Professor Ernst Herzfeld, who had traced the site and suggested it for excavation to the University Museum—to illuminate the Dark Age of Persia by means of the pre-historic remains present at Tepe Hissar. As to later remains of importance, the future had to tell whether they existed in the Damghan region.

Damghan and Its Environment

In a previous report to the Museums[2], we described the long trek from Fara in Iraq, across the Land of the Two Rivers, through the Zagros Mountains and the Gate of Asia to Teheran and Damghan. The hardy Ford truck carried the expedition material and ourselves, while a rented truck brought the tracks and lorries of a field railroad from Baghdad to the distant goal.

There is a spring called *Cheshme Ali*, The Eye of the Ali, in the foothills of the Elburz Range to the northwest of Damghan. *Cheshme Ali* is the life source of the town. Stop the little river running from this spring, and Damghan will turn into a low hill of ruins on the steppe, similar to many former settlements scattered in the neighborhood.

The impressive ruins of a citadel rise above the girdle of modern houses and gardens filled with fruit trees, poplars, and the like. The slender forms of two old minarets with Kufic inscriptions [Plate LXXIII], some *Imam Sadeh*—that is, tombs of descendants of the Prophet—and an important ruined building, *Tari(kh) Khaneh*, are the most interesting buildings, apart from the citadel.

The dilapidated character of the town-wall tells that peace had come, long ago, to Damghan, the history of which, dramatic at times, is told by

[1] *Museum Journal*, XXII, 3.
[2] Published in *Art and Archaeology*, XXXIII, 2, March-April, 1932.

A. V. W. Jackson in his book *From Constantinople to the Home of Omar Khayyam*. At the same time, the course of the town-wall suggests that Damghan has been more extensive in the past.

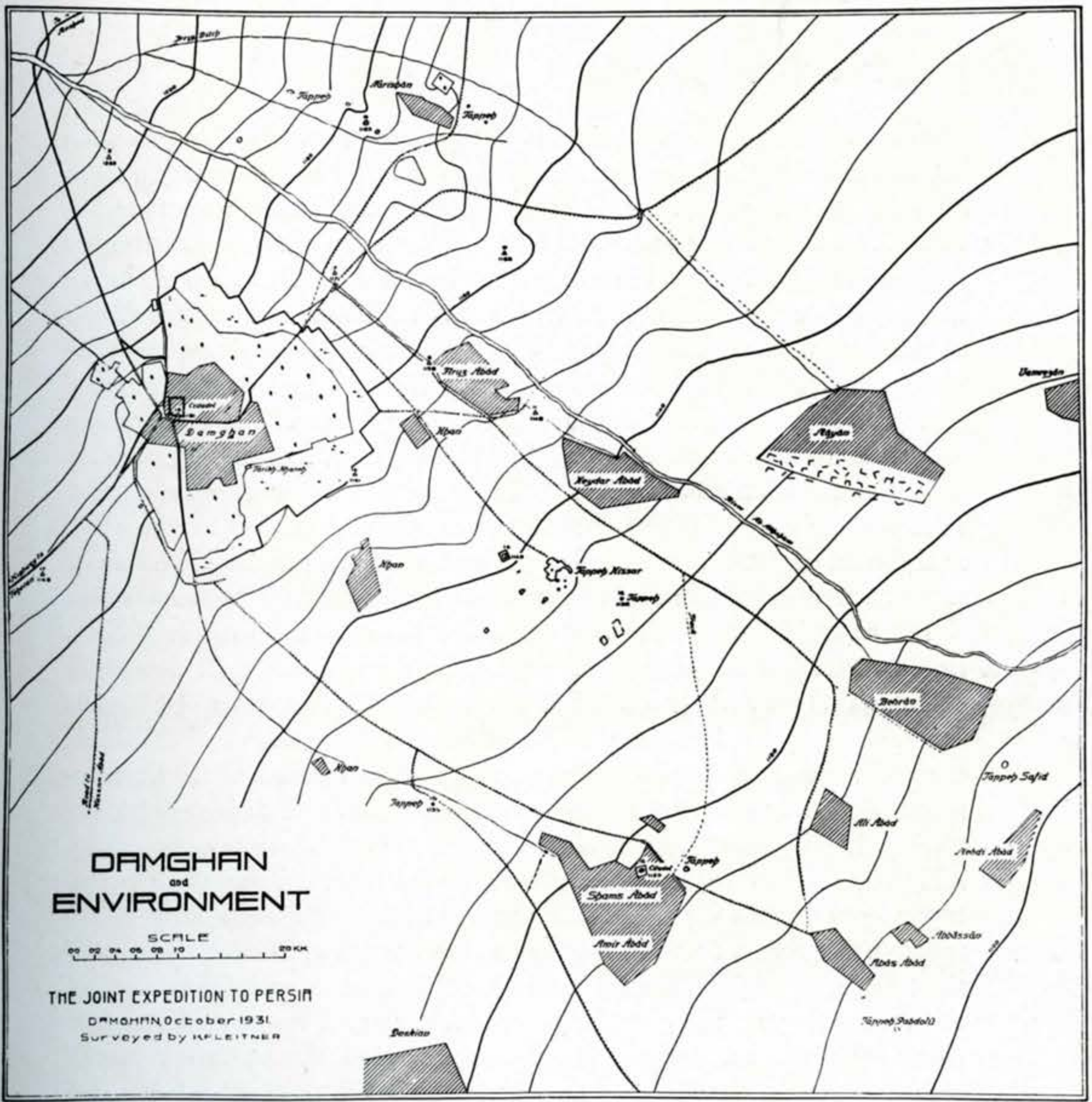
The manner of life of the Damghan people is the same as that in most small Persian towns. Business life is centered about a long, covered bazaar street, flanked by little shops, in which all the necessities of daily life are sold. But the Damghanians do not excel in those industries for which certain Persian towns are famous. Their looms were never known for their creations, their metal work is solely utilitarian, there are no painters of miniatures or masters in mosaic work. Architecturally, only the above-mentioned buildings of the past claim interest. Still, there is a pastoral charm about the town and its friendly people, with whom we became on good terms.

Cultivated fields, belonging mainly to big land-owners, and patches of steppe enclose the town. The plain is dotted with villages and compounds [Plate LXXV], most of which are enclosed by high outside walls. In many villages a crumbling fortress still reminds one of the former times of unrest.

In the north and northwest, the Elburz range rises abruptly from the plain, which is about 3900 feet above sea level. A supposedly difficult path leads from *Cheshme Ali* across to the province of Mazanderan, north of the mountains. We were told it takes three days on horseback to reach that humid and immensely fertile country. On certain days, when the Damghan plain is parched by the heat of the summer, walls of clouds tower above the highest mountain ranges; but in summer the clouds seldom reach the southern slopes. Mazanderan receives their rain. Not until late fall do the clouds sweep across the barrier and bring with them heavy rains, soon followed by snow and intense cold.

In the south, the steppe fades into the great central Iranian Salt Desert, the *Kavir*, inhabited at the rim only by wild asses, gazelles and the like. Man can not exist here. In the west the highway to Teheran (361 kilometers away) leads across a spur of the Elburz to Semnan, while towards the east the road ascends a gentle slope to Shahrud and Bustam to continue to Meshed, one of the places of Shiite pilgrimage.

The maps of the Damghan Region [Plates LXXV and LXXVI] indicate a number of sites, namely, flat ruins and small mounds. Many of these we have examined. Their period of occupation was defined by


DAMGHAN
and
ENVIRONMENT
SCALE
20 KM
THE JOINT EXPEDITION TO PERSIA
DAMGHAN October 1931
Surveyed by K. F. LEITNER
Damghan
Citadel
Firuz Abad
Khan
Khan
Khan
Heydar Abad
Tappeh Hissar
Tappeh
Tappeh
Tappeh
Tappeh
Bobrân
Tappeh Safid
Ali Abad
Shams Abad
Amir Abad
Abâs Abad
Deshiau

means of the surface sherds. Most of them are Islamic; some seem to be late pre-Islamic; while the only pre-historic site, so far determined, is Tepe Hissar.

Expedition Base and Personnel

Our experiences in the desert camp at Fara were more exciting than the life in the spacious Damghan house, but the latter was certainly a more adequate working base. In addition, it was considerably less expensive than a tent camp. Thus we preferred to live and work in town, whensoever the mound did not require our presence. While at Fara the truck had to carry all our water for a distance of 23 kilometers, in Damghan a swimming pool was in our very garden. In spite of the spaciousness of the museum and recording room, at the end of the fertile season it was far too small to accommodate all the finds from Tepe Hissar. The dining room was then filled with shelves and tables carrying the numerous stuccos from the Sasanian palace. The walls in the writer's room were covered with shelves on which lay about a hundred skulls and other bones of many more skeletons. Potsherds were spread on the porch; an additional small house had to be rented as a laboratory for restoring the stucco units.

The organization of the work remained virtually the same as at Fara. Derwood W. Lockard, as general archaeological assistant, took care of the office work. He surveyed most of the excavated plots, prepared burials for the description and removed the finished skeletons. Erskine L. White, the architectural assistant, surveyed the Sasanian palace with the accurate findspots of the hundreds of stucco elements, and described it technically. In addition he made the survey of Tari(kh) Khaneh, in Damghan, and the final drafts of the excavation surveys. Kurt Leitner, the Austrian topographer, made the painstaking survey of Tepe Hissar, a work of two months. He made, further, the plan of the Damghan Citadel, the map of the town of Damghan, the ten-kilometer quadrant around Damghan, and the archaeological map of the Damghan region. The task of the field director was, as usually, the general organization, the administration of funds, the recording of finds, burials, general architecture, and the combining of all information obtained by the staff.

In Damghan large scale operations required a steady photographer, thus St. Niedzwiecki, a Polish artist photographer, was employed. We

owe to him many excellent photographs. Towards the end of the season, however, it was found necessary to employ, in addition, a Russian assistant photographer, Mr. B. Dubensky, who proved to be an extremely useful technical worker. Our Russian artist, Ivan Gerazimoff, who was also architecturally trained, accomplished an extraordinary amount of work. He made hundreds of diagrams and design drawings of all the finds, water colors of the most attractive specimens, in addition to the hypothetical restorations of the Sasanian palace and the actual restorations of the stucco elements found in the palace.

Khatib Sadeh, a school master from Damghan, was the temporary agent of the Persian government, loyal to the latter and helpful to us. There was further the chauffeur-mechanic, Henry Bosauder, Baba Georgis, the head foreman, the foremen, Khalil, Seid Ali, and Golam Husseyn, a cook and servants.

Tests of Damghan Citadel [Plate LXXVII] and Tepe Muman

Professor Herzfeld had suggested excavations in the Damghan citadel in addition to Tepe Hissar. Technical difficulties, however—mainly the presence of modern buildings including the town administrative quarters —prevented us from more than testing a corner of the fortress. Five days after our arrival in Damghan we broke ground in the test square. At 5.10 meters below 0.0 we struck sterile rubble and the bottom of the culture deposit. We found that against our faint expectations, no pre-Islamic remains were present. Several occupational levels were defined. We found a number of Islamic coins, objects of bronze and iron, and some fairly well preserved glazed or plain lamps, bowls and pitchers of middle and late Islamic times. A valuable chronological series of glazed, incised and plain potsherds was obtained. The test was abandoned to be resumed during the second season in the town territory near Tari(kh) Khaneh, mentioned above.

Tepe Muman, an extensive deposit about 22 kilometers east of Damghan, was tested for one week, during an intermission of the work at Tepe Hissar. Again our hopes as to the presence of pre-Islamic remains were not fulfilled. Glazed and plain Islamic vessels of rather simple provincial type, objects of bronze, iron, and bone, emerged from the test plots. The objects of the Damghan Citadel and of Tepe Muman are very

PLATE LXXVII

modest indeed, compared with the splendid creations of the Middle-Islamic pottery makers, tile and metal workers of Ray and Saveh in the district of Teheran.

Topography of Tepe Hissar

Tepe Hissar—'Castle Hill'—is a low ruin mound about 3 kilometers southeast of Damghan. The total diameter of the site is about 600 meters, while the mound nucleus extends over an area of only 200 x 300 meters. The form of the site with its main complex, platforms, and outlying hillocks is well indicated by the map [Plates LXXVIII and LXXIX]. However, at the start of the excavation, this map was not yet at our disposal. A mental survey obtained by frequent combing of the surface had to suffice. The ideal manner of beginning an excavation requires an accurate map before the start. The reading of the map, combined with the surface examination by the excavator, dictates his moves. There are two main clues which guide the archaeologist in attacking a mound: the distribution of the pot fragments on the surface and the topography of the site. We may consider the results of both surveys at this point, although they actually belong in part to the chapter on excavation methods.

At first glance it was evident that the site had suffered considerably through the effects of water and wind, and to a lesser degree by human hands. The outline of the main complex has not the smooth edge of well preserved deposits. Deep lateral and vertical gullies are cut into the hill. The complex is actually split in two by a deep gulch in Quadrant CG. Naturally, it followed that considerable denudation had taken place, destroying particularly the margin of the originally settled area, and diminishing the volume of the latter.

In the remainder of the main complex (roughly, Quadrants DF, CF, DG, CG, and CH), we at first distinguished two topographical steps: the pronounced elevation in general and the slightly raised 'flat' situated mainly in the eastern part of the Quadrant DG and in Quadrant DH. The topographical conditions were roughly paralleled by the distribution of two categories of pottery: gray ware prevailed on the elevations, painted pottery predominated in the flat. The dens of jackals and other denizens of the mound proved to be of great assistance during the surface survey. In front of those holes, situated at elevated points, gray sherds were

PLATE LXXVIII

lying, while painted sherds had been thrown out of the lower dens. At certain points of medium height, the two wares were thoroughly mixed. These results of the surface examinations gave us the first clues as to the composition of the site. They suggested definitely that a stratum characterized by gray ware is superimposed on a deposit defined by painted pottery. The subsequent excavation verified these conclusions.

Not until the excavation had far advanced did we find that we had overlooked another clue suggested by the topography of the main complex. We had considered the entire elevated area as one step, though we spoke of the 'main mound' while referring to the highest elevation situated in the northeast corner of Quadrant DF and in the adjacent plots. This main mound actually proved to be the third step of the tepe formation, while the extensive lower terrace situated north of it seems to represent mainly the second phase of the tepe's growth, though buildings of the third period may, of course, be present.

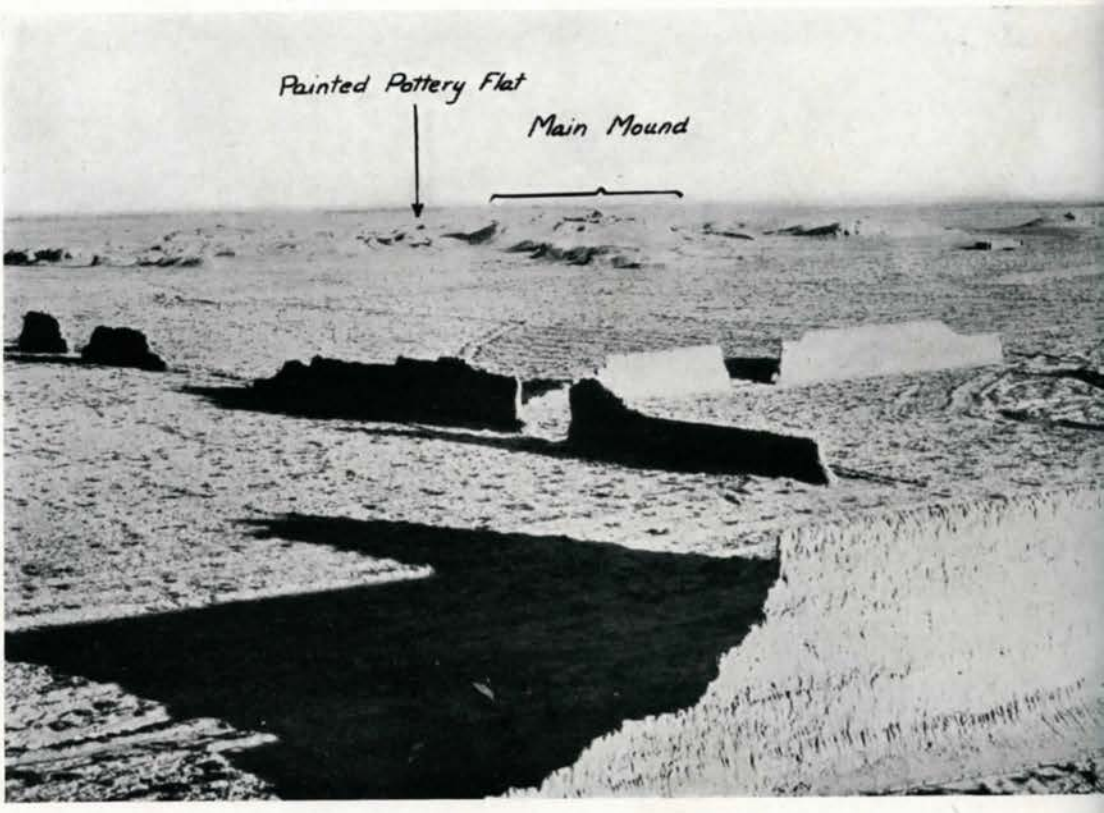
The surface pottery and, to a certain extent, the map both indicate that the culture deposit of the main complex extends for some distance into the plain towards the south and the west. It extends certainly as far as the ruin hillocks in Quadrants EG and EI. These hillocks are capped with culture refuse containing gray pottery, but the substratum always seems to contain painted ware. This composition is particularly pronounced in the interesting Twin Hillock of Quadrant FF.

We turn finally to the low mound, situated mainly in Quadrant FD. There was nothing significant about its topography. A few glazed Islamic sherds lay on the surface, in addition to some gray reddish, and even painted fragments. There were also lumps of badly weathered gypsum, some showing traces of ornamental markings. We called the little mound 'Islamic Hillock', but we were wrong. It proved to cover a remarkable Sasanian building constructed on top of pre-historic deposits.

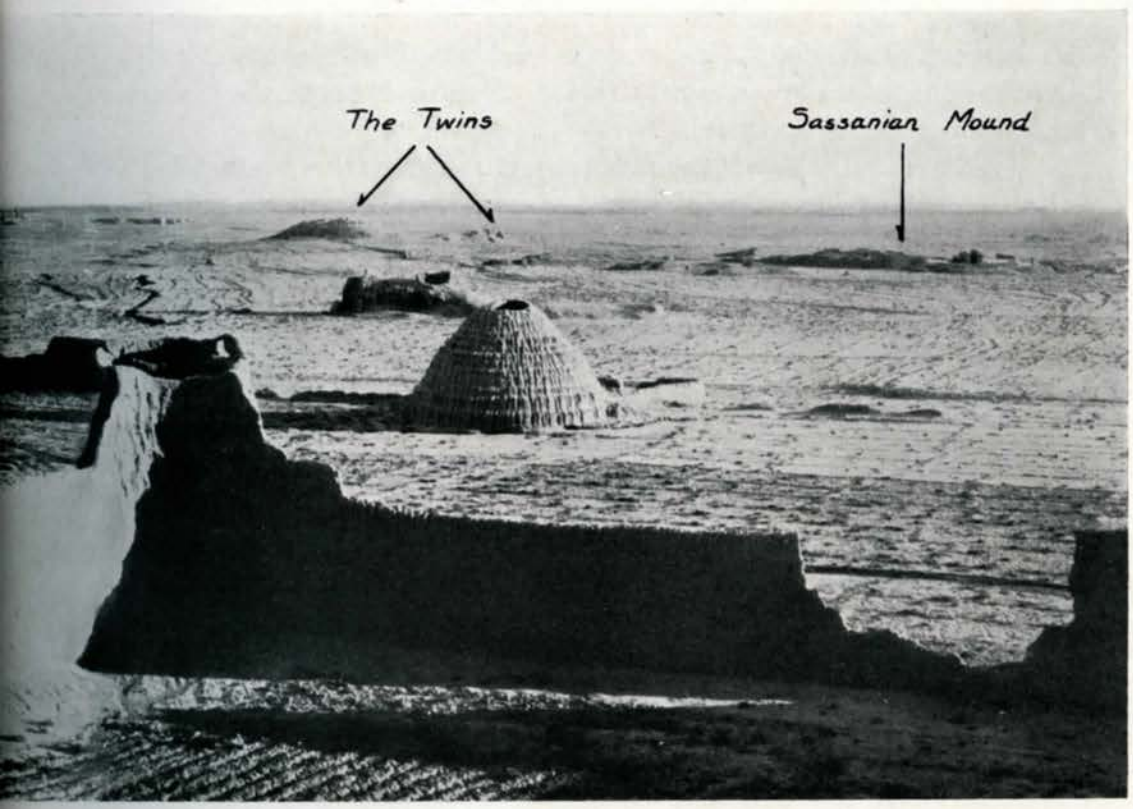
The ruined Qala in the northwest corner of the map is, of course, a late Islamic construction, perhaps not older than a few generations. It is no object for archaeological research.

Tactics and Methods

In the preceding section we interpreted certain topographical features which decided to a large extent our excavation tactics. At first we concen-



PANORAMA OF TEPE HISSAR, LOOKING SOUTHEAST, AS SEEN FROM THE ISLAMIC QALA


The Twins
Sassanian Mound

trated solely on the elevated deposits characterized by the gray pottery. In order to determine those points most fertile as to information and objects, we advanced in loose order and attacked the most prominent sections of the main complex. So far, our tactics were identical with those applied at Fara. However, this first phase of the work lasted only two weeks. Ten squares, that is, one thousand square meters, had been tested to various depths within the stratum of the gray pottery. The purpose of the soundings was fulfilled. The main mound tested in Plots DG10 and DF19 had proved to be extremely fertile, the results surpassing those obtained in the other test plots.

Now the excavation crystallized. The scattered crews were united for the excavation of the most prominent section of Tepe Hissar. A hundred and sixty men were thrown on the main mound. On two tracks the lorries of the field railroad worked full speed to remove the dump dirt, which would otherwise prevent expansion of the excavation.

The twin hillock in Quadrant FF seemed to be ideally fitted for sectioning, promising clean-cut, superimposed layers of culture deposit. A part of the crew was therefore detailed to truncate the higher of the 'Twins'.

Conscientiousness, rather than enthusiasm, induced us to detach one more unit of the crew for the investigation of the recent looking hillock in Quadrant FD. But, after a short time, the inconspicuous mound became the second focus of the operations at Tepe Hissar. The test proved the presence of an important Sasanian building filled with remarkable stucco ornaments. Thus, when the excavation of the main mound was paralyzed by a great number of burials, the entire crew was gradually drawn to the 'Sasanian hillock', which was uncovered in its entire extent.

The last phase of the operations of Tepe Hissar during Season 1931 consisted of the test of the painted pottery stratum [Plate LXXX], following the short test of Tepe Muman. The preparations for this last spurt of the season were particularly thorough. The 'Painted Pottery Flat' and the depression splitting the main complex in Quadrant CG were spanned with a net of staked excavation squares. As usual, white ropes bordered those selected for the first tests.

It had been our original aim to section the main complex from the highest point to the bottom of the culture deposit, at least in one square. This intention could not be carried out without neglecting the burials.

Thus we had to apply 'indirect sectioning' by examining step-wise those points where the earlier deposit cropped out from below later accumulations. The topography of the painted pottery flat and the depression in Quadrant CG fulfilled the requirements for the examination of the earliest stratum. But before throwing the entire crew on these points, we verified our assumptions in the test plot CG 95. Below a thin deposit of gray pottery we found here the first burials supplied with the attractive painted vessels of the earliest Tepe Hissar stratum defined so far. The surface had told the truth.

From the Sasanian palace the tracks and the lorries of the field railroad were carried to the painted pottery flat, where the dust rose above the last excavations of the season, carried through with more than 200 men. In addition to finding many well-supplied burials and architectural remains of the earliest period (Hissar I), we succeeded, at last, in definitely dividing the deposits characterized by the gray pottery, into two distinct groups, Hissar II and III.

The actual excavations stopped on November 6th. The remaining burials and architectural remains, and the removal of the dump dirt continued. The subsequent months were spent in making the work of the season complete. There were the actual and theoretical restorations of the Sasanian palace and its ornamentation, the final drafting of maps and plans, the drawing, painting, and photographing of many hundreds of specimens, the scientific description of the vessels and all the other objects, and, finally, the combining of all information obtained.

The methods of excavating and recording were about the same as those applied at Fara, and described in the preliminary report on our work at that site. But there were less handicaps at Tepe Hissar, and work proceeded, therefore, more systematically.

At the start of the excavation the map of the site was not yet available. Thus an arbitrary center was fixed on the main mound (northeast corner of Plot DF 09). Through this point north and south, and east and west, lines were run and subdivided into hundred-meter sections. Then the main complex was spanned with hundred-meter quadrants and the ten-meter squares covering the desirable test points were staked out. (A plot, for example, DF 09, is determined on the map as follows: D defines a west-east series of hundred-meter quadrants, F a north-south series. DF, therefore, is the quadrant common to both series. 0 marks the west-east

row of ten-meter squares in quadrant D; 9 defines a corresponding series in the north-south quadrants below F. Therefore, 09 is again the ten-meter square common to both series within Quadrant DF.)

While the soundings proceeded, the entire ruin area was subdivided into quadrants. Each corner was marked by long, heavy stakes fixed by rocks and rubble. Their tops were left flush with the surface and covered with dirt cones for rapid identification of the points where they were buried. Thus, it was a matter of minutes only to define any square desirable for excavation, at any point of the site. Then, after the net of quadrants had been staked, the topographical survey started. We chose half-meter contour intervals in order to show the faint, though often significant irregularities of the surface. The survey was fixed by four cemented bench marks (BM 1-4). The elevation of BM 1 was arbitrarily determined as 10.0 meters. While the surveys of Tepe Hissar, the Sasanian palace, the Damghan citadel and the other topographical maps, were made by means of a transit, small, handy traverse tables were used for the surveying of most of the excavated structural remains, burials, and the like. A large level and a small one were used accordingly, while a Brunton pocket transit was employed as an auxiliary instrument on reconnaissances and the like. We may mention, at this point, that our Zeiss cameras, Universal Juwel, sizes .09 x .12 and .13 x .18, stood up splendidly under the strain of two seasons. There were, further, several .06 x .09 cameras, as steady companions of the staff members.

The technique of excavating was about the same at Fara and at Tepe Hissar. But in Mesopotamia, basket carriers removed the dirt from the excavation squares, while at Tepe Hissar shovel men threw out the dump dirt to be carried away by the railroad cars, as fast as conditions allowed. The depths of the finds and excavations were measured from stable 'naught-naughts'. Important specimens were entered in the newly acquired plot books, in which printed squares were subdivided into a hundred sub-squares, each marking one meter. In the same book a system of subdivided quadrants showed the daily stand of the operations.

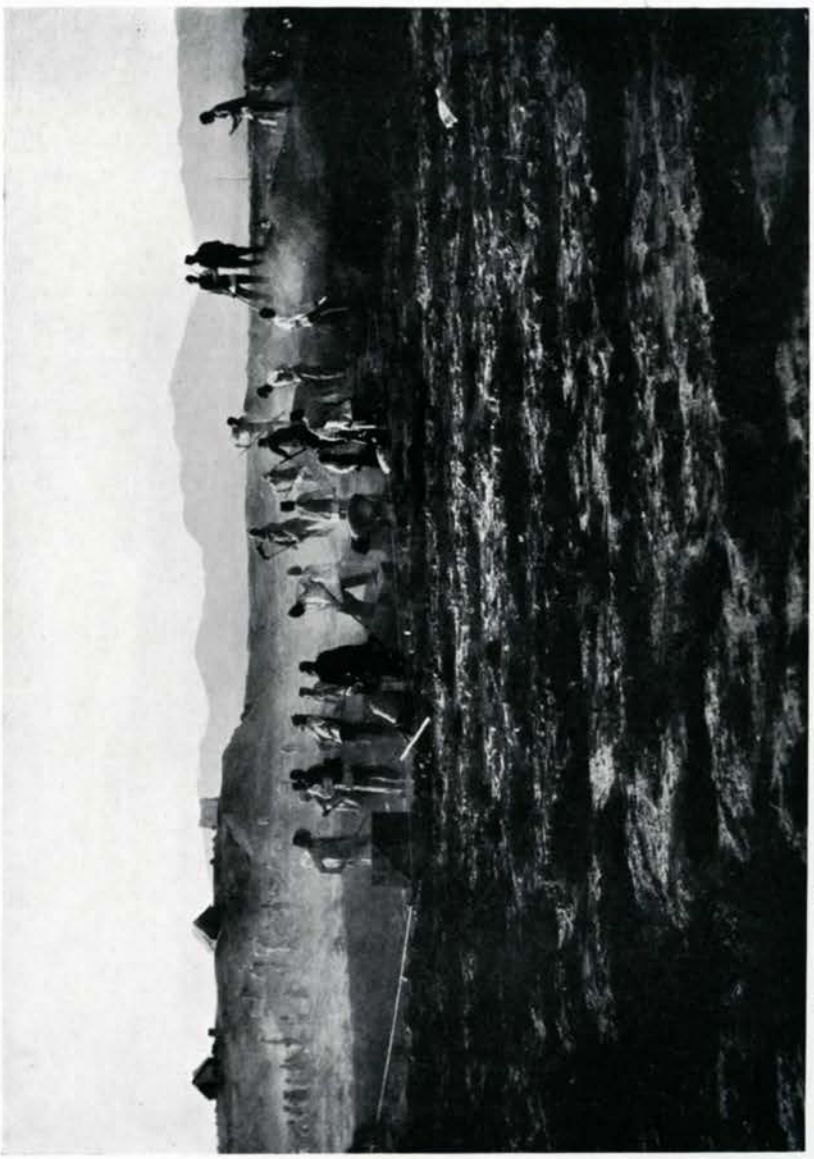
Determining the Succession of Cultures at Tepe Hissar

The full story of Tepe Hissar cannot be told until the publication of the second and final campaign of 1932. New information and new

objects were found to fill the gaps. Puzzling problems were solved and new ones arose. Furthermore, large areas of the mound remained to be explored at the close of 1931. But our experiences of the first season allow us at least to draw a sketch interpreting certain features, and to present the objects on which our information is based.

Pottery vessels were, as usual, our principal guide fossils, supported by most of the other categories of finds, which include glyptic, metal objects, stone tools and vessels, figurines of metal, stone, and baked clay, bone tools, whorls, and miscellaneous pottery objects, beads and pendants, stucco ornaments, the remains of human beings and of animals, and the architectural remains.

Features such as the relative position of the finds within the mound, pronounced differences of form, material, and the like, and the absence or presence of certain categories of remains defined the culture strata of Tepe Hissar.



START OF WORK IN THE PAINTED POTTERY FLAT—MAIN MOUND IN LEFT BACKGROUND