Excavations at Susa (Persia), 1930-1931

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The ruins of ancient Susa, prior to the Achaemenid period (sixth century B.C.), are shaped like a square, each side of which is 700 metres long. The angles face the cardinal points. The southern angle is however prolonged by an external mound, which M. Dieulafoy has called the ‘the Dungeon’.

The acropolis of Susa occupies the main portion of the northwestern side and we are continuing there the systematic exploration inaugurated by M. de Morgan. This year we widened and lengthened a trench which last season had reached the natural soil, and here we found a big ditch dug in the middle Elamite period. It was 8 metres wide, and 6.25 metres deep; we excavated 10.25 metres of its length without reaching its other end. The sides were covered by raw (sundried) bricks, which in some places were protected by thick walls of kiln-fired bricks. Some of these burnt bricks have cuneiform inscriptions recording the dedication of Elamite temples. In the silting of this ditch we found fragments of arragonite vases, often inscribed with the names of the Achaemenid sovereigns Xerxes and Artaxerxes, and fragments of horns and ears of the stone protomas of the bulls forming the capitals of the columns of the Apadana. It seems that this ditch was originally a tank of water, belonging to the Elamite temples of the God Shushinak and of the Goddess Nin-Har-Shag. Water was brought into the tank by means of an aqueduct. The ditch was filled up gradually during the post-Achaemenid periods (Parthian and Sassanid). The fact that the ground surrounding the ditch corresponded to levels anterior to the third millennium B.C., was very perplexing until the real nature of the ditch was fully ascertained. However, during the course of clearing the remains we found a fragment of the pedestal of a Sumerian statue, chiselled out of a blue stone. Judging from its style it can be dated to the period of Agade, 2700 B.C. The fragment has a bas-relief representing the busts of two bearded men, probably the followers of the king. They are bare-headed, the
hair is abundant and is gathered on the neck in a long thick lock, whereas two long tresses are wound round the head and brought to the forehead, and fastened together in a knot. They are represented in profile, with eyes almost de face, long-nosed, thick-lipped, and long-necked; the beards are long and pointed, and descend to the line of the shoulder. One of the men seems to be clad in a tunic; his fore-arms are raised upwards, and his hands rest on the chest; he is perhaps a servant. The other wears a fleecy garment, which leaves the right arm and the chest bare; the position of his arm shows that he is carrying a weapon.

The section of the rest of this trench was regular. On the top we found the unpainted pottery of Susa II. It was represented by vases with a spout, craters with four protuberances, having lateral holes for suspension. These vases have a red slip and are decorated with designs in relief. Some have twisted handles, others are without slip, and decorated with incised geometrical designs. This level seems to belong to the beginning of the period of the Awan dynasty of Susa, which flourished about 3100 B.C. Beneath it we found another type of pottery, represented by vases made of coarse but well-baked clay; vases with round bottoms and wide mouths, small jugs with long open spouts and with long pierced handles, large and small vases with twisted handles. There were also sickles of burned clay, stone hammers and axes, and flat seals. With the exception of one double-axe and small awls with handles of
hardened bitumen, copper implements were rare. Moreover, we found here two awls and a stiletto made of gazelle bone, some with primitive drawings (fig. 3).

During the season 1930, about fifty of these bone implements were found; complete drawings of them were published by Rev. Father Scheil in *Revue d'Assyriologie*. Four of the more interesting examples are reproduced here (fig. 1):—(1) the figure of a man standing picking from a tree and followed by a small fox (?); (2) a gazelle, a man, and a fowl; (3, 4) men on horseback.*

Below these levels, the depth of which is 8 metres, corresponding to different civilizations which we are unable to determine, we came across another level, 2 metres thick, where we found fragments of painted pottery of Susa 1, together with others of a red slip-ware. The latter, though remarkable for its technique, was without any decoration whatsoever. This pottery was found in the deep trench opened by M. de Morgan just above the painted one. But it was not possible for us to ascertain whether the painted and the unpainted pottery found in our trench were contemporary. The one nearly complete painted vase was a goblet of middle size. It was decorated with the figures of three poisonous snakes (fig. 4.1). There was no trace of copper in this section, but we found button-shaped seals of stone or bitumen with primitive engravings, and small clay figurines of animals, such as wild goats, dogs, rams, and birds; they were sometimes decorated with coloured dots. In this trench we came to the natural soil at a depth of 10 metres.

In an ancient well 5 metres deep and protected on the inside with big broad rings of earthenware, we found, bead by bead, a necklace of carnelian, agate, and other semi-precious stones, two small, nicely chiselled and well-finished figurines of lions, in carnelian, forming its chief ornaments. It was dated to the third dynasty of Ur, about 2300 B.C.

Discoveries resulting from systematic exploration of the Acropolis are too scanty to justify the employment of all our resources. During the last eight years, therefore, we have been exploring the southwest part of the ancient town (fig. 5). The mounds on this side are as high as the Acropolis was, viz., about 25 metres above the level of the plain. They are separated from the latter by a ravine, probably the bed of

* The great cultural importance of this discovery will at once be apparent; it is the earliest evidence of the domestication of the horse.—Editor.
an ancient canal. The town-wall on this side measures about 500 metres in length. We have ascertained that on this side there were three ancient mounds, separated from one another by ravines, and connected by gates. Their diameter, measured at the height of approximately 12 metres from the level of the plain, is about 50 metres. They are artificial, i.e., composed of the tombs, belonging to different periods, which are actually lying over one another in regular succession. Remains of buildings, perhaps small sanctuaries, wells, and potter’s kilns are generally found in these cemeteries. During the Achaemenid period the tops of these mounds were very often levelled for building purposes, and this practice was continued up to the time of the Abbassides. A few Achaemenid ruins exist here; they are the foundations of buildings in which a thick layer of gravel was employed, and a few square feet of a red-coloured pavement like that found in the palace of the Apadana.

There are many vestiges of the Sassanid epoch. We excavated long thick walls of raw bricks, and several small rooms. The importance of the houses is shown by the great number of drainage-wells sunk under the ground-floor. At the top of a well, big jars, at least three, are placed, their bottoms buried in the ground which forms the inner side of the well. They are placed in a slanting position, so that their mouths touch one another, exactly above the centre of the well; a square brick with a sufficiently big hole is placed over the jars to facilitate the flow of water and the space left between the jars is filled in by raw bricks. We noticed that near the mouths of these wells children were buried in jars, or sometimes in small sarcophagi of burnt clay. Vases of burnt clay, with or without glaze, were found near these tombs; they were bowls, water-flasks, and lamps. Near the skeletons there were beads of carnelian or glazed paste, small dolls of carved bones, and sometimes copper coins. Tombs of adults were almost absent on these mounds, as the Sassanid cemetery is situated outside the town.

Ruins of Arab construction, generally on the surface of the mounds, are very numerous. Old materials were always in demand and re-used for new buildings. We made plans of many such buildings, but not much of interest could be deduced from them. It is certain that the entrances of houses were often indicated by two columns built of large bricks, and coated with plaster, and the inner rooms were narrow; the walls had a coating of plaster; and on the façades coarse geometrical designs were often painted in black and red.
The houses had cellars, and sometimes flights of stairs leading down to a well. When one well was filled, it was necessary to sink another. Fragments of glazed and unglazed vases were found in them, some of which were of interest (fig. 6). On the summit of the mounds this level of the Arab period is about 4 metres thick, and in the space between two mounds it is more than 8 metres thick; the level of the relatively recent ruins is still lower in the interior of the town. The burial-mounds of the southwestern border of the town formed a regular rampart round it. On their summit a fortification was erected, but the principal fortification of the town was the mounds themselves, formed in the course of several centuries by the superimposed ancestral graves.

During this season we explored two of these three cemeteries. Their upper level contains Neo-Babylonian tombs, and below them are those of the last Elamite epoch. These tombs differ from one another only in their grave-furniture; otherwise they all have the same inner arrangement. The dead body was laid either on the bare ground, or in jars, or in vast vaults, constructed with raw or burnt bricks.

In the tombs were found vases (fig. 4.2) with or without glaze, sometimes good phials of moulded and coloured glass, copper implements, copper vases, copper arms, rings and amulets, a few trinkets, especially necklaces of carnelian beads, and figurines of burnt clay. Below these were tombs of the middle Elamite period, the burials being in jars and vaults (fig. 7). The latter were as a rule smaller than those mentioned above. Inscribed cuneiform tablets, mostly commercial contracts and school-exercises, were often deposited in them. Occasionally models of human heads, of unburnt clay, with traces of paint or gilding were found. They were perhaps placed in the vault at the time of the second inhumation as substitutes of missing or much disfigured heads. The man is represented with a straight nose, thin lips, and curled hair and beard, whereas the features of the woman are similar to those of small dolls of the same period. Nevertheless we must admit that as early as the twelfth century B.C. Elamite artists were skilled in reproducing human features almost life-size. In the first period of Elam, 1500 B.C., the vaults were generally for one person; sarcophagi (fig. 8) of burnt clay, shaped like a bath-tub and covered with a lid, are sometimes found, whereas during the period from the twenty-fifth down to the fifteenth century they were regularly used. During this latter period we found no funeral vaults but only burial...
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jars. In the earlier period bodies of children were wrapped in matting and buried in the ground. Although clay tablets, seals and cylinders are found there is nothing by which to identify those buried in the tombs.

In one trench, which contained many tombs dating from the twenty-fifth to the fifteenth century B.C., were found balance-scales and weights which seem to indicate the burial of merchant-traders. The weights are of polished stones, hardened bitumen, limestone, hematite; occasionally of quartz and agate. They are shaped like elongated ellipsoids, like ducks and sometimes like frogs, insects, or shells. Inscriptions or marks indicate their value; the mine, sicle or small mine. Large weights are multiples of the mine or the sicle; the small ones are multiples of the grain of corn or barley. There is no doubt that the ellipsoid form of the weights is derived from that of the grain. The duck-shaped Chaldean weights are very difficult to explain, but we find onomastic relations between the duck or the goose and the denomination of weights or the action of weighing, e.g., the unit of weight in Persia is the butman and but means ‘duck’ in Arabic; vas in Arabic means ‘goose’ and vazana means ‘to weigh’. The oque is another unit of weight in the East, Iraq and Syria, and the word signifies ‘goose’.

In this level was found an earthen pot filled with small ingots and bits of silver wire, silver bracelets, six pairs of earrings, and two heads of walking sticks. The bracelets are large open rings with several engraved notches. The earrings are shell-shaped, and have sockets for inserting semi-precious stones. The head of one of the sticks is like the knob of a round mace; the other is shaped like the head and neck of a bird, with a tuft of feathers (fig. 9).

In the lower level we found rectangular pits used as graves—1 metre by 2 metres. The body was placed between two mats; vases of clay, copper, and arragonite were lying by the head and at the side of the body (fig. 10). Among the types of pottery, commonly found in this level, we may mention high, conical, and wide-mouthed vases, with a base (fig. 2). We had already found similar vases in tombs of the twenty-fifth century B.C. in the upper level, but these had flat handles on which a human bust was roughly indicated. Vases with similar handles are known from Kish, which M. Watelin, director of excavations, attributes to the Agade period (fig. 11). We attribute them to the fourth and fifth dynasties of Uruk. The copper vases have complicated forms and show that coppersmiths possessed a far
greater skill in the handling of the material at their disposal than the potters. Stone vases are represented only by coarse bowls. Copper arms include lance-heads (fig. 15.1), formed out of a single piece of metal with square sections, and fastened in the wooden shaft by means of a nail driven through it transversely (the shaft was further strengthened by winding around it a copper band); javelin heads with a central reinforcement; arrow-heads (fig. 15.10), made like javelin-heads or cut in a piece of metal, sometimes with two points; daggers

(fig. 16) with a small tongue fixed in the wooden handle with two rivets; blades of daggers, made of two thin pieces of metal covering a shaped piece of wood between them—these pieces were found joined together by the copper oxide; axes (fig. 15.11, 12, 14) with the edge parallel to the ring through which the handle passes (these rings are without decoration, although they are contemporaneous with the axes found at Nihavand and in Luristan). Copper mirrors were also found. The mirror is a round flat piece of copper, well polished, with a small tongue, by means of which it was fixed to a handle (fig. 15.6); on one side can be seen traces of a piece of matting, which was probably
Fig. 3. AWLS AND STILETTO MADE OF GAZELLE BONE, WITH PRIMITIVE DRAWINGS
Fig. 4

(1) Painted vase with figures of snakes, Susa
(2) Vase of moulded glass from tomb at Susa
Fig. 5. SOUTHWEST VIEW OF THE RUINS OF SUSA
Fig. 6. DECORATED CUP, SAMARA WARE
PLATE VI

Fig. 8. SARCOPHAGUS OF BURNT CLAY, SUSA
Fig. 10. VESSELS OF CLAY, COPPER, AND ARAGONITE PLACED WITH BURIAL, SUSA
PLATE IX

Fig. 11. VASE FROM SUSA
PLATE X

Fig. 12. Wooden shield covered with hide studded with copper nails, with short copper rod for handle.
PLATE XI

Fig. 13. FUNERARY VASE, SUSA
Fig. 14. CAPITAL FROM ACHAEMENID PALACE, SUSA
FIG. 15. ARTICLES OF COPPER FOUND AT SUSA

1, Head of Lance. 2-5, Pins and needles. 6, Mirror. 7, Armlet. 8, Ring. 9, Silver amulet. 10, Arrowhead. 11-12, Axes. 13, Head of javelin. 15, Toilet requisites. 16, Pin. 17, Hoe
inserted in a wooden frame. There are also rings, earrings, and bracelets of copper; and small horns of copper with the necessary toilet-implements made of the same metal (fig. 15.15). These horns were found in graves of both men and women. The toilet implements include small pins with pointed or blunt ends, tied together with a small copper ring, each for a special use; a pair of pincers for plucking out hairs, needles for tattooing, and palettes for applying colours to the face—black and yellow colours were actually found in bivalve shells. There were many cylinder-seals in the graves, but no well-preserved examples owing to the humidity of the ground.

On another site there were graves with painted pottery, similar to that of the Acropolis and the Apadana. The disposition of the bodies and the grave-furniture was the same. The copper implements are the same, though there were copper ewers, with very long open spouts and wide mouths. For the first time shields, made of wood covered with hide fixed on its periphery with copper nails, were found. The nails have conical heads so closely driven in the wood that there was hardly any space between them. The shield (fig. 12) was oval and measured .77 metres by .68. The handle was strengthened by nailing a short copper rod to the wood, on the small axis of the oval. The wood had completely perished, leaving only a white trace with fibrous lines on the ground, whereas we could recognize the leather in the brownish mass which it had become. As the impressions left in the ground by the perishable material of the shield were very faint, we think that its covering in the middle was perhaps made of matting and leather; but the diameter of the nails, .025 to .03 metre, and the curve of the copper handle, show that the frame was about 4 centimetres thick. We may note here that in 1922 we found on the Apadana an object which we then supposed to be the outer copper rim of a wheel of a wooden car. The rim was in six parts, forming together a circle with the diameter of one metre; every one of these parts had three copper projections like nails fixed to it by rivets; by means of these projections the copper rim was fixed to the wood of the wheel. Bits of wood were still sticking in the groove of the rim and around the projections. A copper wire, curved outwards at its extremities like a hook, and having a ring tied with a thin wire in its middle, lay on the rim. At the time of the discovery we could think of no other purpose which this object could have served but that of the wheel of a small car, and we took the curved wire for a part of the harness.
Fig. 16. 1, Head of javelin. 2, Blade of dagger. 3, Stiletto with lapis-lazuli head. 4, Dagger.
We are now of opinion that this object also was a shield with its handle. This circular shield was of the twentieth century B.C. This season we found three shields like that described above.

The funerary ware of the graves of the lower level comprises big vessels of yellow clay, decorated with a twisted band and with a small protuberance on the shoulder, and painted pottery. This season we came across two new designs in the upper levels—found in tombs of the 20th century. They are small vases, one of which is decorated with a serpent, the other with a line of dots between two bands. Nevertheless this fact remains exceptional. Underneath this level in the tombs of the 23rd century there were vases with wide mouths and necks painted red. In still lower levels there is similar pottery: bowls of red clay decorated with undulated lines, and small bottles painted with geometrical designs. Such vases were found on the Apadana. In the graves referred to painted pottery is general; the vessels are big craters with four knobs with lateral holes, conical vases without a base, and bowls with a conical base (fig. 13). Generally the colours are not fast and are easily washed away. They are often found sticking to the damp earth, when the vase has been removed from it. The colours are red, black, and white, and all three are often used on the same vase. The designs are generally geometrical, but figures of birds, eagles and ducks, and fish occur.

Below these graves nothing else was found but a few fragments of red slip-ware pottery, and below that the natural soil. This red ceramic is most probably analogous to Susa II, found up to now only on the Acropolis. Susa II bis would probably be contemporary with the Agade period, about 2700 B.C. From the results of our exploration of the Royal City we are not sure whether we should find anywhere else, except on the Acropolis, the still undiscovered tombs of the period intermediate between Susa I and 3000 B.C.

Since 1929 we have been investigating the summit of the 'Dungeon'. This season we worked intensively on this point and cleared it completely down to a depth of 2 metres. This work brought to light floors of Sassanid buildings, oriented south and north. The main western entrance was marked by two square bases of brick columns, on which a torus was discernible by traces of plaster. The external wall was on the very edge of the mound. The earth beneath the foundations of this wall was prevented from sliding by placing in a vertical position long Parthian jars filled with earth one on top of the other in two or three rows (according to the nature of the mound),
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exactly as nowadays trunks of trees are employed for a similar purpose. The walls were completely destroyed. We observed, while digging 50 centimetres underneath the flooring, that the original plan of the building was modified five times. On the south side we cleared a square hall, about 8 metres long on each of its sides, with two entrances, one to the north, the other to the west. The breadth of the gates was marked by big stones, supporting the door-hinges. Three of these stones were originally bases of columns, whereas the fourth was a fragment of a cornice; all these stones are evidently Achaemenid. They were placed in the holes destined to receive them, and the space between them and the sides of the hole was filled up with debris, among which were two fragments of marble figurines in the Parthian style. One of them is a bust with a well-preserved head. It is a rare find in Susa. The ceiling of the hall was supported by four columns. We continued our excavations 1.8 metre under the flooring, and discovered the foundations of thick walls of raw bricks, dividing the square in small rooms, which served perhaps as vaulted cellars of the original Parthian building. The Sassanid floorings were of burnt bricks, covered with a coating of plaster which was sometimes coloured red. On the floor were the two big bases of columns in limestone, with Greek graffiti, which were discovered by William Loftus in 1851. An entrance to a gate was marked by two capitals of Parthian columns, another by two small bases of Achaemenid date. One of these had trilingual inscriptions of Xerxes; one big base of a column of the same period was inscribed by Artaxerxes Mnemon and was in the hall called by him 'Paradayadam'. The most curious debris of the Achaemenid palace, thus re-used, is the big capital of a column (fig. 14). Its upper part was square; it had a round shaft, decorated with a ring of big knobs between two rows of beads, from which descended curvilinear flutings; the lower part of this capital is missing. An aqueduct, roughly traced with big slabs of marble, gave us a few Greek inscriptions; a rectangular slab was decorated on all four sides with low reliefs, unfortunately much damaged, representing a city-wall with battlements and turrets, and a gate on each of its two broad sides. Further, two fragments of limestone statues were found on the pavement. As they are very roughly executed, we suppose that they were probably coated with stucco and painted. One of them, about 70 centimetres high, represents a man, barefoot and standing; he is clothed in a long tunic, a mantle covers his back; the latter is held on the shoulders by a kind of
scarf, which, passing under the left shoulder and thence around the waist, comes again in front, where it is fixed on the right shoulder; the right hand and the arm are raised in the gesture of benediction; the left hand is closed, showing a small hole in the fist, in which an object was fixed by means of a metallic wire; the head of the statue is missing. This statue looks, in fact, like that of a Christian saint, and it is quite possible that the building may have been a church, erected on the site of an old Seleucid temple or of the citadel. The other fragment is a torso of a similar statue, with the arm covered by a scarf thrown over the shoulder. These fragments seem to be Sassanid.

Beneath these floorings we discovered the foundation of the building. It is formed of walls of raw bricks, separated by narrow vertical drains filled up with gravel. The breadth of this filling varies between 20 and 40 centimetres, which appears to be too small to correspond to the inner walls; still the plan they trace is that of rooms, passages, and entrances. We expected to find beneath these constructions of the later epoch remains of an Achaemenid fortress or palace, but we were disappointed, because on the level of the Sassanid or Parthian foundations we found burial jars and vaults of the middle age of Elam. Thus the 'Dungeon' also has proved to be a burial-mound.

We are also excavating in the suburbs of Susa, my assistant, Dr J. M. Unvala, directing the work. He was fortunate enough to find in a mound a funeral-vault of the Sassanid epoch. Access was by a pit, which at the time of the discovery was closed by large jars. Seven steps led from the pit to a short gallery, which served as entrance to the vault proper, 2 metres broad and 3 metres long; its height was 2.5 metres. The vault was almost completely filled up with soft earth in which, besides bones of several individuals, was a good collection of glazed and unglazed ceramic of the Sassanid epoch, the date of the vault. There are about fifty vases, lamps, pitchers with one or two handles, and bowls, as well as beads of glazed paste, a couple of knives, and an iron dagger. There was also a sarcophagus of burnt clay without the lid, placed north to south; it contained three skulls and some bones. Similar funeral-vaults are still used in Persia by families of notables for second burials. It is probable that the vault in question had a similar purpose. It was, to use a Zoroastrian term, an astodan or ossuary. Of course, this does not prove that the owners of the vault were Zoroastrians; it is again
doubtful whether they were Christians or Jews, as no particular religious emblem was discovered in it. If they were the followers of the Iranian religion, it seems that they were practising the Elamite burial customs, and that the exposure of the dead to beasts and birds of prey was not as common in Susa as it was in the north and east of Persia, and as is the custom of the Parsees of India. Moreover, it suggests that the people of Susa were not good Zoroastrians, and it is perhaps for this reason that they rose in rebellion against Shahpur II, which led to his destruction of the town.