## IRAN

## IN THE ANCIENT EAST

ARCHAEOLOGICAL STUDIES PRESENTED IN THE LOWELL LEGTURES AT BOSTON

## ERNST E.HERZFELD

PROFESSOR AT THE INSTITUTE FOR ADVANCED STUDY PRINCETON, NEW JERSEY


## OXFORD UNIVERSITY PRESS

LONDON I94I NEW YORK


PRINTED IN THE UNITED STATES OF AMERICA

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## PREFACE

THIS BOOK is a presentation, in somewhat modified form, of the Lowc'l Lectures delivered in Boston during October and November, 1936. In the original series of eight lectures, which gave an historical account of Iranian archaeology, the first two dealt with the prehistoric period of Iran, i.e., its stone, copper and bronze ages; the third, with the period of transition after the immigration of the Aryan tribes into the highlands; the fourth and fifth, with the architecture and sculpture of the Achaemenian Empire; the sixth, with the period of Hellenistic influence during the Seleucid and Arsacid ages; and the last two, with the rich flowering of Iranian art, especially sculpture, during the Sasanian era.

Certain changes in disposition from the oral presentation have obviously been necessary. Further, the publication of recent excavations has afforded material that better illustrates theories here advanced than that used in the lectures. These changes have chiefly affected the first two lectures on Iranian prehistory; and since this section has therefore required considerable reshaping, the author has seen no objection to widening the scope and introducing collateral material, particularly where the limitations of time during the lectures had permitted only an introductory discussion.

The publication of the lectures has been made possible by an appropriation from the Carnegie Corporation of New York. The photographs, water-colours and drawings reproduced in the plates are with few exceptions hitherto unpublished, most of them being the author's own work. The originals of plates $1 b, 2 a$,
 the drawings for plates 48 and 58 were made by F. Krefter, and for 50 and 51 by the late K. Bergner while the author was directing the excavations of Persepolis for the Oriental Institute of the University of Chicago. These should be considered as samples of material which ought to be published in its entirety. Of the drawings in the text, some are of an entirely preliminary character, but have been considered necessary to the discussion of the objects represented. Others, reproducing known though not easily accessible objects, are intended merely as aids to the reader and not as a substitute for the original publication of these objects.
E. H.

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## THE PREHISTORIC PERIOD

THE DISCOVERY IN SUSA, about thirty years ago, by the French Délégation en Perse, of the remains of the oldest Elamite civilization came as a great surprise to all students of the Ancient East. Neither Egypt, nor Babylonia and Mesopotamia, nor Anatolia, had at that time furnished anything comparable in artistic value and antiquity to that oldest painted pottery from Sus ı. Since its discovery a considerable literature has sprung up around that pottery and its various phases; ${ }^{1}$ but we are still far from having solved all the problems connected with it.

Only a few years after the French discoveries, I myself discovered in 1911, at Samarra, north of Baghdad, a cemetery also conspicuous for its beautiful painted pottery. At that time its complete isolation presented a baffling problem. But today we know that whereas the pottery of Susa I belongs to the very beginning of the copper age, the Samarra pottery goes back to still higher antiquity, the very end of the true stone age. ${ }^{2}$

The terms neolithic, chalcolithic, etc. are used in widely different applications. 'Neolithic,' or 'stone age,' is not ambiguous; it means the entire absence ofimetal, perhaps with the exclusion of gold. The term bronze age is already less precise because it implies the conscious production of alloys to improve the qualities of copper. This is often not easily detected even by chemical analysis. But a few analyses made so far prove that bronze was 'invented' at the dawn of ihis-
tory, about 3000 в.c.; hence the beginning of the bronze age in the Near East coincides with the beginning of history, i.e. with the oldest written documents that we are able to read and put into chronological order. Therefore I count the first historical period of Sumer, the so-called 'early dynastic' period, as 'early bronze age,' whereas it is often, if not generally, called 'copper age' because copper still prevailed. The situation is analogous to that of the much older stage after the end of the true neolithic. There, too, copper is at first extremely rare, but no longer unknown, and stone, clay, bone or similar materials are prevalent. To maintain a convenient distinction between the early copper age as 'chalcolithic' and the later 'copper age' may be difficult with our present knowledge, but the distinction should be attempted. At present the terms chalcolithic and copper age are still almost synonymous.

During the same years 191I-13 excavations of Baron von Oppenheim at Tell Halaf in northern Mesopotamia furnished a rich harvest of prehistoric finds, linked up with Samarra by imported pieces of Samarra ware in Tell Halaf and of Tell Halaf ware at Samarra. Not much later, discoveries of a kindred type but ofian inferior art were made at Mussiān, a region of southern Luristan, north of Susa, and at Rēshahr, near Bushire, on the shore of the Persian Gulf The Mussiān pottery evidently originated between Susa I and II, and extended into the subsequent period, whereas Rēshahr seems to be older.

Nothing similar was known from Babylonia, and the highland of Iran remained entirely unexplored. This seemed to indicate, then, that at some remote period of antiquity a civilization, homogeneous in spite of local differences, and opposed to the prehistoric civilization of Babylonia, once spread over the mountainous countries adjoining Babylonia to the north and east.

The subsequent discovery, in the main mounds of Sumer, of long series of prehistoric strata seemed to modify this view. In Sumer, too, during an entire millennium before the beginning of history in about 3000 в.c., there had been a civilization characterized in its earliest and latest phases by painted pottery. As we are dealing here with 'absolute prehistory,' ${ }^{3}$ for which no exact dates can be used and never will be known, it is convenient to call the various phases after the name of the sites that first represented best that old civilization. Hence, we call the stage immediately preceding the dawn of history-a stage that may soon
become itself 'history'-the Jamdat Nasr epoch; it marks the end of the copper age, and its pottery is painted, monochrome or bichrome. This period may be sub-divided into at least two phases: early and late Jamdat Nasr. It is preceded by a period comprising a greater number of strata-and hence of longer dure -tion-with plain, unpainted pottery. This is the Uruk period, so called because it was first and best observed at Uruk-Warka. It is the middle period of the copper age. Painted pottery of a simple style once more appears at the preceding period, and this period ought, strictly speaking, to be called 'chalcolithic.' It is given the name of 'Ubaid' from the site south of Ur. It is still controversial whether the very beginning of the Ubaid period reached back into the neolithic, or whether it immediately followed the end of the true stone age. Nothing older has so far been observed in Sumer, and there are strong reasons to believe that the absence of stone age remains depends not on the chances of discovery, but on the fact that the land was not continuously inhabited by man before the beginning of the chalcolithic.

Subsequent studies revealed that in Susa a similar state of affairs prevailed. Not only do the extensive strata with unpainted pottery that separate Susa II from Susa I present an analogy to the evidence from Sumer, but the unpain'ed ware of Susa is so closely related to the unpainted Uruk ware of Sumer that we may simply classify it as such. It follows that Susa I corresponds to the Ubaid period of Sumer, Susa II to the Jamdat Nasr period, hence to the beginning and the end of the copper age respectively.

The evidence proves that in prehistoric times-which in those parts of the world mean the fourth millennium b.c.-Susa, the capital of Elam, underwent the same changes as in later historical times. At certain periods its fate was associated with events in Sumer, at others with events in the eastern hinterland. We shall observe a perfect analogy to these conditions in northern Iran. On the other hand, the inhabitants of the regions north and east of the Babylonian alluvium may be partly responsible for the appearance of painted pottery in Sumer during the fourth millennium b.c., a feature entirely absent during the later historical periods of Sumer. We must assume direct contact between the inhabitants of both regions in prehistoric as well as in historical times. The events that ruled the life of those people during prehistory ran parallel to later
historical events. The original basis of their civilization must have been a common one, quite independent of the ethnical origin of the men concerned. Local differentiations may be due partly to ethnical distinctions; but assimilations and mutual loans, at higher stages, transgress ethnical limits.

We may safely extend such conclusions over the whole range of the Near East, i.e. Asia Minor, Armenia, Syria, Mesopotamia, Assyria, Babylonia and the entire Iranian highland. There can be no considerable difference in time between the appearance of fundamental achievements of civilization in those lands. For example: the alluvial lands are void of metal; the discovery of their usefulness, their superiority over stone, must have been made in regions like eastern Asia Minor, Armenia and north-western Iran-all extraordinarily rich in ores. At that moment the highlands enjoyed the more advanced civilization, and the discovery spread from them to the lowlands. A similar situation arose when a long period of chance and trial lead to the conscious invention of copper alloys and bronze. But meanwhile the lowlands had reached a higher level of social and political life than the highlands; and not only must they have availed themselves of those new advantages without noticeable delay, but the necessity of doing so became an important factor in political history. The same observations and conclusions apply to other innovations like the use of animal power, of ass and horse for military purposes, conveyances like the chariot for movement and transport, or improvements in agriculture and irrigation. Every arm of attack, for example, produces its weapon of defence, and the attacked is forced to adopt the foreign weapon if it is actually superior to the traditional indigenous one. The phases of the great stages of civilization characterized by such improvements may to a certain degree overlap in the various regions, but as a general principle we must assume that the stages of similar character are practically simultaneous in all the parts of the Near East.

We can compare and distinguish the various 'cultures' within those vast limits of time and space, but the question, who were the people that created them, cannot yet be answered, and is better not yet asked. Descending into later periods, we may discuss ethnical problems with more or less prospect of result. In European prehistory the ethnical problems have been attacked only after incomparably more archaeological material had been collected, and with an
equally greater number of notices on north-European peoples, their culture and habitats, at hand in Greek and Roman literature. To couple, from the start, discoveries in old oriental prehistory with ethnographical problems is a premature imitation of European prchistorical research, explained by the fact that old oriental research began when European studies had reached the stage where such work could be undertaken with hope of success.

Not long ago it seemed credible that two different civilizations had been created almost simultaneously in Sumer and in Elam, although the fact that the countries are not much more than a hundred miles apart and not separated by natural borders offered a serious objection. Admitting certain differences between Susa and Sumer, it seemed to me more likely that the distinguishing features at Susa were only the reflexes of a civilization developed in a more eastern region on the Iranian plateau. While such problems were being weighed, surprising discoveries of a very old copper- and bronze-age civilization were made by Sir John Marshall in Sind, west and north-west India, and for the first time neolithic sites in Honan, China, were explored by Andersson. ${ }^{4}$ In India and China painted pottery of great perfection and beauty came to light. Therefore the much neglected exploration of the Iranian highland became imperative. By looking to Iran as the possible source of the oldest civilization of Elam, we may link up the facts established in western Asia with those in its south and east. For the Iranian plateau, by its natural geographical position, is the point of junction through which all movements that ever crossed the great Asiatic continent must have passed and always did pass. And our whole problem is shifted from the narrower viewpoint of European interest to the wider one of Eurasian interrelations. Although we are still in an initial stage of research, such continental connections are already clearly outlined and will eventually become an accepted fact. The unity of Asia, although rarely achieved in its political history, is a real factor in the history of its civilization. And even Europe will appear more and more as only a sub-continent of Asia. For prehistorical problems this means that eventually the entire chronology of European prehistory must be synchronized with the phases of Asiatic developments. While the relative chronology is more solidly established than anywhere else, the absolute one is only safe as far back as the beginning of the first millennium b.c. The absolute
dating of the older periods rests, setting aside some estimates of duration of cultures, only on a few synchronisms arrived at by comparisons-and those indirect ones-of objects with analogies or imports via the Mediterranean from Egypt. One realizes how weak the foundation of the absolute European chronology is in reading Carl Schuchhardt ${ }^{5}$ on the date of Troy I and II and its reaction on European chronology. Asia Minor, Armenia and Iran stand in the same relation to Sumer as Europe to the Mediterranean, but history begins in Sumer about 3000 b.c. and oriental prehistory fills at least the fourth millennium. In the Near East, therefore, absolute dates may be attained for periods so far remote that no light of history reaches them in northern Europe or even in the Mediterranean. If we succeed in establishing affinities between datable archaeological objects from Asia Minor, Armenia and Iran and corresponding ones from Europe, we gain new dating evidence for European prehistory, although, at such far distances, the periods need not synchronize so strictly as within the limits of the lands of the Ancient East.

In 1926 I found, in a shop at Hamadan, ancient Agbatana, two little vases, which are shown on PL. xx. ${ }^{6}$ They had a prehistoric air, but the dealer did not know whence they came. Mere chance, a year later, led to the discovery of their provenance-Tepe Giyān near Nihawand-whence some more pieces were brought to me, one of them shown on the same plate. Those were the first painted prehistoric pots from Iran proper except for a trove made in about 1876 near Dāmghān, ancient Hecatompylos. Some of the objects discovered there remained in the palace at Teheran; others found their way, through various intermediaries obliterating their provenance, into the Louvre, the South Kensington and the British Museums. A few pieces of that trove were presented to me by Messrs. Robinson in 1927. After having surveyed the Museum of Ahmad Shah in 1923-4, I succeeded, during three years of travelling in Iran, in locating Tepe Hisar near Dāmghān as the site of that find. Similar prehistoric mounds I observed in abundance throughout Iran. Whereas in Sumer the oldest strata are almost invariably covered up by 100 feet of more recent accumulations of debris, in Iran they usually lie at the surface. The explanation is obvious and at the same time historically significant: in Sumer, a sub-tropical alluvial land, life depends upon irrigation on the largest scale; even if a river changes its course,
such a calamity is corrected by the digging of navigable canals, and the population is rarely forced to abandon an old site. In Iran water is rare today and was always so (although less so than now); and the shifting of human settlements, which can be observed everywhere, is clearly traceable to changed conditions $c^{r}$. water-supply: the prehistoric settlements recede, together with the water, from the edge of the salty plains towards the foot-hills of the mountains, and salt swamp and desert encroach constantly upon the cultivable land.

During the last ten years the exploration of Iranian prehistory has been taken up by many scholars, above all by Sir Aurel Stein, whose aim has been to establish the connection between the oldest Indus civilization and that of Sumer. A number of excavations were begun, such as Tepe Hisar, Tepe Giyān, Siyalk near Kāshān, and Luristan. ${ }^{7}$ It was impossible to attain any co-ordination of such work. Consisting of almost nothing in 1925, the material collected by these expeditions has become boundless, and urgently needs systematic research and elaboration. That task today is more urgent than the continuation of excavations. The great public interest in archaeological exploration brings financial support to excavations more readily than to studies and publications, and contributes to the fact that students with insufficient archaeological training develop, for the romance of it, into 'excavators.' Excavating is but one method of archaeological research; it is what experiment is to natural science. It produces evidence for problems that change with and depend upon the momentary stage of our knowledge. Excavating is an art, but no autonomous branch of archaeology. Without intimate knowledge of the exact position of the problems, the excavator cannot solve them, nor even observe correctly ial spite of all good will. And no observation at all can satisfy the demands of future problems. If research does not keep pace with excavating, the excavator is like an experimenter run away from the scientist: he collects at random and misses the things that matter. For not everything is of equal importance, and the scale for importance is the ever changing state of our knowledge.

My surmise that Iran was indeed a centre and the source of the culture revealed at Susa I has become more than justified. In 1928 I started excavations at a place discovered in 1923, only about two miles from the terrace of Persepolis, an insignificant oval mound covering about 750 to 1000 feet, of no greater
elevation than twelve feet. It had no name, ${ }^{8}$ and it is enough to call it 'Persepolis.' In 193I I continued the excavation, with A. Langsdorff in charge, for the Oriental Institute of the University of Chicago. Only a small part of the mound was explored, but the result was an almost overwhelming wealth of small objects, mostly of pottery. ${ }^{9}$

It would be misleading to speak of 'periods' in the plural, because some of the rooms have been repaired or rebuilt several times, or because there are traces-after an interruption of undefinable length-of a second settlement of not lasting, but more nomadic character. On the top were as usual some medieval tombs. The mound represents, with these restrictions, one and the same period.

The buildings are of stamped earth, with low, thin walls, and consist of a maze of very small rooms. One cannot speak of 'houses.' In the East as well as in Europe, we are accustomed to find, in remote antiquity, remains of small structures, of huts or similar units of very few, mostly not more than one or two rooms. Such a unit housed a small family.

Here we find something different: the rooms composed all together one large building. The preservation was unusually good, the walls stood up to two-thirds of their original height, with traces of white and red paint at various spots, and with doors, extremely narrow and low, not more than three to five feet high; the windows were still smaller. In those rooms the household furniture was found. Remnants of food or sets of flints had been left in some of the pots, and in one of the small rooms was a large collection of nummulites and other petrifacts, shells, small bones of sea-urchins, etc., which may have served for primitive witchcraft.

Apparently the settlement had been abandoned suddenly, but no evidence for the cause, such as attack, illness or changed water-supply, was discovered. There were no skeletons or tombs in the building or the passages.

From the unusual discovery of a village consisting mainly of one continuous structure we may conclude that these people did not live in monogamic families, but in clans with strange marriage customs. Such are known to have existed in Iran at various places and periods. In Elam, which, as far as its population goes, we may consider as part of Iran, we know from inscriptions that female inheritance prevailed throughout its long history of 2,500 years. Not the
son of the father, but the son of the king's sister was the legal heir to the throne. The kings call themselves descendants from a common ancestress, and the line was continued from daughter to daughter. Much later, in the south-east, Sakastān, the sister's son succeeds the king. The Achaemenids adapt their differing Aryan customs to this old indigenous institution. Although according to Aryan ideas only a man with the inherited xvarnah, a kind of aureola, can be king, in cases of interrupted succession the new branch is legitimated by marriage to the daughter of the preceding family. And the general custom of endogamy, the marriage between brother and half-sister, must be understood as an adjustment of the Aryan male inheritance to the aboriginal female one: the son succeeds as son of his father's sister. Such institutions imply an original matriarchal system of social life, polyandric or group marriage customs. And that is exactly what the Persepolis village suggests by its continuous structure. The exceptional character of such customs makes them a strong argument for recognizing ethnical relationships. We may assume not only that the inhabitants of that village belonged to the same ethnical group as the Elamites and later inhabitants of Iran, like the people of Sakastān, but that this large group included during the second millennium b.c. peoples in Asia Minor and modern aborigines in western India, with whom similar or identical customs were current. These people were thoroughly Asiatic.

The cultural stage is still neolithic. Implements and instruments are all of stone, flint, clay. Obsidian is very rare, metal unknown. ${ }^{10}$ The flints (fig. I) are almost all microlithic, roughly worked; no polished stone occurs. Compared with European specimens they look almost older than late neolithic, but they are in accord with shapes and technique observed wherever that last neolithic stage has been reached by excavations in the Near East.

Clay is used, for example, for spin-whirls, weights, play-stones and ornaments. Spinning and weaving were known. The people must have been uncommonly peaceful, for they had no weapons except some small mace-heads and a great many clay sling-stones that were not fit for hunting big game and scarcely for fighting hostile men. The same observation has been made in northwest India, which furnishes another similarity between those cultures. Not a single arrow-head has been found; the bow was unknown; so was the axe.


FIG. I
Some curved nails of clay (fig. 2), fitting perfectly into the hand, were found; they are well known in Rēshahr on the Persian Gulf and in Sumer; they are usually found together with clay sickles shaped like a donkey's jaw, into which small flint teeth may have been inserted. It has been suggested that the nails were used by mowers to protect the left hand. Surely these people were agriculturists. The mound lies in a fertile plain, and is near a creek that originates in a rich spring at the base of the rocks only half a mile away; it is still surrounded with some odour of sanctity: full of fish that nobody touches. For primitive agriculture the highlands of Iran afforded better conditions than the alluvial plains of Sumer: agriculture there depended upon irrigation, upon large canals derived from the Euphrates and Tigris. Extensive agriculture requires organ-
ized labour, and presupposes not only life of small human groups in villages, but life in towns and some powerful government. Primitive agriculture, then, is older on the highlands than in the low plains; and at the end of the stone age, man on the highlands had an advantage over man in the plains.


FIG. 2


FIG. 3

Not a single tomb was discovered; these people did not dispose of their dead in the neighbourhood of their houses. In Samarra, on the contrary, only a cemetery was found, but no trace of a settlement. The absence of tombs at Persepolis accounts for the lack of personal ornaments. The only true ornament is a small turquoise, heart-shaped, with incised design (fig. 3). As in Samarra and Ubaid, lapis lazuli is not yet used; only turquoise is. With all its simplicity, the pendant has a well defined style, which also dominates the great number of buttons, of which specimens are given on PL. I, and in fig. 4. Their surface is slightly convex, the back flat, with a loop or eye for sewing the button to a


FIG. 4
garment. They were never found in pairs, and, considering their large size, may have served singly to hold a cloak at the shoulder. But the consequential observation is that they all were used as seals on clay stoppers of jars or flask-shaped vessels to mark the ownership of the contents, solid or liquid. The stoppers are
exactly like those found in subsequent, but early prehistoric, strata everywhere in Sumer and Elam (see Pl. I). And identical, not just similar, buttons were found not only in Tepe Giyān (fig. 5), ${ }^{11}$ and in south-east Iran (compare the examples from Tell i Pīr), but also at Arpachiyya (near Nineveh) and at Chagar


Bazar in Mesopotamia (fig. 6). They furnish a proof for the relationship of the two cultures in Iran and Mesopotamia, although the sites are over 1,000 miles apart. Note the specimens with concentric circles in figs. 4, 5 and 6. PL. I shows also the impression of a triangular button, identical with specimens from Tepe Giyān. They are a cross between a real button and a toggle. Fig. 7 and pl. xvi. show some examples from Tepe Giyān and Arpachiyya. The uniformity of style is the more striking as the style is so simple. Among the large number there was only one piece at Persepolis (PL.I), which is already a real stamp-seal, ifiby this we mean a flat surface, drill-hole through the largest diameter (which excludes its use as a button), and-not yet developed in the Persepolis specimen-negative design. Identical stamp-seals are common in Tepe Giyān and other Iranian sites (figs. 128-9). We observe here the origin ofiso old a type as the stamp-seal,
which in Sumer goes back to the oldest Ubaid period, in the Mesopotamian and Assyrian region to the even older Tell Halaf period. In Persepolis we have still the original forms-buttons, not seals. Sealing preceded the invention not only of writing, but also of the seal. That is the origin of the stamp-seal, which im


FIG. 7
plies, by analogy, the origin of the cylinder-seal; the latter was derived from the cylindrical bead or amulet used for the same purpose by impressing it in clay in order to mark ownership. Property is a very old notion, innate to hum in beings and possibly older than man. The marking of ownership means that there was law.

If these observations give some insight into notions of property, law and order, a number of clay figurines (PL. II), burnt and painted, less frequently unpainted, teach us something about the religious ideas of those people. There are more female than male figures. Some are quite rudimentary and most abstract; others have arms and legs in various attitudes, or no arms and legs at all; they may have heads or not; sometimes even muscles of shoulders and legs are rendered, or just round protuberances instead of arms. There is no uniformity of style: we find utter abstraction beside attempts at realistic treatment. Our modern aesthetic categories, like abstract and naturalistic, expressionist and impressionist, do not hold good before this old material. One of the male heads (fig. 8) is quite naturalistic, with all the parts in the right place and proportion; others are pointed cones with a pair of lateral slits indicating eyes. At Ubaid, in the oldest stratum, and also at the corresponding stratum at Uruk, eyes are ren-
dered in the same way (fig. 8); similarly in Susa (I or still older) and Khafaja (fig. 9). Fig. ro adds an extremely primitive stone idol from Sumer in a private collection formerly in Berlin.

Among the paintings on the body of the Persepolis figurines the swastika is

fig. 10
conspicuous. Some of the idols wear it not only on the upper arm but all over the body. Such marks recall the tattoo marks on very early pre-dynastic figurines from Egypt. But the exact counterpiece is again found in Arpachiyya, where a Maltese cross, another common symbol of Persepolis, replaces the swastika on the shoulder (fig. II). Fig. I I gives more such figures from Arpachiyya, and fig. 12 b a unique unpainted piece from Persepolis, identical with neolithic idols from Knossos, Crete, and immediately distinguishable as an imported piece by the quality and colour of its clay. The Knossos specimen, compared in our fig. 12, has a zigzag line across the breast, just like the design on the short kilt worn by men on the oldest sculptures of Tell Halafi But other specimens from Knossos have the same incised line under the breasts as the Persepolis specimen. This piece must have been imported in neolithic times from

Crete to Persepolis, just as in Tepe Gawra idols were imported from western Asia Minor. The analogies from Arpachiyya and sites related to it, on the other hand, indicate not trade but common culture. The heads of the Persepolis figurines are all severed; not two pieces that belong together have been found. They


FIG. 12
are idols, a kind of household god, the female figurine possibly a mother-goddess in a primitive society of matriarchal character. And the fact that not a single one was preserved with the head on may be connected with the sudden abandonment of the village and interpreted as a punishment: they were beheaded when they had been inefficient or unwilling to help. PL. II (cf. fig. 12) gives one idol of unbaked clay from the Samarra cemetery, which, if possible, has a still more primitive character.

Beside the human figurines there is a variety of animals, domesticated and wild, oxen, sheep, dogs, lions, leopards, bears and birds, some of them highly
artistic (see Pl. in and fig. I3). Similar animals occur at Tepe Giyān, Anau-not only all over Iran, but also in the lowest strata of mounds in Sumer and Asia Minor. They may be ex-votos with a magic virtue: protection against wild beasts, fertility of the flocks, success in hunting or trapping. They count among


FIG. 13
the oldest attempts at imitating exterior objects, of expressing man's creative imagination, of plastic art.

In an earlier book I have published a cylindrical goblet drilled out of black stone, ${ }^{12}$ and another one of alabaster from Persepolis. Fig. 14 gives another alabastron, at least 15 inches long, shaped like an elongated horn, resembling a cornucopia. Alabaster is a much used material for vases in Iran; in chalcolithic Sistan it must have been especially appreciated. The oldest shapes are strange, an observation which applies also to those of Sumer, Adab, Ur and Uruk for example. Fig. 15 adds two more odd shapes of alabaster vessels from Samarra, which served as receptacles for black and red paint. Like most primitive people, the Iranians painted themselves. The swastikas and other symbols on the human figurines must have been either paint or tattoo. The horn-shaped alabastron of Samarra is a pottery type, there and at Susa I; the pottery type related to the Persepolis alabastron is seen on PL. xiII.

The scant inventory of primitive household goods affords little opportunity for a display of creative imagination, that quality which distinguishes man from animal and leads, with the growth of civilization, to man's greatest and most lasting accomplishments. At this primitive stage, all artistic faculties could only concentrate upon one branch of industry, which, unpretentious as it is, yet by its very nature is most enduring-pottery. And here lies the explanation for the fact (apparent not only in our own case) that in neolithic periods pottery ranked as a great art, whereas with the introduction and increasing use of metal it declines.

So many small potter's kilns have been found that we must assume-an assumption supported by other observations-that pottery was not yet a special craft, but that it was produced by every man, or more exactly perhaps by every woman, for his or her own needs. The pottery was found in the rooms just as it


FIG. I4


FIG. I5


FIG. I 6
had been used and abandoned, when, for reasons unknown, the inhabitants suddenly deserted the village. In some of the pots remnants of food or a set of flints remained.

The potter's wheel is unknown. Nowhere did painted pottery exist alone, for costly China and Sevres was never used for cooking. Hence, ordinary unpainted pottery, of brick-red colour, for cooking and similar purposes (fig. 16), almost
equalled the enormous amount of painted ware. The clay of the ordinary ware is full of degraissants and is very rough. That of the painted pottery is fat, pure, permeable to water though not visibly porous, and generally of light buff colour; reddish or greenish tints are only due to uncontrolled heat or ingredients. The colour of the decoration is mostly brown, with many shades ranging from almost black or green to light red and yellow. These shades are not intentional, but are the result of the potter's inability to regulate the fire. Among the thousands of pieces there was only one with black and red paint.

Large jars for storage of food are built up in rings by hand, a method still employed today. All the other vessels have extremely thin walls-the relation of thickness of wall to diameter is only I-I.5: 100; many of them have the appearance and quality of the shell of an ostrich's egg. All conclusions about their production are negative: there was no building up by hand, no use of wheel, no moulding. But there are clear traces that both surfaces have been scratched off to reduce the thickness of the walls, probably after some preliminary process of drying. For no pot with such thin walls could preserve its shape when wet and be put into a kiln without collapsing.

The decoration is not only of an amazing variety, but full of stylistic contradictions, which suggest that no conventions had yet been established. The number of kilns similarly suggests a home industry. A potter who made his products for sale or for barter would either follow the taste of his customers or impose his own taste upon them, which would result in either case in conventionalization and in a reduction of variety. As I have previously published a catalogue of the vessels unearthed during the trial excavations of 1928 , arranged according to the shape of the vessels, I shall emphasize here more the contents of the decoration.


FIG. 17

The paintings abound in abstract symbols, among them the swastika, observed already on clay idols. Fig. 17 shows part of a bowl with three swastikas inside. The cross has more than one turning line to each arm: it has three to four. This variety is common in contemporary pottery from Tell i Rēgī, Kamalabad, or Periano Gundai, Zhob valley. In more complex forms (fig. 18) each


FIG. 18
turning arm consists of a group of irregular triangles, but they all fall under the definition of a swastika. The simple form occurs in Samarra on dishes or flat bowls (fig. 19) where arms or hands ending in fingers are attached. The geographical distribution of the swastika must be carefully observed, because it remains unknown to Sumer, Akkad, Babylon or Assyria. ${ }^{13}$ At Persepolis the symbol was still variable, and the classical swastika is but one conventional form surviving out of an original multitude.


FIG. 19

Equally mutable are the crosses such as those on the ovoid cup on PL. iv. In fig. 20 a cross-combination of four triangles is the main ornament of a round jar. It is a distinctive feature of Persepolis art that all such symbols are the essential and dominating elements, and not, as in subsequent phases, accidental addi-


FIG. 20
tions to an elaborate design. The crosses at Persepolis appear either free or in a circle (fig. 21) and then could be called wheels if they were not too old to represent a wheel. ${ }^{14}$ They may also be inscribed into a square. Fig. 22 adds specimens from Samarra, ${ }^{15}$ Tell i Pīr (Harāj, Lāristān), and Kanakān (Khusū, Fārs). ${ }^{16}$

Of all these symbols the whole, the half, or one part only may be represented, as on the ovoid bowl (pl. Iv). Any other object may similarly be represented completely, partially, or otherwise abbreviated. To assume differences in time is a priori excluded by stratigraphical observations; therefore such abbreviations are not a 'degeneration' of the total design.

Almost all the varieties of crosses reappear among the pottery of Susa I (fig. 23). They are drawn with much greater skill, but never constitute the main element, and appear, at the best, in the centre, if not somewhere in a gap of the intricate designs of that art. In Persepolis they are at any rate the dominant factor, if not the only one. This striking distinction is valid for every single


FIG. 2 I
decorative element, and proves beyond doubt that Persepolis represents a more original and earlier phase of the same art. The line of development clearly pro-ceeds from the naive to the sophisticated, from the simple to the complicated.

In the middle of the lower row in fig. 23 is a chequered square with four elements, similar to feathers or palm leaves, attached to the four corners in a rotating movement. Similarly, but without movement, a comb-like element is attached to a cross in fig. 24, from Tell i Siyāh, Fārs. In the second example, from Tell i Rēgi, a little tail is added to the other end of each of the triangles,


FIG. 22


FIG. 23
and the 'feathers' look decidedly like the antlers of a stag. The third fragment even adds an animal's head. All these designs recall the common device of Samarra (fig. 25), where four cervideae, probably ibexes, are composed after a swastika scheme. In Samarra we have the most complete picture. That alone would not signify that it was the oldest or the original conception. Total or partial representation, or greater or lesser degree of abstraction, stand side by side. But in this case Samarra is older than Susa I, for at Tepe Gawrā, Arpachiyya and Chagar Bazar the Samarra ware appears at a deeper level than the Ubaid ware, with the early phase of which Susa I is contemporary.

So far we have at least been able to give the symbols names. Even this becomes impossible in the many examples given in figs. 26 and 27. And yet they


FIG. 24


FIG. 26


FIG. 27
certainly had a definite meaning, because other equally old cultures employ them too. The Samarra potters use marks (fig. 28) widely, if not generally, and among them a number of the Persepolis symbols or closely related ones. One specimen is from Abu Shahrain, a Sumerian site of the Ubaid period, and the same strange symbol appears also on neolithic band-Keramik of Bohemia (see fig. 27). ${ }^{17}$ The zeta with or without a crossline and the sigma-shaped symbol are among the normal forms of Persepolis and reappear in China, connecting both cultures. They had a fixed meaning, and the similarity is not just a casual one, for we shall meet the same symbols again among the signs of proto-Elamite

fig. 28
script. And it is important to keep in mind that all such symbols have something in common with writing.

A few designs only are often repeated on pots of different shapes in Persepolis: PL. Iv shows one of them. As no variation appears, the meaning of this not quite simple design must have been inherent to the combination (the four triangles and two lozenges) as a whole. The upper triangle to the left is connected by its apex with the upper, the lower triangle to the right with the lower bordering line, but not so the two other triangles on both sides. Although it is indeed a group of triangles, the design cannot be labelled as geometric; it was not associated with anything approaching geometric forms in the painter's mind. For him elements and combination represented something real, something within the range of the interests of his daily life. The typical combination may alternate with a second motif, as in fig. 29, where one example from Persepolis and two from other sites in Fārs prove the coexistence of those sites.

Another one of the repeated designs of Persepolis (fig. 30) consists of a broad zigzag, crossed by a zeta. At the cross-point a small lozenge is left free, and the


FIG. 29
left wing of the zeta is accompanied above, the right one below-never other wise-by a series of very small dots. The contrast of broad coloured ribbons and fine dots is no doubt conscious and has an aesthetic value, but the lack of variation shows that the combination as a whole had a fixed meaning. It is typical of Persepolis, and wherever it occurs the pottery is contemporary with it. We shall deal with the zeta symbol and its wide dissemination later on.

A big storage jar (fig. 3I and PL. vi) has as its main decoration a pair of triangles combined to form a lozenge. To the right and left points two arms are attached, ending in the five fingers of a human hand, similar to the threefingered hands of Samarra, and, as we shall see, to fingers attached to broad


FIG. 30


FIG. 3 I
ribbons on vessels from Kansu, China. On each triangle is a big eye. The whole thing looks like a kite. The design has an unmistakably forbidding and frightening character, and must be an apotropaion.

The single triangle with the eye is normal for the Ubaid pottery of prehistoric Sumer (fig. 32). Beside this symbol, common to both Ubaid and Persepolis pottery, the frequent use of the irregular triangle connects the two groups. But the artistic fantasy of the Ubaid potter is poor and the similarity is confined to the points mentioned.

A triangular variety of the 'kite' motif (fig. 33) connects this with the bull's head as seen on pl. vn below. Fig. 33 gives also a more abstract Persepolitan


FIG. $\mathbf{3}^{2}$
variety, which is nothing but one quarter of the common cross combination. In the middle is a bull's head from Mussiān (north of Susa), slightly later in time than Susa I. The bull's head amulet of fig. 34 is well known in pre-dynastic Egypt, and our example has close affinities with the one on the Persepolis bowl (PL. vn).

From the 'kite' of Persepolis is evidently derived a symbol that characterizes the Mussiān pottery (fig. 35). Two or more lozenges are coupled and often an indentated lateral member is added to the lozenge face. This appendix belongs to the Persepolis symbol on fig. 27 (right) and to the comb-like elements in fig. 43. The example in the middle adds fillets or flying hair to the heads, a regular feature in Samarra, to which we shall revert (cf. fig. 36). Like the swastikas,



FIG. 33

$\longrightarrow$


FIG. 34
crosses, etc., these symbols, in Persepolis, dominate the design, but are drawn in a simple, unrefined manner. Everywhere else their delineation is more skilful, but they are only accessories in complex schemes. Such is the distinction between juvenile and riper phases of art.

Human figures are almost everywhere rare. ${ }^{18}$ An intact specimen from Persepolis is shown on PL. v. Between a thrice repeated combination of trianglesone side of them lobed-a man or demon is standing, body in front-view, feet


FIG. 35
turned out, forearms very heavy, and hands raised and ending in five fingers. The head, turned to the left, is too small and indistinct to be called with certainty human or animal. According to the evidence of later, clearer pictures the latter is more probable. The outline of the body, especially of ithe hips and parting of the legs, is peculiar, as is the attitude. The similarity with some of the idols discussed above is unmistakable. But the nearest analogy is furnished by the painted pottery of Samarra (fig. 36). The Samarra demons have, like the idols, almost no head at all, but an elongated neck, ${ }^{19}$ and like the 'kite' heads of Mussiān they all have long flying hair. The similarity is so striking that it becomes a strong argument for contact between and a similar date for Samarra and Persepolis.


Fig. 37 shows two human figures on Susa I pottery, the one to the right more similar to the Persepolis type than the one to the left. The left one is an archer. This implies another chronological indicium: in Persepolis the complete absence of arrow heads proves that the bow was still unknown; Susa I had the bow. The two specimens above, from mounds in Fārs, stand between Persepolis and Susa I. It is astonishing to find the Samarra men in file-this feature appears
again in Mussiān, between Susa I and II-on a potsherd from Harappa in Sind (fig. $3^{8}$ ). As the ibex stands beside them, with fillings between horns and body and between body and legs exactly as at Persepolis and elsewhere in Iran, the design on this Indian fragment is Iranian. The representation of men or


FIG. 38


FIG. 39
potsherds from Tell Halaf (fig. 39), although of the same age as Samarra, is of a different style: only the gesture of the one piece resembles that of the demon of Persepolis. The affinity between Tell Halaf and north Iran is a closer one (cf. fig. 195).

In Mussiān, the continuation of the Susa I stage, only part of the human figure is rendered, but it is doubled or tripled, the head being omitted entirely (fig. 40). This is not a case of 'degeneration'; it might on the contrary be meant to increase the magical power of the picture. To the right of our figure the


FIG. $4^{0}$


FIG. 41
single element is arranged in horizontal repetition as a frieze. This type is carried over into a different symbol, to be mentioned below (cf. figs. 52-9). We must note that symbols, through the use of parts instead of the whole and through repetition and combination of parts, may change into other symbols.

Fig. 41 shows a vase of the pre-Mycenaean 'geometric' style from Phylakopi, Melos, called 'Middle Minoan I,' i.e. considered to date about 2000-1 700 b.c. Although old in relation to the Mediterranean chronology, the vase would be considerably later than the fragments from Mussiān. The difference in time seems to be larger than it actually is, because Mediterranean and European chronology prior to the Twelfth Dynasty, Middle Minoan II, hence of the entire third and fourth millennium, are not yet sufficiently synchronized with the Near-Eastern one. C. C. Edgar described the pattern of the Melos vase as 'suggested by a human figure of the normal geometric type, developing into a letter. With knowledge of the eastern examples, we should say: the pattern is older than the normal 'geometric' type in Mycenaean pottery, but it is indeed connected from the beginning, with symbols as expressive as pictographic signs, and that connection with writing accounts for the appearance of the symbol so far west.

Also in the East, on two vessels from Honan, China (fig. 42), we find an almost identical configuration, 'fingers' added to the points of the angular ribbons, and rows of zetas on the neck and the multiple cross inscribed into a circle. The similarities between the far- and the near-Eastern examples are too numer-


FIG. 42
FIG. 43


FIG. 44

ous to be incidental. Fig. 43 shows a similar design from Persepolis. ${ }^{20}$ Fig. 44 gives three more vessels of the same class and provenance: the main decoration of the one is a large zeta on the shoulder. This is a symbol common to Persepolis and derived wares, as well as to Samarra; we have alluded to it above. Fig. 45 gives some variations from Persepolis, which usually appear as secondary elements.


The examples in fig. 46 from Fārs (above) and from Samarra (middle) are more dominant. One specimen (below) is an angular meander from Kansu, to illustrate the origin of that design. Some of the variations could also be classified as swastikas: symbol changes into symbol. The zeta with cross-line is a potter's mark in Samarra; the tendency to develop into graphic signs is innate to such symbols. The rows of zetas from Samarra and Mussiān (same figure, below) are the main decoration similar to that on the small pot from Kansu in the Museum of Far Eastern Antiquities, Stockholm (fig. 47). The vessel to the right at fig. 44

shows two hooks, hanging from the neck over the shoulder; an almost identical sign in the same place is seen on a pot of similar shape from Susa I in fig. 48, with a variant of it above. Fig. 49 compares a peculiar symbol from Honan with an analogous one from Persepolis, preserved only in two fragmentary specimens.

The design on the large bowl (PL. ix) looks like a Chinese meander, and 'meander-patterns' is a convenient name for that entire group. The intricate effect of the composition is deceptive; it is, in fact, very simple. The horizontal जाImiminiti


Kansu


FIG. $4^{8}$


Persepolis


FIG. 49
spine is a zigzag, to the upper and lower points of which lines with angular breaks or steps are appended. This is the prevalent scheme of composition at Persepolis. Fig. 50 gives six more examples to show the various forms the zigzags, or the groups of triangles that may replace them, may assume. The appendices are parts of swastikas and meanders and could be called spirals, but are drawn in broken, angular lines. The patterns look sometimes Chinese, sometimes Aztec, sometimes like designs of South Sea islanders. The example in the middle of the upper row is close to the design on the conical cup on PL. $x$. If we transpose the scheme from angular lines into curves it becomes a perfect ex-


FIG. 50

ample of the Mediterranean wellenranke (fig. 51). It is to the continuous round scroll as the angular meander is to the round wave. The scheme that became dominant in all floral ornament from the Mycenaean epoch on existed 3,000 years earlier with nothing to connect its two occurrences.

The beautiful black and white cup on the same plate is similarly composed. Sometimes the appendices are parts of animals; in fig. 52 one might call them antlers of a stag. It is a common device also among pottery from other sites in Fārs, with variations that persist in the designs made up of busts of men arranged in file or in pairs as in fig. 40. The Persepolis form again is evidently the original from which the form assumed in Susa I was derived (fig. 53). It spreads far to the East and is well known at Harappa and Mohenjo Daro, and in the Sind ware at Nāl in Baluchistan (fig. 54). A rare pattern from Persepolis may be


FIG. $\mathbf{5}^{2}$


FIG. 53


FIG. 54


FIG. 55
considered as a variant of it (fig. 55). Again and again we meet a variety of types in Persepolis, but only one surviving 'classical' form in later cultures. And just as in nature, the original habitat is where most varieties of a plant grow. Simple rhythmical repetition and alternation in two zones make very attractive patterns of such symbols.

Another group of patterns poses a problem difficult to solve. On PL. Ix we see one design, and more in fig. 56 , that are so abstract that they would evoke in


## IRAN IN THE ANCIENT EAST

our minds no association with natural objects if there were not heads and tails appended to the straight ribbons of colour. These arbitrary additions indicate that the painter had animals-in some cases men-in mind. In fig. 57 apparently two snakes cross the combination of $U$-shaped symbolic elements. The second example from Persepolis and one from Tell i Skau are without such animal parts. In fig. 58 the profile head of an animal with two horns is added to


FIG. 57
a combination of triangles, quite normal in the Persepolis style, and in fig. 59 we see another common motif with and without human heads. The problem is: are the naturalistic elements added as a clearer interpretation of the abstract designs? In that case they would prove the objective meaning. Or are the heads and tails an association of thought suggested to the painter by a vague similarity between the abstract design and nature? Such a secondary interpretation would prove nothing. There are such secondary interpretations, but naturally in arts that look back on a long tradition, in which the primary meaning of the motifs begins to fade. In our case it is more probable that the naturalistic appendixes reveal something of the primary meaning of the abstract shapes.

The majority of the designs are entirely abstract compositions, with almost nothing to help us to guess their meaning, as, for example, in the high red goblet with two rows of lozenges between an hour-glass combination of triangles, or the green goblet with squares between stepped lines on PL. x. See also, in fig. 60 (right), a rich symmetrical composition of triangles and (middle) a pattern, rare at Persepolis, but very common elsewhere, as in Tepe Gawrā XIII (upper


FIG. 59
Ubaid stratum, i.e. between Susa I and II), or a detail from Persepolis, the butterfly combination of triangles. More complex combinations, known in Persepolis, Fārs and Mussiān, reappear in Sūr Jangal, Baluchistan (fig. 6i). The butterfly combination alternating with vertical strokes, also grouped in pairs, common in Susa I, Mussiān, Nihawand, and closely related to symbols from Ubaid, reappears in Sind as well as in China (fig. 62). Fig. 63 gives some more and richer specimens from Sind and Honan, and also a piece of neolithic pottery from the Danube-Dnieper region; the latter has been compared with the Honan pottery by E. T. Arne. The general character of decoration of this neolithic class is shared by the Ubaid pottery. All this must mean far more than 'a migration of symbols,' because not only are the symbols the same, but their place on the vessels, their combination, and sometimes the shapes of the vessels are similar. The manner in which the symbols are used and the intellectual contents of the decoration are related.


FIG. 60

siir Jangal


FIG. 61

PL. xIII gives two examples of a set of conical vases with a simple decoration: vertical fields, formed by a series of opposed triangles and zigzagging lines between them, are connected by horizontal bands with broad vertical strokes in the intervals. A minute detail is significant: never do the vertical triangles begin below or end above intact; part of them is always cut off. They are represented as if continuing beyond the limited space of the vessel, and they certainly are not meant to represent triangles. The composition reappears on the pottery of all the contemporary mounds of Fārs. Fig. 64 shows the shape it has assumed in Susa I: over and over again it is the relation of quattrocento to cinquecento. At the Susa I stage, too, the small triangles begin and end irregularly; and a glance at fig. 32 reveals what closer study confirms-that these are the specific triangles of the Ubaid pottery. With Susa I the Iranian developments have reached the Babylonian level of Ubaid.

Other designs of entirely abstract character bring Persepolis into closest contact with the neolithic pottery of Samarra, as do the human representations discussed above. The 'stepped bands' of fig. 65 and the network of small triangles from Persepolis are the most common designs at Samarra. Fig. 66 shows those steps-a maximum of fourteen-on a fragment from Tell i Rēgi near Dārāb, and the network of triangles from Kanakān, Färs. The steps ending in halved


Fig. 63


FIG. 64


T.i Rēḡ, Mädauān

FIG. 66


Fig. 67
triangles from Persepolis look even more original than those from Samarra. Another normal Samarra motif is the 'fringes' on the inside of the rims (fig. 67). It is a device that disappears entirely from all later phases; but it is equally characteristic ofithe Tell Halaf ware (fig. 68), and re-occurs in Fārs during the Persepolis phase either as a narrow interior border or as a dominating interior decoration of flat bowls like the specimen from Tell i Skau. In the latter fashion, the fringe appears at Persepolis itself (fig. 69): here again Persepolis looks more original than even Samarra. ${ }^{21}$

T. i Skan,

T. Halaf


So far I have ventured to give names to some of the decorative schemes without pretending that they meant what the name says. In calling our next example, a landscape (fig. 70), I believe we come near the truth. It is a wavy ribbon of unequal width, and the depressions and elevations of the waves are filled, from above and below, by a combination of triangles and segments of a


FIG. 69
circle. We have more than once emphasized the intimate connection of our symbols with graphic signs: in the earliest pictographic phase of Sumerian writing that wavy line means 'A,' water, i.e. a river (see fig. 71), and three segments of a circle, later three angles grouped like scales, mean 'KUR,' hill. Other pictographic signs in Sumer and Elam make the picture clearer by adding a fish between the double wave, or some plants at its edge. At the end of the Jamdat Nasr period there are seals (fig. 72) in Elam and Sumer that represent


FIG. 70
the landscape more realistically. An impression on a tablet with proto-Elamite writing combines the fish in the river with the plants on its banks; on a Sumerian seal of the Jamdat Nasr period we have the river between mountains and hunters; and on another piece shepherds leading their flocks out in the morning and back in the evening. Lastly, the river and the mountains, with eagles flying above, is a common motif in the earliest historical period.


FIG. 72
Since every symbol, animal, or other natural object may be represented totally or partially, the corresponding composition from Samarra (fig. 73) may be nothing but a shorter rendering of the same thought. A similar, more comprehensible representation appears on an ovoid jar from Bampūr (fig. 74); the broad wavy line with only one animal in the open areas above and below; the vase belongs to a later age, but is clearly the 'short-written' idea of the Sumerian seals.

A much higher degree of abstraction is attested by some designs from Susa I (fig. 75). The circumscribed rectangle (or square) means 'NIN,' to 'enclose,' or also 'multitude'; the lozenge, 'SAR,' 'multitude, totality'; also 'HE,' 'crowd, multitude.' That is the origin of the Aramaic letter khëth. ${ }^{22}$ It is a principle of proto-Elamite and pictographic Sumerian script to create signs for other notions


FIG. 74
by enclosing various elements into the rectangle, lozenge or circle. Long before there was any writing the same principle existed in the ornamental designs of Susa I, as fig. 75 shows. The triple stepped line becomes a graphic sign in protoElamite as well as in pictographic Sumerian. In Susa I it apparently means water, a river or canal running through an enclosed area, ${ }^{23}$ a garden. To the right at fig. 75 plants, perhaps trees, grow at the water's edge, to the left the antlers of a stag may indicate game watering. The opposed rows of triangles, traversing the rectangle, may symbolize the hills through which a river flows.


FIG. 75

The designs in figs. 70 and 76 differ in that on the Chinese piece the axes of the waves are shorter, their elevations and depressions higher and deeper. The fillings above are simply cross-hatched-as occasionally at Persepolis or on the Sumerian cylinder-seal with the eagles-or consist of bands that leave free almond-shaped spaces (compare a variant in fig. 100, lower row to the left). The same expedient is normal for 'negative' fillings at Persepolis, as in the vase with

fig. 76


FIG. 77
eagles (PL. viI) and with the bull (PL. viif). The similarity between our figs. 70 and 76 is not a mere coincidence, and the latter is the typical representative of the designs on neolithic vases from Kansu, China.

Quite a number of designs at Persepolis are composed in such a way that, seen from the bottom of the vase, they radiate around a central disk. Two elements alternate-water or light-one of them always a bundle of wavy lines. If the composition just discussed represented the earth, that of fig. 77 seems to deal with heaven. Fig. $7^{8}$ gives the more sophisticated but less transparent shapethe scheme assumed in Susa I, and fig. 79, an example from Shāhī Tump in Makrān, on a form of vase typical for that region and derived from the pointed
conical vases of Persepolis. To this scheme of composition that of the Sumerian symbol of the sun-god of Sippar (fig. 80), stands in the same relation as the later classical swastika to the complex varieties of Persepolis. This cult symbol of the Shamash of Sippar, as represented on the famous stone tablet in the British Museum, was made for Nabu-apal-iddin, who had excavated a clay model which the king Melishipak had searched for in vain. It seems to reproduce an

original of approximately the Gudea period. But long before that time the Sun of Sippar must have been symbolized by the same design. Religious symbols, generally, cannot be invented; they must grow. One of their essential qualities is that they must be of immemorial antiquity. They all go back to the neolithic period, when all ideas were expressed through symbols-a symbolism that includes primitive sorcery.

The art of the Persepolis potters achieved its masterpieces in the representation of animals. PL. xi shows, above, a spherical jug with a huge ibex, ${ }^{24}$ Pl. xir a smaller vase with a pair of wild sheep. The rocks around the plain of Persepolis abound to the present day in flocks of ibexes and wild sheep. These beautiful animals are characteristic of the land, and their appearance in the paintings is much more natural than at any other place. ${ }^{25}$ The ibex is often represented in different manners of drawing. On PL. xI it is in pure profile with only two legs shown; the horns, as the most characteristic feature, are enormously exagger-
ated, their nodes indicated by huge lobes. In fig. 8I it is in pure profile, too, but the peculiar outline of the body is slightly different, with a lower chine, and the nodes are indicated by a broken outline. In fig. 82 the narrow cylindrical shape of the vessel leads to the rendering of the horns as $\Pi$; the beard of the male ibex is added and four legs are shown. The view is not in absolute profile. Fig. 83 suggests a slightly inferior style, with four legs represented, the outline of the body less typical, and enormous horns that describe almost three-fourths of

a circle. In most of the specimens-and this observation applies equally to the representation of other animals-some abstract symbols or small animals are put between the horns and the back or between the legs of the animal. These fillings certainly serve as stop-gaps; hence they satisfy an aesthetic need, the horror vacui. Yet they are no mere ornaments, but expressive symbols, as their variations, zetas, triangles, crosses, chequered squares and many others clearly show. We must recognize in them a principle of decoration peculiar to Persepolitan art. Here we are at its origin, and its permanence is amazing, as we shall see.

The masterpiece of all the vase paintings of Persepolis is shown on PL. xII. On the doubly curved surface of the mastos-shaped vase a pair of wild sheep is drawn in an unhesitating style. The small bodies of the animals are near the pointed bottom, the colossal volutes of the two pairs of horns fill the whole sur-

fig. 83
face. The horns of sheep are always shown in front-view, whereas the horns of goats are in profile. The sheep show four legs, not just two. Problems of perspective do not enter the mind of the painter; he wants to bring out as impressively as possible the main characters of the subject represented. We must therefore refrain from applying to such primitive art an aesthetic terminology created for more recent stages of art. Primitive does not mean rude; it may be, and here is, extremely refined-a quality which depends only upon the genius of the race.


FIG. 84

Primitive means a beginning, a start from nothing or almost nothing, an art that finds for everything its own independent expression.

A vase of similar shape is decorated with only three horns which form a kind of triskeles, with six-rayed stars as fillings. The aesthetic contrast of the huge horns and the small stars is marvellously balanced. Fig. 84 gives an intermediary design, four heads with horns. It is usual, but entirely erroneous, to arrange such designs in chronological sequences. According to the creed of the author one starts either with the 'naturalistic' design and proceeds to the most 'abstract,' or vice versa, from the most abstract, with gradual transition to the most natural-

fig. 85
istic. In Persepolis all the degrees of abstraction are found on vases from the same floor, of the same rooms; they are strictly synchronous. Conventions had not yet been created. Every individual produced what he needed and in the way he liked it. It was only after pottery became a differentiated handicraft that conventionality arose out of variety.

Fig. 85 gives a richer composition on an extremely fine calotte-shaped cup, the dominant elements of which are also pairs of horns. If it were blue and white porcelain one could interpret the design as a Chinese landscape: a lake among mountains, a house at the bank and a boat on the water; but it is nothing but horns and abstract symbols.

Evidently we are not dealing with cases of 'degeneration' of more naturalistic into entirely abstract design, but with the total or partial representation of the subject in the painter's mind. For him a partial indication is equal to greater degrees of completeness. On the one hand such a state suggests that the designs
had some magical power, some purpose believed to be attained as well by partial as by total representation. On the other hand it confirms the close relationship between such ornamentation and writing: the meaning of the designs could be equally well conveyed in either form.

The extremely primitive world we still move in is shown by the bull on a fragment of a cylindrical cup (pl. viif). Not only is it an extinct animal, a bos primigenius with dewlap and hump, but the head, seen in profile, has both eyes on the one side. This is an infantile manner of representation, and the stage of art is still entirely juvenile. The wealth of decoration is not the result of training

rig. 87
in anterior stages, but the overflowing vigour of a yourg imagination. The technique and shapes of pottery, of course, had already a long history, but the preceding pottery was not painted.

In Susa I (fig. 86), we have also the ibexes, descendants of the Persepolis types, but in a thoroughly studied style: the perfect curve of the pair of horns, drawn almost like one, the balance between body and horns, the elegant configuration of the body, the way the animal is fitted into the oblong frame-all that is the same art sophisticated by long tradition, an art savant. We must also compare the frieze of running greyhounds (or the like) on the same handsome goblet, with the Persepolis prototype in fig. 87: the stylistic relationship is always
the same. In other mounds of Fārs designs have been found, as in fig. 88, that stand between Persepolis and Susa I. One of the most important results of Sir Aurel Stein's explorations is that they proved the gradual transition of style from Persepolis to Susa I. Susa I as well as Susa II are but two distinct phases of developments on the Iranian plateau, while during the long period that separates them Elam followed the prehistoric developments of Sumer.

fig. 88
But the influence of Iranian art reached much farther. A design like that on the Honan pottery (fig. 89) presupposes that it has, by some means, been transmitted. And the more we study the material, the stronger does the Asiatic character of the earliest Iranian art emerge-and Asiatic in the sense not of the civilization of the alluvial plains of the Near East, but of the great continent beyond them.

On fragments from the earliest stratum of Tepe Giyān, Nihawand, we also meet the ibex, as in Pl. xiv and fig. 90 . We recognize at once this type as descendent from the Persepolis ibex. Its relationship to Susa I is for the present inconsequential; it certainly is considerably older than Susa II. An example of the Susa II shape from Kamterlān, Luristan, is given in the same figure. It is a bichrome ware that holds an intermediary position between the true Susa II


Fig. 89
and the contemporary Jamdat Nasr ware. The name 'Diyāla ware' has recently been proposed for it and it is not a misnomer, although the ware covers a much wider area than the Diyāla valley. It seems to extend down to the very first historical period in Sumer. We shall study the stylistic differences later on.

The ibexes on the oldest painted pottery from Tepe Hisar, Dāmghān, in

north Iran, as in fig. 91, cf. fig. 193, are another propagation of neolithic types from Fārs. They preserve most of the features of the Persepolis prototypes, in shape of body, curve of legs, exaggeration of horns and beards, and also in the fillings between the curve of the horns and between the legs. But not only is the entire delineation sketchy, and distinctly deteriorated: the shape of the animals is stereotyped and, of a multitude of forms, only leopards, bulls and ibexes survive. The original symbolism of the fillings is converted into a realistic meaning, plants that indicate either the landscape in which the animals move or on which they feed. Compared with the oldest forms from Tepe Giyān, which, although less impressive in outline than the Persepolis animals, surpass them in a magnificent movement, the Tepe Hisar ibexes mark a step farther down in the same direction: they must be later than the very oldest stratum of Tepe Giyān. This fixes their relative position clearly.

Similarly a large group of vessels from Shāhī Tump in Makrān (fig. 92), mostly open bowls decorated on the inside, continue the line of which the vase with the three horns from Persepolis is the beginning.

On pl. xi (below) a large leopard ${ }^{26}$ is represented. A fragment from a mound in the Sarvistan region (fig. 93) shows that the subject was not an isolated instance. The style of the leopard is peculiar. The head has again both eyes on one side, but the outline of the body and the four legs is unlike that of other animals. The pattern on the fur is indicated by rows of large pointed ovals, left free of colour. The tail looks as if divided into sections. The representation of


FIG. 92


FIG. 93
animals is not uniform, but different attempts are made individually. The Persepolis leopard becomes later the ever recurring theme of the pottery of Tepe Hisar (cf. figs. 193, 194).

In fig. 94 we see dogs, with snouts raised as if barking, tails huge and curved, and something around their necks. Three fillings complete the design. An identical fragment from Tell i Rēgí, Kamālābād, of the same period, proves the


FIG. 94


T: : Rēg
picture to be a normal one. In fig. 95 we see two quadrupeds, scarcely identifiable, in strict profile. On the Persepolis piece they alternate with some abstract symbol: designs entirely abstract or intended to be naturalistic stand side by side. In fig. 96 (left) are shown a dog and a pair of donkeys from Susa I, similar but advanced in shape and combination. Right, a few animals typical of


FIG. 95
the Tell Halaf pottery, as different from the Persepolis specimens as the human figures in Tell Halaf. To north Iranian specimens their relations are closer.

On pl. vi a heraldic eagle, three times repeated, is the only ornament on the shoulder of a large jar. On a bowl (PL. viI) a file of flying eagles is painted, and in fig. 97, a cylindrical goblet, there are heraldic eagles between vertical wavy ribbons. These are the three normal representations of the eagle at Persepolis. But there is a class of pottery entirely distinct from the true Persepolitan ware,
J. B. Nies $\angle \overline{x x V} c$

fig. 96


FIG. 97


FIG. 98
by its body, shapes, colour, subject and style of decoration. The pieces come from the same stratum, but are so rare (about $1: 1000$ ) that they might have been imported. And the same ware, indeed, occurs at various sites in Färs. Fig. 98, a small jar, is an example. We see three eagles and lozenges with crosses between them. The same composition is continued in the Nihawand region.

The flying eagles of PL. vII are surrounded by a strange filling of the background, which closely follows the outlines of the main design, leaving open a network of pointed ovals. The same filling is used around the bos primigenius on pl. viII. Another example is fig. 99, from Dehbid, a cylindrical goblet shaped like the one in fig. 97; the design itself combines the heraldic eagles-partial representation without heads-of fig. 97 with this filling of PL. vir. Another example comes from Tell i Skau, Färs. The negative pointed ovals are a frequent form on the Samarra pottery, and they are, just as in Persepolis, regularly used on the neolithic pottery of Honan, China (fig. 100). We had mentioned them when speaking of the landscape to which the specimen to the left below in fig. 100 belongs. Fig. ior shows two eagles above each other on a fragment from Dehbid. The design looks less sure, less original than the Persepolis specimens.


FIG. 99


FIG. 100

Beside the eagle there are water-birds, perhaps ostriches. In fig. 103 they march in files, in fig. 104 they stand alone. This last design comes from one of the best examples of the anomalous group of Persepolis pottery. Evidently a flamingo is pictured, a bird living by the thousands at the shores of Niriz lake. The hatchings around these birds-and likewise around the dog (or hare?) of fig. 87-are an aesthetic expedient to detach the design from the background, but may represent the vegetation of the swamps.

No examples of the flying water-bird at Persepolis are known to me. But we may rightly assume that they existed, for they occur at Tell i Skau and Tell i Siyāh, Mādavān (fig. 102), and a very ripe and refined variant of the motif


FIG. 101


FIG. 102


FIG. 103
FIG. 104
appears at Susa I (fig. 105). Unlike the pictures of men and animals, those of birds cn the Tell Halaf pottery resemble the Iranian ones. Our design (fig. 106) omits the dense filling of the ground with small dots, dotted circles, or rosettes. At Tell Halaf, birds appear also in the act of soaring and dropping. In Samarra (fig. 107), water-birds are catching fish in a remarkable composition dominated by the turning movement of a swastika. The close affinity of all these designs is evident. At a later period, the bird, flying down or attacking a prey, is found on bichrome pottery of the Jamdat Nasr-Susa II type (see fig. 106) between horns and back of an ibex. Flying birds also appear at Periano Gundai in the Zhōb valley, between Baluchistan and India (fig. 108), on vases of a shape peculiar to Sistān.


FIG. IO5



FIG. 106



FIG. 108
The last animal to be mentioned here is the snake. From Persepolis I can show (fig. 109) no better example than a fragment of a realistic picture. At its side we see a snake on a goblet from Susa, a piece earlier than Susa I. There, the pattern of the hide is represented outside the contour of the body, a common primitive (and infantile) expedient. A snake's head in the middle comes from Kanakān, Fārs, apparently part of a composition similar to figs. 56 and 57 . The four connected lozenges beside the great ibex on PL. xı must also be interpreted as a snake. But more common than the single snake are two or three, and also the combination conventionally called the 'wand ofiAesculapius' (fig. iro). On a sherd from Amri in Sind, an example of a class of pottery anterior to that of


Harappa and Mohenjo-Daro, a realistic picture of a rattlesnake stands beside the 'wand of Aesculapius' to make the meaning quite clear. The snake apparently had a religious significance; for, at a period between Susa I and II, on pottery as well as on seals, the 'man with the snakes' (fig. 1 I i) becomes a regular figure. In his outline there is still much of the old Persepolitan demon. The snake has the tendency to develop, in ornamental design, into knots and guil-


FIG. III
loches, like the three examples of the Mesilim period (fig. 112). Similar knots are frequent in ancient Asia Minor. In India, the snake-gods are a conception peculiar to the aboriginal inhabitants, not to the Aryan immigrants. The appearance of snakes and snake-gods in Iran, from a very early period on, establishes a link between the populations of both lands, as far as common religious notions can do so. We have already mentioned matriarchal social institutions common to both in our discussion of the Persepolis village. There are other indications that justify the assumption that western Indian and Iranian aborigines belonged to the same or a homogeneous ethnical group, which included the ancient Elamites. They are opposed to the aboriginal population of Sumer, whether Sumerian or Semite, but stand in close cultural relationship to the aborigines of Mesopotamia, the so-called 'Subaraeans.'


FIG. II 2

Thus we have studied the art of the end of the neolithic period in Iran, a period that may be estimated as around or anterior to 4000 b.c. Painted pottery produced at home is the main field of artistic activity. Its technique did not survive the phase of Susa I. The decoration, in spite of its wealth and refinement, is entirely juvenile, sometimes infantile. An astonishing sense for decoration is displayed, mostly by simple rhythmical repetition and opposition. In most cases conventions have not yet been established. The degree of abstraction in rendering the subjects varies widely, although the whole material is strictly contemporary. Animal designs have a tendency towards realism; pseudogeometric configurations are often interpreted as animals by the addition of animal parts. On the other hand, there is a wealth of purely abstract symbols, which are mutable and may go over into each other. Everything may be represented totally or partly, a principle that suggests magic notions behind the abstract designs. The entire symbolism of the paintings is highly expressive, evidently meant to convey thoughts. Therefore, in essence, it is connected with later writing, of which it represents a stage more primitive than pictographic signs.

There is no way to interpret such absolute prehistoric symbolism. Even the survival of symbols into such recent historical periods where literary sources might mention the one or the other would be of no help, for symbols change their meaning when migrating from land to land or passing from one period to another. A criterion, at least for the sphere of notions expressed by such symbolism as a whole, can only be furnished by analogy. Such an analogy exists, strangely enough, in the decorative designs of some aboriginal Indian tribes of Brazil ${ }^{27}$ that live to the present day in an almost neolithic stage of civilization and can tell us the meaning of their symbols.

The first few examples of various fish in fig. 113 already reveal the same principles as those used in the Persepolis painted pottery: various degrees of abstraction, total and partial representation, infantile indication of characteristics of the animals outside the contour of their bodies. The snakes in fig. 114 show, as in Persepolis, the alternation of positive black design on white ground or the negative white design on black ground. The variations of the designs signify various genera of snakes, and the same expedient is valid for other animals

Baraint:


FIG. II 3


FIG. II 5

Bakairí


Arender
FIG. II4


FIG. 116
and may be the explanation of variations occurring at Persepolis. The designs in fig. 115 are called fishbones, bats and palmito leaves, a meaning we could scarcely guess without direct information by the painters. Fig. 116 gives uluris, a triangular piece of clothing-the only garment worn by the women-and fig. ${ }_{11} 7$ almost the same abstract combinations representing birds and bats. All these patterns could appear (and most of them do) on the neolithic pottery of Iran. The more developed decorative combinations in figs. 118 and 119 would no longer suggest to us any objective meaning, but are intended to do so. At last, in fig. 120, we have some highly abstract designs that nevertheless attempt

## Actuin:



FIG. II7
realism. They are opposed to the purely abstract symbols just as the animals are to the symbols at Persepolis. The analogy between the Indian and the prehistoric Iranian designs is almost perfect. Without explaining in detail the symbolism of the prehistoric pottery, the analogy points out the direction in which such explanation ought to be sought.


FIG. 118


FIG. II9

This conclusion is confirmed by another consideration. The highly expressive character of the neolithic designs connects them with the pictographs of later writing that likewise depict objects with which the life of those simple men was concerned. Fig. 121 gives some pictographs of animals from proto-Elamite tablets. In spite of the separation in time, the pictographs still preserve some-

thing of the character of the ancient paintings. The first three heads of the second row have been interpreted, rightly, I believe, by P. Scheil, as horses; fig. 122 gives an archaic ivory sculpture of an equus Przewalsky from Susa. The following heads in fig. 121 are donkeys. The last sign of row 3 is a horn, then follow birds, fish, and in the last line a toad, which, though not mentioned before, is frequent among the Persepolis animals. Fig. 123 is a selection of sotract symbols, crosses, circles, oblongs, and lozenges with various fillings, the

pentagram, hexagram, etc.; and also the hour-glass and the butterfly-combination of triangles, the wavy river lines, with plants at the edge, and the doubleheaded animal, this last one not attested at Persepolis, but in slightly later cultures (see fig. 127). These signs, still illegible to us, stand for everyday notions, not exclusively concrete ones. The character of the oldest Sumerian pictographs, likewise undeciphered, is similar. When these most ancient phases of eastern script have been deciphered, a final interpretation of the more ancient symbols may be attempted.


FIG. 122

Leaving Fārs and moving to Nihawand, a more central region of western Iran, we step down in time from the neolithic to the chalcolithic, or the early copper age. Pl. II shows, beside the older specimens, three idols from Tepe Giyān, Nihawand. The first is a common rude figurine of burnt clay, strangely resembling a Rumanian type from Rushchuk, shown in fig. 124. The second is only a head. The amulet in the Ashmolean Museum, at its side, was purchased in Aleppo, but a simple variant in a private collection in Berlin is from the


FIG. I 24

Nihawand region. The third piece is a bull's head, to be compared with the bull's head on Persepolitan pottery (Pl. vn). We have left the stage when everything was new; all objects have already a lineage; tradition exists, and soon the traces, either of sophistication or decay, will appear. With the clay bull's head some small pieces in stone may be compared (fig. 125), three from Tepe Giyān, two from Chagar Bazar and Arpachiyya of an earlier period, and one bronze piece from Ordos, Mongolia, of a much later period. See also in fig. 126 the


FIG. 125
friezes ofi bull's heads, frequent at Tell Halaf, Karchemish and their group. These are the predecessors of classical bukrania.
pl. in shows some simple animals of baked or sun-dried clay, very frequent in Tepe Giyān and in other ancient strata of Near Eastern mounds, some of them not without artistic merit. The combination of two foreparts of animals, not limited to a special kind, is normal. It occurs as a pictcgraphic sign in protoElamite script (fig. 123). Fig. 127 gives two examples of fine white stone from



FIG. 127

Fig. 126


FIG. 129
Iraq, identical with specimens discovered at Ashnunnak, Tepe Gawrā and Niniveh, where they belong to the earliest Jamdat Nasr age.

The animal figures attain the highest artistic power in the bos primigenius from Tepe Giyān (pl. xv), now in the British Museum. This large figurine is baked and painted. The attitude-withers higher than croup, head with huge horns slightly raised-is full of life. Details, like muffle and dewlap, are simplified, subordinated to the whole. This bull rivals the best figures of animals of the Jamdat Nasr period of Sumer, and is certainly at least as old.

During the stone age buttons and amulets had been used as seals. The button persists during the chalcolithic period (cf. PL. xvi); likewise the toggle, usually of pointed oval, triangular or theriomorphic shape. But the seal has been differentiated, with flat surface and negative design. The rectangular pieces with representations on either side I call amulets, not so much a distinction in essence as in shape.

The varieties of swastikas in fig. 128 are frequent at Tepe Giyān and at Susa. The occasional occurrence of such seals at Jamdat Nasr, Kish, Lagash and Ur is probably due to the presence there of men hailing from the eastern regions.

The relations between the piece from Jamdat Nasr and that from Hagia Triada in Crete is striking and must be kept in mind for future study.

Fig. 129 gives several crosses from Tepe Giyān and Susa, the one to the right identical with the only real seal from Persepolis on pl. i. The true stamp-seal with flat surface and negative design originates in the chalcolithic epoch. ${ }^{28}$

Of the square amulets, the one above with the snake-god and two stars has on the back the heads of goats showing over the wickerwork of a pen (fig. 130). The little fillings of two-pointed drill-holes are more Sumerian than Iranian.

FIG. 130


The glyptic art of the late Jamdat Nasr epoch in Sumer expresses the same subject, as shown on a cylinder-seal in fig. 130, and a square 'enclosure' round two bull's heads is the ideogram for rubsu, old Akkadian for pen, or stable where animals are 'pegged' (cf. Arab. ribät).

The snake-god belongs with those portrayed on Jamdat Nasr or Susa `I


FIG. I3I
pottery (fig. III), but their age is not limited to that period. Fig. i31 opposes a specimen from the 'square temple' of Tell Asmar, late Jamdat Nasr-Mesilim epoch, to one from Nihawand, and to an unusual type from Tepe Hisar, Dāmghān. From the seals in fig. $13^{2}$ we may form an idea of how animals were delineated; the material is very extensive. The piece from Qaraj Oren, north Syria, shows the diffusion of the style to the West.


FIG. 132
In fig. 133 one example from Tell Asmar and one from Asia Minor are compared with two from Chanhu Daro in Sind. The crosses, stars and similar symbols on Chanhu Daro seals in fig. 134 are likewise akin to Iranian ones in character, but differentiated in shape, to the same degree as the animals are.

Fis. 135 opposes two Tepe Giyān stamp-seals with ibex and with boar to


FIG. 133


FIG. I 34
two pieces purchased in Aleppo for the Ashmolean Museum; they are typical of north Syria and Asia Minor; the general character and subjects are the same, the difference in drawing no greater than their distant provenance justifies. The discovery, among some simpler specimens, of one of the finest of such seals, in ivory, at Tepe Gawrā, stratum VIII, i.e. late Uruk-early Jamdat Nasr epoch (fig. 136), has proved the remote antiquity of such developed designs on seals. ${ }^{29}$ All examples in fig. 136 evidently belong to phases of the same prehistoric age.


The design on the British Museum piece consists of two protomes of bulls and heads of rams, four grown together, two free. The remote age of such a pattern permits it to be associated with similar combinations on Samarra pottery; and related types on seals from Fara (Jamdat Nasr period) and occasionally from early dynastic Sumer, may be regarded as coeval or as survivals.

fig. 136

The stamp-seal from Mar'ash (Ashmolean 93) stands very close to the Gawrā seal. On the other hand, almost nothing distinguishes its design from that on the roll-seal (P. Morgan, I40). The extremely great age of the roll-seal as such is a fact usually questioned. Certainly the stamp-seal was more common in high prehistoric antiquity than the roll-seal, perhaps excepting Sumer. But cylinderseals with rather sophisticated designs appear as early as the later phases of the Uruk period, and at the early Jamdat Nasr period the cylinder itself has already assumed widely different shapes and sizes. Moreover, the great majority of truly archaic roll-seals have designs as undeveloped as the simplest stamps. Therefore, though our evidence of stratified specimens is scanty, we must expect that stamp- and roll-seal were both differentiated at the beginning of the chalcolithic period, the one from the button, the other from the cylindrical bead or amulet, button and amulet having been used for sealing before there were true seals.

In Iran, too, the cylinder-seal appears early. pl. xvn gives specimens of various classes, mostly known by their occurrence, more or less frequent, at Susa and Ashnunnak. Some of the pictures are abstract symbols, either used

single or composed to something resembling a 'floral ornament.' They evidently descend from the pottery symbols. In the rare cases where they appear in Sumer there are reasons to suspect that they have been imported. These Iranian seals share the sense for ornamental composition with the Persepolis paintings, whereas in Sumer, the true home of the cylinder-seal, this character is missing. The compositions in fig. 137 are based on a zigzag ribbon with triangular fill-


FIG. 138
ings, a frequent device. In fig. 138 these patterns are transposed into curves, the examples from Susa and Tell Asmar being paralleled by one from TelloLagash, imported, and one from Tell Bāshir, north Syria, perhaps slightly later in date. One of the rosette patterns in fig. 139 comes from Isfahān, Persia, an almost identical piece from Kish, Iraq. ${ }^{30}$ A similar design is engraved on a seal in the Newell Collection, closely related to the seal on Pl. xvn (left above), a group to which belongs the cylinder-seal discovered at Troy ( n .8868 ). The last example in fig. 139, from Susa, shows beside the four-lobed rosette a symbol common in Mycenaean and Cretan ornament, which signifies 'god' in Hittite hieroglyphs. The four-lobed rosettes dominate the design of two seals on pl.

fig. 139
$x v n$ and in fig. 140. The small circles with centre that serve as fillings are made with a tubular tool and have the aesthetic value of the dotted circles and rosettes on Tell Halaf pottery. Finally, on the pretty, long beads of lapis-lazuli, in fig. 141, the design recalls the 'fringes' or garlands of the Samarra pottery.

If we consider the discovery of one small cylinder-seal in the Tell Halaf stratum of Chagar Bazar as sufficient evidence, the cylinder-seal would antedate in Mesopotamia the oldest stamp-seals so far observed in situ in Sumer; only the


FIG. 141
one true stamp-seal from Persepolis and the identical pieces from Tepe Giyān and Susa would be older or coeval. The file of men on that seal from Chagar Bazar resembles other designs united in fig. 142. On the Ashmolean seal we see an animal consisting of two protomes; the Newell piece cannot be separated from the stamp-seals in fig. 136 and may well date from the end of the Uruk period; the piece from the Nies collection comes nearest to the Chagar Bazar seal and has the animal with the 'knock-kneed' or bent legs, typical of the animals on the Tell Halaf pottery (cf. fig. 96).

Other animal designs are of much higher artistic power, whether they belong to a group specific to the Susa II period of Elam-like the three examples


FIG. I 42
on PL. XVII (second row) and fig. 143, one from Sultanabad-or, like the file of animals with spiral horns on PL. XVir and similar files in fig. 144, to another group, equally akin to the finest seals of the Jamdat Nasr period in Sumer and to the Anatolian types in fig. 136. On one of the seals on PL. xvii from Isfahan, animals are portrayed that act like humans, carrying a big jar on a stick over their shoulders. This is strictly Elamite. On another seal from Tepe Giyān there is,

beside a tree, a file of men the outline of which recalls the peculiar manner in which the human body is represented in Sumer during the Mesilim epoch or in some archaic ideograms (fig. 145). These men wear exaggeratedly large boots with turned-up points like boots of mountaineers as pictured, exceptionally, during the Sargonic age in Sumer and later, regularly, in Hittite Asia Minor.


The amount of the pottery with which those seals are associated increases the farther we descend in time. Having laid a rather solid foundation by a minute study of the most ancient phase, we may and must deal more briefly with the later periods. This is the more excusable as, with increasing use of metal, pottery ceases to be the main field in which the artistic faculties of the people were expressed.

If we take no account of still older fragments like those on PL. xiv, and others that attest the Susa I phase at Tepe Giyān, ${ }^{31}$ the pottery of Nihawand, i.e. Tepe


FIG. 145

Giyān and neighbouring mounds, begins between Susa I and II. This is proved by the shape alone of the dominating type of vessels (fig. 146). The lower part of these jars is ovoid, and to the largest diameter-the upper rim-a receding ring with a peculiar bend in the curve is joined, reducing the opening to abou* half its width. Formerly there had been only the wide-open deep bowl. The opening had been purposely narrowed in order to facilitate the closing of these


FIG. 146
storage vessels, whether by a lid or by clay stoppers. From such an origin the jar preserves a thick rim where the two constituent parts are joined. The greater the distance from the origin, the more indistinct becomes that rim. It has entirely disappeared when this jar reaches the shape in which it becomes the standard type of Susa II (fig. 147). Further proof for such a development is offered by the decoration. The older examples show a compact and strong composition, as in fig. I48. In fig. 149 the design, together with the gradual change of shape, begins to become looser, although in this case a lozenge still dominates the composition and forces the elements, here the eagles, to follow a certain outline. In fig. I 50 the arrangement is still regular, but the elements are independent. Fig. I5I shows the end attained at the moment when the vase reaches the typical Susa II shape: the disconnected elements are strewn over the shoulder of the jar. One



FIG. 150


FIG. 151
can easily imagine how fig. 147 would look from above: no trace is left of the geometric composition, the heritage from neolithic art.

The scheme of composition most frequent at Susa II is three segments of a circle across the shoulder, as in PL. xxn (middle) and fig. 1 52. The same scheme appears at Tell Halaf when that art reaches the Jamdat Nasr or Susa II stage, and also in Kansu, China, among the pottery which we have several times com-


FIG. I 53
pared with Iranian wares (fig. 153). It would be difficult to believe that there was not some form of transmission from western to eastern Asia.

Dominant among the decoration of the oldest Tepe Giyān jars is a strange form that may be called 'comb-animal.' Fig. 154 gives the simplest variety and probably the prototype (cf. PL. xvm). It is one of the combinations of two protomes of animals. In Tepe Giyān it has, I believe without exception, two heads; in Susa I it usually has no head but two tails; fig. I 55 alone could be interpreted
as two heads. This strange device seems related to an older design on pots from Tell Halaf or Tepe Gawrā (fig. 156). A striking analogy, already adduced by Hanna Rydh, ${ }^{32}$ is a bone comb from Gullrum, Gotland, of the northern neolithic (fig. 157). The symbol on the Tell Halaf pottery is plainly a comb, likr those made of sandalwood in the present day in Nadjaf. And the Gullrum comb is plainly the symbol of the Tepe Giyān and Susa pottery. Hence the name


FIG. I 54


FIG. I 55


Fig. 156
'comb-animal' or 'animal-comb' is not without reason. In various countries and periods the comb had a symbolic meaning connected with that of the comb shell (Gr. $x$ rei 5 , Lat. pecten). In the middle-west of Iran, the Kurdish regions, the comb functions at present as a symbol on tombstones-not of women, as one might expect, but of men; and every Kurd carries under his high kuläh a comb shaped like the Tell Halaf picture.

The other typical animal is the eagle, usually in heraldic attitude, wings unfolded, as on PL. xvin and in fig. 98. In fig. 158 a file of such eagles is seen around the body of a vase from Burüjird, at the end of the Susa II epoch. The heraldic eagle in Iran and Elam corresponds to the well-known 'arms' of the early dynastic cities of Sumer and of Susa (fig. I 59), all of them consisting of such an eagle holding a pair of animals under its claws. Above the eagles of the


FIG. I 57
Burūjird vase two horned animals, with necks crossed, scratch each other's necks with their teeth, as donkeys like to do. The mere abstract scheme, two animals with necks crossed, occurs on seals from stratum VII, Tepe Gawrā (fig. ${ }^{160}$ ); the artist of the Burūjird vase has given a realistic interpretation of the old theme.

As the Susa II stage the most common animal is a water-bird. Several examples have already been given and fig. 161 adds one excavated at LagashTello. Sketchy plants are always painted beside the birds. The birds themselves


FIG. ${ }^{5} 5^{8}$

fig. 160


FIG. I 59
descend from a long line. But the sketchy plants, which may indicate reeds of a swamp or plants on which the animals feed, are a later feature; at the Susa II period they are prevalent in the composition, and later on they often remain alone. Hence they are diagnostics of decomposition; the art decays.

The jar of which a detail is shown on PL. xvm may be slightly earlier than

fig. I6I

fig. 163


FIG. 165


FIG. 162


FIG. 164

Susa II; we see a resting eagle, and a hyena, an excellent piece of drawing. The goat on the same plate, with all the humour of its species, belongs certainly to the Susa II period.

Cylindrical or calyx-shaped goblets are frequent among the Tepe Giyān vases. PL. $\mathbf{x x}$ (right) gives an archaic specimen, the decoration of which is composed, like those from Persepolis in fig. 77, after the same scheme as the Sumerian sun-symbol. The small circles with central point recall the seals in fig. 140. Almost equally old is the goblet (fig. 162). The pattern possibly means houses or walls standing at a river's bank in a hilly country. At any rate it descends in a straight line and without great distance from a design of Susa I, represented in fig. 163. An analogy to the interpretation as architecture is the 'landscape' of Persepolis, and we shall soon see a more convincing example. A third cylindrical goblet, with a vertical row of birds, slightly later, is given in fig. 164 ; we must not mistake its style for that of a much later period of Niha-


FIG. 166

fig. I67
wand pottery on Pl. $\mathbf{x x}$, the middle of the second millennium. Fig. $16_{5}$ shows the vertical row of birds already at the period of Susa I.

An entirely new type of vase appears in fig. 166, imitating a small skin-bag on a tripod. At Troy I there are tripods with slightly higher legs, which Schuchardt considered-by definition-as 'cookery pots.' A similar type is found in the Chinese culture of Yang Shao (fig. 167) at the end of the neolithic and the beginning of the chalcolithic. In China the type persists in bronze. To the other two Chinese shapes, we shall refer later.

After having seen so many points of contact between the south and west of Iran and Far Eastern regions, we must have a glance at prehistoric remains in the east of Iran. In doing so we once more go back from the second half of the second to the first of the fourth millennium.

Sistān, the low alluvial plain at the point where modern Iran, Afghanistan and Baluchistan meet, is no longer the land it was in antiquity. The huge Helmand river, which today empties itself into a northern bay of the shallow Hämūn lake, once flowed straight west into the southern end of that lake. The rich ancient delta is now a hopeless desert, but full of remains of the chalcolithic age. It is the land of the ' 120 -days'-wind' (bäd i sad $u$ bīst $\bar{u} z$ ), which blows, as a matter of fact, the whole year through. Its erosive power has lowered the level of the whole land from 6 to 12 feet in 5,000 years. Whereas in other countries ancient remains are covered by high mounds, in Sistān the old level is only preserved in the shape of small mesas, where something too heavy to be blown away



FIG. 168

resisted in the earth. On those tables lie collections of ancient pottery and alabaster as in a dealer's shop, to be picked up without stooping. But there are few sites worth excavating. The three beakers in fig. 168 are typical chalcolithic Sistān. The ware is hand made, very thin, usually over-fired, and hard like a Dutch klinker. It seems to belong to an early phase of the copper age. The main shapes are the beaker, which might be called bell-shaped, and a flat cup, a true calotte, as in fig. 169. The decoration is simple, consisting of panels with lozenges and such, borders of conventionalized horns, triangular combinations, or


FIG. 169
simple hatchings. The animal on the goblet to the left could be from Samarra. On the flat cups in fig. 169 one can observe that the surface has been scratched off, a technique evidently connected with the thinning of the wall by scraping at Persepolis. The same scratchings appear in Susa I, as on the vase in fig. 170. It is also rather regular for Shāhī Tump in Makrān. ${ }^{33}$ Hubert Schmidt describes a simitar feature when speaking of the third culture of Anau, which he called in 1904 'the brilliant epoch of the copper age in Trans-Caspia'; today it appears comparatively dull. There the 'striae' have developed into an ornament. The epoch, if really copper age-it may be early bronze age-would correspond approximately to Jamdat Nasr in Sumer, and to Susa II in Elam.

The calotte-shaped cups are everywhere an archaic type. The same shape with similar decoration occurs in Honan, China. The finest of the pieces discovered is shown in fig. 171 ; the simpler ones are almost identical with those in our fig. 169 .


FIG. I7I

FIG. I 70

We return to central Iran, Tepe Giyān (Nihawand), excavated by Contenau and Ghirshman. Their publication appeared only after that of my collection from the same place. Comparing both publications, a conclusion, not yet foreseen in either of them, becomes necessary. The character and date of the older ceramics, called 'couche V et IV' by Contenau and Ghirshman-but possibly more than two strata--cannot be questioned or altered: they begin during the copper age not before Susa I, overlap Susa II, and continue into the subsequent 'couche III.' This must be the direct continuation of IV, because, independent of the local development of the pottery types, there is an undeniable relation between Tepe Giyān III and Tepe Gawrā VI, i.e. 'early dynastic' age. ${ }^{34}$ On the other hand, 'couche II,' dated too early in my publication, must belong to the second millennium. Beginning and end are fixed; but it is impossible to extend the duration of 'couche III' farther down than the middle of the third millennium and it is equally difficult to push the beginning of 'couche II' farther back than the early second millennium. There must have been a gap in the occupation of the mound between III and II.

A ware that one would expect to find in the third or the upper layers of the fourth stratum, the so-called 'Diyāla ware,' is entirely missing. It is bichrome


FIG. ${ }^{1} 7^{2}$
and stands between the late Jamdat Nasr and the Susa II ware. Its period is the beginning of history in Sumer, about 3000 b.c. On the two specimens in fig. 172, from Susa and from Mirwali (Luristan), we meet again the stag, the bull and the birds. The sketchy drawing and the preponderance of floral fillings are signs of degeneration. At Persepolis floral elements, though not entirely absent, are rare; where they occur distinct plants are intended (cf. fig. 173). In Susa I the plant usually affects the abstract shape of a pinnated leaf or a regular branch


FIG. 173
resembling a palm leafi The abstract symbol replaces the tree, but the tree, drawn in a pseudo-naturalistic way, is typical ofithe Diyäla pottery and common in Jamdat Nasr itself, as in fig. 174. Both wares show a predilection for the 'panel composition,' called also 'metopes' or 'triglyphs.' This important scheme ofi composition occurs, if at all, in only rudimentary form, and almost unconsciously, amid older potteries, but dominates completely the designs in Nihawand during the second millennium. The phase during which the scheme rose to such predominance is not represented in Nihawand. On the Jamdat Nasr ware from Sumer, and on the corresponding ware from the Iranian borderlands, the 'panels' are often filled with figural scenes, Sumerian and Iranian; on a famous vase from Ashnunnak (fig 175.) ${ }^{35}$ there is, for example, a chariot that shows, at the end of the fourth millennium, the same harness as was used a thousand years later in the region of Kanesh-Kultepe, Cappadocia. Floral elements, normal on this ware, are rare in the west of Iran, but prevalent in the east; a few, and not the best, examples are shown in fig. 176 . This distinction holds good for the Iranian pottery of the early third millennium as well as for the middle of the second, to which belong the majority of vases from Khurāb, in the Bampūr district of Kirman. ${ }^{36}$ Highly important for the absolute chronology ofieast Iranian ceramics are some specimens, unearthed by Sir Aurel Stein, of a grey incised ware from the same Bampūr region (figs. 177 and ${ }_{1} 78$ ). ${ }^{37}$ This ware carefully imitates a specific class of stone vessel from Sumer, shaped like a kal-



FIG. 179
athos or a pyxis. Of the three examples in fig. 179, the middle piece from Tell Asmar dates, by the stratigraphy as well as by its close relation to the Adab vase in Chicago, from the end of the Jamdat Nasr period and the dawn of history. The designs represent prehistoric Sumerian architecture, the origin of which was huts covered with wicker-work. On the fragment from Adab the buildings stand at the bank of a river which undulates between hills. This is a belated corroboration of our interpretation of the design at Persepolis as 'landscape' and of that on the cylindrical goblet from Tepe Giyān as 'architecture.' Other such vases, the finest being the kalathos in the Metropolitan Museum (pl. xxiv), show a garden among hills. The plants may be the phoenix, but they bear a striking resemblance to aloes as pictured on pre-dynastic Egyptian pottery. Simpler designs seem to go on for a while in Sumer, but their appearance in the tomb of Shub-Ad at Ur, i.e. approximately the Entemena period, furnishes only a terminus ad quem, because the inventory of that tomb apparently consists of treasures from the temple, and single objects may be heirlooms that are a hundred or more years older than the burial.

Our pl. xx gives two specimens of the late ware of Tepe Giyān. The two small vases (purchased June 1926 in Hamadan) are the very first pieces that became known and stimulated me to search for the site of their provenance; the larger piece of identical shape and design is the piece that proved they came from Tepe Giyān. This pottery, judging from intrinsic evidence and the correlated finds of bronzes, ornaments and the great number of 'Kerkūk' seals from the same stratum, must belong to the middle of the second millennium, the end of the sixteenth to the beginning of the fourteenth century в.c.

The vase of fig. 180 is one of its most elaborate representatives. Even without the stratigraphy of Tepe Giyān-the picture of the birds perched on a tree, the way this little picture is framed like a metope, and the specific shape of the tree, which betrays Minoan influence-would be intrinsic evidence enough to date this vase about 1400 b.c. Fig. 181 gives some dated material for comparison. ${ }^{88}$

The goblet with two rows of birds on PL. xx must be older. ${ }^{39}$ It contained a cylinder-seal of very soft white stone, with the picture of a worshipper before a seated deity, and the inscription: 'an ud ik u sag tar an en zu,' or: 'ShamashIbashi U-sag-tar of Sin.' ${ }^{\text {to }}$ As B. Meissner informed me long ago, the title 'U-Sag-Tar' is not yet known. The style of the seal is decidedly older than the Kossaean period. It might belong to the time of the First Dynasty of Babylon, perhaps to the Dynasty of Isin and Larsa. At any rate it is not later than the beginning of the second millennium cf. fig. 182 .

Fig. 183 shows two round jars from Khurāb, Bampūr, evidently of the same age as the late Nihawand ware. One piece has the same rich metope composition; the other has a row of trees that, as mentioned above, are a specific feature of the more eastern branch of Iranian pottery in the third and second millennia


FIG. 180


Fig. 182


FIG. 183

The ceramic ware represented by the rhyton, $\mathrm{PL} . \mathrm{xv}$, and a number of fragments like those in fig. 184, comes from the Nihawand region, allegedly from the town Nihawand itself; but it is not limited to that region, for a small fragment was found among the debris constituting the filling of the terrace of Pasargadae. In opposition to the usual Tepe Giyān pottery, this ware is perfectly burnished, and the paint is a varnish. The colours are usually brown on buff ground, but orange on reddish or black on grey ground also occur. Quality


FIG. 18 I
and appearance are almost identical with Mycenaean varnish, but the designs are entirely Iranian. Otherwise one might suppose they had been imported. The date will remain an open question until this ware has been discovered somewhere in its original context.

Now we leave Nihawand and travel, not far, to Sãwa, a place half way between Hamadan or Isfahan and Teheran. Under two late medieval strata, pottery of an entirely different character has been unearthed: a hand-made ware


Fig. 184
of red clay, full of dégraissants, sandy and strawy, with a darker red slip, and simple painting in grey-black. The shapes are primitive, mainly open bowls, varying in depth. The huge piece in fig. 185 suggests a 'skeuomorphic' origin of the shape and the decoration. A second example, the finest I know (fig. 186 ;, makes that certain: two different patterns, both peculiar to basketry, are painted inside and outside the cup, and its shape, with the strange hollow foot, is an exact imitation of a little basket.



FIG. 186


Although the ware differs-grey body with decoration not painted but incised, and rubbed in with white paste-an old pre-dynastic Egyptian ware shares certain features: i.e. imitation of basketry with identical designs (fig. 187). The Sāwa pottery, loosely connected with the oldest ware of Anau, seems to underlie and partly overlap the oldest strata of many mounds in northern Iran. It is quite common at Raga, south of Teheran, at all the mounds east of the road Teheran-Kumm, at the very fringe of the salt desert, like Muhammadābād. It is common in Tepe Hisar, where it seems to lie under stratum I; J. T. Arne describes something similar as the oldest ware of Shāh Tepe, and F. R. Wulsin observed it at Tureng Tepe. The large jar on PL. v may serve as an example of this red-painted ware in general. In order to fix its chronological
position some of the mounds south of Teheran ought to be excavated, where the red ware appears together with the oldest types of painted bull ware. It is possible that it is older than even the painted neolithic ware of Eārs. I have observed rough flints wherever this ware appears. No metal has been brought from Sāwa, and flints and similar stone objects, being of no commercial value, have not been collected by the dealers who excavated Sāwa under the protection of the Iranian law.

Otherwise, the oldest pottery of north Iran is that discovered at Anau, near Ashkābād. ${ }^{41}$ Properly speaking, Anau lies outside the Iranian highland and represents the prehistoric culture of Transcaspia, or Russian Turkestan, as long as that region is unexplorable. J. T. Arne has drawn a map ${ }^{42}$ of about two hundred mounds, on a small area along the Gurgān river only, on the Iranian side of the steppes. The entire land is sewn with thousands of them, but the most important ones are to be sought near the Oxus and Iaxartes, the Amu- and Syr-Darya. One day this alluvial land will reveal itself as the home of a civilization rivalling in age, if not in importance, the most ancient civilizations of the Indus valley in the East, the Euphrates and Tigris in the West.

The oldest ceramics hom Anau I are hand-made and painted (fig. 188). It seems that at the middle chalcolithic period painted pottery prevailed every-


FIG. 188

where in and around Iran. Nowhere is painted ware the only type; a rough red or black ware always runs parallel to it and persists alone during periods when painted pottery disappears. The painted wares of north Iran may be of buff clay with brown, or of red clay with black paint. But in the north, as opposed to the south and centre, painted pottery is the exception, plain pottery the rule.

A characteristic feature of the shapes at Anau is the concave curve of the
lower part of the body. The painting uses mostly triangles and chequers, etc., as main motifs. Only a distant resemblance exists between them and the simplest designs on the southern wares, but there is a definite affiliation with some neolithic potteries of Europe (cf. fig. 189, a specimen of the oldest Helladic ware from Chaeronea). Other simple forms (fig. 190) resemble designs from Samarra, but their scale, composition, and arrangement on the body of the vases are quite different.

We evidently face a culture which, though contemporary-it is neolithic-


FIG. I89


FIG. 190
and not entirely without contact, is decidedly independent and in closer touch with the north than with the south. Another observation supports such a view. Just as strata of painted ware alternate with others of plain pottery in Susa during the fourth millennium, proving that Susa periodically was connected either with the Iranian plateau or with the Sumerian alluvium, so at Anau and at other places at the foot or on the northern border of the Iranian plateauTureng Tepe, Shāh Tepe, ${ }^{48}$ for instance-two spheres of culture alternately exercised their influence. What we feel as non-Iranian at Anau belongs to the still unexplored cultures of the two-river-land of the Syr- and Amy-Darya. Dominant at Anau, this northern influence radiates from that region into Iran, and some of its most ancient wares and shapes live on in certain subsequent types of northern Iran. But that influence was never felt, at any rate never before the second millennium, in the centre and the south.

The ceramics of the north have best become known by the excavations of

Tepe Hisar, Dāmghān. ${ }^{44}$ The same culture stretches west at least to Raga (modern name Chashma 'Alī), south of Teheran.

Among the shapes of Tepe Hisar an egg-shaped, sometimes more mastosshaped conical cup (fig. 191), is very archaic. The exact shape occurs at Persepolis, and is one of the many varieties of ovoid or conical vases there, with or without long thorns. The painting either extends, as at Persepolis, over the whole body, in simple radiating strokes as in the Louvre specimen, or forms a broad border around the opening. Another shape is the ovoid goblet with foot.


FIG. I9I
The one shown in fig. 19 , in my collection, is one of the pieces found in 1876 . A comparison with a piece from Shāhī Tump, Kēj valley, Makrān (fig. 192), strengthens the impression that this ware is somehow 'skeuomorphic' in shape and more so in decoration, and hence shares a feature with the old Sāwa pottery, as opposed to the Färs ware. The same goblet occurs also in Baluchistan in the east, and-more important-in Tepe Gawrā in the west (see fig. 19²), where it


FIG. I $9^{2}$
belongs to stratum VII, synchronous with the end of Jamdat Nasr and the beginning of history. The oldest Tepe Hisar types are certainly not later, and possibly older. The goblets in fig. 193 of similar shape are no longer hand made and are more elaborately decorated. We have mentioned this type of ibex when speaking of the descendants of the Persepolis ibex. The floral elements that flank


FIG. 193
the animals correspond in character and aesthetic value to the plants on the 'Diyāla' variety of the late Jamdat Nasr ware.

The animal on the second goblet, the leopard, is characteristic of Tepe Hisar I. Fig. 194 adds some fragments, one of them with three leopards standing above each other, in a reduced style, which this time is not a matter of partial or shorthand representation, but of decay. The complete design evidently descends from the much more original Persepolis leopard, as shown on PL. xI, and is so closely akin to the leopards from the very oldest stratum of Tepe Giyān (pl. xiv) that we must consider them as practically coeval. That would put the Tepe Hisar I pottery back into higher antiquity than the date assumed for Tepe Gawrā VII. Indeed, a careful comparison of the shapes of the vases rather favours such a conclusion.

Besides the ibex and the leopard, the bull appears in the characteristic attitude of attack: forehead with horns lowered (fig. 195). That same bull is found on potsherds from Muhammadābād, south of Teheran, and from the deepest levels of Tepe Giyān (PL. xIv). A mere abstraction of a bull has here received a more realistic interpretation in not only its physical features, but also its action.


Fic. 194
The picture of a file of men on sherds from Tepe Hisar I and Raga (in the same fig. 195), apparently in a kind of war-dance, proves the same tendency towards greater realism. The design may be compared with files of men (or women) from Tell Halaf, but usually this design is rendered in a manner sketchy beyond recognition, as if it were not much more than the 'fringes' of Samarra. The older portrayals of men and animals are abstractions of how they look. Their attitude is rarely a momentary one; they do not act.


Hig. 195

The time has not yet come to systematize the comparative stratification of north Iranian prehistory. Meanwhile we must try to establish points of support for the relative chronology of the series of strata observed at different sites. To show what such work means, we shall review some characteristic types, emphasizing the distinctions between the central and southern cultures on the one hand, and the affinity with cultures of Asia Minor and Europe on the other.


Fig. 196
Hand-made cups, mostly in various shades of grey ware, of ovoid, sometimes campaniform shapes (PL. xxn), and profiles in fig. 196-the egg-shaped one from Raga, the bell-shaped one from Dāmghān, both in silver-grey-remount to at least the early chalcolithic period. Dark black, burnished cups of spherical shape with short straight neck, occasionally with a small handle, also


FIG. 197
belong to an early period. Fig. 197 compares one archaic and common example with one from Alishar, Asia Minor, stratum II. It is not found in south Iran.

Flat plates, ignored by the Persepolis potters, are frequent in the north. Fig. 198 compares two almost identical deep dishes, one in my collection and one from Agha Evler, the most important site in Talish, south-west of the

Caspian Sea, with stone-age dishes from Bohemia, Thessaly and Alishar I: closer relation between special shapes could be easily exemplified by larger material; here it is enough to state their general resemblance.

A large open basin from Nihawand, hand-made, of nearly spherical body, with nothing but a narrow groove around the rim, which is interrupted at one or two places only by a little knob, occurs identically in the early chalcolithic


Fig. 198
stratum of Alishar I (fig. 199). The body of both the examples is grey, but with red surfaces and a light red slip. In the Iranian example, grey smoke-patches run down from the upper rim; they are lacking in the Anatolian piece. Otherwise

there is scarcely any distinction. Red body with smoke-blackened blotches is common in Anau II, and a similar decoration is well known from certain predynastic potteries of Egypt.

A deep-black beaker (fig. 200, a), highly polished, of concave cylindrical shape, differs from an early bronze-age type from Aunjetitz, Bohemia (b), only


FIG. 200
by the position of the very small handle that is placed at the upper rim in the Iranian, at the lower in the Bohemian example. We shall observe later, in metal work, further relations to Aunjetitz (period of Troy I and II). These relations are the more remarkable as the Aunjetitz culture is considered to be 'of southern origin, appearing and disappearing, without after-effect, during the first metal age. ${ }^{45}$

A group of small pots with handles in fig. 20I must be compared with those


Boh.


Boh.


FIG. 201
on Pls. xxil and xxin. The two specimens from Bohemia are of the same shape as the Iranian piece on PL. xxm. The change in the curve, upper part concave, lower convex, of some of the Iranian vessels is also peculiar to Aunjetitz, Bohemia. The specimens from Alishar and Troy represent a form common in Anatolia and in Iran. Fig. 202 gives the outlines of a series of gold vessels from Maikop, Caucasus, to which a date older than the eighth century b.c. has scarcely ever been assigned. The most ancient metal vessels, copper or bronze, could not but adopt the shapes developed through preceding centuries in pot-
ery; much later and only by and by, after it became predominant, metal found ts proper shapes and, still later, those special shapes were imitated by pottery, which meanwhile had become a secondary art. The shapes of Maikop vessels, in harmony with their archaic decoration, belong to that early prehistoric stage when pottery still led the way. Their age has apparently been much underrated, and the name 'Sumerian' could be applied with better right to them than to the lost 'Treasure of Astarābād.' (See below.)


FIG. 202
The peculiar profile of Anau I, with the concave curve of the lower bodysee the painted specimens in fig. 188-goes on in north Iran. as in fig. 203. This piece is related to the archaic piece from Yarym Tepe (fig. 204). Right and left are shown two late, rather extravagant jugs from Tureng Tepe and Tepe Hisar III. The ware gives the illusion of black bronze or steel; it is either entirely or partly burnished, with linear patterns on a dull ground. Its period is the transition from the third to the second millennium. The concave curve of the lower body is very persistent, and is the more suggestive as it appears, for example, at Kultepe, Cappadocia, although it is foreign to other parts of Iran. Such evidence must be carefully collected: in recent historical times various Turkish tribes took the road from Turkestan through north Iran into Asia Minor, and it


FIG. 203


FIG. 205
is a priori probable that already in remote prehistoric epochs parallel movements took place, just as the later history of Elam only repeats the events of its remote prehistory.

The exquisite black ware with burnished linear patterns, entirely absent in the centre and the south, lasted long in north Iran. A fine jar (hydria), of this class, from Ashraf, Māzandarān, confiscated for the Museum of Nasir al-din


FIG. 204
Shah in Teheran, stands beside a piece in my collection in fig. 205. Fig. 206, from Agha Evler, attests that type in Tälish. Fig. 207 shows the burnished decoration applied to other shapes of a silver-grey ware from Dāmghān.

Another typical feature of north Iranian pottery is the enormous spout. It is equally characteristic of a great number of shapes in Turkestan, Asia Minor, on the Cyclades and in Crete. Fig. 208 gives two such early chalcolithic specimens. With the examples from north Iran on pls. xxiI and xxiri, we compare in fig.


FIG. 207


FIG. 208


FIG. 209


209 first a red pot with handle and straight, narrow spout, the upper rim of which is strictly at a level with the opening of the pot; second a pot of similar shape with the same spout from Anau, stratum III, of the high copper age, or as I see it, the early bronze age. The Tepe Hisar II phase has less developed shapes of vessels and spouts, Hisar III or Shah Tepe IIb, III more extravagant ones.

One variety deserves special mention; the spouts of vases from Tureng Tepe (Astarābād), Kultepe (Cappadocia), and Alishar IV (Asia Minor) in fig. 210 consist of a long cylindrical tube which starts from the largest diameter and continues the direction of the curve of the lower part of the body; the mouth is formed like the lower jaw of a pelican's beak. Closely akin are the vessels in


FIG. 2 II
fig. 21 I, with flattened spherical body and a spout of essentially the same description, but which starts higher in relation to the upper rim. The example from Shah Tepe 1Ib is paralleled by several specimens in my collection from Sar and Zun near Demawand, and from Kurūs near Raga, which share also the little knob with the example from Kultepe (Cappadocia). The Kultepe piece comes from the stratum dated by the early Assyrian documents at the very end of the third millennium. All these are ceramics; the two other examples in fig. 2 II are of metal. The silver vase from Tepe Hisar III-a stratum coeval with Kultepe-today half re-buried in an imitation of the original tomb in the Pennsylvania Museum, is one of the most important finds of the Tepe Hisar expedi-
tion. The fourth example, of gold, here reproduced after an old insufficient sketch, belonged to a treasure discovered a hundred years ago at Astarābād, ${ }^{46}$ which Rostovtzev republished under the heading 'The Sumerian Treasure of Astaräbād?' It apparently belongs to the same age as the silver pot from Tepe Hisar and the ceramic pieces in fig. 211 , and represents not 'Sumerian' but a local art of about 2000 b.c. The silver and gold vases illustrate our assertion that in old periods metal vessels imitate the shapes of pottery. But these shapes are too peculiar to be invented twice. Hence the entire group is a valuable indication not only of cultural contact, but of movements of people from Turkestan to Asia Minor at the very end of the third millennium.

Vessels from Dāmghān and Nihawand, of almost the same shape, add small

FIG. 212

animal heads at the starting point of the spout (fig. 212). Theriomorphic vases, or ones with parts of animals, exist from the stone age on (see the little animal from Persepolis on PL. xim below). The Dāmghān piece can scarcely belong to the very late period assigned to that from Tepe Giyān, i.e. the end of the Nihawand and the beginning of the Luristan epochs. The real Luristan type, which means in the limited acceptance of that term 1400-1000 b.c., appears at Zangiān, Kēj valley, Makrān (fig. 21 3), while the piece from Damba Kōh, near Gwadar (Persian Gulf), stands nearer to the pots of fig. 21 I.

FIG. 213



FIG. 215


FIG. 216


A late development, very common in Iran, is the spout with a large crop, of which fig. 214 gives an example in red ware with red slip, from the Nihawand region; fig. 215 shows one also in red, but without slip, from Sar, Alburz, found in a bronze-age tomb together with pots of the shape illustrated in fig. 211 . The hollow tube inside that enormous crop-spout is so narrow that the vessel can only have had a limited use. This is a shape created no longer in pottery, but in metal. It first appears in Luristan and late tombs of Nihawand, with spout illus-


FIG. 217
trated by fig. 216: still straight, but mostly made of a separate piece fixed to the body by rivets. PL. xxv shows an example of the crop-spouted metal vase resulting from such a development. Ceramic vessels from the Luristan stratum of Tepe Giyān and from Luristan itself exactly imitate those bronze vessels even with their rivets, as shown in fig. 217. At last the crop-spout is a normal shape among the bizarre pottery of Tepe Siyalk, near Kāshān (fig. 218), and its painted decoration, especially the geometric designs around that crop, are clearly derived from Luristan metal work. The Siyalk pottery can be nothing but a continuation of the Nihawand-Luristan tradition, the last phase of painted pottery in Iran. It is a fact not generally known that with the occupation of western Iran by the Aryan tribes, after the tenth century b.c., all painted pottery came to an end. There is no painted pottery at Agbatana, Pasargadae, or Persepolis, during the Median or Achaemenian periods. This implies a date for the lower limit of the Luristan culture, which is separated from the beginning of the Aryan epoch in about 900 , by the last Kāshān-Siyalk phase. This means that the Luristan culture must have ceased in approximately 1000 b.c., a date in
harmony with the dates furnished by the cuneiform inscriptions. Those found on weapons are all of the Fourteenth Dynasty of Babylon (i.e. Isin II); and the very latest inscription known, on an embossed cylindrical goblet in the collection of Mrs. Ada Small Moore, is in the name of a son of Nabü Mukin Apli, who lived in the first third of the tenth century.

A flat dish in grey ware from Nihawand (PL. xxiri) has three legs shaped like cow's feet, while the cow's tail is indicated by a curved piece connecting feet and

bottom of the vase. The same type appears also, simply painted, in Tepe Giyān III, from the early dynastic period (fig. 219). The cow's feet are common in Egypt at an early dynastic period. A tripod (pl. xxiii) in dark black ware from north Iran has straight and higher feet, a shape frequent in the grey ware of the Alburz region, but with naturalistic cow's legs. To almost the same variety belong painted specimens from Shăhī Tump, Makrān, in fig. 219. The larger


FIG. 219


FIG. 220
and elaborate tripods may represent 'sacrificial tables,' with three legs, called in Sumerian banshur (Assyrian pashshūru).

Another shape, of unusually wide diffusion, is the flat dish on a perforated conical stand, as in PL. xxiv. In fig. 167 we had seen one such specimen belonging to the latest neolithic Yang Shao culture in China. Fig. 220 illustrates the shape in which the type appears in neolithic Samarra, while fig. 221 gives ex-


FIG. 222

amples from Bohemia and Lausitz in the West, from Japan in the East. They all must have served for cultic purposes. In fig. 222 we see an Egyptian specimen in copper, of the Sixth Dynasty, together with the pictographic and cuneiform signs 'NE' ('hearth'). The Assyrian word for this shape is kinnünu. It goes without saying that the 'hearth' is found everywhere between the extremes mentioned.


FIG. 225

On the contrary, the gesichtsurne on PL. xxrv is unique. It belongs to the black hand-made ware from north Iran, and is comparable to the famous pieces from Troy (fig. 223). I believe the urn must be associated with certain tombstones from the neighbourhood of Khiyāw, Adharbaijān (fig. 224). ${ }^{47}$

Not so rare is the kernos from Tepe Giyān (pl. xxrv). Some more examples in fig. 225 come from Shāh Tepe (Astarābād), Shāhī Tump (Makrān), Siyalk (Kāshān), and also from Jhangar (Sind), and from Lausitz. The Mediterranean and Syrian kernoi are well known. In spite of its extravagant shape-the small vases all communicate-the type has had a long duration: the examples are not at all of one and the same age.

we now leave pottery and study metal-first, metal vessels. The copper jug with long spout ( $\mathbf{P L} . \operatorname{xxv}$ ) was found in a megalithic dolmen-tomb at Gilwērān, near Khurramābād, together with many pots of late Susa II types. A jug of the same shape but without the decoration of curls was found in Lagash in the Ur Nanshe level. ${ }^{48}$ Another one, in the collection of Mr. Thomas Jacks, London, with curls rhythmically opposed, came from Iran. The spout of a second copper vase from the same tomb at Gilwērān (fig. 226) points upwards, and its decoration is a ribbon around the shoulder, encircling a six-rayed star under the spout. These are libation vessels. The time of Ur Nanshe-and the circumstances of the discovery at Lagash do not exclude a slightly earlier date-is close enough to the late Susa II stage to confirm the dating. ${ }^{49}$

Fig. 227 unites fifteen copper cups, which all may be described as calottes.


FIG. 227


FIG. 228

The one to the right of the first row, from Nihawand, is of silver. One of them, from Luristan, bears an inscription of Shakibeli, another one (fourth row to the right) an inscription of Shu Irsatim, both dedicated to Shar Kali Sharri of Akkad. The Shu Irsatim piece is one of the most developed forms, and none of the cups must be dated into a later period.

Some variations of another shape are delineated in fig. 228: short cylindrical pots, sometimes with handle and spout. One of them, from Luristan, is inscribed with a dedication to the goddess Nin Ekal by the scribe Inzu Maradash, son of Eri Enzu (Arad-Sin). The name of the owner is typically Kossaean, that of the father, Sumerian or Akkadian; the language is Sumerian, the script archaic. This piece cannot be later than the earliest Kossaean period, the seventeenth century, but possibly older: the owner may have lived before the Kossaeans conquered Babylon. Above it we see, in outline, a vessel, the fragments of which are shown on PL. xxi. It has a broad border of stepped ribbons, a Samarra design, and, what is a rare exception, a figural scene in embossed work (fig. 229).

a


FIG. 229


FIG. 230
FIG. 23 I


FIG. 232

The subject is, besides the remains of a lion, a procession of musicians in a kind of ceremonial dance in front of seated deities. The idea may come down from the war or cultic dances pictured on Tell Halaf and Tepe Hisar pottery. The vase is scarcely older than the end of the Third Dynasty of Ur and may belong to the beginning of the First Dynasty of Babylon. Some vases from Khinamān, Kirman, given to the British Museum by Sir Percy Sykes, resemble the Giyān vessel in outline, especially in the formation of the bottom. The majority of examples come from Nihawand and Luristan only because these regions have been more extensively plundered, not because the shapes were typical of them alone.

Of the higher cylindrical beakers in fig. 230, the shorter one, with horizontal embossed ribs, is typical of Nihawand, the longer one-though our example comes from Nihawand-is the normal type of Luristan. The specimen drawn on a smaller scale is from Tello, Sumer, to show that these metal shapes are not confined to Iran. Identical forms in Iran and Sumer are also shown in fig. 231: the pan with a long handle is equally at home at Tepe Giyān, at Tepe Gawrā and at Kish. The two examples from Kish belong to the Mesilim period, the very beginning of history; the piece from Tepe Gawrā comes from stratum VI, early dynastic period, and slightly later than Mesilim. They corroborate a conclusion we have made above-not to date any of these simple vases in a period later than the Shar Kali Sharri inscription. Contenau and Ghirshman have found the same vessels in their strata III and IV. ${ }^{50}$ The distinction of the tombs in question ( $92-110$ ) and their inventory show that the limit between IV and III is not a strict one; III continues IV, which ends with the late Jamdat Nasr phase, while III must roughly correspond to 'Early Dynastic Sumer, ${ }^{51}$ between Mesilim and Shar Kali Sharri.

The forms shown in fig. $23^{2}$ are more developed, i.e. metal no longer imitates pottery, but finds a formal expression proper to its character. Probably all of them are of hammered bronze; they come from Luristan, but this name does not imply the date $1400-1000$, to which the famous 'Luristan bronzes' must be assigned.

PL. xxv pictures a small bronze vase from Bujnurd, Khurasan, cast, not hammered, with an ovoid body, narrow cylindrical neck and three rams sitting,


FIG. 233


FIG. 234


FIG. 235


FIG. 236
wholly detached, on the shoulder. It is akin to the vase (fig. 233) formerly in the Stora collection, Paris, also said to come from Khurasan. There, the bodywith the same neck-extends into two foreparts of goats. We may date it approximately by its affinity to theriomorphic ceramics in Iran and Asia Minor, a good example of which, in fig. 234, comes from Kul Tepe, Cappadocia, the place of origin of the old Assyrian tablets-that means about 2000 b.c. pl. xxiv shows a theriomorphic vase from north Syria, in pottery-a sheep carrying a


FIG. 237

fig. $23^{8}$
little pot on its back. Related to theriomorphic vases is the alabaster lid of a box, found together with a bone needle at Tureng Tepe, and compared in fig. 235 with a well-known lid of a box from Mochlos, Crete, of the Early Minoan II period.

Animals shaped as handles of ceramic vases are not rare and seem to appear before the second millennium. Pl. xxiv shows a lamp in reddish clay from Tepe Giyān with a dog(?), and Pl. xxin, a black pot with a boar as handle from Asia Minor, and a similar fragment with a ram, from Babylonia, in my collection. Such animal applications became a regular feature among the later Luristan bronzes, as in fig. 236: a lion as handle, a bird on the rim opposite. One specimen from Novocherkask, in the same figure, shows the long survival of the old idea in Caucasian and Siberian bronzes.

A large flat dish from Luristan (fig. 237), with an engraved floral ornament, belongs to the Luristan culture in the restricted meaning of that term. Compared with middle Assyrian ornaments from Kär Tukulti Ninurta (about 1250 в.c.), for instance, the dish must be dated in the thirteenth century b.c. I do not intend to exhaust the wealth of forms; our last example (fig. 238) is of two liba-
tion vessels; it shows that at this period, i.e. the middle Assyrian, the type was already created that survived into the late Assyrian, the Achaemenian, and eventually into the Greek epoch, astphiale mesomphalos.

With the introduction of metal the peaceful life, revealed by the fact that the stone-age people of Färs had almost no weapons, comes to an end: weapons abound. The mace-head, the only weapon of the stone age, has never ceased to exist to the present day. Out of the almost shapeless stones of the neolithic period precise shapes develop: a sphere, a rotary ellipsoid, a pear, first without, then with a flaring rim around the base. ${ }^{52}$ They differ in the course of many centuries only in the greater or lesser finish of shape and surface. From early dynastic Sumer down to late Assyria, mace-heads of pretty stones are choice votive gifts, often inscribed. The oldest dated object from Sumer is a mace-head, that of Mesil:m of Kish, discovered at Lagash. There are older mace-heads at Lagash assigned to the Uruk period. ${ }^{58}$ The British Museum owns a rare piece, a rotary ellipsoid without rim, from Tell Muhammad near Baghdad, with an inscription of Lasirab of Guti, dated immediately after the empire of Akkad. Another example of a pear-shaped mace-head, with rim, is that of Salmanassar I (about 1280-1250), from Assur. ${ }^{54}$

In Iran the same mace-heads are quite common. They appear in Susa in absolute prehistory. ${ }^{55}$ In Anau they appear in stratum III, from the advanced copper or early bronze age; ${ }^{56}$ in Tepe Giyān in strata IV, III and II. My ellipsoid or pear-shaped specimens on Pl. xxvr, from Tepe Giyān, are either of white-spotted granite or of hematite, highly polished, the latter probably of the time of the First Dynasty of Babylon, or the nineteenth to the seventeenth centuries b.c.

A very ancient variety is the ellipsoid with projecting knobs (fig. 239): as early as in the Mesilim mace these knobs are shaped like the heads of lions projecting in the round from the low relief of the bodies: the idea has been suggested by the projecting knobs of undecorated pieces. Fig. 239 (Sumer), a hard grey stone, is a chalcolithic type, known from Tell 'Aqrab near Baghdad; ${ }^{57}$ fig. 239 (Nihawand) is of soft limestone, probably of the same age. ${ }^{68}$ The date of 239 (Baghdad) is undefinable; its material is polished ivory-coloured marble. The piece from Tepe Giyān was found in the uppermost 'Luristan' stratum, ${ }^{59}$


FIG. 240



which would indicate a date of $1400-1000$, but is only a terminus ad quem, for such stones are often re-used. Fig. 239 (Harsin, Luristan) is comparatively elongated, yet resembles a mace-head from Borodino in the Historical Museum in Moscow. The same type occurs in the Tãlish at Agha Evler, M.D.P., VIII, fig. 724 .

Fig. 240 shows, beside a fluted mace-head in dark grey stone, one example in bronze, with little knobs-like nail-heads-from Luristan. The piece of red bronze in fig. 24I (right), from Nihawand, has two zones of four larger protuberances, each with an eye inlaid in its small circular surface. The name masse bi-cruciforme has been given to a similar type. ${ }^{60}$ A mace-head from Babylon, ${ }^{61}$ of identical shape and decoration, made of diorite, bears a long inscription: 'hingi, property of the king Ulaburariash, son of the king Burnaburariash.' The exa 't chronology of the Kossaean kings is still entirely controversial, but Ulaburariash seems to have lived between 1530 and 1510 b.c., and that implies a date for the Tepe Giyān piece. Another pretty mace-head of the same type is in the collection of G. F. Reber, Lausanne. ${ }^{62}$

From the fluted variety (fig. 240) are derived forms like the bronze piece from Nihawand in fig. 24I (left). The piece in the middle, from Luristan, is almost a medieval morgenstern. The head is of bronze, but the shaft, about forty inches long, to which it is oxydized, is of iron. The shaft holes of all these maceheads are so narrow that it is difficult to imagine of what stuff the shafts were normally made. Iron, of course, is not practical and is an anomaly; it is not possible before the late Luristan period. The Arabs of today use bamboo for their muqwār, or the lower stem and the root of a shrub, the name of which I have forgotten. We must suppose some similar material for the ancient periods. The late Luristan and many Tepe Giyān mace-heads and axes had a counterweight at the lower end of the shaft, in the form of a bronze tube (compare an example in Archaelog. Mitt. Iran, I, tf. v) often decorated with a tresse or plaited design. One such tube of the typical Luristan shape was found in the In Shushinak deposit at Susa; ${ }^{63}$ hence it implies the same date—prior to the end of the thirteenth century b.c.-for the Luristan pieces. Other examples of Luristan shape from Tepe Hisar III date about 2000 b.c., and one of copper(?) but otherwise of the same description, was found in a prehistoric stratum at

Lagash. ${ }^{64}$ This chronological distribution is analogous to that of the axes with crescent-shaped blade (cf. below, fig. 247).

PL. XXVI includes a unique example of a weapon of polished stone, a doubleedged axe (cf. fig. 242). It came from the Nihawand region, but I was unable to make sure of the exact site. Double-edged axes with shaft-hole are, in Europe, considered to be the oldest type of stone axes, though derived from copper prototypes. In outline, the Iranian piece-so extremely rare that one might think it an import-resembles the 'boat-axe' of Scandinavia, Jutland and Fin-


FIG. 242
land, or the Nordic nackengebogene Axt (axe with curved neck) of Ostergotland, but the shorter butt or 'heel' of all those sub-species is more like a hammer, with a small flat area instead of the edge. To that type also belongs a 'hammer' from Abu Shahrain (Eridu?), south of $\mathrm{Ur}^{65}$ and the strange sardonyx from the Borgia collection, now in the American Museum of Natural History. ${ }^{66}$

Only a few analyses have been made; thus, the distinction between copper and bronze is often subject to doubt, but we may assume, roughly, that when cast the axes are of bronze. The variety of forms is great, and yet two types common in Sumer are either entirely missing in Iran or extremely rare: the simple adze, herminette, hachette, with flat horizontal body and, hence, short horizontal edge $;{ }^{67}$ and second, the axe with vertical body, lower edge curved and sharpened. ${ }^{68}$ Only the axe with vertical body and vertical edge at its narrow side is common (see PL. xxvil, 3).

From now on I intentionally choose the simplest, not, as is usually done, the richest and most beautiful specimens, because the exuberant decoration, especially of the Luristan bronzes, only obliterates the shape of the types and makes the classification more difficult. Most of the Luristan bronzes are so overdecorated that they become unfit for any practical use. Such objects are often called 'ceremonial' or 'cultic'; but of course ceremonial pieces presuppose normally the coexistence of the practical ones. The absence of these in Luristan is a baffling problem.

b


A type of wide diffusion is a kind of pick-axe with a short butt opposite a long picker, the cross-section of which is a lozenge with rounded corners, as on PL. xxvil, 2, and in fig. 243a, from Tepe Giyān. This weapon is figured in the hand of the king on the famous stele of Naram Sin of Akkad, from Susa, in the Louvre, the date of which fits well that of a similar piece (fig. 243b) from Tepe Gawrā, stratum VI-'Early Dynastic.' Pick-axes of circular or square crosssection seem to be younger, like fig. $243 \mathrm{c}-\mathrm{f}$. The shape of their butt is seemingly an imitation of the fastening of the axe, behind the shaft-hole, by a small wedge in a loop of wire. The piece, Br. M. 103 371, is of doubtful provenance, perhaps from Nimrūd; that in the Louvre, from Til Barsip near the upper Euphrates, in Mesopotamia, is of the same fabric, and the one from Babylon belongs to the

Kossaean stratum there, about 1400 b.c. In the last specimen, from Luristan, ribs or wires around the shaft-hole, the weakest point of the axe, seem to have suggested the decoration of the butt. In the pick-axe, pl. xxvn, 2 (right), the butt has been triplicated, called in French à talon digité, a feature that appears first on a Sargonid seal from Khafāja (fig. 246). One of the two axes in fig. 244 (pl. xxvir, 2, middle) has the three digits shaped like birds' heads, and both have a peculiar decoration which we shall need for comparison later on: open mouths of animals from which protrude the cylindrical parts. The term 'zoo-


FIG. 244

morphic juncture' has been invented for this device, the oddity of which makes it a strong argument for common origin wherever it occurs, as in fig. 358.

The tubes around the shaft-hole of the axes in fig. 245 are all strengthened by ribs, which have the tendency to develop into digits, as in the last example from Beth Shān. This type has a wide distribution. Beside the piece from Tepe Giyān, stratum II (middle of second millennium), is one from Boghazkoi found together with a seal impression of Shuppiluliuma, hence dated about 1400 b.c. In Nimrūd-Kalhu it ought to belong to the period of Shalmanesar I, about 1280 b.c.; similarly in Rās Shamra-Ugarit, on the Syrian coast, where it was an isolated find. The piece from Beth Shān was discovered under the temple of Amenophis III; hence is older than 1400 B.C. ${ }^{69}$ With its long digits one could
call it a Luristan shape, though the blade has the older middle rib. And the piece from Ordos, Mongolia, stands nearer to this Palestinian piece than the others. The formal relationship between bronzes from western and eastern Asia, which we observe here for the first time, is not an isolated occurrence, but a fact for which we shall find many more striking proofs.

Extravagant developments of the digits are shown in fig. 246. The elaborate piece from Ugarit is of silver-plated bronze and assigned to the fourteenth cen-


FIG. 245
tury b.c. ${ }^{70}$ It shares entirely the character of the late Luristan bronzes represented by the two other specimens in fig. 246. For Luristan, these shapes are simple ones. Only when dating the Luristan bronzes (in the strict meaning of the term), between 1400 and 1000 b.c., can we explain their relationship with immediately preceding or with contemporary types by natural contact. The engraved geometrical ornament on the second piece, specific to the group, is the same as the painted ornament on the Tepe Siyalk pottery in fig. 218 that we have qualified as derived from the engraved patterns on Luristan bronzes.

In another variety (fig. 247) the body of the axe, descending from the prototype of the simple double-edged axe, develops into a slightly unsymmetrical, crescent-shaped blade (pl. xxvir, I, middle). The tube around the shaft-hole is strengthened either by a bulge or by digits of the butt. This type is possibly con-

nected with the eastern Asiatic 'boot-axe' (not the Nordic 'boat-axe'). It is frequent in Luristan, as indicated by the piece in the Teheran Museum, paralleled by one from the In Shushinak deposit in Susa. We have already noticed several cases where the date of the In Shushinak deposit furnished only a terminus ad


Fig. 247
quem. Now, an identical piece bears an inscription of Addapakkat (or -hushu), ruler of Elam, coeval with Hammurabi, early nineteenth century b.c. The type of Luristan axe is considerably older than the foundation of the In Shushinak temple. In Agha-Evler, Tālish, we find a reduced type at the early, but developed, iron age, probably about 1000 b.c. The sub-species with digits is the symbolic weapon that the god at the gate of Boghazkoi keeps in his hand. The exact date of the walls of Boghazkoi, and with them of the sculptures at their gates, is a matter of discussion. Hittitologists are generally inclined to date all monuments as late as possible, partly because such a policy is considered cautious, partly because of the prevalence of the improbable conception-recently proved to be wrong-that hieroglyphic cuneiform was 'invented' after the period during which cuneiform was the official script. The capital of the empire must always have been fortified; large town walls last many centuries, and part of them survive all changes. This a priori supposition is corroborated by the contents of a tablet, Bo. $2788,{ }^{71}$ an attested copy of an old inscription: '[the town Hattu] shash [I, Han] tilish have fortified.' Hantili was the successor of Mursili I, the king that put an end to the First Dynasty of Babylon in about 1758 b.c.and the Boghazkoi sculptures are not as old as that. They are related and, in a way, opposed to the following group of rock-sculptures: Yazylyqaya, Imam Qulu, Giaur Kalesi, Iflatun Bunar, Qarabel, Sipylos, Ferahetin, and to some hieroglyphic inscriptions, above all the Nishan Tash at Yazylyqaya and a limestone stele from Boghazkoi. Of those monuments, the Nishan Tash is dated by the legible name of the king Shuppiluliuma; the limestone stele belongs to one Tudhalia, son of Hattusili. At Yazylyqaya two royal names occur, one Tudhalia, and the other $\mathrm{Mu}[\mathrm{rsi}] \mathrm{li}$ or $\mathrm{Mu}[$ watta $] \mathrm{li} .{ }^{22}$ Since there were two persons described as 'Tudhalia, son of Hatusili,' the Boghazkoi stele and the sculptures of Yazylyqaya may belong either to T. Ill, son of H. II, the older group, or to T. IV, son of H. Ill; and the later pair is today preferred, without any further argumentation than that 'it lies nearer.' But the natural grouping of the monuments would be: Tudhalia III starts Yazylyqaya, a work carried on by his successors; his son Shuppiluliuma writes the Nishan Tash; and his grandson, Mursil II, finishes Yazylyqaya. The fact that the two Ferahetin rock-sculptures belong to Hattusil III and his wife Puduhepa does not imply that every inscrip-
tion and sculpture of a Tudhalia belongs to his son, the fourth of that name. The monuments of Yazylyqaya and Boghazkoi form a stylistic and local unit, different from Ferahetin, and are assigned more properly to the end of the fifteenth and the beginning of the fourteenth than to the middle of the thirteenth century b.c.

The god on the gate holds an axe of the Anatolian and Luristan type, and wears a metal-covered belt, also of the Anatolian and Tepe Giyān type.


FIG. 248
A rare variety, half axe, half hammer, with a peculiar oblique position of the instrument on the shaft, is pictured in pl. xxvn, 1 , and fig. 248. Three plain specimens for actual use come from Tepe Giyān, a richly decorated variety to be classified as the 'Luristan phase' from the In Shushinak deposit. Our series of cases in which the date of that deposit is decisive for the dating of Luristan bronzes is growing. An earlier date is not ruled out, but a considerably later one is.

In two specimens from Khinamān, Kirmān, hammer and butt of the instrument are flattened; the hammer end has developed into a crescent-shaped blade, a tendency already foretold in the piece from Susa. No. 70 of Godard's
catalogue of Luristan bronzes gives a fully developed instance of that type from Luristan. The little lions on one of the Khinamān pieces are also a Luristan feature; they are akin to the animals engraved on Karkūk seals (a term including Tepe Giyān), dated before and after 1400 b.C., as in fig. 279 below.

We turn now to bronze daggers (pl. xxvm): the older ones (pl. xxviir, a-b) are blades of bronze put into a handle of a less durable material. In Tepe Giyān no handles are preserved. At the Luristan epoch (pl. xxviif, c-g) blades and hilts are usually of one piece of bronze. ${ }^{73}$ Two classes can be distinguished: (A) The blade is flat, short and broad, about $\mathrm{I}: 4$, shaped like a pointed oval; the hilt is round, bulging in the middle, with a crosspiece protecting the hand below. The blade has a rudimentary rib, and the hilt is decorated with globules or curved strips denoting snakes. This type, with every detail, obviously descends from the Sumerian dagger of Ur, which has become famous through the gold daggers from the royal tombs. Still older is a specimen from the ' $A$ ' Cemetery of Kish. ${ }^{74}$ (B) The blade is narrow and long, about $\mathrm{I}: 8$, and the hilt is only a frame for inlay of stone, bone or ivory. Fragments of such inlay have been preserved, but the only known dagger that is intact is the one shown in PL. xxvm, e, from Kākāwand, Luristan, in the possession of F. W. Count v. d. Schulenburg. The inlay is composed of three pieces of stone or bone on each side, the middle ones green or red, the others white. The two upper pieces, flaring widely from the bronze frame, are shaped like bull's heads or crescents, and protect the hand from above; there is no cross-piece below, as in type A. A piece of inlay found at Byblos and published as an Egyptian 'objet votif en ivoire ${ }^{75}$ is part of such a Luristan dagger-hilt (fig. 249). A dagger from Nuzi, period III, i.e. from a stratum preceding that of Saushshatar, hence about


FIG. 249


FIG. 250
${ }^{1} 500$ b.c., is ofia similar but more normally Assyrian type, and has iron inlaid into bronze, a technique eminently characteristic of the period. In about 1500 B.c. iron is still so precious that the later use is reversed: iron inlay, bronze blade and hilt.

In Luristan the blades of this class bulge in the middle, the edge being produced by the intersection of two convex curves. The older and much superior blades from Tepe Giyān have a longitudinal spine and a sharp edge produced by the intersection of two concave curves (cfi pl. xxviif, a-b). Fig. 250 compares


FIG. 251
them with old Chinese blades. Often the whole dagger, blade and hilt is cast in bronze; in this case the shape of the entire hilt with inlay is imitated (fig. 25I). Sometimes decorative motifs like the little human figures in fig. 251 are added. Just as type A descends from the dagger of Ur, so type B descends from that of Kish, of which the same figure gives a good example. With it also are representations of the same dagger on cylinder-seals of the Mesilim epoch, and with the pictographic sign ' AD ' ('dagger'), derived from that shape. The date of the large dagger from Atshāna, or al-Mīnā, on the north Syrian coast, with blade and hilt of one piece, ${ }^{76}$ is about 1500 B.c., according to a cuneiform document found in the same stratum.

Quite a few of the Luristan daggers are dated by inscriptions. On a dagger in Teheran is written: ‘ša Nabū-kudurri-usur šar kiššati šar Bābili šar Šumer Akkadi.' This is Nebuchadnezzar I, in $\mathbf{4}^{6-1123 \text { b.c. Two pieces in the Louvre and in the }}$ collection of Mrs. Christian Holmes, New York, belong to Marduk-nādin-ahē, 1116-110I; my piece, pl. xxviir, 3, to Adad-apal-iddinna shar kishshati, 10831062. The inscription on the other piece, not completely deciphered, is in Elamite and begins with ' $\mathrm{Na}-\mathrm{pu} . \mathrm{I}$ ' All the names are those of kings of the Fourth Dynasty of Babylon, which followed the Kossaean dynasty. From the formula of the inscriptions, which corresponds to the king's name in the genicive on Hellenistic coins, we may infer that the daggers were the regular service equipment of the army and were buried with Kossaean veterans or Babylonian soldiers holding fiefs in Luristan. The type of dagger, as shown by the Atshāna

piece, is older than the inscribed pieces. But one can by no means construct any difference in time between them and the other Luristan bronzes or date those later than the daggers. All archaeological evidence for every one of the various objects points to the same or a slightly earlier period than that over which the known inscriptions extend.

Beside the two classes of bronze daggers stands one exceptional dagger made entirely of iron (fig. 252). ${ }^{77}$ In striking contrast with the diversity of sub-species and sizes of the bronze daggers, all the specimens known of this dagger, in the museums of Brussels, ${ }^{78}$ the Louvre, ${ }^{79}$ and two in my collection, are one and the same, as if cast in, or hammered into the same mould. Although a chemical and microscopic analysis, made at my request, speaks of wrought iron, the identity of the specimens seems to me to eliminate free-hand forging. A technique proper to iron is apparently not yet developed. The same observation applies to some rare bracelets of solid iron (cf. fig. 27 I below). These objects count among the first attempts at working iron. The iron dagger, unique in contrast to the normal diversity of bronze daggers, is in every respect exceptional. The blade is turned under $90^{\circ}$ to the hilt, a feature entirely unparalleled. The hilt terminates, in contrast with all Luristan daggers, in a round disk, from which two human heads with long beards project unorganically over the rim. The stem of the handle has an oblong cross-section and two flaring ribs; where it joins the blade, two small crouching lions are contrived in such a way that the hand comfortably fits in between them and the human heads of the disk. In fig. $25^{2}$ a few pieces are added for comparison: a human head on a silver-plated iron handle in the collection of F. Sarre, ${ }^{80}$ a small limestone head in a private collection in Berlin, and a crouching animal on the scabbard of a Chinese sword, in the Museum of Far Eastern Antiquities, Stockholm, no. 10301.

In 1935 I saw, in Leningrad, the catalogue of the Khanenko collection in Kiev and decided to go there to see the piece in question. ${ }^{81}$ It is the identical dagger, from the same mould, acquired at Samsun, east of Sinop, before 1900I believe about 1890 . No such dagger had come from Luristan before 1930, and the Khanenko piece was certainly not brought from Luristan to Samsun before 1900, but was found in one of the many tumuli of that region, of Pontus. The iron daggers are indeed a foreign element among the Luristan bronzes, and
though only one of the specimens comes from Pontus, that must be the original provenance of thein all.

In Pontus, iron, easily workable, lies overground. This rare advantage accounts partly for the important political role the land played after the middle of the second millennium, when Egyptians bartered their gold, Babylonians their lapis lazuli, for iron. ${ }^{82}$ The iron mines of Pontus, for example Demir Ma'den near Unyeh-Oivon, with their historical background, have been explicitly described by W. J. Hamilton. ${ }^{88}$ A letter in the Boghazkoi archives, probably written by Hattusil III to Ramses II ${ }^{84}$ in the beginning of the thirteenth century b.c., says: 'Regarding the smelted iron about which you wrote to me, smelted iron is not available in my sealed store-house in Qizvatna. It has been lately an unfavourable time to make iron. But I have written to make smelted iron. As yet, they do not have a supply; as soon as they get a supply, I will send it to you. In the meantime, I am sending you an iron dagger-blade only. ${ }^{85}$

The reference to the 'unfavourable time to make iron' reveals that its production was regulated by religious superstitions; that the stars were not favourable serves as an excuse. The sealed store-house in Qizvatna means royal property. The king's letter means an order in writing like every royal edict. The order to produce was naturally sent to the mines, but only the store-house is mentioned. Obviously that was the seat of the administration of the mines, and hence it was in their neighbourhood, but away from Khattush, the capital. Hogarth's suggestion that the store-house might have been a port on the south coast, handy for transport to Egypt, is the less convincing, as there is a marked reluctance to trade at all the valuable material on which rested the military superiority of the empire. H. C. Richardson argues that 'more likely . . . a request had been sent abroad,' and that the Egyptians only used the Khatti to get in touch with Europe. But this conclusion, with his assumption that the Chalybes were Cimmerian Scyths (which consequently would make Qizvatna a region outside the Hittite empire, i.e. on the European side of the Black Sea), ${ }^{86}$ are entirely out of the question.

Opinions about the topography of Asia Minor during the second millennium may differ widely. The method employed for locating the many names in the Boghazkoi documents is usually a questionable interpolation; it is based on
the belief, which in many cases can be disproved, that those lists of names follow some topographical order. The only safe, though not often practicable way is to follow the history of the nomenclature. Therefore it is a serious omission if many of the latest attempts neglect the fact that the names Qizvatna and Cappadocia are identical. ${ }^{87}$

Before the Romans constituted their vast provincia Cappadocia, which included Pontus and other regions, that name was limited to Cappadocia ad Taurum, the southern part. But for Herodotus v, 49 and 52, the later Cappadocia ad Taurum was still part of Cilicia, Hilakku of Salmanassar V, which had been an object of dispute between the Assyrians and Mita-Midas of Muski (Móozol), and which Sargon in 722 b.c. gave to Ambaridi of Tabal. This old Cilicia lies at the foot of the Argaeus, around Mazaka-Caesarea, modern Qaisariyya, still called capital of Cilicia by Strabo and Ptolemy. Only after Herodotus and the Achaemenian period, is Cilicia restricted to the land between the Taurus range and the sea-coast. It follows that Cappadocia before the Median epoch was the name of Cappadocia ad Pontum, later Pontus. The Greeks borrowed their K $\alpha \pi \pi \alpha \delta o x i \alpha-K a t p a t u k a$ from the Medes, ${ }^{88}$ like the whole official nomenclature of western Asia. The Medes had chosen Qizvatna, as pars pro toto, for the official name of their satrapy, extending it thus from Pontus over the whole centre and east of Asia Minor. When Cappadocia ad Pontum, thus called by Polybios and Strabo, became simply Pontus, the old name Cappadocia stuck to the southern part along the Taurus, Cilicia of old. The shifting of the name is due to the official Median nomenclature, and the origin is the equation Qizvatna $=$ Katpatuka $=$ Cappadocia ad Pontum $=$ Pontus.
H. Winckler has emphasized two points: that Qizvatna was the ironproducing land, and that it touched Khatti, according to a description of the frontiers in a Boghazkoi test, 'on the sea,' which he identified with the Black Sea. ${ }^{89}$ None of the various reasons for locating Qizvatna in later Cilicia is compelling. Even the discovery at Tarsūs, Cilicia, of a seal impression on a jarstopper with the name Ishbudahshu ${ }^{90}$ has no weight. There was a king of Qizvatna of that name in the first half of the second millennium, but it does not follow that Tarsūs was a town of Qizvatna. Beside the possibility that the political power of that 'great king' extended far beyond Qizvatna, the sealed jar was an
object of trade, and E. Forrer rightly refers to the wine trade in Asia Minor, ${ }^{91}$ of which three texts speak. Demir Ma'den, the iron mines of Qizvatna, is near Unyeh-Oivó in the land of the Chalybes, and Qizvatna produced wine as well as iron, just as the best wine in Syria was that of Chalybon, and in Media that of $Q \dot{a} z=i n$.


FIG. 253

Pontus is Homer's Alybe (Halybe), the land of the Chalybes, whom the Greeks considered the first miners and from whom they got and named their steel, $\chi$ ó $\lambda \imath \psi$. Homer, Apollonios, Strabo and Ptolemy are unanimous in locating the Xá $\lambda$ ubes in Pontus. Some scholia to the Argonautika refer to Aeschylus (Seven against Thebes and Prometheus), who in two similar passages speaks of them in a vague way; the poet did not intend to discuss historical geography; for him it was enough to mention peoples inhabiting the half-mythical East of the shores of the Black Sea. Aeschylus and the scholia do not contradict the precise indications of the historical Greek authors. The neighbours of the Chalybes were the Tibareni, people with strange customs like the couvade described by Apollonius. ${ }^{98}$ The Assyrians call them Tabal, the Bible Tubal, a tribe of blacksmiths, with which we shall deal later on. The third people of Pontus are the Mossynoikoi, ${ }^{94}$ who lived in tower-like houses ( $\mu$ órovves) and whose weapons were
iron halberds at the time of Herodotus. In the second millennium Pontus was the iron land of Asia Minor. Asia Minor is also the habitat of the vine. The iron dagger from Samsun, one of the main ports of Pontus, is a much more conclusive evidence for the location of Qizvatna than the impression on the sealed jar from Tarsūs, which may have contained wine from Oivoŋ́-Unyeh, a Pontic Chalybon. And the iron daggers from Luristan are actually specimens of the


FIG. 254
oldest production of Qizvatna, as was the iron dagger given by Hattusil III to Ramses II in the first half of the thirteenth century.

Bronze blades need more whetting than steel; hence whetstones, with fine bronze handles, are frequent among the Luristan bronzes. A simple example (fig. 253), with a lion's head, is a brother of the richest specimen known, a whetstone with a gold lion's head from the In Shushinak deposit in Susa. Its date (before the end of the thirteenth century b.c.) implies, once more, a date for the Luristan pieces. A little monkey's head of the same class, from the early Kossaean stratum of Babylon, even indicates a slightly earlier date, about 1500 b.c. The whetstone from Sippar, with a ram's head, is dedicated to the sun-god of Sippar by Tukulti Mer of Khana, ${ }^{95}$ a local ruler probably not earlier than the
thirteenth century в.c. For comparison's sake, a late and-although of goldpoor example is added, from the Vettersfelde treasure.

Some large shells, not uncommon at Tepe Giyān, of which fig. 254 gives three specimens, were probably shield buckles. Well-preserved pieces have several copper rivets which fastened the shells to leather or wickerwork. The piece to the right is from Tepe Giyān; that to the left, decorated in lowest relief: with a cross and four ibexes, is from Tabarak, Isfahan; it looks archaic. The piece to the right, below, British Museum, comes from Layard's excavations in Assyria.


In Luristan disks of bronze or copper, a kind of large omphaloi, replace the shells; their decoration is usually rows of: dots, rarely a richer embossed design.

Many of the Luristan bronzes belong to the harness and trappings of horses and chariots. The very first of such horse-bits came to the British Museum before $1917,{ }^{96}$ provenance unknown at the time; still earlier a piece from Kurdistan in the Museum of the Shah at Teheran was published. ${ }^{97}$ Our Pl. xxix gives two very simple specimens of a curb and a snaffle. These bits have become so well known, their number so large, that we may refrain from studying them closely. Many are of great beauty, at least extremely rich, and some are of an astonishing size. But there are various classes to be distinguished, and they must cover a long period.

Fig. 255 shows three crescent-shaped copper objects from Tepe Giyān, which were strung, in a hanging position, on a leather strap. Fig. 256 gives


FIG. $25^{6}$


FIG. 257


FIG. $25^{8}$
similar bronze pieces from Luristan, always found in large numbers. Their function is explained by Assyrian bas-reliefs, ${ }^{98}$ where the horses wear them around shoulders and breast. The same metal-mounted straps are found among the Ordos bronzes. ${ }^{99}$

Calyx-shaped, hollow bronze objects, very common in Luristan (fig. 257) served as mountings for large woollen tassels that were suspended at the horses' throats or at the corners of the saddle-cloth. We find them also on Assyrian and Achaemenian bas-reliefs and much later on Sasanian rock-sculptures; the Kashghai of Fārs use them at the present day.

Small double cones with a middle groove (fig. 258) are toggles for fastening the head-stall of a bridle gear. Two from Tepe Giyān and one from Luristan are of bronze; one Achaemenian piece from Persepolis is of bronze, one of bone; one from the In Shushinak deposit in Susa-important dating evidence-is of limestone; limestone was still used for similar contrivances as late as the Achaemenian epoch. ${ }^{100}$

Large perforated ellipsoids of bronze with a small ball inside are jingles (pl. xxix and fig. 259). If complete, they have one large bronze hook or loop in one of their small eyes, with ends bent up, showing that they were fixed into a thick wooden beam or plank, certainly the frame of a chariot. The purpose of the jingles, besides making noise, was to insert a movable piece between the stable frame and the traces, a function similar to that of a swingletree in modern harness. In the Victoria and Albert Museum such a piece-of silver(?)-is rightly labeled 'harness jingle.' A disconcerting problem is raised by the discovery of one such jingle (of less elaborate design) in tomb 105 of Tepe Giyān, attributed to 'stratum IV.' Tomb 102, at a slightly higher level, contained two jars of undoubtedly Susa II character. From tomb 102 downwards, the excavators count their level IV. The bronze jingles cannot be so old. There is no strict limit between Tepe Giyān IV and III; the highest tombs of IV may actually belong to III. But even Tepe Giyān III, early dynastic period, would still be too old for our jingles. ${ }^{101}$

One may compare with them a curious object of open-work bronze, called 'réchaud,' coal pan, by Kondakoff and S. Reinach: its function is doubtful, the perforated work similar.


This analysis is not meant to exhaust all the strange bronze objects that might be explained as parts of harnesses. To an entirely different class belong elastic forks of thin copper (fig. 260 ). They are found together with long copper tubes that have a number of fine perforations at one end. A seated pair of gods or men, drinking through such tubes from a huge jar, probably as a ceremonial act, is a common motif during the Jamdat Nasr and earliest historical periods in Sumer. In Ur the same tubes and forks have been found made of gold. Two thousand years later the Greeks tell how Armenians, Thracians and Phrygians used such contrivances for drinking beer. ${ }^{102}$ Very likely, forks and tubes were used on similar occasions. Besides the gold and copper pieces from Ur, called 'gaffs' or 'fish-spears' by the excavators, we know forks with two or three tines from the Caucasus, Kurdistan, ${ }^{103}$ and from Tepe Hisar, stratum III, about 2000 b.c. They appear also at Byblos, ${ }^{104}$ and are there called 'tridents for sacrificial meat,' an interpretation that I consider as the right one.

After the introduction of metal, personal ornaments become very numerous in Iran, and were apparently worn by men and women, whereas the male Sumerians wore little or no ornaments. pl. xxx shows ornaments of gold, silver and precious stones; in the middle of the second millennium genuine pearls, of which I have a few well-preserved specimens, were also used at Tepe Giyān; they were imported from the Persian Gulf.

Large and thin oval plates of multicoloured sardonyx or agate, so-called 'festungs-achate,' were in such great vogue at Tepe Giyān that they were probably found in the neighbourhood. One specimen on PL. xxx is mounted in silver, one in gold. They are perforated through the greatest length. Two such stones, so similar that one must suspect that they were imported from Iran, have been found in tombs of the ' A ' Cemetery of Kish, dated at the very beginning of history, ${ }^{105}$ and a great number at Tell 'Aqrab near Khafäja and Baghdad. ${ }^{106}$

The use of multicoloured agates, of course, does not cease with that early period. However, the shapes are no longer identical, but only similar, as we may see by examining one piece with an inscription of Ibi Sin, Third Dynasty of Ur, and another of Tukulti Ninurta II, ninth century, both in the Louvre. At Anau similar stones appear in stratum III. ${ }^{107}$
pl. xxx shows also a disk-shaped pendant in gold, from Tepe Giyān, with
granulated eye and border and an eight-rayed star with small circles between, in the same technique. The middle and the small circles, perhaps also the rays, seem to have been filled with semi-precious stones. The design is the symbol of the goddess Istar. Fig. 26I unites three pendants of gold of the same character. The two to the left, representing Shamash and Istar, belong to a complete necklace of 200 gold beads with seven pendants, found in 1911 in a place south


FIG. 26 I
of Hillah-Babylon, in a closed jar together with many other ornaments of gold and silver, and with four agate seals with their gold mountings. That jewellery must be attributed to the First Dynasty of Isin rather than to the first dynasty of Babylon, hence to the end of the third millennium. ${ }^{108}$ The third example is only embossed, not granulated, and comes from the In Shushinak deposit at Susa, a provenance that furnishes only a terminus ad quem. A fourth piece, different in design but connected with the Tepe Giyãn pendant by the stone inlay preserved, was found at Byblos in a jar whose rich content is assigned to the same epoch as the two other pieces, i.e. the end of the third millennium. ${ }^{109}$ A much simpler sun-disk of lapis lazuli in the collection E. Newell is dedicated by Kurigalzu (II), contemporary of Amenophis III, about 1400 B.C., and that may be the date of the gold piece and a great number of similar silver and bronze pieces from Susa. ${ }^{110}$ They also appear at Tepe Giyān and Nuzi and are instances of the diffusion of common Babylonian types into Iran.

Some of the bronze pendants in the In Shushinak deposit are shaped like a natural leaf (fig. 262). Such leaves are entirely unknown in Babylonia and Assyria; but they occur among the Luristan bronzes, a suggestive indication that they date before the end of the thirteenth century b.c.

Fig. 263 gives two examples of a very great number of hoops in thin sheetcopper, which must have been sewn on to leather or textiles. In the tombs they are found in pairs, right and left, at the wrists and knees, or single at the waist, perhaps also the forehead. They have simple designs, embossed or punched, of concentric circles and rows ofidots. In Tepe Giyān they belong to stratum III, early dynastic. At the same time they occur in the ' $A$ ' Cemetery of Kish, ${ }^{111}$



FIG. 262
slightly later at Ur, ${ }^{112}$ in gold but with the same decoration. Very similar gold sheets from Mochlos, Crete, and from Syra, ${ }^{113}$ belong to the Ancient Minoan II period, corresponding to the Sixth Egyptian Dynasty, hence a little later. Much later are simple specimens from Jonu, Talish, ${ }^{114}$ almost identical with pieces from Europe, for example, of the Nordic bronze age in Schonen, or at Rauschen, Kreis Fischhausen, ${ }^{115}$ They continue in Luristan, richly decorated; the hunting scene embossed on the finest piece, in the Louvre, ${ }^{116}$ has many details in common with animal designs on Kossaean or post-Kossaean kudurri. ${ }^{117}$ The Hittites of Boghazkoi also wore similar metal coverings on their belts, thus the god on the gate, who also holds a Luristan axe in his hand; and a fragment of an original with rich spiral designs was found at Boghazkoi. ${ }^{118}$

Besides necklaces of beads, torques were also worn, or bracelets of the same type (cfi pl. xxx). Torques do not appear in the Sumerian sphere. Possibly an ornament around the neck of the king on the rock-sculpture of Darband $i$ Shaikhān (cfif fig. 301), is meant to represent a torque. In historical times, the Medes, and still later all the Arsacids, wear multiple torques, but not the Sasanians; the Medes and the Parthian kings seem to follow a Scythian custom.

The oldest pieces, which come from Tepe Giyān and belong to the Jamdat Nasr or early dynastic age (cf, pl. xxx), are open torques of silver in genuine torsion; a silver bar of square cross-section, sides slightly concave, is turned
around its axis; the ends are bent into a small loop. In the In Shushinak treasure was a gold bracelet of similar structure, ${ }^{119}$ and silver and bronze bars with circular cross-section are worked in genuine torsion. The imitation of torsion in cast bronze with the ends of the torque knotted together comes later. Cast torques without torsion and with only one double cone in the middle of the cylindrical, slightly swelling body, are a usual type in Luristan and Tälish. ${ }^{120}$


FIG. 263
Many bracelets or anklets are open and have their ends decorated with simple incised lines. Many are plain rings of various, sometimes of very large sizes. These were either annular weights ${ }^{121}$ or the form in which the bullion was transported-two assumptions that are not contradictory: the straight bars were curved into rings for transport and sold or bartered by weighing the rings. All these forms are equally diffused in Europe throughout the copper and bronze ages. In character and degree such affinities are entirely different from, for instance, the similarities of shape and decoration of pottery. We possess already many instances, but must gather some more before trying to explain that relationship.

The bracelets or similar ornaments in fig. 264 pose a difficult problem. A large bronze bracelet from Tepe Giyān is made of a bar of circular cross-section, thicker in the middle and tapering towards the ends. The thinly stretched ends
form a movable and springy knot, which permits the armlet to be widened. Smaller bracelets and rings of the same construction occur in tombs of the ' $A$ ' Cemetery of Kish, of the Mesilim period; also-exactly as at Tepe Giyān-at Moghul Ghundai, the Zhōb valley, and in gold at Assur. ${ }^{122}$ A very heavy silver bracelet (now in the British Museum), in which the difference in thickness between the torque and the wiry ends is unusually accentuated, was purchased in Baghdad; it is said to have come from a Sumerian site. Already these few speci-

mens seem to differ widely in time, but the identical and very special form is typical for the La Tène epoch in central Europe, much too late for any of the oriental specimens.

Two double spirals on PL. xxx are, if possible, still more European. In silver, less so in copper, they are common at Tepe Giyān. The diffusion during the bronze age in Europe reaches from Holland over Rhineland, Mecklenburg, Denmark, Jutland, Sodermanland, Poland, Silesia, Bohemia, Hallstatt and Italy (Peschiera pile-buildings) to the Caucasus (Koban, of late date). In Iran and the surrounding regions they appear at Ashnunnak and Tepe Hisar II. But they are foreign to the Sumerian sphere. ${ }^{123}$

When such double spirals appear one regularly finds pins and similarly shaped ornaments like the ear-rings in fig. 265 and pl. xxx. A pair of large silver ear-rings is made of a thin sheet, folded and bent, of beautiful, swelling shape. The identical ear-ring, in gold, appears during the copper age in Tran-
sylvania, Hungary. How such ear-rings were suspended by the insertion of a little ring is shown by a later example from Akhalgori, Caucasus. ${ }^{124}$ The pieces from Transylvania and Tepe Giyān pose in the clearest way the problem to be solved: the objects are identical. At both regions they appear in an original context of other related shapes; they are typical of both regions. That eliminates trade. Any other immediate contact is ruled out by the distance. And yet the objects must have been made by the same goldsmiths.


FIG. 265


Fig. 266

One bronze piece from Tepe Giyān is solid, a cast imitation of the hammered sheet. A simpler type, labeled 'Asia Minor' in our figure, was purchased in Constantinople and is known from Troy, stratum II. Only this variety of the European types is common in Sumer, in gold and silver, for instance at the royal cemetery of Ur. Usually it appears with another European type of finger ring of thin spiral wire. The time of the royal cemetery of Ur is the EannatumEntemana period of Lagash, about the twenty-eighth century b.c. Troy II is conventionally dated $2600-2000$ b.c. on account of some correspondences with the Sixth Dynasty of Egypt, the twenty-sixth or twenty-fourth century b.c. The date for Troy II is too late. I mention this as an instance of the missing synchronization of European prehistory and the old Oriental history.

A still closer connection between Ur, Tepe Giyān and Europe is testified to by a large gold ear-ring in fig. 266 and on PL. $\mathbf{x x x}$, made of ian intricately folded gold sheet with an elastic wire soldered to it. The type has become famous
through the gold ear-rings of the priestess Shub-ad of Ur; the identical piece from Tepe Giyān is of copper or possibly silver with copper oxyde. A pair of the same type was found at Shāh Tepe, in north-east Iran. ${ }^{125}$

Equally European are strange spiral rings of silver, frequent at Tepe Giyān; they are of small size and always in pairs, as shown in the lower row of fig. 267. The silver bar, a segment in cross-section, turns and returns in a peculiar way,


FIG. 267


FIG. 268
as if representing a snake. These are the well-known noppenringe (burl-rings) of Europe-Hungary, Bohemia, Moravia, Silesia and Scandinavia. Here again immediate contact or trade is ruled out. But the production must be ascribed to the same craftsmen because the shape is by no means a necessary one; it is entirely the product of a specific taste.

While these shapes had European affinities, the ear-rings of fig. 268, made of silver at Tepe Giyān, and consisting of a crescent with one drop, are a common Sumero-Babylonian type, often of gold. The pieces with two egg-shaped drops, never preserved intact, are not identical in construction: apparently the elasticity of the metal allowed the ring to be fastened in the way of a fibula.


Nippu=


FIG. 269



FIG. 270

Other bracelets and finger rings are made of a broad sheet of metal, with rims rolled up (fig. 269). The Tepe Giyān specimens, of silver, are undecorated; another silver bracelet from Nippur ${ }^{126}$ is embossed with circles and dots, like the sheet coverings of Tepe Giyãn. It is attributed to the Gudea period. Some specimens come from the 'A' cemetery of Kish. With engraved designs similar to those on Iranian bronzes, identical bangles appear during the earlier phases of the bronze age in Austria, Bohemia and Poland for example. At Aunjetitz they are associated, just as at Tepe Giyăn, with the burl-rings, spiral rings and pins. When speaking of certain black beakers, we have mentioned the exceptional situation of the Aunjetitz culture in European prehistory.

Finger rings (fig. 270) of the same structure (those from Tepe Giyān are of silver) appear in Lagash probably before the 'Sargonic age' assigned to them;



FIG. 271

bronze ones occur in the In Shushinak deposit of Susa, ${ }^{127}$ and at Agha Evler ${ }^{128}$ in Tālish. A variety with segment-shaped cross-section, of sheet metal, appears at Tepe Giyān and the 'A' cemetery of Kish.

The rarest pieces among the Iranian bracelets are one of gold ${ }^{129}$ and a few of iron. ${ }^{180}$

One of the iron bracelets has a contrivance to open it (fig. 271), and there are imitations of that type in bronze. It has three large projecting disks in the middle, flanked by conventionalized lion's heads. The section of the ring itself is four-edged. The other iron bracelet, enormously heavy, very broad, slightly open but of course unelastic, is decorated as if consisting of three rings. At the gap every ring ends in the same small lion's head, and others are put in at various points of the rings. The technical treatment must be the same as that of
the iron daggers discussed above; $;^{181}$ and all remarks made there apply also to the iron bracelets: they were pieces of great value; iron used for ornaments indicates the pre-iron age, the period when the first attempts at working iron were made, i.e. the end of the fifteenth and the beginning of the fourteenth centuries b.c.

The gold bracelet, of sheet gold, hammered and embossed, imitates the iron bracelet as a model of beauty and value. The detail is superior to the same degree as, for example, the gold lion's head of the whetstone from Susa is superior to the bronze one from Luristan (fig. 253). A simpler imitation in bronze is in the collection David Weill, Paris, and I have a fragment of the identical shape, made of tin that is purer than standard tin.

Besides ornaments proper, pins of silver, copper or bronze appear at all Iranian sites in great numbers, especially at Tepe Giyān and in Luristan; their sizes range from one and a half to eleven inches. They are always single and were probably not hairpins but devices used for fastening cloaks or other garments.

The first specimen in fig. 272, one of two such pins in my collection, of copper (or bronze?), has a larger octagonal cross-section above, tapering to a round section below. Near the upper end is a perforation containing a silver safety-ring. The top is a sphere, made of paste and covered from above and below by a thin silver calotte that leaves a zone of the core visible. This very characteristic type is well known from the ' A ' cemetery of Kish ${ }^{132}$ and from the Royal Tombs of Ur, where it appears in gold. These belong to the early dynastic period, corresponding to Tepe Giyān III (or late IV), the stratum in which most of the pins have been found. At Susa, among the deposit of the colonne de briques, coeval with the In Shushinak deposit, such a pin with the head broken was found; it is exactly like the one from Tepe Giyān in my collection. ${ }^{133}$

The second piece in fig. 272, of copper(?), is of the same shape, but with a small lapis lazuli ball as head. This variety, too, is found at the ' A ' cemetery of Kish, ${ }^{184}$ hence, the two types are contemporary. De Genouillac found at Lagash pins of the same shape, but entirely of copper; he assigns them there to the late Uruk age. ${ }^{135}$

Pins 4 and 5 are later in date. In European prehistory type 3 is known as a


FIG. 272

'swollen pin.' Number 6 is characteristic of stratum II of Tepe Giyān, of the second millennium. We omit the great number of later pins from Tepe Giyān and Luristan, which have their exact counterparts in late Kossaean Babylon, in Tālish (the Caspian Sea) and Europe.

The pin with double spiral head (fig. 273) has much wider connections. In Iran it has been found at Anau, stratum II, at Dāmghān, ${ }^{186}$ and farther east at Chanhu Daro, Sind, ${ }^{137}$ of the Jhukar period, roughly corresponding to the epoch of Akkad. It is normal for the Caucasus-Koban, for instance-and occurs at Troy II and on the Cyclades and very early in Italy. The type is inseparably connected with other spiral ornaments. Such shapes are decidedly non-Sumerian; and the way they spread from western Europe as far as India, avoiding the lands of the ancient Near Eastern civilization, must be carefully studied.

Fig. 274 gives four examples only of another common type, the pin with disk head. Made of embossed sheet metal, they are frequent in Luristan, while in north Iran cast work is more common. The ornamentation of the Luristan pieces shares all the features that characterize the middle Assyrian period, $1400-900$ в.c., ${ }^{138}$ a date in accord with dating evidence derived from other sources for the Luristan bronzes. One type from Luristan, in fig. 274, with an elongated flat spatula, is entirely European in character; the two other specimens, from Koban, Caucasus, and from Neudorf, near Staatz, Austria, belong to the bronze age there.

Pins with 'zoomorphic' heads, as grouped together in fig. 275, are the type dominating the late Luristan epoch. The oldest and simplest forms seem to be those with a small bull's or demon's head from the ' $A$ ' cemetery of Kish. The one with a stag's head is from Gok Tepe near Urmiya. ${ }^{189}$ If the description 'Totennagel, haften in Schādeln, die sie meist vom Ohr oder senkrecht von der Schādeldecke aus durchbohren' is reliable, it would certainly indicate a secondary use, just as the various objects in the Luristan tombs are put together in a way that has nothing to do with their original use, and would in no way affect the primary function of the cloak pin. All the other specimens in fig. 275 are from Luristan, and even simple pieces like that with the bird or the goat's head are of no great antiquity. The winged and horned animals, below, represent Luristan better. The lion's head, disintegrated into a not uncommon concentric
spiral design, is derived from the strange Humbaba-heads of Babylonia, ${ }^{140}$ drawn in one continuous line. The simplified descendant of the Babylonian type is very common in Luristan. It is important because its front-view is related to the Chinese 'glutton,' and its profile view is intimately connected with the so-called 'eagle head' of Ordos and Scythia (cf, fig. 292 below). The man with arms out-

stretched, standing in a crescent, seems to have a religious significance. But the most remarkable piece is the one in the right lower corner, with a pair of old men, back to back. It is only three-quarters of an inch high and of excellent workmanship. Where only the bronze heads of the pins are preserved, the pins themselves were of iron. Two pins with pomegranates are added to illustrate one of the most frequent types of Luristan. The pomegranate is native to Iran; in Babylonia, from the Kossaean epoch onwards, and in Assyria, they are among the most common floral ornaments. ${ }^{141}$

Omitting many needles and similar implements, we mention only a set of toilet articles, the chatelaine. Two examples from Tepe Giyān, found completely oxydized into one piece, are drawn in fig. 276. They belong to the family of the famous gold chatelaine of the Royal Tombs of Ur. ${ }^{142}$ De Genouillac assigns such single implements found at Lagash to the Uruk period; in Europe the chatelaines are not attested before the Hallstatt period, which is conventionally held to begin c. 1500 or only c. 1200 b.c.
fig. 276


When analysing the prehistoric pottery of Iran we have often emphasized the analogies from far-distant Europe and China. Such affinities can be explained by contact: cultural spheres have common, partly overlapping frontiers; hence, shapes of things and decorations, techniques-though more deeply rooted in local conditions-ideas and symbols may travel. It is not even necessary to assume direct or indirect trade.

The interrelations, stretching over still wider areas, of products of metallurgy are of an entirely different nature. Among them are many objects, produced by the same technical processes and of an identical shape. Although suiting the technique that produced it, that shape is by no means a necessary but an arbitrary one, and those identical objects and their inseparably related groups are equally typical of entirely unconnected regions. There is no necessity for such identity of technique and aesthetics. On the contrary, the difference of locality and people ought to be reflected by essential differences in techniques and shapes. Moreover the intrinsic affinity does not extend-the exceptions are rare-beyond the limits of the realm of metal, and identical metal works may be
associated with entirely distinct pottery or other arts. Neither contact-which could only be indirect-nor imitation, trade, migration of ideas and even less so of peoples, can explain these strange interrelations. We must try other ways to solve that problem.

The lowlands of the Near East, home of the oldest civilizations, inhabited mostly by people called Semites on account of their language and other relations, have no metals. Everybody knows the Biblical story of Cain and Abel and the list of descendants of Cain in Genesis iv. That story reveals social institutions persisting in the same regions among the Bedouin, but not confined to their area or to the Semites'. After Abel's murder, Cain is cursed and outlawed, but his murderer, in turn, is threatened with sevenfold revenge. This, however, does not imply a safe conduct for fratricide. The name Cain means 'smith,' or strictly, 'miner, metallurgist.' Every doubt as to its meaning is ruled out, for otherwise the story would have no significance. It tries to explain, aetiologically, by one and the same divine act, two exceptions from normal retaliation: the exemption for next-of-kin murder and the heavy wergild for the murder of a smith.

The life of the oldest tribes speaking Semitic, and likewise those speaking Indo-European languages, was regulated by the ius talionis, the essential purpose of which was to protect the continuity of the clans and tribes. In contrast with traces of a matriarchal society among Near Eastern aborigines, their society was a purely patriarchal one. At the remotest period, the feeling for relationship did not exceed the limit of the clan, consisting of males with notorious degree of relationship, expressed by Latin agnāti, Iranian $\bar{a} d \bar{d} t \bar{a}$. The extension to the wider range of the tribe, which was essentially the same notion-common descent from a mythical eponym replacing the notorious degree of relationship -is already a historical progress. The ethnical units, clan and tribe, circumscribe at the same time the limits of that fundamental law. ${ }^{143}$

By its nature the ius talionis cannot be applied to next-of-kin murder, because that would bring about the total extinction of the clan. Therefore an exemption is made: the murderer is entirely outlawed: no tribe may receive him, but he is not killed.

The second exemption from normal retaliation, likewise common to people of Semitic and of Indo-European language, is that the life of the smiths-be-
cause they cannot be replaced-is protected by an anomal atonement or wergild. The fact that the normal law is not applied is conclusive proof that originally the smiths were not members of the clans, but aliens. Their exceptional protection is a first step on the way to international law; and the reason why the protection is extended beyond the primitive ethnical unit is to make a necessary trade-the trade in metal work-possible. ${ }^{144}$

To benefit by this protection the smiths need a legitimation. That may be, and sometimes is, a sign they wear. In the Biblical story it is the 'mark of Cain,' i.e. the signet of the god, which makes them his property and hence untouchable. ${ }^{145}$ Today, the Sulaib, a wandering tribe of blacksmiths that has become Arab, wear a simple cross on their forehead. It is not the Christian cross, but the ancient letter ' T ,' last of the alphabet. In Akkadian cuneiform it stands, with the determinative for 'god,' for parzillu, 'iron.' The Tau of the Sulaib, hence, may have been the mark of Cain already at the time of the Biblical story. ${ }^{146}$

From Cain descends Tubal, who became a metal-blower, 'sharpening everything that cuts of ore and iron. ${ }^{147}$ Whereas Cain was the metallurgist, Tubal is the 'hammerer,' the accomplished smith, in a period after grinding, hammering, hardening and other techniques proper to iron had been invented. All the other descendants of Cain are not tribes, but personifications of trades and crafts; and these are mostly despised ones that are exercised by 'wayfaring' people. Such were the shear-grinders, whitesmiths, tinkers and mouse-trap dealers in Europe, and so are they almost to the present day. ${ }^{148}$

Only the Tubal are a tribe, the Tabal of the Assyrians, or the Tibareni, known to the Greeks as inhabiting the Pontus. Later Biblical books associate them with the Möshäkh, just as the Assyrian annals associate them with the Mushki, the Greeks with the Moschoi. The classical authors, from Hecataeus, end of the sixth century, down to Strabo and Ptolemy, locate them in the Pontus region, with the towns Amisus, Oenoe and Comana Pontica, as neighbours of the Chalybes, i.e. Homer's Alybe. The Assyrian and Hittite Tabal and Mushki, on the other hand, lived in Cappadocia ad Taurum, near the Antitaurus, around the town Comana in Cataonia, ${ }^{199}$ north-west of Hilakku, i.e. Cilicia, around Mazaka-Qaisariyya. The region is a knot of high mountains, extremely rich in ores. where the Taurus detaches itself from the Armenian
highland. These people were prospectors, searching for ores and settling wherever they found them.

Among the 'wayfaring' people of the Bible are also the Mahir of I. Chron. iv, II (Assyr. mahiru, 'pedlar, hawker'), called descendants of $k^{c} l \bar{u} b h$. In this name R. Eisler saw the personification of a trading settlement of the Mahir, comparing it with Ptolemy's Chalybonitis. ${ }^{150}$ There is strong collateral evidence
 $\gamma \varepsilon v \varepsilon \cup \lambda \eta$, the land of the later Chalybes, is the land whence Hodios and Epistrophos, i.e. the 'hawkers,' came. According to a scholion to Apollonius of Rhodus' Argonautica, ii, 373, the Chalybes descend from an eponym Chalyps, son of Ares. This Greek name Xád $\begin{array}{r} \\ \psi\end{array}$ is Hebr. kelūbh. Both reflect a genuine tribal name of the oldest ethnical stratum of Anatolia and Iran. ${ }^{151}$ The association of the wandering smiths and merchants is the same in Homer and the Bible. And an old Egyptian poem of the middle empire, but perhaps of still older origin, extols the advantages of the vocation of the scribe by contrasting with it the hardships of other trades, saying: 'The manufacturer of arms sets out for an alien land, a heavy load he puts on the donkeys. ${ }^{152}$

Ptolemy's Chalybonitis seems to be the region of Hamāh, the 'town Nāhāsh' of I. Chron. iv, I2, Nuhashshē of the Assyrians, the 'copper-town'; or it might be Chalybon, the Wadī Halbūn north of Damascus, famous for its wine, the 'wine of Helbōn' of Ezekiel xxvii, 18 . The association of viniculture and metallurgy is not accidental: Asia Minor is the original habitat of the vine, whence the aboriginal Anatolian name spread over the world with the product. Demir Ma'den, the place of the iron mines of Qizvatna, is located near Unyeh = Oivoń, the 'wine town' of the Chalybes; Chalybon-Helbōn and Chalybonitis-Nuhashshē, must owe their names to settlements or factories of the Chalybes in the Amanus and Lebanon. The same combination of metallurgy and viniculture occurs in Kitpat-Qazwm in Media, certainly another settlement of Qizvatnians. The mahir, Hodios and Epistrophos, not only went to Troy-and they did not stop in the Antitaurus, where the Tabal-Tibareni are but another settlement, a 'pocket' in ethnological language, of Qizvatnians; they proceeded also to the Amanus and Lebanon. ${ }^{153}$

Primitive law and notions about wayfaring blacksmiths and merchants, as
revealed in the story of Cain and Abel, in Homer, Greek mythology and historiography, Germanic folklore and law, and an old Egyptian poem, cannot be of late origin. They were old and half forgotten when the story of Cain and Abel was written, they were a myth at Homer's time, and must have come down from the beginning of the metal age, when the miners and smiths were actually aliens, gypsies before the gypsies, who carried on their trade, travelling over amazingly wide areas. There are many archaeological proofs for their wanderings: bronze objects that were found on the Lueg pass near Salzburg belonged to a travelling smith from Crete; and this is not an exceptional instance.

Recent ethnological researches in Europe have established a peculiar ethnical element-'the prospectors'154-so called since they are supposed to have been largely concerned with early prospecting for tin, copper and gold. Never very numerous, they have played an important part in the dissemination of culture in Europe. Men of the 'prospector' type are found today among various coastal peoples from southern Italy (Salerno) and Spain northwards. There are pockets of them at the mouths of the Loire and Charente, in Brittany, Wales, and as far as the coasts of Norway, Denmark and Sweden. The living representatives, the 'maritime Armenoids' of Elliot Smith, are tall, muscular brachycephals with sallow skin and dark hair and eyes; it is suggested that they are a cross between Mediterraneans and Armenoids, probably originating in the eastern Mediterranean.

All the conditions of this ethnological theory are fulfilled by our prospectors from Pontus, the Chalybes, Cyclops and Tabal, all of them Armenoid aborigines of the shores of the Black Sea. ${ }^{155}$ Therefore I connect the two observations of different nature and origin: the prospectors of Europe and the prospectors from Pontus are the alien smiths of the Semitic people and of the Greeks. The traces of their settlements along the European coast show their expansion to the West, ${ }^{156}$ while the line Pontus, Antitaurus, Amanus, Lebanon and Media is part of their eastern track. Eastern Anatolia and Armenia was the original centre from which metallurgy spread over the lands of the Ancient East as well as over Europe and eastern Asia. ${ }^{157}$

The strange interrelations between metallurgical works, the observations from which we started, must be explained by the assumption that wayfaring
prospectors, smiths and dealers travelled over all Eurasia disseminating their products and calling into existence, at places otherwise unconnected, local industries which, starting from a common origin, in time took diverging directions. It follows that metallurgical objects, by definition, are insufficient as evidence for ethnical relationships between the people that used them.

Cross, sun-wheel or eye-the stigma of Cain, marking him as the property of God-are used already on neolithic and chalcolithic buttons for marking property. This was the origin of the stamp-seal, sphragis. Since writing in the Ancient East was an art that required a lifetime to master, and signatures were necessary for every juridical act, every man, at least every man of property, owned a seal. At Tepe Giyān seals appear in every stratum; above we have discussed some old specimens shown in Pl. xvn. The later stratum II has also furnished a large number, twenty alone in my collection, which belong to the socalled 'Karkūk class.'

Karkūk, ancient Karkhā de bēth Slōkh, was the ancient capital of Arrhapachitis, Arrapha, flourishing in the middle of the second millennium, at the time of the Aryan dynasty of Mitanni; later it was the residence of the Saka dynasty of Adiabene. When the first Karkūk tablets had been found, I went, on the way to Paikuli in 1911, to see Wērānshahr, Yorghan Tepe and Terkelān, whence they were said to come; I acquired a fine rose-agate seal on the spot. In 1927-3I Harvard University excavated Yorghan Tepe, ancient Nuzi. One of the results was the exact dating of the tablets, formerly believed to be much older, in the fifteenth and fourteenth centuries в.c. For this dating, a tablet bearing the impression of ithe seal of Saushshatar, ${ }^{158}$ the founder of the Aryan dynasty, was of primary importance. The tablets abound in impressions and many original seals exist in every large collection. The specimens from Nuzi ${ }^{159}$ are confirming evidence.

The Karkūk seals from Tepe Giyān, occasionally from Luristan, are always small. Their material is sometimes white, more often multicoloured stone. Usually, however, it is a turquoise blue frit probably made of powdered turquoise, which, although it has become soft and friable with age, is sometimes very hard and almost vitrified. They are glyptic work like other cylinder-seals. But the
provincial sub-class of Luristan, usually made of baked, blue glazed clay, sometimes of frit, apparently is produced not by drilling but by modelling in plastic clay. This process entails the production of designs that are poorer in detail and quality.

Both the true Karkūk class and this sub-class have a wide distribution that is still difficult to explain with our present historical knowledge of the period. In the West, the Karkūk class appears for example in the Cesnola collection in
 T.Giyän


Louv.acg. 952


P. Morgan 188


BN. 440


Ain Shams



FIG. 277
Cyprus, where I consider them as imports; in north Syria at Deve Huyuk, a cemetery near Karkhemish; in Palestine together with objects of the time of Amenophis II; at Gezer, also at Lakhish, 'Ain Shamas-probably everywhere, but never in large numbers. The same is true of the centre, Assur, where more than the few published specimens have been found, and Babylon, where they are less rare during the Kossaean period. In the East they are typical of Tepe Giyān II, and are almost the only type of seals of that period; and the few seals known from Tālish (Agha Ever and Masan Zaminī), at the Caspian Sea, all belong to the Karkūk class. The Luristan sub-class is common at Nippur and Babylon; it occurs at Assur and occasionally in the Karkhemish region and Syria. 'Karkūk seals' hence seems to be a good name. The people of Karkūk, Arrapha, must have been in close touch with the Iranian highland at the middle of the second millennium.

This is not the place to make a special study of the Karkūk seals; we shall analyse them only, without aiming at completeness, as we did when discussing
the potteries and bronzes. The manner in which animals are represented in this glyptic art (fig. 277) is, in technique and design, a relapse into Sumerian copperage methods. The main tool employed is the bouterolle, a needle with a round point. One drill-hole for the shoulder, one for the croupe, and a connecting groove produce the body of the animals; the legs and other minor parts are


FIG. 278
made with a sharp needle, the heads by a tubular instrument that produces a concave circle with a small hole in the centre. The muzzle of the animals, if closed, is one small round dot; if open, a pair of them, connected with the circle around the eye by a short trapezoid. The style is simplicity itself; and just as in the period of the Sumerian stamp seals, it is a style created under the compulsion of tools and material, an eminently glyptic style.

Symmetrical antithesis, front to front, back to back, etc., the main principle of the composition as in fig. 278 , is a heritage of the ancient Sumerian past. Every variety of antithesis may lead to coalescence: shoulders, croupes, heads or only muzzles may grow together. This too is a relapse into prehistoric tenden-cies-it is enough to recall the Samarra pottery-and a proof that this art is entirely indigenous.

In fig. 279 we go a step further, comparing some of the normal glyptic animals of the Karkūk seals with analogies furnished by Luristan bronzes. These bronzes are cast in moulds, a technical process by which any shape might be
reproduced, with no compulsion to prefer a special style. And yet already these few examples leave no doubt that the bronzes strictly follow the glyptic style of the Karkük seals. Shoulder and croupe are spherical segments, the body between is cylindrical, the heads are rings around the spherical or almond-shaped eyes. All the muzzles terminate, contrary to nature, if closed, in one small





FIG. 279
globe, if open, in a pair; these are connected with the ring around the eyes by a conical piece. The similarity extends, mutatis mutandis, to the feet and other members. In the glyptic style, each of these details is necessary, but not at all in cast bronze. The Luristan bronzes imitate, as meticulously as the different technique allows, the style of the Karkūk seals.

The strange hybrid animals, of which fig. 280 gives three examples in glyptics and in bronze, ${ }^{160}$ illustrate that even extreme cases are similar. But it is more important to establish the identity of the normal schemes like the antithetic 'rampant' animals. Fig. 281 shows various norms of antithesis in the glyptic style. They have lost the flexibility of the really ancient compositions of the fourth and third millennia, and their heraldic rigidity is the best proof that they are types long since established. But the distinction between bronzes and seals, as shown by fig. 282, does not exceed the margin to be allowed for materials so widely different. The two pairs of fig. 283 render the relationship even more


FIG. 280
conspicuous, and explain the only distinction: in glyptics, a tree often forms the axis of the antithetic group; among the bronzes the tree is only found in embossed work, not in the round. But something was put through the two small rings formed by the connected feet of the animals; so they had some axis, and the analogy was complete.

To define the period in which the Luristan bronzes belong, we have made use of evidence of different origin: of the inscriptions on daggers and a few vases, which range from c. 1300 b.c. to just after c. 1000 b.c.; of the Cappa-


FIG. 28 I
docian connections of the archaic iron daggers and bracelets, which assign them to the beginning ofithe thirteenth century; ofianalogies from the Kossaean strata of Babylon, Nippur and Assur, and also from the Amarna period of the Syrian coast, which point to the same date. Prominent among our dating evidence were the numerous correspondences with objects from the In Shushinak and contemporary deposits of Susa. The intrinsic relation between the Luristan


FIG. 282
bronzes and the Karkūk-Tepe Giyān seals is a strong confirmation. At the same time it eliminates, once and for all, the current idea that the Luristan bronzes were an art brought from abroad by newcomers to the land. Strange as they are, they are inseparably tied to the arts of the preceding periods of the same and neighbouring regions.

There is brass-yellow, copper-red, silver-white, jade-black bronze, cast, forged, embossed, engraved, plated, inlaid. All these kinds and techniques of bronze are often used in intentional contrast, and always handled with conscious mastery. It is the art of bronze at its apogee and can only be the result of long previous experience, not a new invention of the Kossaeans, who inhabited Luristan through the whole second millennium. Many objects among the Luristan bronzes, such as the embossed cylindrical goblets, I consider as imported from a more northerly region, like Adharbaijan, Manai, just as the iron daggers
are imported. For the developments that must have preceded the Luristan phase one ought to search in regions centring around Armenia. For the high level of bronze work as displayed in Luristan is maintained in Armenia during the subsequent period of the Urartaean empire; and quite recently, in 1937, metal works as old as the end of the third millennium have been discovered in easternmost Anatolia, at Alaja Huyuk, near Siwas, ${ }^{161}$ of surpassing technical and


FIG. 283
artistic skill. That land was the home of metallurgy before and after the late Luristan period.

Only after having settled these problems may we again make a step forward. Fig. 284 confronts a typical Luristan bronze with one from Ordos.

The name 'Ordos' for a special group of bronzes discovered in inner Mongolia was proposed by Ellis H. Minns and accepted by J. G. Andersson. ${ }^{162}$ In his first article, Andersson postponed 'the question of chronology, as also the difficult questions of the inter-relationships with other provinces of the Animal Style, such as Minussinsk and the Euxine.' In the second article he outlines three stages, 'the archaic beginnings, the height, and the degenerate affiliations of Animal Style.' I intentionally avoid the term 'Animal Style,' which is as incomprehensible to me as 'man style' or 'plant style' would be. Common, even dominant use of animals for decorative purposes does not make a style, less so a

unit of different arts; it might be and is done in entirely different styles. Andersson has not yet carried out his intention to devote an entire 'Bulletin' to the problem of chronology. His view is not quite clear to me: he seems to assign the Ordos bronzes either as a special group, contemporary with other styles, to the late second and first millennium b.c., or, as preceding the others, to the second millennium.

The Luristan bronzes throw an entirely new light on the problem and solve it. Occasionally we have mentioned similarities between bronzes from Syria, Luristan and Ordos. A glance at our fig. 284 leaves no doubt: the Luristan animals may represent lions; the Ordos animal is called a horse. Certainly the artist thought of a horse; but it is equally certain that it is no horse, but a preexisting abstract animal, which, by details of muzzle, mane, tail and hoofs, has

FIG. 285

been secondarily assimilated to a horse. Such a development is quite regular in the history of art. The pre-existing form of the oriental palmette was interpreted by the Greeks of the sixth century as an acanthus, and the late offshoots of the acanthus were assimilated by the early gothic artists to the entire wealth of their native flora. These interpretations never obliterate entirely the traces of origin. Even the highest degrees of assimilation to nature preserve the abstract structure that belongs to art, not to fauna or flora. The Ordos bronze horse


Lur

FIG. 286
could never have come into being without the previous existence of the Luristan animal, hence indirectly of the animals of the glyptic style of Karkūk.

Fig. 285 compares two Luristan whetstone handles with the end of a daggerhilt from Ordos. The Luristan animals may be called ibexes, the Ordos animal a camel, in spite of its horns, with the same reserve as in the foregoing example: they are not a species of natural history but of art. Although depending on the Iranian example, the Ordos piece is of superior quality-a feature that is more marked here than in our first example.

The animal that forms the termination of a pole in the Bliss collection (fig. 286) is called 'head of a hind.' It might, however, be a mule, and is again another interpretation of the pre-existing abstract animal. A whetstone from Luristan, in the same figure, could represent a ram (?) with a bird on its back. The large bird with a small one on its back (same fig., middle) is from Ordos. The 'bird on the
back' motifiis common to both spheres, but never has a practical purpose. And since the work is free round sculpture, one cannot speak of any aesthetic compulsion; nor does it tell a tale. The motif is entirely conventional and its rigidity betrays its age. Only once, at a remote Sumerian epoch, was there a similar motif full of meaning: the sacred bird attacking an animal, usually a bull. This must be the origin of the bronzes, obliterated by age almost beyond recognition.

The birds are cast hollow, and their sides are pierced by slits. Small birds ofi


FIG. 287
solid bronze, probably pendants of necklaces (as in fig. 287), occur in unlimited number in Luristan. The larger bird, cast hollow and pierced like the Ordos birds, was discovered in Hojali, Qarabagh, in Transcaucasia, together with a votive bead inscribed with the name of Adad Nirari. ${ }^{163}$ As there is no reason to doubt that the two objects are coeval, the king must be Adad Nirari I, i3101281 b.c. The pierced work of the birds is of the same spirit as that of the jingles and the 'pomegranates'-which we shall soon discuss-but the special shape of the slits reveals more.

Fig. 288 shows a bird on a sword-hilt from Ordos, ${ }^{164}$ and several birds painted on Tepe Giyān potteries that are contemporary with the Karkūk seals. This pierced work with slits, for which there is no practical reason, imitates a design natural, almost essential for painting. Just as the Luristan bronzes link up the Ordos bronzes with the Karkūk seals, so the same indirect connection exists between the Ordos bronzes and the Tepe Giyān pottery. Seals and pottery are genuine products of western Asia; therefore the Ordos bronzes, products of eastern Asia, cannot be derived from Chinese, but only from Near Eastern art.

All the objects in fig. 289 picture pomegranates. Most of them are hollow and pierced, as are the birds and jingles. People still slit the wood-like peel of the pomegranate today and take out the seeds and core, just as European children do with the pomus Sinica. The slit bronzes represent such slit fruits; $;^{165}$ the shape of the Luristan pomegranates is entirely true to nature. The pomegranates of two bronzes from Ordos in fig. 289 are very similar, but less true to nature, whereas Ordos animals used to be truer to nature than those from


Luristan. Indeed, the pomegranate is an Iranian plant, and remained unknown to the Far East at least down to the second century b.c. It is first mentioned in Chinese books of the sixth century a.d., which, quoting from third century writers, describe the fruit as a plant imported from Parthia allegedly by the famous general Cang-K'ien. ${ }^{166}$ The Chinese names for the pomegranate are loan-words from Sanskrit or Iranian. ${ }^{167}$ Like the representations of the animals,


FIG. 289

## IRAN IN THE ANCIENT EAST

the Ordos fruits in bronze are abstractions: they imitate not the fruit itself but the Iranian bronze type of the slit pomegranate-a conclusive confirmation of the western origin of the Ordos bronzes.

The ties between Luristan and Ordos are strengthened by the occurrence of identical types of various rare objects in both groups. Above, in fig. 256, we had compared the leather straps of horses' harness from Luristan, Assyria and Ordos,


FIG. $29^{\circ}$
mounted with identical metal scales. Fig. 290 adds another identical implement, a small ring or buckle, one specimen in silver from Tepe Giyān, another from Agha Evler, Tālish, a third from Mazavarian (Caucasus?). The two pieces from Troy belong to stratum VII, between the Mycenaean and the early Greek epochs, and are described as spannringe; these were used to stretch the string over the end of the bow. ${ }^{168}$ Below there are two of the many examples from Ordos, where they are generally called 'buckles,' although many of them are indeed spannringe.

In fig. 291 a-c are small pendants from Luristan, d-ffrom Ordos; the objects represented differ, but the type of the pendants is the same.


FIG. 29I

More important are two details of form. When speaking of the 'zoomorphic heads' of pins, we had affiliated a frequent Luristan type of lion's head that had entirely disintegrated into symmetrical spirals to the Babylonian, or possibly Caspian-Anatolian Humbaba head (see fig. 275). This is an apotropaion and forms a group with other apotropaic heads of lions, men, demons, always drawn in front-view. This point is essential: while the profile tells the onlooker an epic tale in the third person, the front-view assails him; it speaks in the first person and in imperatives. The apotropaic heads are intimately connected with two secondary motifs: (1) the 'zoomorphic juncture,' where parts of the decorated object, often themselves in the shape of animal members, grow out of the open mouth of the apotropaion-with which we shall still deal when meeting it again in Achaemenian art; (2) with the coalescence of the heads of two antithetic bodies of animals. A regular feature of already the oldest specimens, Mesilim period, of this apotropaic head in front-view, is the missing lower jaw. From this Sumerian head descends the type called in ancient Chinese art 'the glutton,' a fantastic head in front-view without lower jaw, and often employed in 'zoomorphic juncture,' or as the common head of two bodies.

To the spiral head in front-view corresponds a profile head (fig. 292 left) that is very common among the Luristan bronzes. In the middle, a sword-hilt from


FIG. 292
Ordos shows what has become of it in Mongolia. The Ordos head at the same time foreshadows the so-called 'eagle's head' that is eminently characteristic of Scythian art. As in the examples discussed above, it is the head of an abstract animal interpreted as an eagle, not a representation, however abstract, from nature. We shall meet this head again in the art of the Achaemenian epoch.

The similarity between a well-known bronze standard-top ${ }^{169}$ in the C. F. Loo collection and a prehistoric bronze seal from Cappadocia is now no longer astonishing (fig. 293). Two other stags-one in the Ashmolean from Aleppo, and


FIG. 293
one in Tiflis from the Caucasus-and similar figurines from north Iran ${ }^{170}$ point out the possible direction in which the contact occurred. A horse from Isfahan (fig. 294a), a winged horse from Tepe Giyān (294c), and an Ordos horse (294b) also demonstrate the similar artistic conception of the animals and at the same time the higher quality of the Ordos bronzes: an inheritance fell into the hands

a

b


FIG. 294
of people with greater gifts. PL. xxxi combines a number of small figurines from Iran: horses, ibexes, bulls and dogs are the commonest animals. The fauna of Ordos is richer, but the pedigree of such animals is not the natural one: camels may descend from horses, wolves from dogs, yaks from oxen.

Such comparisons could be continued ad infinitum. There must have been some contact between Luristan and Ordos, and in spite of the enormous distance in space, the distance in time cannot have been a long one. An entire art has been transferred, and although we cannot yet see the étapes of that 'road
through the steppes,' its direction is clear: from west to east. And the date of the Luristan bronzes entails that of Ordos. As the Luristan bronzes are defined between 1400 and 1000 b.c., the Ordos bronzes may begin about 1200 b.c., contemporary with the beginning of the Chou dynasty.

The small bronze figurines on Pl. xxxi, when equipped with a loop, may have been ornamental pendants inserted into necklaces of fine bronze spirals.


FIG. 295
Other applications are shown by the bronze vase from Būjnurd in Khurasan on Pl. xxv, and by the scuffle on Pl. xxxi from Shahriyār district south-west of Teheran. Both show that the Luristan style was not confined to that region. In the Louvre there are similar types of such scuffles-Hellenistic work from Syria -with Corinthian columns as handles. These are called pelle à offrande, and were perhaps used to pour grains or incense into a sacrificial fire.

On PL. xv is a small bull from the neighbourhood of Hamadan, apparently belonging to an essentially different art, which approaches already the Median and Achaemenian style. Though certainly of a much later date, it may be compared with the figurine of the bos primigenius from Tepe Giyān on PL. xv.

The double protomes of animals, of which fig. 295 gives several examples, constitute another link between Luristan and the art of the historical periods of

Iran: $\mathrm{a}, \mathrm{b}$ and e from Luristan, c from the Shahriyār district, d from Armenia. ${ }^{171}$ The female figure sitting on the double horse is vaguely related to the man standing in the crescent of the Luristan pin in fig. 275, and is probably a religious conception.

Human figures are always rare, as on more ancient seals and potteries. PL. $\mathbf{x x x n}$ shows a strange idol from Tepe Giyān, of very remote age, hammered ofia thin sheet oficopper. The outline of the body and the attitude, arms raised, recall the older figures of men or demons painted on Persepolis potteries. The original is now lost. The figure of a captive in cast bronze, of which three views are illustrated on the same plate, comes from the Isfahan region and is now in Moscow. On account of its Sumerian relations it must be assigned to the early dynastic epoch. A minute gold figurine ${ }^{172}$ was on the Baghdad market; its provenance was unknown, but it is a Hittite or Iranian rather than a Sumerian type, and resembles an obsidian(?) figurine from Assur, ${ }^{173}$ which Andrae rightly recognized as something foreign. To their group belongs a small figurine of black stone in my collection, and a fragment of cornelian and a larger bronze figurine in a private collection in Berlin (fig. 296). All of these are from Tepe Giyān, and the finest specimen is a rock crystal discovered by Miss H. Goldman at Tarsūs. ${ }^{174}$ These few human figures, with all their imperfections, are unfit to convey more than a vague conception of the somatic character of the prehistoric population of the Iranian plateau.


Fig. 296

## THE DAWN OF HISTORY

QUITE GENERALLY, at the present stage of our knowledge, we can say but little about the ethnological aspect of our archaeological material. Indeed, ethnological conclusions from archaeological observations always need corroboration by linguistic and historical evidence.

The structure of the stone-age village near Persepolis suggested the absence of a patriarchal family, hence a matriarchal society; and female inheritance and similar customs of matriarchal origin ruled in ancient Elam, in Asia Minor during the second millennium, ${ }^{1}$ later in Sakastan and in India. It seems that the aboriginal society was matriarchal, and the persistence of such customs would prove the continuity of the population and its ethnical distinction from western neighbours. Or, the ancient people of the plateau worshipped snake-gods and so do descendants of Indian aborigines, an analogy that may mean more than just common religious notions. On the other hand, the evidence of any cultural influence that was exercised on the highlands by the ancient civilization of Sumer is scanty; and considering the high level and close proximity of that civilization, we feel that something formed a barrier and this something may have been a marked ethnical distinction. The cultural relations to Mesopotamia, as represented by Tell Halaf or Chagar Bazar, and to the regions east of the Tigris, like Arpachiyya, Tepe Gawrā, Samarra, Ashnunnak, i.e. the so-
called 'Subartu,' and even to Asia Minor are closer, and that may indicate a closer ethnical relationship between the populations.

There is a certain contrast between the north and the south of the plateau, but the archaeological evidence shows that the two parts were never without contact and is not sufficient to infer that there were two unconnected ethnical groups. Behind the features that distinguish the north from the south we may divine the existence of a foreign civilization, that of the alluvial lands of the Oxus and Iaxartes; it is reflected by many objects from sites at the foot of the plateau or near its northern border. The situation is in every respect analogous to that of Elam in the south. The prehistoric history of the northern and southwestern borderlands apparently was a cycle ofialternating periods during which they were connected with their foreign neighbours, or again, separated from them and united with the other parts of the highlands. We don't need the 'Pulse of Asia,' the 'recession of the woods,' or revolutionary migrations of people to explain, as it has been proposed, the slight changes observed in archaeological material: parturiunt montes!

Once, at the end of the third millennium, we have indeed evidence of migrations of people. Very specific forms of pottery and other products, foreign to central and southern Iran, appear at Astarābād, Alburz, Raga, and as far west as Mazaka and Alishar in Anatolia, lined up as if the sites were halting-places along a road. Since this was in recent historical times the road over which Turkish tribes migrated from Turkestan into Anatolia, the historical analogy proves the probability of the prehistoric migration. But to make people wander and keep them wandering, without such historical analogy, on the mere evidence of a change in burial customs, a new method of building foundations and walls, of a new type of pottery, a new style of decoration, or even on less evidence, seems to me a modern abuse. After all, man has sometimes produced a new idea, made a step forward, or else there would be no history. The authors of such progress themselves want to perpetuate it; hence, every step forward has a tendency towards and leads to stagnation unless conflict generates new progress. That is the normal course of political and cultural history. Many prehistoric people resemble modern primitive people, naturvelker, inasmuch as all their products remain monotonous, typical, not individual. Some Brazilian

Indians, Bushmen, Eskimos, have certainly lived their style of life-before European trade reached them-for thousands of years. Their status is 'quiescent.' Likewise, one cannot estimate how long prehistoric cultures may have lasted without perceptible changes. It does not seem to occur that historical nations rise out of stagnation, if it is the result of decadence, unless they admit into their group a fresh ethnical element. But that is not true of the prehistoric peoples in question: after long periods of 'static quiescence,' expressed by the monotonous repetition of their products, they may suddenly step forward into great historic action.

The advantage the inhabitants of the highland had acquired over the lowland people at the end of the neolithic age was entirely lost when, probably less than a thousand years later, history began in Sumer. History means written records, which we are able to read and which contain historical facts.

One section of the highland took part from the beginning in this decisive progress, viz. Elam. Actually it is a bay of the lowlands, which stretches into the mountains and which has always been a ground contested between the people of both neighbouring lands. At the same time as ancient Sumer, Elam produced, scarcely independently, a script of its own called 'proto-Elamite.' Since stratographic observations at Susa were lacking, it took a long time to come to an agreement about the great antiquity of that script, and even when the third primitive writing, the 'Indus-script,' was discovered, attempts were made to understand its structure by comparing it with the oldest Sumerian writing, while proto-Elamite really lay nearer at hand. When Elam became incorporated into the 'Empire of Akkad,' in the twenty-seventh and twenty-sixth centuries b.c., Akkadian cuneiform replaced the older Elamite. But when Elam became once more independent, at the time of Puzur-Shushinak, who was probably a contemporary of Gudea, it turned back, in a mood of nationalistic restoration, to its old script. Not for long: cuneiform carried the victory. Elamite cuneiform then took a course of its own, and at a point not yet exactly fixed, the later old-Persian cuneiform must have branched off from it.

I have considered whether proto-Elamite writing, instead of having been invented at Susa, might possibly have been introduced from a more eastern region. This would be an analogy to the Susa I and Susa II potteries. The dis-
covery of proto-Elamite tablets at Tepe Siyalk, Kāshān-no doubt, as Ghirshman $^{2}$ says, 'pas une provenance accidentelle'-could be taken as an argument in favour of ${ }^{\prime}$ but would not prove, such an assumption; the invention should have been made at the point in closest contact with Sumer.

The first Tepe Siyalk tablet was found in its original stratum, together with six cylinder-seals incontestably of Uruk character. Ghirshman calls the stratum 'couche caractérisée par la céramique commune [i.e. unpainted] identique ā celle qui se situe entre Suse I et Suse II,' and compares the pottery with that of Uruk. I wonder how far it might be connected with the unpainted Turkestan pottery, the existence of which is indicated by other observations. The period at any rate is older than Jamdat Nasr and corresponds exactly to that stratum of Uruk that contains the earliest Sumerian pictographic tablets.

Being pi stographic, such a tablet can be read in any language. However, it is the standardized voicing of the written symbols, to be acquired only by schooling, that makes pictographs real script, and this voicing originally was Elamite. If Elamite was not the language spoken at Tepe Siyalk in the fourth millennium, at least it was known there. The tablets from Tepe Siyalk and Susa are mere accounts. If there are no historical data in them at all, even their decipherment would not convert Iranian prehistory into history; but the fact of that isolated discovery gives some hope.

Without furnishing a precise result, all observations tend to prove that the aborigines of the highland belonged to one great and constant ethnical group. What we need is a name, because N.P. Iran, M.P. Eränshahr, 'the land of the Aryans,' is a name that by definition cannot be applied to the long periods prior to the immigration of the Aryans. The Sumerian documents provide only a few names referring to ancient epochs of the highland, like Manda and Anshan, Anzan, obsolete names which the archaistic style of the neo-Babylonian chancellery revived to designate Media in the north and Persis, Fārs in the south.

The name Manda applies in Assyrian and Babylonian usage to modern Adharbaijan, ${ }^{3}$ old Media Atropatene, around the Urmiya Lake. The part south of the lake was the 'land of the Mannaeans,' the Minni ofjJeremiah, Matiene, Mantiane from Herodotus to Ptolemy. Whether the name ummãn Manda has anything to do with Mannaia or with the name Māda4 of the Medes is entirely ob-
scure. The phonetic assonance may be a mere chance, but may have caused the neo-Babylonian scribes to adopt the name.

About Anshan we may speak with more assurance. It must have been the aboriginal name of Persis, Pärsa. ${ }^{5}$ Pärsa is an ethnicon, regularly derived (with $v r d d h i$ and $s v>s)$ from the name parsva- of the region in which the Iranian tribe first settled. This was a region in Media, almost congruent with modern Kirmānshāhān, from Māhidasht to Sakhna, along the highroad from Babylon to Agbatana, and is first mentioned under Shalmaneser III, $a^{\circ} 16$ ( 843 b.c.), as parzua-, and since 835 always spelled parsua-. ${ }^{6}$ After the removal of the tribe from Media to the south, between 697 and 660, the tribal name Pärsa was applied to the new habitat; in regions with truly Iranian population the names of the tribe, the land, and the capital are as a rule identical. Anshan, the historical name employed in Babylonian-not Assyrian-chancellerystyle, thus became replaced by Pārsa.

At the end of the third millennium another nation is first mentioned as inhabiting the region between Media and Persis along the modern frontier of Iraq and Iran-the Kossazans. Their original home is modern Luristan, where the old name survives to the present day in Baqsā, i.e. B $\bar{a}-Q u s s a \bar{y} \bar{a}$, south of $B a d r \bar{a}$, i.e. $B \bar{a}-D u r a ̄ y \bar{a}$, in the hills at the latitude of Kūt al-Imāra. The lower class Lurs-a name that might mean sylvestrans-must be descendants of Kossaean stock; but the Lurs speak a 'Persian' dialect, as opposed to 'Median.' Hence the high-class clannish Lurs must be descendants of Aryan immigrants, a subtribe of the Pārsa; such also were the Hūvaja, who imposed their name, later Khūzistān, on ancient Elam. For almost six centuries the Kossaeans ruled as the Third Dynasty over Babylonia, which they called Karduniash. The conquest had been made possible by a previous raid of the Nasian Hittites, who, in about 1750, put an end to the First Dynasty of Babylon. Kashshü, pl. Kashshē, the Akkadian name of the Kossaeans, is the native name with the Akkadian terminations. Kiootor, the form used by Hecataeus-whence Ptolemy's Kıббí beside Kooraiol-rests on the Elamite pronunciation of the native name. Greek Koooaiol comes through the medium of Aramaic Qussāyē (like Arabic Baqsā̀). The stem is Kash-, monosyllabic as other tribal names of the oldest ethnical stratum of Iran and Anatolia. Elamite, Kossaean, and probably other dialects
of regions adjoining in the north had a plural suffix of the type -ip, and the true plural of Kash-, Kasip, is preserved in the name of the god Amman kasipar, ${ }^{7}$ in which G. Hüsing recognized the Kossaean equivalent of El. Humban kuk kassitri, 'El. Humban = Koss. Amman, the protector of the Kassi-land.' From this kasip is derived the Old Median adjective *kaspiya-, ${ }^{8}$ prototype of Greek Káблıo, name of the population of northern Iran, which survives in names like Caspian Sea, Caspian Gates. All the various forms reflect one and the same name; Kossaeans and Caspians are identical. ${ }^{9}$ The remains of the Kossaean language, preserved in their royal and personal, and also in some topographical names, besides in a glossary with problematical Akkadian translations, reveal it as akin to Elamite, hence as aboriginal. The question whether there were still earlier men on the highland is beyond the reach of history. Linguistic and archaeological evidence are in accord: one ethnical group occupied the whole extent of the highland during the prehistoric epochs, and 'Caspians' is the name we ought to give them.

It has sometimes been said that the Kossaeans included or possibly were 'Indo-Europeans,' a term of purely linguistic significance and meaningless if employed in an ethnical sense. This view is based on the occurrence of a few names, above all Shuriash. ${ }^{10}$ Shuriash is translated in the vocabulary by Shamash, and can hardly be anything but Aryan sürya-, the sun-god. But the adoption of that name is sufficiently explained by the fact that at least since the end of the third millennium the Aryans in the Oxus and Iaxartes basin were the neighbours of the Caspians on the highland.

Like potteries and implements, ideas and men may also have infiltrated from the northern plains, or from India in the East, as it happened in the Sumerian west. Tribes from Turkestan may have passed through the north on their way west, as the Aryans must have passed through the east on their way to India. They may have left detached groups behind. But all that did not change the basic unity and the continuance of the aboriginal population.

Somatically those Caspians may have belonged to the same stock as other aborigines of Armenia and Anatolia. The bulk of the modern Persians are certainly their direct descendants. Always in the majority, though accepting the Aryan language imposed upon them, the aborigines have racially absorbed the ancient immigrants.

The rare human figures among objects of art, of small scale and primitive design, are supplemented by a few large monuments, from which we may form at least a general notion of the somatic appearance of the Caspians.

There are three sculptures on the rocks behind the village of Sarpul on the Baghdad-Hamadan road. The most elaborate one (fig. 297) represents a tri-


FIG. 297
umph of Annubanini, king of the Lullu (Lullubi Lullumè), a tribe related to the Kashshu. The king stands before the goddess Ininna and puts one foot on the prostrate figure of an enemy; the goddess leads two prisoners, and in a lower register six more are drawn. Above, between the king and the goddess, hovers the eight-rayed star of Istar, shaped like the gold pendant from Tepe Giyān. The triumph is not represented as a dramatic, historical moment, nor as an epic
tale, but in a symbolically descriptive way, as we would expect of an art that even in pure decoration is entirely symbolical. From the Akkadian inscription we may infer the time of Naram Sin of Akkad as the date of the rock-sculpture.

The second bas-relief of Sarpul is similar, but omits the small captives led by the goddess and the entire lower register. The third bas-relief shows only the

king with the conquered enemy under his foot and the star above. But on its base it has a long inscription, badly damaged, in the same script as the first bas-relief. The only passage I have been able to decipher so far literally repeats the cases 5-9 col. II of the first inscription; the new one seems to be almost a duplicate of the Annubanini inscription.

A sculpture of similar style has been discovered by Major C. T. Edmonds ${ }^{11}$ not far to the north at Darband i Gawr, south-west of Sulaimāniyya. The king there stands over two prostrate and apparently slain enemies (fig. 298). They have long pigtails, a hair-dress we shall meet again; they are the natives and the king is a foreign conqueror, Naram Sin himself, For, on his famous stele in
commemoration of his victory over the same Lullu, discovered at Susa and now in the Louvre, we find the identical group of slain enemies. The rock-sculpture and the stele must commemorate the same historical event. If Naram Sin's conquest had been a lasting one, the rock-sculptures of Sarpul ought to be slightly older; at any rate, they belong to that period. ${ }^{12}$


FIG. 299
The style of the figures of Annubanini and Naram Sin is plainly 'Sargonid.' Only Sumerian art, naturally, never produces rock-sculpture, nor is it monumental at all; technique and scale are the work of foreign hands. On all the three sculptures of Sarpul, Annubanini holds in his right hand a lunular axe mounted on a curved shaft, not a 'boomerang' or wurfholz as it has generally been called (fig. 299). On a large, broken stele of Sargon of Akkad discovered at Susa, his warriors all shoulder the same axe. An older form of it is the regular equipment of Akkadian soldiers of the Mesilim period of Kish. The two ends and a middle tongue of the axe are fixed into a split shaft; after the invention of the cylindrical shaft-hole, this axe received the shape of a halftisk with two large hollow eyes. From this form again are derived the rich Syrian axes of the second millennium. The original type is known in pre-dynastic Egypt, while all the later shapes come from Syria or-as in our figure-from Cilicia, Soloi. In the Sumerian sphere however it is restricted to the Semitic region of Kish and Akkad and to the period from Mesilim to Sargon.

Not far north-west of Sarpul, at Darband i Shaikhān near Hōrēn, is another rock-sculpture; it is rather ungainly in style and also represents a triumph (fig. 300). The king holds a bow in a much more naive gesture than Annubanini's. In his right hand he apparently has a stone axe (fig. 30I), while a metal axe with straight shaft is put through his belt. He wears a simple loin-cloth and,


FIG. 300


FIG. 301
around the neck, something like a torque with a crescent-shaped pendant. This sculpture has also an inscription in archaic vertical cases, but the script differs entirely from that used by Annubanini. Fig. 302 gives an exact facsimile made from several good squeezes in cigarette paper. The name of the king in cases I and 2 seems to begin with the ideogram of a god and ends in -bi-ri-ni (I thought at first $X$-bani-birini); (case 3) son of $I k-k i-$; (4) ip-sha-ah-ma-at; (5) salmam ush-zi$i z$, 'has made the figure'; (6) i nu ma [?ba?] la [?at?] a [?za?] ba an [?hal]; (7) u-tera [?]; (8) sha salmam i-sir [?]; (9) bi-ri-shu; (10) a shu-um-shu; (11) dShamash dImmer; (12) $i$-NI-NI-ku, 'who will [damage by magic?] this picture, Shamash and Immer may [destroy?] his posterity and his name. ${ }^{313}$

As for the date of this monument: the sculpture looks decidedly more archaic than the Annubanini bas-reliefs, the inscription decidedly later-so much so that one cannot escape thinking that the inscription may be a later addition. ${ }^{14}$


FIG. 302
The largest of the rock-sculptures I discovered in 1924 far in the south, at Kurangūn, in the Mammaseni region near Tulespìd and Fahliyūn. ${ }^{15}$ Nearer to Persepolis than to Susa, it lies on the main highway, which Alexander followed. High on a hill, over a precipice, accessible only from the top of the hill by a small descending flight of stairs, lies a place of ancient cult, a narrow platform with sculptures (pls. xxxiil, xxxiv, and figs. 303-4).

The main picture shows a divine couple with worshippers. The god sits on a throne formed by a coiled snake. This conception is autochthonous. Other details, like the crowns with detached horns, come from Sumer, where this special form is common before the period of Akkad. In front of the god is an object resembling altars on the Hittite rock-sculptures of Hattusil III and Puduhepa at Ferahetin. The goddess, looking very amiable, but with her figure incomplete,


FIG. 303
seems to be sitting on an animal, as some Sumerian goddesses do. Both wear long side-curls from the temples, reserved to women in Sumer and Mesopotamia, but worn by Semitic men in Kish at the Mesilim epoch. In his left hand the god grasps the head of the snake that forms the throne; in his outstretched right he holds the vase with the water of life-like Sumerian gods-which is flowing towards the worshippers on either side. Of these five worshippers the outline only is finished: men, and as second figures right and left, women, wearing a still longer dress that is almost the Hittite trailing skirts, and a head-dress differing from that of the men. The masculine head-dress resembles a Phrygian cap with its point falling over in front. Of the attendants there must have been originally about forty, some of whom have fallen down the precipice. They are stepping down the stairs, the well-known motif of Persepolitan sculptures; and, like the small slain men at Darband i Gawr, they wear, with the exception of the first figure, a long pigtail. Certain figures from Asia Minor and among Egyptian representations of Nasian Hittites also wear pigtails. The fashion is too singular to be explained by mere coincidence. Together with other similarities observed we may use it as an argument for ethnical relationship between the people of Färs (Anshan) and of Anatolia.

Not a few details of this sculpture are of Sumerian origin, but three basic points are entirely non-Sumerian. Kurangūn is a huge monument so as to be seen from far away, it is hewn out of the living rock and all the figures are drawn in pure profile. Conception and technique are foreign to Sumer; the mode of projection is unknown to the Ancient East, including Egypt. This principle cannot have been invented by one artist for an isolated work, and proves that Kurangūn stands for many monuments still unknown or lost, which, in spite of contacts with Sumer, had an artistic independence. This makes the dating difficult. Some features speak in favour of an earlier age, yet, as a whole, I should prefer a date slightly later than the Sarpul sculptures. That would bring Kurangūn down to the period of restoration in Elam, after the Akkadian domination, to the time of Puzur-Shushinak, a contemporary of Gudea in Sumer. ${ }^{16}$

There has been a rock-sculpture at Naqsh i Rustam near Persepolis, the remains of which I have discussed elsewhere, ${ }^{17}$ and which was almost a replica of Kurangūn, with at least two gods enthroned on coiled snakes (see pl. xxxir).


Later such snake-gods, whose affinity to the less elaborately drawn figures on copper-age pottery and seals is obvious, appear on many monuments from the middle and late Elamite periods of Susa. While the pigtails indicated relationship with the people of Asia Minor, the snake-gods, evidently a kind of Naga, point towards aboriginal India. ${ }^{18}$

It was only after the beginning of the first millennium that a decisive change took place in the composition of the population ofithe Caspian highland. The new people that bring the change are the Aryans. With them begins the historical period of Iran. From time immemorial, at least from the end of the third millennium down to the middle of the second, the Aryans inhabited, as an undivided ethnical group, the vast plains of the Oxus and Iaxartes, the land Erānvēj ${ }^{19}$ of the two rivers Vahvī Dātiyā and Ranhā. The old Iranian legend remembers well that original home.

The Aryan language formed one branch of the Indo-European family, like the Germanic, Slavic, Greek, Celto-Italic, etc. The main representatives of this branch are Sanskrit and Old Iranian, besides Saka, Soghdian, and Ossete. The affinity of the language alone does not involve ethnical affinity.

The first traces of Aryans in western Asiatic history appear in the middle of the fifteenth century b.c., when a kingdom of Mitanni was founded in Mesopotamia proper by Saushshatar, son of Parsashatar. The population of this kingdom spoke and wrote an aboriginal language that we call Mitannian, probably wrongly, because Mitanni seems to be an Aryan name. The oldest form, which may be seen in a letter of Saushshatar discovered at Nuzi, is Ma-i-te-ni, a name which may signify 'hippodrome, ${ }^{30}$ like N.P. maidän, and which these famous horse-breeders may well have given to the vast steppes of Mesopotamia.

The common language is a Subaraean dialect related to the Caspian family. But the rulers were Aryans according to their names, the names of their gods and some loan-words preserved in the tablets of Kikkuli of Mitanni; these were discovered at Boghazkoi and deal with the training of horses for races. The divine names are Mithra and Varuna, Indra and the Twins, Nāsatyas. They appear amid long lists of other gods that were invoked in Hittite political treaties because the gods of all the parties to the treaties were witnesses to the oaths.

It is easy to recognize that the names and words are not Iranian, but very
difficult to distinguish, under the disguise of Akkadian or Hittite cuneiform, whether they were already Indo-Aryan or still Aryan, the preceding phase of the language. J. Markwart ${ }^{21}$ has definitely proved, without insisting on his discovery, that the language was still Aryan.

All that is known about the 'first Aryan migration' is, on the one hand: there was in Mitanni, after about 1450 b.c., a dynasty with Aryan names, worshipping Aryan gods, founded upon the power of their Aryan troops, the maryanni, and characterised by their superior horse-breeding. On the other hand: the homeland of the Aryans was Erānvëj (Russian Turkestan), they made a stage in Sarasvati (O.P. harahvatī, Arachosia), and finally settled in the Indus region.

The only way to reconstruct the actual events is by comparison with a historical parallel, the well-known 'third Aryan migration, ${ }^{22}$ that of the Sakā. These too were Aryans, their last remnants in the original home. They had not followed the earlier migrations, but stayed on in the Iaxartes-Ranha plains until, after 150 в.c., movements that were started by the foundation of the Hiungnu empire in central Asia forced them to leave their land. After a short migratory period in what is now Russian Turkestan, they entered Iran, in about 130 B.C., through the only natural northern gate of the highland, near Sarakhs. Only shortly before, Mithridates I had founded the Arsacid empire, then ruled by one of his successors, Phraates, who was just entangled in war with Antiochus VII, the Seleucid. The Sakā overran the whole newly established empire. Groups of them separated from the main body and successfully founded the Sakā dynasty of Adiabene, Karkūk, i.e. old Assyria east of the Tigris. They may have founded also, at the same time-between 128 and 125 B.c.-the dynasty of Characene, modern Muhammera at the Persian Gulf, After a few years of anarchy in Iran, Mithridates II, the Great, restored order, allowing the Sakā to settle in the south-east of the plateau, and assumed, probably in in i b.c., the title 'great king of kings,' a conscious revival of an old Persian title and aspiration. From south-east Iran the Sakā invaded India and founded a short-lived empire, which extended as far as the gates of Delhi and Bombay. Their name is retained to the present day in that of Sistān, old Sakastān, a small part only of their vast dominions.

All attempts to explain the appearance of the Aryans in Mesopotamia 1200 years earlier that do not utilize this analogy are unfounded. The Indo-Aryans started from the same land, they made the same stop in south-east Iran, they eventually ended in the same part of India. The analogy is perfect. Therefore the Aryan dynasty of Mitanni in Mesopotamia must have been the exact counterpart of the Sakā dynasty of Adiabene, namely the successful creation of a group of condottieri and their troops who had detached themselves from the main body, while the wandering tribes passed through eastern Iran towards India. And the initial date of the Mitanni dynasty, close to the middle of the second millennium, implies the only reliable date for the first Aryan migration. The Sakā did not wander for more than a few years. Such movements must come to pass in a catastrophic way because the immigrants come with wives and children and all their flocks, and are bound, in order to avoid annihilation, to find new pastures as soon as possible. The Mitanni dynasty began c. 1450 b.c., and the Aryan migration must have taken place between 1500 and 1450 .

The name 'Iranians' of the nearest relatives of the Indo-Aryans, is derived from the geographical and political term *äryānäm khshathram, 'the empire of the Aryans,' in modern language Iran. The first to use the name 'A@ıav' was Eratosthenes, the great geographer who, as director of the library of Alexandria, had at his disposal the material collected by the general staff of Alexander. The term must go back to the Achaemenian epoch, for expressions occurring in Avestic hymns like ärya-shayanam, 'Aryan dwelling-place,' are nothing but circumlocutions of the official term.

Iranians are first mentioned in the annals of Shalmaneser III, years i6 and 24 or 843 and $835,{ }^{23}$ when the king came first into touch, in north-west Iran, with two of the five tribes that later formed two of the really Iranian satrapies of the empire: the Parsua, Pārsa, Persians, and the Amadai, Mäda, Medes. The Parthians, Bactrians, and Arachosians were still beyond his horizon. The armies of Shamshi Adad V and of Adad Nirari III got some additional knowledge about the regions between the Urmiya Lake, Hamadan and the Caspian Sea. Tiglath Pileser HI and his successors, when speaking of the Medes of the Hamadan region, use the expression 'the mighty Medes,' an official style, ${ }^{24}$ and knew that they spread as far as the mount Bikni, the Demawand, and to the 'alkali
desert,' the great Kavir in the middle of the highland. Sargon's knowledge went still further: he speaks of the 'distant Medes who live at the border of [i.e. beyond] the Bikni,' where 'distant' is a qualification to distinguish them from the 'mighty' Medes of Hamadan. The 'distant Medes' are the Parthava. He knew also from hearsay that there were others beyond the great Kavir, the 'alkali desert,' for he describes one part of Media as 'bordering the land of the Aribi of the rising sun.' The Median district must be the one from which the one road through the desert starts, modern Ardistān, and the Aribi are the Haraiva, at that time still in Köhistān, southern Khurasan, later also in Herāt (i.e. Haraiva, Harēv). The first to receive tribute from 'distant Medes' was Sennacherib, $\mathrm{a}^{\circ} 2(703)$, after having extended his military activity into the Isfahan region, and the first and last whose troops actually 'trod upon their soil' was Esarhaddon, when he reinstalled some Parthian chieftains in Patush-'arra-Patishhvāra (Khwār and Tabaristān) and Vrkazbarna, in Vrkāna, Gurgān, at the beginning of his reign.

At the time of Shalmaneser III the Iranian tribes were not yet definitely settled. One can trace their movements. All come through the Caspian Gates and Raga. The Parsua were most advanced and had descended from the high plain of Hamadan into the lower cantons around Kirmānshāhān, running against Assur and Babylon. The Medes marched behind them and stayed in Hamadan. These two had followed the main highroad from Raga to the west. A third branch, the Asagrta = Zikirtu, took the highroad Raga-Qazwin towards Tawriz and advanced almost as far as that town, stopped by Urartu. A subtribe of the Medes took the road from Raga south and advanced towards the Isfahan region, stopped there by Elam. The Parthava halted east of the Caspian Gates, and the Haraiva marched into southern Khurasan, Kuhistan and Herāt. Never is there any mention of the later Thamanaei of Harahvatish-Arachosia, a region where the Iranian immigrants may have clashed with remains of the earlier Indo-Aryan settlers.

Only after the fall of the empire of Elam was the way to wider expansion opened in the south-west. The Pārsa moved, perhaps because they did not like 'the yoke of Assur,' from their northern Parsua to Anshan-Pārsa. The movement must have taken place after 697, when they fought on the Elamite side
against Assur, and before about 66o; for, Kūrash I, the grandfather ofiCyrus the Great, is mentioned by Asur Banipal in 639 as king of the southern land, and his father Čahishpish-Teïspes held the same position before him. In 640 the Assyrians annihilated Elam, which later bears the name Khūzistān, derived from Hūvaja; the modern dialects are Persian, not Median, the Hūvaja, hence, were a subtribe of the Pārsa. They could not have occupied Elam before 640, and if we rightly interpret Jeremiah's prophecy (xlix. 34 ffi ) 'against Elam,' as referring to that event, it was only in 594 b.c. The Zikirtu of the annals of Sargon, Ir. Asagrta-Sagartii, which appear in 719 and 713 half-way between Ray and Tawriz, have settled around Arbela in Assyria at the time of Darius, 521-20; the removal must have taken place after the destruction of Assyria in 612. The fact that such movements still went on for a long time indicates that the immigration of the Aryans had not come to pass a long time before their first appearance in 843 . There are various reasons to assume 900 b.c. as the approximate date of that immigration.

Only from that time may we speak of Iran and Iranians. There is no reason to believe that any number of Aryans lived actually on the plateau before 900 b.c. During the period of immigration the Iranians came into touch with three political powers in north-west Iran: (1) the Assyrians; (2) the Urartaeans; (3) the Mannaeans. Assyria is known. Urartu, the Biblical Ararat, Gr. Alarodii, is the aboriginal name for Armenia, before the immigration of the Armenians from the Balkans, and its history and archaeology begin to clear up by the great progress recently made in deciphering their inscriptions.

The Mannaeans, least known of the three, are the Minni of Jeremiah, li, 27. enumerated with Ararat, Ashkenāz (i.e. Ashkūza = Scythians), the Medes, and the Matieni of Herodotus and Polybius. Manai extended over the mountains south of the Urmiya Lake, drained by the rivers Tatavu and Jaghatu, including the territories of modern So'uq Bulaq, Sa'īnkale and Saqyz, modern Kurdistan proper. The Assyrians describe it between the years 843 and c. 665 b.c. The personal names of the Mannaeans are 'Caspian' or 'Subaraean,' but from the beginning men with purely Iranian names are among them. At the time of Shalmaneser III, 843 and 835, it had not yet the extent it covered in Sargon's days (719-713), while it seems to have been reduced to its western parts, near
the Assyrian border, when Asur Banipai mentions it for the last time in c. $66_{5}$.
The capital was always Izirtu, a town probably in the region of Saqyz. One spot is fixed by an inscription: the town Missi, Mesa, Urart. Mesta, at Tashtepe, twelves miles west-north-west of Miyānduāb, near the Urmiya Lake. The inscription records the building of a palace in Mesta by the Urartaean king Menuas. ${ }^{25}$ Other places of archaeological interest are the tomb of Fakhrika, near Tashtepe, which is cut out of the rock; the prehistoric caves of Karafto, east of Saqyz, south-east of Sa'īnkale, and the large ruins around a crater lake at Takht i Sulaimān, east of Sa'īnkale, beside many mounds, like Takan Tepe, Gul Tepe in the same districts. No excavations have ever been made.

The first period of immigration lasted only about 200 years, until the foundation of the Median empire in c. 678 b.c., but for the cultural developments these first contacts were decisive. The Assyrian annals give a vivid picture of the highly civilized state of these regions. Since the beginning of the first millennium the people of the north-west of the Caspian highland had achieved the transition from agricultural life in small villages to organized life in towns, to political states.

They made use of writing, borrowed from the Babylonians, not the Assyrians. There was a unique document in my collection, which was found near Hamadan and is now lost. ${ }^{26}$ It was a spade-shaped bronze tablet, a so-called Freibrief, that was granted to an Assyrian by a 'king of Abdadana' to indicate an exemption from taxes and compulsory services. The date is probably the ninth century b.c.

Abdadana is mentioned several times in Assyrian annals, a topographical analysis of which gives a deep insight into the conditions of north-west Iran from the ninth to the beginning of the seventh centuries b.c., the most detailed record being that of Sargon's eighth campaign in 714. The passages that permit the locality of Abdadana to be fixed are 'Kitpattia, a town of Bit-Abdadani' (Tiglath Pilesar III), and 'Kitpat and Appatara, parts of Gizilbundi' (Sargon). Sargon describes Gizilbundi as 'a district located a long way off [north-east] in distant mountains, which lie like a strong bolt along the land of the Manaeans and the land of the Medes [the inhabitants of which recognized neither Manaean nor Urartaean rule], of which none of the kings my predecessors had ever seen the
site, none had heard the name, none had received tribute.' The description is as emphatic and true as that which Esarhaddon ${ }^{27}$ gives of a yet more distant region, Patishhuära, east of Raga, between the Demawand and the great salt desert, the Kavir: 'patush'arra, a district at the edge of the salt desert, in the land of the "distant Medes" [Parthava] at the foot of the Bikni, the mountain of blue stone, ${ }^{28}$ the soil of whose land none of the kings my predecessors had ever trodden.'

The mountain 'bolt' of Gizilbundi can be identified with the high chains that form the natural north-east border of the Median and Manaean regions, stretching from Säwa, east of Hamadan, to the north-west as far as the Kaflan Kūh, near Miyānah, and from this identification result the identifications of Kitpat (or Kitpattia) with Kazwin, the neighbouring Appatara with Abhar, and of $A b d a d a n a$ with Bijär, i.e. 'the bāzār, market-place,' in southern Garrūs.

Our research has a by-product: in Kitpat-Qazwin we find the same combination of metallurgy and viniculture as in the Chalybian Demir Ma'den and Unyeh in Qizvatna, and as at Chalybon in the Amanus or Lebanon. Zalā'a, the chief of Kitpat, bears not an Iranian, but a Caspian or Anatolian name. He may well have been a Qizvatnian, a chalyb, and Qazwin, which is certainly not the 'Caspian,' and may well be the 'Qizvatnian' town, an eastern settlement of wayfaring metallurgists and viniculturists from Cappadocia ad Pontum.

Sargon's records give a picturesque description, full of admiration, of the appearance of the conquered towns. They speak of single and double walls, with deep moats, towers flanking the gates, interior casemates; of foundations laid upon the living rock, of walls ' 8 cubits' or 12 feet thick, and ' 120 layers of brick,' or about 40 feet high. The Assyrians had to use their heavy siege machinery to capture them. Once a temple of Haldia is mentioned; once a palace with lofty pillars and beams of fragrant cypress wood. There were store-houses for grain and fodder, and stables and corrals for horses. The private houses, all with cypress columns, are described as 'built with art.' The towns had gardens with high trees and vineyards that were irrigated by ditches derived from huge canals 'as large as the Euphrates!'

Several of these towns are pictured among the sculptures from Sargon's palace at Khursabad, now in the Louvre. The designs, though conventionalized,


FIG. 305
show enough individual features to be considered true to nature. Fig. 305 shows an anonymous strong fortress on a mound, leaning against a high rock, with a small water-course in front. Thus the Assyrian artist might have drawn Persepolis. The interior wall is raised, in design only, above the outer one, to make the double wall clearer. Each wall has but one gate. The towers, provided with loop-holes and battlements, command the curtain-wall by one story.

Fig. 306 is the town of Kisheshim, first mentioned by Tiglath Pileser in 744,


Kishesim
FIG. 306
under a chief Bisihadir. ${ }^{29}$ It was made seat of the provincial government of Parsuash in 716 under the name Kär Ninurta. The stronghold was taken by the Medes from the Assyrians in 680 b.c. It stands on a flat eminence and has three walls, beside a fortified suburb and some tower-like houses outside. Of these houses we shall still meet some surviving examples.

The town of Harhar in fig. 307 is first mentioned by Shalmaneser HI in 835,


FIG. 307
usually beside Araziash (or Aranzeshu, i.e. Aw. 'rzish, modern Lishtar), in the neighbourhood of Harsin-Nihawand. In 716 it became the seat of the Assyrian government under the name Kār Sharrukin, and was 'strengthened' the next year 'with the view to subjugating the land of the Medes' (in the campaign of 713). The town stands over a quay at a riverside. It had but one wall with several arched gates. Inside, houses are standing on a hill, and one larger building with decorative pilasters, indicating a mixed masonry of stone and sun-dried bricks. A terrace of squared stone projects over the slope of the hill, and on it stands a temple or palace with two doors with gabled lintels. The terrace of Pasargadae, when pictured in the Assyrian style, might have looked like this structure.

The most instructive picture is that of Musasir (fig. 308), a town situated between Manai and Urartu, west of the Urmiya Lake and north of Assyria,
probably in Albagh. Three-storied towers like houses are crowded together in the narrow town, and between them rises the temple with a court in front. Standing on a high stylobate, six pillars support a gable roof, A geometric ornament covers the entire gable, and on its apex is a lance-blade as acroterium, symbol of the god Haldia. Votive shields hang on the walls and statues of warriors and of a cow with calf stand in the prostylos. Two huge bronze basins


FIG. 308
before the stylobate recall the 'Brazen Sea' in the temple of Solomon. The bilingual stele of Kel i Shin, on the pass between Nineveh and Urmiya, records that this temple was founded by Sardur I of Urartu, i.e. before 810; it was destroyed by Sargon in 714 b.c. The type of temples in north Iranian architecture of the ninth and eighth centuries was in all respects that of the Greek temple, but earlier than any Greek temple and too early for any possible Greek influence. The affinities between north Iranian architecture and the westwhile there is little or no relation to Babylon or Assur-are innate and can only be due to common origin.

From these pictures and descriptions, supplemented by the results of superficial diggings at Van, we can derive a general notion of the architecture and other arts flourishing in north-west Iran at the period of the Aryan immigration,

900-700. It was this urban culture that the Medes adopted when founding Agbatana in 678 в.c. ${ }^{30}$

Herodotus described Agbatana, in the middle of the fifth century, as a fortified town with seven walls of increasing height, the battlements of which were painted white, black, purple, lapis lazuli blue, orange, the last two plated with silver and gold. There is no truth in that description. His words, 'the Medes built for Deiokes [who was not the first king but the eponym of the Median dynasty] a city which we now call Agbatana,' clearly betray that the name Agbatana did not appear in the story he heard. It is his rationalistic interpretation of a well-known Iranian legend, of the mythical town Kangdiz, imagined as having seven walls entirely built ofigold, silver, steel, bronze, iron, crystal and lapis. Those materials and colours belong to the seven planets, hence the legend is influenced by Babylonian notions.

A true description of Agbatana is preserved in Polybius, $x, 27,6$, who gives it on the occasion of the campaign of Antiochus the Great in 209 b.c. The description, however, actually refers to an earlier, late Achaemenian phase of the city. Agbatana had no walls at all, although the palaces were protected by a citadel of extraordinary strength. To that type of town belonged Pasargadae, built in 559-550. The palaces occupied an area a little smaller than Persepolis, and had columns and roofs of cedars and cypresses that were entirely covered with gold and silver. Millions upon millions of drachms were coined by Alexander, Seleucus and Antiochus from these gold and silver plates and tiles. The statement is no exaggeration: archaeological evidence from Persepolis confirms it. ${ }^{13}$

No excavations have yet been made at any Median, Mannaean or Urartaean site, although they promise an immeasurable increase in historical and archaeological knowledge. And, until then, apart from casual finds of valuable objects mainly made in Hamadan, some tombs cut out of the living rock are all our archaeological material. Most of them are situated in Media, and their period, in general, is indicated by some religious symbols and figures of iworshippers on their walls, which belong to the religion of the Iranian immigrants, not the Caspian aborigines. We may call them 'Median' in a broad application of the historical and geographical term.

The most monumental example is the 'Dukkān i Dāūd,' David's shop or forge (pl. xxxv) situated near Sarpul-Hulwān (ancient Halwan) on the same rocky ridge that bears the old sculptures of Annubanini. High on the rock, over an artificially smoothed surface, which makes the tomb almost inaccessible, a deep portico is hewn out of the rock. It had originally two columns, of which traces of bases and capitals remain; the shafts have given way under the pressure of the impending rock. A triple frame, imitating woodwork, runs around the opening on three sides. A door in the middle of the back wall leads into a spacious tomb-chamber with one large bench of rock for one burial. On the smoothed surface below the tomb the figure of a man is sculptured. He wears Elamite dress, but on his head he has the Iranian tiara, a kind of Turkish bashlyq, and in his hand the barsom, a wand of sacred twigs, see fig. 315 . This requisite of Iranian cult is a clear token of Iranian, magian religion.

A similar tomb (fig. 309) I surveyed in 1913 at Sakhna, between Kirmān-

shāh and Hamadan. The region is ancient bit Hamban, Kampanda. The tomb is equally difficult of access, has almost the same portico originally with two columns; instead of the framework, a double entablature runs around the three inner walls of the portico. Over the small door a winged sun-disk is sculptured, more archaic than the sun-disks of Persepolis. It may symbolize Mithra or the sun-god Hvarkhshaita.

The plan is unusual: first, one enters a small chamber with niches and benches on both sides for two burials; between them, a well opens in the floor, leading down to the door of the main chamber, which has one huge bench for one burial only. From the arrangement of such tomb-chambers we may infer that the deceased were buried with a rich inventory of tomb furniture and small objects.

Fig. 310 gives the drawing of a third tomb, at Fakhrika, quite close to Tash Tepe $=$ Missi, the old town of Manai, south of the Urmiya Lake. In distinction from the other tombs, this one has an open chamber, the wall between it and


FIG. 310
the portico being replaced by a second pair of columns, all four preserved. The shape of the badly damaged capitals is doubtful. The inner room has three burial places sunk into the floor; they were once closed by large stone slabs. This tomb may have belonged to a ruler of Missi.

Recently Major C. J. Edmonds has discovered two more tombs in Shahrzur, near the village Sūrdash, ${ }^{32}$ and the high Pīr i Magrūn. ${ }^{33}$ The larger one is called Qyzqapan, 'the Ravisher'; the smaller one Kurh u Kich, 'the Lad and the Lass.' Qyzqapan has a deep portico (fig. 31I) and behind it three small


FIG. 311


FIG. 312
chambers, accessible from the middle door through the middle chamber. Each has one burial place in the floor, like Fakhrika.

The two columns of the portico are engaged into the back wall, and the beams on them project and form an eave 9 feet 6 inches deep. The unsupported length of that projection is too great to be a true picture of the actual construction, which is obscure at the Kurh u Kich tomb as well. There the pair of columns stands free from the wall, but so close that one canjust pass behind them. Evidently the stone-cutters, having learned from experience that columns standing at the face of the rock did not last, gradually pushed them back until they became engaged into the back wall.

One distinctive character of Qyzqapan is the meticulous imitation of woodwork of the ceiling (fig. 312). Three parallel round beams are laid across the columns at a right angle to the portico, and thinner beams, laid side by side, cross them in longitudinal direction. This must have been the mode of construction at Persepolis also. Besides, an ovolo moulding runs around the upper edge of the walls and also over the impost-blocks on the columns. These impost-
blocks project far over the upper diameter of the columns to the right and left, but not in front and back, and end, like an early Ionic capital, in two large volutes; they are decorated in the centre with an archaic palmette. But the whole is simply an impost, with a narrow rectangular surface to receive at least three beams, but with no trace of a capital proper, whose function is to convert the small circular surface of the shaft into a larger square. Such an impost-


FIG. 313
block, in comparison with early Ionic specimens, must be older than $55^{\circ}$, but not older than 600 b.c. Qyzqapan, hence, is a late Median tomb, 550 being the date of the conquest of Agbatana by Cyrus. It is scarcely the tomb of a king, but rather that of a Median governor, who may have owned that region or hailed from it. He may have been, for instance, a predecessor ofiGobryas, the governor of Guti. Sakhna, situated near Agbatana, and the Dukkān i Dāūd, on the Agbatana-Babylon road, however, may be royal tombs; there were only four Median kings. Fakhrika, because of its situation, its divergent plan, and the lack of magian symbols, is more naturally the tomb of a ruler of Manai, between 840 and 660 в.c.

This chronological arrangement is borne out by the sculptures, which are the second distinguishing character of Qyzqapan. High on the walls between the capitals of the columns there are three disks in flat relief, one with a four-
winged figure, one with a crescent below and a small human figure in the middle, and one with a complicated sixteen-rayed star, probably symbols of Ahuramazdā, Mithra and Anāhita, the first still in an archaic shape.

Besides, over the door, is a larger picture (fig. 313) of two men standing in attitude of worship before a fire-altar between them. The fire-altar, but for the rudimentary rendering of the fire itself, has the same shape as those on the



FIG. 314
  FIG. 315

Achaemenian tombs. Both men hold a bow in their left, as Darius does on his tomb. But the dress is Median, not old Persian. The man to the left wears over the normal Median coat and trousers a fur-lined cloak with empty hanging sleeves, like thick felt coats still worn today. Possibly the one is the deceased, the other a priest. The style is far from the perfection of the sculptures of Pasargadae, dated 559-550 в.c., but is quite in conformity with that of the little gold plates of the Oxus treasure in the British Museum (fig. 314), which for other reasons must be classified as 'pre-Achaemenian.' The relation to the single figure under the Dukkān i Dāūd (fig. $3^{15}$ ) is obvious; and just as obvious is its relation to the sculpture over a small tomb-more exactly an ostotheke, a niche for depositing the bones after exposition of the corpse-at Sakawand, south of Kirmānshāh (fig. 316). This ostotheke can be identified and dated. The region is the ancient Nisa, Nissa of Tiglath Pileser III (744), visited by Alexander, who
wanted to see the famous Naisaean horses bred there. The modern name of the place can be derived from O.Med. Sikayahvant-, the southern one of the two Sangibuti of the Assyrians, and that was the name of the fortress, situated in Nisāya, in which Gaumāta, the false Smerdis, resided. Herodotus tells that the custom of exposing the corpses was only practised by the magi. Therefore, the ostotheke of Sakawand in Nisa is certainly that of the magus Gaumāta, dated 52 I b.c. The larger figure may represent Gaumäta himself, in old Persian dress, for he was lieutenant of Cambyses and great king; the small figure beside the two little altars may be a priest. ${ }^{34}$

Opposed to the Median group, there are, in the south, the well-known tombs of the Achaemenids and one older tomb in Khāk i Rustam, not far from Kurangūn, Pls. xxxv-xxxym. Its name is Dā u Dukhtar, 'the Nurse and the Princess,' because it has two chambers, the upper one a subsequent addition. The chambers are entirely empty, and have neither benches nor burial places hollowed out of the floor. The front shows two pairs of half-columns at either side of a small door, supporting an entablature over which runs a line of battlements. Although that is not the typical Persepolitan entablature, probably, in Persepolis too, the battlements ran over the porticoes. The outstanding peculiarity of this tomb is its columns, which must be classed as 'proto-Ionic' (pl. xxxvi and fig. 3 17). The bases consist, as in Pasargadae, of a high torus on a


FIG. $3^{16}$


FIG. 318 a


FIG. 318 b

FIG. 317
double plinth; the shafts are smooth and end dead against the impost-blocks. The impost is formed as a pair of volutes horizontally connected, as at Qyzqapan; only the palmette is missing.

The southern tombs differ from the northern group mainly in that they are a bas-relief, a picture only of a colonnade, without any spatial depth. At Qyzqapan the columns were engaged into the back wall, but there was still a portico, a deep eave. Abandoning the portico means saving labour. In compensation, more care is spent on details. There is less work and more effect.

The royal tombs at Naqsh i Rustam (pl. xxxvin), or more properly the tomb of Darius-for all his successors only copied his tomb meticulously-is a step in the same direction. The dimensions are enormously increased, the architecture is represented with every imaginable detail, and a huge sculpture, already foreshadowed by the sculpture of Qyzqapan, is added above the facade: the king in adoration before the fire-altar. This act of worship takes place on a throne, an estrade, supported by the figures of thirty nations of the empire. The development of the tombs proceeds from more to less actual work, but always to increased effect. This is not only their systematical, but their chronological order. Dā u Dukhtar must be the tomb of one of the predecessors of Cyrus, Teïspes or Cyrus I, his grandfather, mentioned as king of Parswash-Pārsa by Asur Banipal in 639 . Its date is limited between 640 and 560 b.c. and it is probably slightly older than Qyzqapan. The northern group is older than the southern one; the latest Median tomb, Qyzqapan, overlaps the oldest southern tomb, Dā u Dukhtar.

The type of the northern tombs, with the deep colonnade, was not invented in Iran, but existed in Pontus and Paphlagonia long before, and down to the time of the oldest Median tombs. Similar but not identical tombs are common over the whole of Asia Minor. A representative example is Qaleqapu in Paphlagonia, a tomb conspicuous because of the large animals, guardians of the tomb, sculptured all around the portico. Its two columns rest on huge round tori and support an impost, formed by a pair of protomes of kneeling rams; another Paphlagonian tomb, Iskelib, has lions instead (fig. 318). Long before Pasargadae, the prototype of the theriomorphic impost, which is the most striking feature of Achaemenian architecture, existed in Asia Minor. The excessively
heavy proportions, of course, are owing to the fact that the columns are hewn out of the rock; the wooden prototypes were slim. ${ }^{35}$

The representations differ in course of time, but the type of house chosen for the last abode of the deceased remains the same: a broad oblong room with a portico in front, the ceilings supported by columns, and originally with a gable


FIG. 319
roof, This house persists in various parts of the Near East to the present day, mainly in rustic architecture of mountain valleys, into which the impact of later movements did not reach. In Iran we find it all over Kurdistan, in the Alburz, and in Fārs. Fig. 319 shows such Kurdish houses near Sulaimāniyya. Of the plans (fig. 320) two are from the Awromān region, one is from Tarjān near Arbela, in Assyria, and the fourth from Porsuq Han in the Taurus, near the Cilician Gates, in Asia Minor. The same house is also found in Armenia and seems to have been a type-whether simply for dwelling or some special pur-pose-aboriginal to Asia Minor and the Caspian highland.

Wherever that house is found, wooden columns with the Ionic type of impost also appear (fig. $\mathbf{3}^{21}$ ). This is derived neither from ancient Ionic, nor from forms introduced during the Hellenistic period, but must go straight back to such 'proto-Ionic' forms as Qyzqapan and Dā u Dukhtar. It is and remains always an impost-block and never develops into a true capital as the classical


FIG. 320
Ionic type does. Our examples are modern, scarcely more than 100 years old, but in all lands rustic architecture preserves characters of almost unlimited age. ${ }^{36}$ Their tendency-quite different from the Greek spirit-is to multiply the volutes; and this tendency is proved to be an old one by one of the most developed specimens of the group, the pair of capitals in the background of the Tāq i Bustān, a grotto made for Khusrau Parwēz between A.D. 61 I and $627^{37}$ (fig. 322). The Tāq i Bustān capital is no longer a rustic one, but an element of more pretentious architecture. It lives on in modern architecture of towns, the three examples coming from Karbalā in Iraq, Kumm in central Iran, and Sabzawār in Khurasan. We must admit that the impost-block with the proto-Ionic pair of volutes is but a variant, the twin of the more elaborate type with a pair of animal protomes, which Achaemenian architects prefer because of their taste for display. Both types come down from the same period and the same land.

From the type of house to which these columns belong are differentiated all the various plans of palaces and temples in Pasargadae and Persepolis. In the older phase, the main room is still a broad rectangle; when symmetry became






FIG. 321
more and more dominant in architecture, the square replaced the rectangle. There is no square hall in Pasargadae and no rectangular one in Persepolis. In Pasargadae, the height of the rooms was in natural relation to their area; the central halls towered above the porticoes to double their height (pl. xlim). In Persepolis, for aesthetic effect, the porticoes are raised to the full height of the


FIG. 322
interior rooms, and the windows that give light to the halls (cf, pl. xlvin) were sacrificed. But such changes do not affect the type of the house, and the subjects of the kings that lived in those sumptuous palaces certainly lived in the same little houses, built of wood and sun-dried bricks, with an interior room and an open portico, the ceilings supported by wooden columns, just as the Kurds and other tribes live today.

Architecture in the first half of the first millennium was by no means an art that was in its beginnings and that differentiated its various creations from one common origin. There is no connection between the hypostyle house and a second type, the picture of which is preserved in two tombs of cyclopic masonry.


FIG. 323

This architecture handles inherited types. One of the tombs, at Pasargadae, is called Zindān, 'the Prison,' the other, in front of the royal tombs of Naqsh i Rustam, Ka'ba i Zardusht, 'the Kaaba of Zoroaster' (pl. xli). They are identical to their very dimensions. The recent discovery on the Ka'ba of a Sasanian inscription, which speaks of certain ceremonies that may have taken place in the area in front of the royal tombs, has caused a revival of the old idea that the Ka'ba i Zardusht was a fire-temple, and, moreover, the main Fire of Fārs. Even if the late inscription, a graffito dating from the very end of the third century A.D., mentioned a fire-temple-and it does not-it would prove nothing; for, after almost 900 years, the building was the same ruin as it is today and its original function was as unknown to the people of that time as it is to us. Temples exist at Pasargadae and Persepolis, and are of a totally different plan. The two towers would be tombs, even if there were not a contrivance which permitted their small doors to be shut from the outside in such a way that they could not be opened again (fig. 323). When the Ka'ba i Zardusht-of the Zindān only one front is still standing-was violated, the robbers could not open the door or burst it; it may have been of solid bronze. Therefore they first removed the huge blocks of the narrow stairs that lead to the door, then went under the threshold, destroyed that large block, and thus could lower the door, remove the enormous bolt behind it and enter the chamber. The robber was no Greek, but, quite naturally, an Iranian satrap under Alexander, Orxines; he was one of the richest men of his time, descended from Cyrus and one of the six companions of Darius-probably Otanes-and was tried, convicted of the violation of the royal tombs and temples, and executed by Alexander. ${ }^{38}$

The towers are tombs, but tombs in the shape of a house. The interior arrangement and the entrance side are adapted to their secondary purpose, while the other three sides give the true appearance of the house. The material, white limestone for the walls, black stone for the door and window-frames, imitates the walls of earth or sun-dried bricks and the wooden windows and door of the real house. The door-frame represents a typical wooden construction. In relation to its small area, that house looked like a tower of three stories. It had four strong corner-posts and a dentil under the almost flat roof, formed by the projecting heads of the thin beams of the ceiling. The walls are decorated
with narrow rectangles, alternating in layers. The windows, of different size, have double wooden frames. This is the house we have seen on some bas-reliefs representing north Iranian towns from Sargon's palace at Khursabad (cfi figs. $305^{-8}$ ). But the nearest analogy is furnished by a bronze in the British Museum (fig. 324) excavated in Van, and showing an Urartaean house. There, battlements, as on the Dā u Dukhtar tomb, run over the projecting entablature,

which has a geometric decoration. In Persepolis, decorative friezes of enamelled bricks are employed at the same spot. The door of the bronze house has an elliptic arch regularly used in Persepolis for doors in walls of sun-dried bricks, while the doors of the tombs imitate a frame of wood. Every detail of the Vannic bronze is paralleled by Achaemenian architecture. And, as in the case of the hypostyle house, the whole type, with its details, can be traced back via Media and Armenia to Asia Minor.

A third type of house is represented by the tomb of Cyrus at Pasargadae (PL. xLI and fig. ${ }^{225}$ ) and by its unfinished counterpart, called Takht i Rustam, 'Rustam's Throne,' half-way between the royal tombs and Persepolis. This was intended for the tomb of Cambyses. The house is a small hut, just four walls with a gable. Around the base and top of the walls run kyma mouldings, never used at Persepolis. The masonry of the tombs is gigantic, to make them ever-
lasting. But the prototype was a most unpretentious structure, so much so that, already obsolete in the sixth century, it was probably the type of a past epoch, surviving only in its adaptation to tombs. The two tombs raised that primitive house on a solid substructure of six steps, the house itself being the seventh, after the idea of a Babylonian high temple, a zikkurat, to give the tomb a sacred character. Of the fire-temple of Pasargadae four such steps or terraces remain, of the


FIG. 325
temple on the terrace of Persepolis only two or three. pl. xliv shows two possible reconstructions of the Pasargadae temple: simply a raised platform or one with a cella on the top. The general relation to the tomb of Cyrus, which stands near by, and to Babylonian zikkurats, justifies the reconstruction of the cella by analogy.

The tombs that tell us so much about architecture, the frame of the daily life of the people, have still another, a religious aspect. Funerary customs are inti-
mately associated with religious notions, and in the passionate scientific debates on the question of the religion of the Achaemenids, the fact that the Achaemenids were buried in monumental tombs has often been brought up as a conclusive argument against their Zoroastrianism, since exposure of the corpse is believed to have been the Zoroastrian custom. H. S. Nyberg called it 'la forme classique de sépulture zoroastrienne,' but this opinion is based only on the fact that centuries later exposure was the general custom, and on the observation that 'les rites funéraires représentent, dans chaque religion, un fond extrêmement constant et immuable.' His formulation of the point is most precise: ${ }^{39}$ ' Si les Achéménides doivent être tenus pour zoroastriens, on est instamment prié de nous expliquer, d'une manière satisfaisante, la différence qui se trouve entre la sépulture zoroastrienne et celle pratiquée par les rois achéménides.' I think one can answer this request. Assertions appearing in the garb ofirhetorical questions are more impressive than strong: there is usually something wrong in the position of the question. Not only the expression 'forme classique' is objectionable, but the whole axiom that exposure was the true Zoroastrian funerary custom before the Arsacidan period. It is ignored by the Gāthā and not mentioned in Avestic books before the Vìdēvdād of Arsacidan date. Only Herodotus (i, 140) says, mysteriously and revealing a 'secret,' that the magi, more a 'class' thanas he calls them-a 'Median tribe,' practised exposure, a fact still known to Strabo and to as late an author as Bardesanes. ${ }^{40}$ As E. Benveniste ${ }^{41}$, justly remarks, 'Herodotus introduces a distinction, the correctness and importance of which have not always been sufficiently realized: the magi alone threw the corpses to the dogs and birds.' But I cannot follow him when he further assumes that 'the Zoroastrian reform' adopted exposure in order to fight the older, but still living custom of cremation. The fact that daxma, the word for the places of exposure (but in inscriptions for the ostothekai, astödän and in literature for monumental tombs) originally meant 'pyre' decisively proves that cremation preceded any other funerary method and was general during the 'Aryan period' in Turkestan. But there is no indication that it persisted after the immigration into Iran. This radical change of 'rites constant and immutable' must have had an adequate cause: it came as a consequence of the immigration. And the intolerant hatred displayed 800 years later by the Vidēvdād is directed against non-Iranian fol-
lowers of other religions that practised cremation, such as the Bactrian Greeks. ${ }^{42}$
There is no evidence, either philological or archaeological, to show that exposure was ever adopted by Zoroaster or 'the Zoroastrian reform.' On the contrary: since it was not practised even by the Medes in general, but only by the priests of the pre-Zoroastrian, daivayasnian cult, it must have been, as a magian custom, hateful to the 'reformer,' who was himself a Spitäma, a scion of the first house of Media after the royal one, and who was yet persecuted by the official priests and forced to take refuge with a Persian grandee. Accepting the axiom that exposure was the 'forme classique de la sépulture zoroastrienne' would entail the paradoxical conclusion that the magi were the only Zoroastrians in the fifth century b.c.

The repulsive custom prevailed, according to Onesikritos, ${ }^{48}$ among the Sogdians and Bactrians until Alexander abolished it, and according to Trogus ${ }^{44}$ also among the Parthians. These are not the ancient Parthava of modern Khurasan, but the immigrants of Sakā origin, after 250 b.c. In terms of geography these ethnical names mean the plains of the Oxus and Iaxartes outside the Iranian plateau. The date implied by the mention of the Parthians agrees with the first appearance of the custom in the Parthian Vidēvdād; and the natural inference is that exposure, which previously was limited on the plateau to the Median magi, was introduced from the northern steppes by the Parthians. The co-operation between the Median magi, as leaders of the religious opposition against Hellenistic civilization, and the Parthian kings, as leaders of the nationalistic reaction against Greek domination, was the determining factor of the political and religious history of the period. It triumphed against the centrifugal tendencies of the great feudal houses when, in about A.D. 50, the female branch of the Arsacids, Atropatenian Medes from the paternal side, ascended the throne, and some of the kings themselves became magi. One effect in the religious field was that in about A.D. 50 the first attempt was made to fix the Avesta in writing. Another result must have been that exposure became the general funerary custom. This is fully confirmed by the archaeological evidence.

During the Achaemenian period, only real tombs are known, royal and private. ${ }^{45}$ Ostothekai, a clear proof of exposure, do not appear before the Arsacidan period, and became very numerous only during the Sasanian period. The
only older examples are three in the Sakawand region and a few around the Urmiya Lake; all of these are in Media proper and to be assigned to the magus Gaumāta and his equals, wholly corroborating the exception stated by Herodotus.

But there is another objectionable point in the question posed by Nyberg: the superficial opposition of unqualified 'tombs' to 'exposure.' The interior arrangement of the Median and Persian tombs ${ }^{46}$ is not uniform. We may leave out Fakhrika as not really Aryan. In all the Median tombs the bodies were laid either on stone benches or in loculi in the floor of otherwise empty, sometimes very large, chambers. Of the southern group, the cave of Dā u Dukhtar, the two towers of Pasargadae and Naqsh i Rustam, the tomb of Cyrus have empty chambers. Aristobulos, quoted by Arrian and Strabo, described the furniture of the tomb of Cyrus: a golden kline, and on it a golden coffin, a golden table, costly Babylonian rugs, Median and Persian garments, vessels, weapons, ornaments of gold and jewelry. The inventory of the other tombs with chambers may have been less rich, but was similar. In the Median tombs the kline was dispensable, since the stone benches or loculi served the purpose, but the chambers were also furnished. There is no change in funerary customs from the time of the oldest Median tomb to that of Cyrus and Cambyses, hence no change in religious notions.

The change is first perceptible in the tomb of Darius (fig. 326), which was copied by all his successors, and in the private tombs of the same period. These latter are just loculi, cut out of the vertical or horizontal surface of the rock, only large enough to receive the coffin. The royal tombs consist of a bare passage, from which a number of deep niches are cut into the rock. Each niche contains up to three large loculi; there is no space between or beside them, and they are covered with huge gable-shaped blocks. The deceased may have been wrapped in costly garments, may have kept their weapons, seals and ornaments, but they lay with nothing but what they may have had on their body, half embalmed in wax, in coffins that fitted into the vast loculi, under the heavy lids. They were entombed, but no longer slept in richly furnished chambers on their bench of stone or golden kline.

While the exterior appearance of the tombs remained the same, the interior
disposition is entirely changed. The definite change in funerary customs is not one from burial to exposure, but from furnished chamber to simple sarcophagus, and it happened between the time of Cyrus and Darius. Any alteration of that extremely constant and immutable 'foundation in every religion' is a deep one. While the transition from cremation to burial and from burial to exposure can be explained by consequential historical changes, a change observed between the time of Cyrus and Darius can only have been brought about by a change in religious notions. We must associate the two types with the two phases of Iranian religion: the older chambers, in which the deceased continues his earthly existence in rich environments, we associate with the polytheistic phase; and the later sarcophagi with the monotheistic phase. The change came with Darius. Therefore the tombs are conclusive archaeological proof that Zoroastrianism was the new creed introduced by Darius. Exposure was never a


Zoroastrian, but exclusively a magian custom and only replaced the original burial after the beginning of our era, ${ }^{47}$ when the magian reaction against Zoroaster's teaching, first active under Artaxerxes II after 400 b.c., resulted in the final establishment of the Iranian church, Zoroastrian by name, magian in essence.


## THE ACHAEMENIAN PERIOD

FROM ARCHAEOLOGICAL MATERIAL we may analyse old-Iranian architecture as characterized by ( I ) fashioning of natural rock (see Pl. xL); (2) masonry oficolossal blocks; (3) wooden columns supporting wooden ceilings; (4) ample use of metal; (5) walls of sun-dried bricks (see pl. LII). Fashioning of rock is a technique developed by miners and cave-dwellers, hence eminently Anatolian. Megalithic masonry is but another manifestation of the same work. The profusion of metal, too, points to miners and metallurgists. The wood presupposes forests in mountainous regions. All these sides are manifestations of the same character, and are entirely opposed to Babylonian and Assyrian architecture.

The art thus characterized grew in three steps: first, the period of immigration, between 900 and c. 680 b.c., represented by Assyrian sculptures and a few original pieces of the same epoch excavated at Van, Urartu; second, the period of the Median empire, founded in c. 678 b.c., known only by a description of Agbatana, by casual finds of small objects, mainly from Hamadan, and by some monumental rock-tombs; third, the Achaemenian period, represented in two phases, Pasargadae, built by Cyrus between 559 and 550, and Persepolis, begun by Darius in c. 520 and not completed before the early years of Artaxerxes I, c. 460 b.c. In terms of topography, this chronology is at the same time the path of civilization: Asia Minor, Urartu, Media, Persis.

Architecture was the dominating art at the Achaemenian epoch; sculpture was subordinated to it, and was as a matter of fact part of the architecture, in a much higher degree than even the metopes, friezes or gable-sculptures of Greek temples were.

The main monument is Persepolis. The Achaemenids had residences at Babylon, Susa, Agbatana, Persepolis, Pasargadae, Gabae (i.e. Jay-Isfahān) and Taoke (i.e. Tawwaj, perhaps near Fahliyūn). Some sculptures have also been found near Yazd. At Pasargadae there is nothing that does not belong to Cyrus. Of Darius' activity we have documentary evidence from Babylon, Susa, Agbatana and Persepolis. The foundation documents from Agbatana and Persepolis are alike to the point of identical graphic peculiarities. Hence the work was centralized in a special 'office of public works,' and when Xerxes became of age in c. 504, he must have been in charge of that office, for he says in one inscription: 'What my father built, I have supervised.'

The building of Persepolis started soon after Darius' accession in c. 520. As long as he reigned, the place was no more than a great builder's yard, and under Xerxes the constructions were still going on all over the place. It was never entirely completed, but after Artaxerxes I had finished the Hall of a Hundred Columns it was more or less ready for use. However, traces of actual occupation are comparatively scanty, and Ktesias, who lived twenty years as physician at the court of Artaxerxes II, evidently was never there. Artaxerxes II was the first king to be buried inside the area of Persepolis, and after that time it ceased perhaps to be the residence of the living. It remained entirely unknown to the Greeks before Alexander conquered it. On the whole Persepolis seems to have been a place that was founded and kept for historical and sentimental reasons in the homeland of the dynasty but used only for special ceremonial occasions.

The palaces stand on a high platform (fig. 327 and PL. LI), the nucleus of which is an isolated outcrop of dark-grey limestone in front of a steep rock. For this natural formation apparently the special place was chosen. The architects fashioned the rock into terraces, filling the gap between it and the mountain with the waste of that work. The various levels thus produced entailed many flights of steps, of which the architects made the most skilful use to enhance the effect of the whole construction.


FIG. 328

Together with the terracing, a system of water conduits and drains was hewn out of the rock, the orifices of which correspond so exactly to the walls of the buildings subsequently erected that we must assume that the architects must have drafted, before the work started, a complete and exact plan with measurements, which was strictly followed. Therefore it does not matter whether one or another section was finished under Darius, Xerxes, or only under Artaxerxes I; we may take the whole as a carefully planned unit.

One of the reasons for raising the palaces on a high platform (fig. 328) is defence. But defence could have been achieved by other means, and another reason was mere fashion: Babylonian and Assyrian palaces are built on even higher substructures, not only for defence, but also to lift them above the heat and dust of the towns in the plains. In Iran such reasons do not count, and yet the architects sacrificed even the beloved gardens to considerations of 'decorum.' The wish to enjoy an incomparably beautiful view played a small part: walls up to sixty feet high enclosed the whole terrace. Only in the south, where the highest level allowed a view over the wall on the adjoining lowest level, have the architects taken full advantage of that situation.

Around the fortified terrace was an open intervallum at its foot, and outside two more walls. A few traces confirm the description of an eye-witness of Alexander's time. The description was preserved through Kleitarchos, whom Diodorus quotes. The area inside these walls may be called the 'town,' although apparently there were no private, but only royal buildings in it.

The constituent element of the complex of buildings on the terrace are single houses of the old-Iranian type, which we have studied. All have an interior hypostyle hall, an open portico in front, and secondary rooms of optional disposition around, according to their use for private or public purposes. These indigenous elements are connected by unimportant tracts so as to form a maze of courtyards, the more confusing as their levels and axes vary. But all follow the same orientation; their perpendicular axes do not deviate in the slightest degree. The general effect thus resembles that of an Assyro-Babylonian palace (pl. xlviII). But there the constituent element is the courtyard with one row of shallow rooms around and the whole palace is an agglomeration of many such units; the four sides of the courts are treated after one and the same scheme. At

Persepolis, the court is only the product of the different buildings contiguous to it, and the elevations of its sides are not related to each other. The indigenous elements have been composed according to a foreign plan, but no effort is made to solve the aesthetic problems resulting from such crossing. The Persepolitan architecture is not the start of new, but the end of old developments.

Pasargadae (plan, pl. xliI) and, according to Polybius' description, Agbatana also, was quite different. The isolated houses follow also a common orientation, but they are spread over a vast area, hundreds of yards apart. They were connected by a formal garden or park. That was the truly Iranian plan: almost no palace at all, and certainly no fortified palace. It was protected only by a very strong citadel on an adjoining hill. The half-nomadic Iranians had first to get accustomed to settled life before they agreed to live as townspeople in crowded places. The same process took place when the Arab caliphs, nomads by birth, built the amazing palaces of Samarra, which cover entire square miles. One of them, an octagon of one mile in diameter, was left unfinished because al-Mu'tasim found it 'too narrow.'

As a strong fortress, Persepolis had but one gate; not even for service purposes was there a side entrance. A double flight of steps (pls. L and li) leads up to it, about forty feet at that spot-perhaps the most perfect flight of stairs ever built. The angle of the steps is so low, their height in such perfect relation to their width, that one climbs the hundred steps without becoming aware of climbing; one can do it easily on horseback. Only a few blocks remain of the crenellations that formed the outer parapet. The upper landing is an open space in front of the main gate, which is set back between the walls. Everywhere else the walls followed closely the broken outline of the terrace. The gateway itself ( $\mathbf{P L S} . \mathrm{L}$ and LI) consists of a square room with four interior columns, accessible through an outer and an inner door of colossal size, and yet provided with wooden leaves, about thirty feet high and once covered with bronze. ${ }^{1}$ The thresholds of those doors have the size of large chambers. At the north side was a small fire-altar set against the wall, between benches of black marble all around the room, for the weary guards.

Near the main gate and at the western and southern edges of the terrace, the walls have been washed down entirely by the rains of twenty-five centuries;
their earth covers the foot of the terrace. But on the north side (see pl. Lu), and all over the mountain, climbing over 300 feet, the walls still stand forty-five feet high. The sixty feet which Kleitarchos gives them is no exaggeration. The wall is a double one with casemates and loop-holes, illustrating Sargon's description of some Median towns. Where the wall touches the mountain, it had two stories, the upper one alone continuing up the mountain. At the northern angle (fig.


FIG. 329
329) the upper story had housed the office of the guards, while the documents no longer used were walled up in a small room below. Only a small proportion of these archives is preserved, and yet they still number about 30,000 clay tablets, written, with exception of about 500 Aramaic and I Phrygian piece, in Elamite cuneiform. Probably the garrison was a Susian regiment of the 'immortals.'

The wall followed the projecting and retreating angles of the terrace with no regular towers or buttresses, but only here and there a large bastion. Such a plan is called in theoretical fortification plan en tenaille or en crémaillère. It is not attested in Babylonia or Assyria, but was known in Egypt, and probably used at Susa. Since the 'chart' of Susa says that the 'leading architects of the fortification wall were Egyptians,' the plan may have come from Egypt.

Inside the walls, the area accessible to the public and that reserved for the private life of the king are strictly separated. That is the separation between
$b_{i}$ rūn and andarūn, or of Sarai and Harem. It is effected by the disposition of the two large audience halls, the enormous back walls of which reach almost from the mountain to the opposite edge of the terrace, leaving just three possible communications in between.

The first building, in place and size and date, is the great apadāna (pls. xlvir, liII, and fig. 330), which was begun under Darius and finished under Xerxes. Its dates are given by the gold and silver foundation documents discovered in two of the corners of the central hall and by the inscriptions on the frieze of enamelled bricks from the top of its walls. The convenient term apadäna does not occur in the Persepolitan inscriptions, but is used for an identical building at Susa. ${ }^{2}$ The apadāna has a square interior hall with 6 rows of 6 columns, enclosed by walls of sun-dried bricks, 15 feet thick, about 250 feet in length and over 60 feet high to the ceiling. This immense room could hold up to 10,000 people. On three sides it had open porticoes of two rows of 6 columns, of the same height. At

the corners of such a plan tower-like rooms that contained staircases and accommodation for guards are produced. The whole building stood on a platform of its own, hewn out of the living rock, and with flights of steps leading to it on the north and east sides. Both stairs are sculptured with the same picture of one great tribute procession-a picture in three registers and measuring


FIG. 331
about 270 feet-represented once as seen from the right, once as seen from the left; except for the small deviations caused by these opposite points of vision, the two are identical (PL. xLVII).

East of the apadāna stands a second audience hall, the Hall of a Hundred Columns (fig. 331), the foundation of which was laid by Xerxes and which was finished by Artaxerxes I. This building seems to have given the name M.P. Sat-Stün ('the Hundred Columns') to the ruins, although it is making light of the number: there were about 500 columns on the terrace alone.

The square interior is only slightly larger than that of the apadāna, but has io rows of io columns; there is but one portico to the north, with 2 rows of 8 columns flanked by two colossal bulls (see PL. Lx), like the main gate; around the other sides runs a closed narrow passage for service purposes. The inner room has 2 doors and 7 windows on the north, 2 doors and 9 niches on the other sides. In this building the principle of the apadäna, of which that of Darius is an overwhelming example, is carried adiabsurdum: a room over 250 feet deep and wide, with the inadequate height of only about 30 feet (half of the apadäna), and with only 5 low-set windows in thick walls and giving into a northern anteroom over 36 feet deep, must have been completely dark. The existence of skylights is improbable: the small palaces, of the same plan and with the same inadequate windows, had almost certainly no skylights, and the rooms of the harem, all surrounded by rows of closed corridors, had no windows and possibly no light at all. The hundred columns stand too close to allow more than one aisle at a time to be seen.

Today the interior is an appalling picture of destruction, the result of fire. From one to two feet of ashes cover the ground, and the black stone columns have been blasted by heat into countless tiny splinters, partially calcinated. Since the columns were of stone, the walls of earth and stone, the wooden ceiling covered with from three to six feet of earth, the room could not have been set ablaze unless it had been filled with combustible material. Here the fire that consumed Persepolis was started by Alexander. I wonder whether it was his bad taste to choose this pretentious Hall of a Hundred Columns instead of the apadāna for his banquet, or his good taste to burn the least beautiful of all the buildings.

Between the two audience halls stretches a vast cour-d'honneur, open to the north and bordered west by the apadanna, east by the Hall of a Hundred Columns. On the narrow southern side it is closed by symmetrical flights of steps leading up to the high level that bears the private palaces (PL. LII). Having been buried under the masses of earth from the walls of the apadāna, the stairs, with their sculptures, parapets and crenellations were in excellent preservation. We shall study their sculptures later.

On the upper landing is an interior gate, which I name the 'tripylon' (fig.
332), because beside its entrance and exit it has a third door from which steps lead down to the low level of the harem. There is a communication between the outer passage around the Hall of a Hundred Columns and the harem, and there was probably one allowing the king to enter the apadāna from the tachara, but otherwise all the regular traffic between bïrïn and andarün had to pass through this tripylon.


FIG. $33^{2}$
From the tripylon one passes two more small courts, climbing two more steps, and thus reaches the courtyard of the highest level, enclosed by walls and extending between the 'temple' to the north and the hadish of Xerxes to the south.

The temple is now only an inconsiderable mound, the filling-material of terraces, the facades of which had fallen and had been taken away by Darius III. Just enough is left to ascertain that the structure consisted at least of two, probably of three super-imposed terraces; hence it belonged to the same type as the temple of Pasargadae. It originally towered above the height of the roofs of
the adjoining palaces. Fire-temples of an entirely different type were excavated in the southern part of the town (period of Darius and Xerxes), and in the northern part (period immediately after Alexander). They consist of vast tracts of buildings and courts, the temple itself having the same plan as the palaces: the fire-altars stood excentrically in the main axis of large, square, hypostyle halls.


FIG. 333
Going westward, one descends once more from the highest court to the lower level of an open court between the tachara of Darius to the north and an unfinished building in the south. For this building, inferior in technique and irregular in plan, sculptured and inscribed blocks, which belonged to buildings of Artaxerxes I and III—probably to the facades of the temple-have been re-used. The building cannot be earlier than Darius III, and its unfinished state, similar to the unfinished state of the tomb of Darius III, eloquently tells that Alexander's conquest stopped it and that the wrecking of Persepolis started before that conquest.

The tachara of Darius (pl. LIV and fig. 333) stands on a small platform of its own. Contrary to all other buildings, it is orientated to the south. The climate decidedly demands living rooms looking south, because in winter one must
avoid the northern winds, while in summer the sun shines so high that a projecting eave-not even a portico-is ample protection against it. Therefore, I formerly believed that the name tachara referred to that exceptional orientation. Late dictionaries explain N.P. tazar as 'winter-house,' etc. Now, a tachara of Xerxes has been found east of the hadish, but looking north, and the etymology of tachara is in fact 'stadium,' as 'race-course' or 'measure.' Glossaries explain tazar also as 'treasure-house.' Possibly there were similar buildings, which served as tribunes for distinguished visitors and as places where requisites and prizes were kept, at the race-courses. Two such buildings, which belong to the peiiod of the caliphs and overlook the race-courses, I excavated at Samarra; one of them forms part of the main palace, the Jausaq al Khäqani; the other stands on a high artificial mound and consists of a square interior hall under a cupola and open porticos on its four sides. This is a typical kiosk, the Turkish form of Pers. $k u \bar{s} h k$, of which jausaq is the Arabic form.

The tachara was begun under Darius. In its main door Xerxes is represented opposite his father, with nothing to distinguish the two figures. And yet one bears the inscription 'Darius, pleno titulo,' the other simply 'Xerxes, son of King Darius.' It is Xerxes as heir apparent, charged with the administration of the buildings. He finished the tachara in his early years. The plan is the normal one: small irregular chambers around the square hall, with the portico in front. But the main hall, though an exact square, has not four but three rows of four columns. This disposition, which deprives the square of its natural centre and excludes a central skylight, clearly reveals that the square plan was an innovation and that the original plan was a broad oblong. The disposition of the columns is natural to an oblong room, and every new type needs some time to divest itself ofinherited features and to find its proper shape.

The moderate dimensions of the tachara only required columns of wood; as no traces of capitals have been found, they may have been also of wood. A pair of high antae, huge monoliths, flank the portico. The pediments of the walls, the doors, windows, and niches are all of stone. If we imagine the narrow interstices between those stones (see Pl. Lv) filled with sun-dried bricks, wooden columns put on the stone bases, and beams and earth put above them, the building is once more complete.

The doors and windows have three broad fasces (pl. xlv) imitating a triple frame of wood. In Pasargadae the frame is only a double one, but the frame as such appears already at the Dukkān i Dāūd and even at Kaleqapu in Paphlagonia. In Persepolis this frame is always crowned by a cavetto moulding of undoubtedly Egyptian origin. This is either a direct import from Egypt-Egyptian craftsmen worked, for example, at Susa-or a feature belonging to that artistic koiné that flourished during the Achaemenian epoch in art, just as Aramaic as


FIG. 334
linguistic koiné. This Egyptian ornament does not make old Persian art Egyptian any more than the fluting of the columns makes it Greek. At Pasargadae the Egyptian cavetto is still ignored; the windows have no upper moulding, the wooden frame of the doors is crowned by an upper lintel with ends bent up (see PL. XLI)-a detail that also appears in some rock monuments in Pisidia. On the other hand, the tomb ofiCyrus has a kyma at the base and upper edge of its walls that looks entirely Greek, but never appears at Persepolis. At Pasargadae, because of its time and locality, importation from Greece is highly improbable, and just when Greek influence might be expected, such Greek features disappear from Persian architecture.

On the two younger royal tombs at Persepolis (PL. xLv) the triple frame of the doors is decorated with rosettes that resemble the 'asphodelos' roses on the doors of the Erechtheion. The rosettes, repeated thousands of times at Persepolis, and recalling the chrysanthemum of Japan, must have been a symbol of magic virtue, for they are found on square marble slabs under the pivot-stones
of all the doors, hidden from sight and with face downwards, i.e. facing the ‘lower world’ as in fig. 334.

Xerxes' palace, the hadish (fig. 335), occupies the highest level of the terrace; it stands on the living rock at the edge of a deep step, and hence overlooks the outer wall on the lower level and affords a glorious view over the landscape to the south. The architects have taken full advantage of that situation by arrang-


FIG. 335
ing an open balcony along the south side ofithe building and putting windows in the south walls of the rooms along that balcony (pls. Liv and lv).

A staircase cut out of the rock, today seemingly free and open, leads down from the end of the balcony to the lower level. Corresponding stairs were built, at its other end, of isun-dried bricks. Originally both were inside a system of corridors which intersected the vast building of the harem below. The flat roof of the harem reached the floor-level of the hadish; both were intimately connected.

The harem covered the entire area south and, turning at a right angle, east


Fig. $33^{6}$


FIG. 337

## IRAN IN THE ANCIENT EAST

of Xerxes' palace. Though twice containing the usual unit of reception hall and portico, its plan is quite different from the others. The excavations showed two building periods. The first construction (fig. 336) of Darius, which was probably never finished, was levelled to the pavement by Xerxes, who erected and finished the second building. The general plan of both was a series of apartments repeated, each consisting of one large hypostyle room and a number of smaller chambers. In Darius' harem the halls were of colossal size, but the ways of communication between them quite inadequate. In the harem of Xerxes (fig. 337) a carefully studied system of corridors was introduced, the size of the single rooms considerably reduced (even so measuring almost 30 by 30 feet), and the number of apartments multiplied. Two features are striking: these ladies lived in a kind of cloister or dormitory, and almost none of the rooms can have had any direct light. Did they live in the shadow to keep their fair complexion? The eastern part of the harem we have reconstructed, with the double purpose of having a house for the expedition, and of showing an example of old Persian architecture as it looked in its time.

From our walk through the ruins we have gained an understanding of the plan, which, as a whole, is a product of indigenous and of foreign thought. It remains to be verified how far the characteristics of old Iranian architecture, as we have outlined them before, have been affected by historical changes at the Persepolitan period. There are certain logical changes between the two phases of Pasargadae and Persepolis that are essential for our judgement on the foremost question in our mind in the study of old Iranian architecture: its relation to Greece.

Fashioning of the living rock is not only carried on, but in a much larger measure. The masonry remains megalithic. At Pasargadae, as shown on Pl. xl, the huge blocks of the terrace are almost left in their raw shape, the high bosses accentuating the joints of the single blocks; at Persepolis the walls of the terrace have blocks that were perfectly smoothed after being placed, with the result that the joints become almost invisible. The masonry of the palaces goes to the extreme of highly polished stones, looking, when well preserved, like mirrors of black marble; but this unbelievable work was never finished in most of the buildings.

The rough work in the quarries (cf pl. xlvi) was done by the method of 'swelling' wood. First, grooves that followed the natural structure of the rock were worked with iron pick-axes; then wooden wedges were put into the grooves and thoroughly soaked in water; their swelling caused the rock to burst in the lines of its stratification. Such pieces of rock were worked with iron tools into more regular shapes. The transport of weights up to twenty tons-and sometimes much more-does not seem to have caused difficulties. But how such weights were lifted-to the top of the columns, for example-remains an











FIG. 339
fig. $33^{8}$
unsolved riddle. The task most difficult for the masons seems to have been to produce the perfect fitting of the joints; for the tendency to reduce their number and area is conspicuous. They were produced by 'turning' or grinding stone against stone, and 'turned stone,' aban galāla is the term for 'dressed square stone.' The masons must have been Medes, for the designation krnvaka, 'stonecutter,' appears in Old Persian inscriptions in its Median dialectic form, whereas the verb 'they cut the stone, $\bar{a} k u n a v a n t a \bar{a}$ ' naturally, is Old Persian. Those masons have left their trace in the mason's marks, of which fig. $33^{8}$ gives examples from Pasargadae, fig. 339 from Persepolis. Those are certainly not Greek. The constituent elements are either old inherited symbols or combinations of cuneiform elements; possibly some of them are connected with Egyptian marks.

These Median stone-masons, when making columns, doors, windows or stairs, used to build up an artificial rock of the size and approximate shape required, and carved the wanted object out of that rock, as a sculptor carves a figure out of the raw block. Never is the object dissected into its structural components, in order to shape the stones according to their function. Old Iranian masonry never gets far away from its origin, the fashioning of rocks. Greek masonry, too, started from the 'cyclopic' style that was imported from Asia Minor, but soon found a rational method: not only were single blocks shaped to fit their special function, but a regular assemblage of stones equal in size was developed for walls and columns; sometimes the peculiar shape-the round, for example-of a building determined the shape of every single block employed in its construction. The function rules the shape. Such a thing has never been attempted in Iranian masonry.

For instance, the door to the left of PL. Lv consists, almost inevitably, of four stones, threshold, jambs and lintel. But the first window to its right is one single block, with the opening hollowed out of it; and the next window consists of two blocks with an unorganic joint that is not at the level of the sill, but at about half its height. The strangest assemblages occur among the many flights of steps. It is the rule that an arbitrary width and length of steps is hewn out of the same block with part of the parapet. This is never made of a separate, vertical block, nor is one step ever taken as the natural unit. In a similar way, columns are never made of a fixed number and size of drums. At Pasargadae the pavements are composed, not of equal units, but of cyclopic slabs of irregular size and shape. The general tendency is to make the blocks as large as possible; the largest objects, the colossal antae, are all monoliths.

At Persepolis the material is a hard bituminous limestone, dark grey, or, if it comes from quarries of the west side of the valley, dark black. At Pasargadae white and black limestone is used in conscious contrast, in a two-colour effect never employed at Persepolis. But it was known in Urartu, and hence is the older style.

Metal was used in ever increasing quantities. Already at Pasargadae hooks, cramps, dovetails and other requisites of masonry, are all of iron (fig. 340). More valuable than gold in the fifteenth century, iron had become a common
building material in the sixth. Metal sheets covered the woodwork, and occasionally even stones. Only fragments of thick, plain sheets of gold have been excavated, but silver and bronze, naturally, were more common than gold.

The main characteristic of Persepolitan architecture is its columns. They were of wood; only when even the largest cedars of the Lebanon or the teak


FIG. $34^{\circ}$
trees of India did not fulfil the required sizes did the architects resort to stone. The bases were always, the capitals normally, of stone, even on wooden shafts, but the existence of wooden capitals is probable.

At Pasargadae the shafts are all smooth, the bases all have a double plinth and a round torus. That torus is an old Anatolian and Mesopotamian type. The tori of the smaller columns are often horizontally fluted (pl. xxxix and figs. $34^{1-3}$ ). That looks very Greek, but disappears completely from Persepolitan architecture, where we might expect Greek imports. Of the capitals only fragments have been found. There is no capital proper, but only an impost-block directly on the shaft. The difference is: a capital proper has the function, as in the Doric style, of transforming the narrow circular surface of the shaft into a flaring square that is fit to receive the stone architrave. The impost-block, in contradistinction, is originally a short beam, a narrow long rectangle, laid directly on the shaft or on a capital proper to receive a number of parallel beams of the wooden ceiling. The artistic shape of the impost-blocks of Pasargadae is always a pair of animal protomes (fig. 344), either of fantastic animals resem-
bling a lion, but with a crest and not quite the fantastic animal of Persepolis, or protomes of horses (pl. xxxix). Since the skull of the horse is narrow, a pair was represented on each side. Opposed protomes of animals are an old Oriental motifi(see figs. 127 and 295); in architecture such impost-blocks with lions and rams already appear in Paphlagonia (fig. 318); of the horse only the one fragment from Pasargadae is known. Whereas in Persepolis all animal figures employed in an architectural function follow a highly conventionalized style, this horse, far superior in quality to the Persepolis capitals, is a simplified abstraction from nature, like the animals with no architectural function in the tribute processions at Persepolis. Apparently there was no precedent to such double horse capitals, just as there is no sequel to it at Persepolis.


FIG. 341


FIG. 342


FIG. 344
FIG. 343

At Persepolis all the shafts have vertical flutings (pl. LviI), while the tori are smooth. If the columns of the tombs do not show the flutings, it is due to a simplification in rock-sculpture only. The narrow, concave flutings belong not to stone but to wooden columns, and appear on such, for example in Indonesia, to the present day. ${ }^{3}$ The greater the number of flutings-in Persepolis from forty to forty-eight-the closer the columns are to the wooden original; Greek stone architecture greatly reduces their number.

The simple old type of base continues, but the normal shape is campaniform: a high bell-shaped body, surmounted by a flat torus, and completely covered with falling floral ornaments (PL. LVI). I know of no campaniform bases older than the Persepolitan examples, but they seem to be derived from such unusually high tori as at the tombs of Kaleqapu, Iskelib, Hambarqaya, Yo-ghush-tabyl-direkler, etc., in Paphlagonia. One detail, never observed before, is important: the flat disk under the bells was in no case visible; the surface of the floors was level with the lower ends of the hanging leaves: that makes the colossal columns stand on the tips of those leaves and betrays a complete lack of tectonic sense.

From the appearance of their upper terminations, the columns can be divided into two classes: those with impost-block only, and those with a complex capital. The simple impost is used in the porticoes of the great apadāna; the tachara; the hadish; the harem; the small buildings and tombs. The complex capital is used at the main gate; an unfinished gate in front of the Hall of a Hundred Columns; the tripylon; the Hall of a Hundred Columns; the interior and the northern portico of the apadäna, wherever pomp had to be displayed.

All the imposts preserved are double protomes of animals in four types: bulls (see pl. Lx), lions, a fantastic animal (basically a lion, perhaps in two subtypes), and the human-headed, winged bull, the old lamassu. But we never find the sphinx or the hybrid griffons that appear on the door-jambs, and less so the horses of Pasargadae or the rams of Anatolia. The animals are a stereotyped selection from a preceding multitude. The proto-Ionic type of double volutes of Dā u Dukhtar and Qyzqapan does not appear in stone, but may have been the normal type of the wooden capitals of the period.

The complex capitals insert between shaft and impost a link, complex in
itself. Its lower part is the capital proper, consisting of two zones of broad, long leaves, the lower falling, the upper rising; that is the idea of the palm-tree capital, a type common in the artistic koine of the period and even before that time.

The part that links this capital proper to the impost has a markedly narrower diameter; it weakens the column, and hence cannot have a genuine static function, but must be a conventional form. Hittite columns have a similar arrangement: a deep groove that reduces the diameter to almost three-quarters


FIG. 345
of its size. R. Koldewey, in his masterly reconstruction of the bit Hilläni of Zenjirli, ${ }^{4}$ puts the block with that groove-erroneously in my opinion-above the base instead of below the impost-block. The Achaemenian variety was transplanted to India, where its affinity to the Hittite examples is even more visible than in Iran. ${ }^{5}$

At Persepolis this link is cross-shaped in section, doubly symmetrical in elevation. Each of the four sides ends above and below in a pair of volutes. This is an adaptation of a simpler form, with only one axis of symmetry, viz. a bronze sleeve, quite generally used in Assyrian and Urartaean furniture (fig. 345).

Wherever two pieces of different function, for example supporting posts and connecting frames, or only of different, especially costly material that was not available in the required size, were linked together, bronze sleeves were used, and their normal decoration is two pairs of volutes. The drum with the groove
of Hittite columns is essentially the same thing. These connecting links belong to furniture, and wherever they are applied to columns, the columns are treated like a piece of furniture. The Iranian architects adopted the same method. This intermediary link between capital proper and impost-block accentuates a fundamental difference between Achaemenian and Greek columns. Although the twice-symmetrical sleeve with the volutes is the most conspicuous feature of the Persepolitan columns, even this special shape is not exclusively Iranian: all the vertical posts in a wooden frame-work of a Phrygian house which is represented in the tomb of Bakshish ${ }^{6}$ are of the same shape.

The classical Ionic capital is developed from shapes represented by some archaic poros impost-blocks from Athens. In the specimen (fig. 346) the shaft runs dead against the impost-block, without indication of a capital proper. The impost is a pair of volutes, rising vertically from their middle axis, with a rudimentary palmette in the wedge between the volutes. In the example from Delos (fig. 347) the volutes flare below the level of the upper end of the shaft, on either side. Both impost-blocks have a broad oblong surface on which several beams may repose. The separated, vertical beginning of the volutes is called 'Aeolian,' but is a type common over the whole Near East.

Another archaic capital from the Acropolis (fig. 348) shows the spirals horizontally connected, as in the classical 'Ionic' style. It is a rare variety, but not entirely unknown in more eastern regions and at an earlier date. It occurs, for example, at the tombs of Yapuldagh and Arslanqaya in Phrygia, and also on two Assyrian sculptures, one representing a kiosk in a Syrian town, the other a piece of furniture captured in Chaldaea, of the time ofiSennacherib (fig. 349). The horizontally connected volutes possibly originated with the custom of horizontally splitting in two, along their axis, the continuous series of 'sleeves.' This is a motif common in furniture, as may be seen in fig. 345. They appear in Iran at Dā u Dukhtar and at Qyzqapan (fig. 350), and may have been the normal type of wooden imposts at the Achaemenian period; the rustic examples in modern Iran (fig. 321) are their descendants. The Qyzqapan capital is a pure impost-block, with volutes projecting far at either end, and a rich palmette as decoration in the middle; but with the shaft of the column running dead against the lower area of ithe impost.


FIG. 346


FIG. 347


FIG. $35^{\circ}$


Naxian Column
FIG. $34^{8}$


FIG. 349

The Acropolis capital, however, is no longer a mere impost-block. The piece with the volutes is hollowed out, cylindrically, from below, and rests on a kind of cushion decorated with large ovolo leaves. These have the function of a 'capital proper,' quite independent of the impost above. This piece has almost reached the stage ofithe famous capital of the 'column of the Naxians' at Delphi (fig. $35^{1}$ ), to be dated earlier than 550 , possibly before 560 b.c. In the Naxian column the function of the heavy ovolo as capital proper and its affinity to the Iranian form is strongly accentuated by its deep undercutting. The classical Ionic capital is a fusion of two parts of different function: capital proper and impost-block.

The 'Aeolian' capitals of Neandria and Larissa are not older, but more archaic (fig. 352). They preserve the preceding phase of development: just as in Iran, the shaft is usually, but not necessarily crowned by a capital of long falling leaves, an abbreviated variety of the oriental palm capital, sometimes with another zone of leaves above. This capital proper supports the bizarre volutes of the impost-block. No attempt is made to unite the two members. But for the missing 'sleeve,' the 'Aeolian' capital is in all essentials the Persepolitan one.

The three types, Persepolitan, Aeolian and Ionic, reflect one prototype, consisting of a capital proper and an impost-block. The Ionic capital reduces these originally two separate members, with the conscious intention of fusing the two

elements of wood-structure into a new form thoroughly fit for stone architecture. The Aeolian type only reproduces in stone the shapes that were created for wood, and would look less bizarre in wood; the Persepolitan capital, instead of reducing or simply imitating, enriches the original type by the insertion of a third member, the sleeve, which it took over from the carpenter's art.

That is the relation between old Persian and Ionic columns. The prototype must have existed in Asia Minor. It is immaterial whether the vertical fluting was introduced from Greece after 520 в.c., or whether it was indigenous in wood also in Iran, and merely omitted in the first stone columns of Pasargadae. It is equally immaterial whether a palmette like that on the Qyzqapan capitals was suggested by similar designs on objects imported from Greece as early as 6oo550 b.c. Such details-an analogy is the Egyptian cavetto-moulding-do not affect the character of the art.

Old Persian architecture descended from Median, this from Urartaean, and this again from Anatolian architecture. It was not entirely an artificial creation, but something grown. At Pasargadae it was still the provincial art of the capital of an eastern satrapy. At Persepolis, the capital of a world-wide empire, it became more cosmopolitan, absorbing foreign elements, either of composition or of decoration, but nothing deeply affecting its essence. The Iranians, at the time of their immigration, were a fresh and young nation. We would expect that they created an art essentially young and new. That has not been the case. They adopted the art of the Ancient East at a phase reached in north-west Iran at the beginning of the first millennium. They proceeded in the direction this art had already taken, and achieved results unparalleled in splendour. But that result was not a young art with the germs of a long and great future, but an old art, the very last phase of the Ancient East, with no future.

The exact copying of the tomb of Darius by all his successors, the fact that there is not the slightest perceptible difference between a work created in 520 or in 460 в.c.-a period of the most momentous developments in Greece-and finally the fact that even primitive technique was lacking when Darius III started to build up, at Persepolis, a miserable structure with stones taken from ruined buildings, all show that all fertility had ceased. No resistance was left to oppose the impact of Hellenism when Alexander conquered Iran.

A study of the achaemenian saulpture leads to the same result. We analyse it best in the same way as we did the architecture, of which it forms an integral part. Not only has every sculpture its rigorously assigned position in the architectural scheme, with the contents conditioned by their place, but the principles of composition are a function of that position in architecture.

There are two groups of sculptures: those that appear in strictly architectural function, and those that are mere decoration of surfaces. To the firsi belong the colossi at the doors, the animal protomes of the capitals, the floral ornaments; to the other group the figural scenes represented inside the door-jambs and on the sustaining walls of the pediments, mostly connected with flights of stairs.

A subject like the colossi at the gates (pl. LIX) could be called simply a piece of architecture. The foreparts are worked in the round, the side-view in high relief; That stylistic, almost material separation of the two views is an old Mesopotamian and Anatolian tradition. From the fourteenth century on, in late-Mesopotamian and Assyrian art, the separation is driven to such an absurd extreme that the outer forelegs of the front-view are repeated in the background of the side-view: the animals have five legs. At Persepolis they have four legs, either because that anomaly was intentionally avoided, or because the Iranian colossi do not descend directly from the Assyrian, with which we naturally associate them. The antiquity of the types is testified by every detail: hair, muscles, wings, are conventionalized to the extreme, far from nature; and such a sophistication cannot be considered as a new invention, but a proofof:the age. More closely than the Assyrian examples, this style resembles the bulls engraved on slabs of red onyx or alabaster, excavated at Van, of which fig. 353 gives a design composed from four large fragments. The Persepolis colossi seem to descend from Urartaean, not directly from Assyrian specimens, a feature that is strictly analogous to what we observed in architecture.

Only bulls and winged bulls with human heads appear at Persepolis. In Assyrian their name was lamassē. The Old Persian name is unknown, but they were the same protective genii. Even more than in Assyrian art, their attitude,
and partly their body, especially the neck, is that of a horse; and it is quite possible that, in Sasanian times, they were interpreted as pictures of Med. Gushnasp, Pers. Bushasp, a manifestation of the god Vrthragna as stallion, after whom the great Fire ofiAdharbaijān was named Ādhur-Gushnasp, 'Fire of the Stallion.'


FIG. 353
In terms of style they stand between sculpture in the round and in relief. There were, at Persepolis, some life-size figures of bulls and ibexes (pl. cvi) in the round, standing free at the end of parapets of stairs; but their style is that of a beautiful small figurine enlarged to life-size. Some fragmentary lions are of an Egyptian type, holding the mean between the lion of Amenophis III in the British Museum and that of Nectanebi in the Vatican. In Susa a few fragments of a statue of Darius have been found. They are three times life-size, but must have looked like a bas-relief transformed into round sculpture, a blown-up thing of rubber. ${ }^{7}$ More than their non-existence could do, these attempts at sculpture in the round prove that it was something foreign to Achaemenian art, and that low-reliefiwas the true form of expression.

Among the double protomes of animals that serve as impost-blocks on columns, the static function of which we have discussed above, are bulls (PL. Lx), lamassē (pl. Lxi), lions and a hybrid animal that is essentially a lion. The horses
of Pasargadae, not to speak of the rams of Paphlagonia, have disappeared. The hybrid animal is not exactly that of Pasargadae. But both-no complete example exists - may descend from a type of Urartaean art, of which fig. 354 gives a fine example in bronze. The Iranian types are a selection of a greater variety.


FIG. 354
But the absence of sphinxes and griffons, common among other sculptures, shows more than only selection: this art is standardized; rigorous rules forbid the slightest deviation. Leaving aside a few decadent works of the time of Artaxerxes II, there is no difference at all between a piece made under Darius in about 520 and one made under Xerxes in about 465 b.c., i.e. during the period of the most momentous changes in Greek art.

The contents are as stereotyped as the forms. The excavations of Persepolis have many times multiplied the number of sculptures known, and have revealed them as fresh as if they had just come from the hand of the sculptor; but not one piece has been found revealing a new thought or exceeding the limits of the inventory known before. It is stagnation absolute, in spite of the highest technical perfection.

That remark does not diminish the importance of a find like the human head of the lamassu (pl. LxI) from the columns of the tripylon. As the heads of the
lamassse of the main gate have long since been destroyed by iconoclasts, this head is the first specimen preserved of a human face in the round. Old Persian art was quite capable of abstracting and truly representing the average type of man the artists saw in life. Therefore the head is by no means a continuation of the Assyrian and Babylonian types, ${ }^{8}$ although like all sculpture in architectural function it has the highly conventionalized details of hair, feathers, etc. It is the native Aryan type. We must compare it with many profile views, of which pls. lxxim and lxxv give a few specimens. There, too, details of hair and eyes are conventionalized, but the shapes of the skull, nose, lips and cheekbones are true to nature. Among the immense amount of Achaemenian sculpture there is but one piece entirely free from convention: the minute design, about a square inch in size, of two human heads engraved with a sharp point in the hard stone, a fragment of a shoe from a figure of Darius. Since the designs were engraved before the shoe was painted red, they are dated in the earliest period, prior to 500 b.c. (PL. LXxiI, below). The two heads are masterpieces of idesign, rivalling the very best Greek vase-paintings, but of course they are no Greek work. From these examples we may describe the Aryans as dolichocephals, with rather retreating forehead, very large hooked nose, prominent cheekbones and heavy lips. From our knowledge of painted and inlaid sculptures, with hair and beard of lapis lazuli, we may add that they had black hair.

Next to the sculptures in strict architectural function come some symbolical representations. Wherever there was a triangular space to be filled-i.e. mainly on the breast-walls of stairs-it is done by the symplegma of lion and bull (pls. xlvir and Lxn). The iconographic type is one of the great variety of animal fights in ancient Sumerian and Hittite art. From that remote antiquity the types were transmitted in the second millennium through the medium of Anatolian, in the first millennium through Assyrian and Urartaean art. At Persepolis, the lion and bull stand always at the side of the tribute processions, the picture of an annual festival, the Naurōz, New Year, i.e. in the Iranian calendar the spring equinox. Such an association suggests an astronomical meaning; lion and bull are figures of the zodiac. On the other hand, the configuration has almost the character of a coat-of-arms, like the lion and sun of today. The symbol is apparently of astronomical origin and has become a kind of heraldic
emblem. Long before, such symplegmata reveal a tendency toward developing into heraldic emblems; the lion and bull is the only surviving one in Achaemenian art.

The detail (pl. LxI) from the substructure of the tachara (time of Xerxes) shows all the qualities of the colossi and the capitals. But there is one point of far-reaching implications. Fig. 355 shows one lion's head from Persepolis


FIG. 355
(Darius) and a piece of a dagger-hilt of bone from Assur. On the one hand the relationship is evident. On the other, the lion's head in front-view is one of the oldest types of Sumerian art. Fig. 356 shows some such heads of the Mesilim period from Susa, Lagash, Uruk and Kish. It would be easy to follow the type through the twenty-five centuries that separate our examples. Fig. 357 gives one example of the Ur Nanshe period, about a hundred years after Mesilim, and, below it, a common type from Luristan, 1400-1000 b.c. We have mentioned


Kish

fig. 356
the 'zoomorphic juncture' when dealing with the Luristan and Ordos bronzes. The lion's head, and in the second place the heads of other animals, are used in a decorative way to link different structural members of an object, part of which projects from the lion's mouth. It is a motif too grotesque to be favoured by Greek art, but rather typical of Etruscan art in the West, and Urartaean in the East. Fig. $35^{8}$ gives a few examples; the others are early Chinese, as are the


FIG. 357
remaining lion's heads in fig. 357 . In China, where the lion was unknown, these heads are called 'gluttons' although they are not portraits of such an animal. The examples from Persepolis, Assur and Luristan only prove the relationship between the Chinese and the Near-Eastern pieces, but the loan must have taken place at a much earlier period. The Chinese glutton, like the animals of the Ordos bronzes, is but an interpretation of a pre-existing, western-Asiatic animal.


FIG. $35^{8}$

This was a digression. Just as the lion and bull is the only surviving symplegma, so the male sphinx, a winged lion with human head, is the only surviving descendant of the great variety of similar hybrids in Hittite and Assyrian art. Their use at Persepolis is restricted to one context: in the attitude of worship, antithetically opposed, with a winged sun-disk in the middle (pl. Lxiri). Again, these sphinxes share all the stylistic qualities of the colossi and double protomes. They wear the Mesopotamian divine and royal crown, a high cylinder with a triple pair of horns and a zone of feathers on the top. Very often, but not necessarily, they are sitting in a thicket of ornamental reeds, the third floral ornament beside rosettes and cypresses. There is no reason why the sphinxes should not occur as guardians of the gates or as impost-blocks except the tyranny of convention: it is not done.

While the winged sun-disk appears above the door of the Median tomb of Sakhna, it is employed at Persepolis only where the available space forbids any


FIG. 360
part from projecting over the straight line of the wings (pl. Lxin). Otherwise the symbol of Ahura Mazdā, which is distinguished from the sun-disk by the half-figure of the god rising out of the disk, takes its place (fig. 359, cf, pl. Lxiv). The distinction of the two types is pre-Achaemenian. In Assyria, without the divine figure, it is the symbol of Shamash, the sun-god; with the figure, that of Assur (fig. 360). In types belonging to the period of Asur Nasirpal, the god stands inside the disk; later he always rises from the disk. There is no inscriptional proof, yet this is the symbol of the national god Asur. In Iran it has been transferred to the people's own god 'Ahura Mazdā, the god of the Aryans.' Not only the shape, but also its application, is the same: over the figure of the king. And even a detail is the same: the scrolls parting from the disk may end either in 'fingers' or in short spirals. The symbol regularly hovers over the figures of the kings, symbolizing the divine protection upon which they insist so much in their inscriptions. They do what they do 'in the shadow of Ahura Mazdã.' Fig. 359 is a drawing from the doors of the tripylon (Xerxes), and pl. lxiv, in colours, one from the doors of the Hall of a Hundred Columns (Artaxerxes I). I had discovered it in 1923 and fortunately had made a water-colour sketch: a few months later the original was completely destroyed. On a deep black background the colours stand out, luminous and almost transparent, like cloisonné enamel. Turquoise blue changes with a light scarlet red; the yellow has an orange or gold shade; deep purple and lapis blue, and, scantily used, an emerald green complete the colour scheme. The excavations of the covered parts of the sculptures of the tripylon also revealed their original colours unchanged: purple red and turquoise blue, with application of metal, possibly gold. Everywhere else, almost all traces of colours have disappeared, and many sculptures have never been finished and actually painted; but all were conceived in colour and intended to be painted. The colour scheme as a whole, on its highly polished black background, is quite different from the colour scheme used in Greece.

In some cases inlay of precious material took the place of colour. In the tachara, for example, as shown on PL. Lxxili, the beard of Darius was made of artificial lapis lazuli; the crown, necklace and bracelets were of gold, naturally long since stolen. Application of gold is also found in the tripylon. At Pasar-
gadae, the folds of the garments of the king were partly covered with gold, and one eye, the only one preserved of the four figures of Cyrus (Pl. LxxiI) shows that eyebrows and lashes were inlaid in metal.

The next group of sculptures to be discussed is on the inner surfaces of the door-jambs, a position only possible where the walls are very thick. If that location were freely chosen, it would mean an awkward choice, because one can only see the sculptures from too close a distance while passing through the door. Evidently it was no free choice, but again, an old convention. In Hittite and Assyrian art, the material substrate of the sculptures is the stone orthostates, which protect the foot of the wall against humidity and detrition; these stone slabs also run through the depth ofi the doors. Sometimes, inside the gates-the usual place for the colossal guardians-a large figure of a genius stands between the animals. In Iranian architecture there are no more orthostates, but the gates, niches and windows are their remains, as are, in another way, the sustaining walls of the staircases. And whereas in Greek architecture the sculptured metopes, friezes and gables are all high above the walls, in Iranian architecture the sculpture sticks to the place where once the orthostates had been. That inveterate aesthetic principle prevails down to the late Safawid and Qajar period. Therefore the door-jambs, O.P. ärdastäna, i.e. orthostate, and staircases bear the sculptures. Their placing is conclusive proof of the descent of Persepolitan from Hittite architecture.

At Pasargadae, in the doors of the palace ' P ' an archaic feature has been preserved (pl. Lxxn): the sculptures (viz. the king leaving the room, followed by a servant with the parasol) are set back into the surface of the jamb and framed by a plain rim, the edge of which is the original surface of the jamb and at the same time the outline of the opening from the outside. Hence the sculpture is not visible at all in elevation. In the palaces ' $S$ ' and ' $R$ ' that frame is already abandoned and the shallow depth of the sculptures is visible in elevation, their background forming the rectangular opening of the door.

Another distinction between Pasargadae and Persepolis is the subject of the sculptures. Only one is common to both: the king under the umbrella, in the palace ' $P$.' A genius with four wings stands on the threshold of palace ' $R$ ' (the main gate), clothed in Elamite robes and wearing a strange Egyptian crown. It
was entirely wrong to call that figure 'Cyrus.' In palace ' $S$ ' one sees traces of warriors leading horses, and of men or genii with bird's legs, an Assyrian type. None of these subjects occurs at Persepolis.

In the three side-doors of the tachara (series incomplete), and in the four sidedoors of the Hall of a Hundred Columns (complete), a human figure is represented fighting a bull, a lion, a griffon and a griffon with a scorpion's tail (pls. Lxv and Lxvi). The hero does not wear royal robes; hence he is not-as he is usually called-a king. Possibly the pictures were meant to represent the ancient mythical hero Krsäspa, later replaced by Rustam, who fights a large number of monsters. If we stress the symbolical and probably intentional number of four fights, there is no such group of four in the legendary literature of Iran. We find it only in the apocalypse of Daniel, and since there are other traces of Iranian thought in Daniel, a vague connection with the sculptures is possible. As regards the interpretation of the sculptures: as iconographic types they descend of course from the ancient 'Gilgamesh-fights' of Sumerian age. Another old Sumerian type appears twice in the tachara: the lion strangler ( $\mathbf{P L} . \mathbf{L X x}$ ).

One of the griffons (fig. 36r) has often been called a unicorn; however, it has

in fact a pair of horns that coincide because of the rigorous profile projection. In the Bibliothèque nationale is a small stone slab (fig. 362 ) with the relief of another griffon, walking. This griffon has a pair of ram's horns that start from one point, but turn right and left as if seen in front-view, in order not to lose this distinctive feature by profile drawing, same principle as on prehistoric Persepolitan pottery.


FIG. $3^{62}$
All other sculptures are scenes of the public or private life of the king. The picture of the king leaving his palace under the parasol ( $\mathbf{P L} . \operatorname{LXx}$ ) is compulsory for the front doors of the small palaces, and also of the tripylon as the main entrance to the andarūn. This is the first instance of a general rule: all the sculptures represent scenes actually taking place at the very spot. The counterpiece to that picture is the king entering the hall, naturally without parasol, in some of the corresponding back doors. The parasol of course is itself a practical object, but also a royal emblem, the Indian chattra. It appears once on a stele of Sargon of Akkad, and is several times represented on Assyrian sculptures, but not in neo-Babylonian art. One might easily collect quite a number of observations proving that the similarities between old Persian and more ancient arts
concern Assyria as opposed to Babylonia, and yet Babylonia was the neighbour and Assyria had ceased to exist almost a hundred years before Persepolis was built. Such observations are not essential for, but confirm the assumption of, a link in time and space between Persepolis and Assyria, viz. Media. But a deeper study reveals that the affinity between Persepolis and the earliest phase of.Assyr-

ian art (Asur Nasirpal, ninth century) is closer than between it and the latest period (Asur Banipal, seventh century), and that we must put Urartu in place of.Assyria and use the Assyrian examples only as substitutes for the less known art of Urartu.

The king always wears the Persian dress, a simple rectangular piece of. soft material, reaching in front and back from neck to ankle, and in width from wrist to wrist, arms outstretched, with a slit for the head. It was open at the sides and only girded around the waist by a belt. Peculiar to this dress are the elaborately drawn folds, from wrist to ankle, where the borders of the front and back piece overlap. Pl. Lxxi gives two examples from the tripylon (Darius) and the hadish (Xerxes), and one from Pasargadae (Cyrus-cf. fig. 363). This
drapery, a little less fluent on the Cyrus sculptures, had been considered as an undeniable proof of Greek influence before it became known that it had already occurred-fully developed-at as early a date as Pasargadae, 559-550 в.c. Beside the straighter curves, the Pasargadae style differs in another point: the garment is undercut and in the background one sees, when stooping, the rim of the garment behind. Not only did the Achaemenian style of drapery exist as early as 559-550 b.c., but there was a slight artistic development between $55^{\circ}$ and 500 . The early date shifts the basis of the whole problem. Greek art, itself in the making, had not yet developed, in about 550, the style of drapery that is essentially similar to the Achaemenian. All the examples compared heretofore are later than $540-530 .{ }^{9}$ Even without the chronological priority that Pasargadae apparently has, it would be difficult to believe that early Greek art could have exercised its influence in far-away Persis before $55^{\circ}$. But more important is another point, in which Greek and Persian art differ fundamentally and which speaks for the assumption that the Greeks borrowed, but developed into something entirely superior, a foreign 'manner': in Greek art even in its initial phase, drapery is one of the most characteristic means of artistic expression. It is born far more from an entirely new insight into the relations between space, body, movement and garment than from a 'manner'; it expresses sentiment and spirit. In Iran drapery is nothing but an expedient to distinguish the Persian from the Median and other dresses. Among the thirty nations supporting the throne, or bringing tribute, some others wear also folded garments, for example, the Syrians on PL. Lxxvm, but again in a different manner. The only purpose of drapery is to characterize the nationality of the figures represented. In opposition to the Persian dress, the Median, a tailored coat and trousers, is always drawn without any folds. As pl. lxxvi (above) shows, the Iranian artists liked to represent Medes and Persians alternately, to create a regular rhythm by their richly draped or plain garments. The same simple rhythm of irepresenting alternately folds or plain material-this with minute rendering of the textile designs -is still an artistic principle in the Tãq i Bustān (beginning ofiseventh century A.D., cfi fig. $4^{17}$ ) and in the paintings of Samarra (ninth century) after more than a thousand years. Things do not live so long unless they are deep rooted. Therefore we touch here the original artistic intention that created the old

Iranian drapery. Never a trace or a breath of Greek spirit appears, and the loan of a mere external thing would never have survived more than a millennium.

The king on the throne is the natural subject for the sculptures in the audience halls. The simple form appears four times on the jambs of the two doors in the back wall of the Hall of a Hundred Columns (pl. LxviiI), and in the sidedoor of the tripylon. Artaxerxes I, in his full regalia, is sitting under an embroidered dais on a chair with high back and footstool, the throne proper, with only one servant with a fly-whisk behind him. This whisk, made of the tail of a wild bull, is, like the parasol, a royal attribute, and is used in India to the present day.

The chair stands on a large piece of furniture, a kline, called gäthush in the inscriptions, N.P. takht. The shape and purpose survives in the marble throne of Karim Khān Zand (eighteenth century) and the golden throne of Fath 'Alī Shah (nineteenth century) at Teheran. Between the heavy legs, thirty representatives of the nations of the empire 'support the throne': the symbolism is carried to such an extreme that the little figures actually lift the furniture, the legs of which do not touch the floor. For history, the thirty figures (see pl. Lxix), together with those represented as tribute bearers, are the most important among the subjects of Persepolitan sculpture; but a full discussion of that rich ethnological and historical material would require a series of lectures of its own.

In the tripylon (pl. ixviir), instead of a servant a second king stands behind the throne, adorned with all the royal paraphernalia and putting his right hand on the back of the chair. To sit on the throne was a crime punished with death. The familiar gesture, hence, is full of symbolic expression. The king on the throne is Darius, the standing king is Xerxes as designated heir to the throne. The same subject is repeated, with even richer detail and combined with the 'audience scene,' on orthostate slabs discovered in the building adjoining the harem to the east.

The great audience scene is repeated four times inside the two doors in the front wall of the Hall of a Hundred Columns (pl. Lxvir). The topic is one, but it is dissected into six framed registers. This expedient is necessary partly because of the struggle with the problems of perspective. But it was chosen to fulfil architectural requirements: it is a good example to illustrate our assertion that architecture dominated the principles of sculptural composition. The five
lower registers show the files of the 'immortal' guards, between which one had to pass to reach the throne, which is represented in the doors of the back wall and which actually stood between those doors. The estrade itself is left out at the entrances in order not to encumber the picture. In the highest register, the king is simply sitting on the chair under the dais, a pair of incense-burners in front. The man in audience, a Mede, stands before the king, bowing and with


FIG. 364
hand at his lips-an indication that he is speaking. One servant with a fly-whisk stands behind the king; another, to the right of the right pole of the dais, holds napkin and vase. Two high dignitaries, the lance-bearer and the bow-bearer, stand to the left. The picture is drawn in side-view, which completely distorts the real arrangement: in reality the two dignitaries stand right and left, the two servants behind, the man in audience before the king. The incense-burners mark the point to which one was allowed to approach. Pseudo-Aristotle's book peri kosmou contains a detailed description of the residence of the Achaemenids at Susa and of the pomp displayed there. Persepolis with its buildings and sculp-
tures is a perfect illustration of that report, confirming its truth. One could draw a vivid picture of what took place by combining that literary testimony with our monumental ones.

Once more the king appears on the throne on the sculptures above the royal tombs (PL. Lxxrv). But here the deceased king stands alone, bow in hand, in adoration before the fire-altar. Above one sees the god Ahura Mazdã floating and the symbol of the new moon, the luminous crescent on the lower rim of the dark disk, as it is seen in those latitudes. The many court officials, military people, guards, servants, eunuchs, are confined to the areas right and left of the facades of the tombs. In choosing this subject, consciously or not, Darius followed the precedent of the picture of Qyzqapan. The splendour of life is gone, only a prayer is left. That is the spirit of his 'testament' engraved on the rock, the tenor ofiwhich is in the words 'I have loved righteousness, I hated iniquity,' one of the most impressive human documents left by antiquity. All his successors copied minutely the subject chosen by Darius, without regard to historical changes. Many of the nations copied as if they were supporting the throne had long since ceased to be under the Achaemenian sway.

The close connection between architecture and furniture, testified by the Persepolitan columns, is confirmed by a detail of the thrones. Their feet consist of a lion's paw resting on a row of falling leaves (fig. 364). The lion's paw is joined to the pole above by a combination of volute and rosette. An Achaemenian original of bronze is in the Louvre, a fragment of grey granite from Hamadan in the British Museum. Another fragment, not recognized as such, comes from Merdzany, Caucasus. A similar bronze piece from Van, in the British Museum, shown in the same figure, is obviously an older phase of the same form. Fig. 365 shows some Assyrian kline from the time of Asur Nasirpal (ninth century) and Asur Banipal (seventh century); the material is rich. The 'sleeves,' a conspicuous feature of Persepolitan columns, play an important part in that furniture. In a rare example from a sarcophagus at Termessos, Pisidia, the oriental motif has been transposed into Greek forms. A second type of feet is illustrated in fig. 366 . The one is of bronze, from the Melgunoff treasure, the other of green stone, päzahr (Bezoar) from Persepolis, a good specimen of the Achaemenian variety of the 'zoomorphic juncture.'


The flights of steps are the natural place to depict all the people that passed over them. On the stairs in front of the great audience palaces, guards stand at attention, as at pls. xlviI and lxxv. Always Medes and Persians alternate, fronting each other. This double representation, from right and left, makes every detail of their uniforms and equipment clear. They either bear lances and large round shields of an Anatolian type, or bow and quiver (Persians), or lances and bow encased, like the Scythian gorytus (Medes).


FIG. 366


FIG. 368

Part of the Median equipment is a large dagger, the akinakes, worn in a peculiar scabbard, the mykes, which is suspended from the belt. The chape of the scabbard is a trefoil, often delicately ornamented (fig. 367 and PL. Lxxxiv); an animal is bent in such a way as to fill the trefoil completely. The entire akinakes (fig. 368) and two such ornaments are from Persepolis; above are two originals of ivory from Egypt, now in the Louvre, ${ }^{10}$ and one of two bronze pieces from Deve Huyuk near Karchemish, in the Ashmolean. Left above is the chape of the


FIG. 370
golden Melgunoff scabbard, which represents an older type. All the others are simply 'Scythian,' as a comparison with a round disk from the Seven Brothers (fig. 369) proves. ${ }^{11}$ Assyrian daggers, as shown in fig. 370, are short swords, not akinakes, but the chape of their scabbards is already decorated with animals, though not of trefoil shape. Those are not the only 'Scythian' elements in the Median military outfit, horse-trappings and gear, and they are not confined to weapons and such things. Fig. 371 shows in the middle register links of a bronze chain, from Persepolis, originally strung on a leather strap, with pairs of purely 'Scythian' bird's heads. ${ }^{12}$ Above and below are five genuine Scythian specimens of the same 'eagle's head,' a type whose origin we have dis-
cussed in connection with the Luristan bronzes. Since the regular equipment of the Median guards at the early Achaemenian period, to which these ornaments belong, was certainly not imported from Scythia, the question arises: did the sphere of Scythian art include Media?

A detail of ornament is connected with this question. Fig. 372 shows some


FIG. 371
'curls' of artificial lapis lazuli, of a great number found at Persepolis. To the left one sees curls or 'snail designs' forming the edge of two golden mykai from the Melgunoff and the Oxus treasure, Median period. To the right is an archaic marble fragment from an architectural moulding from Lesbos. The two 'curls' (left) which decorate late copper- or early bronze-age libation jugs from southern Iran, might be the very origin of the design; the Oxus treasure specimen shows


FIG. 372
the transition from curl to eagle's head. The little we know of Median art points, at any rate, to a close affinity with Scythian art.

Like Achaemenian and Greek drapery, the conventional design of hair is interrelated. There are various mannerisms, most of them paralleled by archaic Greek methods. The elaborate curls used for heads of Persians, Medes and Susians continue an old Oriental style; other manners are employed for other nations in the great tribute processions. The essential purpose is always to distinguish the nationalities of the people represented, the more so as, with exception of a few extreme cases, in lips, eyes, noses, cheekbones and skulls, all of them are simply drawn after the normal Aryan type.

On the stairs of the tripylon and others (cfi pls. LII and lxxvi) appear long files of visitors and spectators at ceremonies; sometimes Persians alternate with Medes; at the tripylon one side has only Persians, the other only Medes. Because of the festival they all hold lotus-flowers in their hands. Various groups are pictured talking to each other, in a genre-like and lively way, although the strong rhythm and clear separation of the single figures is never abandoned. The height of the figures (cf, pl. Lxxvi) depends on the distance from the steps to the upper edge of the parapet, and since the steps of the parapet extend at least over two steps of stairs, their height differs; giants stand beside dwarfs. This striking difference in size betrays a conception of space fundamentally different from the Greek: it is the last trace of the old oriental law of 'isocephaly, whereby the heads of all figures in one picture, whether men or animal, are drawn of equal height-a practice that entails a complete disregard for natural proportions. It rules also the pictures of the fights between hero and monster. While the feet are bound to the level of the floor, the heads must touch the upper end of the block; hence the difference in size. There is no precedent for this special scheme in Assyro-Babylonian art, but on the ancient rock-sculpture of Kurangūn in Fārs files of men step down a flight of stairs.

The stairs at the small palaces often show servants carrying dishes and similar things destined for the royal table. Single servants or groups of two often stand in side-doors or windows of the small palaces, carrying napkins, incenseburners, alabastra for oil, and similar objects, according to the use of the rooms as dining-rooms, bedrooms, baths, etc. Some of these servants are Babylonian
eunuchs, for example, the one on PL. Lxxxn, with alabastron and napkin in the door between the bedrooms of the tachara. The rule that the sculptures depict what happened in the rooms is strictly observed. All these servants were continuously present as attendants. Such is their role to the present day.

The greatest subject Iranian sculpture has dared to undertake is the tribute processions that took place at the Naurōz festival, when all nations of the empire brought their compulsory presents. The act took place at the vast cours d'honneur in front of the audience halls; therefore it is represented on the northern and western basement of the great apadāna. The length of the sculpture

comes near to 300 feet. It is divided by bands of rosettes into three horizontal registers, and, since the inside of the parapets is also covered with figures, the great tribute procession reaches a developed length of about 1,000 feet. This entire subject is represented twice, once seen from the right, once from the left side, with all the little changes resulting from the different angles of vision. Such a reduplication of a subject of that size is unparalleled in the whole history of art. The 'mirror-reflection' of the same subject is normal for all the sculptures inside the doors and windows. It is the architectural urge for symmetry that tyrannically demands such an absurd consequence. But it is also something innate to Iranian aesthetic feeling: even at the present day every carpet or little objet d'art is produced in pairs. One often hears the remark before a beautiful object: 'Pity it is not a pair, juft.'

The arrangement of the steps brings about a complete interruption of the subject in the middle. This axis is occupied by a field with guards, symmetrically opposed, and flanked on both sides by triangles with the lion and bull, a motif twice more repeated at the extreme ends of the stairs. The remaining two halves show on one side the army and spectators, on the other the tribute bearers themselves. Their various groups are vertically separated, inside the three registers, by cypress trees (fig. 373) drawn with the delicacy of a fine embroidery. The cypress is the typical tree of Färs, but the Persepolis cypress is only the assimilation of the Assyrian conifer to the indigenous cypress. Thus the whole subject is dissected, like the great audience scene in the doors of the Hall of a Hundred Columns, into framed elements. This domination of architecture over the principle of composition went so deep that the effect lasted, in Sasanian rock-sculptures, down to the end of the third century A.D.

The general idea of great processions, in two groups marching symmetrically against each other, first appears in Hittite art at Karchemish and Yazylyqaya: those are pictures of great religious festivals. In Assyria long processions of tribute bearers-in two registers, but not in two opposed groups-appear once, in the passage, room 'X,' of Sargon's palace at Khursābād. ${ }^{18}$ This connection is enough to show whence the fundamental idea of the Iranian sculpture came.

We cannot enter into a detailed study of the procession. Our pls. xlvir and

LXXVII-LXXXIII show a general view of the eastern stairs and several details. On the right side, in the upper register, the guards stand at attention. These are the Susian regiments (which have left their trace in the shape of the 30,000 Elamite tablets ofitheir offices); they are distinguished from the Median guards by their uniform, and from the Persians by their different head-dress, a kind of Arab 'aqäl. Ninety-two men are represented, always one and the same figure, not counting the hundreds of men on the steps and on the back of the parapet. The intention obviously was to create the impression of infinity. But it is enough to think of the Parthenon friezes, to have in quintessence the opposition of Asia and Europe. Behind the guards some soldiers are carrying the royal tent or dais and a throne, others are leading the king's saddle-horse, a masterpiece of sculpture, and two empty chariots (cfi pl. lxxvir). The empty chariot appears already in Sumerian art, for example, on the 'stele of the vultures' of Eannatum, while the saddle-horse still appears on a rock-sculpture of Shahpuhr II at Bīshāpūr. Herodotus says that wherever the king went two empty chariots were carried, one for the king, one for the god. The horses were the famous Naisaean breed, from the region of Nisā, near Kirmānshāhān, described by Herodotus and visited by Alexander. At the Achaemenian period up to 300,000 horses were bred there, and the stud existed down to the time of the early 'Abbāsid caliphs. Nothing is left of the old glory today.

Below the soldiers are the files of spectators already mentioned. The rich detail of these pictures explains among other things a curious object shaped like the fangs of a boar. Some plain pieces of stone have been found at Persepolis, and richer specimens, one of them reproduced in fig. 374, at Babylon. The other


FIG. 374
examples, which are in my collection, are of bronze, and come from Iran and Asia Minor. The 'Scythian' piece is from Hamadān, Media. They all have a double perforation at right angles, and served, as the horse-heads show, to hold together the two twisted leather straps of the bridle-gear, the head-stall and the strap along the cheeks. The nail in the wheel-nave (pl. Lxxxiv), shaped like a man with the head of a dwarf, of which no original is known of that period, explains similar nail-shaped bronze figurines of Sumerian and Hittite origin. ${ }^{14}$

The groups of tribute bearers are always introduced by an usher with long sceptre and torque. They are Medes or Persians in regular alternation. An envoy leads each nation. They usually bring specimens of their national dress, costly vases and ornaments (see PL. Lxxxiv), and also chariots and various animals such as stallions, bulls, camels, rams, among which are an African antelope and a gireffe. There is no uniform scheme; the large animals may stand in the middle or at the end of a group; their position is deliberately chosen to bring about a rhythmical interrelation between the adjoining fields. Everywhere the tendency to subordinate the sculpture to the whole of the architecture is apparent.

Of the 127 nations of the empire-the number given in the Book of Esther23 are represented. While the 30 nations on the tomb of Darius include the Balkans, Ionia and the islands Rhodos and Cyprus, these people are missing in Xerxes' tribute procession. That gives its date: after Salamis ( 480 b.c.), Lade and Mykale (479). This first work does not yet show the effects of that defeat, but they appear soon after: at Salamis not only the military power but the civilization of Iran was defeated by a superior one.

Our plates show details of the following groups: Pl. lxxviI, the Syrians bringing gold vessels, ornaments and a chariot drawn by small Arab horses, and the Sparda (Lydians), bringing garments and gold vessels, the gold from the Pactolus; pl. lxxix, the European Sakā (Scythians), with ornaments, garments and a magnificent stallion, and the Thattagush (Sattagydians), from the Indian Punjāb, with weapons and a marvellous humped bull; pl. Lxxx, the Cilicians with a pair of rams and garments, and the Hindush, from Sind, with gold, double axes and a beautiful wild ass; pl. Lxxxi, the Bactrians, with a twohumped camel and the Ethiopians (Kūsh), with ivory tusks and a giraffe.

These animals are drawn with the utmost simplification, and yet the drawing does not miss any of the essential qualities. The style is simply perfection, but it is entirely different from that employed where animals appear in an architectural function. The colossi, the double protomes, etc., are conventional types of long tradition; the animals in the tribute procession are the free creation of an art at the height of its power. The head of the Bactrian camel, with its contemptuous and offended expression, or the lioness (in the Elamite section, pl. Lxxxm) which looks furiously back towards the two cubs behind her, are unsurpassed.

The human figures do not share those high qualities. The main means for distinguishing them are the various mannerisms of drawing hair and garment, while the faces themselves are identical, and only in extreme cases-like those of the negroes-is differentation attempted. A closer study also reveals that the rendering of the garments is in no way exact and true to nature in all cases. The same remark applies to the small objects brought by the envoys: the Syrian vases and bracelets on PL. Lxxxii and the Lydian specimens on PL. Lxxviif are in no way different from similar objects brought by Armenians or Scythians and other nations; they are as a matter of fact not individual, but typical 'Achaemenian' pieces, just as the faces are simply the 'Aryan' faces. We know these gold and silver vases and bracelets from the Oxus treasure in the British Museum or the amazing pieces in the Hermitage.

There is no end to such detail. Today we see the tribute procession as one enormous work of sculpture. But we must reconstruct in our imagination the entire building (cf. pl. xlviiI). Above the stairs, not more than 10 feet high, rose the portico of black columns over 60 feet high under a heavy entablature covered with gold and flanked by the colossal whitewashed walls to the right and left; over the whole length ran a high frieze of enamelled bricks, in luminous light colours, crowned by the white crenellations against the eternally blue sky. Seen as the modest pediment of such a building, the sculptures step back into the architectural whole, of which they are but a subordinated detail.

That observation holds good for all Achaemenian sculpture: it emphasizes certain parts of architecture, but has no independent existence. It plays the same part as sculpture and decoration in a rich building of French Empire style.

Everything-the very low, refined relief, the proportions, the dissection of the large pictures into framed registers, the strong rhythm of the compositions, the exaggerated symmetry-every single one of the principles of this sculpture is deliberately chosen to subordinate sculpture to architecture, to create the perfect unity of the colossal buildings. And thus we may reach the conclusion that Achaemenian art is the very last phase of the art of the Ancient East, its 'Empire style.' The question as to whether some foreign artists took part in its creation becomes entirely insignificant.

The Iranians had entered upon the historical stage only a few centuries earlier. But their art is not a beginning. And although it took them about 200 years to develop its final character, it cannot be called the product of the natural gifts, of the essential spiritual qualities of the nation. Too much is simply the continuation of the art of older nations. On the achievements of these older aliens an art that is entirely official and royal has been built up.

It is doubtful whether another, more popular art existed. There is a group of small objects usually called 'Greco-Persian'; these may have been made in Asia Minor partly by Ionian and Sardian artists for Persians. There are the Lycian tombs, which contain Iranian elements that are not Persepolitan, and there are a few sculptures from Panderma, the residence of Persian satraps, at the Sea of Marmora, strongly Iranian in character, but not Persepolitan at all. Last but not least there are two fragments of sculpture, not yet published, that were found in Yazd, in South Iran, and confiscated for the Teheran Museum. They are clearly Achaemenian, and yet essentially different from the Persepolitan style. These are not enough objects to judge, but surprising discoveries may still be made.

Such a possibility does not affect the conclusion that Achaemenian art is the very end of developments that started in the highest antiquity. We have not studied certain works of the late Achaemenian epoch, after Artaxerxes II, which show an astoundingly quick decline, an unparalleled fall, to the point that even the mere technique was almost entirely lost. Old Persian art was dead before Alexander conquered Persia, and with the art the whole culture died: this complete decay was the cause, the conquest its consequence. The burning of Persepolis by Alexander was only the symbolic expression of the fact that the Ancient East had died.


## THE ARSAGIDAN AND SASANIAN PERIODS

THERE IS NO DEEPER CAESURA in the 5,000 years of history of the Ancient East than the conquest of Alexander the Great, and there is no archaeological object produced after that period that does not bear its stamp.

At the foot of the terrace of Persepolis a temple was built (see pl. Lxxxv). It was not a Greek temple, but one that was used for the worship of the old gods, and yet, in the votive inscriptions, which are written not in Old or Middle Persian, but in Greek, the gods' names are Zeus Megistos instead of Ohrmizd; Apollon and Helios for Mithra; Artemis and Queen Athena for 'Anāhit whose name is Lady.' While the replacing of Iranian names by Greek ones is common to Mithraism, which was propagated by Roman legions as fat as the Rhine and Britain, heretofore no such syncretism has been known so early in Mazdayasnian religion; the first example was the gigantic funeral monument of Antiochos of Commagene, about 30 b.c., the Nimrūd Dagh. It is strange to think how a world that looked back on two and a half millennia of tradition could seemingly throw off, in a few years' time, its own nature and slip on a borrowed one. The effect sets in much more suddenly than modern Europeanization, with which it has been righdy compared. In antiquity, as today, the process must have been a conscious one, and comprehends the avowal, unconditional and unrestricted, of defeat and inferiority. But to give up is easy, to take over is not. How deep did the movement go?

The period has left but a few monuments. Three miles only from Persepolis stand the ruins of a town that succeeded and possibly already preceded it: Istakhr, O.P. "pärsa-staxra, 'the stronghold of Färs.' When, in 316 b.c., Diodorus, the Greek historian, speaks of Persepolis as the place where a readjustment of the satrapies of the diadochi, the so-called 'partition treaty of Persepolis,' took place, he means no longer the old, but the new town. A few years later, the province of Färs, Persis, must have become independent under native rulers who claimed, probably with right, descent from the old Achaemenid house, and bore the title frätadära, 'guardians of the fire.' Persepolis from that time on sank back into oblivion, as it had been unknown to the West before Alexander.

Interrupted excavations revealed parts of an enormously strong city wall in sun-dried bricks (pLs. xcII, xcmiI). It is a type otherwise unknown, with round towers and short curtain-walls between, and with five stories of recessed loopholes preserved. On the one hand, the strange architecture is connected by the shape of the loop-holes and their frames, with the old Iranian house as represented by the Ka'ba i Zardusht, only two miles distant. On the other hand, similar niches appear on the substructure of the fire-temple of Masjid i Sulaimān (PL. xcm), of the Arsacidan period, and on the facades of the catacombs at Khärg, epoch of Palmyra, third century. ${ }^{1}$ The main gate of Istakhr was pardy cut out of the living rock, partly built in huge masonry; it is Achaemenian in technique, but inferior in quality.

Istakhr was the capital and mint town of Fārs down to the Sasanian period, the first half of the third century A.D., when it was replaced by ArdashirKhurrah or modern Firuzäbād; but it remained the capital of its district down to the Mohammedan epoch. A few fluted columns without bases and some upright antae mark the site of the first mosque, which was erected on the spot of an older fire-temple that was incorporated into it. The huge stones are of Achaemenian workmanship; yet they appear to be not importations from Persepolis, but re-used remains of Achaemenian buildings at Istakhr itself. To make use of existing buildings and to re-use any ready material is quite the rule in the early Mohammedan epoch; but in this case the same practice was already observed before in the Arsacidan and Sasanian periods. And, quite generally, in its later


FIG. 375
and poorer periods, Istakhr seems to have lived entirely upon the remnants of its old glory.

Another large public building of unknown purpose was in the same way reused in early Mohammedan times. Its columns were very large, but their shafts smooth. Unlike the Persepolitan columns, they were not fluted, and were certainly not of Achaemenian workmanship. The rough treatment of the surface alone would prove that. The former high polish and finish of the masonry had been abandoned immediately after the Greek conquest. In India, the same admirable technique disappears with the works of Asoka, in the middle of the third century в.c. Training and schooling of craftsmen must have suffered deeply from the disturbance of social and political conditions of the period.

The capitals of these columns are meant to be Corinthian (PL. xc and fig. 375). The helices or scrolls at the four corners, which are essential and indispensable features of the Greek type, are missing. Still stranger, the capitals have no covering plate, no abacus. The round upper surface does not increase the supporting area of the shaft, as in the Greek order; the static function is that of an old Persian, not a Greek capital. The Iranian art took over what is most striking to the eye of a layman, the Greek acanthus, and inorganically applied it to a native column in order to modernize it; the foreign form was preferred as more beautiful.

The Corinthian capital was something very modern at that time. Only a few examples are known, and for comparison I give in pl. Lxxxix one of the finest and oldest specimens. It comes from the great temple of Uzunja Bunj in Cilicia, and I found it in 1907. According to an inscription on it, it must be classified as a work of the time of Seleucus Nicator. ${ }^{2}$ With all its archaisms, like the continuous outline of the acanthus leaves, the straight rising and broken curves of the helices, it is not only a perfect, but one of the very best specimens of the later Corinthian capital, and accentuates the deep difference between the true Greek and the almost contemporary Iranian type. But the Istakhr capital, probably dating from the early third century b.c., has, besides, another aspect: its highly archaic acanthus is the prototype from which is derived the acanthus of the very last Sasanian works, such as, for example, that of the Tāq i Bustān, in the early seventh century A.D. (cf. PL. cxxx). The astonishing archaism of that
late type shows that the connection between the artistic developments in the West and in Iran had been cut offiat an early period; and whereas in the West, in the course of 900 years, something entirely different had replaced the archaic forms, the isolated Iranian group preserved them.

Some halfcolumns of the same building were engaged, in the original composition, into a wall with a slightly projecting entablature above and niches crowned by a conch-shell between them. The capitals of the half-columns (PL.


Fig. 376
xc and fig. 376) had one row of acanthi, similar to those of the large columns; these capitals are bisected in the diagonal, so that the abacus would project as a triangle: but there is none, and the middle leaf, which would project without protection, is therefore flattened. Indeed, the half-columns support nothing at all. For the entablature ran with only a shallow projection over the whole wall above the columns (cfi PL. xCI). Its shape is a cross between a Greek sima and the Egyptian cavetto moulding of Persepolis. The whole conception is utterly untrue to Greek style. The architects wanted to adopt everything new, but could not free themselves from their traditional feeling for forms, which had become
innate by age. They imitated only the superficial features of a foreign art, but missed its spirit and essence.

In the mosque of Istakhr, a base and a capital of different types were also found (pl. xcI). The base (fig. 377) is bell-shaped like the Achaemenian bases, but decorated with crude and almost entirely flat acanthi, which replace the falling leaves of the original type. The capital (fig. 378) consists of a high torus and a cavetto with flutings or leaves above it. That form is derived from the Persepolitan capital proper, the old oriental palm capital, the high torus being


FIG. 379
equivalent to the lower zone of falling leaves. It is this form that survived in Iranian art. At the Sasanian period it formed the base as well as the capitals of the four corner-columns of the tower of Paikuli, and became, in the early Mohammedan period, the form for capitals and bases as at Samarra. Such forms are so very Achaemenian in character that they must have been created shortly after the Greek conquest. The 'spiral-sleeve' of the Achaemenian columns also survived, as shown in fig. 379, almost unchanged but for the weakness of its lines and its inferior technical workmanship.

With Istakhr we must group the ruins of Kangawar-between Kirmanshāhān and Hamadān-and of Khurha in Mahallāt, south-west of Kum. None of these ruins have so far furnished inscriptions, although Greek inscriptions were used at that time. In literary sources Kangawar alone is mentioned, viz. in the Mansiones Parthicae, a book of military geography that was written for Caius Caesar, on order of Augustus, by Isidorus of Charax, in the year i b.c. Isidorus speaks of the famous 'temple of Artemis,' i.e. Anāhit, at Kangawar, and this temple may well have been 200 years old at that time.

Istakhr, Kangawar and Khurha share with each other the very large dimen-sions-Kangawar must have been exactly as large as the great sun-temple of Palmyra, one of the largest in the East-and the masonry in huge square stone, a survival, though of inferior quality, of Achaemenian technique. These characteristics distinguish the group sharply from the comparatively small brick buildings of the Parthian epoch in the West, Babylonia and Assyria, and still more from the tiny adobe buildings of eastern Iran. The dissimilarity is due to differences less in local conditions than in period. The three west-Iranian buildings are older than the Mesopotamian and the east-Iranian ruins. We may classify them as 'Seleucid,' between 300 and 150 b.c. If this date is accepted, no buildings of the Arsacidan period are known in west Iran.

An analysis of the strangely mixed architectural forms of Kangawar (fig. 380)-Doric capitals but with a Corinthian abacus, and (cf PL. Lxxxvir) an unusual shape of base for the smooth shafts of the same columns (fig. 38 r )-confirms this early dating. Hellenistic architecture in the East-it is enough to refer to the Ptolemaic remains of the walls of the Umayyad Mosque at Damascusbegins with hybrid formations, which are gradually replaced by a classical style


FIG. $3^{81}$


FIG. 380
together with the proceeding development of Roman architectural canons, like that of Vitruvius.

The valley of Khurha, where the third monument stands, is full of vineyards, and the mounds of the temple area, fig. 382, are strewn with sherds of large pithoi (wine-jugs). The building was a temple. Worked square stones lie


FIG. $3^{82}$
around everywhere. The peribolos (PL. Lxxxviii) can still be traced; the temple itself, inside that colonnade, ought to be excavated. The temple of Kangawar, we learn from Isidorus, was dedicated to Artemis-Anāhit. There is no Iranian god closely connected with viniculture, and, in accordance with the Seleucid date we give the building, we may conjecture that the temple of Khurha belonged to Dionysus.

The pair of columns that still stand upright belong to the peribolos, near its southern corner. They look strange (fig. $3^{83}$ ). The degenerate bases consist of two high plinths and a still higher torus, which exceeds in diameter the upper plinth. The type itself is Iranian, attested in pre-Achaemenian time and canon-


FIG. $3^{88}$
ical for Pasargadae and Persepolis. The shafts are smooth, as in Istakhr and Kangawar.

In Istakhr the capitals were meant to be Corinthian, in Kangawar Doric. Here we have the third Greek type, the Ionic capital (pl. Lxxxix and fig. 384), but it is as bad Ionic as the others are bad Corinthian or Doric. The aboriginal Iranian shape of the proto-Ionic impost-block, as we know them from the tombs of Qyzqapan and Dā u Dukhtar in about 600 b.c., breaks through the Greek form. That is what makes them look so strange. As a whole, all the three 'orders' are erroneous interpretations of the Greek ones, caused by inveterate practices.

The proportions of the columns are still more instructive. The height of genuine Ionic columns is at the beginning eight, and never more than ten diameters. The height of Khurha columns is eleven. The aesthetic feeling that


FIG. 384
demands such proportions had arisen from habituation to over-slim wooden columns. Sense of proportion is the dominant character of the Greek mind in life and art. When the Iranians attempted to accept everything Greek, as they do today with everything European, they did not grasp the significance and proportion, but were entirely satisfied with the semblance. The depth of things remained hidden to them. The result is a hybrid art, if art it can be called, which is neither Greek nor Iranian; it is of no inner or aesthetic value, and is worthy of study only for historical or psychological interest.

Such a criticism we have abstracted from architecture alone, and we must check it in another branch of art, in sculpture. In the temple at the foot of the terrace of Persepolis are the stone jambs of a window, on which a prince and his wife are pictured (pl. lxxxvi). Effaced as the figures are, the prince can be identified from his coins as one of the first frätadära of Istakhr, a dynasty which began probably shortly after 300 в.с. The place of the sculpture, inside the jambs, is the traditional location for sculptures at Persepolis. The attitude-right hand raised, left holding the barsom, the sacred wand-is an attitude of prayer, as we know from the Median tombs, Dukkān i Dāūd and Sakawand, and also from the gold plates of the Oxus treasure. Apparently it is pre-Zoroastrian. The attitude of the kings on the Achaemenian tombs is raised right hand, but no barsom, and this is the particular attitude called ustänazasta in the gathas of Zoroaster. The absence of the barsom at Persepolis may indicate the stricter Zoroastrianism of the Achaemenids. The word barsom appears (probably) first in an inscription of Xerxes. The inoffensive old custom seems to have spread at his time from magian into Zoroastrian cult.

The opposite stone does not show, as in Persepolis, the mirror-reflection of the prince, but a picture of his queen, the first and only lady at Persepolis-a subject that is strictly avoided in official Achaemenian art. Her attitude is the same. The dress is a long undergarment that reaches down to the ankles, and a cloak or shawl. The drapery is indicated by timid lines roughly engraved. As works of art the frätadära sculptures are pathetically poor, a relapse into primitive methods. The refined low-relief of Persepolis is lost; the figures are but a flat, dead surface with interior design engraved, standing out from a slightly deeper ground-plane.

It is amazing to see how quickly, in not more than two or three generations, a handicraft of unlimited power can be completely lost, and with the mere technical skill the artistic judgement also. Their own tradition is despised, an attempt is made to imitate the life of Greek art, and the result is a sketchy and impotent design. Schooling in handicrafts must have been entirely interrupted.

Examples are scanty and that is no loss. In Iran proper we have only the rock-sculptures at Bistūn, below the famous sculpture and inscription of Darius. These we must discuss on account of their historical, not their artistic merit. There are two pictures, side by side, with Greek inscriptions, one by Mithridates II, the Great, one by Gotarzes II (pl. cvir).

A New Persian inscription of the eighteenth century has annihilated the greater part of Mithridates' monument, but an old drawing by M. Grelot, travelling companion of the Chevalier Chardin and of a Venetian envoy in 1673, allows the inscription to be restored and the subject of the sculpture to be understood. Like the epigraphs above some Achaemenian figures, the inscription simply enumerated the names of the four men represented as standing before the king. The king stood to the right, and he styles himself simply 'great king'; the work must be earlier than in в.c., the year in which he assumed the more pretentious title 'great king of kings.' The first of the dignitaries who face him is Gotarzes, 'satrap of satraps,' a prince of Hyrcania and, as Gotarzes I, Mithridates' successor in parts of the empire. The name of the second figure is lost, but he bore no title-an indication that he was sufficiently known without any qualification. The third is Mithrates, with the honorific 'the confidant.' His unique name makes it probable that he was the ancestor of the house of Mith-rāna-Mihrān, which ruled Raga, the province of modern Teherān. The last is Köphasates, a name that occurs only once in Iranian history, in the younger form Kōhzādh, in an episode of Sīstān origin inserted into the Shāhnāme of Firdausi and still localized today at the ruins on the Küh i Khwāja in the Hāmūn Lake in Sīstān. Since Sīstān was the fief of the Sūrēn family of Arsacidan fame-one Surenas won the victory over Crassus at Carrhae in Mesopotamia, a fatal defeat of the Roman arms equalled only by the defeat of Varus in the Teutoburger Wald-Kōphasates may be an early member of that house. Though these identifications are only probabilities, the subject of the picture is certainly
the homage of four feudal vassals to the great king. Mithridates, the actual founder of the Arsacidan empire, had created its feudal organization, and the special meaning of the typical picture seems to be here the investiture of the four great feudal houses. As a symbolical scheme of iconography it survived in Sasanian art, as, for example, in sculptures of Ardashir I, Varhrān II and on a silver dish of Khusrau I, which is sometimes interpreted as a special historical event (cf. pl. cviri above); in the early Mohammedan epoch, in the paintings of Qusair 'Amra, it means the 'kings of the non-Mohammedan world' or 'the enemies of Islam.'

There are no new artistic ideas in the picture; the monotonous repetition of the figures and the gesture of their hands are old Persian. Only the garments and heads are delineated in a modernized style. Being a rock-sculpture, the monument jught to be eminently sculpturesque. But far from being the projection of round corporeality into relief, it has, like the frätadāra sculpture, only two planes: the ground is chiselled off, and the outlines thus produced, instead of being modelled, have only hesitating lines engraved into them. Although a rock-sculpture, the picture follows pictorial principles, and this national monument of the greatest king of the time is but the product of a very limited art.

The second sculpture of Bistūn, a combat of three horsemen, bears the name of Gotarses Geopothros inscribed in later characters over the middle rider. He is Gotarzes II, a descendant of the 'satrap of satraps' of the first sculpture; Geopothros is the family name, which appears first in a hymn of Zoroaster, then in an inscription of Darius, and the history of which we can follow for almost 1,200 years. The events of Gotarzes' reign are recorded by Tacitus. Without being an Arsacid-the Geopothri ruled over Hyrcania-he was 'great king' in $4^{0-41}$ and from A.D. 43-5I. In 50 he defeated a rival Arsacid king, Meherdates, who was sent and supported by Rome, at the foot of the mountain which bears the sculpture. In this memorial, his victory is symbolized as a single combat of two horsemen, almost a tournament between the two kings. To represent a historical event condensed into a symbolic gesture is an old oriental principle, followed already at the beginning of the third millennium, for example, in the rock-sculptures of Sarpul and Darband i Gawr. Greek art chooses a dramatic moment, during which the decision is in the scale. Here the old oriental idea
appears in a Hellenistic garb: the movement of the riders, the little victory that flies above the king, are such commonplace Hellenistic mannerisms. A page follows the king on horseback, while his adversary, Meherdates, is already run through with the lance, his horse tumbling. Oriental pictures never leave a doubt as to the happy end even when it was not happy.

Near Bīstūn a rough sculpture is hewn out of a huge boulder, with figures of worshippers on three sides, one of them reproduced in fig. 385 . It is a man in


Parthian dress, apparently strewing incense on the flame of a small fire-altar. The subject of the worshipper at the altar, quite common during the Arsacidan period, practically disappears from Sasanian art.

In the gates of the agora of the Arsacidan town of Assur stood two stelae that are now in the museum at Constantinople (pl. Gv). They are not exactly Iranian works, but of the same spirit. The one represents, in pure profile, a worshipper, bowing in adoration, with a palm-branch instead of the Iranian barsom. The other is a standing figure in front-view, right hand raised in prayer or benediction, left at the sword. Both bear inscriptions, which as far as I know have not yet been deciphered. Their date is about the beginning of our era. The relief is higher and rounder, in a word better than at Istakhr and Bistūn-the artists were no Iranians-but the types are Iranian and equally inferior.

Of the same period, 30 в.c., is the tomb of Antiochus of Commagene, at the Nimrūd Dagh, an entire mountain shaped into an imperishable monument, surrounded by colossal sculptures built up of huge stones. Situated north-east of Aleppo, at the border of Armenia, it cannot be called strictly a work of Iranian
art, but Iranian characters are prevalent. The workmanship is far superior to the Iranian sculptures, but the types-those on PL. cv, for example-are again the Iranian ones: the king Antiochus, to the left, in adoration before the god Mithra to the right. And this and some other subjects of the Nimrūd Dagh sculptures are continued during the Sasanian period.

Also at the border of the Iranian sphere is a rock-sculpture near Bayazid, in Armenia (fig. 386). It has two figures, more walking than standing, and both,


FIG. 386
according to the gesture of their hands, praying. They are separated by the figure of a stag(?) standing on an altar, building or door(?). The only drawing, which was made by Charles Texier and is here reproduced, is hardly exact. If there were not the apparently Hellenistic robes of the figures, one would compare the group with 'Median' sculptures like Qyzqapan.

Sculptures in the round are as rare and exceptional as in Achaemenian and later in Sasanian times. pl. cvi shows the 'Lion of Hamadan,' previously believed to be a work of the Achaemenian period. For all its deterioration, the animal, one sees, was sitting on its hind legs, the forelegs straight, an attitude typical of lions of the beginning of our era. The free, naturalistic treatment of the mane also rules out an older dating. This lion was the talisman of Hamadan, placed a thousand years ago over the north gate of the Mohammedan town. It is still the object ofiworship by women who come to anoint it and to place small offerings before it. Early Mohammedan writers call it the work of Apollonius of Tyana, the traveller, miracle- and talisman-worker, to whom Nero built a
temple in Rome. Apollonius actually was at Hamadan at the time to which one must assign the lion, and though scarcely his work, it may have been imported at that time.

All Arsacidan sculptures are drawings on rock rather than the work of sculptors; painting must have been the prominent branch of art, just as it was during the Sasanian period. This conclusion is confirmed by remains of paintings. They were preserved in the ruins on the Kūh i Khwāja, an isolated tablerock of basalt, which rises from the shallow Hāmūn lake in Sistān, the region where modern Iran, Afghānistān and Balūchistān meet. That strange and deeply impressive rock (cfi pl. xcvi), the only eminence in the immense plain, is a place doubly holy. The modern name means 'mount of the Lord,' and popular tradition remembers him as Sarā i Ibrāhīm, a name belonging to the strange assimilations of old Iranian figures to Biblical ones: the pre-Mohammedan prophet Abraham was identified with Zoroaster. It is the mount Ushidā of the Avesta, where, under the protection of the king Vishtāspa, Hystaspes, father of Darius, the prophet Zoroaster had taken refuge. The pilgrimages during the first fortnight of the Zoroastrian year still testify to its sanctity.

But the name of the ruins on the southern slope (pl. xavi), Kale i Rustam or Kuk u Kōhzādh, connect the place with Rustam, the main hero of the Shāhnāme, or with figures of his circle. At Bistūn there was the sculpture of Kōphasates, one of the grandees of the time of Mithridates the Great. And the two centuries following his time were the period in which the older Iranian myth became transformed into a chivalresque epic-similar to the relation of the Edda to the Nibelungen-and in which many historical figures were introduced into the older form of the legend, among them the historical Köphasates as Kōhzādh. The name Rustam is originally a surname, certainly of a god and probably of Vrthragna. In the Shāhnāme this divine figure has been endowed with many features of a historical personality, the king Gundopharr, an Iranian prince of the house of Sūrēn, who ruled the vast empire of the Sakā for several decades in the middle of the first century a.D. The legendary Rustam is, in his historical aspect, Gundopharr. He is the king of India ofithe Acts of St . Thomas, and appears as Gadaspar or Kaspar among the Three Magi in the Biblical story of their visit to Bethlehem. We must consider Gundopharr, the king of the time
when the castle was built, as its founder and owner, and we might well call it the castle of Rustam, of Gundopharr, or of Kaspar of the Three Magi.

The ruins on the southern slope of the hill are something between a fortified palace and a town. The palace proper (plan, pl. xcvir), occupies the higher region, around a vast court. The entrance, on the south side, is a vaulted gateway; on the west and east sides large barrel vaults, èwän's, open onto the court, with broad vaulted rooms behind. The T-shaped room thus produced is normal, at the early Mohammedan epoch-Samarra, for instance-for the audience chambers of the caliphs.

Traces everywhere show that the buildings have been used twice. The rows of open, vaulted niches all around the court, for example, belong to the second period. This device, general in Mohammedan architecture, is proved to be of Hellenistic origin by its Arab-Persian name kunj, i.e. konche. At first I expected to find an early and a late Sasanian period, but the earlier period of the building is pre-Sasanian, first century, and the second early Sasanian, third century A.D. In this eastern region the correct name for the older period, 'Arsacidan' in the West, would be 'Saka.'

Along the north side of the court extends a gallery. It leads to the highest level of the entire place, occupied by a fire-temple. The front of that gallery was wholly changed at the second period. To the left, the vaulted arcades of the second period were well preserved; to the right, they were in bad condition, and there I took parts off to uncover the architectural system of the first period. pL. xcvi shows the remains of the court front with the fire-temple rising like a third story above it and the basaltic rock in the background. Of the reconstructed drawing (pl. xcviII) no detail is doubtful. The first building was a system of Doric half-columns engaged into the wall; its entablature, slightly projecting, is decorated with a Greek scroll, common but never used in so dominant a role in Greek architecture. A regular series of windows between the columns has a centred arch, a new and foreign feature in that otherwise entirely Greek structure. The only sculptural decoration, which was above the arch of the middle door, consisted of a pair of male figures, made of plaster, fully in the round and but loosely attached to the wall. They probably held a wreath, a composition known to Sasanian art. As a whole, the elevation is Hellenistic and
resembles the facade that could be reconstructed from fragments at Istakhr, with the addition of a few indigenous, decorative elements. The Sasanian period abandoned this scheme of elevation.

The wall of sun-dried bricks apparently threatened to give way under the weight of the barrel vault behind and had to be shored up in the second period. This was done by having built a system of buttresses with barrel-vaults against it. The lower part, in the old period a solid structure, thus received a low arcade that runs all around the court; the addition entailed a change in the arrangement of the flight of steps in front of the entrance. The upper part, above a small decorative frieze, received a higher arcade. The shape of its vaults and arches is ellipsoid, in the Sasanian manner.

The dating of the first period in the first, and of the second in the third century, is based on observations of many architectural forms. These we shall not discuss here, although they teach an important lesson: how decisive the use of sun-dried brick or adobe in these eastern regions has been for Sasanian vaulting. The dating is also based on the ornamentation of the first period, of which pl. CI gives a fine example. This plaster work corresponds in every detail to the decoration of Arsacidan buildings in Babylonia and Assyria of the first century A.D., as the specimens in fig. $3^{87}$ illustrate, with the only distinction that the


FIG. 387
quality of the eastern example is much finer. The East seems to have been the original home of plaster decoration, and here we are nearer to that source.

The walls of many rooms on the Kūh i Khwāja, especially the gallery, where the paintings extended over its four walls and the barrel-vault, were originally painted. All paintings belong to the first period. They had been entirely walled up at the second period, and to uncover them, the thin adobe walls had to be taken away. The state of the paintings was deplorable.

All the faces of the walls are unbroken flat surfaces; with the sole exception of a little cornice, which marks the starting of the vault, there is no plastic element in the room. In the West, Byzantine architecture only reaches such a stage. We have seen before that sculpture followed pictorial principles; here, architecture too falls under the influence of painting.

On the cornice under the vault a festoon of laurels under a dentil is painted. The vault itself is a Greek coffered ceiling without any plastic relief, Every square contains alternately an ornament or a figure. The composition is Greek. The simplest of the ornamental fillings is a rosette of many leaves. This rosette, of Egyptian origin, spread over the whole Near East, but never played a great part in Greek decoration. The rosettes of the Kūh i Khwāja must be derived from the Achaemenian rosettes, the severe composition of which has been replaced by a sketchy drawing, an illusion of naturalism. The richer ornamental fillings are composite formations of four palmettes arranged diagonally around a central disk, as shown on Pl. ci. There are similar compositions in Greek coffered ceilings, but nearer come the designs on Achaemenian textiles, represented on Persepolitan sculptures, and the closest analogies are furnished by Assyrian knobbed tiles. In Assyrian and Achaemenian art the floral elements are derived from the Egyptian lotus and papyrus, and from the Mesopotamian palmette; here, an element derived from the Greek acanthus has been introduced into the old scheme of composition. It is the same process as in architecture: the most striking feature has been taken over, but is handled after old traditional practices. The foreign style is only superficially imitated.

Among the figural pictures in the squares of the vault are two riders ( $\mathrm{PL} . \mathrm{CI}$ ); one a winged Eros on horseback, the other a rider on a leopard, still more Greek than the first. The same Erotes in various actions are often represented on silver
works from neighbouring regions, just after the beginning of our era. There are, besides, several figures who are merely resting, playing an instrument (cf. PL. cIII) or dancing; and once an acrobat is standing on his head. All this belongs to the usual repertoire of Hellenistic decoration, the old mythical meaning of which has long been lost; it is, however, quite foreign to the principles of Achaemenian art.

The types of the heads seem to combine an abstract idea of the actual appearance of the people and a conventional drawing derived from the Greek manner (cf. pls. cil, ciII).

Of the paintings on the back wall of the gallery, which is about sixty feet long and forms a retaining wall for the sloping mountain, only one part, not exactly in the middle, is still recognizable (pL. civ): a king and a queen, standing under a canopy, of which the posts only remain. The king stands to the right and a little in front of the queen. The attitude of his left arm and of the right arm of the queen is not quite clear. The heads are both drawn in half profile, the colour of the dress is mainly purple, in shades from violet to scarlet, while the king's cloak is orange. Both are covered with jewels. The half profile and the somewhat relaxed, unceremonial pose, the body bent at the hips, are unknown to Achaemenian art and due to Greek influence. But as a whole, composition and style are not simply western art, but more an inter-mixture such as may have developed in Graeco-Bactria. The effect is strangely 'medieval.'

Achaemenian art represented the king only in high ceremony, on the throne, in adoration, or pompously walking, followed by his servants. To this tradition belong devices on Arsacidan coins (fig. 388). The oldest coins have an archer, viz. Apollo, sitting on the omphalos. The original meaning of this device was soon forgotten, the omphalos became a throne, the Greek god was interpreted in a different way. The next phase is the portrayal of the reigning king enthroned. He may hold either a bird-symbol of Vrthragna-or a small Nike on the outstretched hand, or a Greek Tyche, interpreted as the Iranian xvarrah, may stand or kneel before the throne. The later designs enrich this motif either by introducing a third figure, or by putting the king on a horse instead of the throne. The symbolic meaning is always the investiture of the king, an iconographic scheme common to Sasanian art.

On the window wall of the gallery gods were represented. They simply stand there, inactive. But their very grouping in different planes (see Pl. CIv) is a feature derived from Hellenistic perspective. The design of their heads and bodies is much more Greek than in the other paintings. The garments, too, are Greek, some of them with delicate textile ornaments, laurel wreaths (PL. cm). Their emblems and attributes are half Greek, half oriental. The helmet with two wings is, in Greek art, the emblem of Hermes; here it has three wings and signifies Vrthragna, the god of war. Another god holds the trident, which to us is the symbol of Poseidon and naval supremacy, but here the symbol of the Indian Shiva. One has the crescent; hence it is the moon-god Māh. These identifications follow from a comparison with the figures of gods on Kūshān


Phraates III $7^{0.5}$

gold coins, where the names are added in their legends. The group of three gods (PL. Crv) looks like the picture of three apostles.

Images of gods often preserve old iconographic types, which have been replaced by later ones when representing men. From the gods of the Kūh i Khwāja, therefore, we may form a conception of what the preceding GraecoBactrian phase of painting has been. With all the injury it has suffered, a head like that on PL. CII is remarkable as a work of Greek painting, and shows what some of the painters could still accomplish. But at the same time it accentuates the disparity, not only of quality, but of style, among these pictures. This diversity of style coincides with a difference in projection: the half profile of Greek origin is connected with the naturalistic design, and the pure profile of old oriental origin with other indigenous features.

Thus the paintings on the jambs of the windows (PL. CII) all in pure profile, represent files of spectators, just as there are files of spectators of the tribute processions at Persepolis. Like those, they all hold a flower in the hand. The heads are the nearest approximation to the old Persian type we know. This group is a third style that is neither western Greek nor Graeco-Bactrian, but a survival of Achaemenian art. The art of the paintings on the Kūh i Khwāja is eclectic; the different elements have not been assimilated; a new stylistic unit has not been created.

For a period of almost 500 years the number of sculptures and paintings we know is almost nothing. But there is one branch of art that permits us to form a general conception of the pictorial art of the period, namely the coins. Fig. 389,



FIG. 389

for example, gives three riders from east-Iranian coins, the anonymous Bactrian soter on horseback, the Sakā king Azes on a camel, and the Kūshān Vimakadphises on an elephant. They all share, also with later Sasanian art, the disregard of proportions between rider and mount. Fig. 390 gives three Nikes, from Sakā and Parthian coins, to be compared with the Nike on the rock-sculpture of Gotarzes II at Bistūn. They hold a palm branch and a corona; others have the cornucopias of the Tyche. From the Kūshān coins we learn that the Iranian


FIG. $39^{\circ}$
interpretation of the Greek Nike was Vanand, the genius of 'victorious superiority.' The figures are entirely conventional; it is not before the beginning of the seventh century A.D. that the pair of Nikes on the facade of the Tāq i Bustān reaches a higher level. But it is strange to see that the old Iranian urge for symmetry, for pairs, causes the exact repetition of the same figure in mirrorreflection, as in Persepolitan sculptures. Two little figures, a naked boy with a bird, and a griffon (fig. 391) serve as examples for the encasing of figures in frames or aediculae, a decorative motif of Hellenistic origin, common at the Sasanian period. Fig. 392 shows two royal heads, of a son of Vardanes and of Volagases IV, in front-view; the striking appearance, in Sasanian art, of the front-view, wherever the king occupies the central axis of the picture-Shahpuhr I, Vahrān I and Khusrau I, for example-was already foreshadowed in

Arsacidan art. There are two other heads in fig. 393. One is of the god Mithra with the crown of:sunrays; it belongs to the period of Phraates IV, and may be compared with the Mithra ofthe Nimrūd Dagh, of the Kūshān coins, and of the sculpture of Ardashïr II at the Tāq i Bustān. The other is a triple head, like an Indian trimurti, for which I can only propose the explanation that a fourth head was assumed in the back, and that the whole is a picture of the god Zervan, the 'four-faced father of greatness.'


FIG. 391


FIG. $39^{2}$


Phraates III
FIG. 393


QM:Mihradates III
FIG. 394

More artistic feeling is displayed in animal figures (fig. 394) but the truly Arsacidan examples are always much inferior to the eastern Iranian ones. Considering the devices as numismatic works, we must note that they all are not so much miniature sculptures as sketchy drawings. The conventional symbols of cities on some coins (fig. 395) could be elements of landscape painting. The coin devices have all a strongly pictorial character, equally manifest in the rocksculptures. Painting was the dominating art of the period.

Small works of art of the Arsacidan period are very rare. Fig. 396 shows a slate palette that is decorated with a male and a much destroyed female head in the manner of numismatic heads. One might go on completing our notion of Arsacidan art by studying seals, clay figurines and similar objects. A higher standard is only reached by a group of silver works, which display a fine tech-


FIG. 395
nique and a decidedly Hellenistic character. Otherwise it is not an attractive study.

Before leaving the period, one subject, important for the history of Iranian architecture, ought to be mentioned. Until recently, no Iranian fire-temple was known. The temple of Pasargadae was excavated in 1927, that of Persepolis still later, that on the Kūh i Khwāja in 1928. I excavated them because I had already come to the conclusion that certain ruins were indeed fire-temples. The excavations brought the final proof The building on the highest level of the ruins on the Kūh i Khwāja consists of a square room, covered by a cupola, which rests on four arches over four corner-piers, with a narrow vaulted passage (in Greek terminology a krypta) around it, and with a monumental entrance. Those are the three constituent parts of a fire-temple. The entrance may assume various shapes. The cupola was the sanctissimum. At the Kūh i Khwāja, in its centre, the pedestal offa fire-altar was excavated, and the altar itself was found, overturned, near by (fig. 397 and PL. CI). The krypta at the same time separated the sanctuary from the profane outer world, and served for the ceremony of

circumambulation. Fig. 398 gives plan and section of such a typical fire-temple built at the side of a large source north of Bīshāpūr and called imāmzāde Sayyid Husain. The plan and the ceremony of tawäf live on in the shrines of the Shicite imams, the mashhads, i.e. martyria, of Iran and 'Iraq.

The Kūh i Khwāja, situated in the Far East and built by the Sakā, who immigrated only in ino b.c., may not represent the standard of Arsacidan architecture in the west of Iran, just as the Arsacidan ruins of Babylonia and Assyria have distinguishing peculiarities. But as long as no building of the Arsacidan period in Iran proper is known, we must take them as a substitute. Probably, in the West, rough stone and brick competed with sun-dried brick, the only building material of the East. And the difference in material may have



FIG. 399
given to the East a certain advantage as far as the development of vaulting is concerned.

In the West only the scanty remains of two buildings of a religious nature are known; they are of such simple shape and so much destroyed that we can learn but little from them. The one is Masjid i Sulaiman in Khuzistan, at the place of the wells of the Anglo-Iranian Oil Company (pl. xciv). It is a vast terrace (plan, fig. 399) with stairs and faint traces of a square, hence probably domed building on it. It reminds us of the terraced temples of Pasargadae and Persepolis. But the masonry is primitive. Some of the stones employed are large, but they are in the natural shape they assume as they break in the quarry, and are heaped up apparently without the use of binding mortar. A few niches on one side of the substructure (see PL. xcir) are shaped like the frames of the loopholes in the walls of Istakhr or like the windows of the Ka'ba i Zardusht at Naqsh i Rustam.

The natural fires, where oil pours forth from the depths, were predestined to become fire-temples. They are called axvarishnik, 'fires needing no food.' One of them, situated near Dāmghān-Hecatompylos in Kömis, is mentioned in the Great Bundahishn, a late book of religious cosmology, under the old name Frambar, meaning 'chaotic.' In the Zam Yasht XIX of the Avesta a pre-Zoroastrian myth is preserved in a hymn to Apām Napāt, the god of the waters, to whom alone belongs the axvarta xvarnah, the 'devouring flame that needs no food,' the naphtha. Those are the only mentions of natural fires in Old and Middle Iranian literature.

The other ruin of cultic purpose, but which introduces a different type is Takht i Rustam, not far south-west of Teherān in the Shahriyār district. It is a


FIG. 400
natural pyramid of basaltic rock on which is built, at one-third of its height, one platform and another on its summit. These platforms measure about 60 feet square and from 12 to 18 feet in height (plan, fig. 400, and pl. xcv). A little, rather modern imāmzāde (tomb of an unknown saint) testifies to the sanctity of the spot as an example of the permanence of worship at holy places in the East. Such 'high places,' already described by Herodotus in the fifth century b.c., were used for certain ceremonies of the Zoroastrian cult.

One Sasanian temple, Kale i Dukhtar, between Nīshāpūr or Mashhad and Nä’in, in Khurāsān, has the same disposition: below there is a temple of the vaulted type, normal for the Sasanian period, and on the rock behind is an open 'high place.' These ruins, discovered in 1923, 1925 and 1928, definitely proved that all the buildings of that type are middle-Iranian fire-temples.

The masonry of the Takht i Rustam is almost the same as at Masjid i Sulaimān: large natural stones, with small fill-ups to keep the layers horizontal, and heaped up seemingly without binding mortar. The walls of true Sasanian structures consist of more mortar than stone; their preservation is entirely due to the excellent quality of the mortar in which the large pebbles are embedded. That difference is the main reason for attributing Masjid i Sulaimān and Takht i Rustam to the Arsacidan period. But the marvellous art of great masonry of the Achaemenian epoch, of which traces persisted at the early Seleucid time, is completely lost. All tradition has been forgotten.

The 400 years of the Arsacidan period, from C. 200 B.C. to A.D. 200, mark a pathetically low level. The real reason for this decay lies outside the sphere of art. The ascending movement of Achaemenian art had reached its climax already at the time of Darius and Xerxes at the beginning of the fifth century, and began to decline definitely before the conquest of Alexander the Great. The social disturbance brought about by that conquest led to a complete break in tradition, not only of artistic thoughts, but of handicraft. The period begins with a conscious surrender to everything European. But the spirit of Hellenism remained alien to Iran. The works of art produced look like relapses into almost prehistoric primitive stages-not the primitivity of youth, but of impotent age. Predominant was painting, which lacked technical schooling. Walls too poor to be shown uncovered were veiled by pictures or by cheap plaster ornaments.

Both lead to the complete decomposition of sculpture and to the further decline of architecture. Hellenism, while preparing the western world for a great future, had the most destructive effect on Iran.
the term 'sasanlan art' is often used in a vague sense so as to include the Arsacidan period from 250 B.c. to A.D. 226, and the early Mohammedan period, after A.D. 630 , that means an entire millennium, and moreover not only works from Iran, but from all around it. Thus it appears in books on Mohammedan or Byzantine architecture, Egyptian textiles, Buddhist paintings, Scythian goldsmith's works, Romance sculpture and Chinese silks. It is a term that is often misused, and in order to reach a true understanding of what Sasanian art is we must restrict it to works produced in Iran during the Sasanian period, A.D. 225630 -a period of four hundred years, which is enough for the genesis, culmination and decline of any art. It comprises architecture, rock-sculpture, plaster decoration, metallurgy, medals, gems and tissues; only ceramics of artistic merit are quite unknown. I choose the great rock-sculpture for my purpose because it is the most representative branch and because the conclusions drawn from it are also valid for, and supported by, the other branches.

Of the twenty-five great rock-sculptures known, all are situated in the province of Färs, with the exception of one monument near Salmäs, west of the Urmiya Lake, one that was at Raga till about 100 years ago, and one in the middle West, the Tāq i Bustān near Kirmānshāhān. All represent kings, and all except one sculpture at Naqsh i Rustam can be exactly dated, even if none had an inscription, by comparing the kings' heads with their coins. For every king has an individual crown, and the series of coins is safely established. That method, which had already been recognized by Silvestre de Sacy i 50 years ago, need only be strictly applied. The result is that the date of the rock-sculptures is as narrowly limited as their place; they all belong to the first seventy-five years of the period, to the third century, with the exception of the Tāq i Bustān, where there are two sculptures of about 380 and the big grotto of A.D. 610-28. ${ }^{3}$ These strange limitations reveal something artificial in the growth of that art, and we shall see that it decidedly lacks a logical continuity.

The Sasanian rock-sculptures have first been treated as a whole, with largesize illustrations-the only way to convey their real impression-by F. Sarre, ${ }^{4}$ and to these plates I must refer the reader. Instead of repeating in a much too small scale the same illustrations, I have here chosen, from unpublished material, mostly pictures of detail to complement the former works; and in the

following I emphasize certain changes, demanded by a few recent discoveries, in our understanding of the development and our appreciation of this art.

The most momentous of them are three graffiti at Persepolis, two delineating a prince standing, one a rider. It is a fortunate chance that these drawings can be identified by comparison with Stakhrian coins. One picture (fig. 401) is of Shahpuhr i Pāpakān, elder brother of Ardashïr I, who reigned for three months only, as a satrap of Fārs, and was killed by a falling stone when visiting Persepolis; the other (fig. 402) is Pāpak, the father of the two brothers. Shahpuhr's picture, engraved on a side-door of the tachara of Darius, is no more than a sketch. But, considering the difficulty of scratching any design in the extremely hard stone, the picture of Pāpak is a work of amazing technical skill. Like the Achaemenian graffiti on PL. LxxI, these drawings reveal the artistic conception behind the conventionalized forms of the large rock-sculptures; they are the artists' own interpretation of such works. Both figures have one hand at the hilt of the long sword; Pāpak seems to strew incense into the flame of a small firealtar; Shahpuhr raises the right hand in a gesture of worship or salute. Both wear Median dress, a long tailored coat and wide trousers. Pāpak wears a quilted cloak with a round piece put on the shoulder, half for tailoring purposes, half for ornament. The most striking feature is the enormous fan, shaped like a leaf, which surmounts his head-dress; a taenia with long floating ends is tied around its lower rim. Shahpuhr wears the same diadem; of the head-dress just enough is left to show that it was shaped, as on his coins, like a huge egg. The rider, not illustrated here, is of the same description; the coat-of-arms on the right side of his helmet is a crescent.

These designs anticipate two constituent motifs of Sasanian sculpture. Together with a few graffiti of identical style from the Parthian ruins of DuraEuropos, they show that even before the Sasanian period the repertory of motifs that were typical of Sasanian sculpture existed in painting.

From the few Arsacidan sculptures we had drawn the conclusion that they only reflected the painting of the period. Now we may assert that a traditional painting was from the beginning the constituent factor also of Sasanian rocksculpture. We shall see that the sculptural qualities of the monuments vary continuously, without logical development. There was no constant tradition in


FIG. 402
sculpture; it must have been painting, whether mural or miniature, in which the distinguishing characters were developed.

Ardashir I, founder of the dynasty, had built, in 208-26, a residence in the south of Fārs, called Ardashīr-Khurrah, 'Ardashīr's glory' or Tyche, modern Fīrūzābād. Where a rocky gorge opens into the plain of Fīrūzābād, Ardashīr's victory over the last Arsacid in 225-6 is represented (pl. cix). ${ }^{5}$ The historical event is not condensed into one dramatic moment, but symbolized by three tournaments, which never took place, but which express the idea in unmistakable language. This is the old Iranian style, symbolical, or more exactly magical, as opposed to the Greek dramatic style. The first pair is Ardashir and the last






FIG. 403

Arsacid, the second his son Shahpuhr and the Parthian vizier, the third Ardashīr's page and an adversary. The individual combatants are characterized by coats-of-arms on their helmets and the horses' armour (cf. fig. 403). Chivalry and feudalism were fully developed in Iran a thousand years earlier than in Europe. The movement of the three groups is tumultuous, but not realistic. The horses of the three heroes are drawn in the 'flying gallop,' an abstract and conventional movement; the horses of the enemies are completely overturned, head down, hind legs in the air, hoofs touching the upper border of the picture. The king's long hair is floating, his globular hair-dress has broken loose, the large ribbons of the diadem flow behind. The design exaggerates all the features of the sculpture of Gotarzes II at Bistūn. The relief is low and flat, almost angular; it has but two planes, the deeper background and the higher surface of the
design. It is a drawing detached from the ground, and is pictorial, not sculpturesque; style and subject are a continuation of Arsacidan works.

Farther up the gorge, where a bridge with a pahlavì inscription crossed the river, is a second rock-sculpture (pl. cvm) ${ }^{6}$ representing the divine investiture of Ardashir. The iconographic scheme is that of Mithridates' sculpture at Bīstūn, the homage of the four feudal lords. Here the king stands before the god Hormizd who stretches towards him the diadem with broad hanging ribbons, a symbol that became Ardashir's crest. Behind the king stands his son and successor Shahpuhr I, whose crest is a circle, surmounted by a crescent and standing on a foot. This symbol, used before by Gundopharr of Sakastān, may indicate a relationship of Shahpuhr, through his mother, to the house of Sakastān, the Sūrēn Pahlav. The third figure is the same page as in the tournament. The picture is a clear symbolic expression of the old Iranian notion, clothed in a knightly appearance, of the divine right of the kings. The only means of individualizing the figures are the crowns of the gods and the kings, the coats-ofarms of the others. This art is far from aspiring to portraiture. Faces and bodies are in no way individual, but invariable types. In this picture they are deadly rigid. The robes look like stiff leather. Absolute symmetry rules the main group, the secondary figures are filed up like repeated elements of an ornament. The movements are not natural, but conventional symbolic gestures, after the old oriental manner. Without knowing it, we would not believe that the tumultuous movement of the first and rigidity of this second picture are the work of one and the same short period. In fact, the movement of the one is no more realistic than the rigidity of the other: both extremes are symbolic expressions for fight or for pomp; the difference is one of symbols, not of style.

A similar subject is represented at Naqsh i Rajab quite near Persepolis (pl. cvm). ${ }^{7}$ Ardashir and the god Hormizd stand in the middle of the picture; the king receives the crown. His son Shahpuhr, to the left, is witness, participating in the act by raising his right hand in salute. In a back plane is again the page with the fan. Between the king and the god stand two children (pl. cx); the left one, dressed like the adults, is probably the grandson, later Hormizd I; he salutes the child to the right, who is entirely naked-a unique feature in Sasanian art-and who is surely a Greek divine figure. To the right of the main

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group, the queen and one lady-in-waiting stand under a canopy. They are turned away as if entirely unconcerned with the ceremony. The sculptural qualities do not differ essentially from the foregoing and the following sculpture (PL. Cx), which is in better preservation.

This masterpiece of the youth of Sasanian rock-sculpture is at Naqsh i Rustam, the burial place of the Achaemenids. ${ }^{8}$ The subject is, once more, Ardashīr's investiture, but god and king are on horseback, and the horses walk over the prostrate bodies of their enemies. The page with the fan follows the king. Historical tradition makes Ardavān V the last Arsacid, but the last to issue coins was Ardavazd. Fig. 404 shows the heads on their coins and that of Ar-

dashir's adversary on the sculpture: nobody but Ardavazd wears the twopointed beard, and the helmet resembles more that of Ardavazd than of Ardavān, though the crest, a ring on a foot, is not worn by Ardavazd. It is not quite clear who is meant by the sculpture. The adversary of the god is Satan, Ahriman, characterized by his coiffure of snakes. The picture puts the king on the same footing as the god: it deifies him as the protocol of the inscription does. There is a good deal of magic in the symbolism of the picture: the victory of Hormizd over Ahriman will be complete at the end of the world, and is anticipated; the victory over the Arsacid has been achieved as a step on the way to the final victory of Good over Evil, and is perpetuated by the picture.

Absolute symmetry rules the composition, and the strict antithesis makes the foreheads of the horses touch each other. It is the classic example of the old oriental 'heraldic style.' There is nothing foreign, nothing Greek in this picture, unless it is its high relief, which is rounder, softer than in any other work of

Ardashir's time. The robes no longer look leathern, drapery appears hesitatingly, especially in the cloak of the god. The god wears his mural crown surmounted by a globe of curls; his beard is long and square, quite Achaemenian. In the left hand he holds the barsom, which is requisite of the old Iranian cult and known from Median antiquity. The king, like all the Sasanids, wears the same divine coiffure, a korymbos or krobylos, but covered by a thin tissue, probably of silk, which extends over the scalp, neck and cheeks. ${ }^{9}$ His hair falls on the shoulders in curly strands. The point of the beard, in a manner different from the coins, passes through a small ring in a fashion that was observed also by later kings.

The three sculptures at Naqsh i Rajab, Naqsh i Rustam and the Fīrūzābād bridge are a group stylistically opposed to the tournament sculpture of Fīrūzābād, and the picture of the conquest of Armenia at Salmās (Pl. cvir). The tournament and the Salmās sculpture are entirely flat; the latter shares the three-quarter profile with the picture of Shahpuhr's triumph over Valerian at Dārāb, Fārs. ${ }^{10}$ Both features are unmistakable signs of a pictorial style, and confirm our former conclusion: from the beginning of Sasanian art painting was the branch in which the motifs and the stylistic details of sculpture were developed. The rock-sculptures, then, are to be judged like paintings exceptionally executed in relief on rocks, not in colours on walls. And from the beginning there is more than one 'style,' for this art was not the genuine form of expression. The symmetry, the ornamental repetition of figures, their passivity, their not participating in the action; the fact that sentiment is never expressed, that conventional gestures alone interpret the action, that persons are only distinguished by attributes-all that is the old oriental spirit. Sasanian art continues or relapses into trends of thought that must have been living under the surface during the Seleucid and Arsacid period. Thus it reacts against the foregoing surrender to Hellenism. On the other hand, the high relief, the fact that different planes are used and that figures overlap, the fluttering drapery as a means of artistic expression, and something in the figures of the horsemen-a subject known to Achaemenian glyptics, but avoided by sculpture-are not Iranian but Greek features. From the beginning we observe various inherited factors of different origin, and contesting tendencies in their application. It is a mixed and eclectic
art from the very start. The analysis of the following phase will throw more light upon these conditions.

At the side of Ardashīr's sculpture at Naqsh i Rajab, Shahpuhr I is represented on horseback with a large retinue on foot. ${ }^{11}$ The rider resembles the image of Ardashïr, and the retinue that of Fīrūzäbād (bridge), but the style is deeply changed and unique in its way. It is true high-relief, gradually changing into the lowest relief; there is no angularity in it. The drapery of the king's robe, full of small folds, crisp and frizzled, and the treatment of the horse's mane look as if the rider was the picture of a bronze statue. The ribbons of the diadem and of the shoes, and the cloak, which conflicts with the first row of followers, are floating in the wind. The followers are drawn in a kind of 'disappearing perspective' in several rows, echeloned behind each other. These figures diminish in height, 'jut not in breadth of shoulders; if the lower parts of the bodies did not disappear behind the figures in the foreground, they would be dwarfs. Something similar begins already at the time of Ardashir in the sculptures at the Fīrūzābād bridge. The effect comes near to a true perspective design and at the same time conveys the illusion of a multitude of figures. If not simply Greek, such features are surely not possible without preceding developments in Greek art.

A second picture at the same place represents the investiture of Shahpuhr by Hormizd. ${ }^{12}$ King and god are on horseback in accordance with the scheme that is canonical in Sasanian art (pl. Cxn). The prostrate figures under the riders are missing, and the horses' heads no longer touch each other. Otherwise, the treatment of the hair and the garments accounts for the whole difference, striking as it is. Everything is strongly agitated. A storm, not merely a breeze, blows the cloaks and the ribbons. More exactly there are two storms, one blowing to the left, the other to the right.

In A.D. 260 Shahpuhr had defeated the Roman army and made the emperor Valerian prisoner. This supreme triumph became the subject of five of his sculptures, one at Naqsh i Rustam, one at Dārāb and three at Bīshāpūr. The works are strictly contemporary and their subject is the same. Therefore the differences of design best elucidate how strongly not only foreign influence, but foreign hands must have been at work during that period of Sasanian art.

The prototype is the gigantic sculpture at Naqsh i Rustam (pL. CxiII) ${ }^{13}$ under

Darius' tomb. The king is on horseback; before him, kneeling and begging for mercy, is the emperor; in the background stands another Roman, whose hand the king grasps. His hand is covered by the sleeve, an Iranian gesture that first appears on the tomb of Artaxerxes (II or III) at Persepolis. Apparently the king transfers the imperium of Rome to a man of his choice. Scholars have tried in vain to discover who that person was. As a matter of fact, Shahpuhr's victory lasted no time. Another Roman party took the king's harem prisoner and Shahpuhr retreated hastily to Ctesiphon, purchasing his passage through Mesopotamia at the cost of all his captured gold. But what the picture expresses by its symbolism is quite clear: a desire to be realized by the magic of the picture, the king of kings disposing of the empires of the world at his choice. It is against historical truth, but a grand gesture. That is essentially Persian.

The king wears the mural crown of the god Hormizd surmounted by the enormous royal korymbos. The diadem floats behind the shaggy mass of curly hair that frames his face. The profile head is fine, though the eye is almost frontal and the artist shuns the difficulty of making an ear by hiding it behind the hair.

The imploring gesture of Valerian talks beyond mistake, but his face is void of expression (pl. Cxiv). The drapery is conventional, the cloak is disposed in a series of flutings, quite different from the drapery of the king's cloak: the intention of this variation is to oppose the ornamental value of the two garments. It strongly recalls the opposition, in Achaemenian sculpture, of draped and smooth costumes. In all later Sasanian sculptures the drapery is monotonous.

The head of Valerian has been called a 'portrait, possibly done by a Roman artist,' and a resemblance with the heads on his coins is undeniable. However, the idea of portraiture is entirely foreign to this art, and the head of Valerian is but a typical Roman head, assimilated to that of the coins. The ear alone would prove that the head was of Persian make.

The second picture of Shahpuhr's victory, a much damaged sculpture at Bishāpūr, combines two subjects: the investiture of the king by the god and the triumph over Valerian. ${ }^{14}$ King and god, on horseback, ride over the corpses of their enemies. The fact that this abstract Roman enemy appears here besides Valerian clearly reveals the symbolic or magic meaning of the motif. PL. cxiv
gives the centre of the picture. The image of Valerian is superior to that at Naqsh i Rustam. The entire attitude is truly expressive, the slightly upturned head is full of sentiment-a feature that is almost unknown to Sasanian art. But the opposition of the two pictures makes one point outstanding: the differences in style are so strong that under other conditions one would not attribute both to the same time, and yet, the historical subject is the same as well as the date. The only explanation of that strange situation is that sculptors of different schooling have worked from one and the same model, a draft in small scale. For the differences do not affect the subject nor its composition, but merely its execution in sculptural detail.

Only a few paces distant, the triumph over Valerian is once more represented in a different style. ${ }^{15}$ The main scene (Pl. cxvi) occupies a small field in the centre, while on both sides other frames, arranged in two registers, show, to the left the Persian cavalry, to the right various groups of three men on foot. The decomposition of the unit of the subject into several framed parts is an inheritance from Achaemenian art, where it was caused by architectural postulates. After the reason had gone, Sasanian art still keeps to the old principle.

In the central picture some secondary figures, a general and a vizier, are added to the first composition, just as similar figures are added to the simpler original devices on Arsacidan coins; we find also the little Arsacidan Victory, crowning the king as on the sculpture of Gotarzes II at Bīstūn, and the prostrate body of the Roman enemy under the horse. The figures are compact and densely placed; the space is as completely filled as possible in a figural composition. For all these additions, which are meant to improve the picture, it is inferior to the prototype at Naqsh i Rustam.

Our pl. cxvi opposes this group to a similar one from another bas-relief at Bishāpūr. ${ }^{16}$ The composition is the same, but it is differently spaced, with a gap between the group around the king and that behind the emperor. The sculptural treatment, too, is at least as different as the two pictures of Valerian shown on pl. cxrv. And the identity of the subject, with the increased number of figures, shows, more clearly than the first example does, that artists of different origin worked from the same model draft, a miniature of the picture.

In the frame to the left of the main picture, Iranian horsemen are standing
in echeloned rows that give the illusion of an infinite number of troops. To the right, four frames contain three figures each. In the one of the two examples on pl. cxix the three Persians are armed with lance and long-sword, and apparently wear a wig. The figures overlap, leaving no background at all. The feet are seen from above, as if the men were standing on tip-toe. In true sculpture

the feet naturally stand on the base of the block. The projection from above was developed in Hellenistic painting, where the feet stand on the colour of the background, and became general only in Byzantine art. It clearly betrays the pictorial character and origin of the Sasanian sculpture. The paintings of founders of Buddhist shrines in central Asia, as shown in an example from Ming Oi, Turfan (fig. 405), may almost be called a replica of the Sasanian sculpture. There was hardly a direct contact between Iran and Turfan; besides, the Sasan-
ian sculptures are several hundred years older than the Buddhist paintings. The connection is that of common descent from an older, eastern-Iranian art. The second group of three men on pl. cxix might represent either musicians or bearers of conquered treasures.

The other central piece on PL. cxvi comes from the most complex representation of Shahpuhr's triumph sculptured on a concave wall of rock at Bishāpūr (PL. Cxv). Of all the Sasanian sculptures this has the greatest numbers of figures, but the scale is small-less than half life-size-while the others are colossal. The general arrangement of the picture is: to the left the hosts of the Iranian army, to the right the triumphal procession marching towards the awaiting troops. It is the old disposition of the tribute processions of Persepolis. The whole picture is divided into four registers and separated in the middle by an axis which is empty save for the small field with the main scene. This decomposition we know as typically Iranian, but this time the long narrow strips of the registers, which are filled to the utmost with small figures in more than one plane, recall the spiral zones of Roman triumphal columns, the more so as details of style point in the same direction. We know that Shahpuhr employed the engineers among the Roman captives to build his streets, bridges and large irrigation works in Khuzistān and hinterland. He may as well have employed the artists among them to make these sculptures.
pl. cxvni gives a detail of the triumphal procession. In the upper register men carry heavy loads; the last one leads a pair of lions, a picture recalling the Susians with the lioness at Persepolis. Below, a file of men lead a saddled horse, and a naked mahout is riding an elephant, which can scarcely be part of the Roman spoil. In the second plane stand soldiers in a dress which is meant to be Roman, while their heads look like those of European barbarians on Roman triumphal columns. For comparison, the lower picture on PL. cxviII gives part of an Indian triumph of Shahpuhr, which is also represented at Bishāpūr. ${ }^{17}$ The historical event is unknown, and the sculpture might well belong to Shahpuhr's later years. But the difference in time would not be enough to explain the totally changed style; for instance the completely changed proportions: the elephant just reaches the hips of the Iranian soldiers behind it.

On pl. cxvn another detail of the Indian triumph is opposed to part of the

Roman triumph: in the Indian picture the king's saddle-horse is led by a groom, who is seen from the back, head from the side. The same motif occurs at Persepolis. The other picture shows a strange chariot drawn by two horses. In order to show the pair, the hand-horse is in advance of the saddle-horse. The pulpit-like chariot resembles a certain Roman stool of red porphyry in the Louvre.

In the centre of the Indian triumph, Shahpuhr sits on the throne (PL. cxx) in front-view. Achaemenian art only knew the profile view of this highly cere-


FIG. 406
monial scene. How the old profile changed over three-quarter to front-view can be studied on Graeco-Bactrian coins, and in fig. 392 we have seen a few frontal heads of the Arsacid period. Fig. 406 gives the devices ofitwo Kūshāno-Sasanian coins that were minted by Pērōz, son of Ardashir and younger brother of Shahpuhr I, as viceroy of Bactria. Pērōz was the protector of the prophet Māni, and is represented in adoration before 'Buldā, the god,' strewing incense into the fire on an altar. Buddha, with a flaming nimbus behind his back, is sitting on a throne in three-quarter profile, an imitation of a type of Zeus on GraecoBactrian coins. On the other coin the god Hormizd sits on a throne, under a dais-to be compared with that of the king and queen at the Kūh i Khwäja-in full front-view, like Shahpuhr I at Bīshāpūr and a much disfigured bas-relief at Naqsh i Rustam. Fig. 407 adds three pictures of gods or kings enthroned: to the left Mithra as sun, in the middle Mäh, the moon, and to the right either Yazdegird II (438-57) or Valāsh ( $484^{-8}$ ). These pictures show the thorough
transfiguration of the iconographie type, the last representation of which is the figure of Khusrau I Anōshirwān on the rock-crystal ofithe St. Denis gold dish in the Bibliotheque nationale (fig. 408). The eastern Hellenistic origin of the motif is in this case safely proved. The effect of full front-view with knees asunder is barbarous but intentional. Pure side-view is harmless, whereas the front-view assails the onlooker, and hence is used for apotropaic motifs in old oriental art, as explained above. That is why the king is represented that way: he is the


FIG. 407
natural centre, the 'cynosure, the axis and pole of the world,' as some royal titles put it, and the feeling for symmetry demands the symmetrical design of that centre of composition. Hence the king becomes an apotrapaion, radiating the terror which the sight of the oriental potentate actually inspires. Although it has passed, in Bactria, through a Greek medium, such a picture is thoroughly Asiatic. The other illustration on PL. cxx shows Varhrān II in the same position. The picture, of which he is the centre, represents the homage of four grandees. Subject and iconographie type are the same as in the picture of Mithridates the Great at Bīstūn, but there, the king, in profile, faces the four grandees. In composition and detail we can observe the growing reaction against Hellenism, a masquerade that was gradually cast off.

Among the monuments of Sasanian art only one statue in the round has come down to us. This is the colossal image, three times life-size, of Shahpuhr I in the cave behind Bishāpūr. It is a natural cave, high upon a wall of rock, difficult of access, and it seems to have been the place where the king's corpse
was exposed. When upright, the statue touched the ceiling of the cave, since it was hewn out of a large stalactite (PL. cxxi). The right hand of the king rests on his hip, the left at the sword-hilt. He wears no cloak. The folds of the garment, elsewhere agitated, look here like ermine-tails. This treatment is a pictorial expedient, transformed into sculpture to enliven the surface of the garment. The bushy hair covers shoulders and neck all around, explaining the conventional pair of balls of hair of the reliefs. The ribbons of the diadem hang straight down


FIG. 408
over the back. At first sight the head looks like that of a medieval statue, more medieval even than the painting of the king and queen in the gallery of the Kūh i Khwāja. The oldest example of that type is the statue of the Kūshān Kanishka, discovered at Mathura in India. ${ }^{18}$ That dynasty ruled over Bactria from the end of the first century A.D. on. The elements in Sasanian art that can be traced back to that country become more and more numerous.

Sasanian sculpture culminates in the great picture of the investiture of Varhrān I, son of Shahpuhr I, at Bīshāpūr, A.D. 272-3. It is almost a copy of the sculptures of Ardashīr I and Shahpuhr I (PL. CxI). ${ }^{19}$ The symmetry is somewhat softened, the design in its entire plasticity is, to us, of an improved realism; the modelling masters all the transitions from highest relief to most delicate low-
relief, and the broad smooth surfaces admirably contrast with highly detailed parts. The king does not hold the crown, as in the former and later examples of the same subject, but reaches for it: he does not own, he desires the royal emblem. Except for the head of Valerian at Bīshāpūr, this is the only case in Sasanian art where sentiment is expressed, where the soul of a figure takes part in the action. Although the face itself is without expression, it is the finest of all sculptural heads. The king wears the sun-rays of the god Mithra, beside the huge


FIG. 409
royal korymbos. On his coins he wears exactly the same individual hair-dress as on the sculpture. He is Varhrān I, although an inscription gives the name of his younger brother and second successor Narseh. On the rock I could not discover any tampering with that inscription; but an impression on thin cigarette paper betrayed the transparent fraud: Narseh had erased, but not without leaving traces, his brother's name and substituted his own. It was an easy fake, since their genealogy was the same.

To the same period belongs one work of metallurgy, a famous silver dish in the Hermitage, with a king on horseback, hunting wild boars. According to his
crown (fig. 409) he is Varhrān Kūshānshāh, a successor of Pērōz Kūshānshāh, a Sasanian crown prince as viceroy of the East, either Varhrān I under his father Hormizd, 272-3, or Varhrān II under his father Varhrān I, 273-6. ${ }^{20}$ At any rate, just as the sculpture of Varhrān I is the masterpiece of Sasanian sculpture, so this silver dish of the same years is the masterpiece of Sasanian metallurgy.

Before advancing beyond this climax of Sasanian sculpture, we must try to understand the ascending movement of this phase. The very first works of Ardashir I seem to have been made, about A.D. 226, by provincial artists of that distant corner of Fārs around Fīrūzābād. That would explain their character and the sudden transition from youth to maturity, as which we must regard the last works of Ardashir and all of Shahpuhr. The first few works do not show all the features and qualities inherited from Achaemenian antiquity; but as far as we can observe they have undergone a visible exterior transformation. Some of the iconographic types surely, and probably all of them, already existed in the Arsacidan epoch. But no Arsacidan work shows any sculptural qualities. The high-relief, with all its shades from highest to most delicate low-relief, is entirely foreign to Iranian art and must be the work of Greek hands. The Hellenistic qualities, more apparent in the works of Shahpuhr, are not Roman. Only in the great sculpture of the triumph over Valerian at Bishāpūr have we sufficient reason to assume co-operation of Roman artisans. Nor can these Hellenistic elements be explained by the co-operation of artists from nearer regions west of Iran, for the Greek elements in Sasanian art are not the contemporary style of these regions, but archaic. An archaic Hellenism must have survived, after the conquest, in a more eastern region, cut off, at an early date, from the developments in the Mediterranean world. That region can only have been Greek Bactria, northern Afghānistān. The existence of a Graeco-Bactrian art, of which the coins are almost the only documentary proofy has been questioned. But it is a fact that Seleucus founded more than seventy towns in Bactria with Greek colonists and a Greek constitution. Graeco-Bactrian art surely existed, although the first steps in exploring Afghānistān have not yet yielded important evidence. What is Greek in Sasanian art belongs to eastern, not to western Hellenism.

We may survey the works produced after Varhrān I more cursorily. Most of them belong to his son Varhrān II, who left more monuments than any other
king. But of these many are already decadent. The difference in quality of these royal works is another indication of the artificial growth of Sasanian sculpture.

Among the good works is a sculpture at Naqsh i Bahrām, ${ }^{21}$ which we have already compared with the frontal view of Shahpuhr on his Indian triumph. Varhrān II, on the throne, receives the homage of four of his dignitaries. These have coats-of-arms on their helmets. The first to the left (pl. cxxiv) is the son, who, as Varhrān III, succeeded his father for only three months; he was dethroned by his grand-uncle Narseh, the one who faked the inscription of Varhrān I. The standing figures are short and heavy; there is no more variety in their garments; the drapery is stereotyped. The heads are still good and correspond to the best specimens of busts on Sasanian seals and cameos (Pl. cxxxi). Another picture at Naqsh i Rustam represents likewise the homage to the king (pl. xxxi:). ${ }^{22}$ The arrangement is irregular, partly because this sculpture has been executed over a much older Elamite relief. The king stands, full-size, in the middle; of the other figures on either side only the busts are rendered, an abbreviation rather unexpected in a great monument (cf, pl. cxxiv).

Varhrān's finest work at Bishāpūr (pl. cxxn) has recently been covered completely by a modern canal that was built with strong cement. My photographs were taken before this 'preservation of a national monument' took place. The cut that runs through the picture is an antique canal, a forerunner of the modern one. It is an intentional mutilation and was probably done by Narseh, Varhrān's successor and adversary. The king on horseback receives the submission of an Arab tribe. Our scanty historical sources give no information about the event. The Arabs are led by a Persian usher, just like the tribute bearers of Persepolis. They bring horses and camels and are dressed in true Arab fashion. Men and animals are echeloned in four planes and massed together in an impressive and lively, but altogether pictorial group-an expression that becomes perfectly clear when one compares the picture with corresponding 'sculpturesque' groups at Persepolis.

The king wears the crown of the god Varhrān, after whom he is named; it is a pair of wings of the 'värghna-bird,' one of the incarnations of the god. The older type of that crown in the paintings of the Kūh i Khwāja had three wings. The scale in which the hair is drawn is out of proportion; the garment shows the
same ermine-tail flaps as the statue of Shahpuhr. This art begins to repeat simply what had been created during the foregoing phase.

A subject otherwise confined to Sasanian metal-work is represented in colossal rock-sculpture at Sar-Mashhad: the king as lion-hunter (pL. cxxiri). Varhrān has killed one lion and another one, which jumps against him, he cuts in two. The danger is over. With the left hand the king protectingly keeps back the


FIG. 410
queen, while the crown prince stands behind them saluting, as does the grand vizier behind the queen. All the figures are entirely unconcerned, not because it was all in the day's work of the king to kill lions attacking him and the queen, and hence no reason for the prince and the vizier to get excited, but simply because the picture, as always, symbolizes the king as great Nimrod, admired by the court; it does not represent an actual event. One clearly sees the limits of these 'symbolic gestures.'

Fig. 410 shows the bust of the queen: as a queen she wears a helmet, as a lady, long straight plaits; between them a large ear stands out awkwardly. There is nothing feminine in her harsh face with the angular and energeticjaw; she looks exaggeratedly masculine, only she has no beard. In Achaemenian sculpture no woman is pictured, and evidently it never became a normal subject.

On a sculpture ofiNarseh, Varhrān's uncle and successor, situated at Naqsh i Rustam, the king receives the crown from the hand of the goddess Anāhit. ${ }^{23}$ Between the two main figures stands a child, the crown prince, and behind the king two grandees saluting. The lower part of the picture was buried, and only after the earth was cleared away were all its merits and shortcomings apparent. One expected the base-line at a much greater depth. The lack of proportion of the figures is more accentuated than in the older sculptures. The goddess has the broad shoulders and the neck of a prize-fighter (pl. cxxv). Her masculine face resembles that of the queen of Sar Mashhad, with whom she also shares the long plaits and the large ear at the wrong place. As a goddess she wears, like the god Hormizd, the mural crown surmounted by a globe of hair.

The king's head reproduces the older heads, with advanced conventionalization. More than in the sculptures of Varhrān the scale of detail of hair is too large in relation to the size of the head.

With this work the first period of Sasanian sculpture ends after the development had already come to a standstill. With the exception of one sculpture, probably to be attributed to Narseh's successor Hormizd II, only three or four years later, there are no more rock-sculptures for about eighty years and none in Färs. And when they reappear in a more northern region their style is deeply changed. The short period of seventy-five years ends as abruptly as it started. The rock-sculptures, the most important and most characteristic monuments of Sasanian art, are not natural growths. Sculpture was something foreign to Sasanian art even while these works were created. It was not sculpture in which the artistic thought of the people found its proper and genuine expression.

At the end of the fourth century the Sasanian kings began to prefer the beautiful plain of Kirmānshāhān to the valleys of far-away Fārs. Varhrān IV, governor (shäh) of Kirmān before succeeding to the throne, founded the present town which perpetuates his name. Before him two of his predecessors had already resided in that region, where they left two monuments at the Tāq i Bustān. ${ }^{24}$

A rich source pours forth from the marble rock and fills an artificial lake, the main beauty of a vast hunting preserve, an Iranian 'paradise.' Toward the end of the fourth century Shahpuhr III had a small grotto made beside the spring,
to serve as a resting place for the hunt. Beside it, Ardashir II had the picture of his investiture sculptured into the rock. Later Khusrau II Parwēz added the large grotto to the left of the older one and built up a counterpart to the small grotto, making the group look like a Roman triple gate (cfi fig. 41 II).

The small grotto is an oblong room with a simple barrel-shaped roofiand two figures in the tympanon as the only decoration. Their inscriptions, the first

pahlavē inscriptions deciphered 150 years ago by Silvestre de Sacy, determine the identity of the kings as Shahpuhr II and III. The sculptures must have been made at the same time-hence under Shahpuhr III, 383-9. He had been designated heir to the throne and as such had coined under his father's reign, but he succeeded only after an interregnum of Ardashï II (379-83), whose relationship to the two Shahpuhrs is unknown. The picture in which the two kings, father and son, face each other might therefore express the claim to direct succession, but we are not sure whether Shahpuhr III had it made as heir apparent or immediately after his final accession.

The figures of the two kings are, save for their individual crowns, identical, just as the figures of Darius and Xerxes in the door of the tachara at Persepolis; and the symmetry of the picture is absolute. The bodies are seen in front-view,
the feet in profile, the heads in three-quarter profile. They have their hands at the pommel of the huge 'two-hand sword,' like the knights on medieval tombstones. The iconographic type is neither old Persian nor Greek. The oldest example of it is the Kanishka statue at Mathura, c. A.D. ioo. Later we find it in Buddhist paintings from Chinese Turkestān. Therefore, its origin must be traced back to eastern Hellenism, to Graeco-Bactria. The costume is no longer that of the third century: a long coat descends to the knees, but is taken up, right and left, so as to resemble a round apron. This is the normal costume of the middle Sasanian period, the fourth and fifth centuries. Together with the garment, the entire outward shape of Sasanian sculpture has changed.

The style differs essentially from the sculpture of the third century. The high and round relief is abandoned for a flat plane that stands out from the rather deep baciground; but the surface of the figures is only slightly rounded and more engraved than modelled. The three-quarter profile of the heads, which before appeared only on the picture of Ardashïr and Shahpuhr I at Salmās and of Shahpuhr at Dāräb, is characteristic of Hellenistic painting but entirely unknown to the Ancient East.

The bas-relief of Ardashir II, 379-83, represents the investiture of the king by the gods Hormizd (right) and Mithra (left) (pl. cxxvi). The king and Hormizd stand on the body of a Roman, Mithra on a lotus-flower, like a Buddha. Mithra has often been misnamed 'Zoroaster.' The god with the sun-rays appears first in c. 30 b.c., with his name inscribed on the monument of Antiochus of Commagene ( $\mathbf{P L} . \mathrm{cv}$ ) and about and after the end of the first century A.D. on the gold coins of the Kūshān kings (see fig. 412). He holds the barsom-wand, as Hormizd does on Ardashir's sculptures. His dress, like that of Hormizd, is not the modernized costume of the kings. As in other countries, the gods are above


FIG. 412
the changes of fashion, and their garments remain Greek in Sasanian as in earlier times. But as fig. 412 shows, it is not the western, but the Graeco-Bactrian style of Greek dress.

The subject of the sculpture of Ardashir II is richer than that of the grotto of Shahpuhr II, and hence shows better the stylistic peculiarities. The three main figures are sculptured in the same style as the two kings in the grotto, in a relief which may be described as rather elevated, but with its surface flattened. The background slopes to greater depth towards the upper border of the picture. The lotus and the body of the Roman, both on the lower border, are merely engravings into the surface of the rock without projection. The bodies of the standing figures are almost entirely flat with rounded edges. The heads in three-quarter profile project considerably, but are flattened and, in a strange contradiction, undercut on the inner side in a manner presenting a queer appearance when looked at from an angle. The various attempts at real, sculpturesque relief of the third century have all been abandoned in these works, which were evidently made by painters to whom plasticity and problems of space in sculpture meant little or nothing.

The agitated wind-blown cloaks and ribbons have become a rather confusing maze of crispy lines in the background, mere painting, which would require colour to become distinguishable. These two works of the end of the fourth century prove that the gap between them and the older works was never filled by rock-sculptures now lost, but that painting had entirely replaced sculpture, as it did in Arsacidan times. The rock-sculpture of the third century in Färs was an experiment, an episode. Thus Iran reacts progressively against Hellenism. In the iconographie tradition, kept up by painting, the indigenous thoughts grew more and more prevalent, and it was painting that dissolved and finally eliminated Greek sculpture.

Between these two sculptures and the large grotto is a gap of about 220 years. This is an actual absence of monuments, and not the accident of survival. There are various means of dating the Tāq i Bustān exactly: literary evidence, which goes back to its own period; the picture of the king whose crown corresponds to the one he wears on his coins; and at last stylistic evidence. But the real instrument for dating the Tāqi Bustān is another, an independent one. In
front of the grotto stood a pair of columns with cubic capitals, on two faces of which is represented the king who made the grotto, receiving the diadem from the hand of the goddess Anāhit. A second pair ofisuch columns stood at the foot of the Bistūn rock, and a third, all of the same king, is in Isfahān. On one ofithe Isfahān capitals the king receives the diadem from a goddess, delineated in fig. 413. She has a flaming nimbus behind her helmeted head. This unique figure


FIG. 413
appears on some rare gold and silver coins of Khusrau Parwēz that were struck in commemoration of victories and diplomatic successes won in the years 21,31 , 36 and 37 of his reign, i.e. $610,620,625$ and 626 . In 628 Khusrau was put into prison and executed or murdered. The goddess appears also on the reverse of Hephthalite (White-Hun) coins with Khusrau's head and coat-of-arms, a kind of griffon (fig. 414), on the obverse. These coins are countermarked with a boar's head, the seal of Khusrau II; hence they were the tribute paid by the Hephthalites to Khusrau. On the base of this historical connection we may identify the goddess as an allegory of the Xvarasän Xvarrah, the Tyche or Glory of Khurasān, the East, 'in the shape of a beautiful maiden.' If the king of the Tāq i Bustān
represents himselfy at Isfahān, as receiving the wreath from the hand of that allegorical figure, to which Khusrau II attributes his successes in the East on his memorial coins, then the king of the Tāq i Bustān is Khusrau II and no other. The work remained unfinished because, only two years after the last coin, the king was executed. The date of the large grotto is confined between the dates of those coins, A.D. 6io-26.


FIG. 414
This very last work of great Sasanian art would require a book of its own, for the detail of its sculptures is inexhaustible.

The facade of the Tāq (arch) shows a round-head arch resting on two pilasters. The cornice of the arch is a garland with a crescent at its apex and ends below in huge floating ribbons. An architectural moulding has been transformed into a pictorial ornament. The two pilasters are decorated with a 'tree of life,' an old Hittite and Assyrian symbol and ornamental scheme. This is neither Sumerian nor Greek, and is distinguished from its old oriental forerunners only by the introduction of the Greek acanthus. The tree has a trapezoid root or base, peculiar to all Sasanian floral ornaments (pl. cxxx). Even their simplest forms (fig. 415), the emblems 'spade' and 'club' of our playing-

FIG. 415


## IRAN IN THE ANCIENT EAST

cards, both of Sasanian origin like heart and diamond, have that foot. The tree does not grow naturally. It is composed of the foot, of three links of the stem joined by sleeves, and of a rich termination. It depicts a piece oficultic furniture such as stood in Assyrian temples. From each joint of the stem springs a pair of symmetrical branches or scrolls, the highest pair being crowned by the tree-top, an intricate composition of flowers, a bouquet.

The acanthus is articulated and consists-if unfolded-of one middle and six lateral lobes, but the outline off these large lobes, the rim of the leaf; is only slightly indented, not deeply lobed as all western acanthi as far back as the second century b.c. It is an amazingly archaic form, a direct survival of acanthi of the third century b.c., like the acanthi of Istakhr (PL. xc and fig. 375). Nowhere in the West do such archaic forms, represented by the acanthi of Uzunja Burj (pl. lxxxix), survive. They cannot be the work of western artists. Only a region isolated from western developments can have preserved such shapes, which are 800 years older than their western contemporaries; and the only such region was Greek Bactria and its successor states.

In the triangles above the centred arch float a pair of large Nikes, the prototype of which must have been a work like the Nike of Samothrace. They, too, look astonishingly archaic for a work of the beginning of the seventh century. The connecting link is the Nike on Kūshān gold coins (cfi fig. 412), which at the same time give us its Iranian name and interpretation: Oanindo, Vanand, 'victorious superiority.' The small Victories or Erotes on Arsacidan coins and monuments (cfः fig. 390) are only distant cousins of these 'archangels.' The Greek cornucopia has been transformed into a cup with fruits (fig. $4^{16}$ ), but the garment with its typical drapery remains Graeco-Bactrian. The special shape these figures had assumed at the very end of the Sasanian period survived for a short while in early Mohammedan paintings at Samarra.

Considered as a work of architecture, the facade shows that architecture at the end of the Sasanian period had fallen completely under the influence of painting. We saw the beginning of that development in the architecture ofithe Kūh i Khwāja. Even structural elements have degenerated into pure ornaments.

The three walls of the grotto are covered with sculptures. Before the back wall stands the colossal statue of Khusrau on his famous horse Shabdēz, which
was counted among the seven wonders of the world by the Arabs. In the tympanon above it is the investiture of the king; on the two side-walls are hunting scenes, to the left a boar-hunt in a swamp, to the right a stag-hunt in a forest.

The equestrian statue stands almost free before the background, which it touches only with its inner side. It is more a statue than a high-relief; however, certain features contradict this character. The king is represented as a cliban-



FIG. $4^{16}$

arius; horse and rider are entirely covered by a coat of mail; even the face of the rider is invisible behind a closed visor. A statue without face is a thing unparalleled in any art. The artist of the Tāq i Bustān, Qattōs (M.P. *katōs), in the oriental tradition of the ninth century, is believed to have been a foreigner, particularly a Greek, for no other reason than the seemingly Greek termination of the name. But no Greek artist, however late, would have made a colossal statue without face. Moreover, the visor has openings for the eyes, and the eyes, which ought to be deeply behind those openings, are indicated, flatly engraved, on the same plane as these openings. They are sculptured as they would have been painted on a flat surface. This strange detail reveals that the maker of the statue was no real sculptor, but a painter.

And the exaggerated recherche du détail belongs to painting. The patterns of the silk garments are minutely reproduced in lowest relief, as a painter would have done them in colour. Here we meet again the old Persian opposition of draped and smooth garments; only, in the latter case the silk patterns are represented. For example, of the rugs that hang over the edge of the two boats, the
one is folded, the other flat and decorated (fig. 417). About sixty patterns occur, and our knowledge of Sasanian textiles is mainly based on those authentic delineations. How correct they are is proved by some rare fragments that are preserved as costly covers of relics in the treasures of European churches.

Above the horseman, in the tympanon of the grotto, Khusrau stands between Hormizd and Anāhit; both gods are draped in wide cloaks. These figures,


FIG. 417
like the rider, are almost free statues leaning against the rock. Each of the gods holds out a diadem towards the king who receives it; hence the figures are connected by some action. But not the action of three living persons is represented, but of three dead statues, each standing on a base of its own. One could call it an 'indirect representation,' not from life but from statuary. In spite of its almost round corporeality, it is again a painting of three statues.

Apart from the sculptural peculiarities, the picture corresponds to the basrelief of Ardashir II near by. The same spirit that transformed, for example, the homage of the vassals before the king from pure profile into a picture with the king in front-view in the middle has transformed the investiture into a picture with the king in the centre and two gods instead of one, both presenting a crown to the king who can only accept one. The heads of the two gods are turned towards the king in three-quarter profile, but the king's head is frontal (fig. $4^{18}$ ).

He looks straight ahead, and does not as much as turn his eye in the direction of his right arm, which is awkwardly extended across his breast towards the god, as if he were entirely uninterested in receiving the crown. Compared with the strong expression of desire in the gesture of Varhrān I at Bīshāpūr, this scene is an utterly lifeless, dead symbol. Not a spark is glowing of the Greek spirit that once filled oriental thought with a semblance of life. This art has grown very old.

The hunting scenes on the side-walls seem to lead into another world. At first sight one is fascinated by the incredible wealth of detail. There are things of great beauty, sections equal to the best works ever produced. But the more one compares the details and studies the compositions as a whole, the weaker becomes that strong first impression.

In the picture of the boar-hunt, elephants beat the boar on one side; opposite is the end of the battue. Nothing could be more overflowing with life, more


FIG. $4^{\text {I } 8}$
exuberant than the animals in this picture, a stronger contrast to the rigidity of the statues. The elephants in the swamp slowly lift their heavy legs, flap their ears, roll their trunks, all in a different way; the mahouts on their necks, in rich silk robes, are driving every one in a different attitude. All that is natural movement, not symbolic, and eminently un-Sasanian. The elephants that carry the killed boars trot away, content that the slaughter is finished and their day's work done (pl. cxxix). It is marvellous, but not the work of Persian artists: only Indians could make such elephants.

The conventional 'flying gallop' of the stags and riders that cross the oppo-


FIG. 419
site picture in three long files, is, though a tumultuous movement, something diametrically opposed to such real action. The unlimited number of boars (pl. cxxvm), which chase through the first picture like a regiment of cavalry, are masterfully drawn as individuals, but not quite so perfectly in composition: their movement is uniform; of most of them only the fore-part is shown in the long echeloned files-a style that is just like that employed in portraying the regiments of Iranian horse-guards on the sculptures of the third century. We observe entirely different principles of composition.

Inside the grotto, where the end of the hunts is depicted (pl. cxxix), the great subjects are dissolved into little pictures that are units in themselves; some of them are admirably well done and subordinated to the great ensemble. Men are busying themselves with the slaughtered animals (fig. 419); chains of ele-
phants carry away the spoil ofiboars, strings of camels go off with the killed stags through the forest (fig. 420).

It is a long, epical description of the hunting, consisting of many subsequent scenes, put side by side, and therefore with the same figures represented more than once. The king appears three times in the stag-hunt: approaching the hunting ground on horseback, under a parasol which a poor girl on foot is


FIG. $4^{20}$
anxious to hold over him; then in the middle of the hunt, and at last trotting away when the hunt is finished. In the boar-hunt the king appears twice, shooting from a boat; and ifiwe turn to this picture, we are back in the true Iranian world (PL. cxxvn). The king is the natural centre of the boat, easily twice as high as the female musicians around him; he is drawn in front-view, looking straight ahead and shooting to the side across his breast, without a look where he is shooting. It is a poor and dead king, compared with the beautiful and living animals. There is too much perfection on the one side to allow such an amazing naivete at the same time. The pains the artists took in depicting the silk patterns and jewels of the king's robes are no compensation; nor are the hosts of women, clothed in costly silks and decked with jewels that surround the king.

When speaking of the very first works of Ardashir I, we remarked that the tumultuous movement of the tournaments and the immobility of the ceremonial scenes were not irreconcilable: both are unreal, symbolic expressions of action and of pomp, hence, of the same spirit. But in this last work of Sasanian art the most perfect real action of animals is opposed to a completely dead symbolism in the representations of the king. Those are contradictory styles and the pictures cannot have been produced by the same artists.

Similar contradictions appear in the general composition, in which the two pictures differ essentially-for instance the greatest density of design in the boarhunt and a much looser, casual strewing of figures over the ground in the staghunt. The hunting fields are fenced, camouflaged with reeds, and at the entrance and exit men lift the toils. These men are drawn as if lying on their side; in fact they are seen from above. This kind of bird's-eye view is a method of perspective typical of Hellenistic paintings; probably it originated in floor-mosaics. While the principle of design is Greek, the subject of hunts among fences is of old oriental origin and occurs among Assyrian sculptures. In the Tāq i Bustān we have an intrinsically old oriental subject in the outward shape of Hellenistic painting.

During these four hundred years Sasanian art had greatly changed. In the beginning the only subjects were: the king invested by the god, symbol of the divine right of royalty; the king deified and adored by his vassals; the king triumphing under divine aid over his enemies, or distributing empires. This last work of Sasanian art is only 'le roi qui s'amuse.' That is the end of all the pomp and glory. The naivete displayed in some of the single scenes or in the discrepant sizes of the figures, which might be charming in a 'primitive' art setting forth to conquer new worlds, is here unpleasantly symptomatic of powerless senility. And an intensive study of the Tāq i Bustān leaves us with a melancholic feeling, as if we were looking at a great beauty grown too old.

We can now epitomize the developments of Sasanian sculpture, and the results coincide with those that can be abstracted from a study of architecture, textiles, metallurgy and other branches. They apply to Sasanian art in general. It grows in three manifestly distinct phases. First the art of the third century, still full of elements inherited from Arsacidan Hellenism; the middle period of
the fourth and fifth centuries, where the process of elimination grows; and lastly the art of the sixth and seventh centuries, where the process nears its end. The first beginnings are provincial and a mere continuation of what had been preserved through the extremely poor Arsacidan period of old traditions. The changed social and political conditions of the new empire then led to the evident participation of foreign artists. Sculpture has never been a branch of art living upon a tradition of its own, a remark also valid for metallurgy. Painting, whether on walls or in books, must have been the art in which the particular Sasanian style was developed and the tradition preserved, and the other branches only reflect the developments of painting.

There was an inheritance from the old Persian period, which was kept living either in unknown monuments or more latent, during the Seleucid and Arsacid periods; but the outward shape of the old Persian motifs had been transformed under the impact of Hellenism, and Sasanian art grew mainly in reaction against that impact. At first still open to Hellenism, it shuts itself up more and more, and relapses into trends of thought that either survived or lived on subconsciously. The three phases mark three degrees in that reaction. At the end of the third phase little remains of Greek thought. But, looking at the ornaments on the cloaks of the god and the goddess (fig. 421), we meet again, in a highly sophisticated shape, the old Iranian symbols of 5,000 years ago.

Every art is a language. And Sasanian art is a foreign language imposed upon a conquered population, Greek in grammar, declension and conjugation, but Iranian in vocabulary, phonetics and syntax. The Greek dialect adopted


FIG. 421
was one that was not spoken in western regions, but in the East, an isolated and therefore archaic dialect. The history of that mixed language is the gradual elimination of the foreign elements.

The process was almost completed when all of a sudden a storm broke over the land, the Arab conquest. But the Arabs did not bring with them, as the Greeks had done, a superior civilization, and therefore the artistic life survived the new impact of Islām. And Sasanian art, rejuvenated by the reception of a new ethnical element, became a factor even more powerful than before in the far-reaching reaction of Asia against Europe, called Islām. Thus, during the first three centuries of Islām the gulf was created between Europe and Asia, which is not bridged over by the most recent attempts of Europeanizing the exterior appearance of oriental nations. It was the great continent of Asia that spoke to us tarough the oldest works ofistone-age art at Persepolis, far back at the end of the fifth millennium b.c. And almost 5,000 years later, after having absorbed the impact of Europe, called Hellenism, it is again Asia, at the moment when Islām begins to attack Europe.

## NOTES

## ABBREVIATIONS

| A.H.I. | Ernst Herzfeld. Archaeological History of Iran (the Schweich Lectures of the British Academy, 1934), 1935. | I.L.N <br> M.F.E.A. | Illustrated London News. <br> Bulletin of the Museum of Far Eastern Arts, Stockholm. |
| :---: | :---: | :---: | :---: |
| A.7.A. | American Journal of Archaeology. | M.D.P. | Mémoires de la Délégation en Perse. |
| A.M.I. | Archaeologische Mitteilungen aus Iran. | M. 7 . | Museum Journal, Philadelphia. |
| A.S.I. | Memoirs of the Archaeological Survey of India. | M.P. | Jacques de Morgan. Mission en Perse, rv: Recherches Archéologiques, 1896. |
| E.K. | Excavations at Kish. | R.A.A.O. | d'Assyriologie et d'Archéologie |
| I.D. | Ernst Herzfeld. Iranische Denkmäler. |  | orientale. |
| I.F6 | $\qquad$ and F. Sarre. Iranische Felsreliefs, 1910. ${ }^{\text {I }}$ | S.R. | 'La Sculpture rupestre.' Revue des Arts Asiatiques, Musée Guimet. |

## Chapter I

1. The designations 'Susa I' and 'Susa II' have become so generally adopted that they cannot be altered, although it has ultimately become clear that a few pieces belong to a phase preceding Susa I, and that a very long gap separates I and II, exactly as the long period of Uruk separates the Ubaid period and the Jamdat Nasr period in Sumer.
2. Cf. the correction of my earlier view, expressed in I.D., Reihe 1, A, 1932, p. 10 f., and A.M.I., v, 1932, p. 30 f., and corrobo-

[^0]rated by the results of the excavations of Arpachiyya, Chagar Bazar and Tepe Gawra.
3. 'Absolute prehistory' means periods that are prior to the invention of writing and that will never become history. At the last prehistoric phase of Sumer, writing, still illegible to us, was invented. When deciphered, it will convert this last 'prehistoric' phase into 'history.'
4. Sir John Marshall's first communication in the Annual Report, A.S.I., 1923-4, pp. 47 ff. J. G. Andersson, Cave-deposit at Sha Kuo T'un, Palaeontologia Sinica, Series D., vol. I, part I, 1923. T. J. Arne, Painted Stone-age Pottery from Honan, China, ib., vol. 1, part 2, 1925. J. G. Andersson, An early Chinese Culture, Bulletin of the Geological Survey of China, 5, part I, Oct. 1923. Ib., Preliminary Report on

Archaeological Researches in Kansu, Memoirs of the Geological Survey of China, Series A, 5, June 1925.
5. Carl Schuchhardt, Alteurópa, 1919, pp. 212-15.
6. I:D., since 1932; Reihe I, B, 1933, Tafel $\mathrm{xn}, \mathrm{I}, 4$.
7. I:D., Reihe 1, B: Niphauanda, Lieferung 3-4, i933. G. Contenau and R. Ghirshman, Fouilles du Tópé-Giyan, 1935. E. F. Schmidt, 'Tepe Hissar Excavations,' M. F., xxm, I933, p. 4.
8. At a legal contest concerning the ownership, it was ascertained that the mound had no name. Tol e Bakun, the name recently given it by the Persepolis expedition, must be a newly created one.
9. An estimate of potsherds from three months' work was approximately $1,500,000$ fragments.
10. In my first report, I.D., 1932, Reihe I, A, p. 5, I had mentioned traces of copper. A. Langsdorff's well-trained observations proved that the copper belonged to the scanty remains of the upper stratum. I mention this because recent reports from Persepolis speak, in my opinion incorrectly, of 'copper objects in all the three strata of the mound.'
in. Cfi 'Stempelsiegel,' A.M.I., v, 1933, Abb. 12-25.
12. The original is lost. Cfi I:D., 1932, Reihe I, A, pl. xxm.
13. I know of only two instances, both graffiti, one on a clay tablet of the Jamdat Nasr period from Fara, and one on a late Assyrian brick from Assur.
14. The Indian cakra may be one of such crosses inscribed into a circle, secondarily interpreted as a wheel.
15. When publishing the prehistoric pottery of Samarra, 'Die vorgeschichtlichen Töpfereien von Samarra,' in Ausgrabungen von Samarra, v, 1930, I wrote (p. 9): 'It must be counted to the Iranian family, stands in clear contrast to the contemporary early Sumerian pottery, and belongs to the time prior to
bronze, to the copper age, hence in round numbers to the time about 3000 в.c.' That date and the expression 'copper age' were wrong. Samarra represents the end of the neolithic. But the character was rightly delineated: the relation to Iran is closer than could be foreseen at that time.
16. Of the mounds explored by Sir Aurel Stein, cfi 'An Archaeological Tour in the Ancient Persis,' Iraq, in, part 2, 1936, and Archaeological Reconnaissances in north-western India and south-eastern Iran, 1937, the following belong to the Persepolis phase:

Tell i Rēgi, Kamālābād, Iraq, m, pls. xx, xxi, and beads and buttons PL. xxx.
Kanakān A, ib. PL. xxı.
Tell i Siyāh, Fasā, ib. Pl. xxir.
Tell i Iblis, Kirmān, Arch. Rec., pl. xxiv.
Tell i Pīr, Harāj, Lāristān, ib. pls. xxvm-xxix.
Almost equally ancient, related to a ware that is rare at Persepolis:

Tell i Gaud i Rahim, Sarvistān, Iraq, m, pl. xxm.
Dehbid, ib. pl. xxvi.
Do Tulān, ib. pl. xxviii.
The transition from Persepolis to Susa I is shown in:

Vakilābād, Iraq, m, pls. xix, xxir.
Kanakān B and D, ib. pl. xxı.
Tell i Tang i Siyāh, Sarvistān, ib. PL. xxm.
Tell i Skau, Mādavān, Dārāb, ib. Pls. xxiv, xxviif.
Chïr (including later periods), ib. pl. xxv. The Susa I phase is represented at:

Vakilābād, cfi above.
Tell i Rēgi, Mādavān, Iraq, pl. xxir.
Tell i Siyāh, Mādavān (including later phases), ib. pls. xxII, xxm, xxvin.
Tell i Rēgi, Khusū, ib. pls. xxv, xxvi.
17. In European prehistory one speaks of 'toad-design' on vessels for mortuary use, or of krötengefäss, also appearing during the early iron age. Cfi Mannus, Ergānzungsband, vi, p. 121 ff ., an urn from Trotha, Halle.
18. Cf. figs. ini, 195.
19. Specimens from Tepe Gawrā indicate that eyes were originally painted on the necks.
20. Comparing the symbol in fig. 27 (right); the 'comb-like' element attached to a cross of triangles in fig. 24; the indentated appendix in fig. 35; the wings of the Samarra birds in fig. 107, and at last the wings of a griffon on a pre-dynastic slate palette from Hieranconpolis in the Ashmolean Museum, one may feel inclined to call them all 'wings.'
21. Possibly the strange files of men that appear in sketchy drawing at Tell Halaf and Raga (fig. 195) are connected with the older 'fringe' motif!
22. Cf. A.M.I., III, 1931, p. 88. Contrary to the opinion prevalent today, I consider it as an established but forgotten fact that the Semitic alphabet, which is a unit and for which the sequence, names and numerical values of the signs are.just as important as their phonetical values, is derived from Akkadian syllabaries -however, at an age much earlier than that of the oldest alphabetic inscriptions yet discovered.
23. O.P. paridaiza, 'enclosure, enceinte,' means 'garden, paradise.'
24. The distance from the muffle to the end of the horns is about 32 cm ., the height about 25 cm .
25. Before the excavations started, and during the first year, they used to come down to the walls of the terrace in the morning and pass quite close on the way to their watering places. When the ruins became crowded with men, they gradually kept away.
26. The entire length was originally about 35 cm .
27. Cf. Karl von den Steinen, Unter den Naturvölkern Zentral-Brasiliens, 1894. The tribes are the Bakairi, Auetö and others.
28. Cfi 'Stempelsiegel,' A.M.I., v, 1933.
29. In A.M.I., v, I only hesitatingly ascribed to them such a great age.
30. Another comes from Tepe Gawra,
stratum VI, i.e. early dynastic-Sargonic, too late a period to be the original one of the seal. See E. A. Speiser, Excavations at Tepe Gawra, Publications of the American Schools of Oriental Research, vol. I, 1935.
31. G. Contenau and R. Ghirshman, Fouilles de Tépé-Giyan, 1935, pl. 40-42, depth 17-19 m.
32. M.F.E.A., 1, 1929, p. 105 f.
33. Sir Aurel Stein, 'An Archaeological Tour in Gedrosia,' A.S.I., Memoir 43, 1931, pl. xviil, vii, 16.
34. Compare for instance the small vases T. Giy. tombe 83, $2 ; 9^{2}, 5$, with T. Gaw. pl. lxvir, ii; or dishes like T. Giy. tombe 84, I or 85, 6; 90, 3 with T. Gaw. pl. Lxvil, 9I; especially the 'miniature' vases on the rim of bigger ones at T. Giy. tombe 98, i; PL. xiI, 5 and 6 , with T. Gaw. Pl. LXX, 138 .
35. Sidney Smith, 'Early Painted Vase from Khafaji,' British Museum Quarterly, vm, 1933, PP. 38-41.
36. Sir Aurel Stein, Archaeological Reconnaissances in north-western India and south-eastern Iran, 1937, pls. xiI, xvir.
37. Ib. pl. vi, A i6i; pl. vm, A 34, 14042, 365 , from Bampur; pl. vi below, similarly from Khurāb and Katukān; at last a fragment from Shahi Tump, Makrān, A.S.I., Memoir 43, I93I, pl. xim, iii, 9.
38. Cfi 'Kunst des zweiten Jahrtausends,' A.M.I., vm, 1937, p. 139 fi
39. This vase was in Chicago, inaccessible to me when I was publishing, in Persia, my Nihawand pottery in I.D.

4o. The inscription, written entirely with ideograms, might be read in Sumerian as well as in Akkadian.
41. Hubert Schmidt, Archaeological Excavations in Anau and Old Merv, Carnegie Institution of Washington, Publication no. 73, 1908, part II.
42. 'La Steppe Turkomane et ses antiquités,' Geografiska Annaler, 1935.
43. F. R. Wulsin, 'Excavations at Tureng Tepe,' Supplement to the Bulletin of the American

Institute for Persian Art and Archaeology, vol. n, no. 1, March 1932, Pp. 1-12, PLS. I-xx. T. J. Arne, Swedish Archaeological Expedition to Iran, 1932-3, Acta Archaeologica, vol. vi.
44. Some specimens discovered in the Dāmghān region in about 1880 were preserved in the Shah's palace, while a few pieces had found their way into the South Kensington Museum and the Louvre. After having catalogued the Teheran specimens, I searched for the exact spot of their provenance and found it in 1925 in Tepe Hisar. I ceded the excavations to the Pennsylvania Museum, after another trip to Dāmghān to show the site to the excavators. The results, I have been told, have been published.
45. Carl Schuchhardt, Alteuropa, 1919, pp. 212 ff .
46. C. A. de Bode in Archaeologia, $x x x$, 1844 , PL. xvi. The treasure was confiscated for the Persian government, the publication remained unnoticed but for a reference to it by Salomon Reinach, Revue Archéologique, xxxvir, 1900, p. 252. In a letter of Dec. 28, 1925, R. Zahn informed me, in Persia, about Rostovtzeff's article in Journal of Egyptian Archaeology, vi, 1920, pp. 4-27, but my researches revealed nothing about the fate of that treasure, which must be considered as lost. J. de Morgan seems to have seen still a few of the 'cheaper' pieces in Teheran.
47. From a photograph I owe to the kindness of Mr. Donald Wilber.
48. Léon Heuzey, 'Constructions du roi Our-Nina,' R.A.A.O., v, 1900, pp. 26-56, fig. 24 .
49. There is a widespread tendency to assign to Ur-Nanshe a date subsequent to that of the so-called 'Royal Tombs' of Ur. From the archaeologist's point of view it is no problem that Ur-Nanshe preceded them (UrNanshe himself was preceded only by Mesilim ofi Kish and his period); nor is there any object discovered in the royal tombs that could be older than the Eannatum period of Lagash.
50. Tombe 92 , type ofiour fig. 226, also in tombe 97; and the type of our fig. 227 in tombe 99; more in couche rv: e.g. tombe 102, calotte; tombe 107, two cylindrical goblets, also in tombe 110 .
51. Cfi above, p. 87, the remark regarding the relation between Tepe Giyān III and Tepe Gawrā VI.
52. Cf: Léon Heuzey, Les Origines orientales de l'Art, 1891-1915, 'La Masse d'armes.'
53. H. de Genouillac, Fouilles de Tell6, 1934, PL. vu, 2b, of alabaster and of grey marble with violet veins; pl. vm, ib. of pink marble.
54. W. Andrae, 'Die Jüngeren IschtarTempel,' Wissenschaftliche Veröffentlichung der Deutschen Orientgesellschaft, no. 58, Tafel 59.
55. M.D.P., vol. xm, fig. 109; vol. vu, fig. 22-8, or fig. 74, pear-shaped with rim, from the 'trouvaille de la colonne de briques,' i.e. dated prior to the end of the thirteenth century.
56. Hubert Schmidt, Archaeological Excavations in Anau and Old, Merv, Carnegie Institution of Washington, Publication no. 73, 1908, part in.
57. I.L. $\mathcal{N}_{6}$, Sept. 12, 1936, pp. 434-6.
58. Compare the piece from Susa $I$, in M.D.P., vol. xm, fig. iog.
59. G. Contenau and R. Ghirshman, loc. cit. PL. xvi.
60. Cf: Olov Janse, M.F.E.A., Iv, 1932, pp. 193, 208.
61. R. Koldewey, 'Tempel von Babylon und Borsippa,' Wissenschaftliche Veröffentlichung der Deutschen Orientgesellschaft, no. 15, 1911, fig. 77.
62. Dietrich Opitz, in Archiv für Orientforschung, vu, 1931, p. 765, Pl. 2b.
63. M.D.P., vn, Pl. xvi, 14.
64. Comm. G. Cros, Nouvelles fouilles à Tell6, Mission française en Chaldée, 19ı, p. 765 .
65. J. Taylor, Journal of the Royal Asiatic Sociely, xv, 1855, p. 410 ft , pl. 2b.
66. In Reallexikon der Vorgeschichte, Bd. II,

Tafel 213, E. Unger tried to read the cuneiform inscription from left to right; perhaps a satisfactory decipherment can be reached without reversing the normal sequence of the 'cases' from right to left.
67. For instance, E. de Sarzec and L. Heuzey, Découvertes en Chaldée, 1884-1912, pl. 45, fig. 2; Nouvelles Fouilles, fig. 115, both from Lagash; or grave 91, no. 8077 from Ur, copper; Ch. Watelin, E.K:, vol. iv, Paris, 1934, pls. in, v, Sargonid period (?); and Susa, M.D.P., p. 134, fig. 326.
68. For instance Ur 8088, grave 37, silver; Ur 4181 copper; Kish, 'A' cemetery 2448.
69. M. 7 ., xvi, 1926, p. 17.
70. I.L.N., Feb. 20, 1937, p. 295; compare the silver-plated iron handle, collection $F$. Sarrc, in fig. 232, to be attributed to the time of Hattusil III, about 1300 в.c.
71. Translated and commented upon by E. Forrer in Zeitschrift der Deutschen morgenländischen Gesellschaft, Bd. 76 (N.F. 1), 1922, p. 184 .
72. The kings of the period arc (the regnal years are approximations only):

1500-1470 Tudhalia II.
1440-1410 Hattusil II, contemporary of Saushshatar of Mitanni.
c. 1400 Tudhhalia III, son.

Arnuanda I.
1380-1360 Shuppiluliuma, son of Tudhalia III.
Arnuanda II, son.
after 1350 Mursil II, son of Shuppiluliuma.
before 1300 Muvattali or Mutallu, son.
Urhi-Teshup.
1292-1266 Hattusil III, son of Mutallu, contemporary of Ramses II and Adad-Nirari I.
1265-1230 Tudhalia IV, son.
c. 1229 Arnuanda III, son.

1200 Tudhalia V, son.
73. There are bronze hilts; their original iron blades have been completely destroyed.
74. E. Mackay, Excavation of the ' $A$ ' Cem-
etery at Kish (part 1), Field Museum, Anthropological Memoirs, vol. 1, no. 1, 1925; ib., Sumerian Palace and the ' $A$ ' Cemetery at Kish (part 2), Field Museum, Anthropological Memoirs, vol. 1, no. 2, 1929.
75. P. Montet, 'Les Egyptiens à Byblos,' in Fondation E. Piot, Monuments et Mémoires, tome $\mathrm{xxv}, 1922, \mathrm{p} .34$, fig. 28.
76. I.L.N., Dec. 19, 1936, p. 1148.
77. We neglect here the daggers with simple handles of bronze, but blades ofiiron.
78. L. Speleers, Bulletin du Musée Royal du Cinquanténaire, Sept. 1933, III $^{\text {e }}$ serie, $V^{\text {e }}$ année, p. III.
79. A. Godard, 'Bronzes du Luristan,' Ars Asiatica, xvn, 1931, pl. x. L. Legrain, Luristan Bronzes in the University Museum, M.7., catalogue supplement no. 1, 1934, no. 43.
80. Compare the silver-plated bronze axe from Ugarit in fig. 245; I cannot follow Speleers's description of the iron heads: 'Le long nez, droit et mince, qui continue la ligne du front fait penser plutôt au type aryen, tel que nous le montrent certains bas-reliefs achéménides et postérieurs.'
81. Antiquités de la région du Dniepre, Collection B, Khanenko, Kiev, livraisons 1-6, 18991902, PL. xxvn.
82. Eduard Meyer, Geschichte des Altertums, Band il (second edition), part 1, pp. 126, 128.
83. Reisen in Kleinasien, Pontus, etc., German edition, 1834, vol. 1, pp. 256-60; cfi Vital Cuinet, La Turquie d'Asie, 1895, pp. 18, 57, $68,81,113,122,127$. I give these references because H. C. Richardson, in a contribution extremely valuable for the technical side, 'Iron, Prehistoric and Ancient,' in A.J.A., xxvm, part 4, 1934, pp. 555 ff. (cfi id. xli, 1937), writes on p. 565: 'A relatively scanty literature on the iron deposits of Asia Minor contributes but a few hints of a helpful historical character,' etc. It is wrong to minimize the importance of ores in that region for historical problems. Garstang, The Hittites, second edition, speaks of iron near Sis-Flaviopolis in Inner Cilicia. For the iron ores in

Qaradagh, Adharbaijān, cf. Major Robertson, in Transactions of the Royal Society of Edinburgh, xiv, p. 599, and N. Curzon, Persia and the Persian Question, vol. n, pp. 510-22.
84. I do not see any serious reason to doubt B. Meissner's supposition that the addressee Riamatesha is Ramses II: the entire tenor of the letter rules out, a priori, 'somebody' subordinated to the writer 'in Asia Minor.' To nobody but a Pharaoh, a king of equal rank, the 'Sun of Khattush' would offer excuses. The writer, hence, is certainly Hattusil III.
85. Hugo Winckler, Mitteilungen der Vorderasiatischen Gesellschaft, 1913, p. 61, and B. Meissner, Zeitschrift der Deutschen Morgendländischen Gesellschaft, 1918, p. 6 I .
86. Cf. the remarks on the Chalybes, p. 138 below.
87. Cf. Herzfeld, Orientalistische Literaturzeitung, 1919, Sp. 212: Qizvat-na contains the local suffix -na, as Kinah-na (Canaan), Hubushna opposite Kinnahhi, Hubushkia; the stem Qizvat- is the base of Old Median Katpat-uka, formed with the Armenoid plural suffix -ukh, like raóxoc. Assyrian Daia-eni; xapèoj̄ou, Syriac Qardu, etc. There was also a Kitpat, cf. p. 159 below. The phonetic group $-t p$ - is non-Iranian, an attempt to render what had become in the aboriginal language of the seventh century of old Qi-zv-atna. The Persians took over the official nomenclature in its Median dialectic form.
88. Herodotus, vii, 72; Polybius, Historiae, Fragm. book x.
89. Accepted by Eduard Meyer, Reich der Chethiter, 1914, p. viii and pp. 76, 136, together with my identification of the names. A. Goetze originally followed this view, to abandon it later for a location of Qizvatna in Cilicia. Khatti did not extend to the Mediterranean.
90. Cf. A.7.A., xxxxx, 1935, p. 536, and 1936, xL, pp. 210 ff .
91. In Klio, 1938, p. 181.
93. Argonautica, I, v, 1011-14. The same
custom is said to have prevailed among the Basques, Picts and Irish, on the Balearics and in Corsica, and is believed to be a survival from pre-Celtic times, although it might have been imported by a special ethnical element from Asia Minor. The couvade is interpreted as a patriarchal tendency reacting against an original and exclusive matriarchy, but seems to me to be a way of establishing a relationship between father and child in polyandrie marriage.
94. The Greek termination -otxoc is but an assimilation of the native $-u k h$ suffix to oixos, on account of the people's strange dwellings, described as if they resembled the pile-dwellings of Gilan and Tabaristan.
95. Cf. Herzfeld,'Hana et Mari,' R.A.A.O., xI, 3 , 1914 .
96. C. H. Read, in Man, 1917, p. 6.
97. Jacques de Morgan, 'Recherches Archéologiques,' M.P., iv, 1896, p. 8, fig. ıo.
98. Cf. British Museum Photographs (W. A. Mansell \& Co.), nos. 501, 506, 507, 520a, Sennacherib and Asurbanipal.
99. M.F.E.A., iv, 1932, pl. xxix.
100. Cf. fig. 374 below, the pieces shaped like the fangs of a boar.
101. Open-work bronze 'standards' with a complicated swastika design occur among the finds from Alaja Huyuk, Siwas region, probably from the end of the third millennium (cf. I.L.N., April 9, 1938, p. 632 and recently: Remzi Oghuz Arik, 'Les Fouilles d'Alaca Höyük,' Publications de la societté d'histoire turque, V. series, n. I, Ankara, 1937). Some were exhibited in Dolma Baghtshe, Constantinople, in 1937.
102. Cf. U. v. Wilamowitz-Moellendorfin Hermes, xxxm, p. 515; and A.M.I., vi, 1934, note to p. 219; the Tepe Giyan tubes are certainly no flutes; since they are too weak for any technical purpose, they are not blow-pipes-Arab munfakh, used by coppersmiths, Akkad. nappähu, 'blower.'
103. In the Berlin Völkerkunde Museum and in the old museum of the Shah at Teheran
(cf. M.P., iv, p. 8, fig. 11)-perhaps remains of the Astarabad treasure, which contained six such pieces.
104. Report on the excavations in Syria, m, 1922, p. 280.
105. E. Mackay, E.K., 1, no. 2, 1929, Pl. xL.
106. I.L.N., Sept. 12, 1936, p. 462 f.
107. Hubert Schmidt, Excavations in Anau, Pl. 4 I , fig. 9.
108. Cf. B. Meissner, 'Altbabylonische Plastik,' Der alte Orient, Nr. 15, I and 2, 1915, p. 64 .
ıog. Cf. R. Dussaud, in Syria, iv, 1923, p. 3 II, and Ix, 1928, p. 173.
i 10. M.D.P., vol. vir, figs. $127-234,287 \mathrm{ff}$.
iII. E. Mackay, E.K., pl. lix, 3, $4,8$.
112. Tomb 35, inventory number 795 I.

II3. R. Dussaud, La Civilisation préhellénique, 1914, figs. 21, 59.

II4. M.P., rv, fig. 107.
${ }^{115}$. Reallexikon der Vorgeschichte, Band Ix, Tafel 216.
ir6. R. Dussaud, in Syria, xv, 1934, PL. xxv.
${ }_{11}{ }^{7}$. A.M.I., vm, 1937, figs. 49-51, 68; 1x, 1938, figs. 142 ff., 169.

1 18. Mitteilungen der Deutschen Orientgesellschaft, Nr. 74, April 1936, Abb. 19.

I 19. M.D.P., vir, PL. xiv, 3.
120. Agha Evler, in M.D.P., vir, fig. 729.
121. Cf. Akk. zibanitu 'scales,' Egypt. dbn 'circle, ring.'
122. Inventory number 14,483 , photo 4805, possibly from Babylon.
123. Entirely exceptional is Babylon, photo 5437.
124. J. I. Smirnov and G. Tschubinaschwili, Der Schatz von Achalgori, Tiflis, 1934, pl. $x$, no. 23 a.
125. T. J. Arne, Swedish Archaeological Expedition to Iran, 1932-3, Acta Archaeologica, vi, fig. 9.
126. H. V. Hilprecht, Ausgrabungen im BelTempel zu Nippur, 1903, p. 20, fig. 9.
127. M.D.P., vil, figs. 306, 307.
128. M.D.P., vm, p. 320, fig. 702.
129. Collection I. Mousse, Paris, I.L.N., March 2, 1935, p. I.
130. In Philadelphia and in my collection.
131. The piece in Philadelphia and that in my collection are from the same 'mould,' if. one can apply that expression.
132. E. Mackay, E.K., pl. LviII, 7, 10, 29.
133. Susa: M.D.P., vir, p. 52, fig. 85.
134. Mackay, E.K., pl. lviII, 5, 24, 29.
135. Fouilles de Tellô, pl. Ix, 2, and p. 45.
136. From the old Tepe Hisar trove, presented by I'tizād al-saltanat to the Victoria and Albert Museum.
137. I.L.N., Sept. 21, 1936, p. 909.
138. Cf. A.M.L, vm, 3, 1937, and $\mathrm{Ix}, \mathrm{I}$, 1938.
139. C. F. Lehmann-Haupt, Armenien einst undjetzt, 1910, Band I, p. 280.
140. Cf. Sidney Smith, 'The Face of.Humbaba,' Journal of the Royal Asiatic Society, 1926, pp. 440 ff .
141. Cf. fig. 289 below, and the connection with the Ordos bronzes.
142. Gold vanity case, described in M.7., xvir, 1927, p. 145; cf. G. G. Lovis Clarke, 'Modern Survivals of the Sumerian Chatelaine,' in Essays Presented to C. G. Seligman, 1934.
143. Cf. Alois Musil, Arabia Petraea, vol. in, p. 360 .
144. Cf. Otto Schrader, Sprachvergleichung und Urgeschichte (1906-07), pp. 388 ff ., on the notion of Indo-European *vik'-. See also the chapter 'Gewerbe, Handel usw. der Germanen' in Wilhelm Wackernagel, Kleinere Schriften, vol. I. With the Semitic people this is still a living notion, and the mythology, folklore and juridical institutions of the Greek, Latin and Germanic people are full of traces of the same notion.
145. Herodotus, ii, 113 , describes the asylum in the temple of Taricheia in Egypt, where every fugitive from the law received such a holy stigma. Cf. R. Eisler, 'Qainszeichen und die Qeniter,' in Monde Oriental,
xxiII, 1928, pp. 48-112. who quotes also a later Agada, saying that the mark of Cain was a galgal hammäh, a 'sun-wheel,' an expression that recalls the sun-wheels and swastikas on our prehistoric pottery. All were marks of property, cf. Richard Andrec, Ethnographische Parallelen und Vergleiche, Neue Folge, 1889, pp. 74 ff .
146. On the Sulaib, cf. Robert Eisler, loc. cit.
147. Gen. iv, 22; Septuagint: tòv $\Theta_{0}^{\prime} \varepsilon \varepsilon$. xai 和 s甲uрохо́тоя.
148. About these trades the old Germanic laws are especially explicit. Traces of wandering smiths appear also in Homer. In Iran, where small villages usually cannot support a smith, the smiths travel, in regular turn, over considerable areas. The same custom prevails almost over the whole of Asia.
149. The Greeks believed the younger Comana in Cataonia to have been colonized by the older Comana Pontica.
150. It is not the only local name personified in that 'genealogy of the Qenites.'
151. Characterized by the plural suffix $\pm p$, as in Ellipi, Lullubi, Iasubi, Kas-p-ioi, etc. The suffix -0\%- in early Greek ethnical names seems to belong to the same pre-Hellenic stratum (cf. Eduard Meyer, Geschichte des Altertums, Band II, second edition, pp. 269 ff ). The later Armenoid stratum is characterized by the suffix -ukh, as in Moschoi, Taochoi, Karduchoi, Katpatuka etc., mentioned above. Greek Mossúvotxo: contains an assimilation of the same suffix to Greek oixos.
152. Sallier, ii, 7 f; see Max Müller, Asien und Europa, 1893, P. I.
153. Strikingly similar to the description of the historical Chalybes is that of the mythical Kyklopes. Pliny, Nat. Hist., vii, 197: 'Metallurgy, some believe, was introduced by the Chalybes, others by the Cyclopes; the working of iron was indeed invented by the Cyclopes.' $\chi^{2} \lambda \lambda \omega \psi$ is the word for 'steel'; è $\lambda \alpha \tau \rho \varepsilon u ́ g$, the name of a Cyclop, means 'the best quality of wrought iron.' The legends disagree about
their having one or three eyes. I do not consider it to be a euhemerism to interpret that eye of the Cyclops, like the 'mark of Cain,' as an eye painted or tattooed on the forehead. And I see in their name a normal reiterated form of Xalup: *kuxlup, Kúxi $\omega \psi$.

154. J. S. Huxley and A. C. Haddon, We Europeans, 1935, pp. 179, 191, 238.

155. 'Armenoid' is a misleading term; what is meant is 'Alarodian' or 'Urartaean,' the aboriginal population of Armenia, whose ethnical type persists. The 'Armenians' emigrated from the Balkans, after the beginning of the first millennium, and spoke an IndoEuropean language related to the Phrygian branch. The oldest mention of the name is Median Armina, in Old Persian 'administration,' hence Greek 'Appévio.
156. Compare the remarks about the couvade on p. 138. To that line the localities, which the Greeks connect with the Cyclopes, can be linked up.
157. I am emphasizing this point against H. C. Richardson's theory of the European origin of iron-working and its introduction into Asia Minor by immigrants from Europe. L. Speleers, too, when dealing with the Brussels' iron dagger, speaks of 'la matière même, le fer, introduit au Luristan par des races immigrées du Nord.' Though widely accepted, that notion is a mere supposition.
158. Richard Starr, Nuzi, Report on the Excavations, Harvard, 1927-31, vol. II, 1937, PL. 18, 1 .
${ }^{159 .}$ Ib. pl. 118 D, E, G, H; Pl. i19, C.
159. De Clercq n. 390 belongs to an older group of Hittite seals characterized by the well-known seal of Indilimma.
160. Exhibited in Constantinople in September 1937. See above, n. ioi.
161. Minns, 'Small Bronzes from North Asia,' Antiquary's Journal, x, I, Jan. 1930, with literature on pp. 22 ff. J. G. Andersson, 'Inventory of the Ordos Bronzes,' M.F.E.A., iv, 1932, pp. 225-71, and 'Select Ordos Bronzes,' ib. v, 1933, two articles from which

I draw most of my material. Cf. Alfred Salmony, Sino-Siberian Art in the Collection C. $T_{6}$ Loo. Important pieces are in the collections of George Eumorfopulos, Robert Woods Bliss and Mrs. Christian Holmes.
163. Report on Mcshchaninow's discovery in Archiv für Orientforschung, vu, 1931, p. 266 f.
164. In the collection of Captain and Mrs. Mayer, Fort Hoyle, Maryland.
165. Cf. Philadelphia n. 6o; A. Godard n. 107; Berlin n. 10, all large pomegranates.
166. Cf. A.M.I., iv, 1934, pp. 14 ff.
167. Cf. B. Lauffer, Sino-Iranica, 1919, pp. 276 ff ., who regards the Sanskrit name and its Chinese equivalent as a loan-word from an unknown Iranian prototype; considering the age of the bronzes, one must say of a Caspian prototype. The Sanskrit word is dādima-, New Persian anär, Soghdian n'r'kh, Greek póa, Semitic rimmön, rummän.
168. Inventory number 6540 .
169. Called 'late Chou,' but evidently early Chou, since that dynasty reigned from 1120 to 255 B.c.
${ }^{1} 70$. Agha Evler, in M.D.P., vm, p. $3^{14}$, fig. 627; one in my collection on Pl. xxxi.
171. Cf. Minns, in Antiquary's Journal, loc. cit., and M. M. Rostovtzeff, 'Dieux et chevaux,' Syria, xn, 1931, pp. 48 ff .
${ }^{1} 72$. Present place unknown; perhaps in the Louvre?
173. W. Andrae, Jüng. Ischtar-Tempel, Tafel 48, f.; cf. text p. 107.
${ }^{174}$. A.7.A., xxxix, 1935, p. 542 f., figs. 33-4.

## Chapter II

1. Cf. the couvade of the Tibareni, p. 138.
2. R. Ghirshman, 'Une tablette protoélamite du plateau iranien,' R.A.A.O., xxxi, 1934, pp. 115 ff.
3. Derived from *āturpātakāna-, called after the family of Atropates, satrap under Alexander, probably an Achaemenid.
4. Cf. A.M.I., ix, 1938, pp. 163 ffi Assyr. Amadai, Matai, Mandai, but usually Madai.
5. Hugo Winckler took Anshan as an appellative, 'canton, mountain district,' connecting it with E. 'an-cha- in Beh. $\S 40$, Akk. alum. F. Hommel explained Anshan as 'donkey-land,' from Sum. an.shu, 'ass.' Ptolemy has a district $x a v 0 \omega v e x \eta_{n}^{\prime}$ in Kirmania, i.e. Old Persian *kaӨvanika, modern Kähun.
6. Asurbanipal spells par-shu-ma, with $u-m$, i.e. $u$-w, for w: parshwa-.
7. His statue is mentioned as carried away with other spoil from Susa by Asurbanipal, eighth campaign. Cf. V ${ }^{\text {th }}$ Rawlinson, pi. 6, 34, with Corpus Inscriptionum Elamicarum I, n. 54, col. I, I, Kasipar has the adjective-suffix -ar.
8. There is a possibility that names like Käshän, Käsak rüd might belong to it, or that Greek xaбoitspos, 'tin,' means the 'Caspian' metal; cf. above kassitri. See Altpersische Inschriften, 1938, p. 94, n. 2.
9. This may explain the name 'Median dynasty,' which was used by Berossus: an anachronistic name; as we might speak of Iran before the immigration of the Aryans.
10. F. Delitzsch, Sprache der Kossaeer, 1884, p. 25. Beside Maruttash, Buriash, Kuri. The rapprochement of Maraddash and Ind. Marut is entirely hypothetical: a local name Maraddash appears even in the Sargonic period to the south of Babylon; and Murattash as the name of a region and city in modern Shahrzur, in the year 2 of. Tiglath-Pileser I; Mapósiox appears as a personal name in Asia Minor. Kossaean buriash is almost certainly not Greek $\beta_{0} \rho_{\rho} \alpha_{5}$; the oldest form is burariash. The identification of Kuri and Kali is still more doubtful. But Hüsing's objections to the Akkadian translations of the glossary, Memnon, iv, 1910, p. 17; Orientalische Literaturzeitung, 1904, Sp. 322, and ib. 1906, Sp. 663, are justified in principle: an identical sequence of the words of a phrase in two languages of entirely different structure is highly improbable, and many of the translations are apparently only based on the erroneous assumption of such a congruence. This
against M. Streck, who tried to defend them in Zeitschrift für Assyriologie, xxı, 1807, pp. 255 ff.
i1. Geographical Journal, Lxv, I, Jan. 1925. Cf. Sidney Smith, Early History of Assyria, 1928, p. 97.
11. The absolute dates of the Sargonid epoch are unfortunately controversial, but in my opinion even the dating of the first dynasty of Babylon as late as possible does not entail a drastic reduction of the period of Akkad, which ought to be contemporary with the fourth and fifth dynasties of Egypt, hence twenty-seventh to twenty-sixth century b.c.
12. For the first decipherment see François Thureau-Dangin, Inscriptions rayales de Sumer et di Accad, 1905, pp. 246 ff. Ungnad wrote me (May 1934): 'Extremely difficult to read. The verb at the end may be read $i$-sal (sal, zod)-li-ku, which would be at least a verbal form, though the verb is unknown to me. I likewise am unable to decipher the king's name. He is the son of Ikkibshahmat (?). The first element $i k k i b$ is probably Subaraean, since $i k k i$ occurs several times in proper names, and since the $-b$ corresponds to the $-b$ in $a r i-b$, beside ari-, in other compounds; it is a verbal element. Shahmat or shahwat I compare with shehwa, which likewise appears in names from Nuzi, e.g. R.A. 23, 75: Gil-she-ih-wa certainly Subaraean.'

Sidney Smith suggested (Oct. 1935): '1.6: might be conceivably i-nu ma-at $Z a-b a-a n$, but what one really wants is i-nu-ma a-na ma-at $Z a-b a-a n ;$ I. $9:$ one expects $z e r i(r i)$-shu, but $b i$ seems certain; l.10: this $u$ as copula is Cappadocian! I.12: one expects li-hal-li-ku, but it cannot be this.'
14. This would be possible if the undeciphered lines 6-7 somehow qualified the expression 'I made' in 1.5 .
15. Cf, my old routier in Petermanns Mitteilungen, 1907, Heft 3, and my 'Reisebericht' in Zeitschrift der Deutschen Morgenländischen Gesellschaft, Band 80, N. F. 5, 1926, p. 258.
16. The date of Gudea is not fixed, but
from archaeological evidence it must closely follow the Akkadian, Sargonid period.
${ }^{17}$. Cf, my A.H.I., p. 5 f. and Pl. iv.
18. But remember also the autochthonous figure of Kekrops in Athens, described as half man, half snake.
19. Cf. E. Benveniste, Bulletin of the School of Oriental Studies, vn, 1934, pp. 265 ff.: äryanam vaijo vanhviyd dàtyayā 'l'étendue arienne de la bonne Datya.' J. Markwart, Vehrod und Arang, 1938, comes to the same localization by the identification of those two rivers with the Oxus and Iaxartes. The Awestic name äxyānäm vaijo vahayā dätiyayd is but an archaistic derivation from Middle Persian äryānvēj.
20. Apparently a locative *maitanë <*maitanai, which probably belongs to Old Indian mëthí, mita, Latin meta, 'goal' of the hippodrome, from the Indo-European root *mei-, as Old Indian mayúkha-, Old Persian mayuxa-, Latin müto, 'peg, phallos.' The goals of old hippodromes or polo-grounds in Iran, just as similar pillars on bridges, sometimes on tombs, are all phalloid, an archaeological relation analogous to the linguistic one between Latin meta and muto. The hippodromes are called maidän (synon. asprēs), certainly a word of Iranian, not Arabic origin. There is a little town Mayädīn, Arabic plural of maidän, on the middle Euphrates in ancient Mitanni territory. Mitanni would be the adaptation of Aryan maitēni to the aboriginal or to Semitic languages. A. Ungnad's objection against the modern use of the genitive Mitanni instead of a nominative *mitannu (cf. his Subartu, pas$\operatorname{sim})$ is solved that way.
21. Gäthā ushtavatī. p. 3: one of the terms of horse-training is navartanni vashannasaia. Navartanni is, like mitanni, a locative, haplology for *nava-vartane, Old Indian *nävartane, from Aryan *vartanam, 'round, turn,' meaning 'in nine rounds.' Vashannasaia is genitive, Aryan *važhanasaya, from *važhanam, 'place of driving, course,' Aryan root vaz', Old Indian *vah- (Latin vehi), Old Iranian *vaz-. The en-
tire phrase means in nine rounds of the racecourse.' The cuneiform sh stands for Aryan $z^{\prime \prime}$, neither for Old Indian $h$, nor for Old Iranian $z$, and is conclusive proof that the language was still Aryan in the fourteenth century. The name Patishhvära, for later Tabaristān, implies that when the Iranians entered the plateau in the tenth century they still spoke Aryan dialects, not yet Old Iranian, which would require the form Pati-hvära-. The analogy shows that Indo-Aryan developed in India, Iranian in Iran.
22. Not counting the invasion of Cimmerians and Scythians at the end of the eighth century b.c.
23. Cf. A.M.I., $\mathrm{Ix}, 1938$, pp. 163 ff. W. König (Reallexikon der Assyriologie, s. v. Arte$a n u$ ) believes he has discovered an older Iranian in the person of Arteanu, put in the place of his rebellious brother Burramannu by Asurnasirpal in 879 b.c., record of his fifth year, Kurkh obelisk. Both names are ambiguous. If the men were Aryans, both names are more easily explained as Indian than as Iranian, and they might be descendants of the Aryan Mitanni dynasty, as fits the region in which they appear: Na'iri. There are no names that are certainly Iranian before 843 b.c.
24. Cf. the title 'the mighty Kaldians' in the Urartaean protocol.
25. Discovered by H. Rawlinson, Journal of the Rayal Geographical Society, x, 1840, p. 12, the text in Lehmann-Haupt, Corpus Inscriptionum Chaldicarum n. 20, pl. xir; cf. W. Belck, 'Reich der Mannaeer,' in Verhandlungen der Gesellschaft fur Anthropologie, 1894, pp. 479-87; V. Minorskiy in Zapiski of the Russian Archaeological Society, xxiv, 191 7, pp. 169 ff .
26. Cf. A.M.I., 1x, 3, 1938.
27. 690-669 b.c., prism A, S and C, col. IV, i. 10 .
28. Modern Firüzkūh, 'turquoise mountain,' near the town Demawand.
29. Cf. Asurbanipal: Birishadri, perhaps both Avestic brzi-gä̈ra- or Middle Persian burz-ädur.
30. 128 years before the victory of Cyrus over Astyages, a good tradition preserved by Herodotus, probably from Hecataeus, which may be actually true, although the effect or the foundation appears only slightly later.
31. With one of the gold tablets from Hamadan a piece of such a gold covering was found, similar to corresponding pieces excavated at Persepolis.
32. Probably Saradaush, Tiglath-Pileser Annals, about inoo b.c.
33. Probably Pīr i mä Gudrün, 'our shaikh Gudrūn,' cf. Iraq, 1, 1934, pp. 184 ff.
34. The drawings are made from insufficient photographs and the similarity in style may be greater than they show.
35. Cf. Richard Leonard, Paphlagonia, ${ }^{1915}$, pp. 246 ff. and pls. 23-5; see also Kannenberg, 'Die paphlagonischen Felsengräber,' Globus, Lxvir, 7, 1895.
36. It is outside the scope of our subject, but it is worth noting that there are correspondences between peasant cottages in Hanover (old Saxon), Lithuania, and Asia Minor, which are the exact archaeological parallels to the alternances of Germanic, Baltic, and Greek or Phrygian words in Indo-European philology, and of equally conclusive force.
37. Cf. A.M.I., Ix, 2, 1938.
38. Arrian III, 8, 5; 1v, 29, 30; Curtius Iv, 12, 8.
39. Journal Asiatique, ccxix, juillet-septembre, 1931, pp. 17 ff., repeated in Die Religionen des alten Iran, 1938, p. 363 f. (Swedish edition of 1937), with the remark 'ich habe die Frage gestellt . . . Man ist mir die Antwort schuldig geblieben.' This is not correct: the answer was given in my A.H.I., pp. 37-40.
40. François Nau, in Revue de l'Histoire des Religions, xcv, 1927, p. ${ }^{174}$.
41. The Persian Religion (Ratanbai Katrak Lectures), Paris, 1929, pp. 32 ff. Herodotus says: 'The above [remarks] are made without hesitation as from my own knowledge. But as to what relates to their dead, this is of a secret nature: I will not say decisively that these are
not interred till some bird or dog has been preying on them. This custom, however, I know unquestionably, is observed among the magi, who do it quite publicly. But the Persians [i.e. Iranians, not Persians as opposed to Medes] enclose the dead body in wax and then place it in the ground. Their magi have many peculiarities, which distinguish them from others...'
42. Vidēvdädh, i, 17 , speaks of.cremation in the land Caxra, otherwise unknown, to be looked for in Khorasan.
43. Strabo, XI, n, IT3.
44. Justin, Epitome, xli, 3, 5 .
45. A few examples are preliminarily published in A.H.I., p. $3^{8}$ and Pl. v; only such private tombs as are cut into the rock are preserved.
46. I know twenty-five monumental examples, not counting simple private tombs.
47. At the same time the older 'slipper'sarcophagi disappear in Babylonia.

## Chapter III

I. Shalmaneser III, Annals, year 16 (843 B.c.) mentions the golden door-leaves that he carried away from Allabria, a town between modern Sihna and Kirmanshahan.
2. The etymology of apadana is not clear; it means the public part of a royal palace, just as New Persian ēwän, and in spite of philological and phonetic obstacles, I believe the two words belong together.
3. A. W. Nieuwenhuis, Quer durch Borneo, Leyden, 1904, quoted by P. Sarasin, 'Weitere Beiträge zur Entstehung des griechischen Tempels,' in Zeitschrift fur Ethnologie, 1910, and by H. M. Kaiser Wilhelm II, Studien zur Gorgo, 1936, fig. 76.
4. Ausgrabungen von Sendschirli, 1, 1893, fig. 67 , cf. fig. 88; also the capital on which the famous 'bird' of Tell Halaf in the Berlin Museum stands.
5. Cf. I.F., pp. 123 ff.
6. F. von Reber, Phrygische Felsendenkmäler, 1897, Tafel vm; the dating of this tomb depends on its archaeological character: even if. it is post-Phrygian, it would be still older than the Persepolis columns. Besides, it shows the connecting links in a more original application: they certainly were not transferred from the columns to that tomb, but from constructions as represented by that tomb to the Iranian columns.
7. A stone head in the Stoclet collection in Brussels, shown 193I at the Persian exhibition in London, is not the 'portrait head of an Achaemenid king.'
8. Cf. the opposition of the heads of.Asurnasirpal, Merodachbaladan, and Darius in I.F., Abb. 88-90.
9. Gisela Richter is inclined to attribute a higher antiquity to the Ionian examples, which would once more change the whole problem.

1o. Formerly described as 'Egypte, extrémité d'un fourneau, tête de taureau et coquilles, style mycénien, acquis en 1906,' and 'os, ivoires ou bois sculptés, de travail asiatique ou gréco-oriental.' M. Rostovtzeff, Animal Style in south Russia and China, 1929, PL. II, calls them 'bone sword-hilts from Assyria.'
II. E. H. Minns, Scythians and Greeks, 1913, fig. 1 15, archaic Greek period.
12. Cf. the remarks above, p. 173.
13. P. E. Botta and E. Flandin, Monument de Ninive, pls. 132-6, tribute from the ' Na 'irilands' and from north-west Iran.
14. Cf. A.M.I., n, 1930, Tafel 3.

## Chapter IV

> 1. A.H.I., pls. xviri, xix.
> 2. Monumenta Asiae Minoris Antiqua, m, pp. 44-50.
3. This date has recently been doubted, without reason. Cf. 'Khusrau Parwèz und der Tāq i Vastān,' A.M.I., Ix, 2, 1938.
4. I.F. For the Taq i Bustan cf. Herzfeld,

Am Tor von Asien, 1920, and A.M.I., 1x, 3, 1938, loc. cit. See also S.R., v, iii, pp. 129-42; A.H.I., loc. cit.
5. Cf. S.R., pl. xxxvi.
6. Cf. S.R., PL. xxxv.
7. Cf. S.R., pl. xxxv.
8. Cf. $I . F .$, pl. v; S.R., pl. xxxvi.
9. Cf. I.F., pl. v; S.R., pl. xxxvi; A.M.I., 1x, 2, 1938, Tafel xi.
10. Cf. E. Flandin and P. Coste, La Perse ancienne, pl. 33; Sir Aurel Stein, 'An Archaeological Tour in Persis, Iraq, m, 2, 1936, pl. xvir.
i i. Cf. I.F., pl. xi; S.R., pl. xxxvir; A.M.I., IX, PL. I.
12. Cf. I.F., pl. vn; S.R., pl. xxxviI.
13. Cf. I.F., pl. vn; S.R., pl. xxxviiI.
14. Cf. I.F., pl. xliv; $S . R$., pl. xxxviil.
15. Cf. I.F., pl. xlv; S.R., pl. xxxix.
16. Cf. I.F., pl. xliII; S.R., pl. xxxix.
17. Cf. I.F., pl. xL.
18. Cf. J. Ph. Vogel, 'Explorations at Mathura,' Annual Report, A.S.I., 1923-4, pp. 120 33.
19. Cf. $I F$., pl. xli; $S . R$., pl. xli.
20. Cf. Herzfeld, 'Kushano-Sasanian Coins,' A.S.I., memoir 38, 1930; R. Vasmer, Zeitschrift fur Numismatik, xlir, 1932, pp. 24 ff.
21. Cf. S.R., pl. xlı.
22. Cf. I.F., pl. v; S.R., pl. xliI.
23. Cf. I.F., pl. Ix; S.R., pl. xliv.
24. The name means 'grotto of the garden,' erroneous European interpretation of. the correct name Tāq i Vastān, 'grotto of. Vistahm,' name of a brother of. Khusrau II (cf. n. 3 and 4).


[^0]:    ${ }^{1}$ I refer to the original edition of 100 copies in two volumes-one of text, one of plates. In the new edition, published without my knowledge in 1921 (although it was misdated ig10), inferior plates, reduced to the size of the text page, were made from the old plates instead of the original photographs.-E.H.

