

NEW LIGHT
ON THE
MOST ANCIENT EAST



V. GORDON CHILDE

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NEW LIGHT
ON THE
MOST ANCIENT EAST

**THE ORIENTAL PRELUDE
TO EUROPEAN PREHISTORY**

BY
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PLATE I



SHELL INLAY FROM THE KING'S GRAVE AT UR

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PREFACE

IT is recognized throughout the English-speaking world that Western civilization is but the culmination of a tradition of inventions and discoveries that is ultimately rooted in the Ancient East. But only since the opening-up of Iraq and Syria to systematic exploration after the War has the full proof of the immense antiquity of Oriental civilization and of our debt to it become available. Now a series of revolutionary discoveries in Egypt, Assyria, Babylonia, Persia, and India has dramatically enlarged the historian's horizon. For instance, the discovery of the Royal Tombs at Ur in 1928 is comparable in its effect to Schliemann's disclosure of the treasures of Troy in 1872, or Evans' resurrection of the Minoan civilization in 1900. And still more startling was the effect of Sir John Marshall's publication in England during 1924 of the relics (already described by Daya Ram Sahni in 1921) from ruined cities in the Indus valley; for thereby pre-Aryan India was revealed as the seat of a high urban civilization by 3000 B.C., already linked up with Babylonia and contributing effectively to the formation of that common cultural tradition which we have inherited.

These and other discoveries received adequate publicity in the daily and weekly papers and were duly described in technical journals. But such notices failed to give the man in the street, or even such archæologists as were not also Orientalists, any adequate idea of the significance and implications of the new finds. Nor was any generally intelligible and adequately illustrated work available to which those whose interest had been aroused might turn for information. I therefore ventured in 1928 to publish as *The Most Ancient East* a course of lectures in which I had tried to set forth the new facts in relation to their general background of already established knowledge. But, as I then recognized and expressly stated, the pace of excavation would inevitably render such an account largely obsolete in a few years.

And indeed, as anticipated, five years' continuous and systematic digging has so enormously enlarged our knowledge of the Most Ancient East that the old material has assumed a quite different aspect. The formerly incoherent remains of the Old Stone Age have been reduced to some sort of order by work in Rhodesia, Kenya, the Kharga oasis, Palestine, Kurdistan, and India. A quite new neolithic culture has been discovered in Egypt. In

Mesopotamia a hitherto unsuspected phase of civilization in which the origins of writing, arithmetic, and monumental architecture are clearly traceable has been interpolated. The pre-history of Assyria and Baluchistan, a blank five years ago, has been disclosed in outline.

The result of these investigations is not just an addition of fresh facts to old ones. On the contrary, by filling in gaps and lighting up the background the fresh data have entirely changed the complexion of the old. And so it has proved impossible to produce a new edition of *The Most Ancient East* by mechanically incorporating the additional material. The whole pattern had been changed, and the book must be rewritten. At the same time the objects illustrated and concrete facts described in the former book have not been robbed of significance nor superseded by being placed in a new and brighter setting. They remain essential to a comprehension of the pattern and have accordingly been restated or reproduced in the present volume.

Not that the latter makes any claim to completeness or finality. Recent discoveries often raise as many problems as they solve. The cultural pattern in the Near East is seen to be even more complicated than had been supposed five years ago. Accordingly we have often been obliged to formulate questions without offering answers and to state facts without venturing on an interpretation at all. Nevertheless the vital process of the making of civilization is more and more taking shape before our eyes, and despite gaps and obscurities the reader can now witness the creation of that tradition, not only of material culture, but also of science, art, and political organization to which we moderns are heirs.

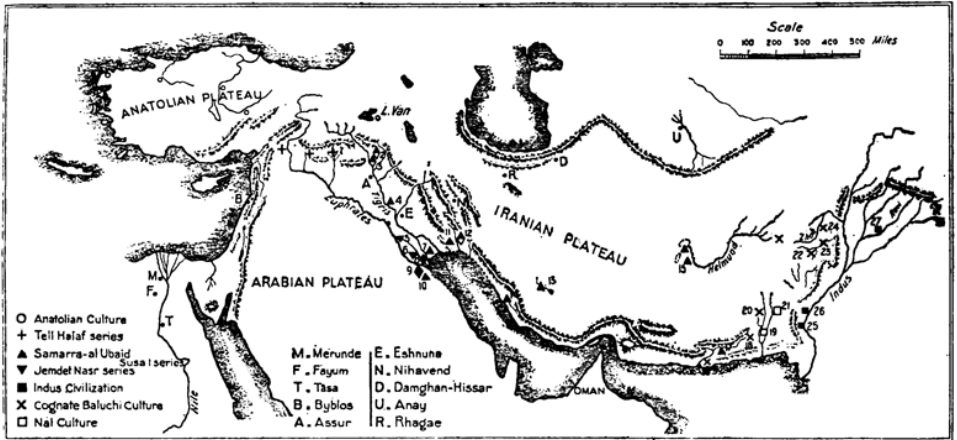
I have to thank my hosts on a journey to Iraq and India, undertaken for the preparation of this work—the Directors of the Iraq Expedition of the Oriental Institute of the University of Chicago, of the Uruk Expedition of the Notgemeinschaft der deutschen Wissenschaft, of the Joint Expedition of the British and Pennsylvania University Museums and of the Archæological Survey of India—both for their generous hospitality and for their courtesy in displaying and explaining sites and relics. Miss D. Garrod, Professor Frankfort, Professor Junker, Dr. Leakey, Baron von Oppenheim, and Dr. Woolley have most obligingly given me information as to unpublished finds, while Mr. G. Brunton, Mr. M. C. Burkitt, Miss Caton-Thompson, Dr. Mackay, and Dr. Mallowan have in addition been so good as to read through and correct sections of the manuscript. For the illustrations I am indebted to the Trustees of the British Museum, the Keeper of the Ashmolean, the Director-General of Archæology in Egypt, the Director-General of Archæology in India, the Conservateur of the Louvre, the Director of the Royal Scottish Museum, the Keeper of the University Museum of

Archæology, Cambridge, the Society of Antiquaries of London, the Royal Anthropological Institute, the Egypt Exploration Society, the Editor of *Antiquity*, Professor H. Breuil, Mr. G. Brunton, Mr. Campbell Thompson, Miss Caton-Thompson, Professor Junker, Miss Garrod, Professor Langdon, Professor Menghin, Sir W. M. Flinders Petrie, Baron Max Freiherr von Oppenheim, Dr. A. E. Speiser. My colleague, Mr. C. R. Wason, has very kindly read the proofs.

V. Gordon Childe.

December, 1933.

MAP OF THE NEAR EAST



1, Tell Halaf; 2, Tepe Gawra; 3, Nineveh; 4, Samarra; 5, Kish; 6, Fara; 7, Lagash; 8, Erech; 9, Ur; 10, Eridu; 11, Musyan; 12, Susa; 13, Persepolis; 14, Bushire; 15, Sistan; 16, Suktagen-dor; 17, Shahi-tump; 18, Kulli; 19, Nundara; 20, Mehi; 21, Nal; 22, Sur-jangal; 23, Rana-ghunđai; 24, Periano-ghunđai; 25, Amri; 26, Mohenjo-daro; 27, Harappa.

THE MOST ANCIENT EAST

CHAPTER I

FROM HISTORY TO PREHISTORY

BARELY a thousand years ago Scotland and the rest of northern Europe were still sunk in the night of illiteracy and barbarism. A thousand years earlier and history's light shines upon our dark continent merely from a few points on the shores of the Mediterranean. And in the next millennium these points flicker out one by one until only the ghostly radiance of heroic myth lights up the storied walls of Troy and Tiryns. The prehistoric archæologist can shed some light on the savage past of our ancestors and forerunners by digging up their rude tools and clumsy ornaments and arranging them in approximate temporal series or local groups. He thus wins the picture of the material life of various peoples who inhabited Britain and adjacent territories at successive epochs, and can at times even trace the wanderings of such human groups with the aid of their artifacts.

Yet the people so revealed remain almost inevitably nameless; their spiritual life is virtually a sealed book to us and their very antiquity may be a matter of doubt to many. But one thread is clearly discernible running through the dark and tangled tale of these prehistoric Europeans: the westward spread, adoption, and transformation of the inventions of the Orient. And it is from a study of objects of Oriental type found, imported, or copied, in the cultural provinces of Europe that we may hope to define in more than purely relative terms the age of the several cultural groups recognized in illiterate Europe before the middle of the first millennium B.C.

For on the Nile and in Mesopotamia the clear light of written history illumines our path for fully fifty centuries, and looking down that vista we already descry at its farther end ordered government, urban life, writing, and conscious art. There in the Ancient East, too, some episodes at least in the great drama of the conquest of civilization are enacted on the open stage. The greatest moments—that revolution whereby man ceased to be purely parasitic and, with the adoption of agriculture and stock-raising, became a creator emancipated from the whims of his environment, and then the discovery of metal and the realization of its properties—have indeed been

passed before the curtain rises. Yet even so, we are so much nearer the beginnings on the banks of the Nile and the Euphrates that we have better hope of understanding those most momentous advances there than from any scrutiny of kitchen-middens on the Baltic or of shell-heaps on the Scottish coasts. And frequently the data from the Orient serve as a written commentary upon European prehistory. Some of the peoples of Oriental antiquity were close kinsmen to the neolithic inhabitants of parts of Europe or descendants of the race of palæolithic hunters who had lived there before. From the Oriental kinsmen of our barbarian ancestors may we not expect to learn something even of the spiritual life of the latter? May not the practices of the Orient, glossed by literary texts, throw light on contemporary usages in silent Europe?

The prehistoric and protohistoric archæology of the Ancient East is therefore an indispensable prelude to the true appreciation of European prehistory. The latter is at first mainly the story of the imitation, or at best adaptation, of Oriental achievements. The record of the achievements themselves is enshrined in the former.

Now in no sphere of archæological or anthropological research are such startling discoveries being made as in the Ancient East. I need only instance the opening up of a quite new chapter in Egypt's remotest past at Badari, disclosing a flourishing neolithic culture older than any previously known elsewhere, or the dazzling revelation of the brilliance of Sumerian civilization at the end of the fourth millennium B.C. or again the dramatic entry of India on to the stage of Oriental history with the excavation of Harappa and Mohenjo-daro. An appreciation of these revolutions from the point of view of the purely archæological story of human culture has not yet been attempted. And even the archæological context to which they belong is by no means readily accessible to the ordinary worker in the field of prehistory. That is my excuse for offering in this volume a survey, that cannot help being one-sided, incomplete, and inconclusive, of the results of the work of specialists in a field different from, though cognate to, my own.

As a preliminary it is necessary to recapitulate some conclusions of the philological historian so as to define the basis of early chronology that forms the framework for my tale and to introduce the actors who are to play the leading rôles in our drama.

In Egypt the written records—primarily the compilation in Greek by Manetho, composed under Ptolemy Philadelphus, and then certain fragments of much older native Egyptian annals, particularly the so-called Turin Papyrus written about 1300 B.C. and the Palermo Stone inscribed some

fourteen hundred years earlier—serve to date the archæological monuments from about three thousand B.C. onwards. This historical period which begins with the unification of Upper and Lower Egypt as a single kingdom by the first Pharaoh, traditionally called Menes (really a composite personage), has been subdivided by Manetho into dynasties. Modern historians recognize three main periods of Egyptian greatness, termed the Old, Middle, and New Kingdoms respectively, separated by intervals of decline or even chaos; the Old Kingdom corresponds to Manetho's Dynasties III-VI, the Middle his XIth and XIIth, and the New to the XVIIIth and XIXth. Throughout the whole of this period it is possible to give the age of most monuments in terms of solar years thanks to the lists of kings and their reigns controlled by certain astronomical dates given by peculiarities of the Egyptian calendar. And there is one yet earlier date, definable in like numerical terms, that, according to one school of interpretation, takes us back into a prehistoric epoch—that date is the introduction of the calendar itself.

The Egyptian calendar, that forms the most immediate forerunner of our own, was created in response to an imperative demand of Egyptian agriculture. The Nile is the very life of Egypt, and all agricultural operations, upon which the prosperity and indeed the very existence of prince and peasant depend, are regulated by its flood that recurs annually with mathematical regularity. The recurrence of this vital event was a challenge to the dwellers on the Nile to devise some more exact system of measuring time than the lunar reckoning of barbarians, in fact to effect an artificial reconciliation of the lunar and solar years, in order that the necessary agricultural operations might be put in hand in due time. Now in the latitude of Memphis and Heliopolis at the apex of the Delta the beginning of the inundation coincides with the heliacal rising of Sothis, our Sirius; that is to say, Sirius appears on the horizon just before dawn on the same day as the flood reaches those cities. Hence some genius, resident presumably in Memphis or Heliopolis, elaborated a calendar for the guidance of cultivators in which the heliacal rising of Sothis was to mark the beginning of the official year and to give the signal for the cycle of labours in the field to start. The official year was to consist of twelve months of thirty days with five intercalary days superadded. Such a reconciliation of the primitive lunar calendar with the solar year was a really extraordinary achievement and implies a body of collected and systematized experience and a degree of forethought not to be found among barbarians. Yet the system must in all probability have been devised and brought into operation in the year 4236 before the beginning of our reckoning.

A slight imperfection in the system makes it possible to calculate this date so exactly although no written documents have survived from so early an age. The Egyptian year fell short of the true solar year by just under six hours, a discrepancy that would at first pass unnoticed but would mean in a couple of centuries that the official seasons, “Inundation,” “Sowing,” “Harvest,” could have no relation to the activities they had been designed to guide. In fact New Year’s Day, which was at all times celebrated on the day of the heliacal rising of Sirius, would only coincide with the first day of the official year once in 1461 years. This period is often termed a Sothic cycle. Now we know that a Sothic cycle began in A.D. 139, and it is possible to connect with the Sothic system the accession of several kings in the XVIIIth dynasty and of one (Senusert III) even as early as the XIIth. The beginning of the last-named dynasty cannot on the strength of the royal lists possibly be put later than 2000 B.C.^[1] Hence the introduction of the Sothic calendar must be assigned to a still earlier Sothic cycle either 2776 or 4236 B.C. But the calendar was already established under the Pyramid builders of the IVth Dynasty that reigned according to computations based upon the fragments of native annals earlier than 2776.^[2] Hence if the date for the pyramid age obtained by dead reckoning be accepted, the system must have been established as early as 4236, a thousand years before Menes or our oldest inscribed monuments. That year may therefore rank as the earliest fixed date in human history.

The date just mentioned implies a flourishing and advanced culture a thousand years before the written record begins. Traditions that were still very much alive when the Palermo Stone was inscribed give some information on the protohistoric period. “Menes” was almost certainly a king of Upper Egypt who had imposed his sway on the fertile Delta. Before him there had been kings of Upper Egypt and kings of Lower Egypt, whose names are even recorded on the Palermo Stone; Menes’ work was merely the unification of these two realms, a unification symbolized in the double crown Menes and all his successors wore. But before Menes there had been according to Professor Breasted an older unity created by the conquest of Upper Egypt by the Followers of Horus or *Shemsu-Hor*, the men of the Falcon clan whose original home was in the western Delta.^[3] And behind that conquest went other preparatory events vaguely reflected in tradition. The worshippers of Osiris and Anzti whom Osiris supplanted had mastered the whole Delta or had, on another view, even extended their dominion to Upper Egypt, a conquest that in any case preceded the advance of the Horus clan.^[4] Tradition says that Osiris had taught the Egyptians agriculture and links him curiously with Byblos; cult invested him with the shepherd’s

crook and the ploughman's ox-goad; his personality in any case is reminiscent of an Asiatic vegetation deity. As his human shape is in contrast to the totemic animal deities of the Nile, so the economic system which he represents is far ahead of the African hunting or garden culture. In any case, despite some ambiguities in the tradition its interpretation leaves no doubt as to a former political supremacy of the North over the South that was reversed by Menes when the North had already profoundly affected Upper Egypt. For instance, the hieroglyphic script, used by the dynastic Egyptians, must have been invented in the Delta since plants and animals peculiar to the Delta are prominent among its signs, and the universal adoption of this script in the Nile valley, that cannot of course have been introduced by the southerner Menes, must be referred to some older unification perhaps under the Shemsu-Hor. And the establishment of the calendar may be referred to the same period of northern supremacy.

Linguistics and comparative ethnography offer to guide us still farther back towards the origins of Egyptian civilization. Many philologists regard the Egyptian language as a compound or hybrid speech in which a Semitic strain allied to Assyrian or Hebrew has been engrafted on to an African Hamitic stock such as is represented in a purer form, for example, in Berber. The coincidence of the words for left and right with the designations for east and west is held to prove that the Semitic element came in from the north; for such a terminology for the points of the compass would be natural to a people ascending the river, and the words in question belong to the Semitic stratum.^[5]

The social and religious institutions that face us in such maturity at the dawn of Egyptian history not only challenge us to investigate the process of their growth but also provide us with clues to facilitate the task. Behind the impressive figure of the omnipotent and deified Pharaoh looms the shadow of a humbler personage—the divine king, as Fraser has depicted him, who holds his sovereignty by virtue of his magic power and as its price must lay down his life 'ere that power grow enfeebled with the decay of his body. Pharaoh was in fact not only accredited with many of the functions assigned to such kings among contemporary barbarians; he escaped their fate only through the performance of a magic rite that was equivalent to a ritual death. The *Sed* festival, celebrated periodically by every Pharaoh from Menes, was a magical identification of the king with Osiris, the god who had died and risen again. Its meaning and function were to confer upon the monarch renewed life and vigour by a symbolic death and resurrection.^[6] And so it presupposes a time when Pharaoh's predecessors were actually put to death

ceremonially to make room for young and potent successors lest their magic efficacy vanish with their enfeebled frames.

Similarly a contemplation of the weird animal deities of the Egyptian pantheon has suggested that the Falcon Horus, the Cow Hathor, the Serpent Neith and the rest have grown out of totems. And that implies behind the unified Egyptian State a multiplicity of totemic clans whose patron ancestral animals and plants had become local deities and then, with the unification of the land by the Shemsu-Hor, had taken their places under the Falcon totem of the victorious clan in a national pantheon.

Now on the Upper Nile there dwell to-day people allied to the oldest Egyptians in appearance, stature, cranial proportions, language, and dress.^[7] These are ruled by rain-maker magicians or by divine kings who were until recently ritually slain, and the tribes are organized in totemic clans. The Shilluk, ruled by a centralized king with animal (i.e. totem) ancestry who was ritually slain, illustrate a stage immediately prior to the divine monarchy of Menes. A still older phase is seen among the Dinka: they are a congeries of autonomous totemic clans, often at war with one another, and each ruled by a "rain-maker" who was ceremonially killed before old age overtook him. It really looks as if among these tribes on the Upper Nile social development had been arrested at a stage that the Egyptians had traversed before their history began. There we have a living museum whose exhibits supplement and vivify the prehistoric cases in our collections.

Legends and philology, comparative religion and ethnography thus cast some light on tribal and dynastic movements, on spiritual and social revolutions in the Nile valley long before 3000 B.C. The archæologist's spade has revealed a concrete record of man's progress from savagery to civilization in the same region. It largely substantiates the traditions and deductions just summarized and at the same time it supplements them and enlarges their scope. But further it brings the reanimated body of most ancient Egypt into living contact with Europe's own remote past, infusing for a moment the glow of life into those pale lips.

In due course we shall deal in detail with archæology's revelations that disclose no abstract evolution but the interaction of multiple concrete groups and the blending of contributions from far-sundered regions. But first we must explain one point in the framework on which that picture must be based. Our knowledge of Predynastic Egypt, as it is called, is derived almost entirely from graves that contain no written document from which a calendar date might be obtained. We can do no more than guess at the length of time represented in each of the cemeteries, but thanks to Sir Flinders Petrie we

can arrange the graves in their relative chronological order. Petrie began by an analysis of the way in which the wavy ledges that once served as handles for certain types of jar in the course of years lost their true function as hand-holds and degenerated to mere decorative wriggles. Then he correlated the several stages of this orderly process with phases in the development of other associated articles of tomb-furniture. Eventually he worked out a numerical scale by which the position in time of any one grave relative to the rest can be defined in figures.^[8] The scale consists of the so-called sequence dates (S.D.) numbered from 30 to 80, which of course give no true idea of duration but merely mark successive points in the temporal series without offering any clue as to the intervals separating them. The accession of "Menes" is assigned to S.D. 77, the period between S.D. 30 and 77 is that ordinarily termed predynastic while the newly discovered Badarian civilization can be fitted in before that date.

Attempts have been made to give an approximate absolute value to S.D. 30 by estimating the length of the predynastic age. Sir Flinders Petrie, by a comparison of the number of prehistoric and pre-Roman dynastic graves near Diospolis, came to the conclusion that the predynastic and pharaonic periods were approximately equal in length. Hence S.D. 30 falls in the seventh millennium on the short chronology or about 9000 B.C. on Petrie's. Peake and Fleure, using a different method of computation, assign to the predynastic period about half this duration. MacIver and Mace state that the total number of graves in a cemetery in use throughout the whole period approximates to 500. Assuming that the community whose graves are discovered was similar in size to a modern fellahin village, the period represented by the cemetery would be two thousand years, the adult death-rate averaging to-day one in four years. These figures seem altogether reasonable and we incline to equate S.D. 30 with 5000 B.C.

It may not be amiss here to recall how extremely new our knowledge of Predynastic Egypt really is. The whole volume entitled *Egyptian Prehistory* is not yet forty years old. Prior to 1895 the record in Egypt really began with the Pyramid age. Then Amélinau and de Morgan chanced upon the tombs of the First Dynasty while Petrie laid bare the still older series of graves that took us back to a time when only poor villagers ignorant of writing dwelt upon the banks of the Nile. The prefatory chapter of this volume entitled "Badari" was only opened in 1924, and is not yet available to the general reader. Incidentally the discoveries at that site did more than open a new chapter; they confirmed our reading of the older ones by providing the first stratigraphical confirmation for Petrie's system of sequence dating. In the settlement near Badari the ceramic types, assumed on the theory to be later,

were actually found in ruined huts superposed upon those containing sherds of the supposedly older wares whose priority was thus demonstrated. And now before the Badarian preface Brunton has discovered a Tasian introduction!

In Mesopotamia we stand in 1934 much where we stood in Egypt in 1904. Written records inscribed in cuneiform characters on tablets of baked clay together with the Greek compilation of native tradition composed by Berossus take us back as in Egypt for nearly five thousand years. But the earlier Babylonian dates are even more dubious than the Egyptian. Babylonia was only finally unified into a single kingdom by a dynasty founded by Amorites from the Semitic West termed the First Dynasty of Babylon. Its accession can be fixed by astronomical data to 1955 (or 2196) B.C., a thousand years after the unification of Egypt. Prior to that date Babylonia was divided up between more or less autonomous City States. Despite separatist ideals and linguistic or racial differences one or other of these cities from time to time was raised by energetic rulers to a position of hegemony or even paramountcy over more or less extensive portions of the land.

Now several tablets^[9] drawn up in the latter half of the third millennium have been unearthed that purport to give a list of the cities that had from time to time attained the hegemony with the names and reigns of their rulers who enjoyed such imperial powers. The documents in question in fact offer a list of the high kings of Mesopotamia with the years of their reigns going right back to an event termed the Flood. Even before that catastrophe they name eight or ten antediluvian monarchs reigning in five or six distinct cities for fabulous periods and describe an age of Anarchy before “royalty descended from the heavens” that had lasted for 259,000 years since the Creation.

Could they be taken at their face value such lists would evidently give an exact framework for the chronology of Mesopotamia from its remote beginnings. Unfortunately, however, the tablets more than once present as consecutive dynasties that in reality were reigning contemporaneously in different parts of Babylonia and, when they come down to the earlier dynasties, give figures that are plainly fabulous. Overlaps between kings of the later dynasties can often be proved conclusively from business and other documents dated by regnal years and can be inferred from archaeological evidence with high probability in the case of still earlier kings. The Prediluvian kings' reigns are all incredibly long. Even in the early historical period the years assigned to many kings are plainly impossible. So in the case of the First Dynasty of Kish, the first dynasty after the Flood, the

twenty-three kings of this house are said to have reigned together 24,519 years 3 months and 3½ days! And equally fabulous reigns are attributed to some kings of the Dynasty of Awan, the fourth from the Flood and several yet later kings. Finally, documents bearing the names of the earlier rulers anterior to the Third Dynasty of Kish were till recently unknown.

A clear epoch was marked by the conquests of Sargon of Agade and Narâm-Sin, Semitic princes who reigned shortly after 2525 B.C. But before that there was only a vague “archaic” or “pre-Sargonic” period represented by archaic sculptures and inscriptions, principally derived from the French excavations at Lagash or Tello—a period that rapidly vanished into the mythical. The earlier dynasts mentioned in the lists seemed scarcely better than mythical beings, and some of them actually figured in mythology.

Such was the position till in 1924 Dr. Woolley found an inscription of Anni-padda, son of Mes-anni-padda, who appears in the tablets as the founder of the First Dynasty of Ur, the third dynasty after the Flood. Thus a single stroke of the pick brought a whole epoch, separated in the lists from the oldest previously known royal inscription by several obviously mythical dynasties, suddenly into the purview of sober history. The revelation of the high stage of material civilization already reached under, and perhaps even before this dynasty, together with the discovery of yet more archaic monuments inscribed with pictographs at Kish have now demonstrated that the traditions embodied in the dynastic lists rest upon a very solid historical basis, however distorted the chronology of the earlier periods must be. The date of even Mes-anni-padda is variously given as 3100 B.C. and 2620 B.C.^[10] Naturally then it is at present quite impossible to find any historical basis for the chronology of the earlier dynasties to say nothing of the antediluvian monarchs.

Tradition and legend throw, none the less, some light upon these earliest days of human life in the Tigris-Euphrates plain. In historical times the valley had been occupied by two distinct ethnic elements speaking different languages. The southern part, including the cities of Eridu, Ur, Larsa, Lagash, Umma, Adab, Uruk, and Shuruppak (Fara) was dominated down to the unification of the land under the first Dynasty of Babylon by a curious people known to us as the Sumerians (from Sumer, the Semitic name of the country)—a people distinguished by language and dress. At an early time the Sumerians had spread also over the northern part of Babylonia and even into Assyria as the archæological remains show. But there they were mixed with people speaking a Semitic dialect, akin to Hebrew, Assyrian, and Arabic. As early as the First Dynasty of Kish, the first after the Flood, we find persons with Semitic names among the rulers mentioned on the

dynastic lists, and the towns of the north, Kish, Sippar, Akshak, Opis, and Agade (which latter gave its name in the form of Akkad to the whole of North Babylonia) were traditionally the homes of Semitic rulers.

Political power eventually passed to the Semites. But long after that the Sumerian language, like Latin in medieval Europe, continued to be used in ritual and in magic formulæ, while elements in later Babylonian law are traceable to Sumerian sources. The Sumerians have accordingly been generally regarded as the founders of civilization in Babylonia.

The archæological record will in fact show a people who already wrote Sumerian, spreading from southern Babylonia into Akkad and bringing with them many of the distinctive traits of later Babylonian civilization. The cultural seniority of the Sumerians as compared with the Semites is thus re-established against the criticisms of Eduard Meyer. But the Sumerians themselves may have been a composite people or have had forerunners of a different nationality. Their traditions are somewhat contradictory; the legend of Oannes, a fish-man who swam up to Eridu and taught the people to build cities, points to a southern origin. The worship of deities on artificial high places suggests a mountain people. The names of some cities mentioned as seats of royalty "before the Flood", e.g. Shuruppak and Zimbar, are not easily explained as Sumerian. The terminations resemble those proper to languages such as the Anzanite of Elam, spoken in historical times in the hill countries east of the Tigris. For this vague group Speiser^[1] has proposed the name Japhetite. A people neither Semites nor Sumerians, and distinguished from the latter by fairness of skin, certainly dwelt in early times in the highlands from the Zagros westward. Smith terms them Subaræans, and their language may have been Japhetic in Speiser's sense. Their kinsmen may once have occupied even Sumer.

The political and ethnic diversity thus revealed by Mesopotamian history and tradition is naturally a handicap to the archæologist. Instead of dealing with a unitary area and one or two compact groups as in Egypt he is confronted with a plurality of independent communities, and despite a growing measure of uniformity as time advances, it is often hard to distinguish between differences due to temporal causes and those embodying ethnic divergences. Moreover, the material available is extraordinarily scanty. Earlier excavators only preserved and published inscribed documents or objects of æsthetic interest. First during the last decade have Anglo-American expeditions at Kish and Ur revealed the tools and weapons in use under the first dynasties. These suffice to show that, even more than in Egypt, civilization had reached a very high level by the end of the IVth millennium B.C. that was not surpassed during the whole pre-

Sargonic epoch. Of the prehistoric cultures that preceded, the first settlement in Mesopotamia was uncovered at Tell al'Ubaid in 1922. Then in 1926 another prehistoric settlement of a different type, this time a town where pictographic writing was already in vogue, was unearthed by Langdon at Jemdet Nasr near Kish and later at Kish itself. The culture named after the former place has since been identified also at Ur and Erech—in each case being later than the al'Ubaid remains. Finally, in 1930 the German excavators at Warka, the biblical Erech, were able to distinguish a third phase of prehistoric culture intervening between the two just mentioned. To it the name Uruk period from the Sumerian form of Erech has been given.

Having thus mapped out the historical world as it looked about 3000 B.C., it remains to mention one region which, though not yet historical for us, could nevertheless already boast a civilization fully equal to that of Egypt or Sumer. That region is the Indus valley, where recent discoveries, still only known from one published dig, have revealed a true urban civilization where writing and the other arts of civilization were already flourishing. The script is still undeciphered, and no legends can be plausibly used to interpret the new archæological data. In a later chapter we shall give some account of the remains. Here it suffices to signalize the existence at the dawn of history of a third province that ought to be historical.

NOTES TO CHAPTER I

[1] If the Sothic date for the XIIth Dynasty be accepted it is necessary to reduce the interval between the XIIth and XVIIIth Dynasties resulting from a mere addition of the reigns as given in later sources by assuming that the XIVth, XVth and XVIth Dynasties of Manetho were in fact partly contemporary, ruling in different parts of the land. Sir Flinders Petrie, unwilling to admit of so much reduction, would put the rise of the 1st Dynasty at 4326 B.C. (*Anc. Eg.*, 1931, p. 1).

[2] It is, however, open to doubt whether the totals given in the fragments actually justify this inference. Scharff points out that the figure of 300 years assigned to Dynasties IV and V together involves serious difficulties. It would for instance follow that certain princes who state on their tombs that they had seen several reigns had lived on a minimal reckoning eighty-one, eighty-four, and 114 years respectively. Scharff therefore inclines to the belief that the calendar was introduced under the

IVth Dynasty that actually had its seat at Memphis. See *Grundzüge*, p. 52; *OLZ.*, 1928, pp. 73 f. His arguments compel in any case a reduction of the date of Menes to about 3000 B.C.

[3] Sethe's interpretation of the legends as expounded by Moret, *Nile*, pp. 73 ff., and Scharff, *Grundzüge*, p. 48, cf. note 7. For the "Predynastic Union" see Breasted in *Bull. Instit. Franç. arch. or.*, xxx (Cairo, 1930), pp. 710 ff. and Schäfer's criticism, *OLZ.*, 1932, p. 704.

[4] Newberry and Sethe adopt the former view, while Junker espouses the doctrine that the east-Delta Osiris worshippers subdued Upper Egypt also, *Schmidt-Festschrift*, p. 892.

[5] So Scharff following Sethe; Junker on the other hand would explain the Semitic analogies in Egyptian by the assumption that Semitic and Hamitic had a common origin and denies the validity of Sethe's inferences from the terms for east and west.

[6] So Moret, *Tribe to Empire*, pp. 151 ff.; Seligman, *JRAI.*, 1913, p. 665.

[7] Seligman, *JRAI.*, 1913 pp. 597 ff.; Petrie, *Anc. Eg.*, 1915, p. 70. The attempt to connect the *Shemsu Hor* with the Land of Punt (e.g. Hall, *Anc. Hist.*, p. 92) must be abandoned in view of Sethe's researches. And the "Mesniu" associated with them are not "smiths" but rather "harpooners" who harpooned hippopotami in the Delta marshes; cf. Moret, *Nile*, p. 108, and Hall in *CAH.*, i, p. 261. The traditions about the Land of Punt cited by Hall none the less prove conclusively an element in dynastic Egypt allied to the people of this unidentified southern region in Abyssinia or Arabia.

[8] First worked out in *Diospolis Parva*. The system is elaborated in *Prehistoric Egypt* and the new sequence dates are appended to *Prehistoric Egypt, Corpus of Pottery*.

[9] The most authoritative statement is given by Sidney Smith in the *Early History of Assyria*. Cf. also Professor Langdon's chapter in *Cambridge Ancient History*, vol. i, as amended by corrigenda in vol. ii., and now Langdon and Fotheringham, *The Venus Tablets of Ammizaduga*, Oxford, 1928; cf. *OLZ.*, 1929, p. 913.

[10] Gadd, in Hall and Woolley, *al'Ubaid*, i, for the high date; for the short chronology, Christian and Weidner, *AfO.*, v, p. 140. The short

chronology is undoubtedly too short; cf. Contenau, *Manuel*, iii, p. 1563, and *OLZ.*, 1931, p. 117.

[11] Speiser, *Mesopotamian Origins* (Philadelphia, 1930); for a criticism of Meyer see Meissner in *AfO.*, v, pp. 1-10.

CHAPTER II

THE SETTING OF THE STAGE

THE three oldest centres of true civilization named in our last chapter lie on a belt between the twenty-fifth and thirty-fifth parallel that constitutes the hottest and driest climatic zone in the world to-day. Extreme aridity and excessive summer heats are features common to the three ancient foci and to the intervening regions, though the causes are not precisely the same in each case. Geographically, too, a certain unity characterizes the whole region. Egypt, Sumer, and the Punjab lie in the valleys of great permanent rivers that traverse a more or less continuous desert plateau. The plateau is of course interrupted by marked physiographical features. The Sahara which constitutes its western section is by no means flat; its surface is interrupted by quite considerable ranges and depressions that sometimes fall below sea-level. The Arabian desert forms the natural continuation of the Sahara, but is separated from it by the rift of the Nile valley and is itself broken by the great chasm of the Red Sea. East of that gap and the high gable beyond it the desert slopes away to the depression of Mesopotamia and the Persian Gulf. The farther side of the hollow is bordered by the Zagros and the parallel chains of Western Persia that frame a still more elevated desert, belonging geographically to the Anatolian-Armenian tableland, but climatically nearer to Arabia. And then at the other extremity the plateau breaks down again to the low sweltering plain of Western India. Thus from the Atlantic coasts to the monsoon region of Central India there is a continuous zone of desiccated countries, which, however much diversified, are connected without any insurmountable physiographical transverse barrier to impede intercourse. The unity of the strip between the Atlantic and the Tigris at least is of such an order as to justify the employment of a common term Afrasia to denote the whole region.

On the south the Sahara is fringed with savannah passing over into tropical forest while farther east and in Southern Arabia the monsoon rains promote the growth of a jungle border. Then the Indian Ocean forms the southern limit of our zone and beyond the Indus it is again hedged in by the monsoon forest. The northern frontier would seem to be provided by the Mediterranean but climatologically the winter-rain regions of Spain, Italy, and Greece approximate more closely to the Sahara than to the cyclonic

lands north of the Pyrenean-Alpine-Balkan ridges. And physiographically the last-named chains constitute a more real dividing line than the inland sea. So in Asia, although the desert extends north of the Elburz into the Turanian Basin, it is the continuation of the same lines of folding in the Anatolian massif, the Caucasus and the Elburz and then in the Hindu-Kush and the Himalayas, that forms the true northern border of our zone. None the less, conditions in the Central Asian desert, particularly in the Tarim Basin, are not very different.

At the present time the whole region suffers from a terrible insufficiency of rain that makes it virtually uninhabitable outside the range of irrigation channels that tap the great rivers crossing it. The Atlantic cyclones that water Northern and Central Europe reach the Mediterranean only in winter and miss the Sahara altogether. The same winter storms do indeed reach Mesopotamia, the Iranian plateau and even the Indus valley, but they have been so largely drained by crossing the highlands of Palestine-Syria that the precipitation farther east is inadequate save along a narrow belt in North Syria, and even the high country of Central Persia is virtually desert. At the same time a complicated set of causes prevent the precipitation of the monsoon rains on the Indus basin, which relies on cyclonic rain from the West.^[1] In such conditions the whole region, except for the river valleys that cross it, can support only a sparse and exiguous population, who have little encouragement to cultural progress and have in fact remained backward.

But these conditions did not reign at the time our story opens. While Northern Europe was covered in ice as far as the Harz, and the Alps and the Pyrenees were capped with glaciers, the Arctic high pressure deflected southward the Atlantic rainstorms.^[2] The cyclones that to-day traverse Central Europe then passed over the Mediterranean basin and the northern Sahara and continued, undrained by Lebanon, across Mesopotamia and Arabia to Persia and India. The parched Sahara enjoyed a regular rainfall, and farther east the showers were not only more bountiful than to-day but were distributed over the whole year, instead of being restricted to the winter. On the Iranian plateau the precipitation, although insufficient to feed extensive glaciers, filled the great hollows that are now salt deserts with shallow inland seas whose presence tempered the severity of the climate.

Such are the deductions of climatology, and geology confirms them. The dry wadi beds traversing the Sahara, entering the Nile on either side and draining the Arabian plateau, testify to the erosive power of the rain-waters they once carried off. In Persia and Baluchistan,^[3] the high strand-lines encircling the old lakes bear witness to the flooding of those inland seas as

just forecasted, and into them flowed many streams that are now lost in the desert.



FIG. 1.—Rock engraving in the Sahara at Kef Messiouer near Guelma, Algeria.

We should expect in North Africa, Arabia, Persia, and the Indus valley parklands and savannahs such as flourish to-day north of the Mediterranean at a time when much of Europe was tundra or wind-swept steppe on which the dust was collecting as loess. While the mammoth, the woolly rhinoceros, and the reindeer were browsing in France and Southern England, North Africa was supporting a fauna that is found to-day on the Zambesi in Rhodesia.^[4] The Algerian contemporaries of our mammoth-trappers were hunting the Mauretanian rhinoceros, the African elephant, the gnu, the buffalo, a huge wild ox, the zebra, and perhaps another equid, gazelles, deer, Barbary sheep, and other parkland ruminants as well as the bears, jackals, cave-hyenas, panthers, and lions that preyed thereon.^[5] These animals have been depicted for us by their hunters on the rocks of the Saharan Atlas; in Oran^[6] and Fezzan ([Fig. 1](#)) hippopotami, camels, and ostriches are also depicted. In the very heart of the Sahara at In-Ezzan,^[7] just south of the Tripolitan borders where to-day not a beast nor a tree is to be seen, are paintings of bulls, oryx, and sheep as well as human figures and dogs. Similar drawings have been reported from the vicinity of Lake Chad, the Ouenat oasis 600 miles west of Halfa, the Sudan, Somaliland, and even Arabia. So as far as the archæological evidence goes it confirms the inferences of meteorology. When Europe was more or less icebound, the cyclone belt was displaced southward and approximated to the latitudes where the oldest civilizations of the world were born. There “pluvial periods” should correspond to the northern glacials.

The process of desiccation whose deplorable results we see to-day should have been only gradual. Even after the main European ice-sheets had retreated, the so-called “Boreal” climate reigning in the north, as deduced from the flora and fauna preserved in peat-bogs and on raised beaches, implies a storm track travelling much farther south than to-day, so that at least the northern Sahara would have benefited from a Mediterranean rainfall. First with the onset of the warm moist phase that Swedish geologists term “Atlantic”, did the cyclones begin to settle down into their present northerly track and to desert the north of Africa.

The pleasant grasslands of North Africa and Southern Asia were naturally as thickly populated by man as the frozen steppes of Europe, and it is reasonable to suspect that in this favourable and indeed stimulating environment man would make greater progress than in the ice-bound north.

The only remains of fossil men that have actually been found in early or middle pleistocene deposits of Europe belong to species generically different from ourselves and specialized on lines that could never have led up to *Homo sapiens*. But if we accept the recent report of an expert committee of the Royal Anthropological Institute,^[8] *Homo sapiens*, or a more generalized ancestor thereof, was living in Africa in the lower pleistocene; that is to say, our generic ancestors were cradled on the southern edge of our zone while aberrant genera of the human family were dying at Mauer near Heidelberg, at Piltdown in Sussex, at Trinil in Java, and near Peking. Moreover, the early African ancestors of our species would have been the makers of hand-axes, the type fossils of the Lower Palæolithic Chellean and Acheulian cultures. The growth of such forms from more crudely flaked stones can be traced more clearly in Tanganyika than anywhere else. And Lower Palæolithic tools of this series are found throughout North Africa, in Palestine and Syria, and even India, just as in Western Europe and South Africa.

Early in the pluvial period corresponding to the last great ice-age in Northern Europe, tools made from flakes approximating to the Mousterian type of Europe tend to replace the core tools of the Chellean-Acheulian tradition throughout our zone from Morocco to India^[15] just as in Europe. But in Europe Mousterian implements were invariably associated with a curious species of man, *Homo neandertalensis*. This creature is not in the direct line of ascent, but seems to have been specialized north of the Eurasiatic spine to meet conditions of intense cold. In Palestine, on the contrary, the skulls recently found associated with Mousterian-like tools, are less warped by specialization under adverse conditions.^[9] Their capacity is larger, the cranial vault is higher, above all there is a distinct chin, a feature

altogether lacking in Neandertal man. This sort of man might conceivably have been able to interbreed with our unspecialized ancestors.

Now, throughout Africa we find groups of associated flint implements, what are called industries, which plainly derive their technique from the “Mousterian” tradition. The flakes are struck from cores, prepared by the same peculiar process as used by the Mousterians; many of the tools resemble the Mousterian in form. But the African industries include tools far finer than anything ever produced by the Mousterians of Europe; some of the implements may have been retouched by processes, such as pressure flaking, that were in Europe employed only by *Homo sapiens*. Finally, they may be mixed with blade tools or at least co-exist with blade and burin industries. Now industries characterized by blades and burins appear in Europe associated with *Homo sapiens*, modern or neanthropic man as opposed to the archaic palæanthropic species represented at Mauer, Piltdown, or Neandertal. Hence the developed Mousterian-like industries of Africa are often called neanthropic industries of Mousterian tradition; they are “Mousterian” but influenced by neanthropic forms and techniques.^[10] Perhaps their authors were produced by crossing between non-Neandertal Mousterians and *Homo sapiens*.

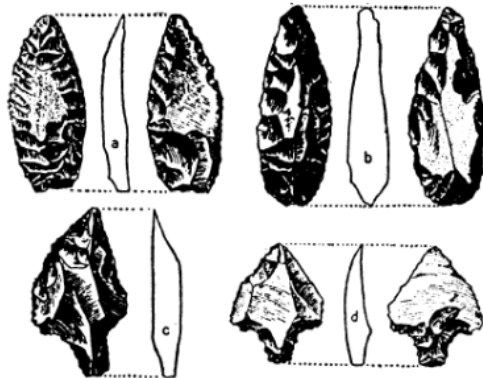


FIG. 2.—'Sbaïkian (a, b) and Atérian (c, d) points, Tunisia. a, $\frac{1}{3}$; b, $\frac{1}{4}$; c, $\frac{1}{3}$; d, $\frac{1}{3}$.

The industries in question are widespread both in space and time. New varieties are constantly being described and decorated with unpronounceable names. A few types may here be mentioned. A flake shaped like a Mousterian point and produced according to the Mousterian technique but finely flaked over both faces has been termed a 'Sbaïkian^[11] or Still Bay^[10] point; it is just a Mousterian point to which the neanthropic technique of pressure-flaking has been applied, but it may approximate to the Solutrean

laurel-leaf in shape ([Fig. 2a-b](#)). Points more or less complying with the above definition are found throughout North Africa, in Somaliland, East Africa, and southwards to the Cape.^[11] Perhaps they were developed at various points where Mousterian and neanthropic tradition fused. In any case, they provide a local ancestry for certain neolithic types in Egypt which some had wanted to derive from the northern Solutrean. In North Africa they may be associated with what has been termed an Atérian point. This is a Mousterian point, the butt of which has been trimmed down to a tang ([Fig. 2, c-d](#)), and could be regarded as a crude precursor of the neolithic tanged arrow-head.

The neanthropic industries themselves are all characterized by a more elaborate preparation of the core than was known to the Mousterians, so that it will yield long narrow flakes termed blades. The type tool is everywhere the graver, an implement well adapted for cutting bone or ivory and perhaps implying a regular bone industry such as seems lacking among the Mousterians. End-scrapers, pushed backwards and forwards instead of dragged from side to side, are now relatively more common than in the Mousterian cultures, and fine knives are made by blunting one edge of a blade by pressure flaking. Industries characterized by such types appear in Europe with modern men just after the first maximum of the last ice age (Würm) and probably in two waves, Lower and Middle Aurignacian respectively. Distinct but parallel industries, in some cases possibly ancestral to the Aurignacian, are found throughout North and East Africa, in Hither Asia, and in Southern India. They show considerable diversity among themselves: an obvious contrast between most African groups and those from Hither Asia seems particularly significant, foreshadowing as it does an even more marked contrast in neolithic cultures. The flint types from Kurdistan,^[12] Syria,^[13] and Palestine^[14] show a certain kinship to the Middle Aurignacian of Europe, and include the so-called beaked graver and the keeled scraper or push plane. In the African series such forms are exceptional, and analogies with Lower Aurignacian may be detected. In the best known single group, the Capsian of the Sahara fringe ([Fig. 3](#)), angle graters and end-scrapers on blades replace the beaked and keeled types.

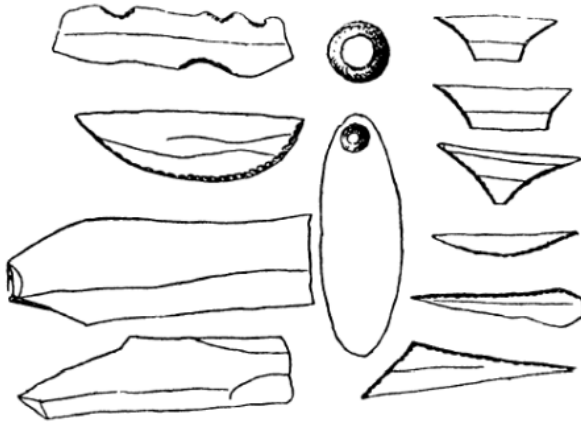


FIG. 3.—Capsian I flints and ostrich-egg disc, Aïn Mauhaâd, $\frac{1}{4}$.

The chronology of all these industries is, however, somewhat vague. In Palestine it looks as if the maximum of the last pluvial had passed before the “Middle Aurignacian” appears. In the caves of Mount Carmel^[16] deer and forest beasts predominate in the “Mousterian” layers, whereas desert animals like gazelles are almost equally prominent in the “Aurignacian”. And here evolved Capsian types eventually replace the Middle Aurignacian, presumably as a result of an intrusion from the south.

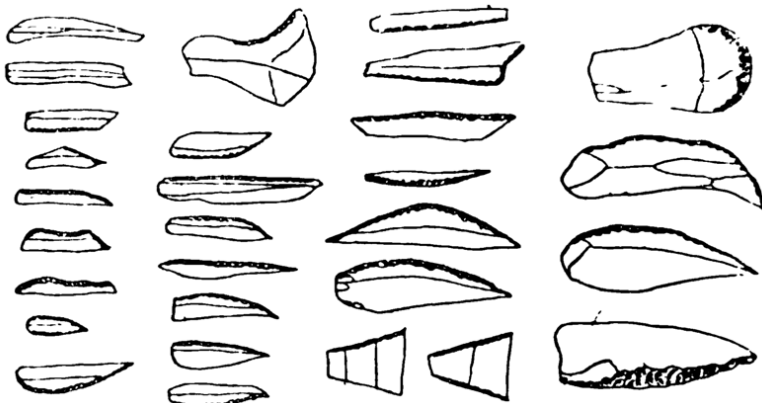


FIG. 4.—Later Capsian (Getulan) flints, Morsotte and Ali Bacha, $\frac{1}{4}$.

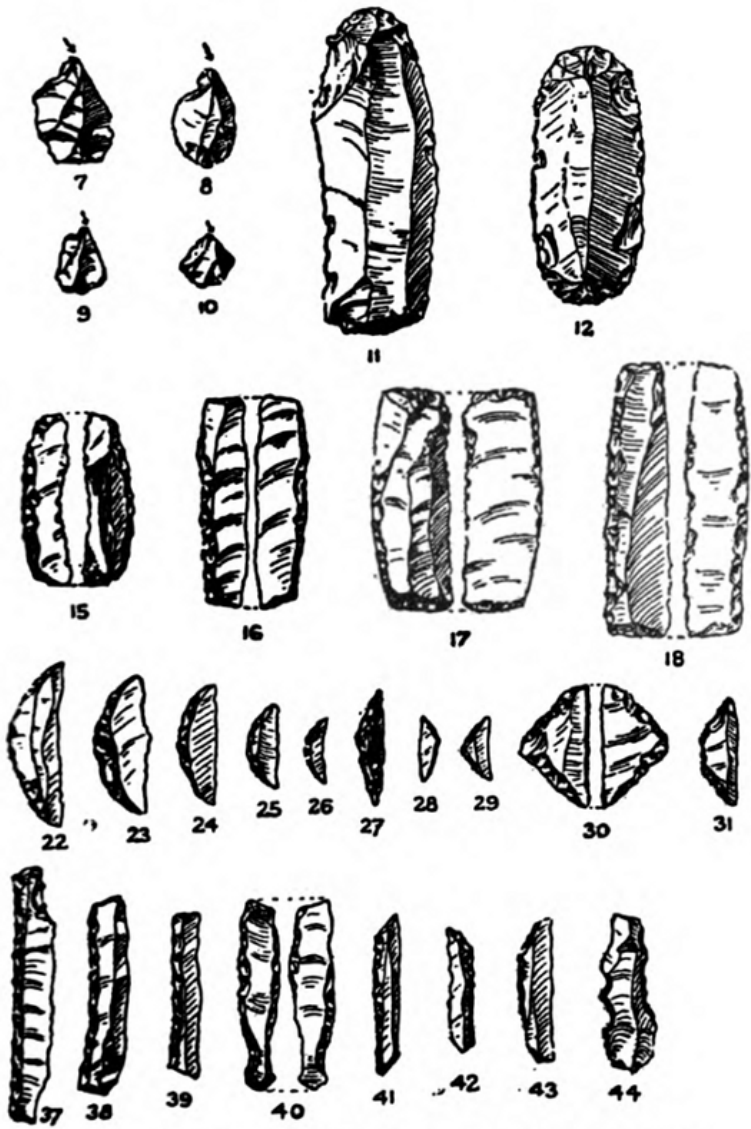


FIG. 5.—Natufian flint implements, 1/3. (After *JRAL*.)

Eventually all the industries begin to assume a “mesolithic” aspect; the flints diminish in size, tending to become “pigmy” or “microliths”, and assume increasingly geometric forms. These tiny tools can seldom have been used alone; they must rather have been mounted together in wooden or bone hafts as members of composite tools. Nothing suggests that their makers were pigmies as Menghin^[17] argues; the skeletons found with the tiny flints^[18] belong to men of normal stature, or even tall. And microlithic

industries are by no means all contemporary. In geologically early layers in Kenya microliths, including lunates (like Fig. [5](#), [23](#)) and triangles (like Fig. [5](#), [30](#)), and even the so-called micro-burins, probably by-products in the manufacture of such forms^{[19][21]} (like Fig. [5](#), [7](#)), already occur. The same seems to be true of the North African Capsian. And some microlithic types, notably lunates and trapezes, but perhaps not the micro-burin, survive into quite late historical times in Nubia.^{[20][22]} The term mesolithic, justified in certain areas such as Western Europe by the occurrence of similar assemblages of microlithic flints in strata intermediate between the normal palæolithic and the normal neolithic or copper age, must be used with caution. It must not be assumed that because some industries in North Africa, Palestine, or Kenya are designated mesolithic they are really any older than advanced cultures, neolithic or even metal-using, in Egypt or Mesopotamia. They have to be mentioned at this stage because it is often very difficult to distinguish them from the palæolithic cultures, the pure traditions of which they carry on.

In any case cultures characterized above all by the manufacture of geometric microliths are scattered about from the Atlantic coasts of Morocco to the Vindhya Hill in India ([Fig. 6](#)) and from Kenya (or even South Africa) to Northern Europe. The similarities in the flint work alone are so great as to suggest a good deal of migration such as might be expected as a result of the incipient desiccation. But migrations cannot be effectively traced with the aid of flint work alone, and allowance must be made for possible parallelism in evolution in several areas. Even within the zone which specially concerns us considerable diversity may be detected among the industries of mesolithic tradition. In what is termed the Iberomarusian or Oranian of the northern, best watered parts of Algeria and Morocco the Atérian tradition is still in evidence. The Sebilian of Upper Egypt is derived by Vignard direct from a local Mousterian. On the northern fringe of the Sahara in Algeria and Tunisia we find just miniature Capsian types.

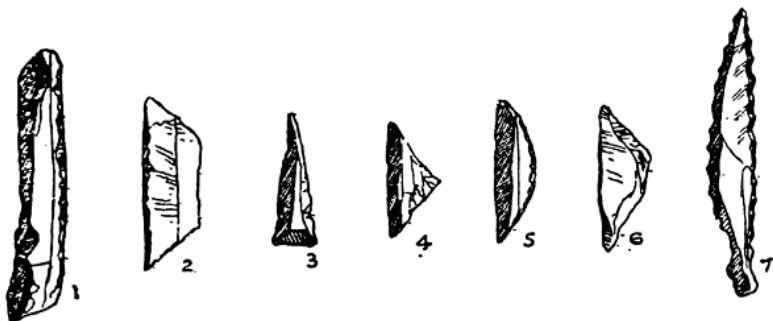


FIG. 6.—Microliths from Vindhya Hills, India, after *British Museum Stone Age Guide*, natural size.

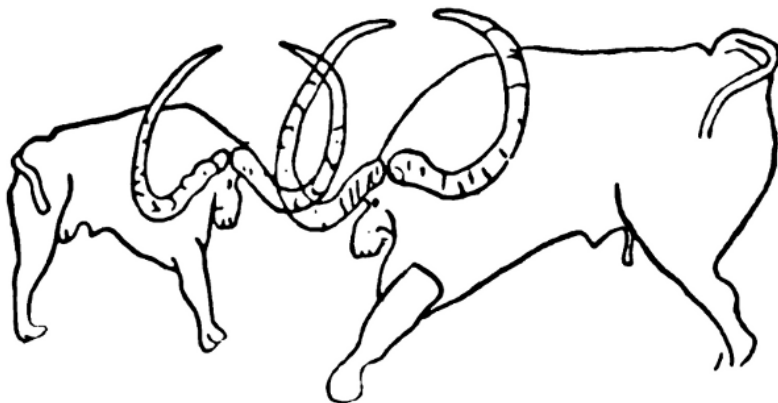


FIG. 7.—Petroglyph depicting the extinct *Bubalus antiquus* on the rocks near Er Richa, Oran. The larger buffalo is 6 ft. high.



FIG. 8.—Rock-engraving showing elephants and leopards, near Géryville. The whole scene is 25 ft. long.

A variety in the palæolithic and mesolithic population is attested by other lines of evidence. We have already referred to the paintings and engravings^[6] depicting in desert surroundings animals that are at least locally extinct. Whatever their age, they are comparable to, but certainly distinct from, the famous cave art of France and North Spain. And they differ

stylistically and technically among themselves. The engravings (Figs. [7](#) and [8](#)) best known from the Saharan Atlas, but recently discovered as far east as Fezzan^[24] form a single stylistic group. The paintings from South Tunisia, the Ouenat Oasis, and In-Ezzan show such striking stylistic agreements with those on the walls of caves in South-East Spain ([Fig. 9](#)) on the one hand and the earlier “Bushmen” paintings of Southern Rhodesia^[25] on the other, that the artists in each area must have been inspired by a common tradition. Engravings or paintings of different styles have been reported from Palestine,^[26] Arabia,^[27] and even India,^[28] but their age is still less clear than that of the North African. This variety of artistic styles is another proof of ethnic diversity, but at the moment it seems premature to correlate the art groups with those defined by flint work in our area.



FIG. 9.—Scenes painted on the walls of a rock-shelter near Alpera, South-East Spain, $\frac{1}{2}$, after Breuil.

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ind.



FIG. 10.—Painting from a shelter at Singanpur, India.

Nor can either with any confidence be connected with definite racial types. These are, however, varied enough. In Europe we had already in Upper Palæolithic times proto-negroids (only two at Grimaldi, in North Italy), tall Cro-Magnons (commoner), the races of Pĕdmost and Combe Capelle and perhaps also proto-Esquimaux (at Chancelade).^[29] So in North Africa and Palestine several racial types appear at an early date. From Asselar, on the southern edge of the Sahara, north of Timbuctoo, comes the skeleton of a tall long-headed man in a sense related at once to the Grimaldi negroids and the early “pre-Bushman” negroids of South Africa.^[30] The Capsians and Oranians belonged to a different stock, rather tall, with long but wide heads and retreating foreheads.^[31] Both these types differ from the modern “Hamitic” population of North Africa, but the ancestors of the latter, tall long-headed folk, seem to be represented by the skeletons from “Aurignacian” and “mesolithic” layers in Kenya and Tanganyika.^[32] Yet another stock, standing only 5 to 5¼ ft. high, with long narrow heads and a small brain-case, is represented by the Natufians of Palestine. Yet the latter and both the North African races practised the removal of the upper incisor teeth, a practice that survives to-day among the Bantu tribes of Central and Southern Africa.^[30]

Finally we have to admit a considerable economic diversity among the various palæolithic and mesolithic peoples disclosed between the Atlantic and the Bay of Bengal. All were probably gatherers of one kind or another and so relatively savage. But there are degrees of savagery and varieties of food to gather. The Capsians and Oranians had evidently specialized on snails and molluscs; their settlements are marked by immense heaps composed largely of snail-shells, and so termed *escargotières* in French. The Natufians^[23] in Palestine fished and speared their fish with fine bone

harpoons whose barbs project from a slender cylindrical stem ([Fig. 11](#)). Some peoples may have concentrated on the collection of edible roots or berries. On Capsian sites have been found rounded stones perforated artificially to take a shaft; they are identical in form with the stones now used by the Bushmen to weight digging sticks.^[33] Perhaps they were so employed by the Capsians; but they may, of course, have been mace-heads. But everywhere presumably hunting was the main basis of life.



FIG. 11.—Two Natufian harpoons. University Museum, Cambridge, $\frac{3}{4}$.

Still the hunters were not naked savages; the women at Cogul in south-east Spain, and probably at In-Ezzan, wore long garments. Feather head-dresses are depicted in Spanish and African pictures. The Capsians and the Aurignacians of Kenya chipped little disc-shaped beads out of the shells of ostrich eggs. The Natufians wore chaplets, necklaces, bracelets, and girdles of perforated shells and pendants of bone carved to resemble deers' teeth.

The Capsians bored pebbles for pendants. The bow is depicted in the East Spanish paintings and Saharan engravings, while the little lunates and trapezes may already have been used as arrow-heads, as they indubitably were later on (by the bowman on the Lion Hunt palette in [PLATE XI](#), for instance). But the bow is already a sort of engine. Boomerangs and maces seem also depicted as part of the armoury. The dead were ritually buried in the Sahara in the shell-heaps, in Oran and Palestine in the caves where their relatives lived. The North African art may have had a magical or ritual significance. The Natufians in Palestine laboriously quarried small circular basins with projecting rims in the rock floor of their caves.

Such people were no homeless nomads. The size of the Capsian midden-heaps and the depth of the deposits in the various caves denote prolonged occupations. Nonetheless, the conditions of palæolithic and mesolithic life in Afrasia probably involved a great measure of mobility. Huntsmen, above all in a steppe region such as the land was becoming in post-Mousterian times, have to roam long distances in pursuit of herds of game. They may have to shift their abodes altogether in the event of droughts or other causes reducing the game supply. Through such normal or abnormal movements the several groups would be brought into mutual contact—friendly or hostile—and have opportunities for an exchange of gifts and ideas or stealing alien objects and imitating the manners of their foes. Hence an environment, thus populated, provides exceptional facilities for the diffusion of inventions and discoveries.

These facilities are augmented if the invention constitute an economic revolution. Food-production—the deliberate cultivation of food-plants, especially cereals, and the taming, breeding, and selection of animals—was an economic revolution—the greatest in human history after the mastery of fire. It opened up a richer and more reliable supply of food, brought now within man's own control and capable of almost unlimited expansion by his unaided efforts. Judging by the observed effects of the Industrial Revolution in England, a rapid increase of population would be the normal corollary of such a change. Incidentally children who are liable to be a burden to the hunter can, while still quite small, be usefully employed by the food-producer weeding fields or minding cattle. But the mere numerical growth will involve soon an expansion over a wider area. The pastoralist is notoriously inclined to nomadism, but certain types of cultivator cannot be strictly sedentary.

A simple form of cultivation still practised over wide areas in Africa is generally termed hoe-culture or garden-culture. Small plots are tilled with hoes—generally by women—and the grains sown thereon until the crops

begin to deteriorate. Neither manuring nor regular fallowing is observed. When a plot becomes exhausted a new strip of virgin land is cleared and tilled. Eventually, when one area is used up, the whole settlement is transferred to a new site. Hoe-culture may thus actually entail nomadism.

But if the cultivated area happens to be a terminal oasis, or a wadi bed subject to periodical flooding, migration ceases to be necessary. The inundation brings down new soil which is deposited as silt upon the fields, renewing their virtue.

If, again, the flood be sufficiently regular and come at the right season, it may take the place of rain in watering the fields. In that case permanent settlement, possible when flood-lands are cultivated, becomes almost inevitable. To reap the full benefits of irrigation, channels have to be dug to remove surplus water or supply deficiencies. And the cultivator will not willingly leave the field thus made fruitful by his labour; capital has been invested in the land. And the drainage and irrigation works generally demand the co-operation of a whole community. They form an economic bond promoting social solidarity. And the possibility of restricting access to the water supply puts a sanction in the hands of the community. It ought eventually to lead to the political unification of the whole area dependent on a single river system. Actually we shall see that the higher civilizations rested primarily on irrigation cultivation. That does not imply that irrigation cultivation is necessarily later than garden culture. Perry and Cherry maintained the very contrary.

Nor has any agreement been reached as to the relative roles of agriculture and pastoralism in creating the food-producing economy. Professor Menghin^[17] represents a school which holds that domestication of animals and cultivation of plants were initiated by distinct groups. Domestication would arise among hunting peoples, agriculture among those already devoted to the collection of roots, seeds, and berries. Mixed farming would only result from the fusion of pastoralists and cultivators. Others assign the primacy to agriculture; the cultivator could induce wild animals to submit to domestication by the food his operations guaranteed. The nature of the archæological record is liable to favour the latter view unduly; herdsmen living in tents and using bone tools and leather vessels are less likely to leave recognizable traces than cultivators who will leave about sickle-flints and querns and very likely pot-sherds.

In any case, the conditions of incipient desiccation at which we have hinted would provide a stimulus towards the adoption of a food-producing economy. Enforced concentration by the banks of streams and shrinking

springs would entail a more intensive search for means of nourishment. Animals and men would be herded together in oases that were becoming increasingly isolated by desert tracts. Such enforced juxtaposition might promote that sort of symbiosis between man and beast implied in the word “domestication”.

And in Afrasia noble grasses and animals suitable for domestication were growing wild ready for man. Indeed, only in this zone, but probably in its Asiatic rather than in its African section, were suitable species of plants and animals simultaneously at hand.

From the present distribution of wild grain^[34] it has been argued that the cultivation of cereals probably began in Asia. Wild barley is as a matter of fact found in Asia Minor, Transcaucasia, Turkestan, Afghanistan, Persia, Palestine and perhaps Arabia Petraea. But it has also been detected in Marmarica, implying an extension of the natural habitat of the ancestral plant from Palestine across the Isthmus of Suez and the Delta during the pluvial period. Moreover, Vavilov, arguing not from the discovery of stray ears of wild barley but from the number of varieties cultivated, would place another centre of domestication in Abyssinia where, however, no wild barley has yet been found. The wild ancestor of emmer wheat (*Triticum dicoccum* with twenty-eight chromosomes) is alleged to grow native in Western Persia and Mesopotamia, in Syria, and Palestine. According to Vavilov, however, the cultivation of emmer must have begun in North-East Africa or Abyssinia. The uncultivated form of another group of wheats, *Triticum monococcum* or dinkel, grows in the Balkans, Asia Minor, North Syria, and Kurdistan on the frontier of Persia. Some botanists hold that common bread-wheat, *Triticum vulgare*, and allied species, with forty-two chromosomes (e.g. *Triticum compactum*), are the results of crossing between the groups just mentioned. No wild ancestor is known. On Vavilov's principles the original centre of their cultivation must be located in or near Afghanistan. There would thus be several primary foci of agriculture. If bread and club wheats (and small seed flax) come from Western Asia, emmer, barley and large seed flax may have been cultivated first in North or East Africa.

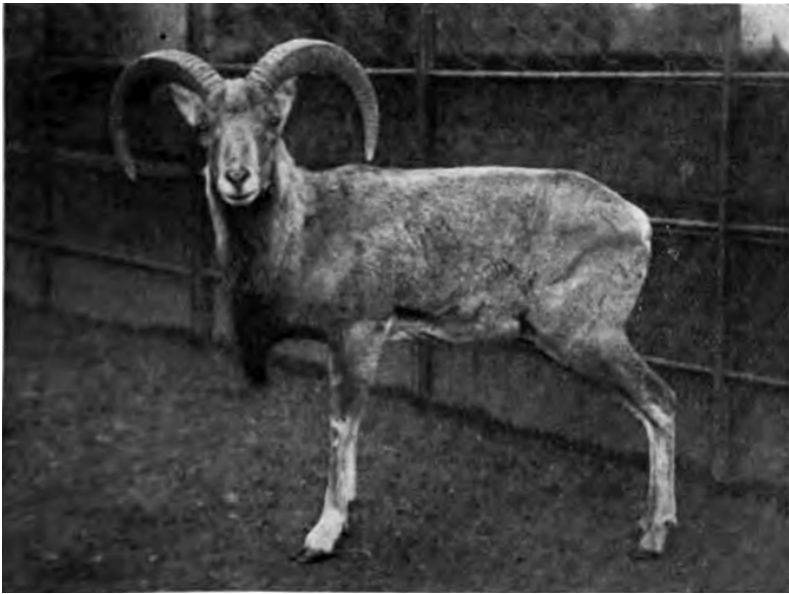
A better argument is founded upon the animals, especially the sheep.^[35] No wild sheep exists in Africa; for the so-called Barbary sheep does not really belong to the genus. On the other hand three wild sheep exist in Asia all of which have given rise to breeds of domestic sheep. The mouflon, *Ovis musimon*, lives north of the Mediterranean in Corsica and Sardinia and once had a wider distribution in continental Europe. A slightly different variety inhabits the highlands of Hither Asia from Anatolia to the Elburz and the Zagros. The Asiatic mouflon appears domesticated on a Sumerian vase

dating from the beginning of the IIIrd millennium B.C. ([Plate XVb](#)), but his European congener was only tamed at a relatively late date in European prehistory. The oldest domesticated sheep found in the Swiss lake-dwellings and other early deposits in Central and Western Europe, *Ovis palustris*, is the domesticated descendant of the Asiatic ural (*Ovis vignei*), a long-tailed sheep. The home of this variety is the northern slopes of the Elburz, Turkestan, Afghanistan, Baluchistan, and the Punjab. The oldest Egyptian^[36] sheep, *Ovis longipes*, is said to belong to the same stock. The third variety of Old World sheep, the argal, lives to the east of the ural. If one may argue from the present distribution of the animals, it would be clear that the sheep at least was introduced into Africa and into Europe from Asia. Still it is perfectly possible that in the pluvial period some sort of mouflon or even a ural lived in North Africa. Though Asiatic or European species are conspicuously rare in the pleistocene fauna of North Africa as enumerated on p. [25](#), it would be possible to point to rock-drawings of camels as evidence that some such types were represented there. Bones vaguely diagnosed as “sheep or goat” are really not rare in the later palæolithic or mesolithic sites of North Africa.^[37] And there are, of course, the mysterious petroglyphs depicting tame wethers obviously belonging to the species *Ovis longipes*.

PLATE II



MOUFLON RAM



URIAL RAM

The existence of various bovids has already been noted; special attention should perhaps be called to the existence in North Africa of a small ox side by side with the huge beast of *Primigenius* race.^[37] And even in Natufian times there was a wild horse in Palestine.^[16]

The conditions for the rise of a food-producing economy were thus fulfilled in Afrasia. And in some of the “mesolithic” cultures there are hints of its advent. Smoothed blocks of stone, shaped like saddle-querns and certainly used for grinding something, have been found on Capsian or Oranian sites in North Africa.^[38] Several rock-engravings of uncertain age depict wethers, undoubtedly tame, but belonging to the Egyptian species of *Ovis longipes*. Finally, the Natufians of Palestine made serrated flint flakes, which they mounted as sickles in straight bone handles and used for cutting straw or some sort of grass, which has left a characteristic lustre on the flints.^[23] Such isolated phenomena do not necessarily indicate the beginnings of agriculture nor the first domestication of sheep. They may rather reflect the diffusion of the new ideas from centres where a fully fledged food-producing economy may already have been at work. In Egypt we have a continuous record of the development of such an economy, and its beginnings at least need not be later than the Natufian or Iberomarusian.

NOTES TO CHAPTER II

[1] On the Monsoon in India see Simpson in *Q.J. Met. Soc.*, 1921, pp. 151 f.

[2] In *Q.J. Met. Soc.* (London), xlvii (1921), Brooks gives maps showing the assumed paths of the rainstorms in various prehistoric phases. See also the same author's *The Evolution of Climate* (2nd edit., 1924).

[3] Sven Hedin, *Overland to India*, ii, pp. 214 ff. De Morgan believes that the mountains of Western Persia were glaciated, but cites no evidence (*Préhistoire orientale*, i, p. 96). It must be remembered that the formation of glaciers depends not only upon depression of temperatures but still more upon increase of the snow fall.

[4] Boule in *L'Anthr.*, x, p. 571.

[5] Fauna actually found in human habitation sites in Northern Algeria; cf. *Rec. Constantine*, 1908, pp. 150 ff.; 1923-4, pp. 83 ff.; *L'Anthr.*, xxvii, p. 363; the bear was *Ursus laterti*, the hyæna, *Hyæna spelæa*, and the deer something between *Cervus elephas* and *C. canadensis*. Cf. Blankenhorn, ii, p. 16.

[6] Frobenius and Obermaier, *Hadschra Maktuba*; Flamande, *Les Pierres écrites*; cf. Boule, *Fossil Man*, p. 387; Hassanein Bey, *The Lost Oases*, p. 205; Breuil in *Rev. scientifique*, 25 fév., 1928; Solignac, *Les Pierres écrites de la Berbérie Orientale* (Tunis, 1928).

[7] *Antiquity*, i, p. 353.

[8] *Man*, xxxiii, 66.

[9] First International Congress of Prehistoric and Protohistoric Sciences, London, 1932, Sect. I.

[10] Cf. Burkitt, *South Africa's Past in Stone and Paint*, Cambridge, 1928.

[11] *Real.*, i, pp. 112 ff., cf. now *JRAI.*, lxi, p. 240, and lxii, p. 380; *Man*, xxxi, 91; Leakey, *Stone Age Cultures of Kenya Colony*, Cambridge, 1931, p. 78 ff.

[12] *Bull. Amer. Sch. Prehistoric Research*, vi, 1930.

[13] *Archives suisses d'anthr. générale*, v (1928-9), pp. 135 f.

[14] *Bull. Amer. Sch. Preh. Res.*, vii, 1931.

[15] *Antiquity*, iv, pp. 327 ff.

[16] *JRAI.*, lxii, p. 278.

[17] *Weltgeschichte der Steinzeit*.

[18] e.g. in Kenya, verbal information from Dr. Leakey.

[19] Leakey, op. cit., pp. 95-7.

[20] e.g. *Man*, xxvi, 85.

[21] *L'Anthr.*, xlii, pp. 452-489.

[22] *Real*, loc. cit.

[23] *JRAI.*, lxii, 257-276.

[24] *ILN.*, 26th November, 1932. On the age and affinities of the whole group, see Kühn, *ZfE.*, 1926, p. 358, and *Kunst und Kultur der Vorzeit Europas*, 1928, who argues for an early date, and Obermaier, *L'Anthr.*, xli, p. 69, who considers the whole series post-Pleistocene.

[25] Cf. Burkitt, op. cit.

[26] *ILN.*, 1932, 5th November. These are doubtful.

[27] *Man*, xxxii, 297; *AJA.*, xxxvii, p. 383.

[28] *Journ. Asiatic Soc. Bengal*, 1883, p. 56; *JRAS.*, 1899, p. 95; *J. Bihar and Orissa Res.*, iv (1918), p. 298; *Mem. Arch. Surv., India*, xxiv.

[29] Cf. Peake and Fleure, *Hunters and Artists*.

[30] *Archives de l'Inst. de paléontologie humaine*, ix, 1932.

[31] *Ibid.*, *Les hommes fossils d'Afalou bou Rummel*.

[32] Keith, *New Discoveries relating to the Antiquity of Man*, 1931, p. 209.

[33] *L'Anthr.*, xlii, p. 648.

[34] A good account of the distribution of cereals is given by Peake, *JRAI.*, lvii, pp. 22 f., and in *The Origins of Agriculture* (Benn's Sixpenny Library), but this must now be supplemented by *Antiquity*, vii, pp. 73 ff.,

or Haldane, "Prehistory in the Light of Genetics" (1931), in *The Inequality of Man*, and *Nature*, May, 1933, p. 65, for Egyptian barley.

[35] See J. Cossar Ewart in *Proc. Highland and Agric. Soc.*, xxv (1913), pp. 160 ff. (summarized in Burkitt, *Our Early Ancestors*); Antonius, *Grundzüge einer Stammesgeschichte der Haustiere* (1922); Hilzheimer, *Zeitschr. f. Säugtierkunde* (Berlin), iii, 1928.

[36] Hilzheimer in *Africa*, 1930.

[37] *L'Anthr.*, xlii, p. 476.

[38] *L'Anthr.*, xlii, p. 429. In the same context should be noted sickle teeth, pot-sherds, and barbed or tanged arrow-heads on Final Capsian sites like Abd el-Adhim (*Rec. Constant*, 1923-4, pp. 228 ff.), and potsherds at Jebel Fartas (*ibid.*, 1922-3, p. 125).

CHAPTER III

THE OLDEST EGYPTIAN FARMERS

EGYPT appears to-day above all as a corridor of fertile and habitable country drawn athwart the desert zone which divides the grasslands of the Sudan from the coastal belt of Mediterranean rains. This character is due exclusively to the Nile which is not only itself a moving road but which also fertilizes by its annual inundation a strip of the valley on either bank. Yet Egypt is no geographical unit. The Delta, or Lower Egypt, is an open and once marshy plain continuous with the coastlands of Libya and Palestine and accessible from both quarters and from the sea. Upper Egypt, on the contrary, is a narrow rift bordered on either hand by rocky walls above which lie the now arid tablelands of the Libyan and Arabian deserts. Yet these rock walls are pierced at many points on either bank by the gorges of old streams that drained the plateaux on the east and west during the pluvial period. These dry watercourses constitute entries to the valley for the caravans coming from the Red Sea coasts or from the chain of oases that lie in a depression parallel to the Nile's course.

To-day the country south of Cairo is virtually rainless and would be utter desert save for the annual irrigation by the Nile flood. But in the pluvial period conditions^[1] must have been very different. The valleys of the *wadis* running in from the high desert must have been clothed with spring grasses, including quite possibly wild cereals, and this herbage must have nourished herds of wild asses, Barbary sheep, urus, antelopes, gazelles and giraffes and the lions and leopards that preyed thereon. Even in the historical period hunts for such animals are depicted on the walls of Middle Kingdom tombs. In the valley itself spread extensive swamps, fringing the river, and elephants, kudu, and two kinds of wild pig roamed in the jungle besides the hippopotami, crocodiles, and wild-boars that survived till recent times. To find a floristic and faunistic environment comparable to that encountered by the most ancient Egyptians one must travel far upstream into the monsoon zone. On the White Nile the traveller will find, growing wild, plants that survived in historical Egypt only in gardens.

Hunters from the high plateaux had been visiting the valley from Lower Palæolithic times leaving their implements on the high terraces on either

side. Quite recently a branch of Upper Palæolithic industry has been recognized in the valley itself at Sébil,^[2] just above Gebel Silsileh, and along the channels leading to the Fayum. It is only to be expected that, as the droughts became more frequent and acute on the surrounding deserts, the influx of nomads towards the well-watered valley would be accelerated. And such would be faced with conditions calculated to induce the change from a parasitic to a productive life. Mr. Perry^[3] has stated in glowing terms Egypt's claim to be the cradle of agriculture.

Granting the existence on the edges of the valley of the nobler grasses, ancestors of wheat and barley, the idea of their deliberate cultivation would be suggested on the banks of the Nile as nowhere else. The annual flood and the rich soil it deposited would cause grains dropped on the ground to germinate without human intervention. "The Nile valley," writes Perry, "would, by means of its perfect irrigation cycle, be growing wheat and barley for the Egyptians. . . . All that would be needed, would be for some genius to think of the simple expedient of making channels for the water to flow over a wider area." Modern observers have described, among the Nilotic tribes of the Sudan, a mode of life that might well represent the stage intermediate between the food-gathering culture of the Capsian hunters and the settled agriculture of the oldest sedentary inhabitants of Egypt. The Hadendoa lived last century as nomadic herdsmen in the eastern desert. But they maintained more or less permanent villages within reach of the flooded lands to which they would repair in force in the late summer. Then they scattered millet seeds on the wet mud left by the recent inundation and awaited the harvest. Such people, fixed south of the belt of extreme desiccation, have perhaps preserved for us precisely the mode of life attributable to the immediate ancestors of the Badarians, the oldest agriculturists certainly disclosed to our gaze by archæology in the Nile valley. Indeed, something approximating to the cultural stage represented by the Hadendoa is perhaps illustrated by the remains found at Deir Tasa and other sites on the east bank of the Nile in Middle Egypt, not very far from Badari. These belong to a people who have been termed Tasians.^[4] Some sort of agriculture is suggested only by grain rubbers found in their graves, a semi-nomadic condition by the rarity and dispersal of the graves, and perhaps by Red Sea shells commonly placed in them. Hunting and fishing certainly were still staple industries. A perforated stone, triangular in plan, though found in a woman's grave, may indicate that the mace was used as a weapon. Fish were caught with little hooks of shell or horn ([Fig. 12](#)).



FIG. 12.—Tasian fish-hook $\frac{1}{4}$, after Brunton.

In Tasian times the valley was still largely marsh, and large trees grew on what is now desert at the foot of the valley walls. To work such timber the Tasians made axes (celts) by grinding pebbles to a sharp edge (cf. [Fig. 15](#)). Such ground stone axe-heads are practically unknown in Middle or Upper Egypt in later times, presumably because with the progress of desiccation the timber they should cut was vanishing. To contain food and drink the Tasians already made pots, generally very rough. The vessels are grey to black in colour, but often blotchy owing to uneven firing, and sometimes reddened on the outside by exposure to the oxidizing effects of the atmosphere. Even the last-named vessels are, however, blackened on the inside, presumably because the vases were stood bottom up during firing so that the interior was protected from oxidization and exposed to smoke. They would thus be technically the prototypes of the “black-topped” pottery that in later times will be found characteristic of Middle and Upper Egypt.



FIG. 13.—Tasian pots, $\frac{1}{6}$, after Brunton.

Though the shapes of the vases are simple, many have flat bases ([Fig. 13](#)). Notable forms are a shallow rectangular trough, and a shallow

ladle with a flat, tongue-like projection from the rim to serve as a handle. Most important of all are beaker-shaped vessels of black ware, with a rounded base and flaring trumpet-like rim. The form might ultimately have been copied from a leather receptacle. But the Tasian beakers ([Fig. 13](#), centre) are decorated with incised lines filled with white paste to make the designs stand out. The patterns, arranged in zones, might have been suggested by basketry, and, in fact, baskets of similar shape and ornamentation are made in Africa to-day. The importance of the type lies in the appearance of similar vessels in Western Europe. With the possible basketry ancestry before our eyes, we hesitate to assume a direct connection. In fact, we shall find analogous forms, again decorated in zones, on the Tigris.

There are some faint traces of linen, but details of Tasian costume are unknown. But the face or eyes were probably already painted, since palettes are found in the graves as in later periods. The Tasian palettes are, however, generally made of alabaster, thick and rectangular in contradistinction to later forms. Ornaments were certainly worn. Perforated Red Sea shells, cylindrical beads of bone or ivory, and an ivory bangle have come down to us.

The Tasians were buried in the contracted posture in large pits. The people were dolichocephalic, but some of the skulls seem broader and more capacious, the face wider than among later pre-dynastic Egyptians in Middle or Upper Egypt.

The age of the Tasian graves is not yet unambiguously established. The group seems to stand at the head of a long series of later cemeteries in Middle and Upper Egypt. The Tasians might, as noted, conceivably be compared to the Hadendoa, and treated as very primitive irrigators. But they have cultural and physical relatives in the Fayum and the Delta to whom that designation could be less easily applied.

PLATE III



a. BASKET FROM FAYUM



b. POTTERY AND FLINT LAUREL LEAF FROM BADARI

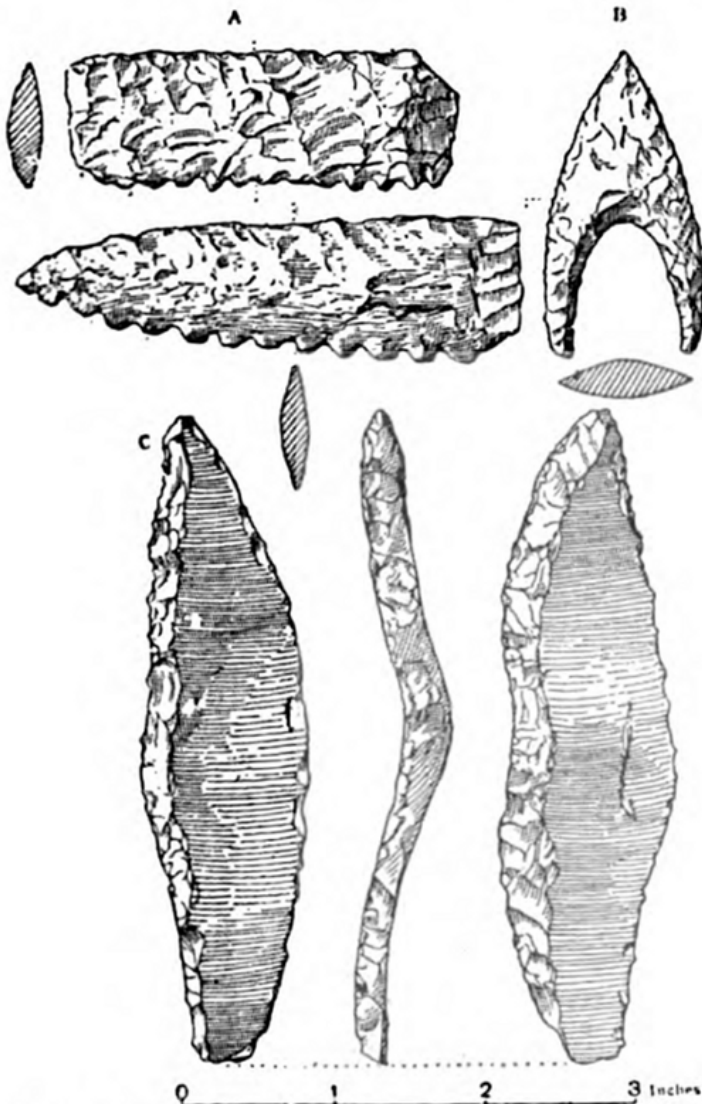


FIG. 14.—Sickle-teeth (A), arrow-head (B), and side-blow flake (C) after Caton-Thomson in *Antiquity*, i. (The flake C has been detached by a blow struck near its centre as shown by the bulb visible in the middle view.)

The Fayum settlements^[5] lie along the edge of an extensive lake that then filled the Fayum depression to a height of 200 feet above the surface of the present lake. The settlers indubitably cultivated emmer wheat and barley identical with that grown in Egypt to-day. Flax was also grown. The cereals were reaped with sickles formed of serrated flint flakes ([Fig. 14a](#)) set in a straight wooden shaft, were stored in silos dug in the earth and lined with

straw matting, and were ground on saddle-querns. Swine, cattle, and sheep or goats were kept. Hunting and fishing were naturally practised. The huntsmen relied principally on bow and arrows; the arrows were tipped with hollow-based flint heads, the long curving wings of which sometimes give them the shape of a mitre ([Fig. 14b](#)). Cylindrical bone points, sharpened at both ends as in the Capsian and Natufian, may also have tipped arrows or darts. Maces were loaded with thick discs of stone perforated or perhaps also with pebbles grooved to take the thong that bound them to the haft. Fish were harpooned. The bone harpoon-heads have barbs projecting from a cylindrical stem, precisely like the Natufian harpoons of Palestine.

Axe-heads with ground edges were made from pebbles as at Tasa, but also from flint. The latter material was also efficiently worked for the manufacture of many other tools, including blades polished on the face. Peculiar is the so-called side-blow flake. It was detached from the core by a blow at right-angles to its length and then retouched on both sides as shown in [Fig. 14c](#). (The age of this type is not quite certain.)

Pottery was manufactured as at Tasa, and the forms are somewhat similar, notably biconical vessels rather like [Fig. 13](#), 1. But the beaker was absent, whereas we meet rectangular dishes rising to peaks at the corners and bowls on a sort of very low pedestal. The excellence of the basketry is shown by [Plate III](#), and weaving is attested by remains of loosely woven linen.



FIG. 15.—Axe- and mace-heads from Merimde, after Junker.

Numerous scrapers suggest also the preparation of skins for use as clothing. Palettes of alabaster closely resembling the Tasian were doubtless employed as on the Nile. Disc-shaped beads made out of ostrich eggshell, as in the North African Capsian, and perforated shells were worn as ornaments. The shells were brought both from the Mediterranean and from the Red Sea or the Indian Ocean, suggesting already some rudimentary trade relations with the outside world such as could so easily arise in the environment described in [Chapter II](#). No burials were encountered, so that the appearance of the people is unknown.

A third culture, somehow allied to the foregoing, has been brought to light by the Austrians^{[6][7][8]} on the desert edge of the Western Delta. The site, Merimde, occupies a spur now 2 km. west of the Rosetta branch of the Nile. The settlement was scattered over an area of 600 × 400 m. From the irregular groups of post-holes they found the excavators infer mud huts supported by saplings, but it is more likely that the posts supported mere wind-screens of matting—a type of abode suggested by later monuments from Egypt and even Mesopotamia, and doubtless inherited from the Old

Stone Age. Cooking was done in shallow excavations in the soil, but raised clay hearths were made presumably to give warmth.

In view of the proximity to the Nile, irrigation might water the fields of emmer wheat. The Merimidian sickles agree with those from the Fayum, but storage arrangements were rather different. The silos were pits with a basket at the bottom,^[6] while the threshing floors^[8] were carefully constructed. They were shallow excavations in the ground walled with sausage-like coils or irregular lumps of mud piled together; a flask would be sunk in the clay floor to drain off moisture. The same animals were kept as in the Fayum. Hippopotami still wallowed in the Delta marshes and were apparently eaten by the Merimdians as by the Fayum people. The huntsman tipped his arrows with hollow-based flint points which, however, generally had straighter sides than in the Fayum. The mace-heads were pear-shaped ([Fig. 15](#)), as in Asia, or spheroid. Flint blades retouched along both edges, but sometimes polished on the face, may have served as knives or daggers or even been mounted at right-angles to the shaft for use as halberds.^[7] The sling is also attested by round sling-stones.^[7] Fish were caught with antler-hooks,^[7] shaped precisely like the Tasian one of [Fig. 12](#), or with harpoons,^[6] which are flat in comparison with the Fayum type. The axe-heads agree closely with those from the Fayum. Needles, bodkins, and chisel-shaped smoothing tools of bone reproduce some Natufian forms ([Fig. 16](#)).

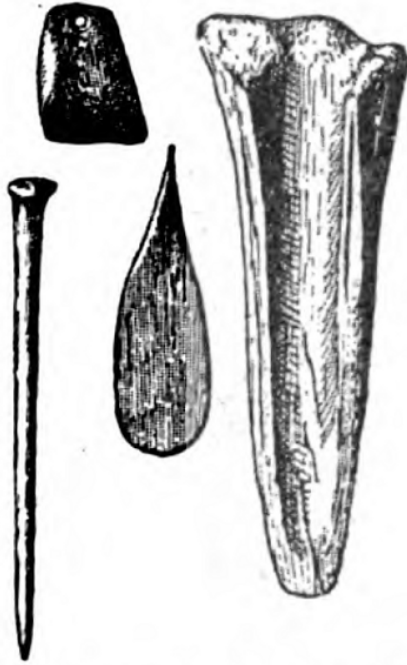


FIG. 16.—Bone implements and axe-amulet from Merimde, $\frac{3}{8}$.

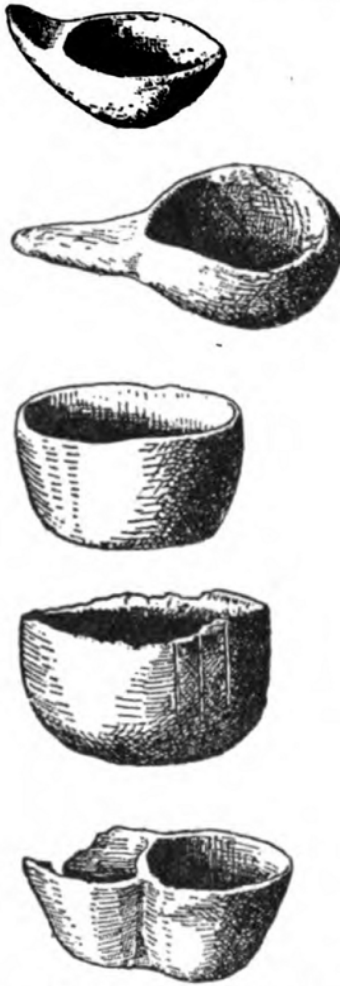


FIG. 17.—Ladles, $\frac{2}{7}$, and pots, $\frac{1}{7}$ from Merimde, after Menghin.

The pottery was generally dark-faced. Some of the forms agree with the Tasian, while rough pedestalled bowls occur as in the Fayum. Some of the latter have open-work feet standing on a flat rectangular base. Boat-shaped oval troughs replace the rectangular Fayum form; the numerous ladles may have broad tongue handles as in the Tasian, or thick round handles (Fig. 17, 1-2). A double vase, with intercommunicating compartments, is represented by one fragment (Fig. 17, 5).^[7] Many vessels were provided with lugs for prehension or suspension, and these might develop into genuine handles.^[8] One bowl, or dish, had a pocket for the thumb inside the rim,^[8] a type attested in the later Amratian culture of Middle Egypt.

A textile industry is attested by spindle whorls. Rough palettes remotely resembling the Tasian may have served for the preparation of cosmetics. Ivory bangles, bone finger-rings, boar's tusks, and disc or cylindrical beads of bone and shell were worn as ornaments.^[7] Miniature celts or axes of stone, pierced for suspension, served as amulets (Fig. 16).

The dead were buried among the dwellings, flexed in the attitude of sleep and generally facing east. No vases to contain food accompanied the bodies. Junker^[6] suggests that burial among the houses instead of in regular cemeteries made such offerings superfluous, since the ghost could eat with its kinsmen around the hearth. The majority of skeletons^[7] belonged to females. They were appreciably taller than the later women of Upper and Middle Egypt, approximating rather to the Tasians in stature. The skulls too, though dolichocephalic, have the same sort of wide brain case as the Tasian in contrast to the narrow skulls of the Badarians, Amratians, and Natufians.

Tasa, Fayum, and Merimde differ in many particulars; most significant is the contrast between the burials among the dwellings at Merimde and outside the settlement at Tasa and in the Fayum (wherever the dead were buried in the last named region, it was not in the settlements). None the less, all three look like divergent aspects of a single culture embodying the traditions of a single people. But that culture had certainly been developed and specialized locally upon divergent lines before we can grasp it.

In determining the origin of its authors, comparison with the several Old Stone Age cultures of the region gives no help. The burial practices at Merimde, the ostrich egg-shell beads from the Fayum, several bone and flint types from all sites can be paralleled in the North African Capsian. But nearly as close analogies can be cited from the "Aurignacian" of Kenya (ostrich egg-shell beads, for instance). The Fayum type of harpoon, the Merimidian and Tasian fish-hooks recur in the Natufian of Palestine. But the latter culture is not necessarily any earlier than those under discussion, and its authors seem to belong to a different physical type. We cannot, therefore, point to any specific palæolithic culture in Africa or Hither Asia the savage authors whereof might have created the Tasian or Merimidian neolithic. The neolithic elements themselves, the ground stone axes, the dark-faced pottery, and especially the clay ladles find striking parallels in Western Europe, for instance at Michelsberg in the Rhineland, or Windmill Hill in England; but neither site is likely to be older than the third millennium. And nearly as good parallels to the pottery, axes, or mace-heads could be found in Crete and Anatolia. In each case it is much more likely to be a question of descendants of the Egyptian cultures than their ancestors.

Be that as it may, Tasa, Fayum, and Merimde are typical examples, the only examples, indeed, which we shall meet in the Ancient East, of “neolithic culture” so familiar in Europe. The people are food-producers, living in a very favourable environment; they have used the leisure, made possible by the new economy and exceptional opportunities for applying the old hunting one, to elaborate arts or crafts not normally found among gatherers. But they have remained content with local materials save for luxury ornaments and have thus preserved their self-sufficiency; no dependence upon imports for supposed necessities has driven them to build up a commercial nexus with the outside world. (Such economic isolation, of course, goes far to explain the local divergences noted above.) Nor, it would seem, have they been obliged to organize their forces for works of public utility nor to sink much capital in the land. If some genius among them has thought of “making channels for the water to flow in”, nothing suggests that his fellows have united to carry out his idea. They remain free to shift their settlements and send out colonies.

But the conditions which made this simplicity possible were already passing. Both in the Fayum and at Merimde^[6] layers of drift sand interlarded among the refuse of occupation illustrate the menace of the encroaching desert. Eventually the settlements had to be abandoned. Round the shrinking Fayum Lake, indeed, survivors of the old population can be watched for a while. But their culture is degenerating; the flint axes are no longer polished, and old specimens are resharpened by flaking, the implements diminish in size, though the little arrow-heads may be provided with a tang. At last they too disappear, as the wadis dry up and the desert advances. Perhaps both groups have taken refuge in migration, and it is really their descendants who turn up two millennia later in Wessex and on the Rhine!

In Middle and Upper Egypt the crisis was more actively tackled.

The Tasians perhaps stand at the head of a long series of cultures in the Nile Valley. Their cultural heirs, the Badarians and then Amratians, seem, indeed, to belong to a different racial stock, short—standing only 5 to 5¼ feet high—slender, and delicately built, with small, narrow heads at first with just a hint of the negroid or South Indian about them.^[9] But their culture might be regarded as just an elaboration of that described already. The earliest manifestations of the development were first recognized in cemeteries and settlements round Badari in Middle Egypt, and the first phase is therefore termed the Badarian; the same cultural phase is traceable southward to Hierakonpolis, but not any farther north.^[10]



BADARIAN FIGURINE



British Museum

AMRATIAN FIGURINE



FIG. 18.—Wooden boomerang, Badari, $\frac{1}{3}$, after Brunton.

The Badarians^[11] may have begun to face the task of draining the swampy Nile Valley as the declining rainfall made dry cultivation increasingly precarious. But they do not seem to have remained many years on the same site. For habitations they were content with matting wind-screens, like the Merimilians. But they made mud-lined storage bins for their grain. Emmer wheat was certainly^[6] now cultivated as in the Fayum and the Delta, but sickle-flints are very rare. Cattle and sheep were kept and sometimes given ceremonial burial,^[11] but pig bones, so common at Merimde, have not been reported. Hunting and fishing were still important. Arrows were tipped with hollow-based flint heads as in the Fayum, but also with leaf-shaped types. Wooden throwing sticks or boomerangs ([Fig. 18](#)) were also employed.

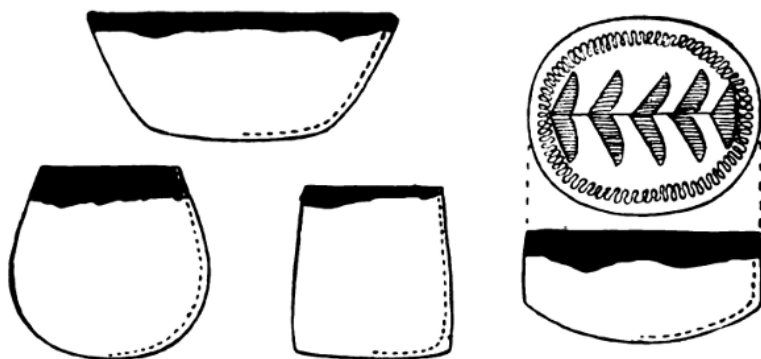


FIG. 19.—Badarian pottery, $\frac{1}{6}$, after Brunton in *Antiquity* iii.

A new economic factor was introduced by an incipient dependence on imported materials involving some sort of more or less established trade. Malachite in any case was regularly employed for painting the eyes, and must have been brought from Sinai or Nubia. Shells imported from the Red Sea are also quite common, and pieces of cedar and juniper wood and resin, suggestive of Syrian connections, have been found. At the same time metallic copper becomes known; its malleability was already appreciated, but not the truly metallic property of fusibility. And pottery models of boats illustrate attempts at navigation that had already got beyond the simple log raft.

The pottery vessels, especially those designed for funerary use, exhibit a perfection of technique never excelled in the Nile Valley. The finer ware is extremely thin, and is decorated all over by burnishing before firing, perhaps with a blunt-toothed comb, to produce an exquisite rippled effect that must be seen to be appreciated. The vases, sometimes coated with a ferruginous wash, were often fired inverted so that the lower part was exposed to the free air and became coloured brown or red by oxidization, while the rim and the inside were blackened by impregnation with carbon and smoke and by its deoxidizing effect, the ferric oxide in this case being reduced to ferrous. The chief shapes manufactured in this fabric were bowls, often steep sided and sometimes carinated ([Fig. 19](#)). A globular flask of pinkish buff ware with four handles on the belly is quite exceptional and may be an importation.

Vases, of almost cylindrical form with overhanging rim, were ground out of basalt. Flasks, small cylindrical vases, and ladles were made of ivory; the handles of the ladles generally end in carved ibex or other animal forms ([Fig. 20](#)).

The Badarians wore clothing of skins, but some vegetable fibre similar to flax was also woven into rather coarse cloth. The eyes were painted with

malachite. It was ground on narrow rectangular slate palettes, generally with concave or notched ends, but sometimes simply rectangular. Ivory combs ornamented with carved birds were stuck in the hair, and pins (or needles) of the same material, sometimes with grooved heads or an eyelet in the neck, perhaps fastened the clothing. Copper tubes, beads of glazed quartz or felspar, discs cut from ostrich egg-shell, and Red Sea shells were strung together as necklaces or girdles. Bracelets and rings of ivory were worn on the arms or fingers. Stone plugs were inserted in the nose as ornaments, and the lips may have been embellished with pottery plugs.

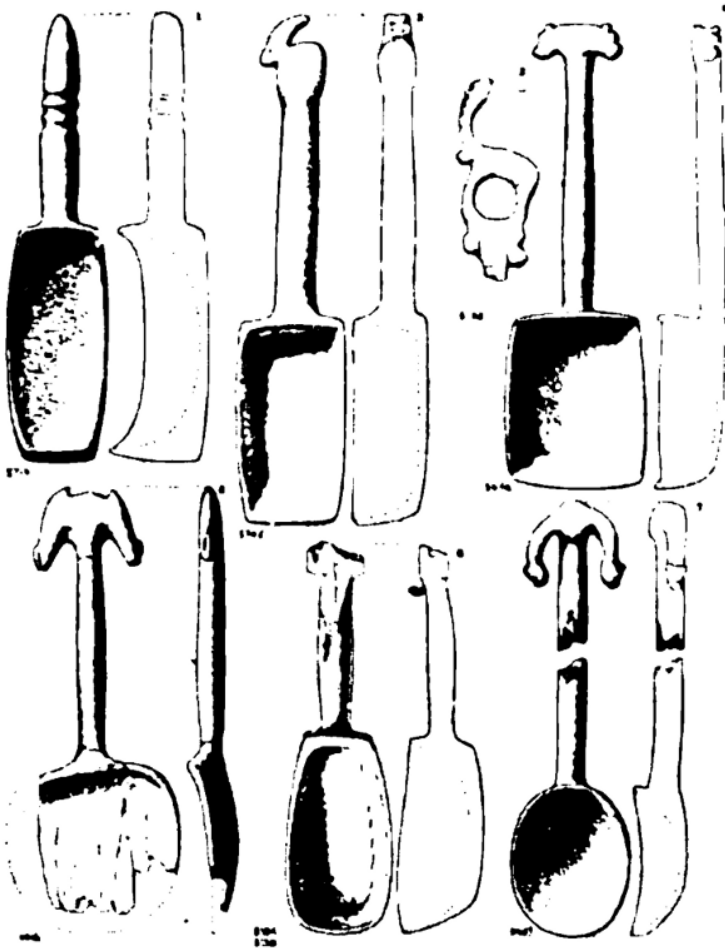


FIG. 20.—Carved ivory ladles, Badari, $\frac{1}{2}$.

Female figurines, carved in ivory or moulded in clay, have been found in some graves. Such may be images of a mother-goddess or substitutes for wives. The ivory figurine ([Pl. IVa](#)) does not conform to the physical type suggested by the Badarian skeletons, but might perhaps be a Tasian. Amulets are represented only by small carvings of an antelope and a hippopotamus. The Badarians were buried, flexed or crouched, in trench graves, sometimes lined with matting, grouped to form small cemeteries. The corpse was generally facing west, but the rules for orientation were far from strict.

The origin of the newcomers who seem to be represented in the Badarian cemeteries is quite uncertain. Their failure to utilize the excellent tabular flint available in the Eocene cliffs from Upper Egypt to the Mediterranean, but not south of latitude 25°, suggests to Caton-Thompson^[5] that their ancestors had lived south of the region where such flint was available. Brunton,^[12] Junker,^[13] and Scharff^[14] have also insisted on Nubian analogies to the Badarian culture and have thus been led to bring its authors from the south. But, in any case, they were deeply indebted to their precursors of more northern affinities. On the other hand they were both the physical and cultural ancestors of the later Predynastic inhabitants of Upper Egypt. The next stage of culture, termed the Early Predynastic or Amratian, has long been familiar from a number of cemeteries and a few village-sites extending from Badari on the south well into Lower Nubia.^[17]

The Amratians had lost those supposedly negroid or, rather, Indian peculiarities noticed in the Badarians, perhaps owing to an infusion of Getulan or Libyan blood. They are about 5¼ feet in height, slender and lightly built with a long small skull, small features and straight hair. A type identical in almost every feature may be seen among the Beja of the Eastern Sudan to-day.

Figurines of clay or ivory supplement the picture given by the well-preserved corpses. The early ivories depict men clean-shaven or wearing long pointed beards with a prominent aquiline nose and a high domed forehead ([Plates Va](#) and [VIIa](#)). The women^[15] on the other hand often shaved their heads and wore wigs that are separately modelled. And besides a slender type, corresponding to the skeletal remains and the male statuettes, there is another group characterized by marked steatopygy ([Plate IVb](#)). Petrie considers these represent survivors of a conquered race that would be identical with a hypothetical substratum of Eurafrikan protonegroids to whom such fat was a sign of beauty.

More than the Badarians, the Early Predynastic Egyptians lived as settled communities in regular villages on the products of their crops and

flocks, of the chase and of fishing. From the representation on vases or amulets of undesirable animals such as crocodiles and scorpions^{[18][19]} the existence of a totemic cult has been inferred, and some at least of the symbols that now meet us recur in the succeeding period as clan-ensigns and, still later, as the emblems of deities. Hence one is tempted to conclude that the Early Predynastic communities were totemic clans living in autonomous villages, like the Dinka of the Upper Nile mentioned in the first chapter. Of kingship or chieftainship there is no sign; in the early cemeteries no grave is sufficiently distinguished in richness from the rest to be assigned to any personage deserving such a title. Yet slaves already existed to judge by figurines of water-bearers, generally female, and of captives with their hands bound behind them. The existence of personal property is implied in the use of “proprietary marks” scratched on the vases; all the vases in one grave are normally distinguished by the same sign. The Amratians lived in round huts, the floors of which were partly excavated in the ground.^[11]

PLATE V



a. TUSK FIGURINE



b. BLACK-TOPPED VASES

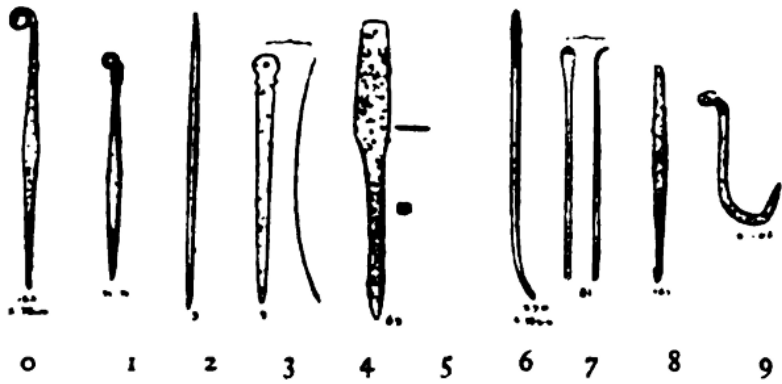


FIG. 22.—Small copper implements from Naqada: 0, Pin, Early Predynastic; 3, Needle, Middle Predynastic; 9, Fish-hook, Late Predynastic, after Petrie, $\frac{1}{2}$.

PLATE VI



a. BASALT AND ALABASTER VASES



Cairo Museum

b. INTERIOR OF WHITE CROSS-LINED BOWL

All the industries carried on by the Badarians still flourished. In addition copper was now used even for small tools such as harpoons, though except in the pins with looped head ([Fig. 22, 0](#)) it was treated like stone or ivory without any appreciation of its true properties as malleable and fusible.^[20] Foreign relations were more extensive and regular than before. Besides copper and malachite^[16] from Sinai and gold from Nubia, obsidian and (rarely) lapis from Western Asia, coniferous woods from Syria, and emery perhaps from Naxos^[21] found their way to Upper Egypt. Perhaps to facilitate such intercourse the Egyptians had evolved a very serviceable boat made out of bundles of papyrus lashed together ([Plate VIb](#)). It gave support for two square cabins amidships and was propelled by seven or eight pairs of oars, the steersman standing sheltered by a bough at the stern. Petrie believes that such boats must have been equipped with sails as rowing would be ineffectual against the Nile current. If this reasoning be correct, then the Egyptians would already have harnessed a non-human motive power. But boats of this type are never depicted with sails spread while the later

“foreign” barques are thus represented. With the same “trade” might be connected the elaboration and widespread diffusion of those alphabetiform signs that appear scratched on our vases, signs whose origin is ultimately to be sought in palæolithic marks.

The progress in religious belief is shown by the elaboration of the funerary ritual. The marvellous preservation of the bodies in the hot sand of the desert would suggest to the Nile dwellers a peculiarly vivid idea of the continuation of life after death. The barbarous practice, till recently observed by some Nilotic tribes farther south, of slaying wives and menials and burying them with their lord to attend him in the future life had apparently been abandoned because sympathetic magic offered a more economical alternative. The statuettes of women and of servants bearing water-pots on their heads, are probably substitutes for living wives and attendants as were demonstrably the *ushabti* figures of historic times.

Man’s dumb servant, the dog, was, however, often forced to accompany his master in death and buried with him in the tomb. Other possessions such as cattle were replaced by clay models ([Plate Xa](#)).

In dynastic Egypt paintings on the tomb walls depict the bringing of offerings to the dead, the labours of his serfs and his own pleasures at the banquet and the chase. Such scenes were not executed merely to delight the eye of the soul but, as the accompanying texts show, to secure to the defunct by their inherent magic virtue the actual enjoyment of such services and delights. In the prehistoric grave there was no room for paintings on the walls of the simple pit, but funerary vases and slate palettes were decorated with comparable scenes that are linked by a continuous chain of later monuments to the earliest painted tombs as will appear in the sequel.^[22]

To enable us to disentangle the several constituents of this culture and justify our initial assertion, let us now examine some of its archæological traits more closely.

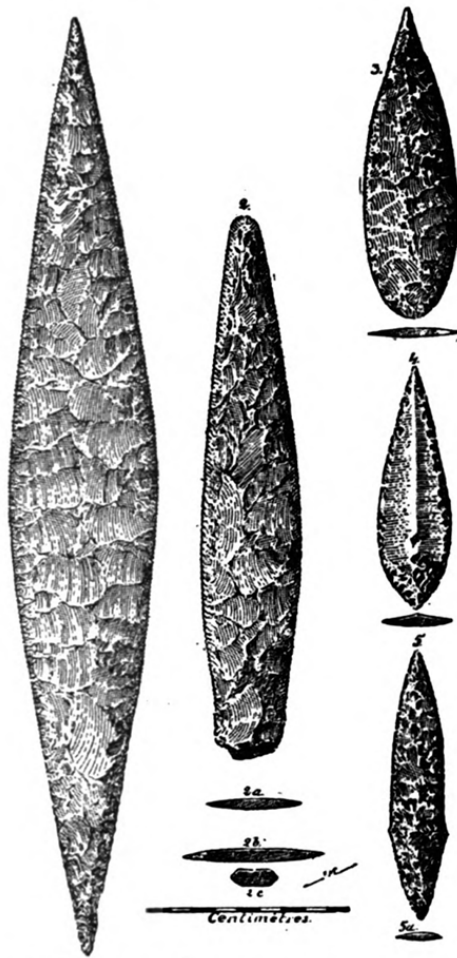


FIG. 23.—Early Predynastic flint work: 1 and 2, rhomboid daggers; 3 and 4, arrow-heads (5 is perhaps Protodynastic), after de Morgan.

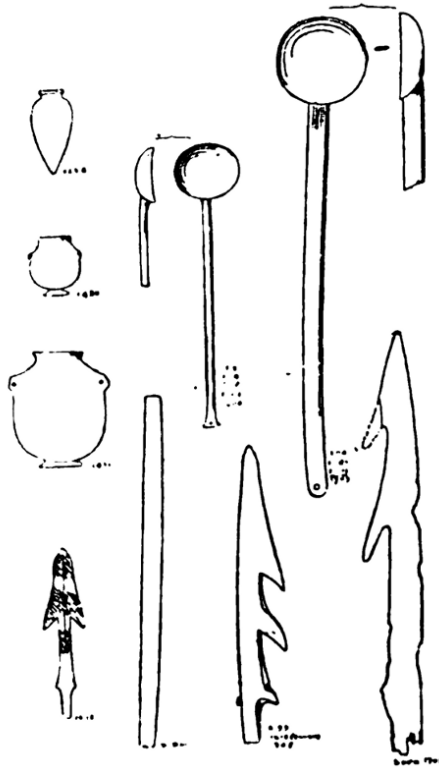


FIG. 24.—Ivory vases and harpoons of Early and spoons of Middle Predynastic cultures, $\frac{1}{2}$, after Petrie.

No stone axes or adzes are known from the Early Predynastic period, but the flint tools include sickle-teeth, disc- and end-scrapers, the latter probably used as razors, and a beautiful comma-shaped knife ([Fig. 31](#), 85) that is really just a Capsian point worked all over one face by pressure-flaking.^[23] The arrow was tipped with concave-based or tanged points as before, but, at least in Nubia, transverse arrow-heads of lunate or trapezoidal form now occur.^[24] Notable types are the fish-tailed blade ([Plate VIIIa](#)), hafted by its point into a wood or ivory hilt and allegedly used for hamstringing game, and the great rhomboid “lance” or dagger blade ([Fig. 23](#)). The mace now used was weighted with a sharp-edged stone disc or more rarely with a pointed head of stone ([Plate VIIb](#), bottom). Fish were speared with harpoons, rarely of copper, more often of bone and always flatter than those from the Fayum ([Fig. 24](#)).

PLATE VII

TOMB GROUPS FROM DIOSPOLIS PARVA



a



b

Several classes of pottery, all inferior to the best Badarian, were now in use. The commonest fabric, termed Black-topped Ware, resembles the finer Badarian in the manner of its decoration by partial oxidization of the ferruginous wash but lacks the tasteful ripple burnish and the fineness of the latter fabric ([Pl. Vb](#)). Among the shapes the flasks, carinated bowls, goblets

on a low pedestal and twin vases are noticeable, but the lank tumblers are the most distinctive. Secondly, a polished red ware, fired wholly in an oxidizing atmosphere, was current as was a black ware produced by reduction and imitating basalt. Yet more characteristic is White Cross-lined pottery that was only manufactured between S.D. 31 and 35. It is essentially red-polished ware ornamented with patterns in dull white paint. The designs belong to two series. First there are vases adorned with simple rectilinear motives evidently copied, like the vases they adorn, from basketry originals ([Fig. 25](#)). Others are ornamented with the representations of men and animals, already referred to as of magic purport and evidently intended to be lifelike, but the result was not always very successful ([Pl. VIb](#)). These painted scenes have ruder precursors scratched on Red-polished or Black-topped vases. In some cases plastically modelled animals—generally elephants or hippopotami—walk round the vase's rim. These figures and the painted giraffes, Barbary sheep, and scorpions give us a lively picture of the prehistoric fauna of the Nile valley and its immediate borders. A pendant to the White Cross-lined is the rare Black Incised ware, a fabric principally found in Nubia. It corresponds in technique to the Tasian beakers and like them is inspired by basketry models with the exception of some Nubian vases that imitate a gourd in a straw sling ([Fig. 26](#)).

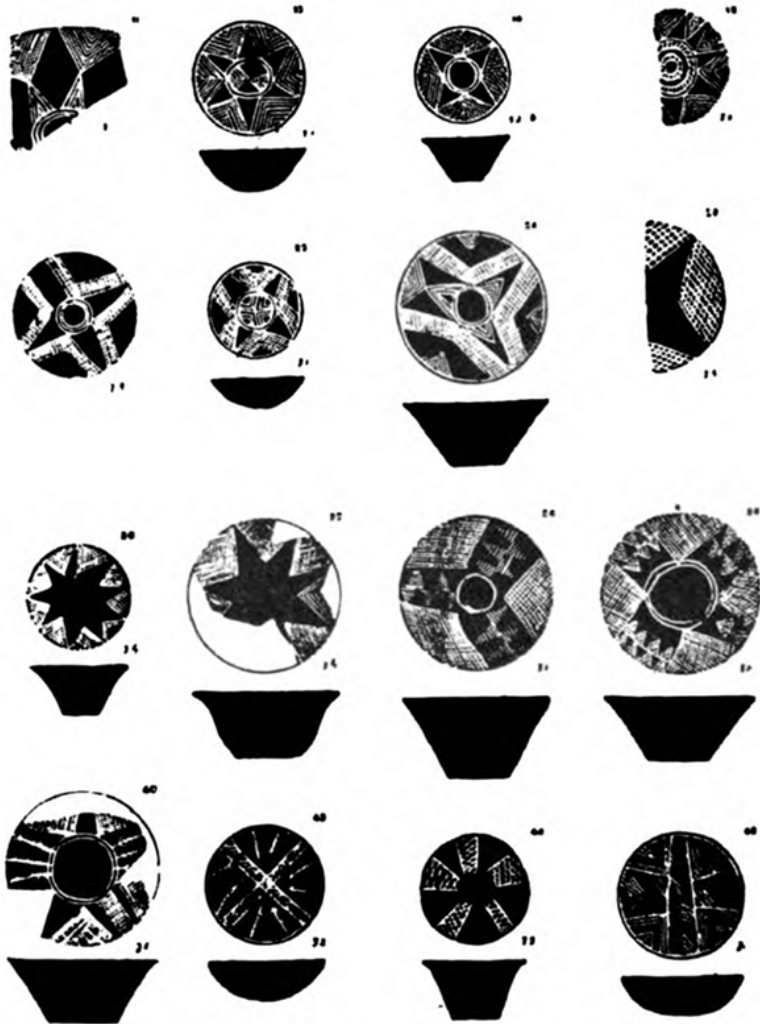


FIG. 25.—White Cross-lined bowls showing basketry patterns, after Capart, $\frac{1}{12}$.



FIG. 26.—Black Incised ware, $\frac{1}{8}$.

Stone was also used for vessels, though not very often. The only Early Predynastic types are tall ovoid beakers on a pedestal with two lug handles just under the rim and cylindrical jars with slightly convex sides and bevelled rims ([Pl. VI*a*](#)). The material used for the Early Predynastic stone vessels was exclusively fine-grained rocks, principally basalt and alabaster. Other vases were made out of ostrich shell or ivory.

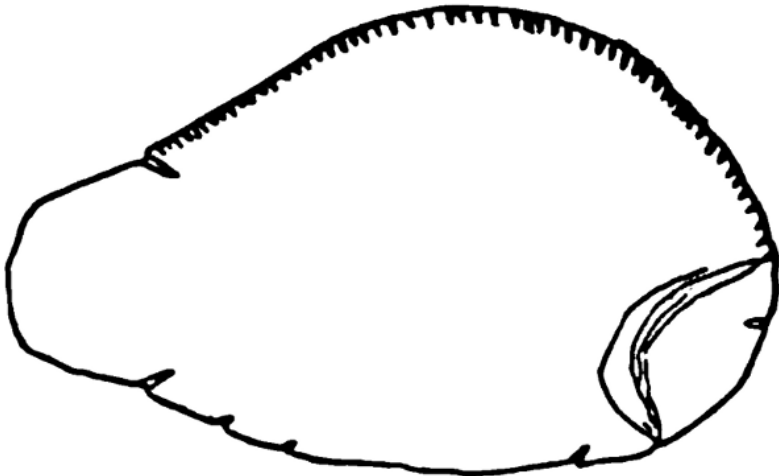


FIG. 27.—Slate palette in form of a fish, Naqada, $\frac{1}{8}$.

Turning to toilet articles we find that the eyes were still painted with malachite. It was ground on slate palettes that are now either rhomboidal ([Pl.](#)

[VIIb](#), bottom right) or carved to represent animals ([Fig. 27](#)). The material was carried in little bags decorated with tags ([Plate VIII](#)) that may be either real tusks, or flat ivory slips of a similar shape or well-carved stone models. The body was tattooed with various patterns. Long-toothed ivory combs, like the Badarian, were stuck in the hair or wig, and ivory pins may have been similarly worn. Necklaces of ostrich-shell discs, carnelian, steatite, felspar, or green glazed beads and marine shells or coral were hung round the neck. To them were attached slate pendants representing animals, birds, or fishes that may have been totemic emblems or magic amulets. The arms were decked with bracelets of shell, ivory, or tortoise-shell. Men, to judge by the figurines, went stark-naked save for the “Libyan sheath” or penistasche ([Pl. VIIa](#), centre) and plumes stuck in their hair, but were shod with sandals of grass. Women wore a linen apron and, sometimes at least, wigs.

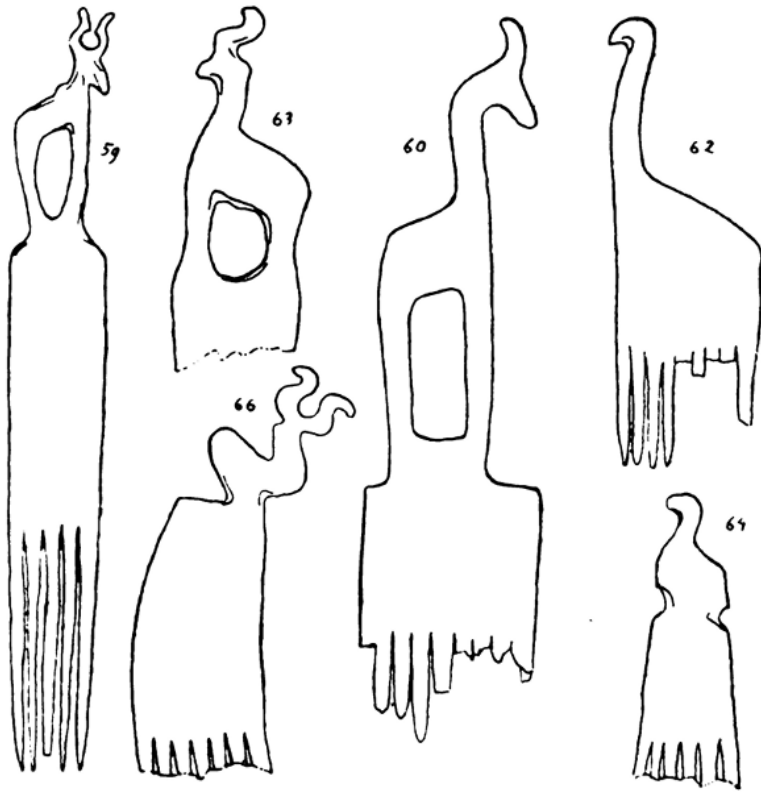


FIG. 28.—Ivory combs, about $\frac{1}{2}$.

The graves were shallow oval pits in which the corpse was interred doubled up. Sometimes more than one body lies in a single grave, and in

other cases the bones are found in disorder as if interment had taken place only after the skin had decayed from them.

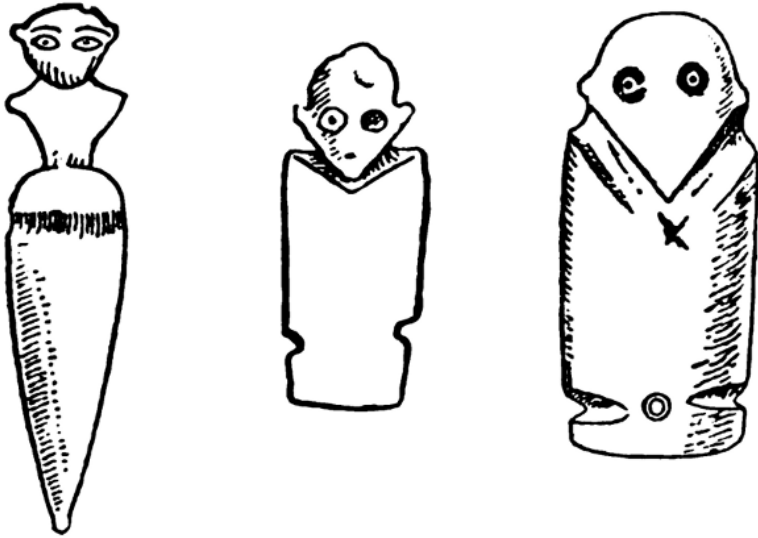


FIG. 29.—Block figures, Naqada, $\frac{1}{2}$.

The deceased was liberally provided with weapons, ornaments, and food for the future life as well as the magical apparatus already described. The figurines belong to several classes. In the first place we have the ivory tusks showing only the head ([Pl. Va](#)). Next comes a series of complete statuettes also in ivory. The earlier examples are fine and realistically carved; towards the end of the Early Predynastic age about S.D. 38 they give way to rough “block figures” showing only the head and bust that survive into the Gerzean period ([Fig. 29](#)). The clay or mud figures are generally much rougher. Erect and squatting types occur and the arms may be upraised or curved round below the breasts ([Plates VII](#) and [VIII](#)).

PLATE VIII

TOMB GROUPS FROM DIOSPOLIS PARVA



a



b

In the complex defined by the foregoing traits the sedentary life, the grains and domestic animals which made that possible, the fine flintwork, the black-topped pottery, the slate palettes, ivory combs and pins, shell bracelets and glazed beads, are all just improvements on the discoveries of the Badarians or are derived more or less directly from them. On the other

hand, the scenes painted on White Cross-lined pots or incised on Black-topped vases or slate palettes betray in style and mentality the closest kinship to the Capsian paintings and engravings described in the last chapter. There are the same liveliness and impressionism in both groups, but the Egyptian artist, experimenting in a new medium, fell short of the best achievements of his North African or Spanish confrères. E. S. Thomas^[25] has recently instituted a detailed comparison between the more conventionalized elements of later Spanish cave art and the signs on White Cross-lined and Black-topped vases. And he finds so many coincidences that it is clear that Early Predynastic Egyptian art was not only inspired by the same ideals but also developed along the same lines as that of East Spain.

Then there are many agreements in costume between the east and west. The feathered head-dress of the Saharan rocks reappears on White Cross-lined vases, the penis-sheath on clay and ivory figurines; the anklets worn at Cogul are also indicated on an Early Predynastic clay figurine. Beads of ostrich-egg discs have prototypes in the Capsian middens of Algeria. The predynastic dog looks like that depicted at Alpera.^[26] The distinctively Capsian transverse arrow-head appears beside the Badarian barbed form in the Early Predynastic of Nubia.

The appearance in the Early Predynastic civilization of Upper Egypt of so many forms that have a long history in North Africa, superimposed upon a purely Nilotic Badarian substratum, accordingly confirms the view advanced at the beginning of the section that the Early Predynastic culture contains new Libyan elements foreign to the Badarian. Getulan nomads from what was becoming the desert had invaded the fertile valley and mingled with the Badarian farmers. That influx would help to explain the elimination of negroid elements in the Nile valley and the clash of contrasted cultures and divergent traditions would promote the great progress that marks the rise of the Early Predynastic civilization.

NOTES TO CHAPTER III

[1] On the climate, flora, and fauna of predynastic Egypt, see Newberry, "Egypt as a Field for Anthropological Research," Presidential Address to Brit. Assoc., 1924, sect. H.

[2] On the Sebilian see Vignard, *Bull. Soc. Préh. Fran.*, 1928, 200 ff.; the industry can be regarded as an Upper Palæolithic industry of

Mousterian tradition as explained in [Chapter II](#).

[3] *The Growth of Civilization*, p. 30.

[4] Brunton in *Antiquity*, iii (1929), pp. 465 ff.

[5] Caton-Thompson in *JRAI.*, lvi, pp. 301 ff., and *Man*, xxviii, 80.

[6] Junker, "Vorläufige Berichte über die Grabungen der Akademie der Wissenschaften in Wien auf der neolithischen Siedelung von Merimde-Benisalâme" in *Anzeiger der Akad. d. Wiss. Wien, phil. hist. Kl.*, 1929, pp. 156-248.

[7] Junker, 1930, pp. 21-81.

[8] Junker, 1932, pp. 36-88.

[9] *Biometrika*, xix (1927), pp. 110 ff.

[10] Brunton, *Antiquity*, iii, pp. 456-465.

[11] Brunton and Caton-Thompson, *The Badarian Civilization*, London, 1928.

[12] *Man*, xxv, 103. The issue in 1925 had been complicated by Petrie's claim of a northern origin for the Badarian, based largely on the supposedly Solutrean affinities of some of the flints; these affinities could of course be explained adequately by reference to the African Still Bay or 'Sbaïkian.

[13] *Schmidt-Festschrift*, p. 867.

[14] *Die Altertümer der Vor- und Frühzeit Ägyptens (Mitt. aus der ägyptischen Sammlung*, Berlin, 1931, iv), p. 24.

[15] Hornblower, *JEA.*, xv (1929), pp. 30 ff., concludes that these figurines represent a mother-goddess and as such serve as protective and fertility charms.

[16] Copper and malachite could be obtained from the desert between the Nile and the Red Sea in Nubia as well as from Sinai; cf. *JEA.*, xiii, pp. 162 ff.

[17] On the Predynastic culture in general see Petrie, *Prehistoric Egypt*; Scharff, *Grundzüge der äg. Vorgeschichte*.

[18] Elliot Smith, *The Ancient Egyptians*, p. 49; Seligman, *JRAI.*, xliii, p. 605; Petrie, *ib.*, xxxi, p. 250.

[19] Capart, *Debuts de l'art en Égypt*, p. 139.

[20] Frankfort, *Studies*, ii, p. 21.

[21] Wainwright in *Anc. Eg.*, 1927, p. 85.

[22] Capart, *op. cit.*, p. 212.

[23] For the flint work see *Diospolis Parva*.

[24] *Arch. Survey Nubia, Report*, 1907-8, pl. 62; graves, 17, 50 and 17, 78; Scharff has omitted these.

[25] *JRAI.*, lvi, pp. 385 ff.

[26] A fuller enumeration of such points is given by Scharff, *Grundzüge*, pp. 21 ff.; *ÄZ.*, lxi (1926), p. 22.

CHAPTER IV

THE PREDYNASTIC UNION OF EGYPT

A CONTINUOUS evolution parallel to that observed in Upper Egypt cannot be traced in the Delta. The Merimidian culture vanishes. The Amratian has never been found north of Badari. Hints of an allied culture in Lower Egypt may be given by block figures, descended from the type of [Fig. 29](#), that were introduced into Crete about the time of Menes, perhaps by refugees flying from the Delta,^[1] and by certain aspects of the equally late culture recently discovered at Ma'adi,^[2] near Cairo. Conditions of life in the wide marshy Delta were, in fact, very different from those in the narrow valley of Upper Egypt, and resembled rather those of Sumer described in [Chapter VI](#). The settlements would need artificial protection against flood; flint and similar raw materials would have to be imported from the edge of the alluvial land. To cope with such circumstances a degree of social organization was demanded that might be unessential farther south.^[3] The civilization evoked as an adaptation to the Delta environment might be expected to be of a higher type than the Amratian.

In any case Lower Egypt eventually became the seat of a higher civilization with definitely Asiatic, as opposed to African, affinities, and this civilization ultimately dominated Upper Egypt, too. It is in fact only known directly from the latter region, though its presence may be inferred with confidence in the North. And in Upper Egypt there is no sharp break between the Amratian civilization and the Gerzean; the latter gradually trickled in, mixing with, but dominating, the older elements. New types of vases, of weapons and ornaments intrude in ever greater numbers till they predominate, or even oust the old entirely. At the same time the old culture becomes atrophied; though Black-topped ware continues to be manufactured, no new forms are developed after S.D. 40.

The Gerzean civilization,^[4] as known in Upper Egypt, differs from the Amratian on the one hand in its greater richness and its technical superiority, on the other by radical changes of fashion in weapons, pottery, and dress that denote a breach with the past. The first group of features need mean nothing more than independent progress in arts and crafts, growth of wealth, and a consolidation of religious and social ideas. The changes in armament and

dress on the contrary, associated as they are with no less thoroughgoing modifications of religious ceremonial and burial rites, can only be explained in ethnic or political terms. They do not grow naturally out of the older traditions but mark a definite break with established custom. Such denote, therefore, the adoption of ideas belonging to a different cycle and presumably effected by the infiltration of foreigners. That impression is confirmed when we observe that the Gerzean culture never penetrated into Nubia.

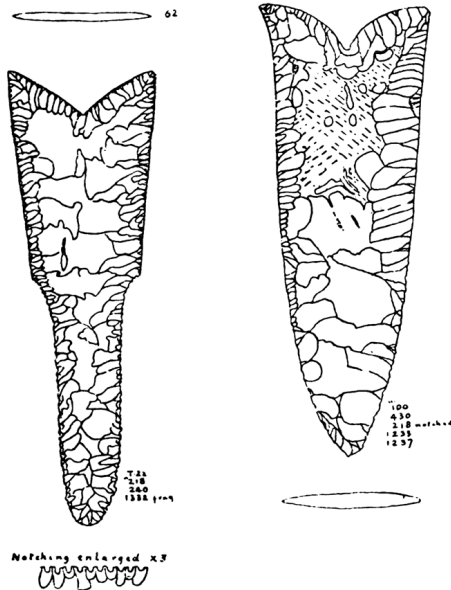


FIG. 30.—Flint blades with V base, Naqada, after Petrie, 1/2.

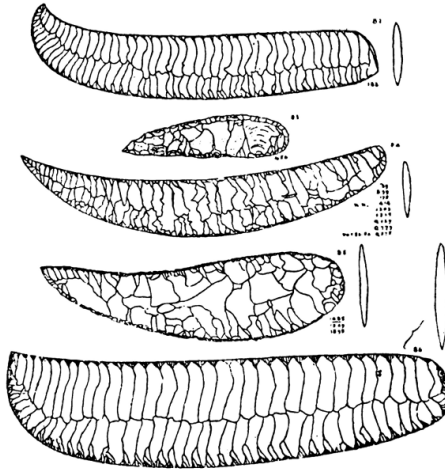


FIG. 31.—Flint knives: 83 and 85, Amratian; 84, Gerzean; 82 and 86, later Gerzean, $\frac{1}{2}$.

The break with the past is indicated in the following traits. A pear-shaped mace replaces (S.D. 42) the disc type that only survives later as a cult object; the fish-tailed blades (with U base) give place (S.D. 38) to swallow-tailed shapes with a V base ([Fig. 30](#)); scimitar-shaped knives ([Fig. 13](#), [84](#)) at S.D. 45 oust the comma type; flint daggers come in and arrow-heads with concave bases go out; but the chisel-bladed arrow occurs occasionally even in Middle Egypt; figurines are no longer modelled in clay after S.D. 43 nor carved in ivory after S.D. 45; but clay and stone vases are made in the form of animals and the ivory-carver turns his attention to the manufacture of amulets and spoons strange to the Amratian culture.

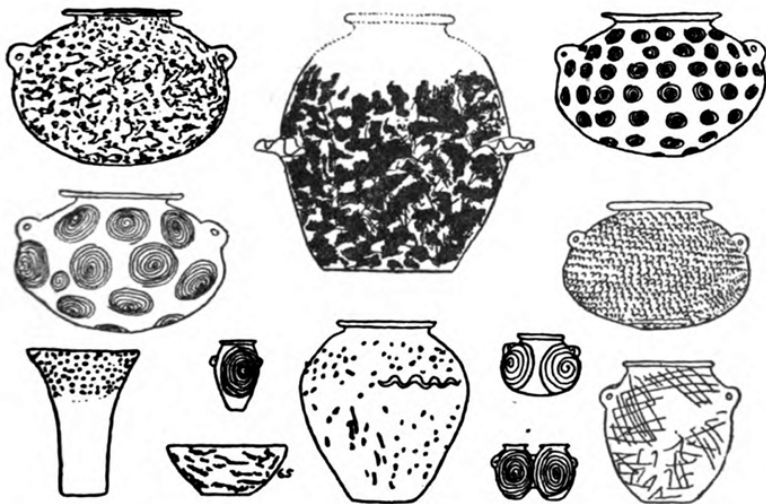


FIG. 32.—Decorated vases (and two wavy-handled jars in centre) imitating stone vessels in shape and ornament, $\frac{1}{6}$.



FIG. 33.—Decorated pot figuring boat.

Household vessels, always the most sensitive indicator of ethnic change, are radically altered. Though Black-topped and Red-polished ware continue to be manufactured they are no longer the vehicle for new shapes, while White Cross-lined has gone out altogether. Its place as the typical ware is taken by vases of light-coloured buff clay painted with patterns in brownish red, the so-called Decorated pots. Technically the production of a light-coloured fabric like this implies very different traditions to those embodied in red and black wares. The ancestry of the decorated pots, as disclosed by their shapes, especially the “undercut” rims and long tubular handles, is to be sought in stone instead of in leather and basketry. The patterns on the earlier vases imitate either the mottling of coarse-grained stones or the protective straw jackets in which such vessels, like Chianti flasks or ginger-jars to-day, were carried. And actually many graves contain stone vases

agreeing precisely in form with their clay copies and distinguished from those of the previous period both by their shapes and by the preference for variegated and coarse-grained rocks ([Plate IXa](#)).

PLATE IX



a. STONE VASES AND POTTERY COPIES



b. WAVY-HANDLED JARS



c. V-BASED BLADE AND DAGGER OF FLINT



d. FLINT KNIFE SHOWING SERIAL FLAKING

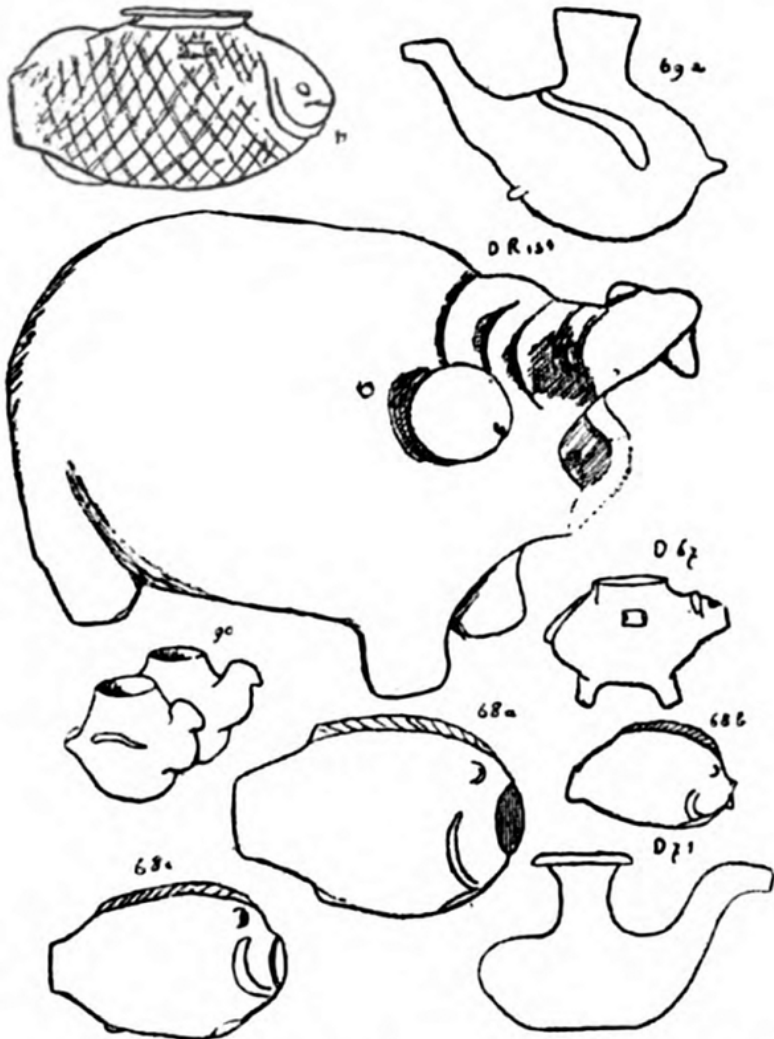


FIG. 34.—Theriomorphic and spouted vases, $\frac{1}{3}$, after Capart.

In addition we have the famous Wavy-handled jars whose progressive degeneration provided Petrie with the first basis for his sequence dating ([Plate IXb](#)), and then a multitude of “Rough” pots, generally reddish in colour and often provided with a pointed base. There are further a few spouted jars, probably imported, and vessels of clay or stone in the shape of animals. Such “theriomorphs” have been regarded as signs of foreign influence but the animals represented include definitely Nilotic species such as hippopotami, and some theriomorphs are made of just those variegated stones and with just those peculiarities that are exclusively characteristic of the Middle Predynastic stone-ware ([Fig. 34](#)).

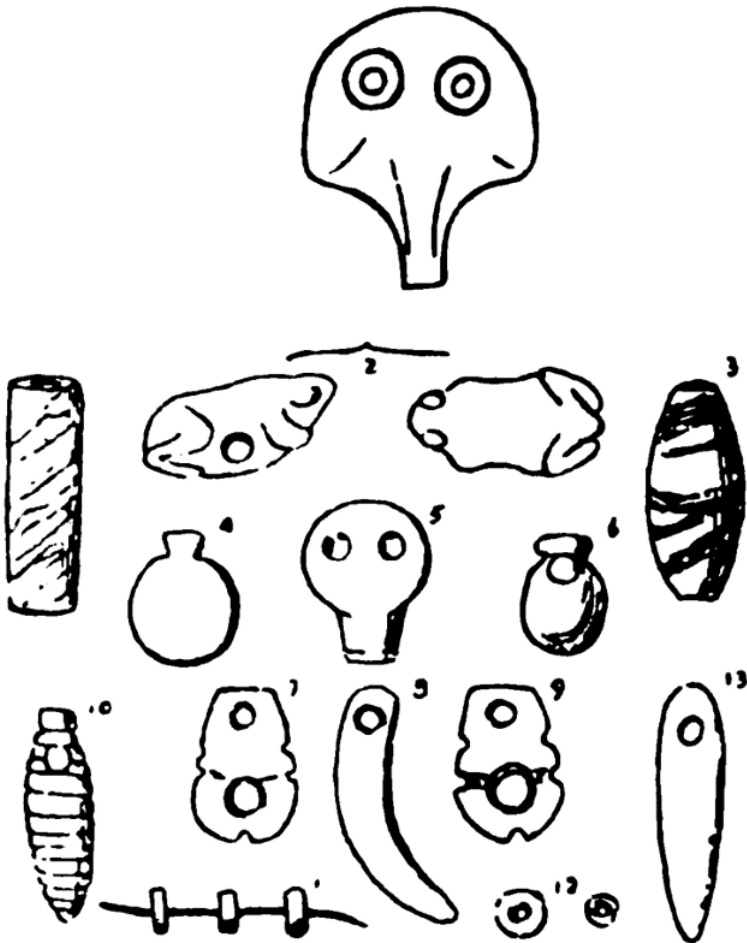


FIG. 35.—Amulets: 1, Bull's head; 2, toad; 8, claw, etc., S.D. 65. $\frac{3}{4}$, after Petrie.

After S.D. 45 subjects taken from nature, plants, animals, and ships are also depicted upon the Decorated vases and the treatment of the themes is now abstract and stylized as contrasted with the naturalism and youth of the older White Cross-lined painting.

No less radical alterations are observable in dress and toilet articles. The long-toothed comb disappears entirely after S.D. 42; its place is taken by short-toothed scratching combs or combinations of such with hair-pins. The rhombic slate palette goes out of fashion at S.D. 40 and with it the various tags and tusks that had decorated the malachite bags. Yet the eyes were still painted with malachite, and theriomorphic palettes were still used for grinding it on.

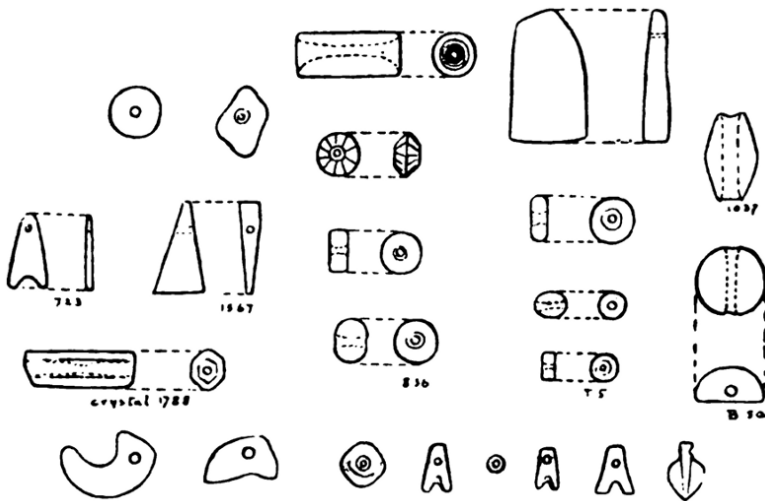


FIG. 36.—Predynastic stone beads; in bottom row claw and fly amulets.

In the intimate domain of spiritual life the abandonment of figurines and the adoption of amulets in the shape of bulls' heads (S.D. 46) and flies (S.D. 48), falcons, and other animals denote a new orientation (Figs. 35-36). Burial rites are revolutionized. No regular orientation is now observed; multiple interments have ceased; dogs are no longer buried with their masters, and weapons are rarer in the tombs. The ornaments, vases, and implements have often been deliberately broken—"killed" perhaps—at the time of deposition.

Yet the change from the Amratian to the Gerzean culture is much more than the mere substitution of one barbarism for another. The high cultural level attained during the previous epoch was preserved, and fresh storeys

were erected on that foundation. The result was a complex enriched by fresh ideas and wider relations.

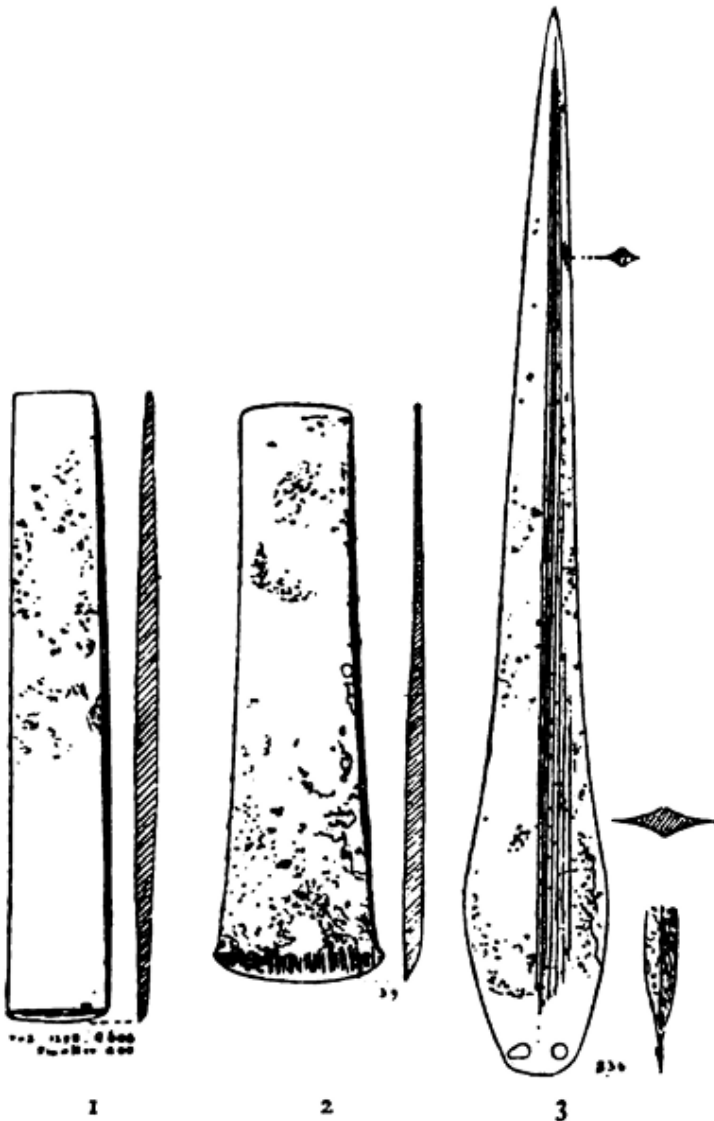


FIG. 37.—Copper flat celts and dagger from Naqada, $\frac{1}{5}$, after Petrie.

Farming remains the basis of life, and the relative importance of hunting has declined as the disappearance of hunting weapons from the tombs shows. But now some villages were well on their way to becoming towns, the nuclei of the cities that in historic times constituted the capitals of the regional divisions termed nomes, and then designated by ensigns

representing animals or plants. Most authorities agree that the historical nome banners are totemic standards representing the patron or fetish of the region. Now the ships depicted on the Decorated vases bear on a mast in front of the fore-cabin an ensign (Fig. 33). Not only do such ensigns correspond in nearly every case to later nome-standards, but when two or more ships are depicted upon the same vase, their several ensigns are always those appropriate to contiguous nomes.^[5] Hence it is clear that the totemic clans, vaguely discerned in the Amratan period, are now firmly established in their historic seats; only a few are to vanish in the unification that is yet to come. Additional proof of the totemic organization is perhaps afforded by the amulets already mentioned. And Bénédite^[6] believed that rows of animals, represented on certain ivory knife-handles, are pictorial records of conflicts between such totemic clans; the animals depicted are always the same and are grouped in a regular order with the elephant, historically the arms of the first nome of Upper Egypt, Elephantine, at their head.

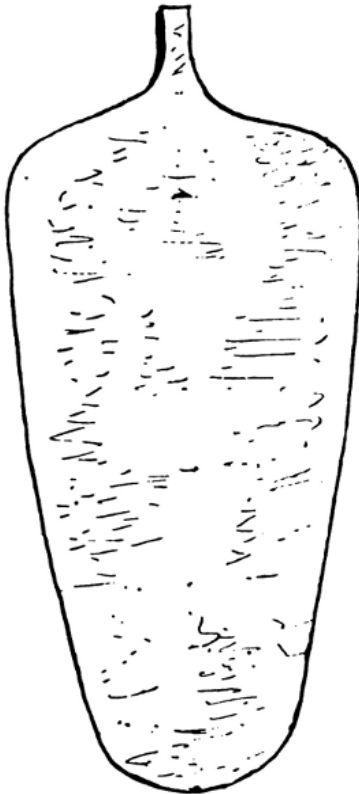


FIG. 38.—Flat knife or razor, $\frac{2}{3}$.

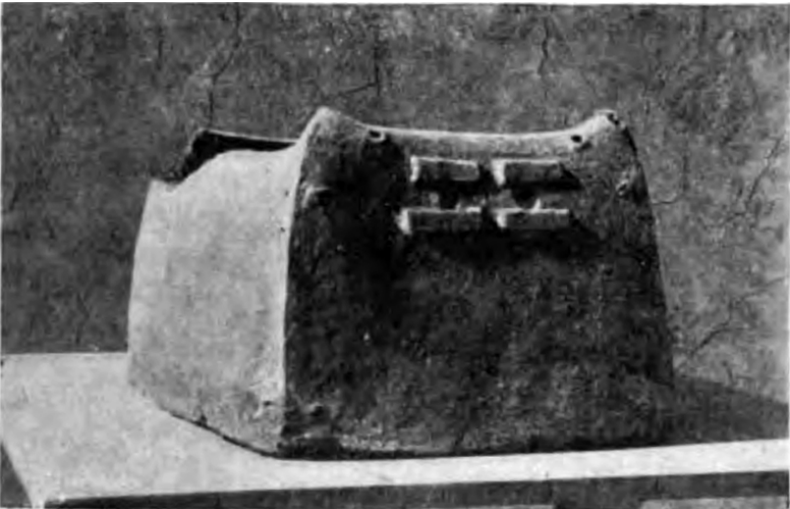
PLATE X



a. EARLY PREDYNASTIC MODEL OF CATTLE

b-c. MODEL OF MIDDLE PREDYNASTIC HOUSE

British Museum



b



c



FIG. 39.—Flat copper dagger with ivory handle, El Amrah (restored), $\frac{1}{4}$.

Some idea of the houses in which the clansmen lived is given by the model from El Amrah ([Plate X](#)), representing a solid structure of mud, or wattle and daub, with a wood-framed doorway on one long side. Its area has been estimated at 25 by 18 feet.^[2] In such communities, specialization of labour and consequent progress in craftsmanship are only to be expected. The remarkable achievements of the stone-borer who could work even the hardest rocks and of the glazier bear witness to such specialization. But copper remained rare. Flat chisels and adzes ([Fig. 37](#)), knives and razors ([Fig. 38](#)), and even needles ([Fig. 22](#)) and tweezers, are found sporadically, but with the exception of one dagger with a mid-rib of S.D. 60 ([Fig. 37, 3](#)) none are specifically metallic types. The earliest metal daggers, dated to about S.D. 50, are flat and triangular, but the method of hafting in a hilt from which crescent-shaped arms project enfolding the blade on either side, is that which is distinctive of Egypt at all later dates ([Fig. 39](#)). And so the craft of the flint-worker flourished with undiminished lustre. Indeed in this period the flaking attained its acme in the wonderful serial flaking which, beginning soon after 40, culminated in the fine knives current from S.D. 55-66. These marvellous blades were just flakes that had been first ground before the long parallel scales were taken off by pressure-flaking, an operation that served no practical purpose ([Pl. IXd](#)).

Naturally trade was intensified, and in the Middle Predynastic graves, lead, silver, amethyst, and turquoise are found as well as the foreign substances already mentioned in the previous period, while lapis lazuli becomes common.

Progress in spiritual life is indicated in the enjoyment of a game like draughts as well as in the advances in religion. The use as amulets of the Falcon, symbol of the dynastic god of Menes, the Cow of Hathor, and the arms of other deities, may mean that these totems had been promoted already to the rank of local gods. But no shrines nor temples have been identified: it is really the graves that give us the clearest idea of the progress of ideas at this period.

The shallow oval pit of the earliest graves had given place soon after S.D. 35 to an oblong trench. On one side of it after S.D. 40 a ledge was left to accommodate the offerings that were continually growing more numerous. Alternatively the whole pit might be filled with the funerary gifts and a small recess cut in the rock to receive the corpse. In other cases a sort of wooden shelter was erected round the corpse. Or the corpse itself might be enclosed in a wooden coffin or laid upon a bier of twigs.^[7] By the end of the Gerzean period at S.D. 63 rich men had their graves lined with mud bricks. One such sepulchre at Hierakonpolis^[8] measured 4·5 by 2·0 by 1·5

m., and was divided into two equal compartments by a transverse wall. Other contemporary graves offer parallels to this division.

The Hierakonpolis tomb just mentioned offers one unique feature: its walls had been plastered over with a layer of mud mortar which had been washed over with a coat of yellow ochre to serve as the ground for a mural painting (Fig. 40). The artist had delineated in red, black, and white, scenes of the chase, of combats between men and ships, and dances, all in the style of the Decorated pots. The painting, crude though it be, is at once the ancestor of the later sepulchral frescoes, and the lineal descendant of the prehistoric vase-paintings. It thus supplies the needed link between the avowedly magical art of historic times and the reputedly magical art of the remoter past.

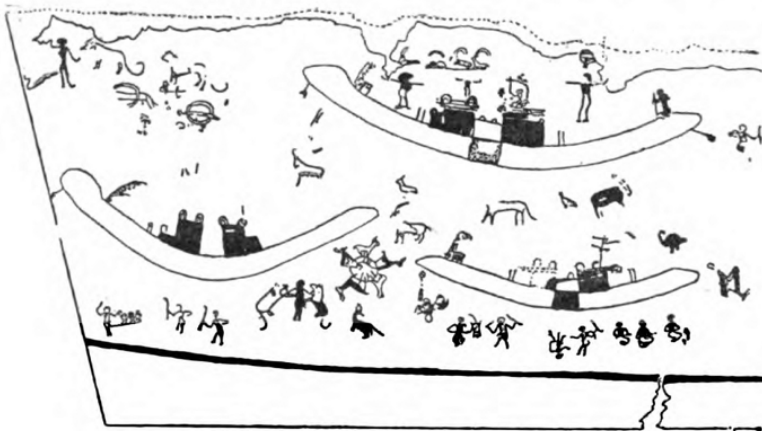


FIG. 40.—Painting on the wall of a tomb at Hierakonpolis.

The tomb series, just described, has also a sociological significance. In it we see increasing concentration of wealth and power, culminating in the single painted tomb of Hierakonpolis. No private clansman rested in that sumptuous sepulchre but at least a chief; out of the equalitarian squalor chieftainship has arisen preparing the way for the unification of the land under a king.

It is universally agreed that the new elements that distinguish the culture of Upper Egypt in the Middle Predynastic phase are derived from the north or north-east. And it is almost certain that the authors of these innovations had been living in touch with the Upper Nile for a considerable time prior to S.D. 39, since before that date isolated Decorated Vases had occasionally found their way into Upper Egypt. Petrie^[9] attributes this element at least to inhabitants of the eastern desert; there the physical conditions would

admittedly encourage the use of stone for vessels, and thence, according to the pioneer of Egyptian prehistory, come pig-tailed people bringing to the first Pharaohs as tribute stone vases of the type actually found in the Middle Predynastic graves. The Wavy-handled jars, on the other hand, have been connected by Petrie, Frankfort,^[10] and Scharff^[11] with Palestine and Syria. In any case Asiatic contacts are obvious. The pear-shaped mace, the theriomorphic vase, the spouted jug, probably the tradition of dark on light decoration and the technical processes it implies are all features of a great cultural province extending across Hither Asia as far as Kish and Susa that we shall come to know better in a later chapter. A quite isolated cylinder of S.D. 46 bearing a meaningless attempt at an inscription points in the same direction.^[12] One root at least of the Middle Predynastic civilization of Egypt is struck down deep into Asiatic soil. With this complex then might reasonably be connected the Osiris legends that point to Syria, and with its southward extension that first unification of the land under the authority of the eastern Delta as deduced by Junker from the legend of the contest between Osiris and Seth and other fables.

But if the Gerzean Civilization belong culturally to an Asiatic province, its focus came to lie in the western Delta. There lay the land of the Libyan Tehenu, the original home of olive-culture according to Newberry, and in its immediate vicinity were extensive deposits of natron that could be used in the manufacture of glazes. Now, Newberry^[13] has shown that out of 288 boats depicted on Decorated pots, 166 fly the ensign of the Harpoon nome situated in historical times on the Canopic mouth of the Nile, while 80 others bear the emblem of adjoining western Delta nomes. Another sign, the Fish, disappears from historical Egypt, but emerges on the oldest Aegean ships. And Newberry has shown that the chief port of Egypt lay in the western Delta in the Harpoon nome. It would therefore be through the mediation of the western Delta that Egypt came into contact with Crete, and probably some Syrian influences too were transmitted across the sea through this channel.

Thus the Middle Predynastic culture was largely a product of Lower Egypt, and its extension to Upper Egypt denotes the cultural ascendancy of the North. Does the imposition of the new culture on the South and the power of the western Delta, as illustrated in the boat vases imported after S.D. 45, reflect the political domination from the north implied in the legend of the Shemsu Hor as interpreted by Sethe? Are the barques flying the Harpoon standard the ships of the Mesniu or Harpooners^[14] who accompanied Horus? Did the advance of the new Gerzean Culture southward correspond to that infusion of Semitic elements into an original

Hamitic linguistic stock postulated by many philologists? Was it at this time that the calendar of Memphis and Heliopolis and the script of the Delta were diffused throughout the whole of Egypt? Does then the first Sothic cycle, 4236 B.C., coincide somewhat approximately with S.D. 45? All these theories seem plausible. The later hieroglyphic signs for the mace and the arrow are the pear-shaped and chisel-ended types of the Gerzean Culture. The Falcon Horus appears among the signs on Decorated vases and the amulets in Middle Predynastic graves. In the immediate vicinity of Horus' southern sanctuary we find a tomb that might almost be designated royal.

Of course this attractive theory is by no means universally accepted. Sir Flinders Petrie endorses the doctrine of a dynastic race from the south to whom the Horus clan must be assigned. On the carved ivory knife handles that belong to the end of the Middle Predynastic age and record, according to Bénédite,^[6] the struggles of the clans of Upper Egypt, the Falcon is absent. Hence the French savant contends that these monuments are pre-Horian; that is to say the conquest of Upper Egypt by the Shemsu Hor must be dated after S.D. 63. The oldest record of the successes of the Falcon clan is the Lion Hunt palette that cannot be dated very much anterior to Menes or about S.D. 70. And its theme is a victory over Libyans in the western Delta. The interpretation of the Egyptian legends and their correlation with archæological monuments are matters for the philologist. To the theory of a dynastic race we shall ourselves return later in dealing with the Mesopotamian connections of Protodynastic civilization. Here it is important only to show that tradition is compatible with the archæological deduction of a high civilization once centred in the Delta and of its superposition on the native culture of Upper Egypt.

Down to this point it has been possible to explain the growth of civilization in the Nile Valley as a self-contained and continuous process. Though more than one racial element contributed to it and we distinguish two civilizations, all the more important discoveries and inventions may have been made within the Nile basin. The Gerzean civilization has indeed Asiatic connections, but nothing *proves* its indebtedness to Asia; the Mesopotamian parallels may at least theoretically be interpreted as reflexions of a civilizing current from Egypt.

In the Nile valley, assuming the presence during the pluvial period of suitable plants, the conditions were ideal for the rise of regular agriculture. It is generally admitted that the cultivation of the olive was initiated in the western Delta. Being accustomed to paint their faces with malachite, the predynastic Egyptians were constantly handling copper ore the conversion

of which to metal might easily happen before their eyes if some of the ore fell on to hot ashes.

In Tasian times the valley was still sufficiently wooded for the need of a tool to split timber to be felt and the development of the polished stone celt to be thus evoked. The riverine conditions were eminently favourable for the first experiments in navigation. And the Badarians and Amratians, as we have seen, already possessed a boat that has been claimed by many as the ancestor of all later ships. The rudiments of a script, based upon older palæolithic hunting signs, had already been devised and given social sanction in Early Predynastic times. It may therefore fairly be contended that all the elements that distinguish neolithic and chalcolithic culture as defined among the barbarian Europeans had been created in Egypt out of the common palæolithic heritage of south and north.

At the same time the Egyptians could not live in isolation. The land lacked adequate supplies of timber (after Tasian times), malachite, spices, and other necessary raw materials. A progressive people with awakening needs like the predynastic clans would be obliged to procure these from without. At the same time the grass-lands still extending from the Atlantic to the Zagros were occupied by scattered nomadic tribes, which, despite their dispersion, must have formed a real continuum like the rare atoms in a vacuum tube. In any case foreign substances in Egyptian graves attest relations extending as far as Persia, Armenia, and North Syria. Thus there were abundant opportunities for the inventions and discoveries of the Egyptian to be disseminated and copied on the Iranian plateau, in Asia Minor and in Crete. We must later inquire whether the autonomy of Egyptian civilization and the dependence of all others be really as complete as is alleged. We are in any case now reaching a point when definite contacts were established with another centre of civilization that, whatever her past, was at this epoch originative, independent, and individual. The Late Predynastic and Protodynastic epoch of Egypt is distinguished by the appearance on the Nile of objects, technical devices, and artistic motives that were native and lasting in Mesopotamia but in Egypt occur only sporadically or enjoy a quite temporary vogue.

NOTES TO CHAPTER IV

[1] Evans, *Palace of Minos*, ii, p. 30.

[2] Menghin and Amer, *Excavations of the Egyptian University at Ma'adi*, Cairo, 1932.

[3] Wainwright, *JEA.*, ix (1923), p. 27; Scharff, *ÄZ.*, 61, p. 27.

[4] For the general features of the Gerzean civilization consult Petrie, *Prehistoric Egypt*, and Scharff, *Grundzüge*.

[5] Newberry, *LAAA.*, i, p. 18; v, p. 134; cf. Moret, *Tribe*, p. 123, *Nile*, p. 46.

[6] *JEA.*, v, pp. 225 ff. Cf. p. 123.

[7] *El Amrah*, p. 7.

[8] *Hierakonpolis*, ii, p. 21.

[9] *Preh. Egypt*.

[10] *Studies*, i, p. 104.

[11] *Grundzüge*, p. 32; but see Junker's criticism in *Schmidt-Festschr.*

[12] *El Amrah*, pl. vii, 1.

[13] *LAAA.*, v, p. 134.

[14] *ÄZ.*, liv (1918), p. 50; Moret, *Nile*, p. 108.

CHAPTER V

THE RISE OF THE DYNASTIES

THE period between S.D. 63 and 76 saw the transformation of villages into cities, the investiture of petty chiefs with the majesty of divine kingship and the union of the warring clans into a compact State. But of the cities nothing remains, and it is only the gradual differentiation of the tombs^[1] that allows us to infer the emergence of an ever more complex social hierarchy, while their furniture is the sole index of the impulse given to art and industry by contact with distant lands and the termination of internecine wars.

Throughout the period the poorer citizens were still buried in simple trench-graves. But now there were richer men who demanded a more elaborate home for the soul. The elaboration followed divergent lines that only began to converge again after the unification of the land. The cemetery of El Kab illustrates the growth of the trench-grave downwards. With the advance of time and concentration of wealth the tomb was dug ever deeper through the sand and into the underlying rock. Then steps had to be cut for the entry of the coffin-bearers and subsequent bringers of offerings, and a roof had to be built with posts and wooden beams. At El Amrah attention was turned to the recess for the body; it was enlarged, divided from the original pit by a wicker partition and eventually transformed into a distinct room, the wicker partition being replaced by a brick wall. In other cases the trench was lined with brick or timber walls and eventually divided into a grave proper and a chapel of offerings by a transverse wall as in the painted tomb at Hierakonpolis. In another tomb^[2] at the same site, unfortunately undateable, the chamber was formed by three upright slabs of desert sandstone roofed by a fourth after the manner of a dolmen. More often the chambers were roofed with wood, till under the Second Dynasty the corbelled roof of mud-brick began to replace timber work.

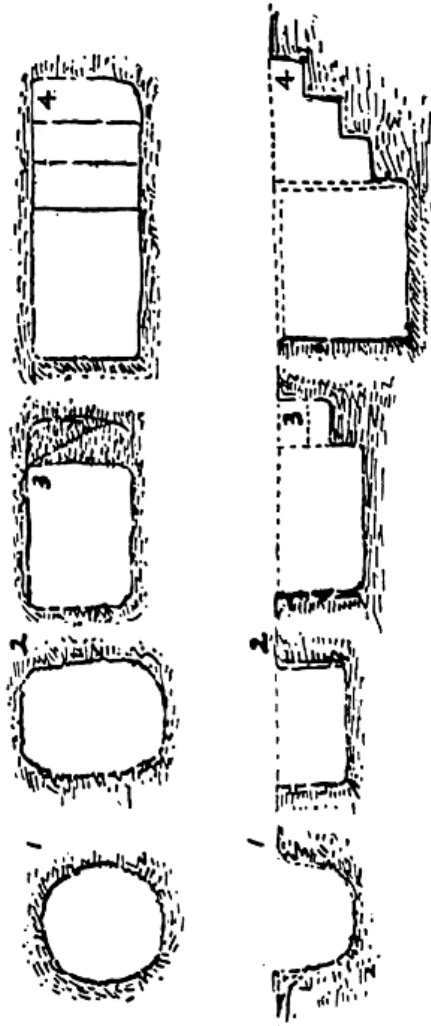


FIG. 41—Evolution of tomb types after Garstang.

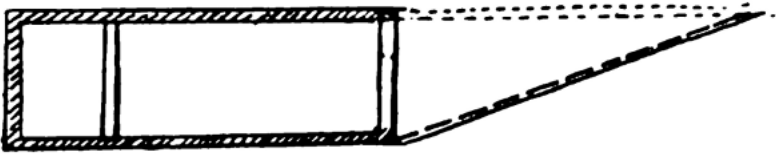
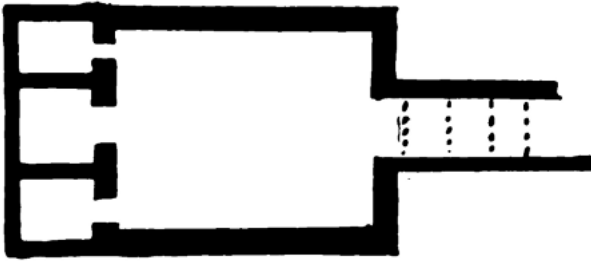


FIG. 42.—Early dynastic chamber tomb (plan and section).

In other cemeteries after about S.D. 77 a superstructure begins to appear above the ground. Some neolithic graves near Helwan had been marked above ground by a pile of stones, and it is thought by Reisner that the earlier bricked tombs were surmounted by some structure on the ground level to serve as a monument and a chapel for funerary offerings. In the private tombs of the First Dynasty the grave proper was just a deep shaft above which was a brick-walled chamber apparently filled with sand. But on the west side of this and communicating with it by two low slits was a smaller chamber, always found filled with vases and presumably serving as a mortuary chapel ([Fig. 43](#)).^[3]

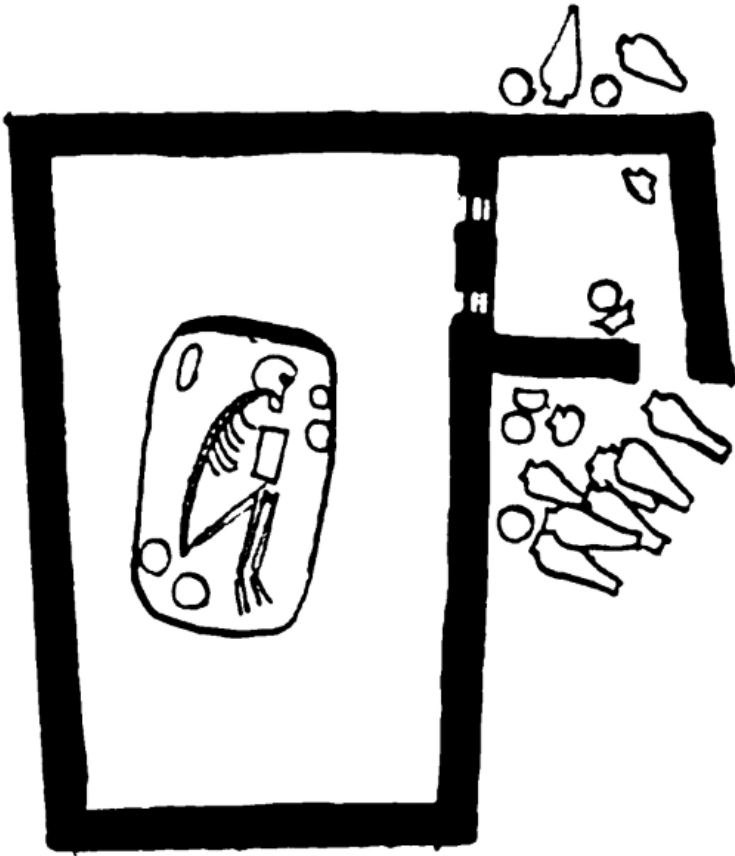


FIG. 43.—Small *mastaba*, Tarkhan.

In the Royal Tombs of the First Dynasty at Abydos^[4] a serious attempt was made to reproduce underground the house of the living. The grave was a huge brick-lined pit 43 by 48 feet square. In its centre stood the burial chamber proper, a wooden hall 28 feet square. The planks enclosing it were supported by buttresses projecting from the walls of the shaft forming a series of small store-rooms. The whole structure was surrounded with rows of smaller tombs containing the bodies of courtiers and dependents. It is most likely that these had been slain to accompany their royal master to the grave. By the end of the First Dynasty the plan was completed by the addition of a stepped passage leading down to the chamber, and the pit was sometimes floored with granite slabs. Under the next dynasty a corbelled vault of mud brick came to replace the original wooden ceilings.

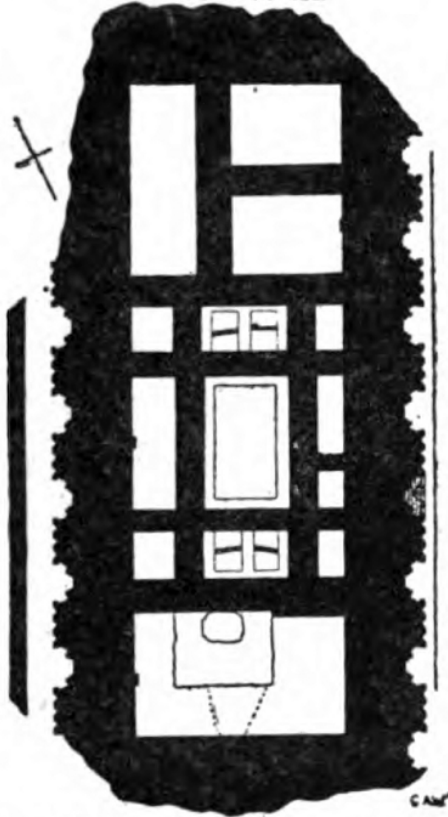


FIG. 44.—Great brick *mastaba*, Tarkhan.

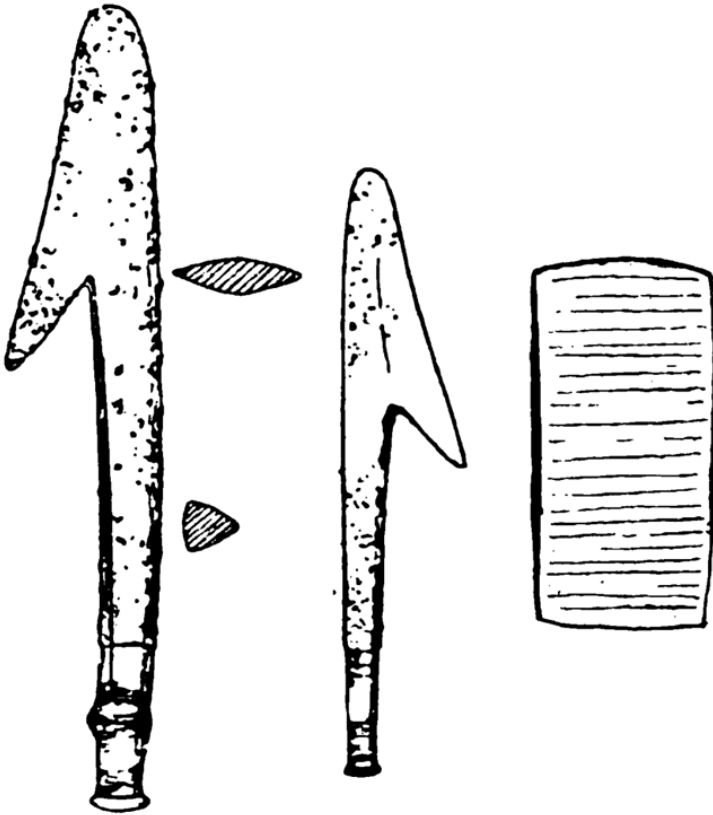


FIG. 45.—Late Predynastic copper harpoons, $\frac{2}{3}$, and axe, $\frac{1}{5}$.

In other tombs of the same reigns, however, the superstructure, seen in a rudimentary form at Tarkhan, was converted into a monumental erection termed a *mastaba* (Fig. 44).^[3] This was an enormous rectangle of brickwork enclosing several small chambers under the central one of which the grave-shaft proper was dug. The outer wall was recessed in a peculiar manner, two of the recesses on the eastern wall being distinguished by a wooden or brick pavement. These recesses served as funerary shrines. The whole complex was encircled with a brick wall, and in the passage between the wall and the face of the mastaba the bodies of attendants and in one case of two asses were interred. Under the Third Dynasty the whole structure was translated into stone while the subterranean portions were enlarged and provided with a stepped entrance passage, which might be roofed with a true arch of brick. Finally, the superposition of a series of mastabas one upon the other produced under Zoser the famous stepped pyramid of Saqqara.

It is thus possible to present the funerary monuments from Middle Predynastic times down to the Third Dynasty as a self-contained evolutionary series. Whether this continuity is real or apparent is a question to which we shall return when a description of other aspects of protodynastic culture has been completed.

The growth of wealth, the concentration of power, and the rise of city life are equally reflected in the progress of the industrial arts. Copper is now in general use for tools and weapons and also for vessels. The tools in use include flat axes (celts) with parallel sides and no expansion of the blade, adzes with rounded butts, and a battle-axe with rounded blade, neither provided with sockets, but just stuck into the shaft. The adze has normally a rounded butt. The rise of such types coincides with a revival of carpentry consequent upon the establishment of regular communication with Syria. Flat, double-edged knives and copper harpoons were taken over from an earlier age ([Fig. 45](#)), but the fish-hook—of copper ([Fig. 22, 9](#))—appears for the first time under Menes' dynasty. Copper daggers have a rhomboid outline and are strengthened with stout mid-ribs. The spear-heads had a flat tang which fitted into the split end of a shaft; and a copper ferrule encircles both shaft and tang in an example from Tarkhan, but no socketed weapons are known, and it is certain that the Egyptians were unacquainted with core-casting. A few beads of meteoric iron from Gerzeh have no significance for the history of metallurgy.

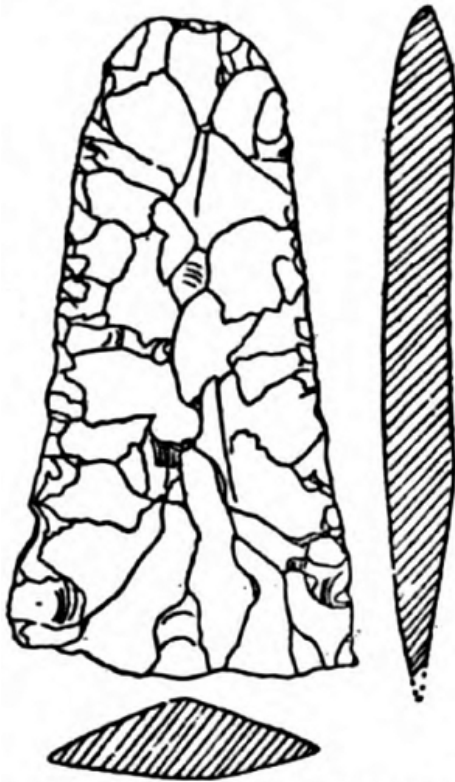


FIG. 46.—Flint hoe, $\frac{1}{2}$.

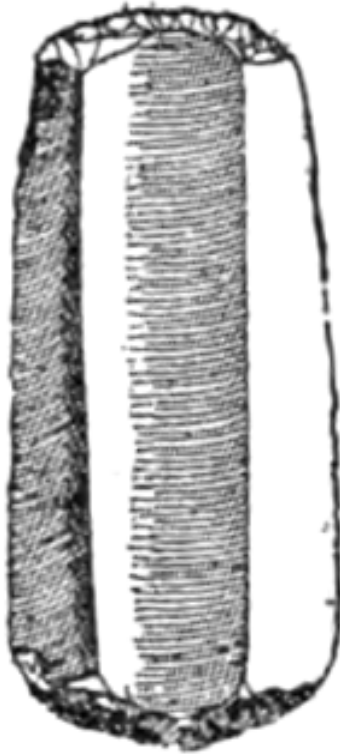


FIG. 47.—Flint razor blade, $\frac{1}{2}$.

But metal had by no means ousted flint. Indeed, even under the earlier dynasties copper was rare, and as late as the Pyramid age the tools for great constructional works, to say nothing of agriculture, were of stone. From the early town^[5] sites come hundreds of hoes chipped out of flint nodules (Fig. 46), sickle-teeth, rough blades, disc-scrapers, and other flake-implements, often well worked though never reaching the perfection of the Middle Predynastic serial flaking. Some interesting series illustrate the connection of the early flints with later metal implements. A razor with one end rounded (as in the classical “end-scraper on blade”) and the other squared can be traced from Menes’ time till in the tomb of Hetep-heres it occurs side by side with its gold counterpart, a tanged razor. In the same tomb the final form of the square-ended flake, a rectangular chip perfectly flat on the bulbar surface and evenly bevelled on the opposite face, appears associated with an exact copy in gold; evidently it, too, was a toilet implement.

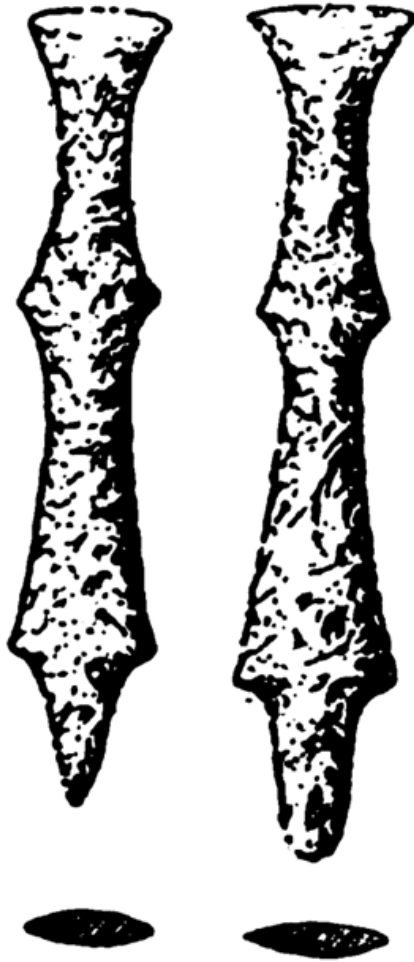


FIG. 48.—Chisel-edged flint blades, Royal Tombs (Zer-Ta), $\frac{1}{2}$.

Other protodynastic types are finely flaked, chisel-ended flint blades, perhaps descended from the swallow-tailed blade of the previous epoch ([Fig. 48](#)), the pear-shaped mace, the chisel-headed arrow, the boomerang and the shield with concave sides. On the Lion Hunt palette we see also a weapon often taken to be a double axe. The artist has, however, been at pains to show that the shaft does not pass through the head as in the Minoan weapon but round it. Probably we are here dealing with a grooved mace-head an approximation to which at least has been found in the Fayum industry. It is, however, uncertain whether the same interpretation can be applied to two figures, identical with the Minoan double-axe sign, scratched on protodynastic vases.^[6]

Æsthetically the pottery declines, but some think that a sort of potters' wheel was coming into use. Painting dies out during the sixties and eventually only red or drab, hard-baked vases survive, save for a few imported pots decorated with glaze paint. The preference for pointed bases and a rim-collar is noticeable, but handles are absent. An important type appearing first about S.D. 70 is the open tubular stand whose walls are often perforated with triangular apertures; precise parallels are common in Mesopotamia.^[7] The decline of fine ware has a dual cause. On the one hand earthenware is ousted by metal and fine stones from the tables of the rich. On the other with the specialization incident upon city life the potter becomes industrialized and turns from craft-work to mass-production.

PLATE XI



THE LION HUNT PALETTE

The stone vases are again on the whole more monotonous. The beautifully varied stones sought out in the Middle Predynastic are now abandoned for the alabaster and basalt that had enjoyed a preference also in the Early, though vessels of obsidian and rock-crystal from the Royal Tombs constitute exceptions. By far the commonest shape is a tall cylindrical vase, though squat bowls with tubular handles and undercut rims derived from a well-known Middle Predynastic shape are very popular. An important new

type, however, is provided by blocks with twin cups bored out in them; this type, like the clay stands, has very definite Mesopotamian analogies.



FIG. 49.—Copper goblet, Royal Tombs, $\frac{1}{2}$.

Besides clay and stone, vases of glaze and fayence appear in the Royal Tombs. And metal vessels are represented by dishes, tumblers, a pedestalled goblet made in two pieces, with a ring encircling the stem where foot and body join ([Fig. 49](#)), and rather later by jars with a spout brazed on.

The craft of the carpenter may be illustrated by couches with the legs carved to represent bulls' hoofs^[8]; such served as biers from S.D. 66.



FIG. 50.—Figures of apes in stone and fayence, about $\frac{1}{4}$.

A few toilet articles and amulets may be noted here. Slate palettes in animal form, but generally highly conventionalized survive till the beginning of the Dynastic age, and indeed in a magnified version serve as a vehicle for the records of the Falcon clan and of its princes, but the normal type after S.D. 70 is rectangular. Among the ornaments spiral beads of stone burnished with gold occur between S.D. 65 and 72^[9] and iron beads^[10] are dated to 72 likewise. Under the First Dynasty fayence is quite common and a spirally gadrooned long barrel bead ([Plate XII](#)) is very characteristic. The original form is given by coiled gold wire; this was then copied by engraving on lapis. A large number of new animals^[8] begin to appear as pendants, amulets, or gaming-pieces, notably the lion after 64, the baboon

before 77, the frog or toad about 65, the scorpion after 70, and a bird—perhaps a dove—about 77. All these types have more or less close Mesopotamian parallels. A camel from Abusir el Meleq is, however, very puzzling, and may be a descendant of a hypothetical pleistocene race from North Africa.

PLATE XII

BRACELETS FROM TOMB OF KING ZER, $\frac{4}{3}$



a



b

Cylinders appear as amulets after S.D. 65, and under the First Dynasty at latest they are used regularly for stamping clay jar-sealings and bear inscriptions. By that date, too, writing is in regular use; though the hieroglyphs have not yet assumed their final form, the main principles of the script, the use of determinatives, for instance, are already established. But even as early as S.D. 63, one of the characters of the later script appears on a slate palette apparently already as a glyph.^[11] The ancestry of the script, whose signs are essentially Nilotic, should perhaps be sought in some pictorial records kept by the clans which are implied in certain ivory knife-handles, already mentioned and dating from the end of the Middle Period. Alternatively a body of magic pictures such as are illustrated in the funerary paintings and petroglyphs of prehistoric times might have supplied the material for a system of writing, since the later hieroglyphs possessed not only a phonetic or ideographic value but also a magic power. The development of the regular script would in any case be promoted by the emergence of individuals, royalties who wished to perpetuate on monuments their personal names and also by the necessities of foreign trade.

For the existence of an urban civilization such as had grown up already in protodynastic times was only possible through the maintenance of permanent and regular relations with outside countries. Copper ore must be mined in Sinai, gold in Nubia, and cedar wood for the Royal Tombs was brought by ship from Byblos. Marble was imported from Paros and from Asia came obsidian, now in quantities sufficient for the manufacture of vases, lapis lazuli, and other stones.

Direct proof of protodynastic intercourse with North Syria is afforded by the French excavations at Byblos^[12] where a flint knife, a late theriomorphic palette, a vase in the form of a camel and other articles of indubitably Egyptian provenance have been unearthed. By the Second Dynasty a stone temple had already been erected at that site, perhaps the oldest stone building in the world. Corresponding proof of trade along the Red Sea is afforded by a late predynastic cemetery at Ras Samadai (latitude 24° 59' N.)^[13] containing Late Predynastic vases and slate palettes. The multitude of Red Sea shells in protodynastic graves and town sites indicates the regularity of trade in this direction, and the *Tridacna* shell that begins to appear in Crete^[14] about this time must have come by way of Egypt.

The certain or problematical Mesopotamian contacts must be considered in the light of the trade relations thus disclosed. The evidence consists in the temporary adoption by the protodynastic Egyptians of devices and artistic motives that constituted permanent elements in Mesopotamian civilization.^[15] None of the actual objects found can possibly be regarded as Babylonian

products; the Mesopotamian devices were elaborated in a thoroughly Egyptian way; the Mesopotamian motives adorn purely Egyptian objects and the contacts are spread out over the whole of the Late Predynastic and Protodynastic age.

At the very beginning of the period at S.D. 63 we encounter a whole group of foreign objects and motives depicted together on two thoroughly Egyptian monuments. The monuments in question are an ivory knife-handle found at Gebel el-Arak and the painted tomb of Hierakonpolis already mentioned. The sites of the discoveries are significant; they lie near the termini of well-marked caravan routes to the Red Sea.

Both documents depict a boat, foreign to the ordinary monuments and represented as in conflict with the usual Nilotic ships as depicted so frequently on the Decorated vases. The foreign vessel is distinguished from the papyrus barques above all by its tall prow and high stern. The type appears in Egypt besides only on two late Decorated pots ([Fig. 51](#)) and on a few isolated monuments of the First Dynasty. It can hardly be derived from the old papyrus boat, but on the other hand might easily grow out of the type of boat illustrated by the oldest monuments found in Mesopotamia. And in fact representations of boats very like ours are found on Sumerian vases early in the third millennium.

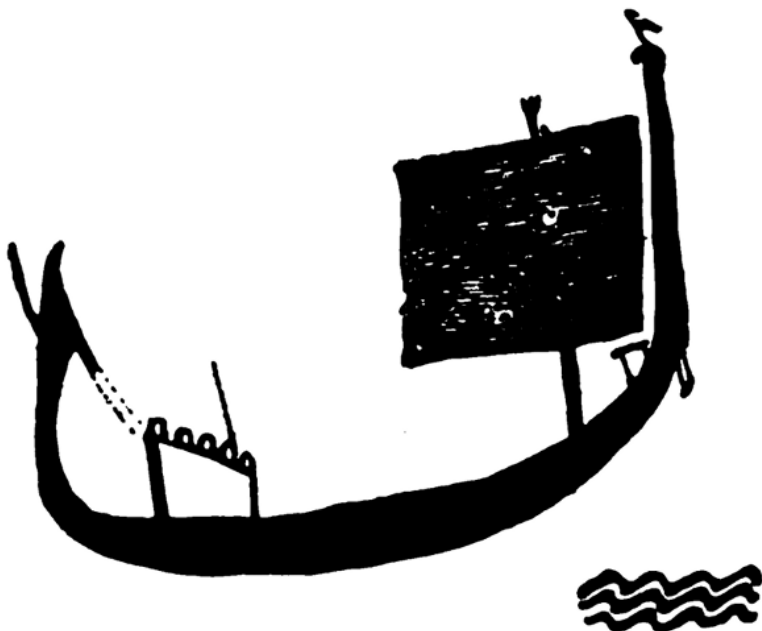


FIG. 51.—“Foreign” ship from late Decorated pot.

The Gebel el-Arak knife-handle again depicts a dog, very different from the older Egyptian greyhound type but identical with the oldest Babylonian.

On the knife-handle again, and in the tomb-painting, we see a group representing a hero dompting two lions. The theme is strange to Egyptian art, but on the other hand was very popular in Babylonia. The impression of Mesopotamian inspiration becomes irresistible when we observe that the hero is wearing a full beard, while the cap on his head and the long robe that drapes him are no less typically Asiatic. The whole scene might be used to illustrate the Gilgamesh epic; yet, Hall^[16] rightly says, “The hero looks more like a god of the desert between the Nile and the Red Sea than a Gilgamesh or an Elamite—a god conceived by his worshippers under a form strongly influenced by Mesopotamian and Elamite ideas brought to the coast (? of Magan) by sea and executed by a predynastic Egyptian artist.”



FIG. 52.—Ivory handle for a flint knife like [Fig. 31](#), 86.

The lion grasping a bull by the hind quarters on the Gebel-el Arak handle and the processions of animals on others are again themes that recur repeatedly in Mesopotamia. So too do the monsters with entwined necks, the

double-headed beast ([Pl. XI](#), bottom right), and the rosettes carved on a knife-handle ([Fig. 52](#)), and on the later slate palette of Menes.

Among the animals that appear as novelties in the Late Predynastic plastic the lions, apes, toads, and scorpions all recur in Mesopotamia. In particular the earliest Egyptian sculptures of the lion ([Fig. 53](#)) depict the beast with gaping jaws in the manner of Susa and Babylonia—a treatment which was subsequently abandoned in Egypt.^[16]



FIG. 53.—Gaming piece in form of a lion from First Dynasty Royal Tomb, $\frac{1}{1}$.

With the rise of the First Dynasty still more agreements with early Mesopotamian usage are noticeable. Some of the oldest dynastic monuments are carved mace-heads, one of which represents the Sed festival of the first Pharaoh. Now the piriform mace has a very long history in Babylonia and was regularly used there as the vehicle for votive sculptures. So too a couple of broken vases with figures carved in low relief suggest Mesopotamian influence since such carved vases were very popular in early Sumerian times and enjoyed a long vogue in the Tigris-Euphrates valley while they never took root on the Nile. Still more unmistakably Asiatic are the tubular stands or supports of baked earthenware already mentioned. Similar objects have been found in the archaic strata at Assur, Fara, and elsewhere in Mesopotamia decorated with the same triangular excisions as in Egypt.

Great importance has also been attached to certain architectural features observed in the Royal Tombs and early mastabas. The recessed brickwork in particular has parallels in Babylonia from the earliest times onward, and survives in Irak to-day. But it must be noted that this sort of façade only copies in brick a type of building originally evolved in wood. On one view the recessed wall represents the façade of a pillared hall between the pillars of which were fixed light wooden doors. Later Egyptian coffins illustrate something of the sort; the false doors of the early stone mastabas are certainly painted to imitate wood, and at Tarkhan^[17] wooden panels that could be fitted together to give precisely the assumed effect were actually

found. On the other hand, the paintings of the recesses in the tomb of Hesy at Saqqara and the tiles of Zoser's new tomb show that in some cases the spaces between the columns were closed with reed mats, and Woolley^[18] has pointed out that these mats bore Syrian and not Egyptian patterns. The same author has traced the recessed brick architecture of Sumer to the prediluvian huts of matting supported by posts, so that, even if the similarity of the Egyptian and Mesopotamian brickwork be not due to direct imitation, it rests on a community of pre-existing architectural types. And the reed and timber prototype is not attested for the Nile in predynastic times.

But the earliest Egyptian tombs resemble the Mesopotamian in more than accidental features. The tombs of Menes and his successors represent attempts to reproduce on a small scale at the bottom of a great shaft the hall of the king. And so do the earliest royal tombs of Ur and of Kish. The bodies of Menes' courtiers were interred in annexes to his tomb; and at Ur the king's whole retinue was slain and buried with him. The two asses^[19] and a manial buried in the corridor of a mastaba at Tarkhan recall the harness-asses and their drivers found in the tombs of Kish and Ur. All these agreements in funerary structure and practice are certainly more than accidental.

The cylinders that under the first dynasties were used as seals are, though inscribed in every case with Egyptian characters, a device indigenous to Mesopotamia that persisted there long after it had been abandoned on the Nile. And the hieroglyphic script itself, though its elements consist of purely Nilotic plants and animals, agrees so strikingly with the Babylonian in its curious combination of phonetic signs with ideographs and determinants that the two systems must be somehow interrelated.

The cumulative effect of all these comparisons is conclusive. Sumer and Egypt at the time of the oldest kings were no longer mutually isolated but were in direct, or more probably indirect but regular, communication. As to the mechanism of these relations opinions differ. Petrie speaks of invasions by Elamites and with de Morgan invokes the intervention of a Sumerianized "dynastic race". The latter would have been responsible for the introduction of writing, the intelligent use of metal, artistic sense, sculpture upon stone, carpentry on a large scale, the potters' wheel, and the monumental tomb.^[20]

Other authorities are content to invoke trade relations along the Red Sea supplementing those by Syria that may go back to Middle Predynastic times. And the traders need not have been Sumerians but intermediaries such as the inhabitants of Magan, a sea-faring people often mentioned by the

Sumerians. Many of the phenomena would indeed be better explained by the assumption of a third centre from which influences radiated simultaneously to Egypt and Sumer.

The issue between commercial and ethnic explanations of the Mesopotamian contacts is not a profitable theme. Let us, however, note that in the Royal Tombs a new physical type, still dolichocephalic, but larger and more robust than the earlier predynastic people of Upper Egypt, reappears in Egypt for the first time. And later on when the capital was transferred to Lower Egypt under the Third Dynasty a brachycephalic “Armenoid” type becomes prominent among the upper classes.^[21] Let us note, too, that the protodynastic slate palettes certainly depict a variety of racial types among the enemies and followers of Menes; Petrie^[22] distinguishes as many as six. Plainly then the racial prehistorian has plenty of material to play with.

Nor are the ethnic and commercial explanations altogether incompatible. Petrie’s dynastic race might be identified with those “followers of a god of the Eastern Desert conceived under a form strongly influenced by Mesopotamian and Elamite ideas brought by sea” postulated by Hall.

It is of much greater importance to decide to what extent Egypt was merely passive in her relations with Mesopotamia. That is a question partly dependent on the chronologies of the two countries which are uncertain just at the vital points. On the existing evidence the Royal Tombs of Ur display a higher civilization than we have in Egypt at that date. In addition to wheeled vehicles Sumerian metallurgy had attained a far higher degree of perfection than that illustrated by any Egyptian finds of the first two dynasties. Yet when we come down to the end of the Third Dynasty the sculptures and architecture in stone under Zoser far surpass any Mesopotamian achievements, and the metal work of Queen Hetep-heres’ tomb is nearly as good as anything produced in Sumer. If the Sumerians had invented the shaft-hole axe, the Egyptians discovered the principle of the flanged celt ([Fig. 54](#)). But a just comparison can only be made when we have traced the genesis of Sumerian civilization as we have the growth of Egyptian.



FIG. 54.—Copper chisel with “flanged” blade from the tomb of Hetep-heres, the mother of Cheops.

NOTES TO CHAPTER V

[1] On the sepulchral architecture see MacIver, *El Amrah*, p. 7, Garstang, *Third Egyptian Dynasty*, Reisner, *Naga ed-Der.*, and Peet, *CAH.*, i, p. 239.

[2] *Hierakonpolis*, ii, pp. 23 and 51.

[3] There are good illustrations of mastabas in *Tarkhan*, i and ii.

[4] Petrie, *Royal Tombs of the First Egyptian Dynasties*.

[5] Cf. Petrie, *Abydos*, i.

[6] Evans, *Palace*, ii, p. 28. Under the Vth Dynasty there was a cult object represented by this sign. Cf. Hall, *Civilization of Greece in the Bronze Age*, pp. 25 f.

[7] Frankfort, *Studies*, i.

[8] *Prehistoric Egypt*, pp. 10 f.

[9] Dated specimens in University College, London, from Gerzeh.

[10] *The Labyrinth, Gerzeh*, etc., p. 15.

[11] *JEA.*, v, pl. vii.

[12] *Mon. Piot.*, xxv, p. 243.

[13] *Man*, xxiii (1923), 81.

[14] Evans, *Palace*, ii, p. 46.

[15] The evidence has recently been stated in great detail by Frankfort, *Studies*, i, pp. 118 f.

[16] *JEA.*, viii, p. 252.

[17] *Tarkhan*, ii, p. 8.

[18] *Al'Ubaid*, p. 68; for Hesy, see Quibell, *Saqarra*, v; for Zoser, *Ill. Lond. News.*, 1928, 7th. January.

[19] *Tarkhan*, ii, p. 6.

[20] *Tarkhan*, i, p. 20.

[21] Elliot Smith, *Ancient Egyptians*, pp. 110 f.; *Biometrika*, xvii (1925), pp. 25 ff.

[22] *JRAI*, xxxi, pp. 250 ff.

CHAPTER VI

THE PREHISTORIC PERIODS IN MESOPOTAMIA

THE TIGRIS-EUPHRATES valley has far less unity than the valley of the Nile. Its lower reaches, Babylonia proper, roughly from the level of Baghdad to the Persian Gulf, are indeed economically dependent on the rivers; only their waters, by natural inundation or canalized irrigation, make settled life possible in those latitudes. This economic unity had eventually to find its political expression as it did at last under Hammurabi. But further north the lowland plain is traversed by other streams—the Diyala and the two Zabs, flowing into the Tigris, the Khabur and the Balikh tributaries of the Euphrates—each an economically independent system. And here, too, in Assyria and Syria, the rivers traverse a zone still visited by winter rain-storms from the Atlantic sufficient to make cereal cultivation without irrigation possible if slightly precarious.

There are further differences in climate, and consequently in flora. The southern portion of Babylonia, Sumer, enjoys a relatively mild winter, and here the date-palm is at home. Even in northern Babylonia, the ancient Akkad, the winter is bitterly cold, with heavy frosts every night. In Assyria and Syria snow may fall. Here there grew no date-palms to tie man to the soil, but instead vines and fruit-trees, which are no less efficacious.

Not only is Mesopotamia much less homogeneous geographically than Egypt, she is also much more exposed. Egypt, surrounded by desert, is easily defensible, and from the beginning of the historical period successfully closed her doors against invaders, save for brief interludes like the Hyksos episode, for two thousand years. To the east of the Tigris lie the valleys of the Zagros Mountains and the Iranian plateau, to the north Kurdistan and Armenia, fertile enough to nourish a prolific population. The overflow of such upon the valley is easy, and the history of Mesopotamia is punctuated with raids from, or periods of domination by, Elam, Gutium, Awan, Hittites, Assyrians, Chaldaeans. No natural barrier separates Babylonia from the Arabian Desert. And there roams a mobile and warlike population, ever liable to be forced by drought on to the irrigated lands. Some authorities would derive from this quarter both the Akkadians and the Amorites.

Thirdly, Babylonia is even less self-sufficing than Egypt. The treeless alluvium stretches for miles on either side of the rivers. There are, indeed, limestone ridges, providing chert and poor building stone, but the Mesopotamian desert is not covered with flint nodules nor are abundant supplies of excellent flint available in accessible wadis as in Egypt. Hence not only timber (apart from palm-stems) and good stone for building, but even the material for the simplest tools must be imported. Such a situation favours the rise of a commercial and industrial civilization. At the same time, where for tool-making even decent stone had to be imported, the superiority of copper would be quickly appreciated; in view of its greater durability it would be found relatively cheaper than flint or obsidian, which give just as sharp a tool for a single operation.

The surviving archæological record contains no evidence of climatic changes comparable to those implied by the discoveries at Tasa and in the Fayum; the flora and fauna depicted on the earliest figured monuments are those appropriate to an arid climate such as rules to-day. Such advantages as the pluvial period conferred on Mesopotamia had already passed away before the graphic record begins; but after all its beginning is long after the earliest settlement in the valley. The land, in any case, has changed considerably even in historical times. The deposit from the two rivers is still silting up the head of the Persian Gulf so rapidly that on one estimate the coastline advances about 1½ miles a century. In the seventh century B.C. the Kerkha, which now loses itself in the sands and marshes above Basra, debouched directly into the Persian Gulf; Sennacherib had to sail 160 km. from the mouth of the Euphrates to reach its estuary. At the beginning of historical times a series of tidal lagoons extended inland almost to the foot of the limestone ridge on which stand the ruins of Eridu, the first royal city of Sumerian tradition. The land of Sumer must have been a region of swamps such as subsists to-day round Basra. Since then the deposit left by inundation has been steadily raising the level of the land till to-day even at Kish the surface of the plain lies 25 feet above “virgin soil”.

Links with the Old Stone Age cannot be expected in this new land, which was hardly land at all in those days. The first inhabitants of Sumer must have come from elsewhere—from the piedmont and mountain zones to the east and north, where urial, mouflon, and goat roam free, and wild wheat and barley are reported to grow, or from the archæologically unexplored desert to the south and west. But history begins precisely in the newest land in southern Babylonia. Here was created that peculiar civilization termed “Sumerian”, the social, religious, and legal ideas, the language, script, and art that dominated the whole valley of the two rivers for three millennia;

long after the Sumerians had lost their national identity and their language was dead was the cultural edifice they had reared imposed upon and accepted by their conquerors and neighbours in Hither Asia, just as Roman ideas, laws, and speech were accepted throughout medieval Europe. The cultures which arose on the periphery in Elam, Assyria, Syria, and Anatolia tended to be provincial, lagging behind Sumer as northern Europe lagged behind Italy and Byzantium.

Hence, while the high ground north-east and north-west of Babylonia was certainly habitable long before Sumer, and was the cradle of cultures that may be older than anything discovered in the south, a study of Asiatic prehistory must begin, where history begins, in Sumer. The passage from history to prehistory is, in fact, illustrated at Ur and Erech, at Lagash, Shuruppak, and Kish a thousand years earlier than, say, at Nineveh or Susa. The record here obtained must therefore provide the standard to which cognate material from surrounding lands must be compared.

The only reliable data for reconstructing the earlier phases of cultural development in Sumer have been obtained from shafts sunk at Erech^[7] and Ur^[2] and are, in effect, limited by the scope of such excavations. At Erech,^[7] Heinrich, Jordan, and Nöldeke sank a great shaft over 60 feet deep from the ground level of a temple, itself still prehistoric but already possessing the essential features of a Sumerian sanctuary. The huge deposit cut by this pit consists entirely of the debris of prehistoric settlements, numbered by the excavators from the top downwards VI to XVIII, but here renumbered in the reverse order with Arabic numerals. As one winds down the shaft to virgin soil, 5 feet below the present level of subsoil water, one has before one a concrete conspectus of the prehistory of Sumer in the relics projecting from the walls of the shaft. Woolley at Ur^[2] obtained comparable data from three shafts, none of which reach the heart of the prehistoric settlements as definitely as that at Erech. Those dug to a depth of 18 feet below the bottom of the prehistoric cemetery revealed two series of older graves sunk in the rubbish thrown out from settlements and reached virgin soil about 3 feet above sea-level. The so-called Flood Pit, 60 feet deep, starts from a level the age of which is disputed and cuts through a belt of alluvial sand deposited by a flood over the rubbish thrown out from the prehistoric town inferred from the first mentioned shafts.

The stratification at Erech and Ur thus gives a sequence of prehistoric cultures with the aid of which fragmentary evidence from Eridu,^[13] al'Ubaid^[1] near Ur, Lagash (Tello), Shuruppak (Fara),^[11] Kish,^[10] and the adjacent site of Jemdet Nasr^[9] can be co-ordinated. But details in the co-

ordination remain obscure, and the account here given is inevitably provisional.

At the very moment perhaps that the more favourable conditions of the pluvial period were giving way to the existing arid regime, the tract termed Sumer was emerging from the sea as the silt of the Tigris and Euphrates filled up the Persian Gulf. The fresh-water lagoons and reedy marshes offered themselves as a refuge for the wild life of what was becoming desert. And to the flood-watered islands of the marshes man followed his prey and found escape from the drought; the ruins of his reed huts are found only a few inches above the primeval mud of the Gulf bottom. The colonists who entered this new land in course of formation arrived already with a culture of their own, generally termed after a fairly typical site the al'Ubaid culture. It appears already delicately adjusted to the peculiar environment, but exhibits certain not quite unambiguous analogies to cultures we shall learn to know on the highlands of Iran and in Elam. Largely for this reason Campbell Thompson^[13] proposed to call the first colonists of Sumer Elamites. Speiser^[15] accepts his attitude, substituting for "Elamites" the more general term Japhetites or Subaræans, which will embrace also kindred peoples like the Guti and even the Hurrians. Our first colonists would then be responsible for the allegedly pre-Sumerian names like Shuruppak. But the al'Ubaid culture is already individualized and specialized. Dr. Frankfort^[14] proposes to identify its authors with the Sumerians. If we define Sumerians to mean the authors of that peculiar civilization which inspired Hither Asia for two millennia as Roman culture inspired Europe, we may accept Frankfort's view; we shall find many of the distinctive traits of Sumerian civilization foreshadowed in the oldest al'Ubaid villages and shall trace elements of continuity right down into historical times. The continuity is not complete, of course; in the prehistoric record we shall find traces of intrusions, and the intruders might have been the introducers of Sumerian speech. In historical times, however, the similar intruders from Elam, Gutium, or Mari, who again and again overran Sumer and Akkad, had borrowed almost the whole of their spiritual and material culture from Sumer. That was the creative centre in early historical times, the cradle of writing in late prehistory. If the creators and inventors were Sumerians, the name proto-Sumerian may be applied to their forerunners who in al'Ubaid times "created" the land of Sumer itself.

The Creation in old Sumerian tradition, reflected in the Hebrew Genesis, was the separation of land from water—in other words the draining of the incipient delta of the Tigris-Euphrates. And this creative work must have been initiated in the al'Ubaid period. For the proto-Sumerians were already

cultivating cereals which will grow neither in a reed swamp nor on unirrigated desert. At Erech they were creating the ground on which they lived. Between the dwelling floors and the marsh bottom was interposed a regular platform of rushes, laid criss-cross in regular layers and stamped down.^[8] Perhaps the proto-Sumerians made themselves this artificial floor upon the muddy marsh bottom to avoid cumbering with their huts the islands in the marsh already fit for tillage.

The dwellings erected on the platform at Erech and on islands at Ur and al'Ubaid were already varied. Huts of reed mats hung between arched bundles of reeds, such as are still inhabited in southern Iraq, are suggested by reed mats plastered with clay or dung and bitumen found by Woolley at al'Ubaid. The alternating buttresses and recesses and the half-columns characteristic of early Sumerian decorative architecture might be suggested by the projecting reed-bundles with the mats behind them along the sides of such a hut. Against the matting frame or mould stout walls of pressed clay, *terre pisée*, might be erected. Andrae^[17] has shown how admirably curious bent nails of baked clay, common at al'Ubaid and cognate sites, would serve to secure mats to such a mud wall. Solidity may be added to such mud walls by driving into them baked clay cones such as were later used for decoration, but are found in numbers already at al'Ubaid. And very soon the proto-Sumerians began making bricks, that is shaping lumps of clay in a mould and drying the product in the sun. The sun-dried mud bricks from the third stratum at Erech (XVI),^[7] from al'Ubaid and from Ur,^[2] are the oldest dated bricks, and may mark not only the beginning of brick architecture but of construction, putting together of units, in general.^[17] And the entries to the houses could be closed not only by mats, but by wood-framed doors pivoted on a stone socket.^[1] The hollowed stones on which the doors turned have been found at al'Ubaid and are the oldest examples of a device characteristic of all later periods in Mesopotamia and widely diffused throughout Asia and even to Egypt. Such devices are proper to a thoroughly sedentary people for whom the nomad's mat hut no longer sufficed.

Such permanence of settlement results from conditions of life in the marsh. Its economic basis was primarily agriculture. The fields were tilled with the aid of roughly flaked chert hoes (Fig. 55) vaguely reminiscent of the palæolithic "hand-axe". The grains were reaped with serrated flakes of chert or obsidian, mounted not as in the Fayum on straight wooden shafts, but on curious clay sickles that imitate the jawbone of a ruminant. Saddle-querns of stone were used for grinding the grain. Given the conditions of the marsh, an oasis in the desert wherein the cultivable land must be laboriously drained and irrigated, agriculture alone might guarantee permanent residence

beside the hard-won fields. But in Sumer the date-palm grew, which with its nutritious fruit would constitute another tie to the soil. Besides cultivating dates and cereals, the proto-Sumerians are believed to have kept cattle, sheep, and swine, though these are known to us only from the dung with which the houses were plastered^[1] and from clay models which might conceivably have depicted wild animals.

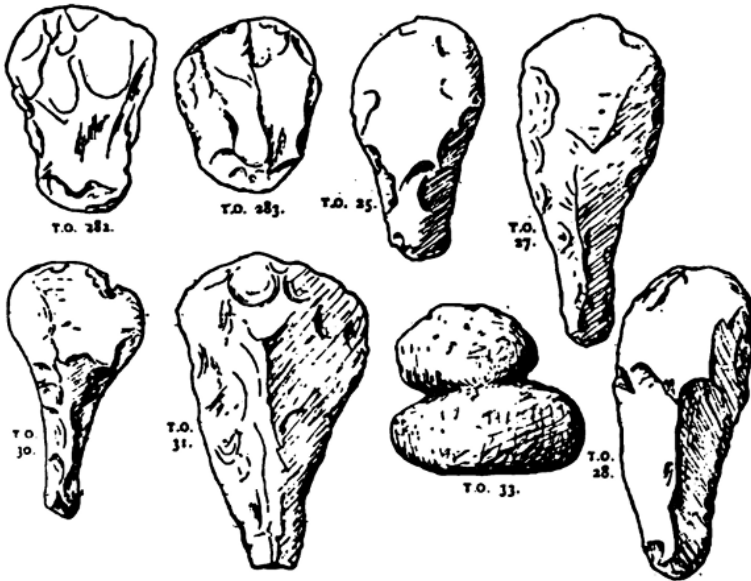


FIG. 55.—Flaked chert hoes, al'Ubaid, $\frac{1}{4}$.

The game of the marsh would be hunted with slings and perhaps with bows and arrows and finished off with maces. Ovoid sling stones are common at all sites, leaf-shaped arrow-heads of chert are rare, spheroid or pear-shaped mace-heads of stone were regularly placed in the later al'Ubaid graves at Ur and from Erech we have elongated specimens rather like [Fig. 82b](#). Fish were certainly caught in nets weighted with perforated lumps of clay^[7] or perhaps with waisted stones like [Fig. 55](#), [33](#), and were perhaps speared with harpoons like the copper specimen, [Fig. 57a](#), from a late al'Ubaid grave at Ur.^[2] For traffic on the marsh boats were manufactured which to judge from clay models^[1] possessed the high prow and stern of the *bellum* which still plies on the Euphrates. Spindle whorls of baked clay imply a knowledge of the textile arts, and skill in plaiting is attested by the impressions of mats. Bone awls may have been used in the preparation of clothing made from skins, but bone needles (with eyelets)^[7] imply sewing.

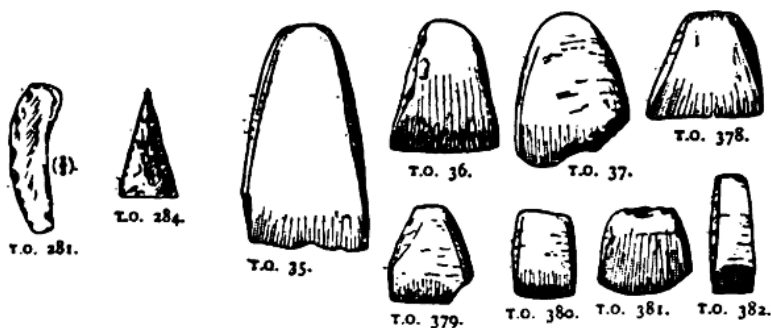


FIG. 56.—Flint arrow-head and stone celts, al'Ubaid, $\frac{1}{4}$.

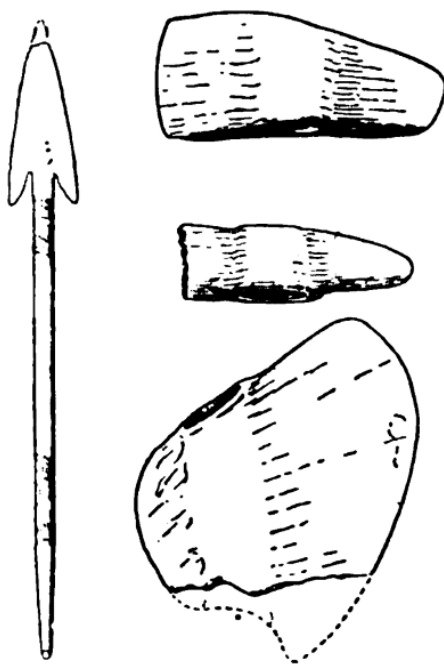


FIG. 57.—Copper harpoon and clay models of shaft-hole axe-heads, Ur,
 $\frac{1}{4}$.

For trimming palm-stems for door-frames and other purposes the carpenter employed small trapeze-shaped axes or adzes of ground stone ([Fig. 56](#)). These would have to be fixed into a wooden shaft as in Tasian Egypt, but in Sumer the principle of the modern axe-head, perforated to fit on to the shaft, was already known; clay models of such axe-heads ([Fig. 57](#)) have been found at al'Ubaid and Ur. The originals may have been of stone; a perforated stone axe-head was, in fact, found in a late grave at Ur.^[2] But perforated stone axes are, in fact, very rare in Mesopotamia, and it is by no

means unlikely that the stone and clay specimens alike are copied from metal originals as Woolley^[2] has suggested. No copper was actually found in the lowest levels at Ur and Erech nor at al'Ubaid. But metal objects are always scarce in early settlements wherein metal was still precious and constantly re-used, and the areas explored in Sumer are very small. The copper "harpoon" from the late al'Ubaid grave at Ur is certainly a substantial casting. The proto-Sumerians were then very likely already acquainted with metallurgy, though commerce was as yet too ill-organized to guarantee an abundant supply.



FIG. 58.—Spouted pot of al'Ubaid I style from Ur, $\frac{1}{6}$.

The potter's craft was certainly extraordinarily well developed. The clay was tempered with finely chopped straw and was carefully fired, the potter apparently aiming at a curious pale greenish ware, though pale pinks or buffs occur too. The vases are sometimes covered partly or wholly with a thin slip, but the surface is never polished. The forms are so regular that some authorities^[6] believe that the vessels must have been built up on a pivoted support, a so-called tournette, and, in any case, the thinness of the fabric is often surprising. A few shapes only suggest copies of vessels in other materials such as might be expected in the earliest products of the

potter; the high handle across the mouth of the vase shown in [Fig. 58](#) might be suggested by basketry, as may some of the decorative patterns. But refinements of a pure ceramic craft are illustrated by the ring-stands to tumblers and dishes,^[2] the mouths of the sauceboats from Erech^[8] and al'Ubaid ([Pl. XIIIa](#)), a curious little button on the base of ovoid beakers from Erech,^[8] and above all by the tubular spouts of pots and jars. These are very abundant and very important; for the spouted jar is quite distinctive of Mesopotamian ceramics in later times. Some of these forms, like the sauceboats, the buttoned beakers, and the spouted pots, are almost or quite peculiar to Sumer and illustrate the specialization of local culture. Other forms, shallow dishes, tall slender tumblers, bowls or chalices with a low hollow pedestal, and little squat pots, often with lugs on the shoulder, have significant analogues in Assyria, Elam, and Iran, as we shall see in later chapters.

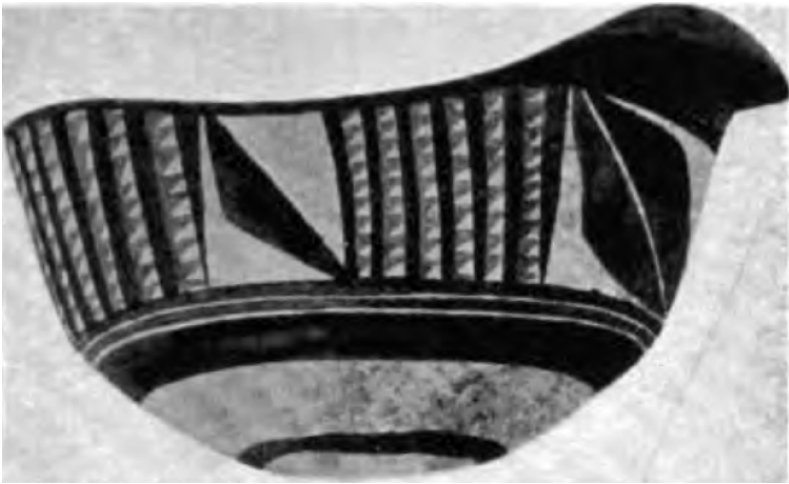
Much of the al'Ubaid pottery is ornamented. Some, apparently among the earliest vessels,^[2] were decorated with incisions or by scratching with some sort of comb. But painting with black designs occurs in the lowest levels and is the distinctive feature of al'Ubaid pottery. The paint was generally applied with a soft brush so that graceful tapering curves could be executed. The patterns are almost exclusively geometric. Occasionally they are arranged in zones and suggest basketry ornament and a tectonic style; very often they are freely spaced. Recognizable representations are practically non-existent, but some few of the motives may be interpreted as very much stylized versions of natural objects; the most plausible case is a series of figures like the Greek letter sigma, which seem to represent birds in flight. A dish from a late grave at Ur^[2] is ornamented with lines of crescents radiating from a central circle. It is perhaps not too fanciful to see here symbols of the Moon-God, Nannar, the patron deity of Ur, and thus to connect the cult of the historic Sumerian city with the al'Ubaid village that preceded it.

Vases of simple form were also carved out of soft stone—marble, steatite, or limestone. Some fragments of fine vases carved with incredible patience out of obsidian, that hard volcanic glass, may belong to the al'Ubaid period, though they were actually found in the mud employed for the building of the much later White Temple at Erech.^[7]

The proto-Sumerians were buried extended,^[2] the bodies in the earliest graves from Ur lying upon a mosaic of broken potsherds. One skull from a grave at Erech^[7] is described as dolichocephalic; otherwise we have no direct evidence as to the physical characters of the al'Ubaid population.

Painted figurines of baked clay, however, give us some idea of their appearance and dress. Men^[7] wore a long beard and long hair done up in a bun at the back, but shaved the upper lip. Women wore wigs as in Predynastic Egypt, the wigs in the models being made of bitumen and stuck on^[2] (Pl. XIII*c*). The male dress may have been a sheepskin; the figurines give the same impression as the silhouette of a Kurd thus dressed to-day. The females are apparently naked. Black spots or applied pellets of clay on the shoulders and upper arms are interpreted by Woolley^[2] as tattoo-marks; cicatrices would perhaps be a more exact description. Some women are nursing infants, others have the hands on the hips. Whether these figurines are intended for a goddess, we know no more than in the case of the similar Egyptian statuettes or their palæolithic forerunners from Europe.

PLATE XIII



a. SAUCE BOAT FROM AL'UBAID



b. BEAKER FROM SAMARRA



British Museum

c. AL'UBAID FIGURINES, UR

As ornaments the proto-Sumerians wore necklets or armlets of beads carved from shell or soft stone.^[2] Little studs like tiny nails of rock-crystal,

obsidian or stone,^{[1][13]} may have been worn in the nose, flat stone studs with concave sides^[1] in the lips.

Here we have an economy based on the fullest possible exploitation of the local resources, above all mud and reeds. But it was possible only thanks to some sort of trade with surrounding lands. Bitumen could be got most easily from the wells near Hit on the Tigris. Obsidian, employed quite extensively, must be imported from the volcanic hills of Assyria and Armenia. Copper might be obtained in the highlands to the north-east. And two beads from the oldest house foundations at Ur are said to be of amazonite,^[2] a greenish stone that occurs *in situ* in the Nilgharry Hills of India but also in Armenia.

The authors of the al'Ubaid culture cannot have sprung from the marsh bottom, and the culture itself shows no sign of having developed locally from any more primitive "mesolithic" forerunner. Yet it is rooted in Sumer, adapted to the peculiar conditions of that land, and in one sense restricted to it. Al'Ubaid pottery is very distinctive and easily recognizable even without excavations. It has been found at Eridu, al'Ubaid, Merajib, Ur, Erech, Lagash, and a few other sites all in Sumer, but is not represented in Akkad at Kish or Jemdet Nasr, nor even so far south as Fara. Similar pottery is certainly found again further north at Samarra and various sites in Assyria, and to the east round Musyan and at Susa in Elam and near Bushire on the Persian Gulf. Though these fabrics are significantly like the al'Ubaid ware of Sumer, they are far from identical therewith; they may be genetically related, but do not necessarily denote an extension of proto-Sumerians to Assyria or Iran, though recent discoveries suggest the possibility of such an expansion to Assyria rather later. The proto-Sumerian culture of the al'Ubaid phase is a highly specialized product peculiar to the particular environment that characterized early Sumer. But it discloses the germs of the most distinctive features of Sumerian civilization; others will be added or evolved in the succeeding phases.

The next phase is in effect best known as a result of the excavations so meticulously conducted and so promptly published by the Germans at Erech. It is accordingly designated the Uruk period (Uruk is just the Babylonian form of the Hebrew Erech). Remains of the period undoubtedly were found in the deep shafts at Ur—between 5·20 and 8·60 metres above sea-level in the "Flood Pit" and in the so-called SIS VIII stratum below the cemetery^[2]—and subsequently^[5] the foundations of temples of Uruk age have been identified. The relics from these layers were, however, few. It may be remarked that at Ur^[3] the remains in question do not immediately succeed the so-called flood deposits. The inundation denoted thereby did not

put an end to the al'Ubaid culture. Moreover, it did not cover the whole site and does not seem to have affected Erech at all. It is therefore very improbable that it should be regarded as the "Flood" of Sumerian tradition.

[18]

In the great shaft at Erech^[8] the pale drab or painted al'Ubaid pottery is mixed from the very bottom with stray sherds, doubtless accidental intruders from above, of a quite different tradition. These become numerous in comparison with painted sherds in the fifth settlement, and oust painted ware almost entirely by the sixth, which thus belongs already to the Uruk period. In the seventh and eighth stratum painted sherds reappear, but differ somewhat from the true al'Ubaid ware in the occasional use of a reddish paint. Heinrich rightly insists that there is no break of continuity in his shaft. The new fabrics seem to appear gradually, and throughout co-exist with pale undecorated wares which by form and technique seem to carry on the old tradition.

But the new fabrics certainly denote a significant innovation. All are fine wares to be compared with the painted pottery of al'Ubaid times. But they are monochrome, relying for æsthetic effect on the finish of the vase's surface, like early predynastic Egyptian wares. Three fabrics are distinguishable. Firstly, there is a grey ware covered with a fine slip, which takes a high polish and a rich black hue. This seems to be a carboniferous ware and certainly owes its colour to carbon mixed in the clay or derived from the soot of a smoky fire. Technically this is a primitive fabric, but it is completely alien to the whole Mesopotamian ceramic tradition, and the normal presuppositions for its production, dampish fuels and a smoky fire, are not to be found in the arid valley. The second ware is made from ferruginous clay, which takes on a red tint when fired in an oxidizing atmosphere and is covered with a slip of clay perhaps still richer in iron oxides so that its polished surface appears brick red, or in strata 7 to 12 plum red. The third fabric seems the counterpart of the second but is fired in a reducing atmosphere so as to appear grey, owing to the reduction of the iron oxides to the ferrous state. Its production, and probably also that of the red ware, presupposes the use of a specially constructed kiln in which the pots are kept clear of smoke but the supply of air can be controlled. The new fabrics accordingly are symbols of a quite important technical innovation. Moreover, the red and grey vases seem often to be made on a genuine spinning wheel, another technical improvement of great moment. Finally, jugs or mugs of red ware once in stratum 7 (XII) and of grey ware several times but not demonstrably before stratum 10 (VIII) were occasionally, but quite seldom, provided with handles, a device which, apart from the basket-

like vessels of al'Ubaid date, was at no other time employed in Mesopotamian ceramics. On the whole it does really look as if the new fabrics were introduced by fresh people who joined forces with those of the old al'Ubaid stock.

What other contributions the hypothetical newcomers may have made is uncertain. One expects the potter's wheel to go hand-in-hand with the wheeled cart, an invention that revolutionized transport. Positive evidence therefor is not forthcoming till stratum 14, but the advanced war-chariot depicted on a sealing from that level^[8] may justify the assumption of more primitive precursors as early as stratum 5. Elaborate furnaces might be correlated with advances in metallurgical technique, and, in fact, at Erech the oldest copper object came from stratum 8. But this may be an accident; we believe that copper was worked even in al'Ubaid times. Finally, the oldest sealing from Erech, the impression of a stamp seal,^[7] comes from stratum 7 but here again the chances of excavation may be misleading; we shall later see reason to believe that the stamp seal was invented in the same complex from which the al'Ubaid culture sprang. At the moment we can only say that the new wares at Erech suggest that the al'Ubaid culture was at this period, termed the Uruk period, fertilized by an infusion of new blood and new ideas. If the newcomers constituted a conquering minority their advent may have facilitated the accumulation of capital necessary for the execution of the great works soon to be undertaken. But what concrete contributions to civilization the newcomers brought with them ready made it is not yet time to define; the innovations above noted, the wheel, even the improved oven, may conceivably have been invented in Sumer itself to meet the new conditions created by the incursion. In any case, the newcomers seem to have been few in numbers and to have been quickly absorbed. Black, red, and grey sherds were in no level numerous in comparison with the pale wares that carry on the native tradition. By stratum 13 the new wares and shapes have begun to disappear, though the wheel has been already applied to the manufacture of vases in the old pale fabrics.

But even before the fusion is completed we witness advances marking the transition from barbarism to civilization. The peasant farmers and fishers of Sumer now co-ordinate their forces for the erection of monumental edifices in honour of their deities. Plainly this collective labour presupposes an accumulation of capital—a centralized surplus of foodstuffs to support the workers withdrawn from direct food-production. A surplus of this nature was required also for the public works of utilitarian character—the digging of canals for drainage and irrigation—that alone would allow the village to expand into a city in a rainless land of swamp and desert, for the protection

of that city from flood by banks and platforms, and finally for the importation on a large scale of the essential primary materials. The extreme fertility of Sumer made such a surplus possible; the piety of the Sumerian was the best guarantee of its accumulation. To what extent this accumulation was accelerated by conquest, the superposition as a ruling class of the red-grey pottery-makers upon the al'Ubaid peasantry, can only be guessed. In the earliest written documents it is always the deity, his temple, and his priesthood that disposes of this surplus; the written documents themselves are the accounts of the temple estates. And so at Erech the first monumental building was a temple, not a palace or a tomb; and in it was found a tablet, the pictographic precursor of the later temple accounts.

In period 12 (VI) at Erech^[7] the citizens combined to rear an artificial mountain of mud upon which god Anu or his more vaguely conceived precursor might descend. This mountain, the prototype of the ziggurat that was attached to the chief sanctuaries of Babylonia and even Assyria throughout historical times, was already 12 metres high. It was composed of mere lumps of clay piled up in layers with strata of bitumen interlarded between them. Its steeply battered sides are strengthened and decorated externally by pottery beakers stuck in rows into the mud while it was still soft. Functionally the beakers are the direct descendants of the baked clay cones and nails of the al'Ubaid period which co-existed with them. The faces of the mount are already relieved by the projecting buttresses and recessed niches that adorn all later Mesopotamian walls, but that go back in principle to the reed huts of al'Ubaid.^[1] And the corners of the mound are orientated to the points of the compass according to the rule that subsequently governed the orientation of all sacred buildings in Babylonia.

Less than half the platform on the top of the ziggurat was occupied by the White Temple, a little sanctuary 22.3×17.5 metres,^[2] built of big square mud bricks covered with whitewash. It consisted of a long central court, surrounded with broad intercommunicating chambers and provided with a stair down which the god might descend to meet his votaries. The excavators assume a larger and more esoteric temple at the foot of the ziggurat. The foundations of such and remains of a mosaic of clay nails which had decorated its walls were, in fact, found at the base of Ea's ziggurat next door.

Here, then, we have the whole apparatus of Sumerian cult as attested by later literary tradition. And in the White Temple was found the imprint of a cylinder, the form of seal ever afterwards so distinctive of Mesopotamia, and spreading thence to Cappadocia and, as we have seen, to Egypt. The engraved bead that was perhaps at first an amulet has now become a seal, by

which its owner can consecrate, put a tabu on, as an ethnographer would say, a movable object. And therein the idea of property and personality has found expression. The earliest form, the stamp seal, was evolved and used as a seal already in Erech 7 (XII). Now in 12 the lapidary has copied applications of the idea to the native reed of Sumer; for the cylinder seal must be a copy of scratched sections of reed stem, such as might so easily be used in a marshy country.

In the White Temple the imprint of such a cylinder was found on a small tablet of baked gypsum, apparently inscribed with figures and so the forerunner of the later account tablets. To administer the wealth accumulated in the temple treasury, the estates dedicated to the god, the deity's servants must keep permanent records. They are now already devising a system of numeral notation; a system of writing remains to be invented.

The Anu ziggurat was eventually encased in another, larger and higher, that masked and preserved the little White Temple over whose site a new one was doubtless erected on a grander scale. At the same time the oldest Eanna was replaced by a larger sanctuary on the same plan in period 13 (V). The walls of the gigantic edifice rested on foundations of undressed limestone blocks, so it is termed the Limestone Temple. A contemporary temple, discovered at Ur in 1933,^[5] was built of brick and adorned with hollow-ended clay cones, typologically intermediate between the beakers of the White Temple and the painted cones of the Red. Dr. Jordan^[6] suggests that the adoption of stonework, an exotic device in an alluvial land, may denote the accession to power of a new ethnic element. But the conquerors, if such there were, like the later Kassites and Assyrians, glorified their victory by the restoration and enlargement of the old shrines and preserved the old architectural tradition of buttresses and niches. They took over, in fact, the whole material culture of the previous epoch—its seals, its pottery. A cylinder^[6] rolled over a clay jar-sealing as in the First Dynasty tombs of Egypt, was engraved with figures of two-handled jars, such as are common on early Elamite seals, and of monsters, one apparently headed at both ends as on the Egyptian “Lion Hunt palette”. The creation of such monsters, always a Babylonian speciality, is a process analogous to that leading to many inventions—the dissolution of a whole into its parts, the isolation of the parts and their recombination into a new whole. The sealing thus gives a useful glimpse into the psychology of the inhabitants of Sumer in the time of Erech 13.

After a period of unknown duration the “exotic” Limestone Temple was replaced in Erech 14 by another built once more in native style entirely of flat rectangular bricks. This “Red Temple” was an imposing complex thrice

remodelled during the period. The most impressive and best preserved structures were grouped round a long open court. At one end on a high terrace, reached by flights of steps, stood a colonnade or hall formed of (at least) four pairs of cylindrical brick columns, each about 8 feet in diameter. The colonnade constituted a sort of Sublime Porte,^[6] and led on the right through a monumental door to what may have been the principal sanctuary. The outer wall was relieved by projecting half-columns and buttresses.^[8] And this wall, as well as the retaining wall of the terrace and the columns standing thereon, was gorgeously decorated with mosaics of red, black, and white clay cones stuck into the mud facing of the brickwork. The patterns, the constituent elements of which go back to the al'Ubaid phase, may have been derived from those plaited in the reed mats hung on the walls; those on the pillars show that the latter are just magnified translations into brickwork of palm-stems.

The internal walls of the temple were decorated with bas-reliefs in mud plaster^[6]—a gnu with his mane denoted by spiral curls, bulls, and reed-huts or stalls, all elements suggesting a popular old Sumerian theme such as is shown in [Pl. XVI](#). The modelled friezes were combined with clay nails driven into the walls. The heads of the nails form even-armed crosses and six- or eight-petalled rosettes—symbols current in later Sumerian iconography which reach Egypt and India.

In the Red Temple the Germans found several tablets, evidently the accounts of those temple revenues which formed the economic reserves of a Sumerian city. For their preservation and transmission the priests have devised a pictographic script^[7] simplifying by abstraction the representations of objects to bare symbols. But the symbols seem still to denote only the objects which they depict in abbreviated form; they are still ideograms, not letters. The numeral notation is already developed, but the value of the signs is still in a state of flux. The count is often sexagesimal, 1-10-60-3,600, as in normal Sumerian, but some accounts employ a simple decimal system ciphered like the Elamite (1-10-100).

The tablets and jar-sealings bear the imprints of cylinders most tastefully and skilfully engraved. Some represent wild animals in file,^[6] depicted with much of that verisimilitude characteristic of Old Stone Age drawings of similar scenes, but significantly like the carvings on Egyptian knife-handles. Comparison with Egypt is suggested by a pair of monsters with long intertwined necks as on the Narmer palette from another sealing.^[8] Yet a third depicts an antithetical group of two lions with a handled jar between them.^[8] Other scenes depict men. One man,^[6] at least, is bearded with a bun of long hair at the back of his head; he may be wearing the classical

Sumerian kilt. But another seal^[8] depicts captives with their hands bound behind their backs. Does this foreshadow the martial exploits of the Sumerian armies, discussed in the next chapter? Very probably. A war-chariot is certainly represented on another sealing,^[8] the earliest dated instance of a wheeled vehicle, which seems here already specialized for military ends. In any case the conditions for the rise of militarism, as subsequently defined, had already been fulfilled.

The Uruk Period, though only represented so far outside Erech by a few sherds, walls, and sealings from Ur, and possibly some sherds from Kish (a comparable phase of culture in Elam and Assyria will be described in later chapters), must nevertheless rank as an essential moment in the history of Sumerian civilization. Whatever ethnical significance may be attached to the red-slipped and grey pottery of its earlier phases or the exotic architecture of the Limestone Temple, the period established the continuity between the al'Ubaid culture and that of undisputable Sumerians. The bricks and the clay nails, even the recessed façades and columns of the Red Temple, the mat-patterns that adorn it, and the spouted pots found within it can trace back their pedigree to the al'Ubaid phase. But even more clearly does the architecture and the pottery, the art, the numeral system, the headdresses of the men, point forward to the familiar archaic civilization of Sumer. Indeed, the essential elements of Sumerian civilization are already before us; only linguistic evidence is needed to prove that the men of the Uruk period were Sumerian. That evidence is provided in the next period (at Erech strata 15-16 = II-III).^[6] Then, too, we have unambiguous links with other sites not only in Sumer—Ur,^{[2][5]} and Fara,^[11]—but also in Akkad—at Kish,^[10] and the adjacent prehistoric town of Jemdet Nasr,^[9] and even at Khafaje, beyond the Tigris.

The new phase thus attested throughout Babylonia is termed after the site of its first discovery the Jemdet Nasr period. At that site Langdon discovered an imposing citadel, raised above the plain by a huge platform, 300 × 200 metres,^[2] composed like all other buildings of the period of curiously thin, rectangular bricks, almost like flat tiles. From its summit a stair led up to a palace 92 × 48 metres.^[2] If the building be rightly interpreted, it is clear that the deity is now represented on earth by a “tenant-farmer” who to his subjects would appear as “lord” invested with temporal power and perhaps the sole intermediary between the peasant and his god. No burials have been described from Jemdet Nasr, Kish, or Fara, but at the first site a hyperdolichocephalic skull was found.^[20] At Ur^{[2][3][4]} the corpses were interred in a strictly contracted or crouched posture, in marked contrast to the extended burials of the al'Ubaid period (some of the Ur burials should

very probably be assigned to the Uruk period and culture). At Erech,^[6] on the other hand, a curious sort of incineration is reported. The extended corpses were wrapped in an envelope of clay and deposited in depressions in the floor of a long hall. Fires were kindled in this room which have reddened its walls, baked the clay envelopes, and partially consumed the enclosed corpses. Similar crematoria had previously been described by Koldeway at Surghul in Akkad, but his description was generally dismissed as due to a misapprehension. Jordan's account of his observations at Erech is difficult to reject so lightly, though no literary evidence for such a rite is available in Babylonia.

The abundant relics gathered from the sacked town of Jemdet Nasr and from graves at Ur give a lively picture of the arts and crafts of Babylonia at this period, but much of this picture would probably hold good of the Uruk period, too, were evidence of the same kind available. That the people were Sumerians is now demonstrated from the tablets found at Jemdet Nasr^[16] and Erech.^[7] The pictorial symbols employed in the Uruk period have now been invested with phonetic values and can spell words as well as denote ideas. And these words seem to be very archaic Sumerian. Yet curiously enough at Jemdet Nasr a decimal system of notation was still employed predominantly, though at Erech this system co-existed with the sexagesimal. Clearly the tradition was still fluid. Moreover, the numerals and a number of letters or ideograms are common to Babylonia and Elam.^[19] The scribes in the two regions seem to have been at work simplifying and selecting from a common stock of pictograms, but by historical times the conventional forms selected had diverged greatly in the two areas. The process of creating a workable system of writing was in the hands of priests and temple officials. Even in the Uruk period there had been schools at work in the temples training scribes and incidentally simplifying the script. One tablet from the Red Temple in Erech 14 was a list of signs that served as an exercise or a manual in such a school, and a similar list comes from Jemdet Nasr. The scholastic tradition lasting on into early historical times is illustrated by the school texts from Fara, clearly the descendants of the tablets from Erech and Jemdet Nasr, but now adding the names of scribes who "invented" a given sign. If the temples were already, as in historical times, frequented by votaries from all over Babylonia, an interchange of students between the cities might easily take place to facilitate the diffusion of the art.

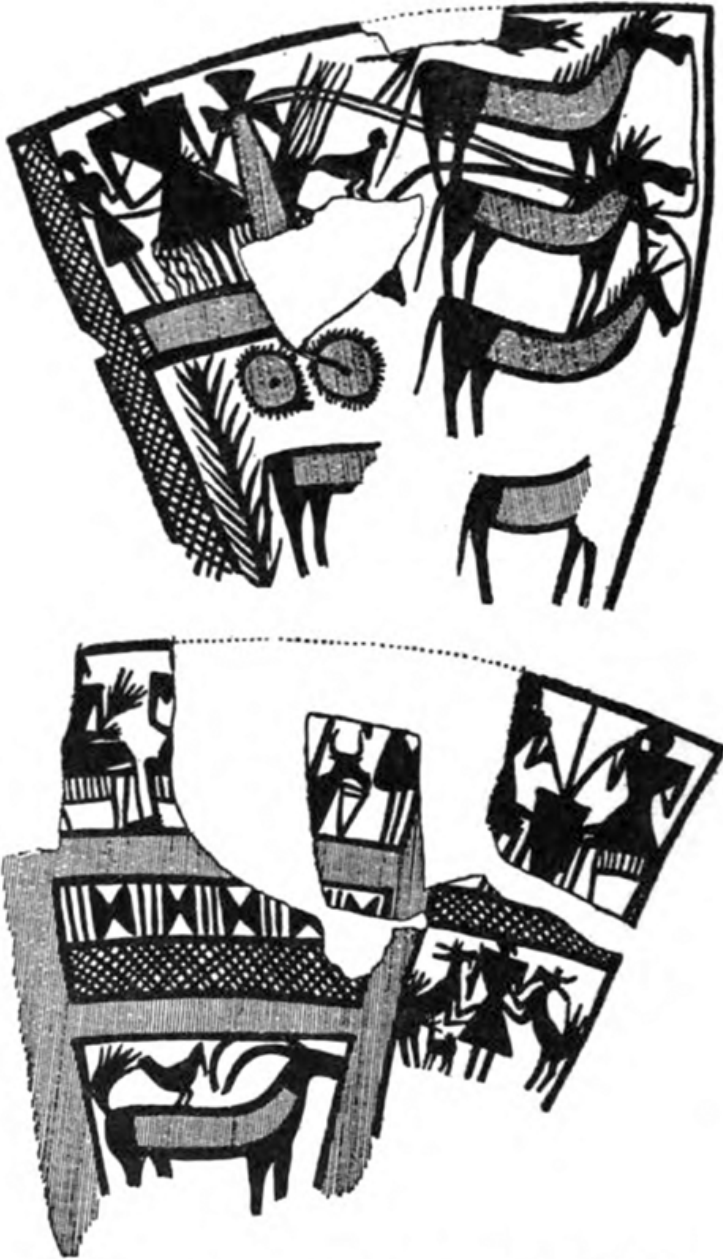


FIG. 59.—Chariot scene on a polychrome vase from Khafaje in British Museum (after BMQ., by permission of the Trustees).

It is highly significant that writing had been evolved not to record the warlike deeds of kings, nor yet to express theological dogmas, but for

strictly practical purposes connected with the administration of the temple's temporal estates; apart from school texts, the earliest tablets contain exclusively accounts. At the same time, the scribes had by now created an instrument by which even abstract ideas could be written down and transmitted.

These intellectual achievements go hand in hand with a regularization of trade and a development of secondary industry, as well perhaps as an intensification of militarism. The harnessing of ox or ass to the wheeled car, known already in the Uruk period, would of course facilitate transport. And now a new animal, the horse, is available. It is at least mentioned in the Jemdet Nasr tablets by the same ideogram, "ass of the mountains," that was employed in classical Babylonian cuneiform.^[18] A light chariot with two wheels would facilitate peaceful communications, but on a sealing from Ur^[2] it is seen going into battle. The representation in [Fig. 59](#) on a late vase of the period from Khafaje looks thoroughly Sumerian. (Some details are conjecturally restored.)

As a result of the increased wealth, improved communication, and regularized trade, metal became more important, and vessels of copper or lead are found in the graves at Ur. But flaked chert hoes as at al'Ubaid, clay sickles, and obsidian knives were still common even in the town of Jemdet Nasr, so that metal must still have been something of a luxury. Actually the metal objects that have come down to us—barbed fish-hooks ([Fig. 60](#)) and a chisel with rounded butt, as in early dynastic Egypt, from Jemdet Nasr, and a flat dagger tapering to a flat tang from Fara^[12]—are few and primitive. Perforated axes are still represented only by clay models, as at al'Ubaid, and mace-heads were made of stone. One object from Jemdet Nasr looks like an Early Predynastic Egyptian disc-shaped mace-head, but the normal form was pear-shaped.

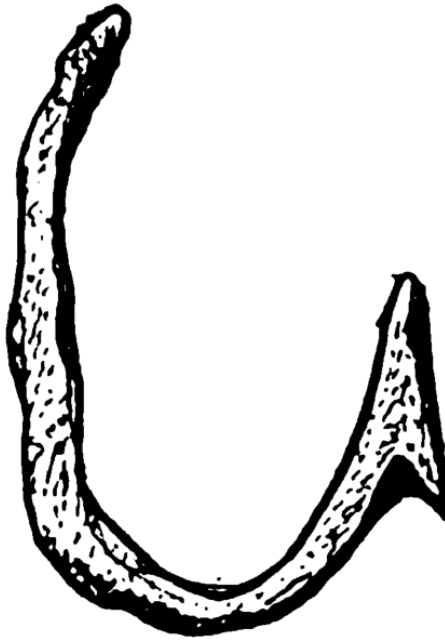
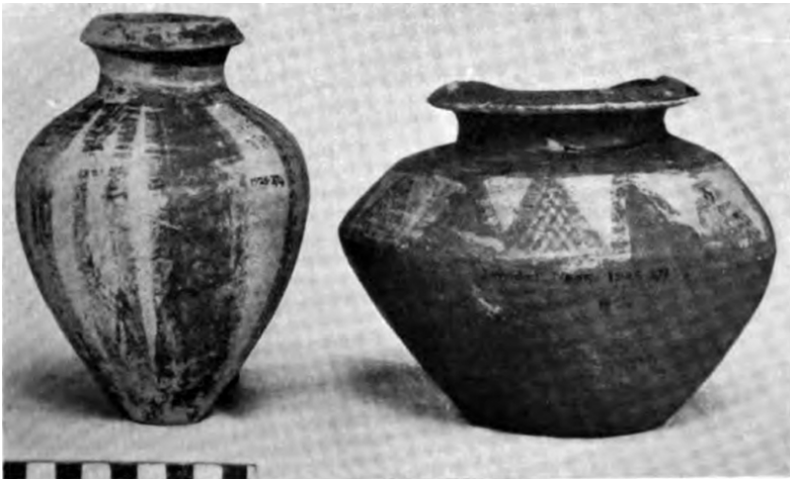


FIG. 60.—Copper fish-hook, Jemdet Nasr, $\frac{2}{3}$.

PLATE XIV



a. SPOUTED VASE FROM JEMDET NASR $\frac{1}{4}$



Ashmolean Museum

b. POLYCHROME VASES FROM JEMDET NASR

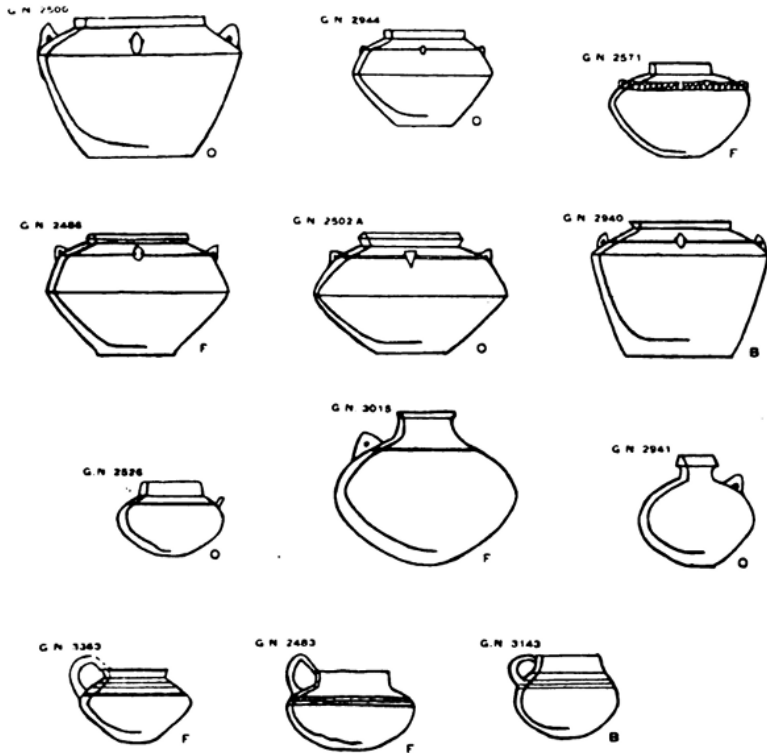


FIG. 61.—Jars and Cups from Jemdet Nasr, after Mackay, $\frac{1}{2}$.

The pottery was now, of course, normally wheel-made. The commonest ware is the pale drab fabric native to Sumer, but a polychrome painted ware is distinctive of the period though by no means common. The shapes include numerous spouted jars ([Pl. XIVa](#)), keeled jars with a low neck, and four horizontally perforated lugs on the shoulders ([Fig. 61](#)), cups, or jugs with high strap handles resembling those from Erech 10, and rather rough cone-shaped bowls. Curious stoppers in the shape of an inverted truncated cone with a knob handle on the inside ([Fig. 62](#)) are important for analogies with the Indus civilization. Painting is almost reserved for the keeled jars. Sometimes the surface to be decorated was covered with a heavy white slip, at others the colours were applied directly to the natural clay surface. A rich plum red was applied in broad bands, and these were then outlined in black, which was used also to form the designs on the reserved spaces, though the figures might be filled in with the red. The whole surface was then polished. The actual patterns are simple chequers, lozenges, triangles, and double-axes grouped in panels and all arranged tectonically to emphasize the several parts of the vessel. Similar designs occur executed in a dull black paint on

an unpolished greenish ware, which in small fragments might easily be taken for al'Ubaid pottery.

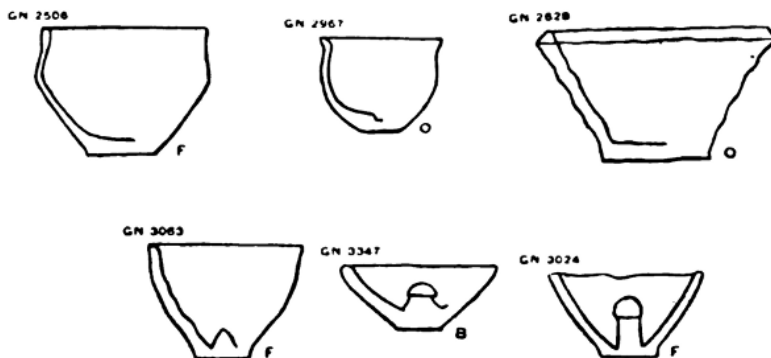


FIG. 62.—Bowls and stoppers, Jemdet Nasr, after Mackay, $\frac{1}{2}$.

PLATE XV



a. STONE BOAR FROM UR



British Museum

b. STONE VASE CARVED WITH PROCESSION OF ANIMALS,
ERECH

Stone vessels were still manufactured. Most are thick and coarsely finished, but one recently found at Ur^[4] is adorned with animals carved in low relief on the outside. It is the direct ancestor of the vase shown in [Pl. XVa](#). From the same site comes a magnificent boar^[2] ([Pl. XVb](#)), carved in steatite with a small hollow for liquids in his back, as in alabaster vases very common at Susa. Another material, glazed frit or fayence, was now employed for the manufacture of vases, as is shown by a vessel from Ur^[2] (possibly of the Uruk period). Beads and pendants of the same material are common at Jemdet Nasr. The technique may have been introduced or discovered locally even in the Uruk period.

Among ornaments and toilet articles may be mentioned stout bone pins perforated near the small conical head, the direct precursors of the metal toggle-pins so common in the next phase, amulets in the form of men,

doves, bears, and a scrotum in bone, stone or fayence, beads, including spacers, of wood, shell, and soft stone,^[9] more rarely of carnelian and lapis lazuli,^[4] and a stone lip-plug like those from al'Ubaid. The seals include stamps engraved with simple geometric patterns and cylinders bearing animals and other motives already familiar from Uruk. Important are two cylinders^[9] which, instead of being perforated longitudinally, are provided with a suspension lug at one end; the type recurs in Egypt in the protodynastic period, and suggests a synchronism between that age and the Jemdet Nasr phase.

The settlements at Jemdet Nasr and Kish disclose the spread of men of Sumerian culture and speech into northern Babylonia, the Sumerian colonization of Akkad. No clear proof of earlier settlement has yet been found in this region beyond some microlithic flints in the lowest layers at Kish^[10]; it may well have been inhabited already by pastoralists or hunters, using the small flint tools. If so they would presumably be Semites, in fact the Akkadians who, with the Sumerians, occupied that region by the beginning of history. The colonists would then have to subdue or amalgamate with such Semites who might then be dispersed as slaves, mercenaries, or merchants even in Sumer. It is just conceivable that the peculiarities of Jemdet Nasr pottery can be thus explained. Its technique, its shapes, and the colours employed in its decoration are descended from the Uruk period, but the composition and some of the motives might have been borrowed from the Semites—not, indeed, from their ceramic art, but from textiles or basketry.^[19] Some of the designs and even polychromy have perhaps early forerunners in the Tell Halaf ware of North Syria (p. [255](#)). In any case, the inclusion of a Semitic element in the Babylonian cultural province probably dates from the Sumerian colonization of Akkad at this period. And is it not significant that the first historical dynasty (Kish I) did arise precisely in an area where the Sumerians might have been thus brought into juxtaposition with men of alien speech and culture?

By the end of the Jemdet Nasr period the conditions for civilized life in Babylonia have already been created. The marsh village has grown into a city raised beyond the reach of any normal flood and unified by a cult and system of government. The al'Ubaid peasants have been provided with wheeled vehicles to transport their produce and have even learned the art of glazing; architecture has been perfected, the cylinder invented for the sealing of personal property, a system of ciphering and writing devised. The latter inventions were certainly made on the spot; for we have followed the stages of the process. A people with the genius to invent a script could surely have invented also the wheel. Except perhaps in North Syria we can find no

wheeled vehicle nor wheel-turned pot elsewhere demonstrably older than the Uruk period. But even if this or any other device had been imported into Sumer, it had by now been thoroughly adapted and assimilated to the native culture. But therewith the originative work of Sumer has really been completed; only the stabilization of commerce, ensuring adequate supplies of raw material is needed for Sumerian industry to blossom forth in luxuriant production. That fulfilment comes in the Early Dynastic period.

NOTES TO CHAPTER VI

This chapter is based primarily upon the original reports of the excavators. Speculative interpretations not favoured by the further progress of excavation have been omitted for want of space.

The most important sites are:—

[1] al'Ubaid, Hall and Woolley, *Ur Excavations*, i. *al'Ubaid*, 1927.

[2] Ur, Woolley, in *Ant. J.*, x (1930), pp. 327-341.

[3] Ur, Woolley, in ix, pp. 323-330.

[4] Ur, Woolley, in xiii, pp. 380-3.

[5] Erech, Jordan, Nöldeke, etc., *Vorläufige Berichte über die in Uruk unternommenen Ausgrabungen*.

[6] Erech, IIter Bericht, *Abhand. preuss. Akad. Wissen. phil. Hist. Kl.*, 1930, 4.

[7] Erech, IIIter Bericht, *Abhand. preuss. Akad. Wissen. phil. Hist. Kl.*, 1932, 2.

[8] Erech, IVter Bericht, *Abhand. preuss. Akad. Wissen. phil. Hist. Kl.*, 1932, 6.

[9] Jemdet Nasr, Mackay, *Field Museum Anthropology Memoirs*, i, 3.

[10] Kish, Langdon, *JRAS.*, 1930, pp. 600 ff.; cf. *L'Anthr.*, xxxix, p. 73; xli, p. 266.

[11] Fara, Heinrich, *Fara*, Berlin, 1930.

[12] Fara, *Mus. J.*, xxii (1931), pp. 211 ff.

[13] *Arch.*, lxx, pp. 110 f.

[14] Frankfort, "Archæology and the Sumerian Problem," Oriental Institute of Chicago, *Studies*, 4, 1932.

[15] Speiser, *Mesopotamian Origins* and *AJA.*, xxxvii, pp. 459 f.; Peake and Fleure, *Peasants and Potters*, p. 92, regard the al'Ubaid folk as hunters from Iran who had learned the use of grains but not apparently domesticated any animals. Woolley, *The Sumerians* (1928) and *Ur of the Chaldees* (1929), regarded them as Semitic Akkadians who, not living in cities, had been overwhelmed by "the Flood". He has now abandoned this view.

[16] Langdon, *Oxford Editions of Cuneiform Texts*, vii (1928), "Pictographic Inscriptions from Jemdet Nasr".

[17] Andrae, *Das Gotteshaus und die Urformen des Bauens im alten Orient*, 1930.

[18] Peake, *The Flood*, published in 1930 before the evidence from Erech was available, would, like Woolley, identify the Ur flood with that of Sumerian tradition; cf. Frankfort, op. cit., p. 49, and *Antiquity*, vi, p. 503.

[19] The significance of Elamite parallels is discussed later, p. [232](#).

[20] *American Anthropologist*, 35 (1933), p. 60; Henry Field here adopts the view that the long-heads were Semites and precursors of the brachycephalic Sumerians. Cf., however, *AJA.*, xxxvi (1932), p. 429.

CHAPTER VII

ARCHAIC SUMERIAN CIVILIZATION

AT KISH,^[9] SHURUPPAK,^[7] and Erech^[11] there are slight indications of a flood deposit resting immediately upon the remains of the Jemdet Nasr period. These have a better claim to represent the Deluge of Sumerian tradition than the much earlier and apparently quite local “flood” layer at Ur or a later one at Kish. Fara (Shuruppak) was the city of Uta-napishtim, who in the Babylonian Deluge story plays the part of the biblical Noah. And from the post-diluvial layers we begin to find seals inscribed with royal names, two of which recur in the dynastic lists among the post-diluvial monarchs. These imply that “kingship has descended from the heavens”, that we have reached a fully historical period remembered by the later scribes as the age of the dynasties of Kish, Erech, and Ur. To the period thus ushered in the term Early Dynastic has accordingly been applied, though “Archaic Sumerian” might be happier.

The arts and crafts of this period as illustrated by script and glyptic, by metal work and pottery, by dress and architecture, are just further developments of those the evolution whereof has been traced continuously from al’Ubaid times. But quantitatively at least the differences between the Early Dynastic and Jemdet Nasr periods are startling. They may be exaggerated at the moment owing to the contrast between the wealth of published material from the Early Dynastic layers at Ur and al’Ubaid, Erech, Lagash, Fara and Kish and the paucity of relics of the preceding periods; both at Ur and Kish hints are not wanting that a transitional period existed and is only awaiting recognition and description. At Ur, for instance, Woolley distinguishes a phase characterized by “reserved slip ware”, but already using plano-convex bricks, that precedes the Royal Tombs.

Yet some innovations that now appear do not look quite like natural developments of the earlier culture. Brickwork provides an obvious instance. In the Early Dynastic period the sensible flat brick is replaced by an odd form, flat on one face only, but cushion-shaped on the other. Such “plano-convex” bricks are so distinctive of the period that ended shortly before the accession of Sargon of Agade that German scholars are accustomed to speak of “the Plano-convex Period”. But the cushion-shaped

brick is hardly an improvement on the older forms, but rather a step backwards. Jordan^[11] accordingly suggests that it was introduced by foreign conquerors unaccustomed to genuine brick architecture.

Again, there are radical changes in the burial rites. Commoners are, indeed, interred in individual graves in large cemeteries, sometimes as at Ur on spots that had been used for burials already in the previous period. But the bodies lie gently flexed with the legs making a right-angle or more with the trunk, not extended as in al'Ubaid times nor tightly contracted as in the Jemdet Nasr graves of Ur. In some early graves Woolley^[10] states that the head had been consumed by a fire, kindled apparently in the grave itself. He describes the practice as partial cremation. It might be degeneration of that observed in the previous period at Erech, but Hall^[12] questions whether the burning were really intentional. Sometimes the grave was lined with mats; in other cases the corpse was enclosed in a pottery coffin or larnax, later in a wicker coffin. Large clay jars containing pots and fragments of bone (human or animal?), though found in the cemetery at Ur, are described by Woolley as foundation deposits, but they recall certain cremation interments from the Indus cities. Perry^[13] has drawn attention to the similarity between the normal burials at Ur and Fara and those of Egyptian commoners under the earlier dynasties. Painted clay heads^[1] found near some graves at Ur might also be compared functionally to the Egyptian portrait statues.

The "Royal Tombs" of Ur discovered in 1928 and certain burials in the Y mound at Kish^[9] introduce us to an entirely different world of concepts, not obviously rooted in earlier Sumerian tradition. Here the tomb proper is a miniature house under ground as in the Egyptian royal tombs of Abydos. The underground house was erected at the bottom of a huge shaft that might measure 12 × 8 metres across, and was entered by a sloping ramp. One tomb consisted of three parallel chambers of undressed limestone blocks, each roofed with a corbelled barrel vault and originally lined with plaster and embellished with timbering.^[1] Another small tomb^[2] was covered with a true dome, also of limestone slabs (cf. [Fig. 64](#)). Elsewhere brick was used, and in some cases the roof vault was supported by a genuine keystone and illustrates the principle of the true arch, a device met with in the funerary architecture of Egypt first under Dynasty III, but known in Assyria perhaps even earlier.

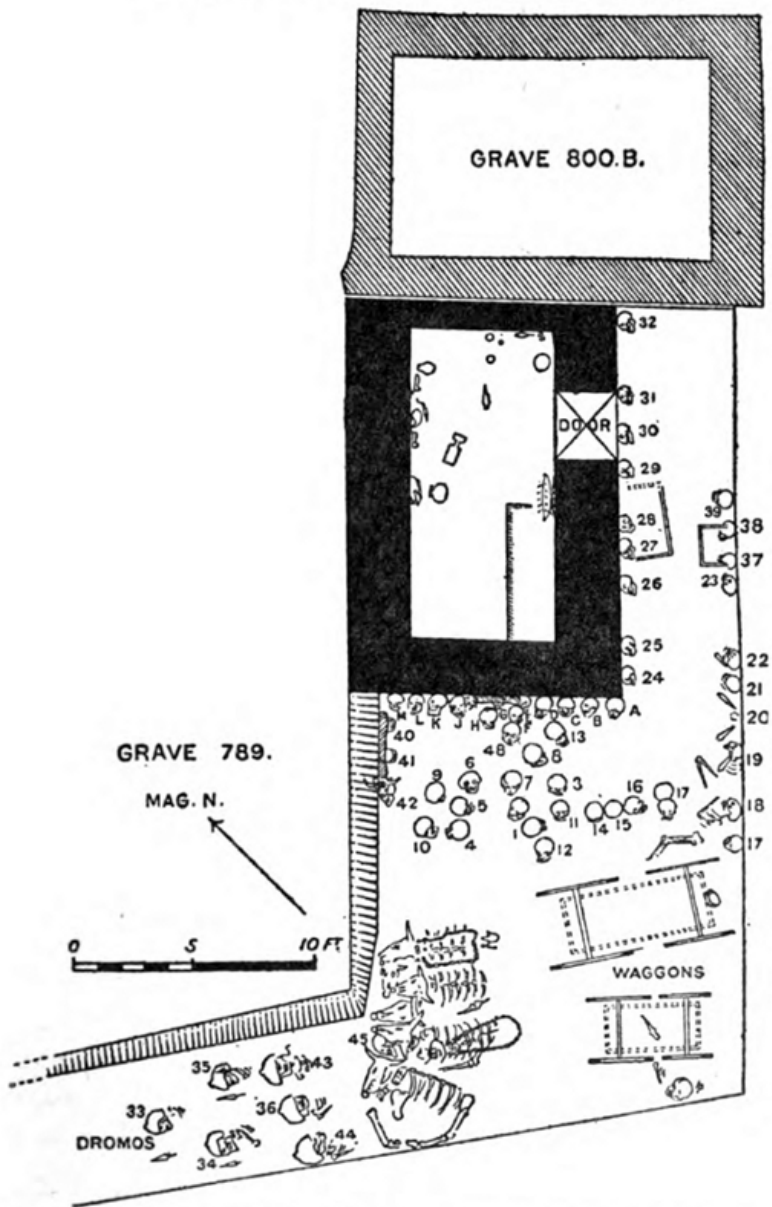


FIG. 63.—Plan of two Royal Tombs at Ur, showing disposition of victims in P G 789.

At Ur and Kish the ideas implied by the underground house were carried out with the same barbarous logic as at Abydos. The “royal” dead had been conveyed to the tomb on chariots or sledges clad in full regalia. Not only the draft animals, but drivers, men-at-arms, courtiers, musicians, and ladies of

the harem were obliged to follow their sovereign to the future world. In the shaft outside the “King’s Tomb” at Ur lay no less than fifty-nine bodies, including six soldiers in full panoply, and nine women bedizened with costly jewelry^[2] (Fig. 63).

After the gruesome ceremonies in the tomb the shaft was filled in, but only by stages, each marked by further rituals accompanied by additional human sacrifices.^[3] Eventually some sort of funerary chapel was erected above the tomb, with which it was connected by a pottery funnel (Fig. 64). This, too, might be an approximation to Egyptian practices, though how close we cannot tell, since the supposed chapels have been destroyed. Another hint of Egyptian connections is given by a silver boat, *Pl. XVIIb*, from the King’s Tomb, and bitumen models from later commoners’ graves. A comparison with the funerary barque of the Nile, attested from the Old Kingdom onwards, is obvious; it might be fallacious since Babylonian literature suggests other functions for the boat, the removal of sins, for instance, than the Egyptian voyage of the dead.

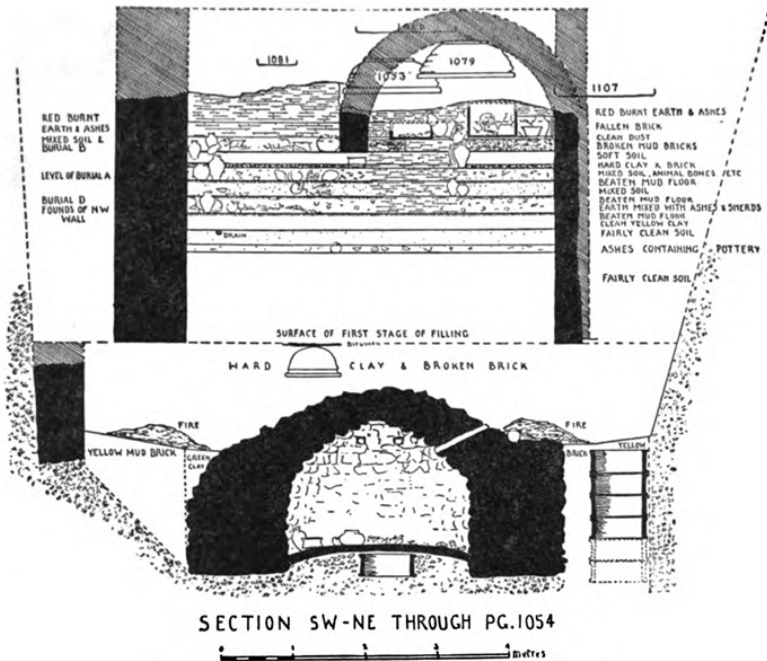


FIG. 64.—Section through prehistoric grave 1054 at Ur.

It has been suggested that foreign conquerors lie buried in the vaults, that conquest provided the city with a human lord and a palace beside the temple, had placed in the hands of the king the vast accumulation of wealth,

only a fraction of which was buried in the tomb, and had equipped Sumer with a powerful army to extend her civilization even beyond the bounds of Babylonia, and at the same time to eliminate some superfluous cities. Menghin,^[14] to whom the rise of urban civilization would always be due to the imposition of a ruling caste of warrior riders (Reittierzüchter), would bring such hypothetical conquerors from Inner Asia with the horse (but, of course, the horse is attested already at Jemdet Nasr). Contenau,^[15] too, insists on the analogy between the Ur burials and those of Asiatic nomads as described by Herodotus and Marco Polo. But it is admitted that such nomads have little of their own in the way of material culture that the archæologist can hope to find and always absorb the civilization of their victims. The foregoing suggestions are therefore scarcely hypotheses but mere guesses incapable of proof or refutation.

A case could on the other hand be made out for bringing the conquerors from the vicinity of Egypt. They cannot, of course, be called Egyptians, since the furniture of the tombs is distinctively Sumerian and specifically distinct from the highly individualized products of the Nile Valley; only the sistrum depicted in a distinctively Sumerian setting and Sumerian technique on the plaque of [Plate I](#), and perhaps lapis fly amulets,^[8] might be interpreted as inspired from the Nile. But the leaders of the invading band might conceivably be regarded as rivals of Pharaoh, ejected from the Nile Valley and enthroned as chiefs among some Beduin tribe amongst whom they had “gone native”, without forgetting altogether the ideology surrounding the divine king who remained their model. Thus led, we might imagine a band of conquerors capable of contributing new ideas while assimilating the material civilization of the conquered.

It is at least worth asking whether such a version of Perry’s theories is possible chronologically. We enumerated in [Chapter V](#) indications of influence from Mesopotamia upon protodynastic Egypt. But it will now be clear that the vast majority of elements there discovered that ought to be derived from Mesopotamia go back there to the Uruk or Jemdet Nasr periods. We have, that is to say, met recessed brick architecture, cylinders rolled over jar sealings, monsters with entwined necks or double-headed, processions of animals, rosettes, in the last chapter so that the protodynastic period in Egypt need not be later than the Jemdet Nasr phase in Babylonia. The agreement of the round-butted copper chisel and the lugged cylinders from Jemdet Nasr with protodynastic Egyptian types makes a synchronism of the two periods even plausible. The highly specialized Sumerian types of the Early Dynastic age are certainly lacking in Egypt, so that any intensive Sumerian influence that affected the Nile directly must have ceased before

they became established. Indeed, certain types of bead and even of stone vases from the Royal Tombs at Ur could be best paralleled in Egypt under the Old Kingdom. In other words, Jemdet Nasr may be parallel to the protodynastic age, the Archaic Sumerian period to Dynasties II-V in Egypt.

Such a chronology will, however, make the Early Dynastic period much shorter than most excavators would admit. Woolley found deposited upon the ground surface from which the shafts of the Royal Tombs had been dug down, and presumably burying their ruined funerary chapels, a continuous sloping layer of rubbish from which he collected a couple of sealings belonging to the First Dynasty of Ur.^[4] Rubbish thus dated to the First Dynasty would not have been dumped upon the royal cemetery till its occupants had been long forgotten. Again, later graves of commoners, some admittedly Sargonid in age, but others allegedly contemporary with the First Dynasty, have intruded upon the royal cemetery.^[1] Such encroachment would not be tolerated till long after the death of the royal persons. The royal cemetery must therefore, Woolley contends, be several centuries earlier than the First Dynasty.^[5]

Similarly at Kish the corresponding graves in the Y mound are covered by a water laid "flood" deposit.^[9] Upon this was erected the platform in plano-convex brick of the early temple Harsag-kalama. Yet later graves that are probably still pre-Sargonid were dug into the platform. Again, in the A mound^[8] graves belonging perhaps to the end of the Early Dynastic period had been dug into the ruins of a plano-convex brick palace erected under the First or Second Dynasty of Kish. On these grounds a duration of at least 800 years has been readily assigned to the Early Dynastic period.

But in Babylonia dynasties changed rapidly; in the three centuries after the collapse of the Empire of Agade we have Erech V, Ur III, Larsa, and Isin before Hammurabi. New dynasts liked to demolish and rebuild temples. And in any case while buildings were mainly of mud-brick, as in the Early Dynastic period, frequent reconstruction was inevitable. The evaluation of the stratigraphical record in terms of years therefore calls for great caution. The citadel of Eshnunna, only a provincial capital, was rebuilt five times, raising the floor level by 6 metres in the three and a half centuries immediately preceding Hammurabi.^[16] Actually the relics collected in the earliest Archaic graves (Ur, Kish Y, Fara) show extraordinarily slight divergence from those yielded by admittedly later cemeteries like Kish A and the Sargonid graves at Ur. Close scrutiny does, indeed, reveal significant discrepancies in the style of glyptic^[17] script, in the forms of weapons and vases. But on the whole such differences are surprisingly slight. The most advanced types of metal work or jewelry appear already perfect in the Royal

Tombs of Ur, and no typological series leads on inevitably to the later forms. If the Early Dynastic period be spread over more than five centuries it must be regarded as a period of deplorable stagnation in industry.

It is accordingly possible that the human dynasts who first become conspicuous in this period were really conquerors inspired by the ideas of kingship and immortality evolved on the Nile. The next step towards the unification of Babylonia was certainly taken, not by a native Sumerian, but by the Semitic lord of a new city, Sargon; another newcomer completed his work five centuries later, the Amorite Hammurabi. Nevertheless, nothing compels us to the acceptance of the invasion hypothesis. Sumerians existed in Sumer before the Archaic period and the early kings of Ur are Sumerian at least in name. The economic presuppositions for the rise of kingship and the growth of military power are traceable back to Jemdet Nasr times, and raids from without would provide adequate stimulus to their actualization. Anthropology as usual gives no conclusive answer to the problem. A study of the skeletal remains from Kish^[18] shows, indeed, a diversity of racial types. There is a brachycephalic minority, more prominent in the early than in the later graves and not yet identified in Sumer, and two varieties of long-heads. One of these shows western affinities and may be termed Mediterranean; the other, rather more primitive, is classified by Buxton as Eurafrican, though Frankfort's^[19] term Indo-African might be happier. The statuettes^[20] from the closing centuries of the period also show at least two types: "Armenoids" with round heads and prominent hooked noses and "Mediterraneans" with high narrow heads and rather broad noses.^[19] But it cannot be asserted that either type appears first in this period as older skeletal material or portraiture is so rare.

PLATE XVI



MILKING SCENE FROM WALLS OF A-ANNI-PADDA'S TEMPLE
AT AL'UBAID

Dress and coiffure do not help us. Many persons, including even kings, are represented as clean-shaven. But on ceremonial occasions and going into battle the kings generally are depicted with long hair and beards, though the upper lip is shaved. Legrain^[17] believes that the hair and beards are artificial and donned for the occasion. Wigs are certainly attested, but cannot be cited as an Egyptian trait since they were worn in al'Ubaid times. Sumerians are invariably depicted as wearing a tasselled kilt of wool,^[21] but a king represented on an early shell inlay from the A palace at Kish^[8] and some servitors on the "standard" from Ur are girt with a linen garment.

For the history of civilization it does not perhaps matter so much whether the early dynasties were really founded by foreign conquerors or were the natural response to the economic conditions of Sumer. The phenomena of the period can certainly be understood from the latter standpoint, and it must suffice till more positive evidence be forthcoming.

From the archæologist's standpoint what really distinguishes the Early Dynastic period from the prehistoric is its exceptional wealth. Not only are the Royal Tombs crammed with gold, silver, and precious stones, but even the graves of ordinary people at Ur, Fara, and Kish normally contain weapons of copper or bronze and beads of lapis lazuli, the materials for which must be imported. The grave-goods thus imply not only a greater concentration, but an absolute increase in real wealth, perhaps resulting from the superior organization rendered possible by the concentration. In the concentration the king no doubt played a part. It is true that the temple still preserves its function of principal capitalist in each city. The king at the same time is very definitely regarded as the servant of the god; he is often styled "ishakku" or tenant-farmer. But in a sense he stands between the people and the deity; the god was not yet represented in human form, but a favourite theme on shell inlays and cylinder seals is a royal banquet or a symposium with the king and his consort drinking beer out of a jar with the aid of tubes, such as are actually found in the Royal Tombs. These are surely ritual scenes and suggest that in the popular imagination "the divine power was all invested in the king and queen".^[17]

As thus the earthly representative of the deity, the god's steward, endowed with temporal power, was doubtless more successful in wringing a surplus from the cultivator than the latter's piety alone. Though much of this surplus may have been squandered on unproductive works or buried in the tomb—soon to be restored to circulation thanks to the diligence of the ancient tomb robbers who so often anticipated the modern excavator—much was used for reproductive works, for trade, and defence, ultimately adding to the real wealth of the community.

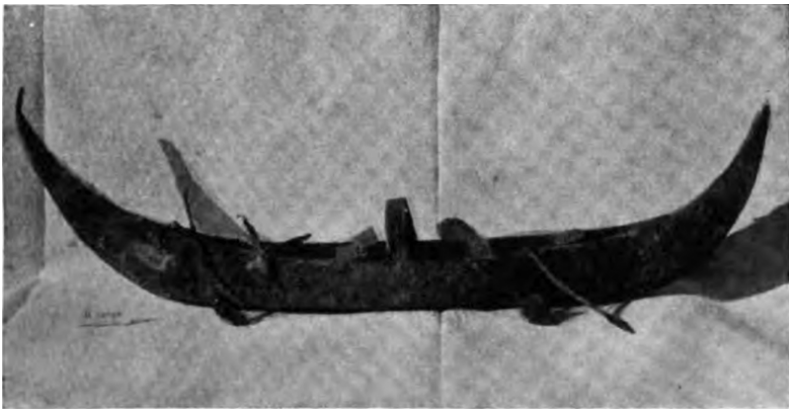
At the same time the king was leader in war. Weapons and scenes of battle begin to figure more prominently in the archæological record. The famous standard^[2] from an early tomb at Ur shows us the king as captain of a well-organized army. It consisted of charioteers, heavy infantry, and light armed skirmishers. The chariots were drawn by four asses or mules harnessed on either side of the pole and controlled by reins attached to rings in their noses^[22] and crossed through a double ring attached to the pole and surmounted by a mascot ([Pl. XIXa](#)). The chariots on the standard are four-wheeled, like specimens the casts of which were found in some royal tombs at Ur and Kish, and models from several sites,^[8] but two-wheeled chariots are illustrated by approximately contemporary models from Fara and the bas-relief reproduced in [Pl. XVIIa](#). In both cases the wheels were solid, being formed of solid pieces of wood fixed together by struts and bound with leather tires attached with copper nails. They turned in one piece with the axle which was fastened to the body of the car by leather thongs.^[6] Mackay^[23] remarks that this very type of wheel is still in use in the Punjab to-day, and it doubtless reached India in Early Dynastic times or earlier. In Mesopotamia we have already seen the main traits in the previous age. The charioteer fights with battle-axe, pike, and dagger. Throwing-spears and pikes for in-fighting were carried in a wicker box in front of the car. The heavy infantry wore copper helmets and leopard's skin cloaks, hung over the shoulders and fastened at the throat with pins, in addition to the usual kilt. They were armed with pike, battle-axe, and dagger and fought in a phalanx anticipating the Macedonians (generally credited with its invention) by nearly three millennia.

The growth of militarism might be justified firstly by the necessity of defending the wealth of Babylonia against plundering raids by barbarians from the desert and the mountain. For a while it guaranteed to the industrious husbandman and artizan security in which to improve his fields and develop his crafts immune from interference by Elamites or men of Mari.

PLATE XVII



a. BAS-RELIEF SHOWING CHARIOT, UR



b. SILVER BOAT FROM ROYAL TOMB, UR

But further the realization of the nascent urban industrial economy required abundant supplies of raw materials that had to be sought outside the limits of the plain. Imports were as we saw required even for the tools needed to till the fields or dig great canals, still more when the Sumerian wished to deck his temples with precious metal and choice timbers. And these materials must be brought not from the desert but from the populous lands of Elam or Syria. Now there are limits beyond which you cannot persuade semi-barbarous people, comfortably off, to supply raw materials in exchange for your surplus of food-stuffs or manufactured goods, or bribe them to allow you to cut down their trees, dig up their ores or let your caravans trample through their fields. Europeans are familiar with the difficulty in Africa to-day. One way of overcoming it is to back up the merchants with armed force and send punitive expeditions against such as

interfere with “the freedom of the trade”. Sargon is said to have undertaken an expedition to succour merchants engaged in the metal trade in Cappadocia. He may have been following earlier precedents. The hostilities between Sumer and Elam or Sumer and Assyria remembered in later literature may have been due to such economic imperialism.

Inspired perhaps by such motives and backed by the army, Sumerian domination seems to have been extended during this period beyond the proper limits of Babylonia. A fortified citadel at Khafaje on the Diyala^[24] and the archaic temple of Ishtar at Assur^[25] have yielded Sumerian cylinders, inlays, and cult objects and statuettes wearing the Sumerian kilt and coiffure so that both structures look like Sumerian foundations, colonies in fact established by Sumerian conquerors among the more backward Subaræans.

Finally, a certain enlargement of the political unit was doubtless achieved by force; Jemdet Nasr was razed to the ground and not reoccupied; Meraijib near Ur was deserted. That may denote a forcible synoicism of rival towns under the ægis of Kish and Ur respectively. Nevertheless the natural economic unity of Babylonia was not consummated in our period. It is true that from Kish to Eridu we find a single culture, and this uniformity of culture demonstrably corresponds to a uniformity of language and religion; the Sumerian language was current everywhere; the great deities and their sanctuaries at Eridu or Ur were universally respected. But kingship came to work against the unifying force of language and religion. The king was essentially ruler of a specific city and sought to assert his powers at the expense of neighbouring states. The wealth and manpower of Babylonia were largely wasted in futile internecine conflicts between the independent city States.

Still, despite the contradiction involved, kingship and temporal power were the conditions of the advances made in the period. The lords of Lagash boast of the canals they have constructed and describe how they promoted the importation of copper from Elam or Magan and timber from Lebanon. Somehow or other the trade needed to supply the urban industries was organized. Archæology attests the importation of pot-stone^[5] and manufactured articles such as etched carnelian beads,^[8] seals, and even pottery^[26] from the Indus valley and of copper from Oman.^[28] As a result Sumerian ideas and inventions were spread abroad. The cylinder seal for instance was introduced into Assyria, Syria, and even Cappadocia and became naturalized there; it was even copied on the Indus, but was there rejected in favour of the native stamp seals. Sumerian metal types have a still wider distribution, reaching even to South Russia, Troy, and Central Europe.

Such an exchange of ideas would be unthinkable had trade been merely an interchange of goods passed on from hand to hand. The caravans must have sojourned in distant lands; perhaps Babylonian merchant colonies already settled abroad. The story of Sargon, quoted above, implies this in the case of Cappadocia.^[27] Conversely, Indian merchants may have settled at Ur and Kish like the English merchant in Oporto or Constantinople. Moreover the caravans in the East transport not only goods but also labour, whether bond or free. In the Near East to-day skilled craftsmen travel far and settle where their skill can obtain profitable employment. The same sort of mobility on the part of goldsmiths, for example, must be postulated to explain the free use in India, Babylonia, Egypt, and Troy of certain disc-shaped gold beads made by grooving two thin gold discs and then soldering them together so that the two grooves combine to form a tube for the string, a peculiar technique that could not conceivably have arisen independently in two places. The supposed Egyptian analogies to the stone vases from Ur must be similarly explained. Sumer had become a centre of wealth and could accordingly attract to her growing cities the craftsmen of the ancient world.

The trade thus established enabled the Sumerian towns to grow into regular industrial and commercial cities wherein doubtless in response to the opportunities of livelihood created by the new economy an industrial proletariat multiplied as quickly as it did in England during the industrial revolution. Of course this new economy rested directly on farming; the Sumerian fondly depicted on seals and on the walls of temples the occupations of the farmer and still more pastoral scenes. The milking of cattle seems to be invested with a ritual significance as among many pastoralist tribes even after they have settled down as overlords among peasant farmers. The practice of milking from behind and blowing up the cow's vulva illustrated in [Pl. XVI](#) is interesting in the same context.^[14] Golden models of grains, pears, and pomegranates^[2] from the headdresses of royalties illustrate the sanctity attaching to agriculture and show at the same time that fruit-trees were now cultivated in addition to cereals and date-palms. Hunting was diminishing in importance, judging by the seals. But a packet of chisel-bladed arrow-heads of chert—the only specimens of this type so far reported from Mesopotamia and distinguished by their peculiarly long and narrow butts—from the tomb of Mes-kalem-dug at Ur^[2] must have served for a royal huntsman.

It is, however, in secondary industry and above all in metallurgy that the spirit of the age found its highest expression. Not only were gold, silver, lead, and copper employed, but the Sumerian smith already from the

beginning of the Early Dynastic period knew how to alloy copper and tin to produce bronze.^[28] The Sumerian bronze is the earliest yet known. Though Babylonia shared the secret of the alloy with India, its discovery might well have been made in the Sumerian cities. These must have drawn their supplies of metal from various sources—Oman, Elam, and the Taurus are fairly clearly indicated; by comparison among these it could easily be remarked that one ore gave better castings than another and its superiority could eventually be traced to an originally accidental impurity, tin, which would eventually be isolated. Tin is in fact a comparatively rare element, but the actual source of the Sumerian supplies is still unknown. Drangiana, mentioned in this connection by Strabo, seems the most likely region. The use of bronze enabled the Sumerian smiths to employ successfully a closed mould and even the *cire perdue* process in casting. And so they could elaborate in metal amongst other things the shaft-hole axe which had been distinctive of Sumer from al'Ubaid times and now becomes the most characteristic tool and weapon in the country. Its long prior history in the land forbids us to regard it as a foreign importation and justifies us in treating the associated types as equally native creations however wide their subsequent distribution to the north and west. About the time of Sargon the supply of tin seems to have been interrupted, judging by analyses of the metal objects from Ur, and as a consequence the early finished axes with a cast shaft-hole are replaced by clumsy imitations in which the shaft-hole is really a loop formed by folding the butt of the axe back upon itself. In addition to casting, the smiths could braze and rivet and even used lead as solder.^[5] Finally, a few iron objects have been found in archaic deposits. One from a royal tomb at Ur was of meteoric iron, but a dagger blade recently found at Khafaje proves to be of terrestrial iron. The Sumerian smiths could produce the metal from ores, but they did not exploit their discovery.

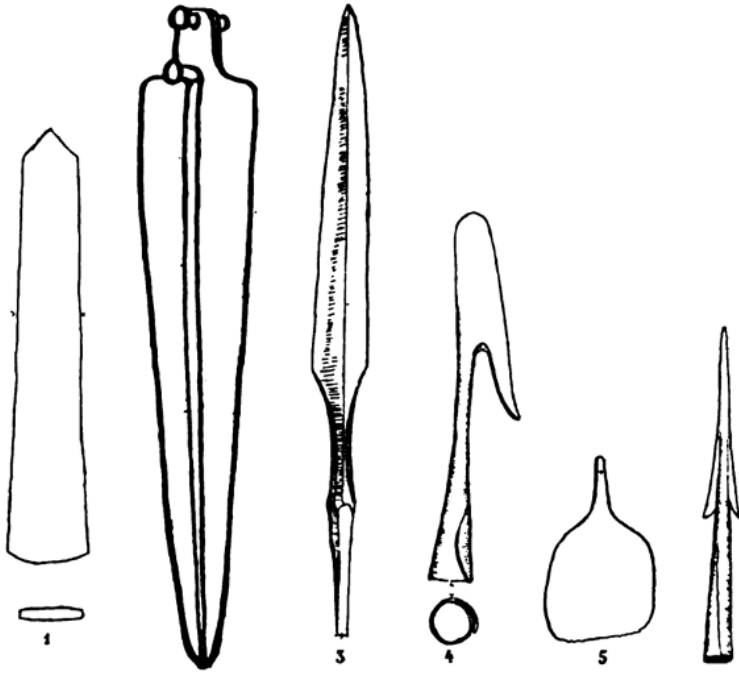


FIG. 65.—Flat chisel, dagger blade, poker-butted spear-head, harpoon, dart-head, and razor, Ur, $\frac{1}{4}$.

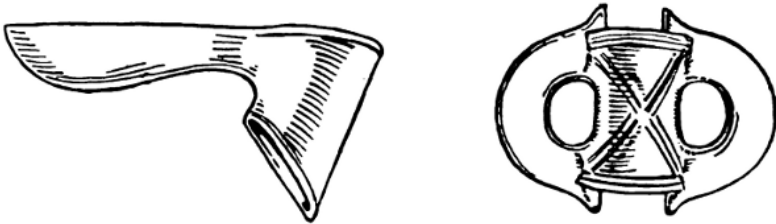


FIG. 66.—Sumerian single-bladed and double-axes, Ur, $\frac{1}{4}$.

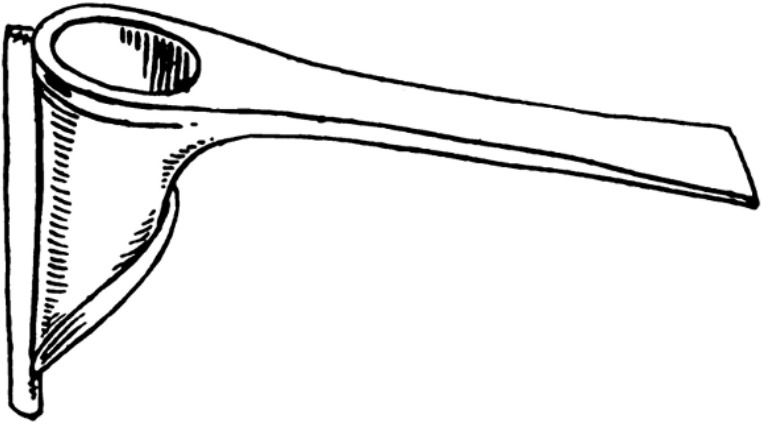


FIG. 67.—Sumerian transverse axe, Ur, $\frac{1}{2}$.

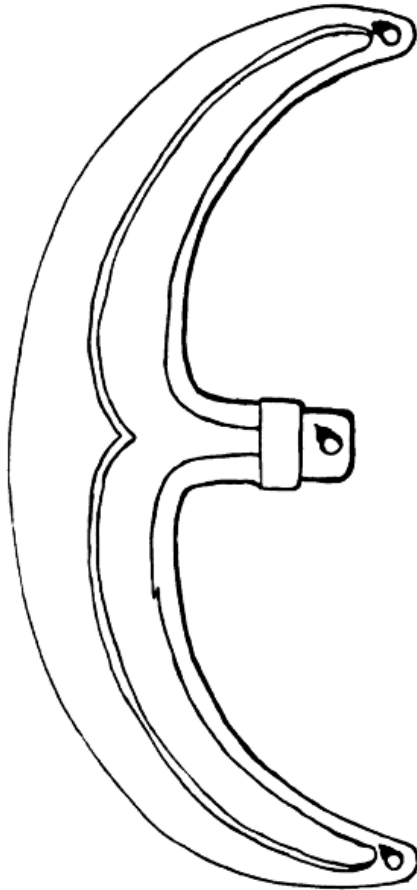


FIG. 68.—Scalloped axe, Ur (after Ant. J.), $\frac{1}{2}$.

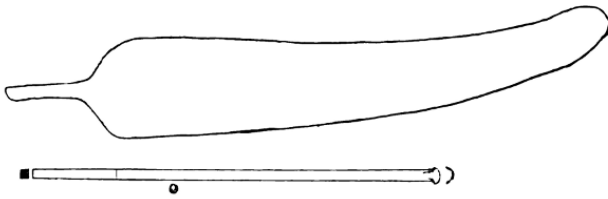


FIG. 69.—Saw and gouge, Ur, ¼.

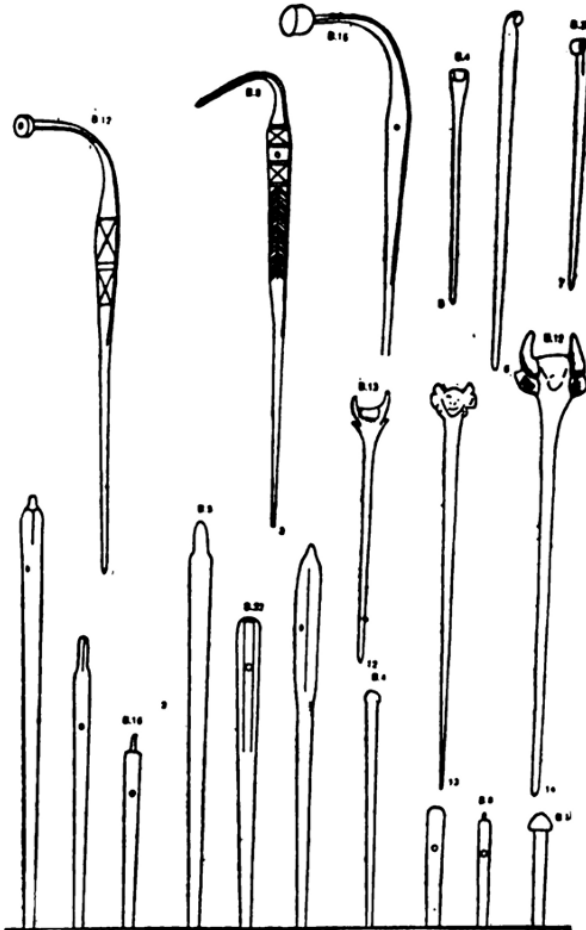


FIG. 70.—Copper pins, Kish A, ⅛.

The Sumerian bronze-smith created a series of distinctive types the distribution whereof to the valleys of the Zagros, to the Caucasus, to Syria, Anatolia, and the Aegean illustrates the direction of Sumerian trade and the diffusion of Babylonian culture. The most significant are^[29]: (1) Flat celts or chisels with a *pointed* butt (Fig. 66, 1); (2) battle-axes with a cast shaft-hole

and a curiously narrow blade pointed downwards from the shaft ([Fig. 66](#), 1; the double-axe of [Fig. 66](#), 2, is so far unique); (3) transverse axes with the blade at right-angles to the cast shaft-hole ([Fig. 67](#)); (4) straight saws ([Fig. 69](#)); (5) ogival daggers or dirks with a cast midrib, a short tang on to which the pommel was riveted, the joint being protected by a metal ferrule which overlaps the blade along a convex line ([Pl. XVIIIa](#), [Fig. 65](#), 2); (6) spear-heads with a leaf-shaped blade strengthened by a midrib and passing over into an octagonal butt from which a tapering quadrangular tang projects for insertion into the reed shaft—termed poker-butted ([Fig. 65](#), 3); (7) socketed spear-butts formed of sheet metal folded to make a cone; (8) barbed arrow-heads with a socket formed by folding ([Fig. 65](#), 6); (9) little fork-like arrow butts inserted into the base of the reed shaft to prevent the bow-string splitting it (cf. [Fig. 98](#), 9); (10) single-barbed harpoons with a folded socket for the shaft ([Fig. 65](#), 4); (11) thin segmental blades which were fitted by three prongs projecting from the concave back into a wooden shaft so as to form a sort of boomerang-club, which subsequently developed into the scimitar ([Fig. 68](#))^[30]; (12) rectangular razors with a short tang, always found in pairs ([Fig. 65](#), 5); (13) tweezers formed of two slender strips of ribbon metal sweated together; (14) toilet sets consisting of such tweezers together with a pricker and an ear-scoop hung on a ring through loops formed by twisting over the ends of the utensils and wrapping them round the shaft again ([Pl. XVIII](#), *b*); (15) scroll-headed pins ([Fig. 70](#), 5); (16) racquet pins ([Fig. 71](#)), probably worn in the hair; (17) pins with an eyelet in the flattened neck ([Fig. 70](#), 1-4); (18) pins with small conical heads ([Fig. 70](#), bottom right); (19) pins with animal heads ([Fig. 70](#), 12-14); (20) hand-shaped hairpins with beads at the ends of the “fingers” ([Fig. 71](#)).

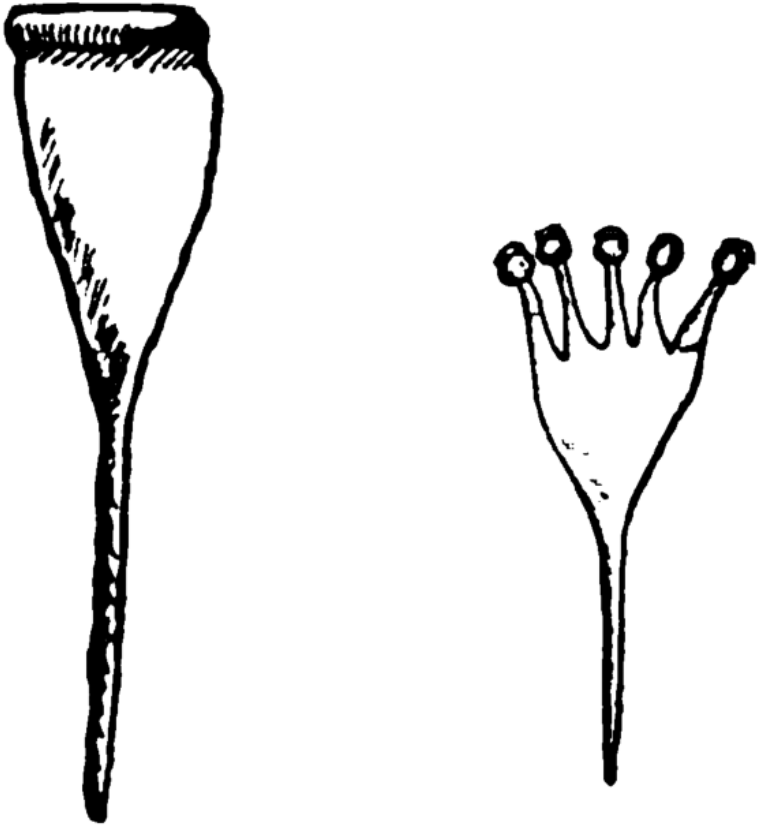


FIG. 71.—Racquet and hand pins, Ur, $\frac{1}{4}$.

PLATE XVIII



a. GOLDEN DAGGER WITH LAPIS HANDLE AND ITS SHEATH,
UR ³/₁₆



U.9340.

b. GOLD TOILET SET AND CASE, UR

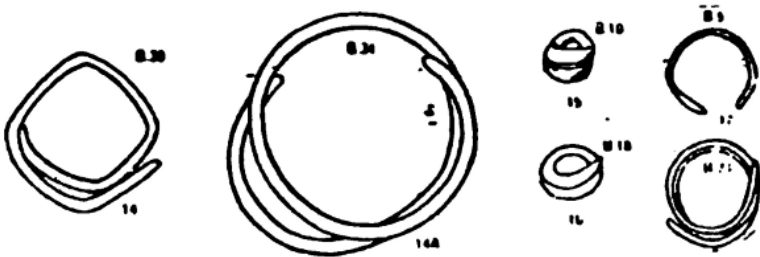


FIG. 72.—Copper bracelets and ear-rings with flattened ends, Kish A, 1/8.

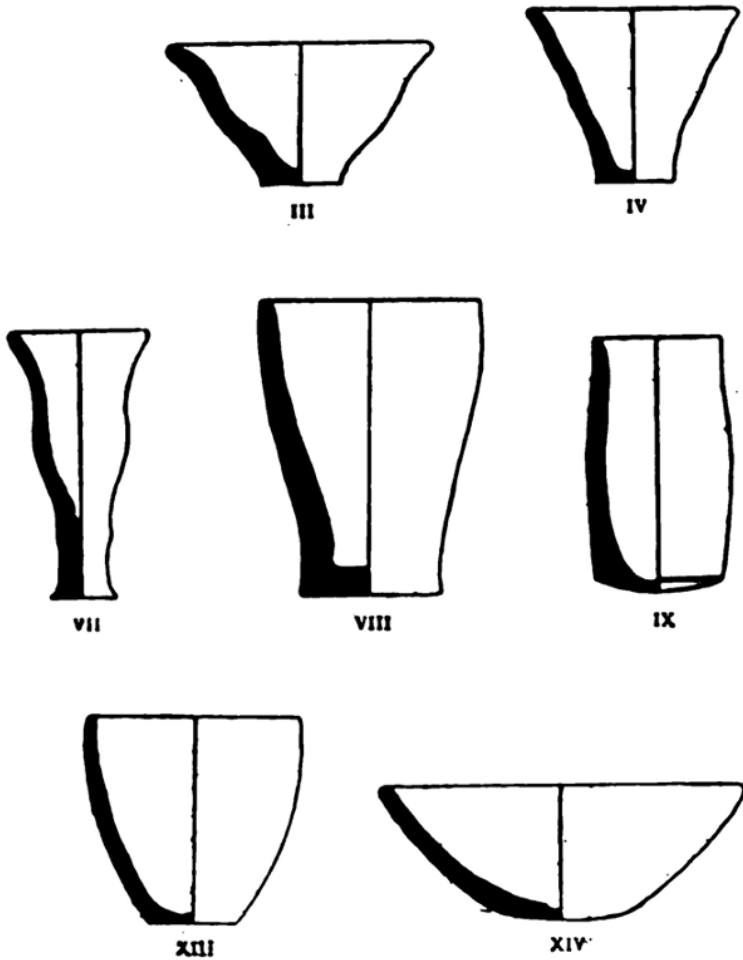


FIG. 73.—Beakers and bowls, al'Ubaid cemetery, $\frac{1}{12}$.

The goldsmiths and silversmiths were no less successful than workers in baser metal. They could braze and solder and hence make use of filigree work ([Pl. XVIIIb](#)) for the ornamentation of their products and at times even of a rather coarse granulation ([Pl. XVIIIa](#)). For royalties not only pins and toilet-sets but even weapons, saws, and chisels were made in gold or silver. Conversely, ornaments created by the jeweller were imitated in copper for poorer classes. Chiefly in the latter material several characteristic products of the Sumerian goldsmiths were diffused as widely as Sumerian types of tools and weapons. Important in this connection are the following: (21) spiral ear-rings with flattened ends developing into the exaggerated boat-shaped type of [Pl. XXc](#); (22) helical lock-rings with flattened ends, simple

([Pl. XIXb](#)) or recoiled ([Pl. XXa](#)); (23) pendants in the form of two gold spirals linked together; (24) coiled gold helices singly ([Pl. XXb](#)) or grouped in fours within a hoop ([Pl. XIXb](#)); (25) beads formed of two grooved discs soldered together so that the grooves unite to form a tube for the string (cf. [Pl. XXIV](#)).

PLATE XIX



a. REIN RING AND MASCOT FROM QUEEN SHUB-AD'S
CHARIOT



U.8564.



U.8613.c.



U.8567.



U.8565



U.7696.

b. EAR-RINGS AND PENDANTS FROM GRAVES AT UR

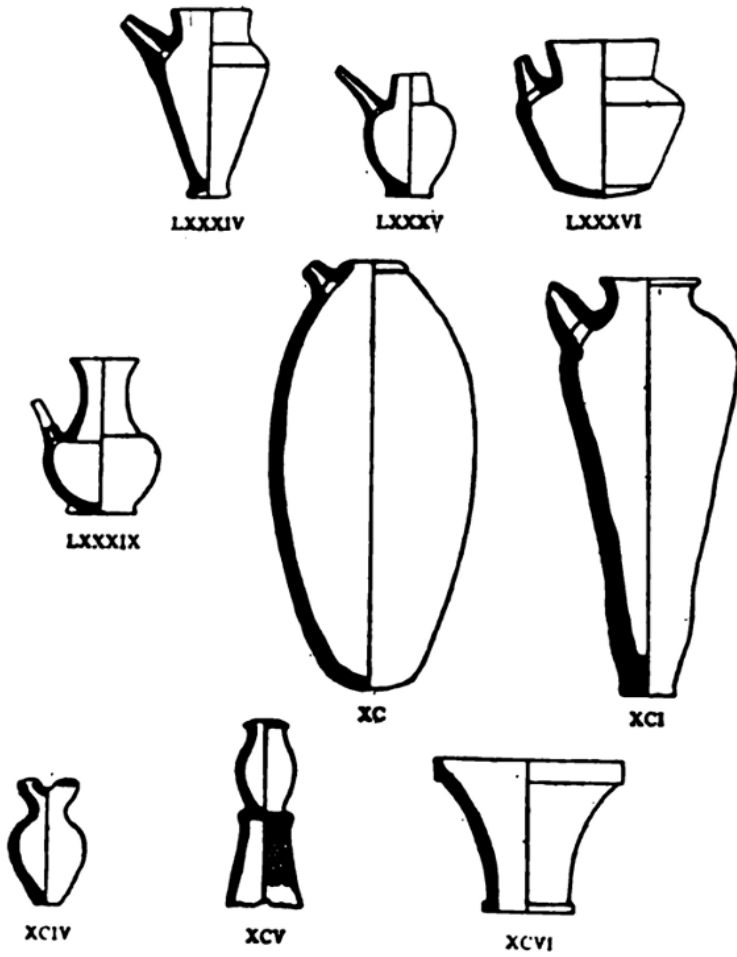


FIG. 74.—Spouted jars, al'Ubaid cemetery, $\frac{1}{12}$.

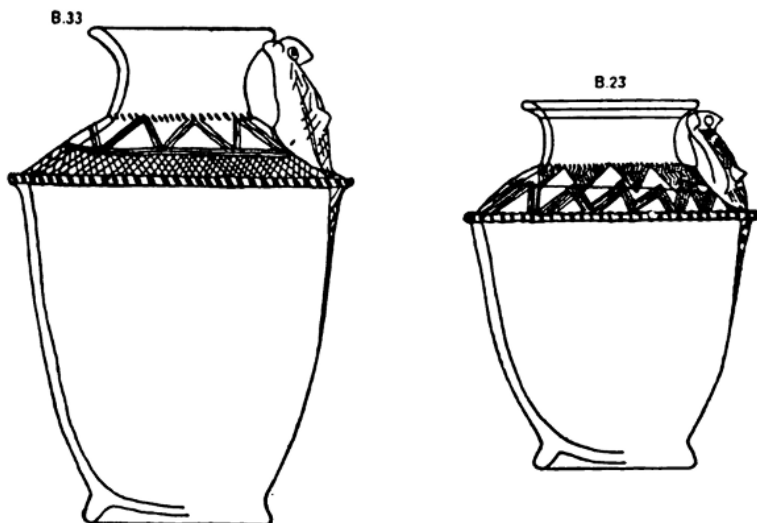


FIG. 75.—“Granny” pots, Kish A, $\frac{1}{12}$.

For the table the more prosperous Sumerians used vessels of gold, silver or copper, alabaster, and shell, sometimes even of lapis lazuli, obsidian, or ostrich eggshell. Pottery was confined to the poorer classes and for menial uses, and hence little trouble was expended on its decoration. It was turned out wholesale with the aid of the wheel. The vases are generally pale drab in colour, but grey ware just survives into the beginning of the period, for instance at Fara. Handles were no longer attached to the vases, but vessels might be encased in wicker slings provided with handles, as shown on [Plate I](#). The handled jars frequently figured on seals from Elam and from earlier periods in Sumer itself are probably to be thus explained, as pottery originals are nowhere forthcoming. Some vases were, however, provided with string-holes for suspension or for the attachment of the lid; in some cases^[6] the string-holes run right through the walls of the vase and are continued by a little tube on the inside, a device encountered in neolithic Malta and Central Europe and there known as a “tunnel” or “subcutaneous” handle.

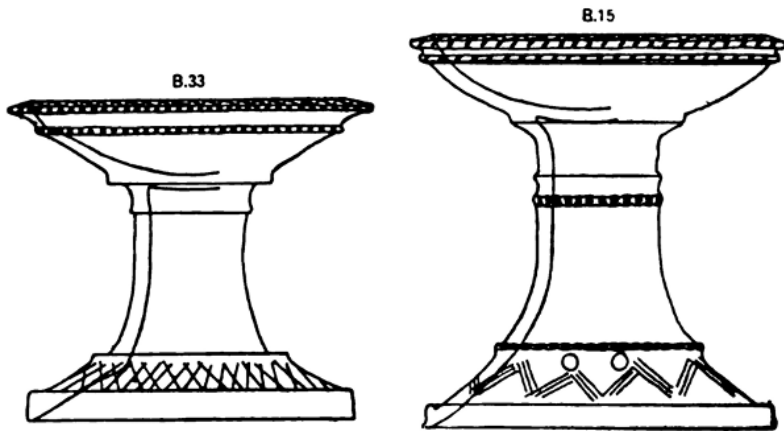


FIG. 76.—Clay basins or offering tables, Kish A, $\frac{1}{12}$, after Mackay.

Spouted jars and pots are distinctive of the earlier phases of the period ([Fig. 74](#)), but are rare in late cemeteries like Kish A. There the spout has degenerated into a mere projecting lug, decorated with a conventionalized representation of a female bust ([Fig. 75](#)). Such “granny” pots are very common at Kish, but occur sporadically at Fara, Ur, and even Susa. Large basins or “offering tables” on a high hollow pedestal occur alike in the early graves at Ur and Fara, and in the late A cemetery at Kish, but not in the earlier tombs in the Y mound at the last named site. Hollow tubular stands, often with perforated walls, recur in shrines, as at Assur, as well as in graves. Examples from Fara^[6] are decorated with incised patterns which show that these “offering stands” copy portable wicker-work stands such as may to-day be seen in use by vendors on railway stations in India.

Ornament is confined on the whole to simple incised patterns, mostly as on the “offering stands” just mentioned, of skeuomorphic origin, though some incised motives on vessels from Kish A carry on the Jemdet Nasr tradition.

Most of the pot forms occur also in silver, gold, or copper. A silver vase from Queen Shub-ad’s tomb at Ur copies a wine-skin down to the stumps for the animal’s legs. The same tomb^[2] contained a gold dish with a long open spout projecting from the rim (like the dish held by the lion in [Plate I](#)) rather like one belonging to Queen Hetep-heres of Egypt, a golden strainer, paralleled in copper at Susa, and a deep open bowl with a spout projecting from near the base and curving upwards, a type with Indian analogues.

Of the stone vessels the most interesting perhaps are cubical blocks with two or four compartments hollowed out in them for face paints or unguents. Such seem peculiar to the early graves at Ur and Fara and resemble

protodynastic Egyptian and Early Minoan types. The lids were kept in place by strings passing through a pair of holes bored close to the sides near the middle of the vessel. Cockle shells served as containers for face paints both at Ur and Kish and might be imitated in metal. Shells were also skilfully carved for use as lamps.

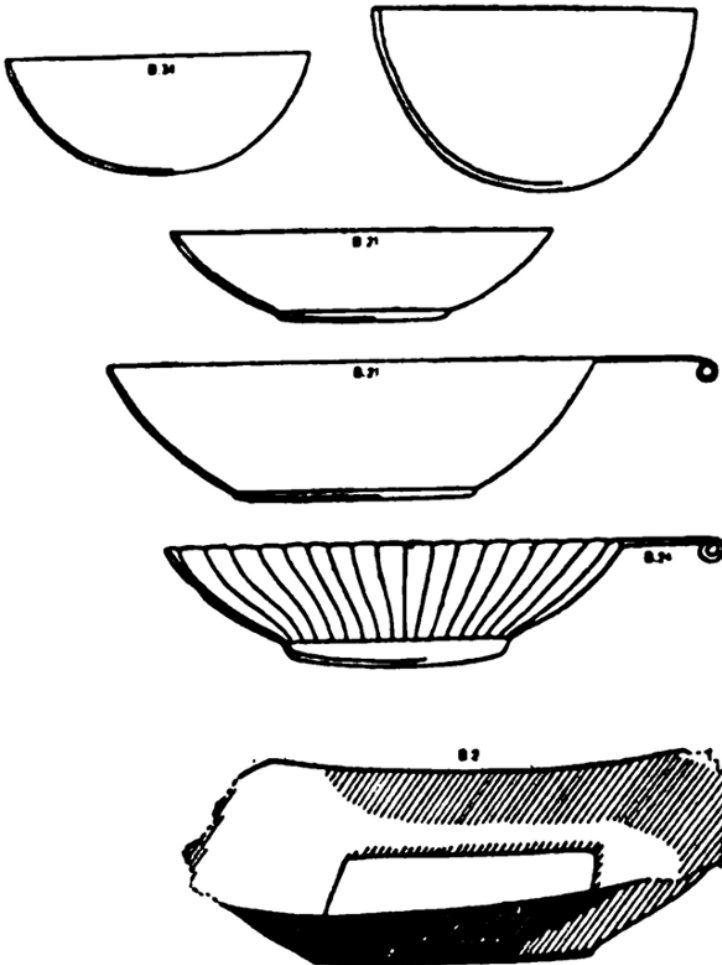


FIG. 77.—Copper vessels, Kish A, $\frac{1}{8}$, after Mackay.

Much less use was made of fayence in Early Dynastic Sumer than in Egypt or India, and it was in fact confined to beads. Glass seems to have been unknown; though a few glass beads were found at Fara, they may possibly be of natural glass.^[6] Wood-work is only known indirectly. Apart from the chariots already described, we may mention thrones or couches

with the legs carved to represent bull's feet, as in protodynastic Egypt. There are also harps and lyres of several types. In Queen Shub-ad's harp,^[2] the wooden sounding box was horizontal while an upright was fitted with eleven gold keys to which the strings were attached. In the lyres the sound box is again horizontal, but the nine strings are attached to a second parallel horizontal beam supported by mosaic-encrusted uprights precisely as in the instrument played by the donkey—or man dressed in a donkey's skin^[30]—shown in [Plate I](#).

The favourite medium of the Early Dynastic artists of Babylonia was inlaying with shell, sometimes as in the Standard from Ur,^[2] combined with lapis lazuli and red stone, and engraving upon shell. [Pl. XVII](#), part of a frieze from the rustic shrine of Ninhur-sag at al'Ubaid, is a good example of the former technique; it represents the milking of the sacred cattle—by men from behind—and illustrates a byre derived directly from such reed huts as we postulate in the prehistoric village at the same site. A masterpiece of shell engraving is shown in the Frontispiece; Gadd^[30] believes that the actors in the ritual here represented are really men dressed up in animals' skins such as appear already in palæolithic paintings from France; the combination of the Egyptian sistrum played by the jackal with the typically Sumerian Gilgamesh at the top is in any case amusing. Sculpture in the round—in wood plated with gold—is illustrated already by a bull's head from the same harp to which our engraving was attached, but is far less successful. Statuettes in stone do not begin till the Archaic period was nearing its close; even then only soft stones were used, the works are clumsy and on a small scale. Sumer produced nothing in this direction comparable to the superb statuary of Old Kingdom Egypt.

PLATE XX

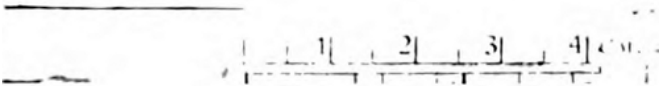
JEWELRY FROM GRAVES AT UR



a



b



c

The friezes in shell inlay from the temples and palaces are plainly just a continuation of the tradition of the Uruk period. The clay cones with decorated heads of the same period reappear in the al'Ubaid shrine contemporary with the First Dynasty of Ur, only that now the petals of the flower-shaped heads are made of mother-of-pearl, pink limestone, and black shale.^[31] Columns occur, as in Erech's Red Temple, in the A palace at Kish^[8] and at al'Ubaid; here they were formed of palm-stems cased in bitumen and encrusted with a shell and limestone mosaic instead of the clay cones of Erech.

In glyptic the same continuity is traceable. On the seals from the Royal Tombs at Ur^[17] and Kish the animal file still figures occasionally as well as hunting scenes, but in the latter the hunter is usually kneeling and comes to grips with his prey. A symposium or royal banquet is, however, the most popular motive, but is disappearing by the time of Ur I when animals in conflict with one another or with men or monsters increase in popularity. In no case is an attempt made to depict the deity—at least not in human form. Throughout the treatment tends to be conventional and moves ever further away from the vigour of the early Uruk style.

In a word, in art and architecture, in script and cult, in armament (pear-shaped mace, shaft-hole axe, chariot) and pottery (spouted jar), and even in coiffure, the Early Dynastic period is merely elaborating traditions inherited from earlier epochs. Many fundamental ideas such as the shaft-hole axe, brickwork and its reinforcement or decoration with baked clay cones, the bellum form of boat, the use of stone for beads and vases, the spouted vase, and probably even metal work go back to the al'Ubaid phase. Wheeled vehicles, the potter's wheel and oven, the brick column, the ziggurat, the cylinder seal, even a system of numeral notation and the material for a syllabic script can be traced in the Uruk period. All the Early Dynastic age can add is the elaboration of these notions and their application to the richer material and on the grander scale rendered possible by a more efficient economic organization.

The Early Dynastic period is in fact from many aspects not only the culmination but rather the end of Sumerian achievement. The great discoveries lie in the past; the political and military organization of the early dynasts secures the leisure and wealth needed for their technical perfection. But at the same time it constitutes a rigid framework that cramps further development. Internecine war between the cities of Babylonia squanders the land's resources. Economic imperialism provokes reprisals by barbarian neighbours (the "dynasties" of Awan and Hamasi may be thus interpreted). And finally the Akkadian Sargon grasps the sovereignty by force, and the

State assumes very much the form of a tribute-collecting machine that was proper to all Oriental monarchies. In the next two millennia one can scarcely point to a single first class invention or discovery; the alphabet and iron smelting are the most obvious.

NOTES TO CHAPTER VII

The most important original sources are as follows:—

Ur:—*Ur Excavations*, ii, *The Royal Cemetery* (1934).

[1] (Royal Tombs), Woolley, *Ant. J.*, viii (1928), pp. 1-29.

[2] *Ibid.*, viii, pp. 415-447.

[3] *Ibid.*, ix., pp. 305-330.

[4] *Ibid.*, x, pp. 324-329.

[5] *Ibid.*, xii, pp. 357-369.

[6] Heinrich, *Fara*, Berlin, 1930.

[7] *Mus. J.*, xxii, pp. 201-6.

[8] Mackay, "Report on the Excavation of the 'A' Cemetery," Field Museum, *Anthropology Memoirs*, i, pp. 1-2.

[9] Langdon, *JRAS.*, 1930, 600-3; Watelin, *L'Anthr.*, xli (1931), pp. 266-270.

[10] al'Ubaid, Hall and Woolley, *Ur Excavations*, i.

[11] Erech, Jordan, "Zweiter Bericht," see [note 6 to Chapter VI](#).

[12] *Antiquity*, ii, p. 59.

[13] *Man*, xxix, 18.

[14] *Weltgeschichte der Steinzeit*, pp. 435 f., 470.

[15] *Manuel*, iii, 1557; Peake and Fleure, *Peasants and Potters*, p. 92, also regard the Sumerians as more or less pastoralist invaders but derive them from the south and mention Dilmun.

[16] Information from Dr. Frankfort.

[17] Legrain, *Mus. J.*, xx (1929), pp. 260 ff. Christian in *Archiv f. Orientforschung*, vii (1931), pp. 100 ff., entirely disregards these details in arguing that the Royal Tombs are scarcely earlier than Sargon. For a critique of his contentions (which have received considerable support in Germany), see Landsberger in *OLZ.*, 1931, pp. 115-136; Frankfort, *Arch. and Sum. Problem*, p. 5 and note 5 here.

[18] Buxton, *JRAI.*, lxi, pp. 57 ff.; cf. Keith's account of skulls from al'Ubaid under note 10.

[19] *Op. cit.*, pp. 40 ff. and fig. 10.

[20] Christian, *MAGW.*, liv. 1 ff., claims to distinguish a greater variety in the statuettes from Assur.

[21] Christian's suggestion that this was a leaf skirt is refuted by the statuette of a ram from Ur, where the fleece is rendered by the same convention as on the kilt.

[22] Legrain, *Mus. J.*, xix, p. 227; Contenau, *Manuel*, iii, p. 1528; Hilzheimer, *PZ.*, xxii, pp. 1 ff. *Real.*, xiv, p. 199, contends that animals here depicted were mules, as against Frankfort, *op. cit.*, who says "horses", and Woolley and other authorities who believe in asses.

[23] *Ant. J.*, ix, p. 26.

[24] Frankfort, "Tell Asmer and Khafaje," *Oriental Institute Communic.*, 13 (1932) and 16 (1933).

[25] Andrae, *Die archaischen Ischtartempel in Assur*.

[26] Frankfort, *Illustrated London News*, 1st October, 1932; *Antiquity*, vi, p. 356.

[27] On the meaning of trade in the Orient see Smith, *Early History of Assyria*, pp. 52 ff.

[28] British Association, Report of Sumerian Copper Committee, 1928, pp. ? ff.; Peake in *Antiquity*, ii, p. 452; for sources of copper and tin see also *Real.*, xiv, pp. 183-5 with map.

[29] A full list of these types with references will be found in *MAGW.*, lxii (1932), pp. 228 ff. All are represented in the early cemeteries at Ur,

and most (not, however, the scalloped blade) at Fara. Toilet sets are missing from the early graves at Kish Y, but are common in the later “A” Cemetery.

[30] This type, early represented at Ur and also at Kish A, seems to be Western. It is borne by a Libyan depicted on an early dynastic stone vase from Egypt in Berlin (Scharff, *Altertümer der Vor- und Frühzeit*, No. 15084), and was by Middle Kingdom times very popular in North Syria and Palestine (Petrie, *Tools and Weapons*).

[31] Gadd, *History and Monuments of Ur*, p. 36.

CHAPTER VIII

INDIAN CIVILIZATION IN THE THIRD MILLENNIUM B.C.

THE third centre of higher civilization in the Ancient East, the lower valley of the Indus and its tributaries, agrees with Egypt and Babylonia in being an alluvial plain on which owing to deficiency of rainfall settled agriculture depends primarily on natural or artificial irrigation. In prehistoric times the analogy to Babylonia would have been still closer; for Sindh was then a real “Mesopotamia” watered by the Great Mihran (Sarasvati) on the east in addition to the Indus on the west. But the area of natural irrigation is immensely greater than in Mesopotamia, extending right across the southern Punjab and up to the foot-hills; the broad plains along the Sutlej, the Ravi, the Chenab, and the Jhelum, in contrast to the high plains of Assyria, form a genuine continuation of those of Sindh proper. And in appearance the country to-day is very different from Iraq; it is neither mainly a treeless waste, like modern Sumer, nor yet a marsh like prehistoric Sumer and southern Iraq to-day.

Even where the flood waters no longer penetrate owing to dams, the low plains are covered with a regular jungle of trees and scrub nourished by the subsoil water. Though the level of the latter has risen since prehistoric times till it stands now 10 or 15 feet above the ancient ground surface, the relative level of the plain surface and the river bed presumably have remained unaltered. The city of Mohenjo-daro^[1] itself was subject to inundations. Though perhaps rather less destructive than recent ones, these ancient floods imply the same facilities for irrigation as subsist to-day. There are, moreover, indications of more bounteous rains than fall nowadays.^[2] The prehistoric documents represent a jungle fauna of tiger, elephant and rhinoceros in contrast to the semi-desert animals of early Sumerian art. The lavish use of baked brick in the prehistoric cities would seem a needless extravagance under modern rainless conditions.

As in Egypt and Babylonia, the conditions of life on an alluvial plain involved organized co-operative effort to control and direct the flood-waters that made life possible and importations on a large scale to make it pleasant.

Man's efforts to adjust himself to that environment and subdue it to his will accordingly culminated in the creation of an industrial and commercial urban civilization, but on a vaster scale than on the Nile or on the Euphrates. Only two of the ruined cities have so far been explored, Mohenjo-daro on the Indus and Harappa^[3] on the Ravi, but they are already 400 miles apart. Yet the civilization of both is astonishingly homogeneous; all the specific idiosyncrasies of architecture and town planning, of metal tools and weapons, of ornaments and beads, of art and epigraphy noted at Mohenjo-daro recur at Harappa. The agreement is so complete that every remark in the subsequent description would apply equally to either site save in a few cases where contrary indications are given. And the agreement is not a simple uniformity explicable by parallel developments under similar environmental conditions, but something much more artificial, expressed, for instance, in the identity of a highly individualized and self-conscious ceramic and glyptic art. This is the sort of uniformity illustrated by the relics of Archaic Sumerian civilization from Eridu to Kish. But after all the distance between those cities is only half that separating Mohenjo-daro from Harappa; and these points do not mark the extreme limits. Identically the same civilization has been found a hundred miles downstream from Mohenjo-daro at Amri and upstream it is reported as far as Rupar on the Upper Sutlej.^[1] The area embraced by the Indus civilization must have been twice that of Old Kingdom Egypt and probably four times that of Sumer and Akkad.

What was the political counterpart of this cultural unity? In Egypt after Menes the cultural unity subsisting from the Delta to the First Cataract corresponded not only to a uniformity of environment, traditions, language, and racial stocks, but also to political unification under a single sovereign. In Babylonia unity of material culture was accompanied by uniformity in language, religion, and racial types, but subsisted in spite of a multiplicity of independent States. Had the economic unity of the Indus environment found expression in political unification as well as in unity of material culture, religion, script, and presumably speech? No multiplication of weapons of war and battle scenes attests futile conflicts between city-states as in Babylonia nor yet the force whereby a single king, as in Egypt, achieved by conquest internal peace and warded off jealous nomads by constant preparedness.

We cannot even define the nucleus round which accumulated the surplus wealth of capital, involved, as we have seen, in the conversion of the village into the city. Neither sumptuous temples, as in Sumer, nor monumental tombs, as on the Nile, serve to mark out the divine or deified disposer of this

surplus without any need of appeal to written documents. The Indus cities, like those of Sumer, consist of discreet groups of mounds. At Mohenjo-daro the ruins cover at least a square mile. The highest mound is surmounted by a small Buddhist *stupa* (shrine) and monastery. Some central structure that would supply an answer to our question may conceivably be buried beneath it. Otherwise the most imposing public building actually exposed is a great public bath, close to the *stupa*; another block included a hall which is almost palatial. For the rest one can indeed distinguish between industrial and commercial quarters, between the lowly abodes of artisans and shopkeepers and the larger mansions of prosperous burghers. But no temple nor palace dominates the rest though the total areas excavated would compare favourably with those explored in Mesopotamia. The visitor inevitably gets an impression of a democratic bourgeoisie economy, as in Crete, in contrast to the obviously centralized theocracies and monarchies hitherto described.

Yet that there was an efficient and enduring authority is clear enough. The cities were carefully laid out on a deliberate plan, and the plan was adhered to strictly during several phases of reconstruction so that the streets were always maintained at a constant width. The cities were provided with elaborate corbelled drains running to sumps; but it would only function if these pits were periodically cleared out, presumably by public functionaries.

However organized politically, the Indus civilization was built upon the same primary inventions and discoveries as the Nilotic and the Mesopotamian. Its authors may even have included men of the same racial types.

The population^[1] of Mohenjo-daro was certainly mixed; the skeletal remains and figurines undoubtedly belong to several physically distinct types. At the bottom of the social scale came a primitive "Australoid" stock; the thick lips and coarse nose of a little bronze statuette disclose at once the kinship of this group to the surviving aboriginal tribes of Southern India and the position which it, like its modern representatives, occupied in the community. A higher type, long-headed like the last, has been termed Eurafrican or even Mediterranean. It seems to approximate to one of the long-headed Sumerian types and the similarity is accentuated in the portrait statues ([Pl. XXI](#)) by the beard, shaven upper lip, and long hair done up in a bun behind quite in Sumerian fashion. Thirdly, a brachycephalic Alpine or Armenoid type is represented as at Kish in Akkad. Finally, a single skeleton and several clay figurines belong to undoubted Mongols or Mongoloids, the earliest dated examples of this racial type yet detected.

STONE STATUETTE FROM MOHENJO-DARO



(face)



(back)

The great cities which sheltered this mixed population were built almost entirely of brick, and most of the bricks were kiln-baked. At Mohenjo-daro mud-brick was hardly ever used except for fillings; at Harappa kiln and mud-bricks sometimes were built in alternate courses of the walls. The brickwork was entirely plain, but there is a little direct evidence that it was faced with mud plaster which, as in Buddhist and modern India, would doubtless be a vehicle for decoration. Timber, local sissoo wood and deodara imported perhaps from the Himalayas, was also employed in building, but stone was scarcely used; stone door-sockets, such a feature of Babylonian architecture, are not the rule in India. The larger houses are generally provided with both wells and bathrooms, but unambiguous latrines were found in only one late house.

The Indus economy, like the Egyptian and Babylonian, rested on irrigation farming. A bread-wheat (*Triticum compactum*), barley, and dates were cultivated; the unit of weight suggests also rice-growing,^[1] but direct evidence is lacking. Cotton took the place of flax. Humped Indian cattle (zebus) and a humpless breed (known only from clay and other models), buffaloes, sheep, fowls, and elephants were kept domesticated; swine bones, though common, seem to belong to the local wild boar and need not indicate pig-breeding. In the latest layers at Mohenjo-daro remains of camel and horse occur, but neither animal is depicted on the seals nor in clay models.

Yet model saddles^[5] occur. River fish were caught and dried, sea-fish imported from the coast.

The cities were inevitably centres of commerce and industry. Transport was facilitated by the use of two-wheeled carts (known from clay models), identical in structure with the village cart of modern Sindh, and of boats such as ply on the Indus to-day. Trade was sufficiently well-organized to secure regular supplies not only of foodstuffs from the coasts but also of metal from Baluchistan and Rajputana, of śank shell from Southern India, and of luxury articles from still further afield—lapis lazuli from Afghanistan or Persia, jade from China or Burma, amazonite from the Nilghary Hills of Kashmir. We have seen Indian materials such as pot-stone, and manufactures including seals and even knobbed pottery, reaching Babylonia during the first half of the third millennium. Conversely, Sumerian cylinder seals^[4] and toilet sets^[3] were occasionally copied in India, and bitumen^[1] was used as a water-course.

The secondary industries of the Indus valley are parallel to those practised at the same date on the Euphrates or on the Nile. But the treatment of the material is different, and in some respects the Indian craftsman was ahead of his Sumerian or Egyptian fellows.

The metallurgists smelted and worked gold, silver, lead, and copper. The smith employed tin-bronze as in Sumer, but also an alloy of copper with from 3.4 to 4.4 per cent of arsenic, an alloy also known at Anau in Transcaspia. The smith cast by the *cire-perdu* process, and could rivet, but never resorted to brazing or soldering. The tools and weapons he produced are less specialized and more primitive looking than the Sumerian. In particular, the shaft-hole axe is lacking^[6] and weapons look curiously ineffective. The most significant types are: (1) Flat chisels, wider but flatter towards the butt than lower down ([Fig. 78](#), 3); (2) Flat axes with curved, splayed blades; (3) small saws with a straight back like early Egyptian types and agreeing precisely with the iron saws used at present by Indian workers in shell; (4) flat-tanged daggers with a midrib and two very small rivet-holes near the base of the blade, the whole being hammered up from a stout rod ([Fig. 78](#), 2); (5) spear heads with a flat tang and a broad, flat blade, made like the daggers by hammering ([Fig. 78](#), 5); (6) single-edged knives recurving near the point but straight or humped along the back and provided with a short tang but no rivet-holes ([Fig. 78](#), 1); (7) razors with a broad convex blade projecting like an axe from a thin metal shaft and balanced by a semicircular projection on the opposite side ([Fig. 78](#), 4); (8) a pruning hook, such as is used in India to-day; (9) an ox-goat; (10) sickles, presumably of the jaw-bone family, but rare; (11) hollow-based arrow-heads

without tangs cut out of sheet copper. The whole series is strikingly contrasted to the Sumerian types listed on p. 189, and only slightly less so to the Egyptian. Pins are exceptional, tweezers represented only by a pair from Harappa^[3] that formed part of a toilet set, the several instruments being attached to a knotted loop precisely as in the Sumerian examples from which the Harappa set was probably copied.

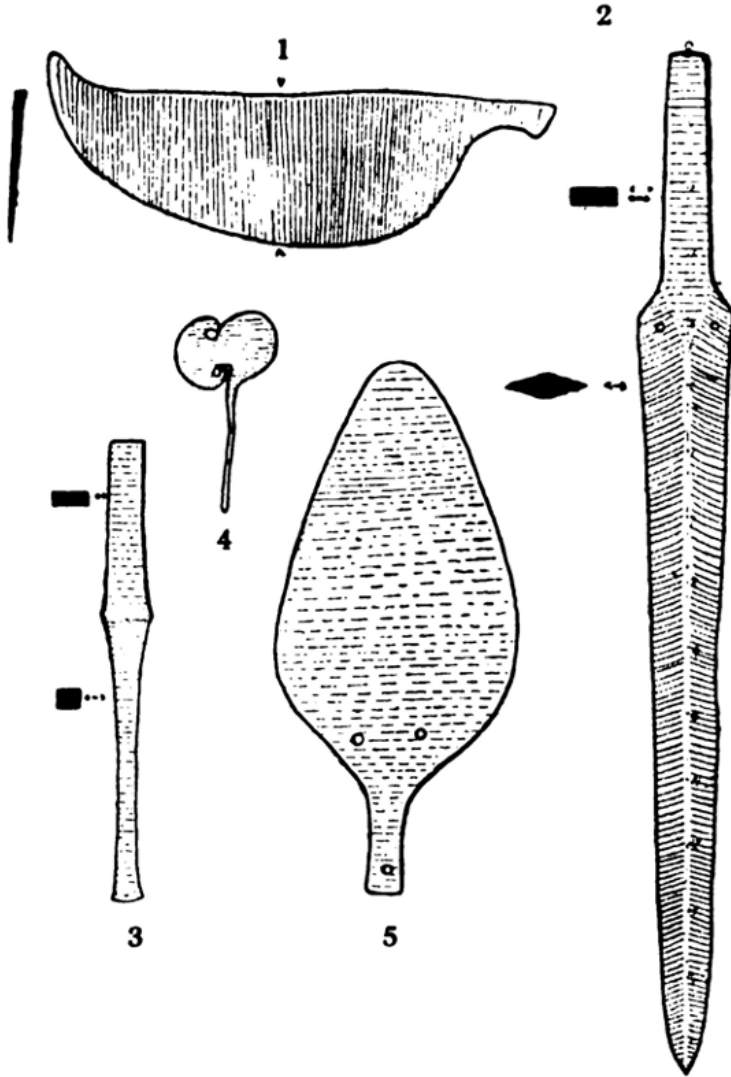


FIG. 78.—Copper saw, dagger, chisel, razor, and spear-head, Mohenjodaro, $\frac{1}{4}$.

Vessels also were made in copper, silver, or lead, but all the shapes recur in pottery ([Fig. 79](#)). The goldsmith made little use of filigree work so popular in Sumer, but he could solder and achieved delicate effects by mounting in gold small beads. A silver buckle^[4] adorned with a scroll pattern of gold wire and gold-capped beads is a fine specimen of his work. Among other types of gold bead, the disc-shaped form described as No. 25 on p. [194](#), is noteworthy ([Pl. XXIV](#)).

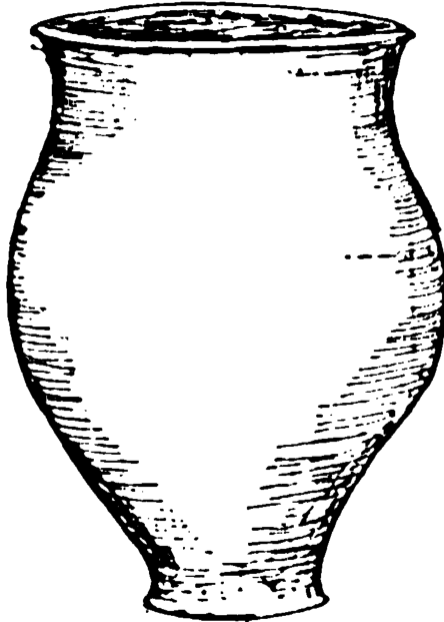


FIG. 79.—Copper beaker from Harappa.

Pottery still occupied a more honourable place in the Indus Valley than in Sumer, and fine wares were produced and sometimes gorgeously decorated. The potter used the fast wheel. Though he normally produced pale or pinkish-red wares, he could control the firing so as to produce a grey fabric like the Uruk ware described on p. [148](#). The normal technique seems to have been that used to-day by village potters in Sindh,^[7] certain articles, notably the tool used for smoothing the vessels and a peculiar stopper, now in daily use by potters in the adjacent villages, have been found in the ruins of Mohenjo-daro. The same type of stopper is that used in Babylonia in the Jemdet Nasr phase and illustrated in [Fig. 62](#).



FIG. 80.—Drinking cup, Harappa, $\frac{1}{4}$.

Red or cream slips were used on the finer fabrics and the surface of the red vases might be burnished; even the grey ware was sometimes coated with a dark-grey slip which, as in red ware, owed its colour to iron oxides, this time reduced.^[12] The commonest form is a little drinking cup with a curious pointed base, always very rough ([Fig. 80](#)); such vessels were probably broken as soon as they had once been used according to contemporary Indian practice. Narrow, almost pointed, bottoms were, however, common in other shapes, particularly in large storage jars. Spouts are confined to shallow feeding-bowls that are far from common, and the only approach to a handle is seen in pierced fanlike ears attached to a rare class of cup. Narrow-necked jars are indeed relatively rare, long-necked bottles or flaring mouths are unknown. On the other hand the basin on a high foot as in Sumer occurs in red ware, grey ware, and decorated ware. Another relatively conspicuous type is a cylindrical jar with perforated walls.

PLATE XXII



PAINTED VASE, MOHENJO-DARO

The vases might be decorated with the imprint of a cord, by brushing over a thick creamy slip as in Sumerian reserved slip ware, or with little knobs, but the finest were painted. The paint is generally black and applied with a stiff brush over a dark red slip or wash, exceptionally over a creamy slip. In the latest occupation at Mohenjo-daro a polychrome ware appeared: black patterns on a cream ground are filled in with red, green, or yellow pigments applied after firing.

The black-on-red painted decoration illustrates better than anything else the unity, the originality, and the antiquity of the Indus civilization; for it has a mature, self-conscious style quite unlike anything else, but found with complete uniformity from Amri to Harappa. The essential feature of this style is the use of large surfaces, alternating in broad zones and panels each closely covered either with conventionalized vegetable designs—trees, leafy boughs, or creepers—or with repetition patterns. Under the last term are understood motives that can be repeated indefinitely in any direction. By far the most popular was the intersecting circle (yielding rosettes or, when combined with chequers, the so-called stretched hide motive), then came the scale pattern (based on semicircles) and at a long interval chequers, triangles (the latter always completely alternating so that a blank triangle for instance always has a hatched triangle standing on each of its sides) and complicated patterns based on the wavy line, the cross, a T figure, or hearts ([Pl. XXII](#)). Similar patterns were popular also in other arts such as shell-inlaying. Motives which recur as independent zone patterns in other regions are here used only as borders for the large fields: we find the roundel, the dotted ladder, and more rarely alternating triangles (the hatched guilloche, hatched wavy band and combinations of hatched triangles and semicircles occur chiefly on the rare pale-slip wares). Figures of animals are quite exceptional; sometimes little peacocks are introduced among the leaves, and a unique sherd from Harappa^[5] depicts a farmer's family and livestock. A curious motive, found generally on pale ware from Mohenjo-daro, resembles a large comb but may be a conventionalized version of a bull.

Fayence was extensively manufactured in India. It was used for bracelets ([Pl. XXIII](#), *d*), statuettes ([Pl. XXIII](#), *c*), stamps, and beads, as well as for small vases that imitate common pottery forms. A few sherds of pottery from early and middle levels at Mohenjo-daro are covered with a genuine glaze. Stone vases were on the other hand rare; the most interesting is a rectangular box of soft, grey stone, divided into four compartments and engraved on the outside with triangles.

PLATE XXIII

a-c: SEALS AND AMULET, MOHENJO-DARO



a

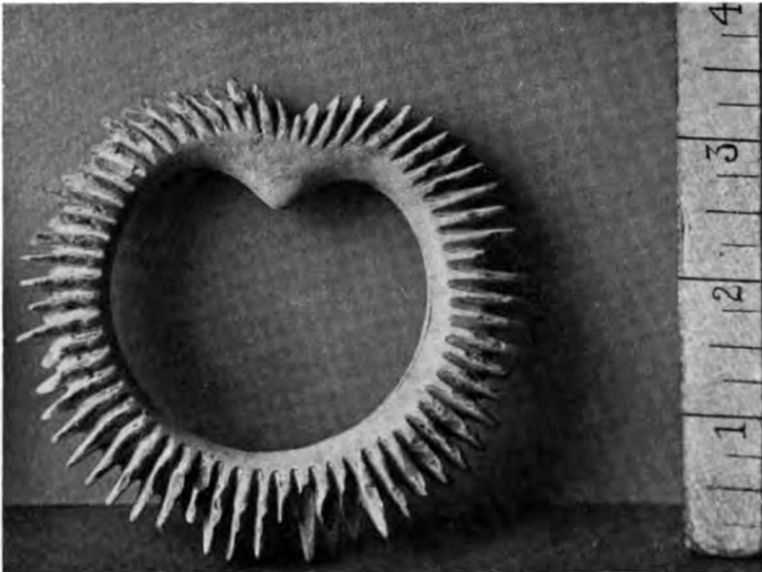


b

b



c



d FAYENCE BRACELET, HARAPPA

Weapons, as remarked, were exceedingly rare; the commonest was the sling, round and ovoid sling pellets being quite common. Mace-heads also occur, generally spheroid or pear-shaped as in Babylonia, exceptionally disc-shaped. Flint weapons are unknown and indeed flint and stone tools are represented only by a few quite simple blades and a few large chert tools flaked like celts, one being rectangular in cross-section just like a Nordic thick-butted celt.

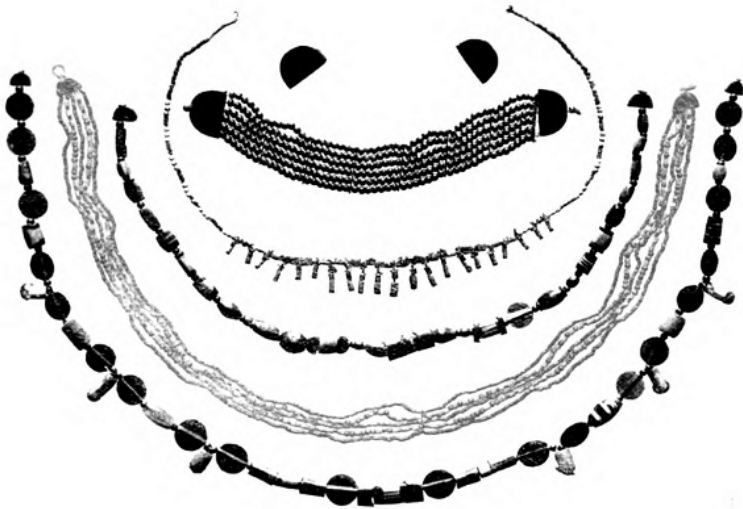
After the pottery the most distinctive products of the Indus culture and art were the seals ([Pl. XXIII](#)). The commonest are square tablets of steatite with a boss on the back and engraved on the face; after cutting they were coated with a glaze. They are engraved with legends in an undeciphered script and admirably executed representations of animals (in order of frequency)—“unicorns”, short-horned bulls, Brahmani bulls, elephants, rhinoceros, tigers, buffaloes, crocodiles, and antelopes. Similar designs in the same conscious style are found engraved on flat copper tablets with an “inscription” on the reverse. There are also long, narrow gable seals, perforated longitudinally and bearing inscriptions only, and rectangular button-shaped stamps of steatite or fayence adorned only with geometrical patterns, including the swastika. Though all these objects have been classed as seals, there is no evidence of their ever having been used to seal anything, whereas in Mesopotamia or Egypt sealings are far commoner than seals.^[8] The nearest approach in India is provided by small tablets of baked clay which do bear seal impressions but nothing else and are complete in themselves. The term “seal” is therefore conventional, and the objects thus denoted must be classed as ritual—a learned way of saying that we have no notion what they were for.

Carefully-shaped stone discs and tetrahedra, as in Sumer, may have been gamesmen. A game with dice was certainly played, the dice being cubical as in Sumer, though rather differently numbered.

Men wore a shawl draped round the shoulders and women some woven garment that needed no pinning. Bangles were very popular in contrast to Egyptian or Mesopotamian fashions; they were made of polished pottery (red or dark grey), metal, shell, or fayence (often decorated with ribs or spiral ridges). The hair was bound with fillets of gold ribbon as in Babylonia. Necklaces of several strands were worn round the throat. The terminals, gold or gold-plated, are often semicircular, a type found in Egypt and at Byblos in Old Kingdom times, but represented on painted sherds from Elam that may be earlier ([Pl. XXIV](#), top). In addition to the gold disc beads already mentioned (p. [194](#)) as recurring in Sumer, Egypt, and even Troy, we have gold caps for pendants with a little loop soldered on inside

([Pl. XXIV](#), bottom), a type again found at Troy, segmented beads of fayence, mostly late, carnelian beads etched with white patterns^[9]—rare but imitated in paste—long bicones of carnelian as in the Royal Tombs at Ur and a flattened cylinder of agate precisely like some from Queen Shub-ad's tomb in the same cemetery.^[10] The most distinctive Indian bead seems, however, to have been a small disc with milled or notched edge. Amulets are rare. Some miniature animals in fayence might be included here. Rams have their legs doubled under them precisely in the style of lapis rams and bulls from the Royal Tombs at Ur. A fly amulet of bone or ivory is exceptional and presumably copies Egyptian or Sumerian types.

PLATE XXIV



JEWELRY, MOHENJO-DARO

Several burial rites^[1] seem to have been in use simultaneously, perhaps by different sections in the mixed population. Cremation with inurnment of the ashes in large jars seems to be attested both at Mohenjo-daro and Harappa. Fractional burials in which a few unburnt bones were collected, presumably after exposure of the corpse, and buried with jars, beakers, and other vessels also occur at both sites. Finally, fourteen complete skeletons accompanied by personal ornaments were found in one room at Mohenjo-daro, and six more in one of the lanes. It was noted that the skulls from fractional burials were generally brachycephalic.

In contrast to these burials, all belonging undoubtedly to the period of the Indus civilization, is a large cemetery excavated at Harappa.^[1] It lay at

the foot of the more conspicuous mound of ruins, but the graves overlay, and had sometimes disturbed walls of the Indus period. The grave goods were different from the products of the Indus civilization. The excavators distinguish two superimposed series of interments. The lower graves contained complete skeletons accompanied by small flasks and water-bottles with narrow necks and trumpet mouths, squat pedestalled bowls, and various dishes. In the upper graves the bones were contained in large jars with a flange encircling the neck just below the mouth. The pottery from both series of graves is technically similar. As in the Indus ware, the vessels are of pinkish clay covered with a burnished red wash. On this black designs may be painted. But the designs are as different from those of normal Indus ware as are the forms; the commonest are stars, stylized peacocks, and humped bulls.^[6] The composition is also different from that affected by Indus artists.

There is then nothing to connect these burials with the authors of the Indus civilization we are describing. Despite the continuity in the ceramic tradition, it is more likely the destroyers than the makers of the Indus civilization who lie here.

Enough has been said to show that India confronts Egypt and Babylonia by the third millennium with a thoroughly individual and independent civilization of her own, technically the peer of the rest. And plainly it is deeply rooted in Indian soil. The Indus civilization represents a very perfect adjustment of human life to a specific environment, that can only have resulted from years of patient effort. And it has endured; it is already specifically Indian and forms the basis of modern Indian culture. In architecture and industry, still more in dress and religion, Mohenjo-daro reveals features that have always been characteristic of historical India. A few of these may be mentioned here.

In architecture, besides the inferred use of stucco, the number of bathrooms and the virtual absence of latrines, there is a room provided with a well and stands for water-jars which seems the definite forerunner of the *piau* or waterstall, such a distinctive feature of an Indian bazaar. The carts and boats as remarked agree with those still in use in the country to-day. Clay models of couches depict the form now used in India, though paralleled also in ancient Susa and Assyria. The village potters in Sindh seem to have inherited their craft direct from the Indus period. The absence of pins, the love of bangles and of elaborate nose-ornaments are all peculiarly Indian traits. Kohl was used for the eyes as elsewhere, but at Mohenjo-daro it was kept in little flasks and applied with copper rods which seem distinctively Indian. Ivory combs worn in the hair agree exactly with

the wooden combs still worn. Stone or rough pottery flesh-rubbers from Mohenjo-daro are similar to toilet articles at present in use in India, though they find parallels also at Kish in Early Dynastic times.

Religion^[1] gives the most convincing illustration of the explicitly Indian character of the Indus civilization. Many objects from the ancient cities, otherwise unintelligible, can be satisfactorily explained by reference to Hindu cult. The innumerable clay figurines, indeed, are not without parallels elsewhere. In India the majority represent a female personage, often richly bejewelled and sometimes pregnant or nursing an infant; some may be votive statuettes of deities, but others may represent petitioners, or even dolls. So, too, among clay models of animals the frequent Brahmani bulls may be regarded as sacred, but others, such as oxen provided with a moveable head, are obviously toys like the equally common miniature carts, couches, loaves, and vases. But there are aniconic objects, notably huge stone phalli and rings, often wavy along the edge, that correspond to the lingas and yonis of Hindu fertility cults.

The seals and tablets of stamped clay, engraved copper, or moulded fayence offer more conclusive evidence. A seal from Mohenjo-daro depicts a horned deity with three faces sitting cross-legged in the attitude of ritual meditation between various wild animals; he is obviously the prototype of Śiva, “three-faced,” “lord of beasts,” “prince of yogis,” as Marshall has demonstrated in detail. Several clay tablets depict a male deity; one shows a river gushing out of a goddess’s womb. In other cases tree-spirits are clearly indicated. In contrast to such themes, all familiar to Hindu iconography, are isolated motives suggestive of Babylonia—an antithetic group of “a hero dompting lions” and a half-human monster like the Sumerian Ea-banni grappling with a bull or a tiger. The swastika and the cross, common on stamps and plaques, were religious or magical symbols as in Babylonia and Elam in the earliest prehistoric period, but preserve that character also in modern India as elsewhere.

The religious concepts suggested by the foregoing documents are familiar to modern and post-Vedic Hinduism. But they are conspicuously absent from the oldest of the Hindu sacred books, the Rig-Veda, while scenes illustrative of its hymns may be sought in vain in the Indus period. Śiva as depicted at Harappa and Mohenjo-daro is generally regarded as an “aboriginal” deity taken over by the invading Vedic Aryans and verbally identified with the unimportant Vedic Prajapati. Tree-spirits and female deities played a negligible rôle in Vedic mythology and phallicism is unmentioned—all have been regarded by European scholars as post-Vedic accretions in Brahmanism. Conversely, the celestial figures of the Vedic

pantheon, like the thunder-wielding Indra, are not detectable in the Indus period. The horse, so prominent in Vedic imagery and a principal sacrificial animal, is never represented on the seals, which yet must have had a religious virtue.

For the above reasons alone the Indus civilization may be regarded as non-Aryan and pre-Aryan. In fact it provides a documentary illustration of the sources, long inferred on comparative grounds, of those “accretions” which distinguish modern Brahmanism from the religion and ritual illustrated in the Vedas. It is just possible that the later inhumation graves at Harappa may belong to the Aryan invaders; inhumation and cremation were alike practised in the Vedic period.

The delicate and, as we now see, enduring adaptation to the Indian environment represented in the Indus civilization, can only have been created and spread over a vast area after a long period of incubation on the spot. Yet this civilization, though contrasted to the Egyptian and the Sumerian as specifically Indian, rests upon the same fundamental ideas, discoveries, and inventions as they. The agreements are indeed mostly quite general and abstract—city life, cultivation of cereals, domestication of cattle and sheep, metallurgy, a textile industry, manufacture of bricks and pots, drilling of hard stones for beads, an affection for lapis lazuli, a knowledge of fayence. But even so they can hardly be regarded as independent inventions accumulated in similar environments. Direct contact between Sumer and India in the first half of the third millennium at least is unimpeachably demonstrated by the interchange of goods previously described.

The commerce then attested will not, however, suffice to explain the underlying agreements between the two fully fledged civilizations which had by then already elaborated their common elements along divergent lines. On the other hand, some of the agreements between Sumer and India at least are not wholly abstract and may point to contact or inspiration from a common source at earlier periods definable in terms of the relative chronology of Babylonia. For instance, the potter’s craft in the two regions is in essence the same; common to both areas are the use of the fast wheel, of a definite oven, even of special sorts of stoppers and smoothing tools, the production of red or grey wares by the oxidization or reduction of iron oxides, and even the manufacture of certain specific shapes such as the bowl on a high stem. The wheel, the oven, and the red and grey wares fired therein go back in Sumer to the Uruk period; the stoppers and tappers are attested at latest by the Jemdet Nasr phase. The divergent development of the ceramic tradition must then begin not later than the last named period.

The extensive use of fayence in both areas points to the same epoch. Even in metallurgy, judging by the unspecialized type of dagger from the Jemdet Nasr layer at Fara, divergence had then hardly begun. On the other hand, the wheeled chariots suggested by the sealings from late Uruk layers have not yet been identified in India, though modern examples show the wheel itself to have had the same peculiar form in both areas.^[1] It seems, indeed, likely either that India and Sumer were overrun by the same culture at what corresponds to the Uruk phase or that one country profoundly influenced the other at that moment.

No archæological record of the development of the Indus civilization comparable to that recently recovered in Sumer permits of the verification of such speculations. Deep diggings at Mohenjo-daro and Harappa have shown that the cities had been several times rebuilt; at the first site Mackay distinguishes three main periods (Early, Middle, and Late), each of considerable duration since they witnessed very extensive local reconstructions. (It must be remembered that the baked brick buildings must have been much more permanent than the mud brick structures of Babylonia, though floods rendered rebuilding necessary.) But with a few quite minor variations the relics, seals, pottery, figurines, and metal tools from all layers belong to the very same mature and specialized types described above.

On the other hand at Amri in Lower Sindh, Dr. Majumdar reached, below the layers containing classical Indus pottery and seals, strata yielding at least sherds of a quite different type. The peculiar Amri pottery is, like later wares, pinkish in colour, but the designs are applied directly to this pale ground or to a still paler pinkish buff or cream slip. And two colours are normally employed—a warm, often purplish, black and a deep plum red often identical in tint with that preferred at Jemdet Nasr in Akkad. The red is employed chiefly for filling-in black-bordered bands, but sometimes for single lines generally parallel to black lines. Solid figures are usually represented by hatching, but sometimes blocked in in black, very rarely in red. The designs tend to be arranged in metopes. Chequer-patterns, serial triangles, double-axes, and lozenges are popular.

The chequer is after all a repetition motive, and on a few sherds we have intersecting circle figures definitely foreshadowing the classical Indus system of decoration. Amri ware may well prove to be in the direct line of ascent to the decorated pottery of Mohenjo-daro and Harappa. On the other hand in technique, in the use of polychromy, and in several of its motives Amri ware approximates to that encountered at Jemdet Nasr in Babylonia.

Finally, a row of sigma figures on one sherd points back to the al'Ubaid pottery of the West.

Thus the discoveries at Amri to some extent confirm our expectations. Going backwards from the third millennium, the civilizations of India and Babylonia do tend to converge as they should if both were differentiated from a common stock. But for determining the cradle of such a stock or defining its character the data are still inadequate. It will be recalled that the Uruk period introduced new and possibly exotic cultural elements into Sumer. Even the Jemdet Nasr culture was not unambiguously a native creation. If the kinship between Amri and Jemdet Nasr be established, it will not necessarily mean influence *from* the latter, and its Semitic connections may have to be discounted. But in any case further analysis of Indo-Sumerian relations will only be possible when the intervening region, from which both countries might have been influenced and indeed populated, has been explored. That exploration is still in its infancy, but a summary of what has been achieved may now be attempted.

NOTES TO CHAPTER VIII

[1] Marshall, Mackay, and others, *Mohenjo-daro and the Indus Civilization*, give the only complete account of the Indus civilization and the following is based on this work. By the courtesy of the Archæological Survey of India, I have had an opportunity of seeing the sites and much unpublished material.

[2] Probably the extra rainfall was due rather to greater precipitation from the monsoon than to an extension of the Atlantic cyclone as I once suggested.

[3] Preliminary account only, *Report Arch. Survey India*, 1923-4, pp. 52-5.

[4] *Report Arch. Surv. India*, 1927-8, pp. 73-6; 1928-9, pl. xxviii.

[5] *Ibid.*, pp. 87 ff.; models of saddles are figured here.

[6] A clay model of a hafted axe has recently been found at Mohenjo-daro; the blade is painted black and the paint runs right round the shaft as if the tool had possessed a shaft-hole. In very late layers at Mohenjo-daro,

Dr. Mackay found an axe-adze of bronze, paralleled from Hissar III in North-East Persia; *Rep. Arch. Surv.*, 1927-8, p. 76.

[7] Mackay, *JRAI.*, lx, pp. 131-4.

[8] Recently discussed by Hunter, *JRAS.*, 1932, pp. 466 ff.

[9] On the technique see Mackay, *JRAS.*, 1925, p. 698; *Man*, xxxiii, 150, and Beck, *Ant. J.*, xiii, pp. 384. ff. Beck believes such etched beads were manufactured at Ur.

[10] *Antiquity*, v, p. 459.

[11] *Ant. J.*, ix, p. 26.

[12] As shown by Sana VIIa's analysis, *Mem. Arch. Surv. India*, 1928-9, p. 153.

CHAPTER IX

IRAN AND SYRIA

BETWEEN INDIA and Sumer rises the high but much dissected tableland of Iran that extends north of Babylonia to merge in the Armenian massif. Between the latter and Mesopotamia intervene the piedmont and steppe zones of Assyria and Syria. These regions are anything but homogeneous, but all present the same significant contrasts to the Indus valley, Babylonia or Egypt.

They boast in the first place no one extensive tract unified economically by dependence on a single river system. In Syria, Assyria, and parts of northern Persia indeed the rainfall is still sufficient for the cultivation of cereal crops without irrigation and to provide abundant pastures; migratory garden culture is accordingly possible. Actually the cultivation of vines and fruit-trees very early bound man to the soil. In a general way sedentary life is only possible in alluvial valleys and terminal oases. But these constitute discrete patches and narrow belts often separated by rugged mountains or parched deserts. Even within a single valley the tracts of fertile alluvium are separated by precipitous gorges.

Each little oasis or basin thus becomes a small economic unit, free to develop on its own lines. No compelling logic demanded political or even cultural unification on a grand scale such as was inevitable in Egypt, Babylonia, or India.

Secondly, these small units do not as a rule suffer from that extreme penury in vital primary materials that was such a salutary stimulus to Egypt and Sumer. From the small alluvial basins, mountains may easily be reached which will supply serviceable stone. Obsidian was obtainable from the volcanic ranges overlooking Assyria. At least in Elam, Assyria, and Syria the mountains were well wooded in early historical times. They often contain ore, as in Elam or Baluchistan. Bare life at least was thus perfectly possible without the laborious organization of a commercial and industrial urban economy. Actually, the growth of large historical States, even the development of city life, was slow in these regions. Assyria and Elam only begin to write their own histories towards the end of the third millennium B.C.; Armenia and Persia a thousand years or more later; Baluchistan has

“never been more than a barbarous dependency of some historical State broken up into parochial tribal units”. The whole “intermediate region” bristles with little tells. Their small area and large number brand them as the ruins of villages or townships rather than of metropolitan cities; their elevation bears witness to many centuries of unstoried occupation.

Potential independence must not, however, be confused with isolation. To-day there is a considerable seasonal shift of the population throughout this area; even settled farmers tend to drive their flocks and herds up to hill pastures in summer. And outside the agricultural communities roam purely pastoral tribes who periodically move from the high desert to the flood lands or from the hills to the valleys. This picture might well apply also to antiquity, though if we went back far enough the seasonal transfer (transhumance) of flocks would have to be replaced by the pursuit of wild animals migrating in obedience to the same necessities. The normal range of seasonal movement is doubtless restricted within traditional boundaries; it is none the less wide enough to bring neighbouring groups into contact. Intercourse may thus be established over considerable areas and opportunities afforded for the percolation of objects and ideas from people to people. Moreover drought, to which the whole area is liable, may at any moment drive its victims beyond the prescribed boundaries into less affected territories. Finally, the possession of ore, timber or stone exposed the inhabitants of the favoured region to visits from emissaries of the higher civilizations as explained on p. [183](#).

In parts of this intermediate country it has recently become possible to trace processes of cultural development parallel to those observed in Sumer or to find backward analogues of the Indus civilization which with the archaism of provincial regions may preserve elements from its earlier phases. In Elam and Assyria, as compared with Sumer, we start with a rather similar substratum and observe it developing along divergent lines. But the process is continuously being counteracted by the influence of the more precocious culture of the plains so that convergence almost balances divergence. Baluchistan provides less positive evidence which has in general to be interpreted in the light of experience gained further west.

Elam—or more strictly Susiana—was in early historical times a small alluvial plain fronting on the Persian Gulf and watered by the Kerkha and Karun but divided from Sumer by the southern spurs of the Zagros. Throughout history this country was continuously in contact with Babylonia, sometimes imposing its domination on the larger valley, at other times invaded or subjugated by Akkadian or Sumerian dynasts. Contact equally intimate but not necessarily always so hostile had admittedly been

established long before the rise of the Dynasty of Agade. By the time of Sargon in any case the land was inhabited by Elamites speaking the Anzanite language assigned by Speiser to the Japhetic group. At least the kings of Elam defeated by Sargon had good Anzanite names. Even before his date we have written documents which, being undecipherable, were probably drawn up already in the Anzanite tongue.^[1]

In 1891 the French Mission under J. de Morgan began the excavation of the capital, Susa. And here they at once reached archaic and prehistoric levels^[2] hitherto unsounded in Babylonia itself. Right down to 1928 the cultural sequence, believed to be established by de Morgan's deep diggings in the acropolis mound, provided the only standard to which the isolated prehistoric remains turning up in Mesopotamia could be referred. It was then quite natural that Campbell Thompson on finding painted pottery at Eridu should compare it to that already known from the lowest strata at Susa and call its makers Elamites. Equally naturally Langdon and Jordan, finding at Susa parallels to the seals they discovered in the hitherto unsuspected Jemdet Nasr and Uruk layers of Mesopotamia, spoke of an "Elamite glyptic". But such phrases have left an impression of the seniority of Susian culture that may well be deceptive. Preconceptions suggested by the accidental order of discoveries must be eliminated before the latter can be justly appreciated.



FIG. 81.—Flint arrow-heads, Susa I.

Susa stands on a low gravelly spur just above the alluvial plain of the Kerkha.^[2] The first settlement there was perhaps defended by a wall of stamped mud. Outside this lay an extensive cemetery estimated to have comprised over 2,000 graves. From these come the majority of the documents illustrative of the oldest culture of Elam which must now be called Susa Ia. The dead were buried individually, sometimes flexed, sometimes extended, as in the al'Ubaid phase of Sumer. More often,^[3] however, the burial was secondary; the bones were only interred after the

flesh had decayed, probably that is, after exposure, and the skeleton is often incomplete. This rite was characteristic of Elam in subsequent periods also; the previous exposure of the corpse may be the origin of Zoroastrian and Parsi usage which has only dispensed with the subsequent interment.

The grave goods^[2] reveal these earliest Susians as farmers possessed of no mean culture. In addition to cereals they grew flax, which they wove very skilfully. Metallurgy, pot-making, the manufacture of fayence, and stone cutting were already practised. Trade was sufficiently organized to secure obsidian and lapis lazuli. Hunting was still important. The sling was the most popular weapon, but arrows tipped with leaf-shaped, and perhaps also barbed, points of flint or obsidian and clubs weighted with stone heads, pear-shaped and sometimes knobbed, or more rarely pointed-oval like [Fig. 82](#), were also employed.



FIG. 82.—Pointed stone mace head, Susa I.

Small axe-heads of ground stone were made as at al'Ubaid but had to compete with flat copper axe-heads or celts with splayed blades. The shaft-hole axe is not attested in any material. Yet copper was intelligently and freely worked. In addition to axe-heads the graves contained narrow chisels, needles with an eyelet, and even mirrors attaining a diameter of 19 cm.

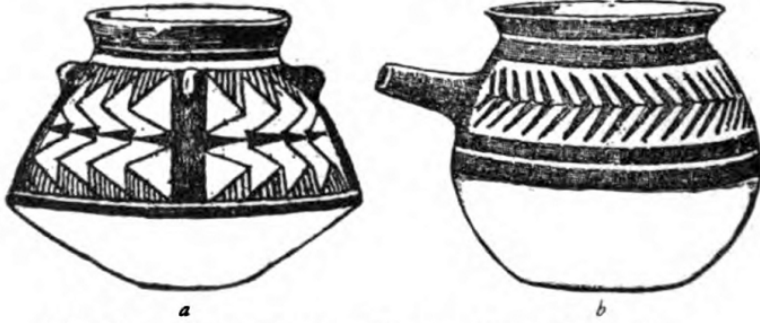


FIG. 83.—Carinated pot and spouted jug, $\frac{1}{3}$, Susa I.

The funerary vases^[4] are often excessively thin and fragile but technically allied to al'Ubaid wares. The principal shapes are (1) wide open bowls ([Pl. XXV](#)), (2) tall tumblers ([Pl. XXVI](#)), (3) ovoid jars with low everted necks, and (4) squat carinated pots with lugs on the shoulder ([Fig. 83a](#)), rarely also spouted pots ([Fig. 83b](#)), and shallow goblets on a hollow foot. It should be noted that both the bowls and tumblers are normally given stability by an incipient ring base (as at al'Ubaid), a genuinely ceramic device implying a long practice in the potter's craft.

PLATE XXV



Louvre

BOWLS (INTERIOR) FROM CEMETERY OF SUSA I



FIG. 84.—Sherds from Susa I, depicting human figures.

The vases are decorated with splendid designs executed in a warm black paint, applied as a rule directly to the clay without the intervention of a slip. The patterns, which are undoubtedly “magical” in content, are a blend of geometric motives or symbols—swastikas, even-armed crosses, Maltese squares ([Pl. XXV](#), 2), step patterns, serial triangles, double-axes—and representations—birds, bulls, ibex, mountain goats, dogs, perhaps a horse, more rarely men ([Fig. 84](#)), quivers, and a lance. But the natural objects represented are so stylized as to become pure decorative designs. Frankfort terms this treatment “abstract” and regards it as indicative of the abstract mentality of the artist. But W. Bremer^[5] has recently shown in detail that the precise form of the stylization has been conditioned by basket-work while many of the vase forms might also be regarded as copying baskets (as at al’Ubad). In other words the Susian potter is copying basketry models, and the peculiar shapes he gives to animals are due to the exigencies of plaiting straw. The modern ethnographic parallels on which Bremer relies are significantly taken from the arid regions of the south-western States which climatically approximate to Elam. At the same time the birds and animals as well as the geometric symbols are the forerunners of divine or magic signs later engraved upon seals and sometimes eventually converted into elements of writing. Stone vessels are represented by a square vase said to come from the cemetery ([Fig. 85](#)) and many little paint-pots termed in French *à cornet* ([Fig. 86](#))—a form also manufactured in bitumen.

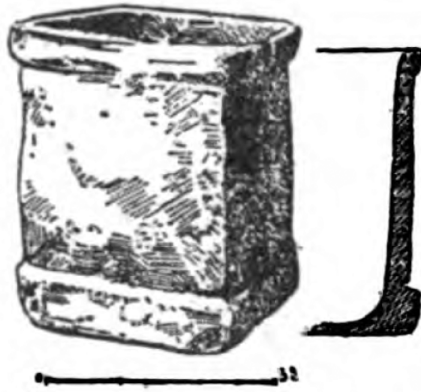
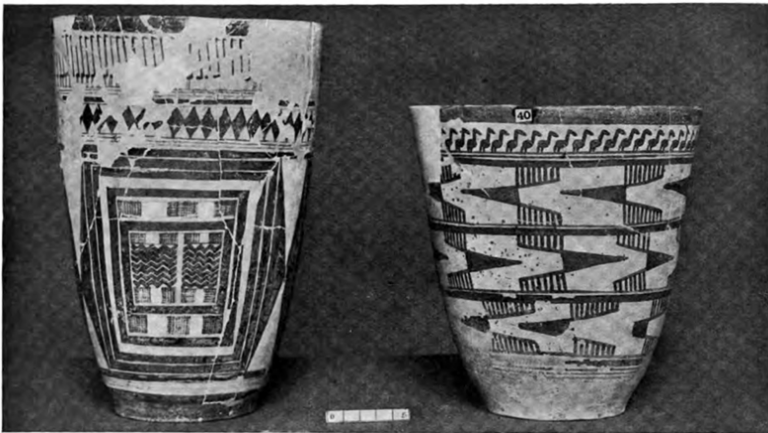


FIG. 85.—Square vase of alabaster, Susa I, after de Morgan.

Ornaments include strings of beads of carnelian, shell, limestone, lapis lazuli, and fayence held together by spacers of the last named material, shell finger-rings, and limestone nose-plugs like the little nails from Eridu and al'Ubaid. A single hemispherical bead from the cemetery, perforated with a string-hole parallel to the flat face, has been engraved. It is in fact a "bead-seal", perhaps the earliest "seal" known ([Fig. 87](#)). Finally, a clay figurine ([Fig. 88](#)) may represent the mother-goddess of this early community.

PLATE XXVI



Louvre

TUMBLERS FROM CEMETERY OF SUSA I

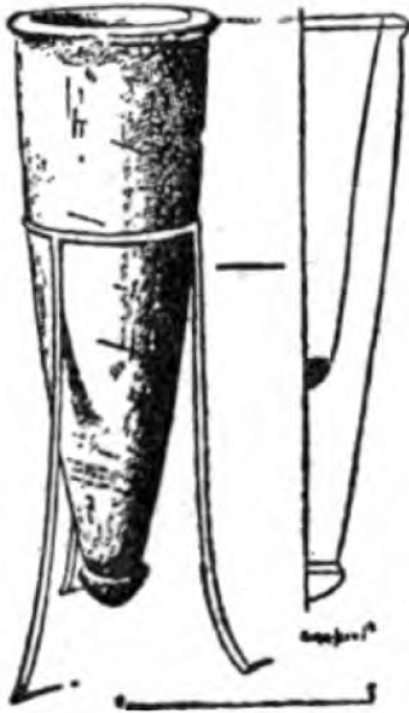


FIG. 86.—Stone receptacle for paint in the form of a cornet after de Morgan.

The Susa *Ia* culture is closely allied to that of al'Ubaid, with which it agrees not only in general economy, but also in specific details such as the use of obsidian, the pear-shaped mace-head and the spouted and carinated pots of [Fig. 83](#). Obvious contrasts are provided by the burial rites, axe-forms, and vase decoration. The last named difference might be explicable in chronological terms; a further stylization of the animals and objects represented on the Susa vases might eventually leave just the geometric patterns which predominate at al'Ubaid. Frankfort has adopted that view and regards the culture represented at Susa I as standing in a parental relation to that of al'Ubaid. Theoretically, however, the process might be reversed: the representations would grow out of the geometric symbols as is suggested by a dish from Samarra described on p. [253](#).

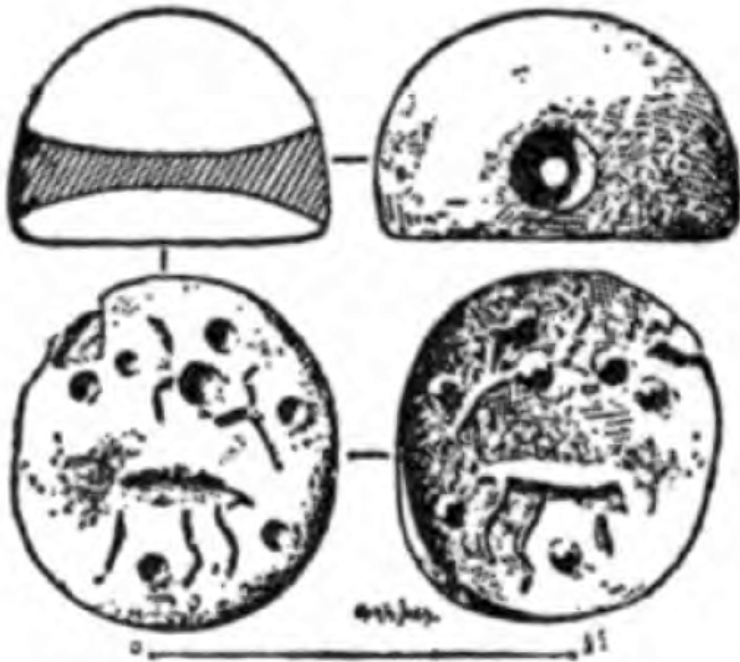


FIG. 87.—Bead seal, necropolis of Susa I.

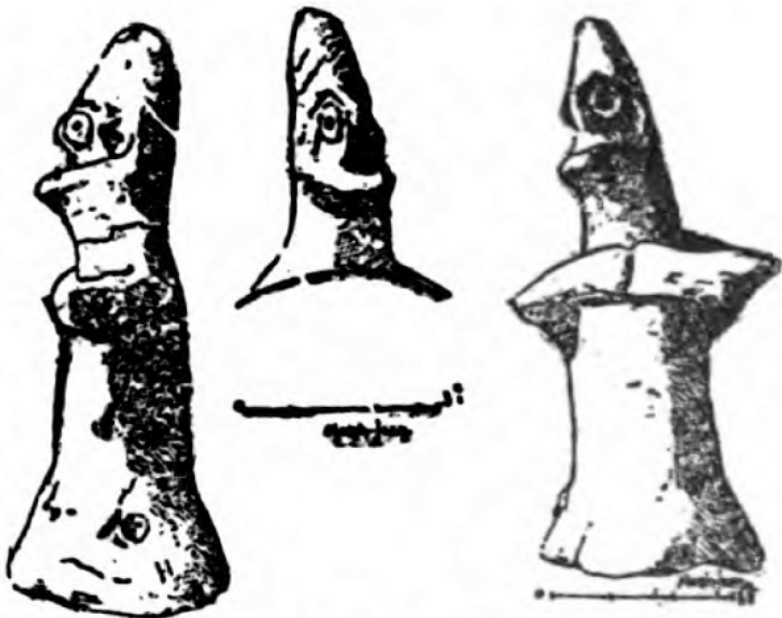


FIG. 88.—Clay figurine, Susa I.

In reality patterns that seem to result from the conventionalization of Susa Ia designs are actually found on vases at Susa itself and at several mounds round the provincial centre of Musyan,^[6] west of Susa. At Tepe Djafferabad sherds painted in this style, termed style Ib, are stated^[7] explicitly to overlie disturbed graves of phase Ia, but many sherds from Musyan seem to belong to a totally different tradition (that of Tell Halaf) or to the same late epoch as Nineveh V as we shall see later. In the town of Susa itself sherds, painted presumably in the Ib style, are said to be mixed with bright red burnished ware.^[8] Even in the necropolis one grave contained vases of normal form and decoration but made of reddish clay and covered before painting with a red slip. These wares seem to foreshadow the Elamite counterparts of the Uruk wares of Sumer.



FIG. 89.—Pottery of Uruk style from Susa Ic, $\frac{3}{20}$ (after Mem. Dél. Perse).

At Susa the Uruk period seems to be represented by what may here be termed layers Ic and Id (niveaux III et II).^{[9][10]} These serve to fill up the period of desertion once postulated to account for a barren stratum 11 m. deep encountered in the earlier excavations; the barren stratum turns out to be the filling of an artificial platform.

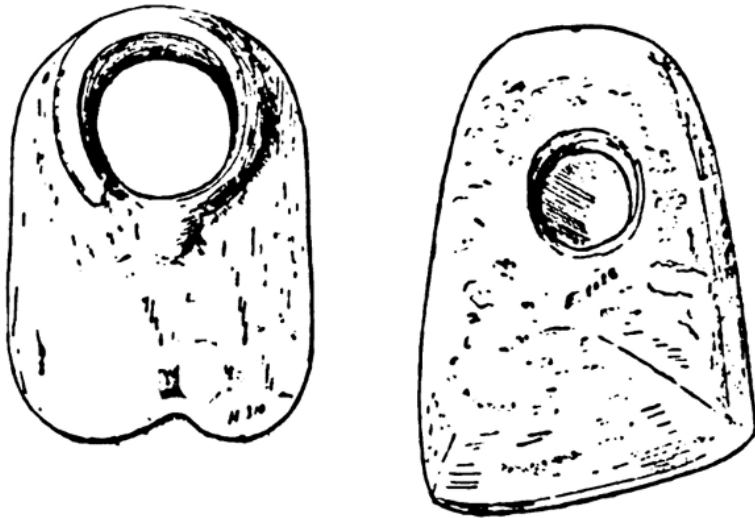


FIG. 90.—Transverse axes of copper and stone, Susa Ic, $\frac{1}{2}$.

The earlier phase is characterized by red-slipped vases described as “first experiments in wheel work” and including spouted jars ([Fig. 89](#), 2-3), beaked ewers ([Fig. 89](#), 8), jugs and mugs with handles ([Fig. 89](#), 11-13), and dishes with a mushroom-like knob handle rising from the base on the inside (probably like [Fig. 62](#)). Pots are no longer painted, but some of the old symbols recur on seals which now begin to become common. They are made of stone or bitumen and belong to the button type like [Fig. 93](#). Other symbols and representations that are now purely geometric were scratched on bone implements; one design represents a man mounted on a horse (or possibly an ass), the earliest direct evidence for riding. A few rough stone vases were now manufactured, and the copper-smith can apparently cast a socket; the transverse axe or hoe of [Fig. 90a](#) and a stone copy of the same form ([Fig. 90b](#)) are assigned to this level by the French excavators. If they really belong here, they attest an advanced metallurgical technique for the Uruk period and the creation at this early date of what seems the most distinctive type of Sumerian metallurgy. In any case the parallelism and indeed connection between the Ic culture of Susa and the Uruk phase in Babylonia seems to be established conclusively by the pottery.

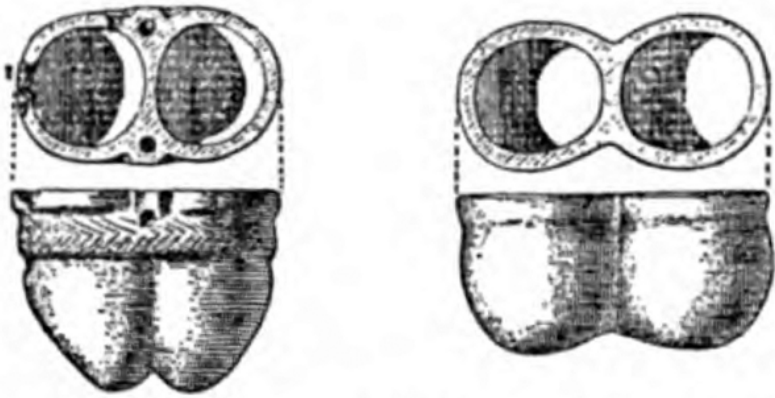


FIG. 92.—Twin vases of alabaster from Susa *Id*, $\frac{1}{4}$.

The same series of designs, somewhat more advanced, appear on the seals from the next levels termed Susa II. But some are now rolled or stamped on inscribed documents.^[1] The script of the latter resembles in many respects the oldest Sumerian as represented on the Jemdet Nasr tablets. But it is not the same and the numeral system is exclusively decimal, never sexagesimal as in Sumer. The semi-pictographic script has not yet been deciphered, but the language is believed to be already Anzanite, the Japhetic speech of Elam. Hence we are now dealing with an Elamite culture as contrasted with the Sumerian civilization of the Babylonian valley.

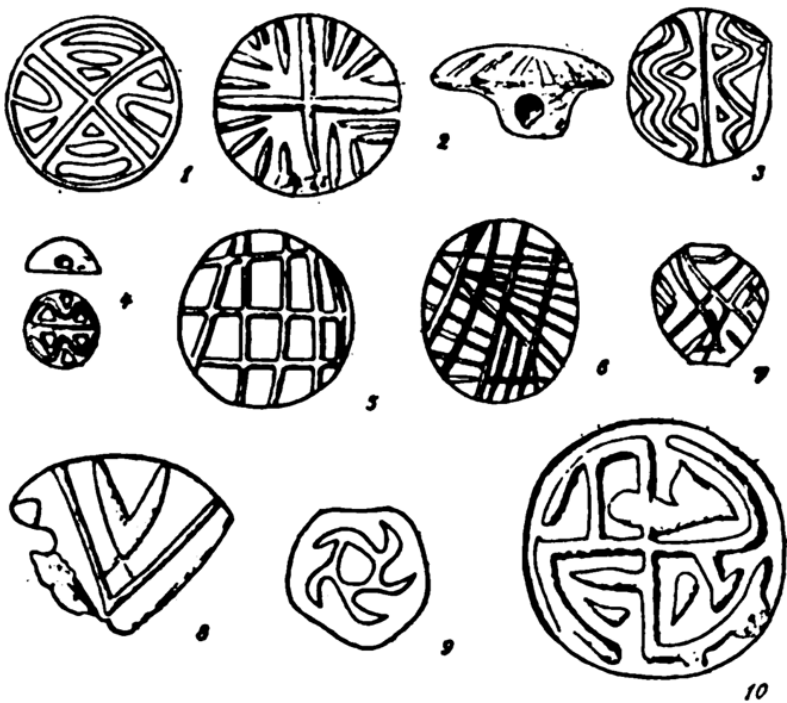


FIG. 93.—Button seals, Susa Id, $\frac{1}{4}$.

Yet only in the funerary rites and the pottery is the distinction between Elamite and Sumerian at all clear. The Elamites were now normally interred only after the flesh had decayed from the bones—a practice already noted in the Susa Ia cemetery and subsequently maintained in historical Elam. The bones might be deposited in the bare earth or protected by clay sarcophagi. Sometimes, however, they were preserved in brick vaults as also at Musyan ([Fig. 95](#)). One tomb at the latter site contained the remains of two skeletons; the excavators also speak of partial cremation, perhaps comparable to the rite reported by Woolley from Ur. The vaulted tombs, the multiple interments, and the partial cremations might result from Babylonian influence.

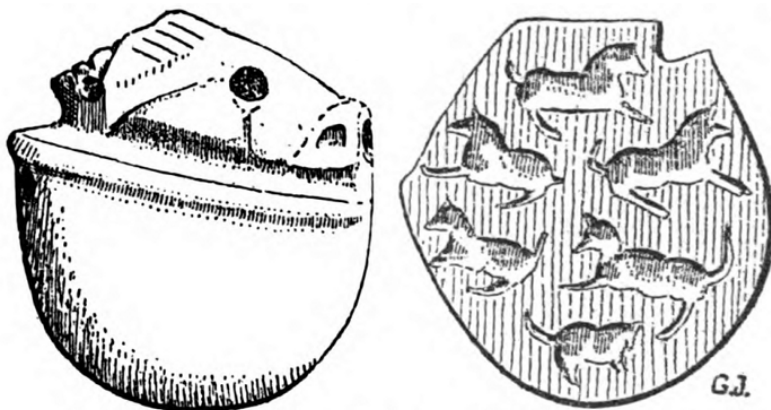


FIG. 94.—Theriomorphic seal or weight, Susa Id or II, $\frac{1}{1}$.

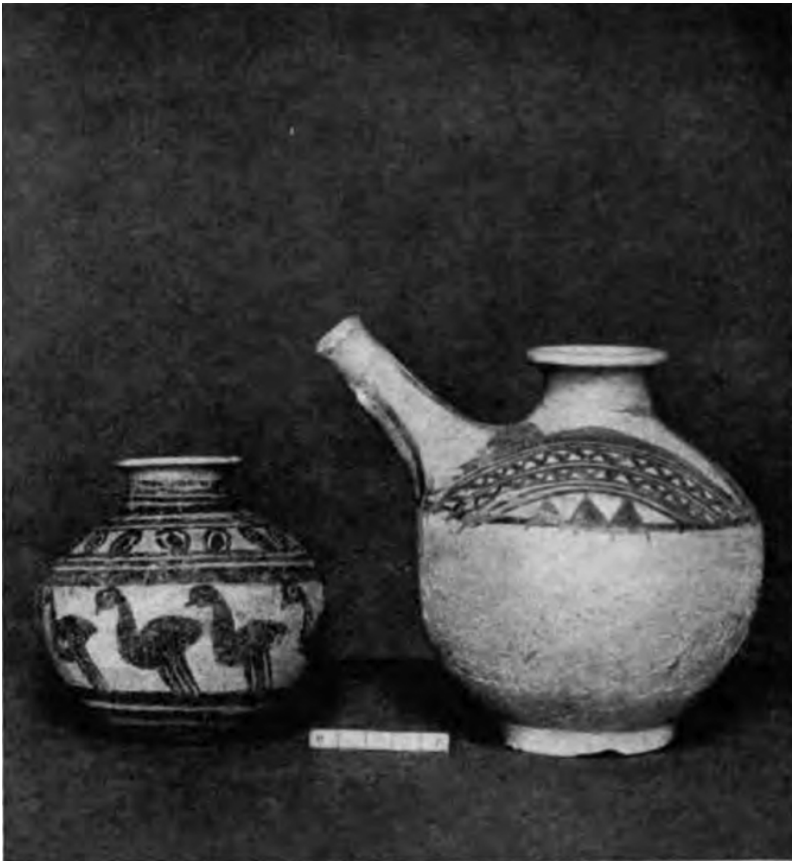
PLATE XXVII

VASES FROM SUSA II

Louvre



a



b

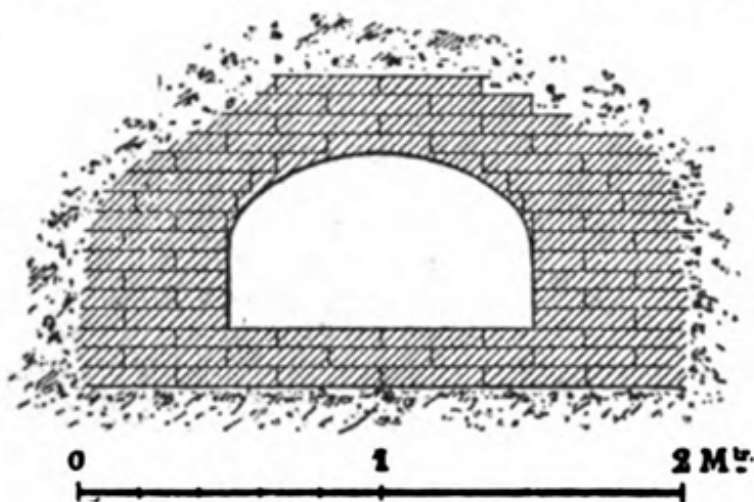


FIG. 95.—Brick tombs from the necropolis of Tepeh Aly Abad near Musyan.

The pottery^[4] from the tombs (including cemeteries round Musyan)^[6] and the town of Susa II is wheel-made but otherwise different from the Sumerian. Spouted jars are comparatively rare; no high pedestalled bowls are reported, though the hollow supports occur. The most distinctive shapes are the large store jars ([Fig. 96](#)), and little globular pots ([Pl. XXVII](#), 2), or short-necked flasks ([Pl. XXVII](#), 3). The vases are generally painted with designs in dull black on a yellowish slip; red is sometimes used as a secondary colour. The patterns tend to be arranged in zones tectonically to emphasize the parts of the vessels, and the zones are divided into metopes or panels. Many of the motives are geometric—semi-circles ([Fig. 97](#)), wavy lines, guilloches as well as triangles and double-axes such as recur at Jemdet Nasr. But these are combined with subjects taken from nature—rows of birds, the spread eagle grasping its prey, wild goats and other mountain animals, and once at least an Indian humped bull.^[10]

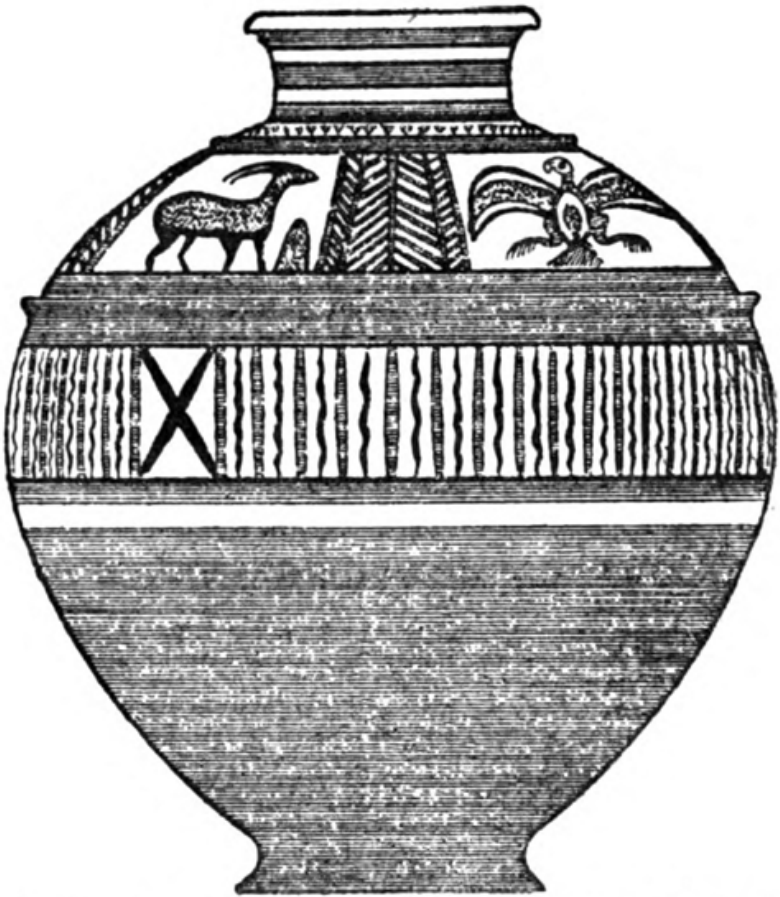


FIG. 96.—Stone jar painted in red and black from Tepeh Aly Abad, $\frac{1}{4}$.



FIG. 97.—Store jar painted in red and black from Tepeh Aly Abad, near Musyan, $\frac{1}{8}$.

The animal themes, though generally rather crudely and conventionally rendered, are not treated in such a deliberately abstract manner as in Susa Ia. The naturalism of the Second Style played a leading part in the controversy^[12] that raged a few years back as to the relation of “Susa I” to “Susa II”. It is now evident that Dr. Frankfort was then right in denying a continuity in the ceramic tradition; Susa Ia is separated from Susa II by layers Ic and Id with their unpainted red pottery of Uruk affinities. Links between the vase-painting of the two series must be sought outside Susiana in some part of the Iranian plateau less affected by “Uruk” influence. But at Susa itself the glyptic of the intervening layers may establish a continuity of artistic tradition and religious symbolism.

For the rest the material culture of Susa II is very like that of Early Dynastic Sumer but poorer and more archaistic. Many distinctive Sumerian

metal types recur in the ruins of Susa and in the cemeteries round Musyan. We have shaft-hole axes with cast or folded sockets, a transverse axe, forked arrow-butts, toggle pins, and pins with lapis lazuli beads for heads ([Fig. 98](#)). Even in the glyptic we find an approximation to the Sumerian style. Side by side with stamp seals and cylinders engraved with motives described under Susa Id we have representations of men and animals in combat such as were coming into vogue under the First Dynasty of Ur. The parallelism between Elam and Sumer in metal types and glyptic provides a clue to the absolute chronology of Susa II where native history is still lacking.



FIG. 98.—Copper pin, celt, needle, tubes, ring, spear-head, arrow-heads, arrow-butt and axe, cemeteries round Musyan, $\frac{1}{6}$.

In the town was found a hoard of weapons, metal vessels, and seals contained in a large store jar like [Pl. XXVII](#), 1. It comprised axes and transverse axes, one of the former with the shaft-hole formed by folding as in the later graves at Ur and Kish, and a strainer like that from Queen Shubad's tomb, as well as a spouted ewer of copper plainly derived from the form shown in [Fig. 89](#), 8. The six cylinders^[13] included one with geometric patterns in pure Elamite style and others representing men and animals which, if not imports, at least copy Sumerian products of the pre-Sargonic period. Accordingly Susa II, like the Early Dynastic period of Sumer falls within the first half of the third millennium B.C., if perhaps more in the

second than the first quarter. Despite similarities in the polychrome painting and geometric motives on the vases, Susa II is surely later than Jemdet Nasr. The latter might reasonably be equated with Susa Id when Ic would correspond happily with the Uruk period or at least its later phases.

If the foregoing equations be correct, cultural progress would have been slower in Elam than in Sumer and the parallels between Susa and Erech or Ur would have been due to influences from the more progressive region. At least in Susa II this is certain; the seals from the hoard are influenced by Sumer, in no sense prototypes of Sumerian styles. The same relations culturally were maintained in later periods. The Babylonian cuneiform eventually replaced the native Elamite script which had never grown out of a semi-pictographic form comparable to the Sumerian script of Jemdet Nasr. For a time indeed under subjection to the Third Dynasty of Ur even the long-established Elamite rite of secondary burial was abandoned in favour of the direct inhumation practised by the conquerors.

In the light of these historical facts it is rash to treat Elam as anything but a cultural backwater or to seek there the origin of higher cultural elements appearing in Babylonia. But of course in very early times roles may have been reversed. The powerful influence exerted on Elam by Babylonia makes it difficult also to identify precisely what is native at Susa or to distinguish Elamites from Sumerians by archaeological criteria. If Susa was Elamite from the first, then only burial rites and the method of hafting the axe would distinguish proto-Elamites from proto-Sumerians. If, on the other hand, the Elamites introduced the Second Style, what name is to be given to their precursors to whom they were so deeply indebted but who culturally resembled the Sumerians so closely?

In conclusion, it should be noted that in the period of Susa II, Elam was in contact with India as was Mesopotamia. An Indus seal has been found at Susa. The hoard contained a glazed pot^[13] that might be Indian, and a humped bull represented on a vase is certainly due to Indian influence. In revenge a fragmentary stone vase from Mohenjo-daro has an exact counterpart from Susa II.^[14]

To the north of Babylonia a belt of relatively well-watered steppe, skirting the foot of the Kurdish mountains, extends from the Tigris to the coastal ranges of Syria-Palestine. This steppe thus forms the centre of what Breasted calls the Fertile Crescent, the horns of which are Egypt and Babylonia respectively. It is a key region as constituting a natural link between Mesopotamia and the Nile valley, but its exploration is only just being begun. The whole steppe is indeed studded with little tells marking the

sites of ancient villages or townships. A few of those in Assyria—the triangle of plain between the Zab, the Tigris, and the plateau—have been excavated since 1930 and reveal a cultural sequence which exhibits interesting agreements with and divergences from that just described in Elam. The fullest record is so far provided by a shaft sunk by Mallowan beneath the foundations of Ishtar's temple at Nineveh.^[15] But the sequence at other sites—Arpachiyah, close by, Tepe Gawra^[18] near Khorsabad some 15 miles to the north, and Tell Billa^[20] a few miles east of Gawra—does not in all respects agree with that disclosed at Nineveh and suggests that Assyria long remained a frontier region between two or more distinct provinces.

Mallowan's test-pit descended 70 feet beneath the floor level of a temple founded by Manishtusu (of the dynasty of Agade) about 2450 B.C.,^[16] so that a formidable antiquity must be assigned to the remains found at its bottom. These were derived from a village situated on a low ridge only a few feet above the general level of the Tigris plain. Few relics were obtained beyond sherds of hand-made pottery, a few black, most pale rarely painted, but frequently decorated with simple incised and punctured patterns. This phase, probably of short duration and termed Ninevite I, was succeeded in Mallowan's section by a deep deposit, denoting prolonged occupation and divisible with the aid of the pottery into three sub-phases Ninevite IIa, IIb, and IIc. The ruined villages constituting the deposit consisted of poor mud-brick hovels. But their inhabitants were undoubtedly cultivators and employed knives and other instruments of chert and obsidian and axes of ground stone. The ruins of phase (a) yielded an incised pottery, comparable to that of Ninevite I save that the designs are more elaborate, together with painted wares decorated with simple designs in black or brownish red on the unslipped clay and other sherds combining incision and painting. A small obsidian nail may belong to the same phase.

In Ninevite IIb the decorative tradition initiated in IIa develops into a style already familiar from the results of previous excavations in a cemetery at Samarra on the Middle Tigris. The full publication of the latter site by Herzfeld^[17] renders possible a fuller picture of the culture of Nineveh IIb. The Assyrians of this period were apparently buried extended at Samarra in brick-lined cists.

PLATE XXVIII



DISH FROM SAMARRA ½



British Museum

BEAKER FROM SAMARRA $\frac{1}{4}$

At Nineveh axe-heads of ground stone and knives of obsidian were used. The people hunted with bow and arrow (Nineveh) and the sling (Samarra), and loaded their maces with spheroid stone heads. A pin and scoop of copper, originally attributed to this cemetery by Herzfeld, are now explained as late intrusions. The pottery is obviously allied to that of Susa I and al'Ubaid. It is tempered with straw as there and sometimes fired to a greenish colour, but more often to a pink tinge. Dishes are common as at Susa, but the tumblers are replaced by bell-shaped beakers ([Pl. XIII, b](#)), and the squat pots have such long necks as to be almost flasks. Bowls on hollow feet occur, but the pedestals are always perforated; spouted vessels seem lacking.

The vases are often painted, the colour being normally applied to the bare unslipped surface. Brownish red is as common as black, but the two shades are never used together. The majority of the patterns are more patently derived from basketry than even at Susa, but symbols like the Maltese square and the swastika are conspicuous. They may be combined with animals, quaintly stylized as at Susa. Sometimes the beasts grow out of the corners of the Maltese square as if the magic symbol was coming to life, or themselves form swastikas in the centre of a dish. Beside pottery, vessels of stone occur and may begin in Ninevite I.

Trade is already attested by the importation of lapis lazuli to Samarra. Beads were made out of this material and of turquoise, carnelian, coloured limestones and shell and were threaded together to form girdles as well as necklaces. Small pendants or amulets in conventional animal forms were carved out of shell and lapis. Bone pins were stuck in the hair. Figurines were made of clay.

Assyria by this time would seem then to have possessed a culture closely allied to the oldest known in Sumer and Elam with possibly yet older forms in the background. A parallel development from this substratum might accordingly be expected here. The parallelism is, however, in fact disturbed owing to the intervention of another cultural cycle, not hitherto recognized east of Assyria, but previously known from the westerly part of the steppe, North Syria. In Ninevite IIc the Samarra style is succeeded by or mixed with a different ceramic fabric that had already become familiar from excavation by Baron Oppenheim^[19] at Tell Halaf on the Upper Khabur and accordingly termed Tell Halaf ware. What is still more disconcerting, at Arpachiyah^[21] the settlements characterized by Tell Halaf ware are succeeded by others (Arpachiyah 1-4, from top), the distinctive pottery of which resembles most closely that of the al'Ubaid phase in Sumer. In the same horizon the first shaft-hole axes appear as in Sumer, though here made of stone and in form double-axes, a type represented earlier by amulets of the Tell Halaf phase. The houses were poor hovels of mud brick and the fractional burial was the rule (as in Elam). Thus the earliest culture of Sumer appears in Assyria at a relatively late stage of the local cultural evolution.

PLATE XXIX



VASES FROM TELL HALAF, 1/7



Tell Halaf Museum, Berlin

VASE FROM TELL HALAF

The earlier settlement of Arpachiyah (6, from the top) had been a more substantial village boasting a central shrine, cobbled streets, and silos filled with grain. The rectangular houses in 6 were built of mud-brick, but in 7 such were mingled with other structures sometimes provided with substantial stone foundations. These consisted of a circular chamber (in one case 18 feet in diameter) preceded by a long rectangular room or passage. The excavator believes these chambers to have been roofed with a corbelled vault like a beehive. If this be correct, they must have borne a significant resemblance to the beehive tombs of Early Minoan Crete and the analogues thereof that extend westward to Spain and even Scotland. Unfortunately the function of the structures is still uncertain. One lay immediately beneath the centre of the mound and was surrounded by many burials.

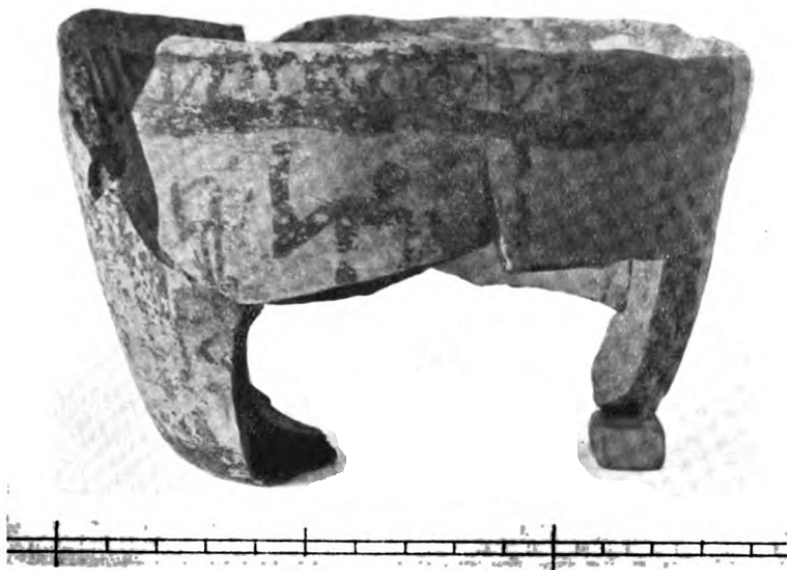
The most distinctive feature of this phase is, however, the superb painted pottery. While this was undoubtedly manufactured on the spot at Arpachiyah, it may best be illustrated by the published finds from Tell Halaf.^[19] Technically and artistically Tell Halaf ware is one of the finest hand-made fabrics of antiquity, fully comparable to the best products of the

Susa I potters. The most characteristic shapes are open dishes with a central decoration, deep bowls or craters with a funnel neck, bulging jars with a relatively long neck swelling out at the base ([Pl. XXIX](#)), and a little feeding cup with a spout but no handle. The vases are covered with a smooth cream or buff slip. Warm black and bright orange-red paints are used, often conjointly, giving polychrome patterns. On a few vases white is added over the black. The most curious feature, however, is that the paints are often shiny and that the gloss is due not to polishing but to the fusion and vitrification of silicates in the paint itself. In fact a genuine glaze paint or *firnis* was in use; it is often hard to distinguish from that employed in Greece in Mycenæan times.

The designs are arranged in zones, usually wide enough to cover any continuous surface on the vase and interrupted only at the frontier between the vessel's parts. Within the zones the composition is generally metopic. Many patterns are geometric and could easily be reproduced in basketry. Such include, besides chequers, lozenges, serial triangles, and double-axes ([Pl. XXIX](#)), also Maltese crosses, dotted circles, wheel patterns, intersecting circles and semicircles (scale patterns), stars, and rosettes. The swastika is not represented, the Maltese square only once. The chequers and scale patterns are of course repetition motives, but they are not used so continuously or over so wide a field as in India; the rosettes, though superficially resembling Indian examples, are not constructed as there from intersecting circles. Representations from nature—birds and animals, and once perhaps a man and a chariot ([Pl. XXX](#)) also occur. The living creatures are deliberately stylized, yet the motive of a deer looking over its shoulder, later so popular in Asia Minor, already occurs. A very common device is a stylized bucranium (bull's head seen full face). Close parallels occur at Musyan in Elam, but in North Syria the device lives on, little changed, as the symbol of the "Hittite" god Teshub.^[19]

PLATE XXX

TELL HALAF VASE WITH CHARIOT SCENE



a



b

In addition to painted ware a few vases of monochrome black or red ware were found at Tell Halaf; they are said to be older than the painted. Most are dark faced, some burnished black, a very few pinkish with a red wash. Some vases of the dark ware are provided with lug-handles, while bowls may stand on a low pedestal.

The primitive dark ware might be compared on the one hand to the Merimidian of Egypt, on the other to the monochrome wares of Nineveh III or Uruk. The painted pottery, however, suffices to characterize a perfectly distinct and individualized cultural complex.

To the same context may probably be assigned the use of wheeled vehicles—the vase from Tell Halaf would be the earliest known representation of such if its age is correctly assessed on the basis of the Ninevite stratigraphy. Tell Halaf and Arpachiyah alike attest great skill in the working of obsidian, which was probably obtainable from the volcanic mountains of the vicinity. The natural glass was not only flaked into fine knives and scrapers (arrow-heads are absent from Tell Halaf), but was even perforated for beads and ground down to form vases. On the other hand no metal was found at Tell Halaf. Axe-heads were made of ground stone, bevelled as at al'Ubaid. Figurines of men and animals were modelled in clay or carved in stone. A quadruped from Arpachiyah has a hollow vessel on its back and is thus related to the theriomorphic vases of Egypt and the Aegean on the one hand and of Ur and Susa on the other.

Some flat soapstone beads from Arpachiyah had been engraved with simple linear patterns, and the imprints of such have been found as if the beads had been used as seals. Cowrie shells were worn as fertility charms, and amulets in the form of doves, double-axes, and other objects were carved out of stone. The magico-religious symbolism of the double-axe is thus fully attested; in the hands of the god Teshub it survives into historical times in North Syria just like the bucranium. It may rank together with amulets and perhaps stamp seals among the Syrian elements introduced into Egypt in protodynastic or even Gerzean times.

Mallowan's excavations in Assyria have thus enabled us to define and assign to its relative place in the culture-sequence of the Ancient East a profoundly important cultural complex, previously known only from peripheral or haphazard finds. At the moment its range both in time and space is ill-defined. The typical pottery is known to extend continuously from Carchemish and Sakjegeuzi near the elbow of the Euphrates to the Tigris and the Zab. But sherds decorated with bucrania and other typical Tell Halaf motives are found as far east as Musyan and suggest that a re-examination of the material from that region might reveal a substantial infiltration of Tell Halaf elements. Westward, vases decorated with glaze paint in the North Syrian tradition occur in Palestine and as imports in the graves of the first Pharaohs at Abydos. It can, moreover, scarcely be doubted that the technique of glaze painting as well as the cult use of the double-axe and bucrania and perhaps the idea of the beehive tomb reached Early

Minoan Crete from North Syria. The Cretan and Egyptian connections at the end of the fourth millennium presuppose a long life for the culture in some form. Even the specific variety defined by Arpachiyah and Tell Halaf must have enjoyed a substantial duration. While at Arpachiyah Tell Halaf ware apparently precedes that of Samarra, at Nineveh the relation is reversed. At Samarra itself a few imported sherds in the Tell Halaf style came to light while conversely sporadic Samarra sherds turned up at Tell Halaf. The two traditions must therefore have coexisted for some time on either side of a fluctuating frontier that ran through Assyria, while the al'Ubaid style may have been developing parallel to both farther south.

Beyond that we can only say that Tell Halaf is distinctive of a cultural province of the fourth millennium or earlier that must have made vital contributions to the fabric of civilization in the Near East.

In Assyria itself the traditions of Samarra and Tell Halaf alike were partially interrupted, after a "pluvial phase", in Ninevite III^[15] through the irruption of new ethnic elements, typified as in Sumer and Elam by the use of monochrome burnished grey or black pottery to some extent homologous with Uruk wares. Vase-painting did not entirely die out, and obsidian and flint continue to furnish the material for most implements. Yet the first copper object—a pin—and the first lapis beads belong to Ninevite III while stamp seals, engraved with finely delineated figures of animals, are assigned to a layer intermediate between II and III. In the succeeding Ninevite IV red-slipped ware like that of Uruk appears together with the earliest kiln-fired bricks and sealings stamped with animal designs like those current in the Uruk period; the potter's wheel is now unambiguously attested. The Assyrian development illustrated at Nineveh in these periods thus seems reasonably parallel to that traced at Uruk in Sumer. But there were divergences, perhaps more clearly illustrated at Tepe Gawra.^[21]

There the settlement termed Gawra VIII (reckoning from the top) must be roughly contemporary with Ninevite III or IV. The settlement was a little town the houses of which were built mainly of kiln-fired rectangular bricks (plano-convex bricks were never employed in Assyria). It must be remembered that Assyria is wet enough to make kiln-fired bricks desirable, while the rainfall itself guarantees a supply of fuel for their manufacture. The house walls were decorated with alternating recesses and buttresses as in Sumer, but there were windows in the recesses. Some houses possessed bath-rooms lined with bitumen. The house doors were preceded by porches roofed with a true arch. The township boasted several shrines, orientated by their corners as in Sumer, but lacking ziggurats. Despite the evident wealth and prosperity of the town, no copper implements were found; its

inhabitants were presumably content with obsidian tools, the material for which was available in the mountains. The absence of copper can hardly be due to poverty since gold ornaments were worn.

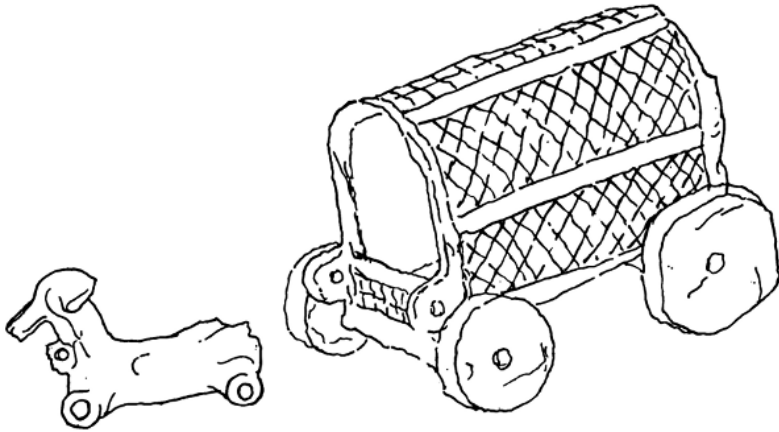


FIG. 99.—Models of animal ($\frac{2}{5}$) and covered wagon ($\frac{1}{11}$) from Tepe Gawra, after Speiser.

Models of chariots and carts ([Fig. 99](#)) illustrate wheeled vehicles not very different from those of Sumer. The glyptic art was on the other hand quite distinct. The local seals are rectangular plaques perforated longitudinally like some Elamite specimens; the men and animals engraved on them have no parallels in the south but rather in Syria and Cappadocia. Despite the similarity of the fabric to Uruk wares, the pot forms seem different. Particularly noteworthy are large jars with flanged rims (assigned to Gawra IX) since the form resembles the funerary jars from the H cemetery at Harappa. Turquoise and lapis were already used for ornaments. Judging by the skeletons of children buried in jars the inhabitants of Gawra VIII would have been mesaticephalic,^{[22][23]} but it is premature to attempt to give a name to the population.

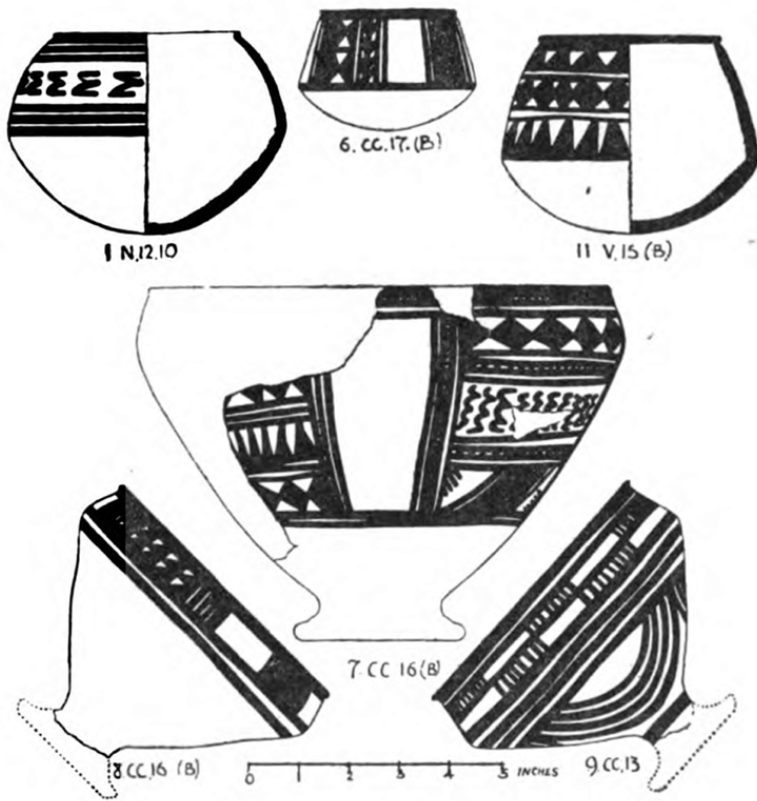


FIG. 100.—Painted cups and chalices, Nineveh V.

At a period roughly contemporary with Nineveh V the story is taken up by the earliest settlements at Tell Billa^[20] (7 and 6 from the top) as well as Gawra VIIIc and VII, though the parallelism between the several sites is nowhere exact. A break with earlier traditions is indicated at Gawra^{[23][24]} by the employment of limestone foundations two or three courses high for the brick walls of the houses, and at all sites by a revival of vase-painting. The painted pottery of the period^{[16][20]}, though made on the wheel, technically resembles al'Ubaid and Samarra ware so closely that small sherds of it might easily be mistaken for the latter. Its real analogies lie however with Susa II. The distinctive shapes are cups or bowls with a rounded base but conical above (Fig. 100) chalices on solid stems (Figs. 100-101), sometimes ribbed, and big store jars unmistakably allied to those of Susa II. Patterns in warm purplish black are applied either directly to the greenish or buff clay or over a creamy slip. As in Susa II and Jemdet Nasr, the designs are arranged tectonically and divided into panels; they are grouped in zones corresponding to the parts of the vessel and these zones are divided into

metopes. Many of the motives—double-axes, serial triangles, and lozenges recur in the so-called second style at Susa. But they are combined with representations of animals, not treated naturalistically as at Susa II, but deliberately stylized in the manner of Susa I ([Fig. 101](#)). The stylization represents the stage usually termed *Susa Ib*; exact parallels to the birds, goats, and cattle of Billa 7 and Nineveh V could be cited from Musyan.

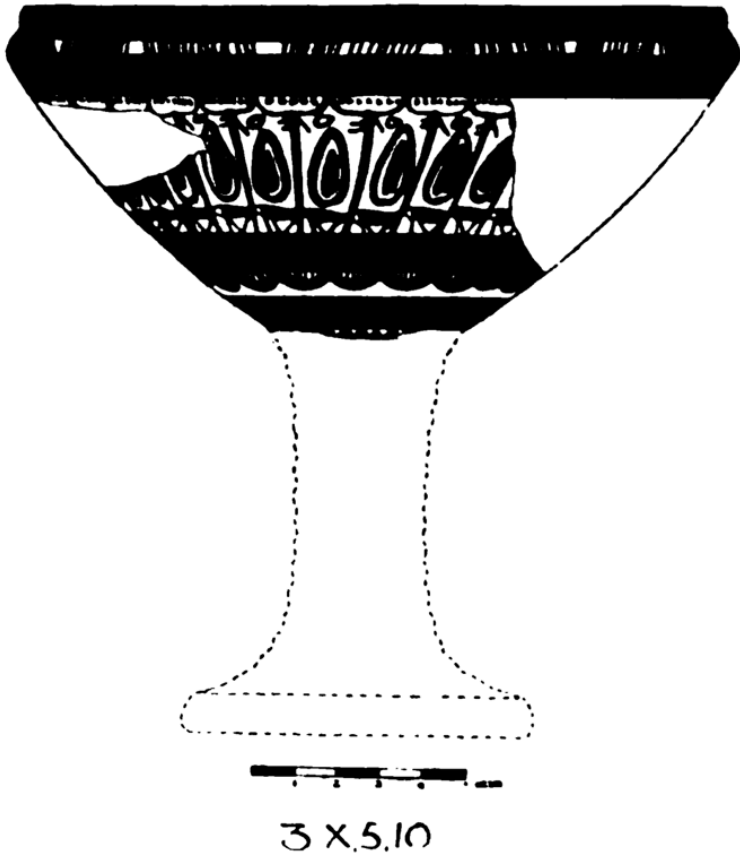
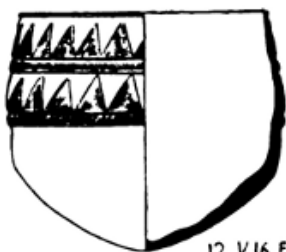


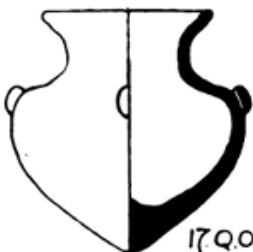
FIG. 101.—Painted chalice, Nineveh V.

A curious incised ware, pale grey or straw-coloured, alternates with the painted ware at Billa 6^[20] and Nineveh.^[16] The forms are often rather similar to those just described and there are some agreements in designs ([Fig. 102](#)). Other patterns seem to be derived from architectural subjects and closely resemble the themes carved on a small class of stone vases known from archaic levels in Elam^[14] and Sumer. Can the metopic style of the incised ware and the painted ware too be inspired by architectural devices such as are illustrated for instance in the Red Temple at Erech?

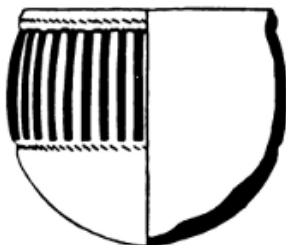
Despite the persistence locally of a tradition of vase-painting attested by the occurrence of painted sherds in Ninevite III and IV, the pottery of Ninevite V seems to attest influence from or connection with the East and in fact with the centre already postulated to explain a similar and roughly contemporary revival in Elam. On the other hand, influence from Sumer is now patent. Cylinder seals now appear in Assyria for the first time. Their designs have obvious analogies with the glyptic from the Royal Tombs at Ur. On the other hand, the treatment of the themes is not identical, but as in the case of the earlier stamp seals, often suggests comparisons with Anatolian and Syrian seals of a later date. That is by no means surprising in view of the historically attested rôle of the Assyrians as intermediaries between Babylonia and Cappadocia. The seals in question presumably represent stages in the formation of the style subsequently implanted by Assyrian merchants in Cappadocia.



12.V.16 FR



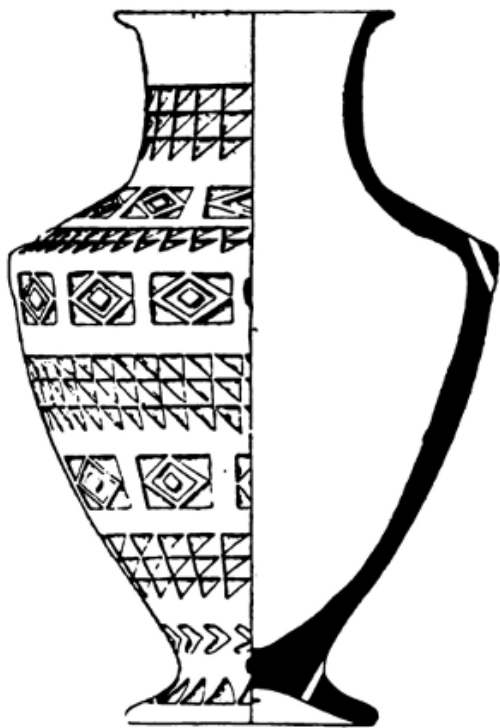
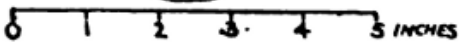
17.Q.0(B)



13.CC.7. FR



18.Q.5



5.O.8 FR

FIG. 102.—Vases of Billa ware from Nineveh V, ¼

Another indication of Southern influence is perhaps afforded by several brick tombs, roofed with true vaults, discovered at Nineveh.^[16] The tombs had been plundered so that their age is uncertain, but their construction suggests comparison with the Royal Tombs of Ur and the brick vaults of Musyan.

The traces of Sumerian influence disclosed by Nineveh V herald the end of Assyrian prehistory and, for a time, of Assyrian independence; they are but the prelude to the conquest of Sargon of Agade. That conquest was sealed when his grandson, Manishtusu founded the temple of Ishtar at Nineveh thereby at length raising the township to the economic status of a city. By the time of Gawra VI we find even the provincial town transformed by the new economy, while the contemporary settlement of Billa 5 is taken as marking the beginning of the metal age locally. The metallurgical tradition thus established in Assyria is thoroughly Sumerian; the graves of Gawra VI have yielded transverse axes, razors (or racquet pins), and roll-head pins.^[18] Though most of the types could be traced back to the age of the Royal Tombs of Ur, the nearest parallel to the axe comes from Assur E, which is post-Sargonid.

By this time the culture of Assyria, at least superficially, approximates very closely to the Babylonian. Yet the population must have been different. Apart from possible Akkadian governors, the ruling class must already have been composed of Semitic-speaking Assyrians. The mass of the population may have been, as even later, Japhetite Hurrians or Subaræans. The latter might with some confidence be identified with the vase-painters of Ninevite V, but it is impossible as yet to define the cultural elements, if any, contributed by the Semites.

As to chronology, Ninevite V need not end before 2500 B.C. the age of the earlier settlements must be guessed by reckoning backward from this date. Quasi-synchronisms between Ninevite III and the Uruk period of Sumer and between Ninevite II and al'Ubaid sound plausible. In that case Tell Halaf or Ninevite I might be older than anything yet discovered in Southern Mesopotamia.

Apparent parallelism must not however be mistaken for synchronism—a truth which may be emphasized by reference to the results of excavations at Tepe Hissar on the south-eastern slopes of the Elburz. Hissar I yielded wheel-made pottery comparable stylistically and in its forms to that of Ninevite V or Susa II. The contemporary seals of serpentine, alabaster, clay, or even frit conform to the early Elamite patterns illustrated in [Fig. 93](#). Hissar II on the contrary was characterized by grey pottery reminiscent of

the Uruk technique and spouted vessels, rather like [Fig. 89](#), 8 and 10 from Susa Ic, together with copper or poor bronze spear-heads with a looped tang and pins with double spiral heads, both types familiar in the Aegean in Early Cycladic times. Finally, Hissar III yielded beak-spouted jugs in grey pottery or silver extraordinarily like those from Early Minoan Crete, ladles, bidents, gouges and other types exactly paralleled in the Copper Age graves of the Kuban valley in South Russia, beads of frit or stone of specialized types familiar at Mohenjo-daro and in Early Dynastic graves of Sumer and an axe-adze precisely similar to one discovered recently close to the surface of the ruins at Mohenjo-daro. While in default of any datable imports the absolute age of the various settlements at Hissar is still quite indeterminable, the culture sequence can hardly be brought into line with that noted at Nineveh or Susa.

The isolated alluvial basins along the valleys that dissect the mountains of Waziristan and Baluchistan and the alluvial fans at the torrent mouths are, like Assyria, studded with small *tells*. Each basin and terminal oasis forms an independent economic unit so that the environment is favourable to local specialization and does not require political unification.

Sir Aurel Stein has recently explored a number of mounds in this quarter. They turn out, as might be expected, to be the ruins of barbaric villages or sometimes townships. The mound of Dabar-kot in the Tal valley^[25] covers a superficial area of nearly 250,000 square yards and rises 113 feet above the plain; Mehi in the Mashkai valley^[26] extends over 90,000 square yards and attains an elevation of 50 feet. As might be expected, too, the cultures here revealed are both archaistic and stamped with local peculiarities. Yet all exhibit common traits due partly to the common environment, partly to a common cultural background, partly to mutual intercourse, and partly to the influence of the higher civilization of the Indus valley which affected all.

The last trait is presumably the corollary to the importation of ore from Baluchistan by the Indus cities. A reflex of that "trade" is seen in sherds of typical Indus pottery, indubitably imported, from Dabar-kot and other sites. Such imports at least show that the mounds in question were occupied during the period of the Indus civilization as defined by the occupation of Harappa and Mohenjo-daro. It is premature to conclude that the life of the Baluchi villages, the length of which is patent from the height of the mounds, was restricted to that period; Stein's rather hasty excavations revealed no change in culture from top to bottom. In any case Stein has shown that the period of intensive and continuous occupation, particularly in southern Baluchistan, must have been restricted to a period of relatively high

rainfall; such dense settlements would be unthinkable under present climatic conditions or even under those of Alexander's time as depicted by Arrian.

All the cultures Stein discovered (with one exception to be described below) are so closely allied to one another and to the Indus civilization itself that one would at first sight be tempted to regard them all as differentiated emanations of the latter. In reality, however, facts such as agreements in ceramic techniques and motives with Amri rather than Mohenjo-daro, show that we may be dealing with more backward cultures rooted in the little-known period preceding the consummation of the Indus civilization. All the cultures of Baluchistan and Waziristan may be justly termed barbaric; they have yielded no evidence of writing nor of a self-conscious art. But their rudeness must not be exaggerated.

Their authors lived in rectangular houses built of mud-brick, stone, or mud-brick on stone foundations. The choice of material appears to have been determined entirely by convenience, the sorts of material most easily available, rather than by ethnic tradition. At Dabar-koṭ^[25] drains were built and wells dug. Metallurgy was everywhere known. Though few actual objects of metal have been recovered (a flat celt and a mirror from Kulli,^[26] a celt from Suktagen-dor,^[26] a cup from Dabar-koṭ^[25]) copper or bronze was so freely used that chert served only for the manufacture of a few simple blades and leaf-shaped arrow-heads. The potters used the wheel and could produce evenly fired reddish wares and sometimes (Dabar-koṭ, Kulli) a grey counterpart thereof. Vases were also made of stone, and hard stones were perforated for beads. Even glass, if not worked locally, is believed to have been known, though not found so early in India or Babylonia.

While local ores rendered an extensive importation of metals superfluous, some sort of commerce is attested, for instance by beads of lapis lazuli from Dabar-koṭ and Kulli. Traits common to the whole area and the Indus valley are the multitude of bangles in pottery, bone, and shell, figurines of "goddesses" and of humped bulls and several ceramic types, notably cylindrical jars with perforated walls, beakers with very narrow bases and bowls on a high pedestal. Cremation was practised at most sites as by one group in the Indus valley. A model cart from Mehi^[26] shows that the hillsmen used wheeled vehicles precisely similar to those in use at Mohenjo-daro; a rectangular stone vase divided into four compartments from the same site is almost the double of one from Mohenjo-daro. Button seals or stamps were found at three sites and approximate vaguely in form to Indus types, but none bear inscriptions or naturalistic engravings. A copper pin from Kulli with a lapis head seems a Babylonian form.

Over against these common features are local divergences. The female figurines from the more northerly valleys^[25] are hooded; those found farther south^[26] lack the hood, but the neck and breasts are covered with bead necklaces and pendants of cowrie shells while the arms are loaded with bangles. Naturally divergences are still more marked in the painted pottery. The fabric is generally reddish or pink, and painted in black. But in the north and at Kulli and Suktagen-dor in the south a reddish slip or wash normally formed the background for the painted designs. At Mehi the slip is usually buff or cream, and pale slips are by no means rare farther north except in the Zhob valley. Both in the south and in the north a red, either more orange or more purple than the red wash, is often used as a secondary colour in addition to black. But in the south the red is employed exclusively for broad horizontal bands, bordered with black lines; in the north it is used also for thin lines that generally run parallel to black lines or hatch figures outlined in black.

These differences are less radical than they might appear. At Surjanga^[25] and Mehi^[26] for instance the same highly specialized motives appear alike on red, buff, and cream slips. Whole designs with peculiar embellishments were painted on red slips at Mehi and on cream or buff at Kulli. At Moghul-gundai^[25] the accessory red is used as an embellishment for a perfectly typical Indus intersecting-circle pattern.

Local divergences in style are obvious, but nowhere are we dealing with a sophisticated and finished style like that of the Indus valley. Hints of the Indus style—intersecting circles, scale patterns, and alternating triangles—do indeed occur, but always confined to narrow zones or metopes. Indeed, a zonal and metopic arrangement is common. The zones often reproduce “border patterns” familiar at Mohenjo-daro—roundels, hatched wavy lines, semicircles—but include other elements—continued triangles, alternating triangles, the double-axe, lozenges—that would be more proper to the Amri style. The sigma-motive too recurs at Kulli and Mehi.

At Kulli and Mehi an animal style flourished. Rows of goats are represented in precisely the same “abstract” stylization as at Musyan, in Elam, or at Nineveh V. Humped bulls, fishes, and tigers are represented on a larger scale and treated in a naturalistic manner reminiscent of Susa II as defined by Frankfort. But even these beasts are compressed and elongated to fit into narrow zones ([Pl. XXXI](#), 1). They are occasionally grouped round conventional trees, but the spaces between their legs and above their backs are filled up with little stars, comb-figures, sigmas, or circles with a barbaric *horror vacui* surprisingly like that inspiring the Dipylon style of Greece.

We have accordingly in the highland valleys a series of barbaric local cultures, all overlapping in time with the civilization of Mohenjo-daro but preserving perhaps earlier traits that on the plain did not outlast the Amri phase. At Kulli and Mehi connections with the ceramic art illustrated at Susa I are as obvious as at Musyan or Nineveh, though combined with the naturalism of Susa II. The polychromy and motives of other sites suggest comparisons with Jemdet Nasr. These western contacts are illustrated better by the graves of Shahi-tump^[26] in western Makran and by settlements in the Nal valley^{[27][28]} respectively.

PLATE XXXI

Central Asian Museum, Delhi



a. POT FROM MEHI



b. POLYCHROME VASE FROM NAL

Shahi-tump is a tell the ruins of which, judging by the pottery, go back to the same general period as other sites in Baluchistan and Mohenjo-daro itself. But in these ruins had been dug graves which present not vague analogies to Susa I or Samarra but identically the same culture. The bodies had been interred extended or flexed. They were accompanied by flat axes and a single-bladed knife of copper, alabaster dishes, beads of lapis lazuli, and hard stone and copper stamp-seals of the button type, and a whole service of vases sometimes arranged in nests as in Susa Ia. The wide open dishes ([Pl. XXXII](#)), tall tumblers, little squat pots (no longer angular in outline nor provided with lugs) and ovoid jars of Susa Ia are all represented, whereas a triple vase has a parallel in Susa II. The dishes and most of the squat pots are made in a greyish fabric that has been fired at so high a temperature that it feels almost like porcelain; other vessels are of an unslipped pink fabric. Both are really the same ware differently fired; both have a straw temper, lack slip, and intermediate sherds occur pink on one side and grey on the other or grey at the core and pink at the surface. At the same time the pink ware agrees technically with that from Samarra. The relation to that site and to Susa I is confirmed by the motives which include the swastika and the Maltese square. Intermediate links are to be found in the typical sherds, fragments of stone vases and copper stamp seals picked up by Stein at wind-eroded sites in the Helmund delta.^{[29][30]}

The culture familiar from Elamite and Assyrian cemeteries accordingly reached the borders of India. But it arrived relatively late. If the relation of graves to settlement has been correctly determined, the burials at Shahi-tump must be nearly a thousand years later than their accurate western analogues. This culture at least spread eastward. But it arrives too late to explain the underlying connections between east and west detected at Amri.

In the Nal^[27] and Nundara^[26] valleys are remains of a more specialized and progressive culture than those found elsewhere in Baluchistan. The chief site, the Sohr-damb near Nal, can hardly rank as a city, yet the ruins of elaborate stone and mud-brick buildings cover an area of 30,000 square yards. Fractional burials in which skulls or a few bones were accompanied by vases were found in several rooms, but complete interments in brick graves were also recognized.

Metal was freely used; the flat celts are long and slender, the saws agree with the Sumerian type, a tanged dagger resembles those of the Indus, but Indus chisels and spear-heads are missing. Figures of humped bulls, stone rings, marble vases, the use of fayence, a shell bangle, long biconical beads of hard stone and a steatite button-seal demonstrate the affinity of Nal to the Indus civilization. But female figurines are absent; the seal is not engraved in Indus style and another of copper as well as a relative abundance of lapis lazuli suggest rather Shahi-tump.

The pottery in any case is thoroughly individual. The clay varies from greenish to pinkish in hue and may be covered with a cream or (very rarely) with a dark red slip. The distinctive shapes are bowls with slightly inverted rims, cylindrical pyxides, and squat pots (sometimes keeled) with short collar necks. The vases are decorated with designs outlined in black but often filled in with red, yellow, blue, and green. The last three colours have been applied after the firing, but the red, often of the same plum red tint as at Amri, seems to be fixed in most cases.

The designs are arranged tectonically in broad zones, generally subdivided into panels. The motives include on the one hand superb representations of tigers, bulls, fishes, and leaves realistically rendered, but so stylized as to harmonize with a complex design. On the other hand we have geometric motives—sigmas, W's, and comb patterns, familiar further west, and incomplete repetition patterns such as the intersecting circles and the motives shown in [Pl. XXXI, b](#). These themes, in which the several various parts of the figures are filled in with varying colours, blend to a magnificent decoration, excelling even the Indus style proper.

Though highly specialized in treatment, many elements in this style and its technique might be derived directly from the Amri phase. Not only do we find there the same slip and plum red paint as at Nal, but even some Nal motives and in particular so highly-specialized a theme as the cross with circular centre. It might then be inferred that the Nal culture developed out of some analogue of the Amri culture and ran parallel to Mohenjo-daro. It would in that case establish the western extension of the Amri culture or some homologue thereof.

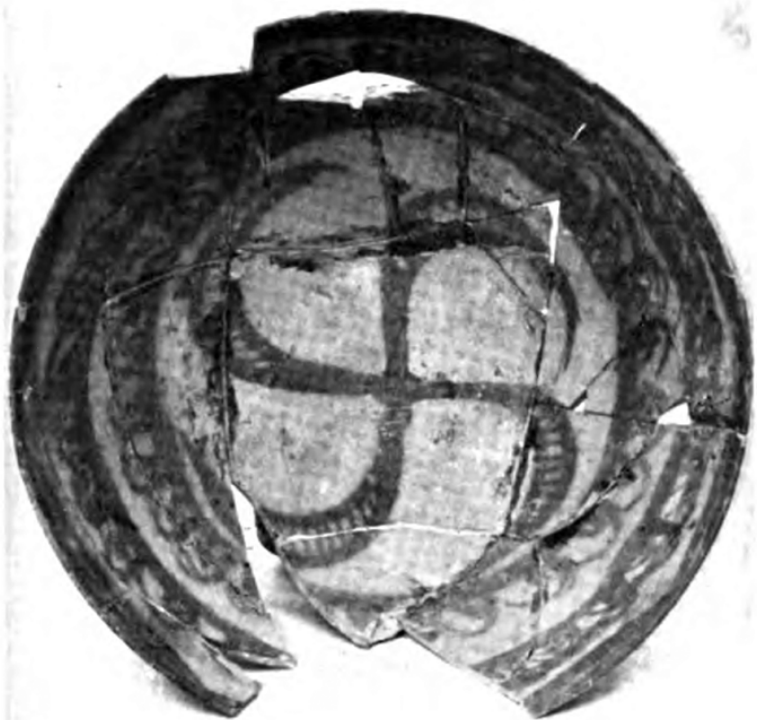
Our survey of Baluchistan accordingly does in fact help to prove that the region must once have formed part of a cultural continuum extending from the Tigris to the Indus, perhaps in the Jemdet Nasr phase or earlier. It has not, however, materially contributed to the definition or isolation of this continuum.

On the other hand it has helped to clarify our conception of a cultural complex that broke up this continuum; the evidence from the burials of Shahi-tump helps to define the constituents of a complex which we had already met at Susa and at Samarra. Distinctive traits are the specialized ceramic forms and techniques already enumerated, use of metal especially for flat axes, the sling and the mace, manufacture of stone vases, a ritual employment of the swastika and Maltese square, an affection for lapis lazuli, and an abstract artistic style. Since not all these traits are attested for Frankfort's Highland Culture as a whole, we may term the special branch thereof thus distinguished the West Iranian culture.

How is this culture related on the one hand to the al'Ubaid group of the Highland Culture, on the other to the North Syrian complex illustrated by Tell Halaf? Its divergences from the former have been enumerated on p. [237](#), and are emphasized by the evidence from Arpachiyah. The Tell Halaf group is distinguished from the West Iranian not only by the forms, technique, and some of the motives of its pottery, but by carving stones into amulets as well as engraving them for "seals", by a choice of some different magic symbols, by the use of stone as well as brick in architecture, and by peculiarities of burial rite.

PLATE XXXII

a-b. DISH ($\frac{1}{3}$) AND SQUAT POT ($\frac{1}{3}$) FROM SHAHI TUMP
Central Asian Museum, Delhi



a



b

All three cultures have elements in common with the earliest culture discovered by Pumpelly^[31] in 1904 at Anau in Turkestan. The earliest inhabitants of Anau built rectangular houses of mud-brick, cultivated bread-wheat and barley, presumably by irrigation, used pale, painted pottery not identical with any of the styles hitherto considered, were acquainted with copper and lead and could pierce hard stones, including turquoise (and possibly lapis lazuli), for beads. But they are said to have lacked any sort of axe, stone vases, figurines, seals or amulets, and to have domesticated locally the long-horned ox, the pig and mouflon and urial sheep only during the life of the settlement. However, the extent of the excavation does not suffice for negative conclusions to be really reliable.

The complex characterized by red, black, and grey pottery doubtless affected India; its techniques indeed survive there longer than in Mesopotamia. But the Indian evidence does not help to identify its other traits. In Turkestan, too, something analogous is encountered in Anau II and III. The former settlement yielded vases of grey or polished black ware (just possibly wheel-made) and others coated with a reddish ferruginous slip that was often deliberately mottled in the firing. Goats and camels had now been domesticated, copper pins with small pyramidal heads were worn, and lapis lazuli and carnelian were utilized for beads. In the next settlement the vases

are all wheel-made; the commonest are of a pale drab fabric in which was made a beak-spouted jug like those from Hissar III, Cappadocia, and Early Minoan Crete, but vessels of polished red and deoxidized grey ware, particularly chalices like those of Hissar II, are common. Other traits are wheeled vehicles (represented by a model wagon), female figurines of clay, stone vases, copper and poor bronze daggers, spear-heads and knives related to Indus types, and stamp “seals” of clay adorned with crosses and other familiar motives. A stone prism was, however, engraved with a griffin, a lion, and a man in a style reminiscent rather of Crete and Anatolia.

Anau, whose chronology still lacks any firm basis, therefore makes no contribution to the definition of the associates of red and grey pottery. For help in this respect we might turn to Anatolia, where Dr. Frankfort locates the original home of the complex. The great plateau belt extending from the Tigris to the Aegean is indeed well-suited to be the focus of a specialized culture. Unfortunately the earlier phases of its prehistory are really known only from sites on its extreme western edge—Troy,^[32] Yortan in Mysia,^[32] and Thermi^[33] in Lesbos—none of which appear to have been occupied much before the end of the fourth millennium. Inferences drawn from them may be controlled, but not always confirmed, by soundings at Alishar Huyuk^[34] in Cappadocia, and Shamarmalti near Van.^[35]

These do prove that the earliest pottery of the whole region was black or red monochrome ware in contrast to the pale painted fabrics of Syria and Iran. The earliest black fabrics owe their colour to the presence of free carbon in the clay and are hence termed carboniferous, but from the first they co-existed with reddish wares.^[36] Parti-coloured vessels, black inside and round the rim but elsewhere reddish outside like Egyptian black-topped vases, are known from several districts. The forms in Western Anatolia are based upon leather or gourd models. Distinctive and easily recognized are flasks with a long neck often terminating in a beak and a series of cups and jugs with well-made handles. Ornament is “skeuomorphic”—ribs in relief imitating the seams of leather vessels or representations of the grass slings in which gourds are carried executed by incision or in thin white paint. The more specialized forms and designs are, however, apparently confined to the western end of the zone. Other traits attested for the west are the use of stone at least for the foundations of walls, stone door-sockets as in Mesopotamia, the use of metal, at first only represented by pins with simple roll-heads or terminating in small pyramidal or conical knobs, stone axes made from ground pebbles as at Merimde, pear-shaped mace-heads, manufacture of female figurines and burial in jars. Perforated axes of stone or metal were at first altogether lacking, but stone battle-axes appear in western Anatolia^[33]

and Cappadocia^[34] during the third millennium while perforated hafts or hammers of deer antlers are found as far east as Shamaramalti^[35] Stone vases and stone beads were never manufactured, seals only adopted slowly.^[33]

On the whole it would seem that a simple peasant economy reigned throughout Anatolia well into the third millennium; the villages must have been mainly self-sufficing, though a certain amount of trade was developed quite early. Industrial types had thus become so well-established that they were able to survive the impact of the higher civilizations; armament was, however, transformed thereby, and Sumerian influence infected other less developed aspects of material equipment and even spiritual life, as the next chapter will show.

At the moment it is not easy to see what elements Anatolia contributed to her eastern neighbours apart from pottery. Even the ceramic agreements between say Uruk and Anatolia are far from perfect. Indeed, early Anatolian pottery is as closely related to the Merimidian and Amratian of Egypt as to any Mesopotamian fabric, and early relationship between North Africa and Anatolia is a possibility that must be faced seriously. On the other hand, the ceramic technique common to Mesopotamia and Anatolia is a relatively simple and primitive one. The grey ware which really does presuppose a specialized equipment only appears in Anatolia, under the guise of "Minyan ware", at the very end of the third millennium, or many centuries later than its emergence at Erech or Mohenjo-daro. Convincing homologues in form can be traced with the aid of the side-spouted beaked jars^[37] from Anau III and Hissar III through Armenia and Syria to Cappadocia and Crete. But the eastern members of the series are still badly dated and even in Crete, despite its high degree of specialization, the type enjoyed five or more centuries of popularity.

NOTES TO CHAPTER IX

[1] *Mém. Dél. Perse*, xvii, Introduction.

[2] *Mém. Dél. Perse*, i, pp. 17 ff.; xiii, pp. 33 ff.

[3] *L'Anthr.*, xl. p. 225.

[4] The best description is given by Frankfort, *Studies*, i, pp. 25 f.

[5] *PZ.*, xvi (1925), pp. 22 ff.

[6] *Mém. Dél. Perse*, viii, pp. 62-122.

[7] *Ibid.*, xx, 114.

[8] *Ibid.*, xx, p. 100; cf. viii, p. 92.

[9] Frankfort, *Studies*, i, p. 38.

[10] *Mém. Dél. Perse*, xx, pp. 100-1; *L'Anthr.*, xl, p. 227.

[11] A good account of Elamite seals is given by Contenau, *Manuel*, i, pp. 437 ff.

[12] Pottier's critique of Frankfort's thesis is to be found in *Rev. Arch.* xxiii (1926), pp. 1 ff.

[13] Contenau, *Manuel*, ii, p. 660, and i, p. 416.

[14] *Ibid.*, i, fig. 169; *Antiquity*, vi (1932), p. 356.

[15] *LAAA.*, xx, pp. 71-171.

[16] *LAAA.*, xix, pp. 59 ff.

[17] Herzfeld, *Die vorgeschichtlichen Töpfereien von Samarra* (Berlin, 1930); in *Iranische Denkmäler*, i, "Steinzeitlicher Hügel bei Persepolis" (1932), Herzfeld dismisses as intrusive the copper and iron objects previously assigned to the Samarra cemetery.

[18] Speiser, "Preliminary Excavations at Tepe Gawra"; *Amer. School of Oriental Research, Annual*, ix, 1927-8.

[19] Oppenheim, *Tell Halaf*, London, 1933.

[20] *Mus. J.*, xxiii, pp. 252 ff.

[21] *The Times*, 14th July, 1933; *Illustrated London News*, Sept., 1933.

[22] *AJA.*, 1932, pp. 564 ff.

[23] *AJA.*, 1932, pp. 32 ff.

[24] *Mus. J.*, xxiii, pp. 343 ff.

[25] *Mem. Arch. Surv. Ind.*, 37.

[26] *Ibid.*, 43.

[27] *Ibid.*, 35.

[28] Frankfort, *Arch. and Sum. Problem*.

[29] I have discussed this pottery at greater length in *Anc. Egypt*, 1933, pp. 15 ff.

[30] Stein, *Innermost Asia*, pls. cxiii-cxiv.

[31] Pumpelly, *Explorations in Turkestan*, Carnegie Institute Publications, 73. Pumpelly's geological chronology is generally rejected, while Schmidt's archæological dating is now obsolete.

[32] For these see Childe, *Dawn*, pp. 53 f.

[33] *Annual of British School at Athens*, xxx, pp. 1-52.

[34] Schmidt, "Anatolia through the Ages," *Oriental Institute of Chicago Communications*, xi, 1931.

[35] *PZ.*, xix, pp. 297 ff.

[36] Dr. Frankfort's contention that black ware antedated red seems to be refuted by the excavations at Thermi, loc. cit., p. 18.

[37] Frankfort, *Arch. and Sum. Problem*, pp. 59-62. The inclusion in the same context of chalices is questionable in view of the chalice-like vessels from Samarra.

CHAPTER X

THE MECHANISM OF DIFFUSION

TWO great revolutions in human culture fell within the scope of this book—the change from a food-gathering to a food-producing economy and the establishment of urban civilization based upon industry and commerce. In [Chapter II](#) a survey was attempted of the Oriental world before the first revolution, a world of discontinuous communities of hunters and fishers which might yet come into contact one with another. After the first revolution the hunters and fishers are replaced in the archæological record by farmers living in permanent villages or townships beside the great rivers, along the valleys of streams, on the banks of lakes or lagoons, and among delta swamps. This picture needs supplementing. The various villages are not isolated units; intercourse over enormous areas is attested almost from the start by the distribution of materials, the sources of which can be localized. The settlers by the Fayum Lake were already receiving shells from the Red Sea and from the Mediterranean. Obsidian (probably Armenian) was employed in Sumer by the al'Ubaid people. Lapis lazuli is found in the earliest graves at Susa and Samarra, reached Egypt by Gerzean times, Turkestan by the time of Anau II, and Baluchistan as early as we can penetrate. Besides the early transmission of substances of magical or utilitarian value over vast distances, intercourse between adjacent districts was so close that even vases might be exchanged. Sherds of North Syrian pottery are found very early at Samarra east of the Tigris; the contemporary Assyrian ware reached Tell Halaf in exchange.

In [Chapter IX](#) some indications were given as to the mechanism of this intercourse as inferred from modern conditions—transhumance and the existence of pastoralists or hunters outside the settled communities. Of the latter the archæological record can hardly be expected to give much direct evidence, but the gap does not invalidate the inference. And even before the second revolution some such folk may have found it worth while to devote themselves to transportation and commerce. Specialized traders are found on a lowly economic plane in modern Africa.

Such was the milieu in which the second revolution was accomplished in Egypt, Babylonia, and India. It may help to an understanding of the

propagation of the first revolution if we examine the effects of the second.

Its economic presuppositions as illustrated in Egypt and Babylonia seemed to be the accumulation of a surplus of wealth, primarily of food, in the hands of a king or of a priesthood. Some of this surplus was dispersed within the community to nourish craftsmen, merchants, and soldiers, withdrawn from direct food production, or was exported to be exchanged for raw materials. As in the Industrial Revolution of Britain the new means of livelihood thus made available would result in a multiplication of the proletariat. At such times population is liable to outgrow the demand for labour and to resort to emigration. The expansion alone would accelerate the processes of diffusion.

Much more profoundly would the new demand for raw materials affect the pace and the very mechanisms of diffusion. Egypt, Sumer, and the Indus cities were now clamouring for vast supplies of timber, building stones and ore, for spices and precious stones for the adornment and service of temples, tombs, and public buildings, and for the equipment of artisans and soldiers. The new industrial cities must enter into closer relations with the world of peasant communities that had been created by the first revolution.

To some poor communities of farmers or fishers the satisfaction of the new demand opened up new opportunities, fresh means of livelihood to evoke an expansion of the local population. Egypt's need of timber made Byblos a city. The relations between Egyptians and Gibrilites^[1] seem to have been thoroughly amicable. The Egyptians consorted thither as traders, not as conquerors, bringing alabaster vases, jewelry, and perishable goods in exchange for the cedars of Lebanon. Some probably settled; in any case they paid prolonged visits. They taught the Gibrilites the Egyptian hieroglyphic script and introduced the cult of some Egyptian gods. Egyptian sculptors eventually came to execute the bas-reliefs for the local temple. Byblos thus became a new seat of industrial and commercial life with its own demand for metals and precious stones; the satisfaction of that demand would make it a new focus for diffusion.

At the same time the new civilization preserved native elements and blended with Egyptian ideas those proper to Asia. Under the very temple that Egyptians had decorated was laid a foundation deposit, a practice foreign to Egyptian ideas but characteristically Babylonian.

The early rise of urban civilization in Crete is doubtless the result of similar factors, though here colonists from Egypt and Asia contributed to the transformation of a "neolithic" culture. And the same sort of thing may have been happening in Anatolia, along the coasts of the Persian Gulf and farther

east. In Cappadocia even before the expeditions of Sargon we read of merchants, apparently Assyrians or Babylonians, settled as a colony in charge of the metal trade with Mesopotamia.^[2]

The villagers were not, however, always tractable. The early Pharaohs^[3] boast of “smiting the wretched Nubians” in whose territories lay the gold mines. They sent their armies to protect mining expeditions to Sinai for copper, and are depicted on the rocks “smiting” the Bedouin. In discussing the rise of Sumerian civilization we saw how armed intervention might be needed to overcome the reluctance of Syrians or Elamites to supply timber or metal in the requisite quantities. How soon economic penetration was followed up by military aggression is not clear. In the campaigns of Sargon the economic motive is patent, but in any case his standard was only following in the wake of peaceful caravans. He goes to Cappadocia in response to appeals by merchants already established there. His own inscriptions mention the “Silver Mountains” and the “Cedar Forests”. Later texts connect his campaigns also with Magan, an important source of diorite and copper located by a study of the ores in Oman, and a “Tin Land”, perhaps in the Mediterranean.

The effects of imperialistic trade would to some measure coincide with those of more peaceful commerce. Sargon, his descendants and perhaps also his predecessors, were largely responsible for the creation of urban life in Assyria, for the foundation of cities, the conversion of more or less self-sufficing townships into industrial and commercial centres. At Nineveh Manishtusu, grandson of Sargon, founded the Temple of Ishtar, which doubtless succeeded some local shrine. The foundation of Ishtar’s temple at Assur may have been the work of some earlier Sumerian conqueror. It will be recalled that in Mesopotamia the temple was always a centre for the accumulation of wealth and the development of industry. The very erection and adornment of the temples of Ishtar illustrate the expenditure of a surplus that would nourish a prolific, if servile, proletariat; they would at the same time require more copper, timber and lapis lazuli. Thus the newly “founded” cities would become centres of diffusion with growing populations and expanding demands just like Byblos.

Of course, in the sequel such cities became centres of revolt against the Babylonian overlord. They ultimately became the capitals of predatory States whose ambitions perpetuated on a vaster and more destructive scale the futile internecine wars of the Babylonian cities. Each successive conqueror who raised his native city to the status of an imperial capital used his empire as a tribute-collecting machine which probably destroyed more wealth than it created or even collected.

Finally, the warlike incidents of the second revolution provoked migrations. In the Early Minoan civilization of south Crete, Egyptian inspiration is so profound and comprehensive that only an actual settlement of Egyptian colonists among the neolithic Cretans (who themselves may have been akin to the Merimilians) will explain it. Evans^[4] suggests that people from the Delta, fleeing before Menes' conquest, had sought refuge on the island. Similarly in the Cyclades we meet early in the third millennium pictures of ships flying the fish standard; the same ensign had been borne by boats from the Delta depicted on Gerzean vases, but it disappeared from the Nile before the beginning of history. The Aegean boats may accordingly belong to other refugees from the Delta who settled in the islands as pirates and traders. At the same time the colonists in the islands and (perhaps later) in Cyprus were mainly Asiatic and inspired primarily with the hope of a livelihood in supplying the growing demands of the primary and secondary centres of urban civilization. Even in Crete this Asiatic element was prominent.

It is worth while digressing to prove by concrete instances how the processes of trade, conquest, and migration just sketched did really promote the diffusion of culture and exactly how it developed. Writing at Byblos is a case in point.^[5] The script adopted by the Giblytes was the specifically Egyptian system of hieroglyphs elaborated under the oldest Pharaohs; the Giblytes were initiated into its mysteries and mastered them. But they never ventured to improve the system. In Egypt the form of the signs was modified in course of time; the hieroglyphic script at Byblos preserved all the archaisms of the Egyptian Old Kingdom for nearly a thousand years.

The cylinder may be used to illustrate diffusion from Babylonia; it had been invented there by the Uruk period and spread thence to Assyria, Syria, and Cappadocia. In the last named region the ancestors of the merchants helped by Sargon had presumably been responsible for introducing the device to the barbarians amongst whom they were settled. The local seal-cutters thus started out with the pre-Sargonic tradition. At the end of the third millennium "the imprints on Cappadocian tablets show us an art derived directly from the Sumerian and less modified than the Sumerian art of Babylonia at the same epoch".^[6] We find, for instance, the symposium, a popular theme at the time of the Royal Tombs of Ur, which subsequently went out of fashion in Mesopotamia but survived in Cappadocia though treated in a barbaric manner and combined with some non-Sumerian elements. By way of contrast it may be remarked that the earliest Egyptian cylinders illustrate the Babylonian style of the Jemdet Nasr epoch, but by the First Dynasty the whole treatment has become thoroughly Nilotic.

The case of the hieroglyphic script at Byblos and the Cappadocian glyptic are instructive not only as irrefutable proofs of diffusion, but as illustrations of a principle very important for prehistoric method, that of the archaism of provincial regions; an idea or technique is borrowed, but the borrowers are incapable of developing it so quickly as its originators.

The distribution of Sumerian metal types illustrates the same principles but also the effects of war. The types in question, notably shaft-hole axes, began to enjoy a wide popularity early in the third millennium, but only over a restricted area. We find shaft-hole axes in Elam, Luristan, Assyria, Armenia, and Syria, daggers as far west as Troy, presumably transmitted via Cappadocia. Association with inscribed objects in Luristan,^[7] with cylinder seals in Syria^[8] confirms the Babylonian origin of the whole series. The area of their occurrence coincides in a general way with the direction of Sargon's campaigns. It looks very much as if the intensified use of metal at this epoch was inspired by the reaction against Sumerian and Akkadian aggression.

Though metal had been known long before both in Assyria and Syria, its use had been very restricted. The inhabitants of Tell Halaf seem to have got on very well with obsidian and stone, which was easily obtainable and cheap. Graves of prosperous citizens in Assyria, belonging to the period of Nineveh III or IV, are known from Tepe Gawra; they contained ornaments of gold and lapis lazuli but no copper. Evidently even quite well-to-do folk were content with obsidian, stone, and bone for tools; they would even do for weapons to be used against neighbours similarly equipped. To deal with Babylonian troops wearing metal helmets and armed with metal weapons something better was needed. The natives had to adopt the new armament and turn seriously to metal-working. Captives taken in war or by raiding caravans or even escaped slaves of their own nation who had been compulsorily initiated into metallurgy in Babylonian captivity would provide trained artificers.

The adoption of metal for armament (and once the stimulus was present its use would not be restricted to weapons) would result in the establishment of new centres of industry, new foci for diffusion. The peoples of Assyria and Syria, formerly content with local materials save for luxury articles, are now demanding metal for regular use. To satisfy their demand they will often have to adopt industrial urban life.

Each secondary centre, itself the result of the demand in Egypt, Sumer, or India, thus sets up fresh demands prompting a further search for supplies. By repeating the roles of the primary centres, Baluchistan, Elam, Assyria, Syria, and Crete promote the rise of tertiary centres like the Aegean islands,

Troy, and Macedonia. Once, that is, a regular industrial and commercial economy has replaced self-sufficient farming and fishing, the diffusion of culture must proceed with ever increasing velocity.

In the case of metal it must be remembered that ancient supplies must often have been derived from small surface lodes. The technique of deep mining and of smelting the unoxidized ores obtained thereby was probably still rudimentary. The surface lodes would often be exhausted by the intensive demand that was growing up. And so a deliberate search for metal is only to be expected. The same remark will of course apply to rare or precious stones which were valued more for supposed magic virtues than their beauty, and were indeed considered necessities in funerary rites or temple services.

The effects of such diffusion were not, however, always progressive. Before the age of Sargon the Sumerians had been receiving a sufficiency of tin for the manufacture of bronze. In the Sargonid era the alloy becomes rare so that inferior hammered axes of unalloyed copper replace the cast bronze ones. Perhaps reactions against imperialist aggression were responsible for interruptions in the supply. Organized resistance may have promoted a spirit of tribal solidarity, of exclusive nationalism among the victims.^[9] Perhaps the interruption of intercourse between India and Mesopotamia was a consequence of the same sort of reaction in the intervening regions. And of course the barbarian resisters, when favoured by intelligence or natural resources, were able at times to defeat and conquer the more civilized aggressors. Sumerian history is interrupted by stagnant periods of subjection to Gutium or Mari.

The foregoing account will, I hope, have provided a rational picture of the mechanisms whereby inventions and discoveries were being diffused after the second revolution. It can even be applied to Europe. But it does not explain the earlier stages of diffusion, the relations, for instance, subsisting between Egypt, Sumer, and India, before 3000 B.C. Consider even metallurgy. By that date the Egyptian, Sumerian, and Indian schools were quite distinct—the simplest objects, like axes, adzes, saws, daggers, and tweezers, had different forms in each country. Egyptian as well as Sumerian types reach Crete. Indian types spread through Baluchistan and reach Anau, the Sumerian dominate the intermediate zone. The underlying community of metallurgical tradition on the Nile, the Euphrates and the Indus remains unexplained. The Egyptian and Sumerian traditions perhaps begin to diverge in the Jemdet Nasr phase. Between India and Sumer continuity may have been maintained till the discovery of bronze, which was used in both regions but not yet in Egypt. If the primary diffusion of metallurgical knowledge

between the Indus and the Nile were to be explained on the same lines as the secondary diffusion analysed above, the Indus basin would be the only likely centre. More probably some other mechanism must be invoked.

The “seal” presents a similar problem. There is no doubt that the idea was diffused; for stamp seals are distributed over a continuous but restricted area. But the spread began long before the second revolution was accomplished in Sumer or Egypt. The earliest dated stamp-seal apparently belongs to Susa Ia. But examples from Assyria may be as old, and soon we find the device at Erech also. In India it is established before the archæological record begins. In Egypt stamp-seals come in with cylinders in proto-dynastic times. In Crete^[10] the idea took root about 3000 B.C., apparently as a result of the Asiatic colonization connected with the expansion of trade already reviewed. The spread of the idea through Anatolia may be connected with the same process. At Troy and in Lesbos^[11] the examples seem to date from the latter half of the third millennium by which time Sumerian types of dagger had also reached the western end of Anatolia. But there are isolated examples from Thessaly^[12] that may be earlier. Yet they are decorated with magic geometric patterns familiar from much earlier periods throughout the oriental world right to India so that their derivation from the Asiatic series cannot reasonably be challenged. Even in Central Europe a few clay stamps have been found that are indisputably outliers of the same family.

Two points must be borne in mind in considering these so-called stamp-seals. They start probably as talismans. Instead of carving a bead into a magic symbol (an amulet) as was done in North Syria and Gerzean Egypt, you engrave the symbol on it. The use of such a bead as a seal may well be secondary. It is not attested for instance in India. In Crete it was indubitably employed as a seal just as in Babylonia, Elam, Syria, and Egypt, but such use is not yet attested from Troy or the copper age of Europe. Secondly, such talismans could easily be copied. The Trojan examples, and most of those from Continental Europe and Anau in Turkestan, are actually made of clay. To produce such copies all that was needed was for their makers to have seen a genuine stone seal; no initiation was required as was essential in metallurgy. To cut a stone seal some sort of apprenticeship might be needed—training in the use of the drill and the graver. The finely cut Cretan seals can hardly be just imitations of examples acquired by purchase or theft. Still the seal in general might be diffused by trade at least in the specific sense given to that term in [Chapter VII](#).

In the case of the wheeled vehicle migration may have played a large part. The effect of the device is certainly revolutionary. A wheeled cart not

only immensely facilitates transport and commerce, but also endows its possessors with enhanced mobility; indeed it renders possible a new sort of nomadism. In wagons can be transported loads of things, including even pots, which could not conveniently be loaded on porters, asses, or even camels.

Well before the end of the fourth millennium B.C., wheeled vehicles were in use from the Indus to the coasts of the Mediterranean. Very soon they reached Crete, but in Egypt the device was not adopted till it was imposed by the Hyksos from Asia, about 1700 B.C. There is no question that the invention was diffused. The identity between the peculiar wheels depicted on the oldest Sumerian monuments and those still attached to Indian carts leaves no doubt on that score. At the same time early in the third millennium, the models from Crete, Assyria, Babylonia, Turkestan and India all exhibit divergences in the construction of the vehicles. The idea must have been implanted long enough in several centres for local differentiation to have taken place.

The potter's wheel is likely to be associated with the cart. At Erech, Anau, and Mohenjo-daro the two aspects of the invention may perhaps be associated. But in Crete and North Syria the wheeled car was apparently adopted before the potter's wheel, while in Egypt the relation between the inventions was inverted.

The world of villages created by the first revolution was then already a theatre of diffusion before the second. But it was itself the result of diffusion. It is fantastic to imagine that a continuous chain of hunters and fishermen from the Nile to the Indus all spontaneously and on their own initiative should start to cultivate the same sorts of plants, to manufacture pots, to spin and weave. It would be absurder still, now that the intimacy of the relations between the early successors of the gatherers has been established. The ideas embodied in the first revolution must also have been diffused, spread by colonizing movements or by prolonged, enduring and repeated intercourse of a very intimate nature.

Can we define the part played by migration and intercourse respectively? One early migration was traced in detail in [Chapter IX](#): the bearers of the West Iranian culture spread quite slowly from a centre perhaps between Susa and Samarra via Sistan to Baluchistan. But they seem not to have deserted their home since very similar people reappear—transformed—in Susa II and Nineveh V. The migration was therefore a slow expansion due to overflowing population. Perhaps the al'Ubaid folk of Sumer belonged to this same stock, though they seem to have succeeded the pure West Iranians in

Assyria. Otherwise the West Iranian culture cannot be regarded as primary, as the channel whereby food-production reached India for example; the ideas associated with the first revolution had preceded our migration. The migrants found Baluchistan already occupied by a distinct culture, the peer of their own. The West Iranian culture is indeed a quite specialized embodiment of the ideas associated with food-production. Even in Asia it may be contrasted with the North Syrian, Nineveh I, Anau I cultures, and its own forerunner in India.

Yet all the cultures just named seem to be allied to constitute an Asian family contrasted to the African and Anatolian. Common to all are pale pottery, generally painted, a pear-shaped mace, knowledge of metal, brick architecture, the cultivation of cereals, perhaps domestic sheep and cattle. Only Nineveh I or Anau I look sufficiently primitive to be the ancestor of the whole family, presuming such to have existed. Anau's position, though improved if China be added to our survey, looks too eccentric, especially when Egypt be introduced into the picture.

An expansion of Asian culture, thus vaguely defined, seems the only possible explanation of the Gerzean culture in Egypt. To reverse the process, as Perry^[13] once desired, is now impossible. The lapis lazuli and obsidian which come into regular use in Egypt only in Gerzean times are Asiatic products. Pale painted pottery, spouted vases, brick architecture, amulets are all traceable in Asia as early as al'Ubaid times. Even if we reduce Babylonian chronology so that Jemdet Nasr be contemporary with proto-dynastic Egypt, the al'Ubaid phase in Sumer is at least as early as the Egyptian Gerzean; for between al'Ubaid and Jemdet Nasr lies the long Uruk period. Not even the al'Ubaid or Susa I cultures could then conceivably be derived from the Nilotic Gerzean, still less hypothetical forerunners that might include Nineveh I.

But before the Gerzean went the Amratian, Badarian, and Tasian phases in Egypt. What of the relative claims of Egypt and Asia in these earlier periods? A comparison between the earliest Nilotic cultures and the oldest yet known in Asia, say in Sumer, reveals underlying agreements that can hardly be accidental. Yet the agreements are of a very abstract character and are offset by concrete differences that must not be overlooked.

In both areas cereals were cultivated on alluvial lands, but in Africa the wheat was emmer, in Asia probably *vulgare* (as at Anau and Jemdet Nasr), while the barley of early Egypt differs from Asiatic varieties.^[14] Both reaped the grains with serrated flints, but in Africa the handle was straight, in Asia crooked, as to-day. Both had domestic animals, but the sheep at least were

probably of Asiatic origin. Both areas used mace, bow and sling, but the earliest Egyptian arrow-heads were hollow based, the earliest Asian leaf-shaped (like some later Fayum types). Houses of reed matting are common to both areas, but such coexist with brick houses in Asia. Both areas use polished stone axe-heads, but the shapes are from the first slightly different, and in Babylonia the shaft-hole is attested from the start. Obsidian was early employed in Hither Asia but, despite the superior material, the workmanship never attained the high standard of early Egyptian flints. Copper was known very early in both areas, but Merimde, the Fayum and Tasa may illustrate a pure neolithic culture hitherto unrepresented in Asia. Both areas make baskets and pots, but in Egypt the ceramic tradition begins with monochrome black and later red wares, whereas the Asian province clings tenaciously to pale wares, often painted. Figurines were manufactured in both areas, in both areas wigs were worn and nose-plugs or lip-studs.

At the moment it looks as if the archæological record began with two irreducible cultural provinces. To some extent these coincide with provinces which were already distinct in Upper Palæolithic times. Possibly the cultural divergences then already subsisting survived the first revolution. To which, if either, province that revolution should be credited cannot be determined by direct evidence. Speculations on that head lie outside the realm of science.

In Europe the earliest recognizable neolithic cultures of the west, with their leathery pottery, ladles, pebble-celts, and boars' tusk ornaments, are often so like the Merimidian of the Egyptian Delta that they must be regarded as a belated emanation thereof, spread by very slow migration along the North African steppe and across the Mediterranean, presumably via Spain. The earliest culture of Central Europe offers no less clear similarities to those of Crete and Anatolia, whose relation to the Egyptian has already been discussed. On the other hand the cultures with painted ware in Thessaly, Bulgaria, the Ukraine, and Transylvania resemble those of our Asian province not only in their pottery but also in traits such as a use of stamp-seals, copper, probably brick architecture (at least in Thessaly), and general economy. The spread of neolithic culture in Europe was, however, undoubtedly due largely to the effects of the second revolution and was inspired by the secondary centres that lay outside the scope of the present survey. The spread of Sumerian types—pins, ear-rings, lock-rings, spectacle pendants, and perhaps even neck-rings—via Troy up the Danube valley, and of shaft-hole axes across Central Russia, does, however, prove that the beginnings of intelligent metallurgy in Europe were inspired, albeit indirectly, from Asia.

The purpose of the present work has, however, been primarily to illustrate, and if possible vindicate, the principles that must be applied to the study of European prehistory by reference to the richer and better dated material of the proto-historic Orient. If thereby we have enabled workers in the European field to see their special problems in a clearer perspective and have justified the general doctrine of cultural diffusion, our aim will have been attained.

NOTES TO CHAPTER X

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- [1] Montet, *Byblos et l'Égypte*, p. 272.
- [2] Smith, *Early History of Assyria*, p. 83.
- [3] Moret, *From Tribe to Empire*.
- [4] Evans, *Palace of Minos*, ii, pp. 22 ff.
- [5] Montet, op. cit., p. 67.
- [6] Contenau, *Manuel*, iii, p. 1162.
- [7] *Illustrated London News*, 29th October, 1932.
- [8] *LAAA.*, vi, p. 90.
- [9] Cf. Smith, op. cit., p. 50.
- [10] See especially Matz, *Die frühkretischen Siegel*.
- [11] *Brit. School. Ath. Ann.*, xxx, p. 38.
- [12] Wace and Thompson, *Prehistoric Thessaly*, p. 149; Matz., op. cit., pl. 26.
- [13] *The Growth of Civilization*.
- [14] *Nature*, 6th May, 1933.

ABBREVIATIONS

PERIODICALS

AfO., *Archiv für Orientforschung*, Vienna.

AJA., *American Journal of Archæology*.

Anc. Eg., *Ancient Egypt*, London.

Ant. J., *Antiquaries' Journal*, London (Society of Antiquaries).

L'Anthr., *L'Anthropologie*, Paris.

Antiquity, *Antiquity*, Southampton.

Arch., *Archæologia*, London (Society of Antiquaries).

ÄZ., *Zeitschrift für ägyptische Sprache, usw.*, Berlin.

JEA., *Journal of Egyptian Archæology*, London.

JRAI., *Journal of the Royal Anthropological Institute*, London.

JRAS., *Journal of the Royal Asiatic Society*, London.

LAAA., *Liverpool Annals of Archæology and Anthropology*.

MAGW., *Mitteilungen der anthropologischen Gesellschaft in Wien*.

Man, *Man* (Royal Anthropological Institute), London.

MDOG., *Mitteilungen der deutschen Orient-Gesellschaft*, Berlin.

Mem. Arch. Surv. Ind., *Memoirs of the Archæological Survey of India*.

Mus. J., *Museum Journal*, Philadelphia.

OLZ., *Orientalische Literatur-Zeitung*, Berlin.

PZ., *Praehistorische Zeitschrift*, Berlin.

Rec. Const., *Recueil des notices et Mémoires de la Société archéologique de Constantine*.

Rev. Arch., *Revue archéologique*, Paris.

Rev. Ass., *Revue d'assyriologie*, Paris.

COLLECTIVE WORKS

CAH., *Cambridge Ancient History*.

Mém. Dél. Perse, *Mémoires de la Délégation en Perse*, Paris (Ministry of Public Instruction).

Real., Ebert's *Reallexikon der Vorgeschichte*, Berlin.

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Misspelled words and printer errors have been corrected. Where multiple spellings occur, majority use has been employed.

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Some illustrations were moved to facilitate page layout.

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