THE ANTIQUITY OF CIVILIZED MAN.

(THE HUXLEY MEMORIAL LECTURE FOR 1930.)

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By Professor A. H. Sayce, LL.D.

Many years ago Professor Huxley remarked to me: "If you wish to clarify your ideas, you cannot do better than give a lecture." The remark made a deep impression on me, and the truth of it has been abundantly verified by my subsequent experience. Our conclusions are not unfrequently derived from premises which have been forgotten or never fully thought out. We are apt to assume that facts or ideas familiar to ourselves are equally well-known to the rest of the world, and the attempt to explain them to others makes us realize how far this often is from the case. Each of us lives to a large extent in an intellectual world of his own, and it is not until we have to make it clear to others that we discover how much of it is overshadowed or rendered misty by familiarity.

It is not, however, the individual only whose ideas need clarifying. Science, as we know, is progressive, and the successive stages in its progress are each marked by a general atmosphere of its own. Assumptions are made upon evidence which is undefined or ill-defined, but which is taken for granted as was animism by primitive man. I am old enough to remember the time when layman and scholar alike assumed that the appearance of man upon this globe was a thing of yesterday. The geologists, it is true, had already begun to accustom the more intelligent portion of the public to the conception of a long period of existence for the earth itself, but so far as man was concerned, his history was still limited by the dates in the margins of our Bibles. Even to-day, the old idea of his recent appearance still prevails in quarters where we should least expect to find it, and so-called critical historians still occupy themselves in endeavouring to reduce the dates of his earlier history. In fact, his extremely modern character had become so fundamental a part of our stock of beliefs, that it is difficult to realize with what a shock the announcement came upon the ordinary educated world when as a schoolboy I listened to Sir Charles Lyell's famous address to the British Association at Bath in 1864. To a generation which had been brought up to believe that in 4004 B.C., or thereabouts, the world was being created, the idea that man himself went back to some 100,000 years ago was both incredible and inconceivable.

But it was uncivilized man, not *homo sapiens*, as he is called to-day, of whom this was postulated, and between *homo sapiens* and his predecessor or predecessors

the scientist still inserts a period of untold centuries. It is true that the Tasmanian with his palæolithic implements and mathematical deficiencies still survived into our own time; but he possessed a language and could even cook his food and make clay vessels. It is also true that Cromagnon man had a skull which rivalled that of the modern European and has left us works of art which, considering the conditions under which they were produced, place him on the highest stage of artistic ability. But he, too, possessed speech and belonged to the later and not to the older Palæolithic age of Europe. After all, it has been assumed, his distance in time from us has not been so great when measured with that which separates us from Chellean and still more Eolithic man.

Recent discoveries, however, in Southern and Eastern Africa have been disturbing. I learn from Sir Arthur Keith and Mr. L. S. B. Leakey that *homo sapiens* already appears in the Rift Valley of Kenya at the beginning of the second major pluvial period which may roughly correspond with the two last glacial epochs of Europe (the Riss and Würm). He had already invented pottery before the closing stages of that period, so that by the next wet period or the first post-pluvial wet phases of it he had developed a class of pottery of really good character. The Mousterian type of culture in Kenya existed contemporaneously with the Aurignacian throughout the second major pluvial epoch, gradually developing as time progressed. *Homo sapiens*, therefore, with his art of pottery-making and the use of fire which it implies, is thus pushed back to an age which we have hitherto associated with his semi-simian predecessors.

Man, that is to say, civilized man, or man in the true sense of the word, must therefore have existed untold centuries ago. He already possessed the potentiality of speech; we may argue from his artistic skill and products that that potentiality had been already translated into fact. The greatest invention ever made by him had already been made. That language was an invention we know; every child born into the world has to learn it. And language exists irrespective of race. Wherever we find man, however low he may be in the scale of humanity, he is possessed of language. The further we go back in his history, the more multitudinous are the languages which he has spoken. The tendency of an advance in civilization is to minimize their number and merge the languages of the smaller tribes or nations into that of the dominant power. The Roman Empire was a case in point. And what is true of the multiplicity of languages is true also of their character. Simplicity is a sign of age and progress; the most intricate and complex grammar is usually to be found among peoples of a low type. If we could transport ourselves back to the Aurignacian artists of France and the draughtsmen of the extinct animals of Africa, I fancy we should find a multiplicity of dialects and languages and a corresponding complexity of grammar.

What all this indicates is obvious. Civilized man—and man who had invented language and was a first-class artist, was already civilized man—is exceedingly old,

his antiquity cannot be measured by centuries or even by millennia. This much is the teaching of prehistoric archæology. Let us now turn to archæology in the more restricted sense of the name, and see what it can tell us.

At the outset, we are met by the historians on what may be termed the lower margin of archæology, whose sphere of work begins where that of the archæologist ends. The historian has to deal with literary records and his outlook, therefore, is subjective rather than objective. The interpretation and still more the valuation of them is a purely subjective matter dependent on his own judgment, prejudices and knowledge. Words, as we know, can be twisted in manifold ways, and it does not follow that what the original writer meant by them is what his later critic believes them to signify. Where the documents belong to a distant past, more especially if that past belongs to a different world and civilization from his own, the conclusions of the critic are apt to be mistaken. They represent his own surroundings and not those of the past.

The more distant the past and the more scanty the literary remains which belong to it, the more doubtful and open to suspicion must the verdict of the historian be. His interpretation of the evidence must be purely subjective and coloured by the assumptions and prejudices of his own time. Before we can accept it, it must be tested by the objective facts of archæology.

One of the leading obsessions of the historian has been the belief in the recent evolution of civilization and the shortness of the period during which it has endured. The obsession, as I have already noted, is derived from mediæval tradition: civilization was believed to have been coeval with the creation of man, and man like the rest of the universe to have been in existence only about 6,000 years. The science of geology in its early days had hardly penetrated into the ranks of the historical scholars, and the famous Presidential Address of Sir Charles Lyell on the Antiquity of Man, to which I have alluded at the beginning of my lecture, fell like a bombshell upon an unbelieving world. I well remember the sensation it created, and the numerous criticisms and "replies" which it called forth. But the historian comforted himself with the assurance that the "man" of the geologist was not the civilized and literary man with whom he had to deal, but merely a superior sort of ape. Civilized man was the man who had left books behind him which could be criticized and fully explained by the modern writer of books.

Mediæval tradition had left yet another belief behind it which co-existed with the belief in the brief duration of humanity and the universe. It was the belief in the decline instead of the progress of civilization and culture. The belief had been handed down from the classical world which had looked back with regret upon "a golden age," and it had been fostered by the manifest relapse into barbarism which characterized mediæval Europe. Travellers in Egypt brought back stories of the marvellous monuments of a remote past which were still to be found there: Roman

culture had been inferior to that of Greece, and the civilization of the Roman Empire had been succeeded by the Dark Ages. Civilized man, in short, had had but a brief existence, and it was accordingly evident that documents which ascribed to him an earlier date were unworthy of credence. It needed but little ingenuity on the part of the critic to resolve the earlier narratives given in them into myths and inventions and to lay down that literature in the true sense of the term did not exist before the 7th century B.C. The heroes of the old legends became solar myths and the "ancient empires of the East" were stripped of their antiquity.

A new era has dawned upon us. The scientific method, aided by the spade, has opened up a new world and furnished us with facts instead of theories. And the result is that the same story, as that which geology had to tell us, is being re-told. The age of civilized man must be pushed back through the centuries like the age of uncivilized man. Catastrophic theories are no more applicable to him than they are to the human being who had not yet invented language or learned how to cook his food. Art and culture did not spring suddenly into existence like Athena from the head of Zeus.

The last hundred years have, indeed, unfolded to us a new world, that of the civilized past. It is difficult for me to realize to-day how little we knew of it in the days when I was a boy. The inscriptions of Egypt and Assyria, it is true, were beginning to be deciphered, but the historian still looked upon their interpretation with suspicion and some, like Sir George Cornewall Lewis, rejected it altogether. So far as the Ægean was concerned, its history began with the Ionic colonization of the Asiatic coast, and the "Homeric Age" was synonymous with the mythological period. When listening to a lecture last year by an eminent classical scholar upon the successive naval hegemonies in the eastern basin of the Mediterranean, to each of which he assigned a precise date, I could not but think of the contrast with the orthodox attitude of mind in my younger days towards what were then considered the inventions of a later literature. It was then grudgingly admitted that libraries might have existed in Greece in the 5th century before our era, but even so, they would not have been libraries in our modern sense of the word, in which the various branches of literature are represented and students come to study them.

It is true that there were some old-fashioned people who still believed that the earlier books of the Old Testament belonged to their traditional date and that some of them were written by Moses himself. But this was the exception to the rule, so much the exception, indeed, that a special revelation from above was called in to explain it. And we of the younger generation, trained in the critical methods of Germany, were unable to accept the dogma; it rested only on unproved assertions, and was contradicted by the character of the documents themselves. If there were no libraries and literature in early Greece, still less probable was it that they should have been found in the Hebrew world.

And where there was no literature to hand down the facts of history, it was assumed to be unlikely that history could exist. Human memory is notoriously defective and forgetful, and the phantoms of imagination take the place of sober facts. Instead of history we should expect to have folk-lore and fairy-tales. More especially would this be the case in a literary community, such as that of modern Europe to which the critics belonged; here the memory had been weakened by centuries of literary tradition and the critics found it difficult to believe the stories that were told of Indian scholars who had handed down the Rig-Veda orally, or of Polynesians who professed to remember the names and deeds of former chieftains for numberless generations. The argument seemed unassailable: without books and libraries there can be no history, and since books and libraries could not be traced back beyond a few centuries before our era, the earlier so-called history of the world, it was clear, must be little more than myth. And from this it further followed that where we have no history we cannot assume that civilized man existed or could have existed for any considerable period of time.

The historian is still largely under the spell of these prepossessions and beliefs. The purely archæological record naturally leaves him untouched. He is content to let the archæologist discourse about stone and bronze ages and assign to them long periods of time, so long as there is no question of exact dating or of interference with the antiquity which he would assign to his own *protégé*, literary man. Here he believes he can count the generations, and the oftener he counts them the fewer they become.

But archæological science, hand in hand with the decipherment of the languages and records of the past, has come with a rude shock, and the most recent discoveries have been more than usually subversive. Civilized man in the fullest sense of the word is immeasurably old. His history forms no exception to that of the rest of the world; though the latest comer, he too has a past which cannot be measured by the half-dozen inches of the literary historian's rod. Archæology is repeating the lesson of geology and physical science.

I have already touched upon the discoveries in Southern and Eastern Africa. The consummate artists who depicted the animals of an extinct fauna, like their brethren in France and Spain, were representatives not only of *homo sapiens*, but of *homo sapiens* in a highly developed form. And think only of the conditions under which in Europe he drew his pictures on the walls and even the roofs of the caves he inhabited or carved the mammoth tusk and moulded the clay into life-like figures! The exhibition of primitive art organized at Manchester in 1928 by the late Sir William Boyd Dawkins must have been a revelation to many of us. In the subterranean darkness of a world in which the conditions were those of Iceland or even Greenland to-day, and by such light as could be obtained from a little grease, works of art were produced worthy of being grouped with those of a fifteenth-century painter. But the artistic achievement was more than matched by an achievement

of an even greater nature. Man had already invented articulate language, the greatest and most astounding invention he has ever made.

But I must leave the history of *homo sapiens* in his earlier years to the geologist and prehistoric archæologist. There is one experience of my own, however, which I will record, as it impressed me in a way that no amount of books or museum specimens could have done. Some thirty years ago I undertook to make an archæological survey of the sandstone district of Gebel es-Silsila, in Upper Egypt, for the Egyptian Department of Antiquities. A barrage was to be built across the Nile at Esna, and as the engineers wished to get their stone for it from the sandstone rocks of Silsila, it became necessary to ascertain where they could do so without destroying or injuring any remains of antiquity. In the course of my work, a few miles north of the Gebel I found a *wadi* on the western bank of the river, which had been the bed of a torrent that had poured into the valley of the Nile from the jungle that then flourished on what is now the western desert in the Pluvial Age, when the Sahara was covered with forest and intersected by streams. In the middle of the *wadi* was a huge boulder of sandstone, washed down from the plateau above and marked at about two-thirds from its base by the high-water level of the ancient torrent. Above this level the rock was covered with drawings of elephants, giraffes, and ostriches—which, it may be noted, had already ceased to exist in Egypt when the hieroglyphic script was first known in its present form. The outlines of the drawings had been chipped by flint tools, some of which I found at the foot of the boulder. Over some of the drawings had been cut a hieroglyphic inscription in the age of the Eleventh Dynasty, between 4,000 and 5,000 years ago. The inscription looked as fresh as if it had been engraved yesterday, whereas the prehistoric pictures were weathered to the colour of the stone. The contrast made me realize in a startling way the enormous length of time which must have elapsed since the pictures themselves were drawn.

But historical Egypt also now has its lessons to teach us. While the literary historians have been vying with one another in the endeavour to minimize its antiquity, the spade of the excavator has made discoveries which have rightly been termed revolutionary. At Saqqara, under the shadow of the Step-pyramid, generally considered the earliest of the pyramids still existing, Mr. Firth has laid bare a complex of buildings without parallel elsewhere in the country. A stately avenue of fluted columns—indicating from whence the Greeks, centuries later, derived the so-called Ionic design, a record office or library, storage magazines, tombs and temples, have been discovered, all surrounded by a vast wall, 17 metres thick, and faced on both sides with the finest masonry in Egypt. It is, in fact, the masonry of modern Paris or London rather than that which we have been accustomed to associate with the Egypt of later days. And at the south-western corner the wall is overshadowed by a circular bastion, the only circular building which ancient Egypt has bequeathed to us. Within the fortified enclosure subterranean passages cut through the solid

rock lead to what may have been a memorial chapel of the king, while another passage to the north descends some 72 feet below the level of the ground to the royal tomb under the pyramid itself. The passages consist of wide and lofty corridors, the longest of which, like the tomb, has on one side a wall encrusted with small plaques covered with a blue glaze and grouped at times into the form of lotos-buds or papyri bound together.[1] This wall of tiles is broken into three niches built of exquisitely white limestone, in each of which is a figure of the Pharaoh standing or in the act of running, and set in a frame on which his name and titles are engraved in hieroglyphs of extraordinary beauty. Both figure and hieroglyphs are in low relief, and the figures of the king are marvels of art. Indeed, if we did now know that they represent King Zoser, described only as recently as 1895 in Bædeker's *Handbook to Lower Egypt* (p. 164) as "the mythical King Zoser," and that they were carved by Egyptian artists of the Third Dynasty, we should have little hesitation in ascribing them to a Greek artist of the age of Pericles. The muscles of the arms and legs, like the pose of the figures, are represented as they might have been by a Greek sculptor of the classical epoch. I know of nothing comparable with them elsewhere in Egypt, just as I know of nothing comparable with the architecture of the buildings above them; in architecture and in art alike Egypt would seem to have reached its climax in the age of Zoser, and from that period onwards, instead of progress, there was more or less decline. A still more modern touch is to be found in a side passage leading from one of the corridors of which I have spoken, which terminates in a small chamber cut in the rock and presenting a startling resemblance to a retiring chamber of to-day.

Architecture, art, and glazed tiles all testify to the long centuries of development which must have preceded the period of perfection to which they belong. And the impression made by them upon us is heightened when we come to examine the hieroglyphic script. It is already as complete and conventionalized by use as in the days of Rameses or Darius. The alphabet is there by the side of the syllabary and ideographs, and there are indications that the hieratic or cursive hand was already employed. As for the smaller objects of daily life—the furniture of the house, the jewellery and garments that were worn, or the articles of toilet—the discoveries made by Dr. Reisner in the tomb of the mother of Kheops, the builder of the great pyramid of Giza, prove that at the beginning of the Fourth Dynasty the culture and art of Egypt were still at their highest level. The bedstead and carrying-chair of the queen with their golden fittings might even now adorn a royal palace. It will be remembered that Sir Flinders Petrie, when he was working at the Great Pyramid many years ago, discovered that the huge granite blocks used in its construction had been smoothed by means of tubular drills fitted with hard-stone

[1] Mr. Firth points out that these bundles of papyri are the origin of the Egyptian hieroglyph *dad*.

points. The world had to wait until the era of the Mont Cénis tunnel before a similar instrument was employed again.

When we turn to Babylonia, here also the latest discoveries have pushed back the highest development of its art yet known to us to an undetermined but remote antiquity. Hitherto ancient Babylonia, whether Sumerian or Semitic, has seemed artistically deficient and inferior; its inhabitants were primarily men of business and trade, the initiators of banking and international commerce but with little artistic sense. The royal and other tombs found by Mr. Woolley at Ur have revolutionized our judgment on this matter. The gold and silver work, the inlaid designs in shell and ivory, have revealed an art of the first order. To those of us who have been devoting a life-time to the study of Babylonian antiquity the revelation has, indeed, been startling. Some of the inlaid designs with their touches of modern humour seem to belong to the European world of to-day rather than to the Oriental world of the past. And yet the tombs and their contents actually belong to Babylonian pre-history rather than history. The few inscriptions found with them are not yet in the fully-developed cuneiform or linear script, which already had a long history behind it when Sargon of Akkad founded the first Babylonian empire in 2750 B.C. They are, in fact, still the pictographic signs out of which first the semi-linear and then the cuneiform characters slowly developed. And along with these early semi-pictographic forms goes another remarkable fact. The advanced art and culture exhibited by the objects formed in the tombs is accompanied by evidence of human sacrifice on a vast scale which reminds us of Dahomey rather than of the Near East. Human sacrifice, however, was not only unknown in historical Babylonia, but its very existence at any period in the past history of the country was ignored. In the multitudinous religious texts which we now possess I can find no specific reference to it. The references which I thought I had discovered some fifty-five years ago have since proved to be mistaken. When Babylonian history begins the past existence of human sacrifice is even less known to its records than it is to the beginnings of Anglo-Saxon history.

And yet the royal tombs of Ur by no means belong to what, it is now clear, was the earliest period of Babylonian history. "Above the graves," Mr. Woolley tells us, "there runs, virtually unbroken, a stratum dated (by written tablets or clay jar-stoppers) to the First Dynasty of Ur, about 3100 B.C., and a little below is (another) the seals from which seem to be rather earlier. Then comes (No. 3) a deep zone in which lie nearly all the graves. Below it the stratification continues, and in five further layers more tablets and seal-impressions occur freely. All these are necessarily older than the cemetery" into which the "royal tombs" were sunk. The stratification of the city itself, where house has been built over house, agrees with that of the cemetery. Here, too, there are eight successive layers, each distinguished by the remains found in it, which include inscribed objects. In one of the strata (the 6th), "which was more than 20 ft. underground when the first of the

royal tombs was made," four bulls' hooves of hammered copper were discovered which had belonged to a life-size statue, and in the eighth layer " the painted pottery resembling that of æneolithic Susa and even distant China, which hitherto (had) been reported only from Jemdet Nasr, near Kish," makes its appearance. " Below this begin to appear the black and green sherds of the El-'Ubaid type," the pottery, namely, found at El-'Ubaid near Ur. We are thus taken back to the time when the alluvial plain of Babylonia was only beginning to be formed at the head of the Persian Gulf.[1]

My own belief is that the royal tombs of Ur, modern as they are when compared with the strata below them, belong to a pre-Sumerian time and to a pre-Sumerian race, which would explain the existence of human sacrifice to which they testify. The Sumerians called themselves " the black-headed people." This implies that there was also a blond race in the country from which their black hair and eyes distinguished them, and the conclusion is confirmed by the further fact that whereas Sumerian art represents them as broad-skulled, most of the early skulls discovered at Ur and examined by Sir Arthur Keith prove to be dolichocephalic. Berossus, the Babylonian historian, tells us that the plain of Babylonia was originally inhabited by peoples of various origin, and an early Sumerian poem published by Prof. Langdon explicitly states that in the pre-historic days Lugal-banda, king of Dêr, on the eastern side of the Tigris, invaded the country and expelled " the wicked Murrû "—the Amorites of Semitic writers—from Erech the future capital of a Sumerian dynasty.[2] On the Egyptian monuments, it must be remembered, the Amorites of Palestine are depicted as blonds with fair hair and blue eyes. I believe that in these blond Murrû we must see the Mesopotamian Mitannians of later history; in a letter of the Mitannian king Dusratta, Mitanni is called Murrû-khe, or " Murrû-land," and I have tried to show elsewhere that the name given to the Mitannian neighbours of the Hittites in eastern Asia Minor which has been read Kharri, or Khurri, ought to be Murri.[3] The latter have been identified with the Sanskrit-speaking tribes of whom we hear in the Hittite tablets.[4] At any rate, we may safely assume that they were of Caucasian origin. And we may, I think, further assume that the people, represented by the artistic treasures and human sacrifices in the royal tombs of Ur, were the Murrian or Amorite predecessors of the Sumerians. At Tepe Gawra, near Nineveh, Dr. Speiser has discovered two strata of cultural remains below the stratum which belongs to the Early Bronze Age and the appearance of the Sumerians. In this last, the copper objects resemble those found at Ur and El-Obeid, which are dated

[1] " Early Art in Sumeria," *Times*, February 11th, 1930.

[2] Langdon, *Weld-Blundell Collection in the Ashmolean Museum I*, p. 5: Legend of Lugal-banda, ii, 12–3; " From all the land of Sumer and Akkad let the impious Amorite depart " (*Kengi Uri nigin-ba Murrû galu senuzu khu-mu-zi*).

[3] *Ancient Egypt*, Sept., 1924 (Pt. III).

[4] Hrozný, however, would make the " Khurri " the non-Indo-European population and the Mitanni or Maiteni the Indo-Europeans (*Archiv orientalní*, i, 3, p. 296).

to the period of the First Dynasty of Ur (about 3100 B.C.), whereas the earlier strata take us back to the æneolithic epoch and the painted pottery of Jemdet Nasr.[1]

But the tombs of Ur testify to something more than an advanced art and human sacrifices. They indicate a wide international trade and the working of mines. Gold, silver and lapis-lazuli are all found in them in profusion as well as copper. The gold probably came from the shores of the Persian Gulf, but the silver, like that of the Sixth Egyptian Dynasty, found by Sir Flinders Petrie at Abydos, was probably brought from the mines of the Taurus, while the lapis-lazuli, we are now assured by the geologists, was derived, not from Northern Persia, but from North-Western India.[2] The fact is in harmony with the discoveries recently made in China and North Western India itself. In China, Prof. Andersson has found painted and polished pottery of the neolithic and chalcolithic age, which is related to the neolithic pottery discovered in Susa; similar ware has been found in Babylonia and (by Prof. Garstang) at Sakche-gozü, north of the Gulf of Antioch, while the recent excavations of Prof. Li at Yin in Honan—the first official excavations of a scientific character made in China—have shown not only that the Shang Dynasty (1766-1154 B.C.) was historical but that the account of its culture and script with the long preceding development and commercial intercourse implied by them was based on fact.

In India, both at Mohenjo-daro in Sind and at Harappa in the Punjab, a prehistoric civilization has been brought to light which was in close contact with that of Elam and Sumerian Babylonia. The painted pottery, the inlaid work in mother-of-pearl and ivory, even the drains in the streets, all have their connections in Babylonia, and hundreds of seals and sealings have been disinterred, which prove that there was an active trade between North-Western India and Western Asia. The sealings have inscriptions in a pictographic script, often accompanied by representations of an Indian buffalo or the like and of an altar of various forms. In shape and size and general character the sealings resemble those found at Susa, which also bear pictographic inscriptions as well as figures of animals. Some of the Indian sealings have actually been found in Babylonia, at Jokha, the ancient Umma, as well as in the early strata of Kish. It is evident that a large and regular trade must have existed between the two countries; a good deal of it was doubtless carried on by sea, but there must have been a land-route as well. Indeed, more than 80 years ago some antiquities were discovered near Herat which included a Babylonian seal-cylinder belonging to the age of the Third Dynasty of Ur about 2300 B.C., which shows that the land-trade still existed at that period.[3] When this

[1] *The Annual of the American Schools of Oriental Research*, ix, pp. 39–51.

[2] According to a Babylonian tablet (*W.A.I.*, ii, 51.1.13), the source of the lapis-lazuli was "Mount Dapara," called Tapara (Tefreret) in an Egyptian inscription of Rameses II. But this may have been the Persian depôt rather than the quarry itself.

[3] See the *Journal of the Asiatic Society of Bengal*, xi, pp. 316 *sqq.* The seal was bought by Major Pottinger, but afterwards lost—fortunately, not before a good copy of the inscription had been made by the purchaser and published in the *Journal*.

trade first began we have yet to learn, but it must go back to the time when in Elam at least the primitive pictographs had not yet been superseded by the cuneiform script. At a later date the so-called Cappadocian cuneiform tablets discovered at Kara Eyuk, 18 kil. north of Kaisariyeh, have shown how extensive and modern in character Babylonian commerce must have been at that time. Here several thousand tablets have been brought to light, mostly consisting of trading and legal documents and including a good many private letters. At the time when they were written the copper, lead and more especially silver mines of the Taurus Mountains were being worked by Babylonian firms whose agents had their depôt and chief centre at Ganis, the present Kara Eyuk. "Companies" (*illâti*) had been formed to exploit them and caravans travelled regularly along the roads which led from Asia Minor to Assur, the original capital of Assyria, on the one hand and to Babylon on the other. There was, in fact, what we should call a postal service, and one of the letters expresses the hope that the moon will shine brightly so that there might be no delay in the delivery of the mail, while another letter states that a particular route was being taken, as it was now considered safe. The tablets were enclosed in clay envelopes on which the addresses were inscribed as well as a statement of the contents.

Some of the tablets are of the nature of cheques and bills of credit. The writer states in them that they represent so many manehs or shekels of silver, gold or copper, in return for which cloths or other goods are to be sent. Besides metals, a large trade was carried on in textiles and clothes, showing that Asia Minor at the time was not only exporting metals on a large scale, but was also the seat, like Babylonia, of an extensive textile industry. Among the articles manufactured it is interesting to note the *berigani*, the *braccae* of the Keltic languages, and our English "breeches," which can, therefore, claim a Hittite ancestry.

The principal silver mines were at the modern Bereketli, where traces of the old workings have been found extending over several miles. Gold was also mined but in small quantities; one of the sources from which it was derived seems to have been in the north-west of the peninsula. Iron is also mentioned, but it is uncertain whether this was derived from the rock or from a meteoric source. In the later days of the Hittite Empire we are told that "black iron" as distinguished from "iron," came "from heaven," like the *ba-n-pet* "metal of heaven," which denoted "iron" in the Egyptian hieroglyphs. At any rate, iron was already worked at a considerably earlier date than the foundation of that empire; in one of the Hittite tablets a king (Anittas), who seems to have flourished about 1900 B.C., speaks of "an iron chair," and "an iron boomerang," having been brought to him from Buruskhanda, where the principal silver mines were.[1]

[1] *K.B.K.*, iii, 2, No. 22.75. The ideographs PA-GUR, which I have translated "boomerang," signify literally "a bent rod." Hrozný suggests the translation "sceptre."

The date of the Kara Eyuk documents is fortunately known. The forms of the characters, as well as the Assyrian proper names occurring in them, point to the age of the Third Dynasty of Ur (2418–2300 B.C.), and this dating has been verified by the discovery of two sealings published by M. Thureau-Dangin and myself, one of which gives the name of Ibi-Sin, the fifth king of the Third Dynasty of Ur (2324–2300 B.C.) while the other has the name of Sargon I, the son of Ikunum of Assyria. We may, therefore, assign the bulk of the tablets to about 2300 B.C. They were preserved in chests of stone or terra-cotta, which took the place of our safes, and often bore the "crest" or name of the banker to whom they belonged. Thus, Professor Hrozný has disinterred one of them in the form of a terra-cotta box, on the lid of which a monkey is moulded in relief.[1] They appear to have been kept in the vaults of the banks or offices of the companies established at Ganis. It is all very modern and implies a long preceding period of development and history.

We can trace it back a few centuries. In 2750 B.C., Sargon, the founder of the dynasty of Akkad and of the first Semitic Empire, carried his arms into Cappadocia, and made his way as far as a mountain called Galasu, which Dr. Weidner would identify with Ganis, and from which he brought back various plants, including the rose-tree, for acclimatization in Babylonia. The chief object of the expedition seems to have been to support the Assyro-Babylonian *damgari* or trading-agents and commercial travellers who lived there and were occupied with the trade in minerals. A sort of "commercial treaty" was made, and a century later we find Naram-Sin, the grandson of Sargon, receiving homage from Zipani, King of Ganis, and other princes in that part of the world, one of whom was Pamba the Hittite. It is worth mention that *Khati* in Hittite signified "silver," so that the Khatti or Hittites would have been "the Silver-men" who mined and exported that metal to the ancient world.

I need not dwell upon the length of time presupposed for the rise and development of all this trading activity with the means of traffic and use of writing which it implies. The archæological record of civilization is being steadily pushed back and the disturbing discrepancy between the facts of archæology and literary criticism is disappearing. Civilized man is far older than the merely literary scholar has dreamed.

But the archæologist also must be careful not to exceed his evidence, and, above all, not to make assumptions which belong to a pre-scientific age. When I was young, the assumption that language and race were interchangeable terms was still widely prevalent, and one of my first incursions into linguistic science was an article protesting against it in the *Journal of the Anthropological Institute*. To-day, every scientist would acknowledge its falsity, but nevertheless the assumption sometimes appears even in quarters where it might least be expected. It cannot be too often made clear that all linguistic science can do is to indicate geographical

[1] *Illustrated London News*, October 2, 1926.

contact; where we have allied languages we have evidence of social intercourse, but nothing more.

The old fallacy, however, which confused language and race together has been succeeded by another fallacy which is unfortunately not infrequent in modern anthropological books. Similarities in technique are assumed without question to indicate relationship or contact in race and history. It is especially when dealing with pottery that the archæologist is tempted to assume without further evidence that such contact or relationship exists. But it is clear that mere similarity in form proves nothing of the sort when standing alone. The number of possible forms, for instance, belonging to vessels intended for use is necessarily limited; man is an inventive animal, and the same form could have been devised independently in different parts of the world. Coloration and ornament are more evidential, but even here there is plenty of room for the existence of accidental similarities. Moreover, we have to allow for primitive barter, which implies, not actual trade between two widely separated communities, but the passage of certain objects through a number of intervening hands. Thus, the painted æneolithic pottery of China does not prove that there was intercourse between its makers and the early inhabitants of Susa and Babylonia; all that can be inferred is that at a particular period in the history of Asia there was a trade which passed slowly through a multitude of separate communities and races, generally assuming on its way peculiarities of its own.[1] Even the megalithic monuments erected to the dead, of which we have heard so much of late, are in themselves of little historical value; long centuries, for example, separate those which are found in Western Europe from those which are found in Japan.

In the case of an inductive science, the false assumptions or other faults with which it starts are corrected in time. It deals with objective facts and not with the tastes and predilections of an individual scholar. And the interpretation of the facts becomes more exact and limited with the progress of the science. Archæology has outlived its years of infancy, and in its broad outlines can now take rank with geology. And like the geologist, the archæologist has had to leave catastrophic theorizing to the literary amateur. Athena did not spring full-grown from the head of Zeus. The art and culture of classical Greece, we now know, had its origin in

[1] In an article on the early pottery of Ur (*Antiquaries' Journal*, ix. 4, p. 344), Mr. Frankfort justly remarks: "Generalizations are of no avail. Thinness and thickness of ware has been taken to illustrate differences in period as long as Susa only was considered; 'Musyan' has disqualified this criterion. Polychromy and monochromy of decoration no longer provide chronological indications, since Sir Aurel Stein's discoveries in Seistan and Professor Langdon's work at Jemdet Nasr suggest that certain monochrome fabrics survive and overlap the polychrome wares. Yet all these isolated qualities are still used as criteria for classification. But only if we insist on a many-sided resemblance, a resemblance affecting technique, shape and decoration alike, before claiming the existence of relationship between wares from different sites, is there any likelihood of our not combining heterogeneous elements."

the Greece of the Minoan and Mycenæan Age; the invasion of the barbarian north overshadowed it only for awhile, but the seed remained ready to bud and blossom again as soon as the older race had freed itself from the domination of their feudal conquerors. So, too, in Western Europe, the Dark Ages were but a break in the history of its civilization. A thousand years are but as a day in the life of civilized man, and the Renaissance meant, not that the culture of the Roman Empire was reborn, but that it had been lying like the seed in the soil, ready to spring up again and burst into leaf as soon as the conditions that environed it were favourable. In scientific archæology catastrophic theories have as little place as they have in geology or physics.

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