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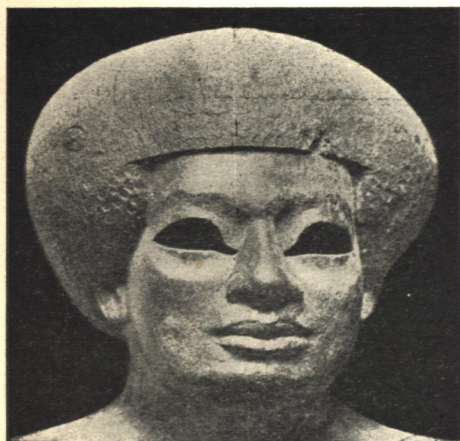
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ANCIENT EGYPT

1920.

PART II.

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7. NOTES AND NEWS.

EDITOR, PROF. FLINDERS PETRIE, F.R.S., F.B.A.

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ANCIENT EGYPT.

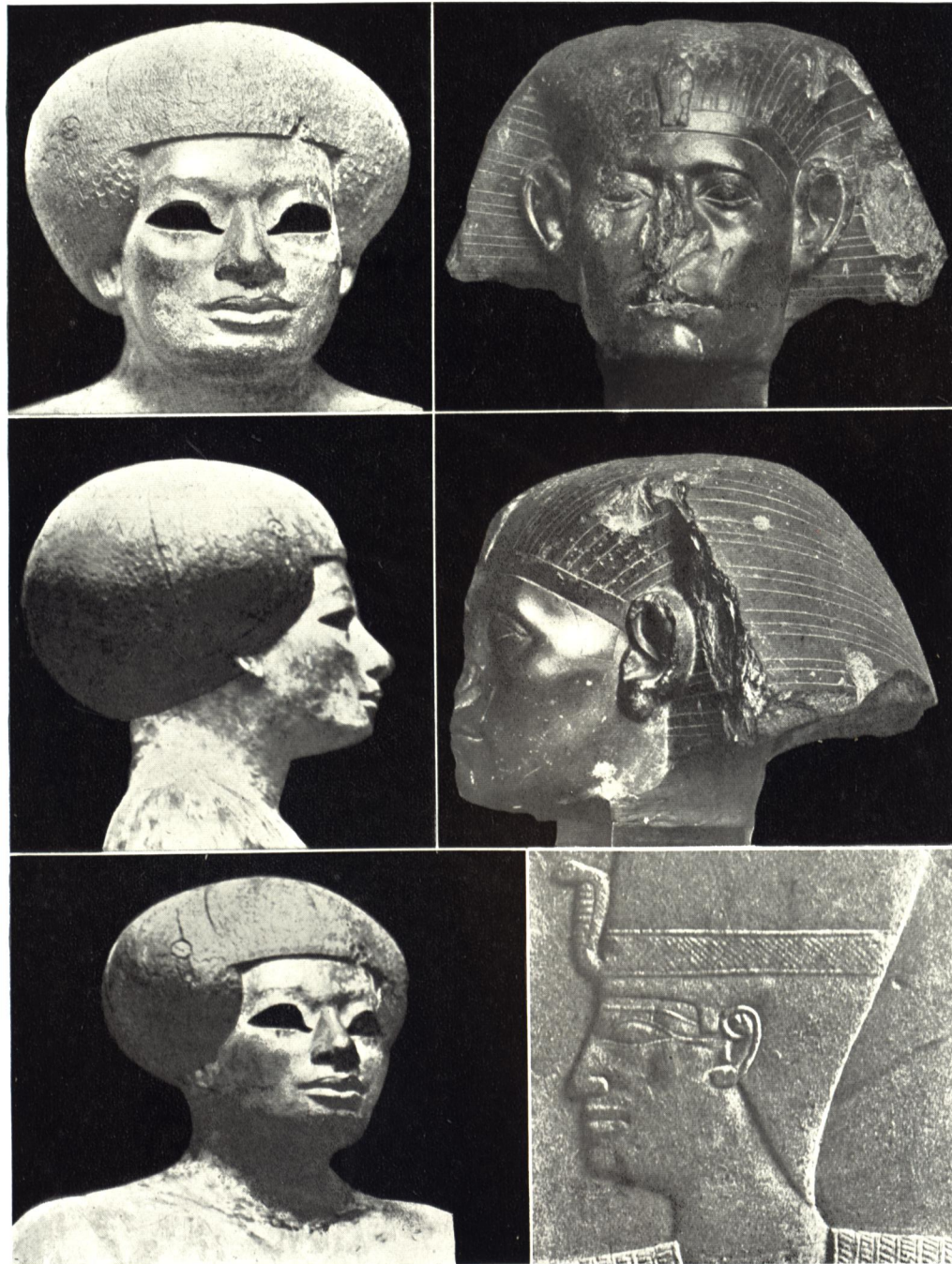
A MENTUHETEP STATUE.

THERE has lately been published by M. Paul Mallon, of Paris, a portfolio including some fine Egyptian figures. One of these is of much interest, and he has kindly allowed the head to be reproduced here. The figure is of ebony, twenty-seven inches high. The pose of the standing position is more thrown back than in the Old Kingdom, from the waist upward. The head has had inlaid eyes, now missing. The expression is marvellously vigorous and full of vitality, and it differs from other Egyptian figures not only thus, but also in the type. The very wide jaw, short chin, and high cheek-bone have hardly a parallel in other statues. It is clearly one of the great masterpieces, and of a rare style of work.

What period can be assigned for this? So far as external evidence goes, it is stated to have come from the XIth dynasty temple of Deir el-Bahri; and looking at the large slabs of sculpture which passed from the work there to the dealers, such a figure might more easily be taken surreptitiously. The nearest parallel for it is a head in Vienna, nine inches high, of green metamorphic stone. The views of this (borrowed from Bissing's *Denkmäler*) are here placed parallel to the Deir el-Bahri head. Allowing for the different school, working in different material, and the loss of the inlaid eyes, we see a close resemblance in the features. The wide short jaw, the proportion of the outline of the nose on the face, the high cheek-bone, the slope beneath the jaw, the squareness of the temple, all agree within near limits. The sternness of the work in polished stone naturally makes a different treatment and expression to the vivacity of the wood carving. The Vienna head is concluded to be of the Middle Kingdom by Bissing, who points out that the uraeus on it shows it to be after Mentuhetep II, who first wore it as in our Fig. 6.

Which of the Mentuheteps might the ebony figure represent? We will here follow the arrangement of Gauthier, as it seems to accord better with the artistic development than that of Naville, which puts Neb-taui-ra after Deir el-Bahri temple. The order of Gauthier for the Mentuheteps is as follows, stating the distinctive *ka*-name and Ra cartouche:—

- I. Neter hezt.
- II. Neb.tauī Ra.neb.tauī.
- III? Sonkh.ab.tauī.
- IV? Sma.tauī Ra.neb.hept.
- V. Sonkh.tauī.f Ra.sonkh.ka.
- VI. Ra.mer.onkh.
Ra.skho.ne.



1. THE MALLON STATUE,
2. FROM DEIR EL-BAHRI,
3. EBONY.

4. THE VIENNA HEAD.
5. MENTUHETEP II, GEBELEYN.
6. MENTUHETEP II, GEBELEYN.

Of these I is found at Deir el-Bahri, on sculptures from Gebeleyn, the head here No. 6. II is at Wady Hammamat. IV is the king of the Deir el-Bahri temple; according to Naville divided into two rulers writing the name by the oar and by the square, two homophones. V is the well-known Sonkhkara. VI is from a statue found at Karnak by Legrain. The last king here is not placed by Gauthier.

For the portraiture, though over ninety plates have been published from the temple, the royal portraits, unfortunately, have not been collected and reproduced efficiently on a full scale together. The complete heads on the British Museum sculptures do not all seem to have been published. The heads that are photographed in *The XIth Dynasty Temple of Deir el-Bahari* are in Vol. I, xii, xiii; Vol. II, v, vi; Vol. III, xii. None of them seem to have the prominent nose of the ebony figure, as these all agree pretty closely in having a slightly aquiline, massive nose, with little projection, a type seen now in some Sudanis. The Vienna head, when perfect, may have agreed with the Deir el-Bahri type. If so, the nose would not accord with that of the ebony figure. The Fig. 6 of Mentuhotep from Gebeleyn appears to be that in *XIth dyn. Temple*, I, xiiA. The general resemblance of this type to that of Ra.neb.hept shows that there was a family type; and it seems, then, most likely that the ebony figure, by its resemblance to the Vienna head, belonged to a successor of Ra.neb.hept, who dedicated his statue in the temple of his ancestor. When workmen are not well rewarded for the objects found, much is taken away without any record of its original place and connection. If we knew the position to which this figure belonged—the burial chamber—the royal shrine—the family shrines—or elsewhere—we might have fixed the historic value of one of the most striking portraits known from Egypt.

W. M. FLINDERS PETRIE.

ON THE USE OF BEESWAX AND RESIN AS VARNISHES IN THEBAN TOMBS.

IN some of the tombs in the Theban Necropolis it appears that wax was mixed with the colours used for the wall-paintings. The use of wax for this purpose has not been mentioned before, to the knowledge of the writer, but on turning over fragments of mud plaster from the walls of the tomb of Antef (No. 155) which had been buried in rubbish for some considerable time, he found that many of the colours were covered with a thin grey coating or skin. A brief examination on the spot proved this to be a wax, and a further investigation by Mr. Robert Mond in London gave the same result. A close examination of the walls of other tombs then revealed the fact that wax was fairly frequently used as a fixative or as a varnish in tombs ranging from the time of Amenophis I to that of Amenophis II. That the use of wax should be limited to this short period is interesting, but up to the present it has not been detected in tombs of either an earlier or a later date.

At the present day, the wax remains upon the tomb walls as a greyish and partially opaque skin which is readily detachable from the colour beneath, and thus gives impression at first sight that it was merely applied as a kind of varnish. Mr. Mond has however found in the sample submitted to him that the substance was as plentiful in the middle and bottom layers of the colours as on the surface, which suggests that the paint was mixed with the wax before being applied to the walls. The melting-point of the wax in the samples examined was 64° C., and as the melting-point of beeswax is 61° to 64° C., it seems probable that it was beeswax which was employed. Beeswax is one of the materials imported into Egypt from the Sudan at the present day, and doubtless was in ancient days. The wax produced in Egypt is of a very poor quality and dark in colour. There is strong evidence that in some cases the wax was applied to the surface of the colours instead of being mixed intimately with them.

In several tombs, and notably on the walls of the inner passage of the tomb of Kenamūn (No. 93), the wax has been applied in this manner rather carelessly, and has encroached on, and slightly darkened, the white ground of the painted scenes. In the tomb of Antef (No. 155), the painter did not trouble to go round the small patches of the grey ground to avoid darkening them, but covered them also with wax.

There is no doubt that the application of wax was found greatly to improve the brilliance of the colours, especially the reds, blues, and greens. The re-melting of the wax on small painted fragments leads to the colours brightening up in an extraordinary way.

The question arises how this wax was applied, for even in a hot climate like that of Egypt it would never naturally be in a more melted condition than just pasty. It is, therefore, probable that it was mixed with some solvent, such as a volatile oil like turpentine; the process of applying heated wax to the walls, as was done in the case of the Hawara portrait panels, would have been extremely tedious and uncertain. It would also take a considerable time to cover the walls of a tomb in this manner.

It is possible, of course, that an open brazier was held close to the portion of the wall to be treated, and a lump of wax then rubbed over the portion thus heated. A second application of the brazier locally to parts thus prepared would cause the wax to be well absorbed by the paint and plaster. If this method were the one adopted, it would perhaps account for wax being found right through a colour and not only on the surface, as well as overrunning the limits intended.

The following is a list of those tombs in which the waxing of colours has been observed:—

Tomb 179.	NEBAMŪN	HATSHEPSOWET.
„ 251.	AMENMŌSE	Early TUTHMOSIS III (?).
„ 155.	ANTEF	TUTHMOSIS III.
„ 39.	PUIMRĒ	TUTHMOSIS III.
„ 81.	ANENA	AMENOPHIS I—TUTHMOSIS III.
„ 82.	AMENEMHĒT	TUTHMOSIS III.
„ 86.	MENKHEPERRASONB	TUTHMOSIS III.
„ 93.	KENAMŪN	AMENOPHIS II.

The colours in the tomb of Puimrē are applied direct to the stone without an intervening coat of plaster.

In many tombs the wall paintings were covered with a varnish, which was made from some kind of resin, whose variety cannot, however, be ascertained as yet. In some of these tombs, the varnish is well preserved, though darkened in tone, but in others it has either scaled off through being applied too thickly, or it shows a badly cracked or fissured surface. Instances also occur where the varnish has become much blackened through age, more especially in those tombs which have been inhabited, a resin varnish apparently having a great affinity for smoke. Sometimes varnish was applied to the whole surface of a wall, but more usually only certain colours were treated with it, these being principally yellows and reds. It is difficult in some cases to distinguish between colours so treated, owing to the varnish darkening in tone (Tomb 150 and others).

There is strong reason to suspect that a varnish or similar medium was mixed with the pigments as well as applied to their surfaces, as some colours show a slight gloss combined with a peculiarly hard surface, the appearance of which is totally unlike that of a colour which has had a varnish applied only to its surface. It is to be regretted that up to the present only a few samples of varnished colours have been examined, owing to lack of material. It is highly undesirable to obtain samples direct from the tomb walls (which has been done in the past) and the only way is to obtain them from fallen fragments found in the course of excavating a tomb, which are either too poor to replace on its walls or whose proper position cannot be determined.

For those interested in this special question there is given below a list of some tombs whose paintings have either been varnished or possibly had a varnish mixed with their pigments:—

Tomb 40.	AMENHOTPE	Whole walls varnished.
„ 52.	NAKHT	Varnish applied only to limbs of some small female figures.
„ 64.	HEKERENHEH	Reds, blues, and greens, varnished.
„ 74.	THANUNY	Varnish applied to some of the greens.
„ 90.	NEBAMŪN	Yellows appear to have been treated.
„ 93.	KENAMŪN	Whole walls varnished and others waxed.
„ 130.	MAY	Reds and yellows varnished.
„ 139.	PERE	Reds varnished in places.
„ 161.	NAKHT	Many colours varnished.
„ 175.	(Name lost)	Reds and yellows varnished.

All the tombs mentioned above belong to the period of the late XVIIIth dynasty, the majority being of the time of Tuthmosis IV. Up to the present no examples have been found in the Necropolis of tombs of an earlier date that have been varnished wholly or partially, with the possible exception of yellows. A certain yellow used in the Theban Necropolis which was made from a compound of arsenic (orpiment) was generally applied over a white ground owing to its transparency. It thus acquires a glazed appearance which to the casual eye suggests a varnish.

There is not any known case of the employment of varnish for the purpose of protecting or enhancing colours in Ramesside tombs, with the one exception of Tomb 23, of Thoy or To. Probably varnish was soon found to be unsatisfactory as a medium for tomb decoration, though it was extensively used in the XIXth–XXth dynasties and later, for the decoration of coffins and funeral furniture.

The question now arises as to where the resin or resins were procured to manufacture such varnishes. Egypt does not produce any resin-bearing trees, with the exception of the acacia, and the nearest source of supply would be Syria and the North Coast of Africa, from which places sandarac and mastic are obtained.

Prof. Laurie has examined the question fairly closely in his *Materials of the Painters' Craft* (p. 31), where, in discussing a certain varnish found on a coffin of the XIXth dynasty, he concludes that the varnish used was a natural semi-liquid resin as obtained from the tree, like our Venice turpentine or Canada balsam, probably laid on after warming. He also states (p. 30) that a solid resin liquified by heat cannot be evenly spread on a surface, and it at once cracks on cooling. Now in Tombs 52 and 139, in which some female figures are thickly coated with a resinous varnish, it would appear that this was the method employed; for the varnish, besides being laid on coarsely, is now covered with numerous fissures and cracks (*see* NAKHT and PERE). In other tombs, also, the appearance of the varnish is very similar, which leads one to suppose that here again the resin was applied to the colours hot and not mixed with a solvent. On the other hand, there are tombs in which the varnish is fairly evenly spread and quite free from the blemishes mentioned above. One is, therefore, forced to the conclusion that in some tombs the resin was applied to the walls after being liquified by heat, and that in others a solvent was used with the resin to make a varnish either to coat or mix with the colours. What this solvent was it is impossible to say, as resin is only soluble in alcohol, turpentine or petroleum. If, as seems likely, turpentine was the solvent used, it could only have been procured from

Syria and the North of Europe, while petroleum, which is present in Egypt, could only have been obtained in an unrefined state.

Egypt's strong trade connection with Syria in the XVIIIth dynasty was probably responsible for the marked change observable in tomb decoration at that period¹ and for the introduction of the use of resin as a varnish. Syria at that time was exporting a quantity of material which may have been new to the Egyptians, and of which they did not properly understand the uses. The employment of varnish as a means of protecting colours, or perhaps for the purpose of brightening them, was a radical change which did not last very long, owing perhaps to the inborn conservatism of the Egyptian, or to the fact that it was found that a varnish did not in the end improve a colour but actually darkened it.

ERNEST MACKAY.

[The use of wax may be seen, mixed with dark green colour, as a filling of the hieroglyphs on the red granite coffin of Ramessu III in the Louvre; also in incised figures on the wooden coffins (Univ. Coll.). This was probably the earlier stage of using coloured wax for portrait painting. The use of clear wax over colours was noted on the late sarcophagus of Ankhruï at Hawara; this suggested securing the stucco by melted wax, and hence the excavators' system of using paraffin wax as a preservative. As to the use of turpentine as a solvent for wax or resin, the natural turpentine would be useless, being a thick syrupy resin. It is only the distilled oil of turpentine that would be of use. Pliny describes two rude methods of distillation. "From pitch an oil is extracted . . . it is made by boiling the pitch and spreading fleeces over the vessels to catch the steam, and then wringing them out." (XV, 7.) "In Europe tar is extracted from the torch tree by the agency of fire . . . The wood of the tree is chopped into small billets, and then put into a furnace, which is heated by fires lighted on every side. The first steam that exudes flows in the form of water into a reservoir made for its reception; in Syria this substance is known as *cedrium*, and it possesses such remarkable strength, that in Egypt the bodies of the dead after being steeped in it, are preserved from all corruption." (XVI, 21.) From this it seems that in the later times, at least, an oil of turpentine was prepared in Syria for Egypt. The resin employed to coat paintings is described thus: "From the sarco colla (*Penaea Sarcocolla*, Linn.) a gum exudes that is remarkably useful to painters . . . similar to incense dust in appearance, and the white kind is preferred to the red." (XIII, 20.)—F.P.]

¹ Witness among other things—Floral friezes and ornamental ceilings and the use of the disc of the sun on top of the cheker ornament when that ornament was employed as a frieze.

THE KINGS OF ETHIOPIA.

THE journal *Sudan Notes and Queries*, issued quarterly since January, 1918, is mainly devoted to the customs and folk-lore of various tribes, a most needful help to administrators. The only articles touching Egypt are a series on the history of Ethiopia by Dr. Reisner, which is mostly familiar ground to our readers. The important new statement is the list of Ethiopian kings, as discovered and arranged from the excavations of the Harvard-Boston Expedition. Those with an asterisk are newly found.

	B.C.		B.C.
Taharqa ...	688-663	*Astabarqaman ...	466-463
Tanutamon ...	663-653	*Sa'asherîqa ...	463-443
Piankhy II ...	653-633	*Nasakhma ...	443-438
Atlanersa... ..	633-623	*Malewiyaman ...	438-408
Senkamanskeken ...	623-603	*Talakhman ...	408-403
*Anlaman ...	603-573	*Amanherinutarik ...	403-373
Aspalta ...	573-553	*Baskakeren ...	373-372
Amtalqa ...	553-538	* ? ...	372-368
*Malenaqan ...	538-528	* ? ...	368-348
*Nalma'aya ...	528-523	Harsiotef... ..	348-313
Netaklabataman ...	523-503	Piankalara(?) ...	313-298
*Karkaman ...	503-488	Nastasen	298-278

The order has been settled by the principle of sequence dating, the resemblances of one group of objects to another indicating their order of connection. The lengths of reigns seem to be approximations of ten or twenty years, or sometimes five or fifteen, arrived at apparently by the amount of work observed in each reign. The beginning and end of the list is fixed by contact with Egyptian sources. Any student of Ethiopic history will need this number (January, 1919), which can be obtained (3s.) at the Sudan Government Railways Office, 5, Northumberland Avenue, London, W.C. This journal may well be the basis of a national magazine of the Sudan.

NILE BOATS AND OTHER MATTERS.

(Continued.)

WE must now describe how this constructive difficulty, making a skin composed of many pieces into a continuous whole, one which could withstand longitudinal and transverse strains without yielding, was overcome.

Our wooden boats, whether "carvel" or "clinker" built, depend to a large extent upon the ribs which, however, would not maintain their verticality but for the skin of planks nailed to their outer sides: the ancient boat is a unit, a shell. The method made use of for holding the short planks one to the other becomes therefore a matter of the first importance. The keel plank (as I will call it) in the case of the Museum boats is made of but few pieces, so as to avoid the weakness of joints.

The wood of which these ancient boats are built is the same as that made use of to-day, very hard, but impossible to procure in straight lengths, hence the method of building up and fitting together of the parts as here described.

Iron was not made use of, perhaps not available in sufficient quantities.

We might have expected to find pins or pegs driven into holes prepared for them in the upper and lower planks, but if they are present in these specimens of ancient boat building they cannot be seen.¹ In the present case we find only dovetails with the occasional use of a species of tongue, which will presently be described (Fig. 5).

Countersunk recesses are prepared along the long sides of the planks and cut about half through their thickness (see A); into these the dovetails are forced, always on the inside of the hull. The butting joints of the keel planks are fastened together with large dovetails.

I venture to suppose that we should go wrong were we to assume that all boats of the period were built precisely as are the Museum specimens.

In the volumes before referred to on Beni Hasan, Part II, Plate XII, we see several boats differing in shape from those usually depicted. The hulls are deeper; the greater draught must have enabled them to take considerable cargoes. In such boats the method of joining plank to plank with long pegs instead of with dovetails—which pegs and dovetails are now replaced by long iron nails, clinched, may have been employed. But, on the other hand, it must be kept in view that a clumsy draughtsman may be very responsible for a difference between one hull and another.

None of the ancient drawings are to scale.

In constructing a great barge such as that which is depicted at Deir el-Bahri and capable of carrying two obelisks, each of them some 32.0 m. in length, the construction of the hull must have been a matter of great care and no little science.

Denied the help of iron, and without the command of a variety of long straight timbers; with the cross strains the structure must have been submitted

¹ In our own mediaeval carpentry we find magnificent roofs, held together entirely by oak pegs: for example at Westminster Hall.

to in getting the two immense monoliths on board; in taking the chances of running on a sand or mudbank on the way down the river, and finally in unloading; the hull must needs have been a really scientific combination of timbers. Whence came the large timbers? Are we at all justified in supposing that there might have been more science displayed in building a barge in the XVIIIth dynasty than in the XIIth?

We should bear in mind that long before the XIIth dynasty prodigious blocks of granite were brought down from the Aswân quarries for the Pyramids and for the temples at Saqqara.

As regards ship construction, it would probably be less difficult to support a great weight distributed over a large area, as in the case of obelisks, than it would be to support a similar weight concentrated, as in the case of a block, over a smaller area. It would seem impossible that dovetails alone could have held together the planks of the hull. The main strength of such a structure cannot have been merely in the skin, but must have been within, by making use of trusses and similar methods, clothed with the cleverly combined skin.

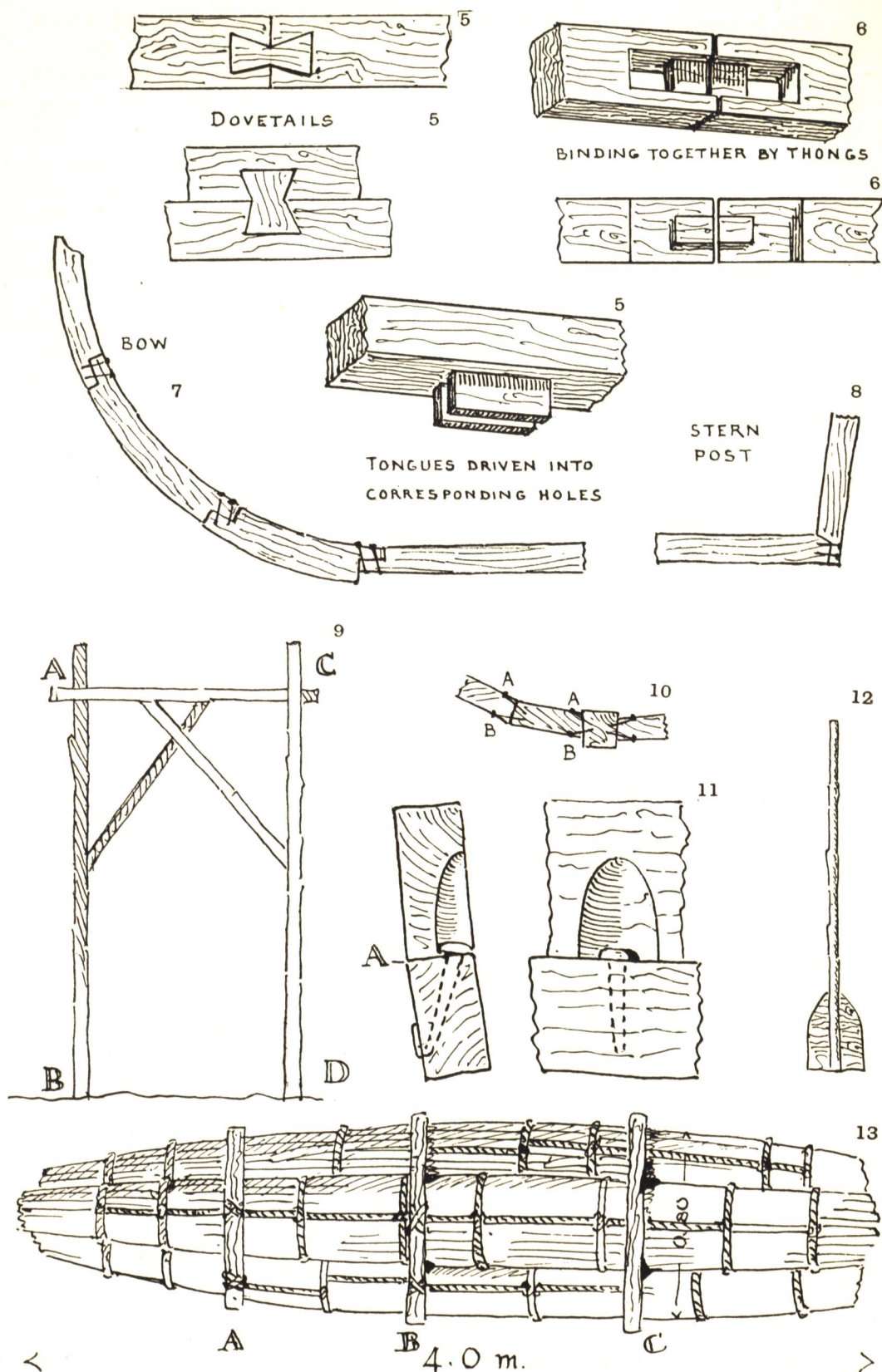
I may be pardoned if I make a short extract from a letter written me by the late Mr. Francis Elgar, Director of Naval Construction to the British Government. He says, "The two great obelisks of Karnak, 97 ft. 6 in. long, could be carried on a boat about 220 ft. long and 69 ft. beam, upon a draft of water of about 4 ft. 6 in. or not exceeding 5 ft." He was much interested in this question.

Some of the largest passenger steamers on the Nile approach this length but differ exceedingly in beam, they move on the river after its volume has considerably diminished; but except at the very crown of high Nile, a barge of 69 ft. beam and 5 ft. draft would present great difficulties in navigation. As we have already said, merely to construct a vessel of such beam and yet of so shallow a draft under the limitations which pressed upon the ancient Egyptians must indeed have been a difficult matter. Whence came the necessary knowledge, at what remote period did the people begin to accumulate the experience which culminated in their power to deal with immense weights, lifting them, transporting them, unloading them, and this not only in the XIIth or XVIIIth dynasties, but in the IIIrd or IVth?

It is not easy for those unaccustomed to deal with figured dimensions to realise merely by reading a statement of numbers of feet, how large a thing a barge would be, such as that mentioned by Dr. Elgar. Let me give an example. James Fergusson, in the monumental work, his *History of Architecture*, gives the following dimensions of Westminster Hall: 68 ft. wide and 239 ft. long. When we compare these with the dimensions required for the barge 69 ft. wide and 220 ft. long, we can realise what a serious business it must have been to build, to load, to tow, to navigate and finally to unload such a structure even under the best conditions.

To return to the boat in the Museum, which would be of very light draft and not intended to receive cargo. The dovetailing has been already described (Fig. 5). There is, however, another method by which the planks were held together, more akin to pegs and perhaps more effective (see Fig. 5).

Sometimes one, sometimes two tongues of wood are projected from the plank above and driven down into holes made to receive them in the plank below. In one case the tongue is 0.20 m. in length, 0.08 m. in thickness, and 0.15 m. in projection.



The section of the boat (Fig. 1) shows that there is not, as we might have expected, a stout rim, or gunwale, forming a top rail to the hull (Fig. 6).

In this we see the ingenious method adopted by the boat-builders to tie together in their length the planks which form the gunwale—such as it is. No doubt a rope of fresh hide was bound tightly round the central tongue. The hide contracts in drying and in result an exceedingly close and strong junction is secured. The method is still made use of. The great yard of a dahabeah, usually made in three pieces and in length averaging more than 33.0 m., has the two largest pieces covered at their junction with a fresh hide, which, contracting as it dries and assisted by rope, withstands easily the great strain to which the yard is exposed under the tension of the sail. The yard of my own boat was fully 35.0 m. in length. This yard was on one occasion broken in half by the wind strain, but at the junction of the two heaviest pieces of the timber, one of which was broken, and which junction was fortified as usual by hide, no damage appeared.

It will be observed that the hull of the ancient boat is assisted to maintain its shape by eleven thwarts or cross-pieces, which are carried through the thickness of the skin of the hull and firmly fixed in position. They are visible from the outside. They support the deck planks.

A notable example of the way in which the thwarts were made use of in construction can be observed in the sculptures at the temple of Hatshepsut at Deir el-Bahari.¹

On Pl. CLIII we see a considerable number of large rowing boats, which are being made use of to tow the barge which carries two obelisks. The ends of the thwarts are seen piercing the hull. On Pl. CLIV we see the great barge itself carrying the obelisks. The thwarts are in three ranges, one above the other, which is a proof that they formed most important members in the inner construction of this large hull.

In the case of the boats in the Cairo Museum, planks are laid, their ends resting on the thwarts and thus forming a movable deck.

This is a very usual method of forming a deck to-day.

At AA on the plan, Fig. 3, are indicated the places occupied by two posts to which the steering paddles were attached. Steering paddles—not rudders, as we understand them—are clearly shown on Pls. CLIII and CLIV *Deir el-Bahari* above referred to. The steering paddles were attached by ropes or thongs to the upper end of the vertical poles (see Pl. CLIV).

In the Museum boat there is no indication that they were provided with a mast. Had there been such we must find sockets on the centre plank at the bottom of the boat.

It is to be regretted that another illustration of boat building, in addition to that already referred to, is not known to us. Of boats already built and in use we have many examples. We must take refuge with Herodotus, who gives a short and not very illuminating description of how boats were built in the book *Euterpe*.

Of the passage in this book relating to boat building, various readings have been produced, none of them very helpful. Let us refer to that by Sir Gardner Wilkinson, *The Manners and Customs of the Ancient Egyptians*, new edition

¹ *The Temple of Deir el-Bahari*, by Ed. Naville. Part VI, Pls. CLIII and CLIV. Egypt Exploration Fund, 1908.

by Saml. Birch. Murray. Vol. II, p. 207. "The Egyptian boats of burthen are made of a thorn wood very similar to the lotus of Cyrene, from which a tear exudes called gum. Of this tree they cut planks measuring about two cubits, and having arranged them like bricks they build the boat in the following manner. They fasten the planks round firm long pegs and after this stretch over the surface a series of girths, but without any ribs, and the whole within is bound by bands of papyrus. A single rudder is then put through the keel, etc., etc." Wilkinson then gives a small woodcut (to which I refer the reader) which certainly does not at all agree with the Museum boat above described, nor with the way in which a naggr is built now. On p. 209 he gives a drawing of a boat the hull of which is constructed with thwart as in the Museum specimens. None of the boats so beautifully sculptured in the reliefs at Deir el-Bahri, above referred to, suggest a method of construction such as that evolved from Herodotus by Wilkinson.

As I do not pretend to penetrate the mysteries of Greek texts, I have referred the question to my kind friend, Dr. Griffith, of Oxford.

He refers to a commentary on Herodotus by How and Wells, Oxford, 1912, Vol. I, p. 214. These commentators translate the passage in question as follows:

"The long bolts at frequent intervals were, so to speak, the string on which the short pieces were strung, they were driven in vertically to the layers." The words "string" and "strung" are not to be taken in the sense of tied together, but "attached," just as we find the word frequently used to-day. The bolts at frequent intervals were driven in vertically, as we see in the Museum boats.

If we may assume that the word "layers" should be taken to mean "horizontally laid planks," we find ourselves to be very near to some parts of the construction of the Museum boats, and also near to the method shown at Beni Hasan. Furthermore, we are very near to the method of construction as practised to-day, as we shall presently see.

Carey's translation is as vague as that of Wilkinson. How any boat can be "bound within by bands of papyrus," it is hard to say, but if the translator has put a wrong value on the Greek word and has translated as "bound" a word which should really be "caulked," he then describes that which is done to-day and must always have been done or the boat would not float.

The example of boat building before referred to from Beni Hasan (see Fig. 2) shows most clearly the planking formed of short pieces of wood and the vertical "butting" joints so distributed that, like bricks in a wall, no one joint comes immediately above the joint below. In this the description given by Herodotus is completely supported.

Seeing how fast many handicrafts making use of traditional methods are dying out in Egypt, it may be of interest to describe how I saw a naggr built in the year of grace 1911. The way differs not materially from the methods in use in the XIIth dynasty. I had the good fortune to see the business carried through under my eyes for the following reason. Sweet brotherly love does not always flourish between the inhabitants of neighbouring villages in Egypt. The two are very ready to fly at one another's throats. If harm cannot be done on a large scale it can be done on a small.

The noble and lofty principles inculcated by Mahomed are as thoroughly neglected as are the precepts of Christianity at home. There is the difference that the Egyptian is but emerging from the infamous misrule of the Turk; he

places but little confidence in the administration of the law; he prefers to administer the law with his own hand. He begins with his tongue, his hands quickly follow, and violences are enacted. With us, happily, the law has a much greater power than in Egypt. We are forced to behave better.

In consequence of the above state of things and fearing that the wood, tools, etc., etc., might be stolen by way of revenge (no doubt the other side would call it justice), it was suggested that the naggr should be built on the river bank just below my house which, being at a considerable distance from the contending villages and having about it an aroma of the Government, there would be cast a halo of safety over both the materials and the operations.

I thus was introduced to some customs, more or less local, connected with carrying through the business which are not without their interest.

When it has been determined that a boat of this type shall be built, it is first necessary to select the builder, a craftsman who is classed amongst carpenters and confines himself chiefly to boat building. The carpenter, being instructed how many "dira" (yards) in length the boat is to be, agrees on a price. The "dira balady" or country dira is 58 centimetres in length = 23 inches.

The carpenter is paid at per "dira" of running length. Nothing is said about the beam of the boat or its draught. The carpenter carries in his head certain proportions of beam and draught in relation to length: a traditional system.

Judging by the clumsy tubs these boats always are, whether we meet with them at Omdurman, Dongola, Aswân or Assiût, we are justified in believing that the lines on which they are built are altogether traditional. A boat to take two masts is as clumsy in its proportions as a boat the building of which I am about to describe, taking one mast. The proportions differ materially from those of the boats in the Cairo Museum.

The naggr is built entirely for capacity. The draft and beam are, in proportion to the length, far greater than are those of the Museum boats. Of ancient boats there are countless models from tombs and as many drawings or sculptures upon the walls of tombs. In all cases there is shown a considerable part of the hull, both at the bow and the stern, out of the water. The difficulty of moving such a boat against a head wind must have been great (we have all doubtless experienced the difficulty in a gondola). The boats to convey merchandise, of which we see examples so carefully depicted in the Temple of Deir el-Bahri, are built on the same lines. The naggr of these days differs considerably.

In any case the existing form is evidently of very long standing. I would like to ask whether we are really justified in supposing that the models of boats in the Museums are at all correct. I do not believe that they are more than sketches. The same remark unquestionably may be made as regards the drawings or sculptures. They are symbols.

All students of Egyptology know the beautiful sculptured scenes on the walls of the Temple at Deir el-Bahri before referred to. The workmanship of the sculptor is so fine, so exact, and many details are set forth with such manifest accuracy that the impression at first received certainly is that here, at least, we stand before measured drawings: everything must be drawn to scale as in the drawings of an architect.

But the more the sculptures are studied, the more manifest it becomes that it is the method of delineation that produces the effect; these beautiful works are, in fact, not to scale. Dr. Elgar told me he had come to the same conclusion as

stated above and more especially is this the case with the delineation of the great barge bearing the obelisks, and he gave his reasons which were, to me, quite conclusive, but are too long to state here and too technical.

To return to building what I will call "our naggr." There are sundry customs which cluster round the proceeding.

The carpenters go forth up and down the river to buy the wood. This is, very usually, in the form of standing trees, which are carefully examined in regard to the possibility of cutting them into useful and handy pieces.

We must bear in mind that none of the wood is artificially bent; all the curved pieces, such for example as the planks forming the bow, must needs be cut to shape by the skilful carpenter with an adze, and wonderful it is to observe the certainty with which he wields this instrument. With the saw also certain slight curvature is obtained. The wood, trees or planks, are purchased by the employer. All surplus wood brought upon the ground belongs to the carpenter.

The carpenter is, further, entitled to be fed by the employer during the progress of the works, and that not with ordinary everyday durra bread and such like, but pigeons, chicken and other luxuries must be provided.

The neighbours of the employer are also placed under contribution; they are supposed to consider that the building of a boat is a matter of interest and use common to all, so they frequently visit the work, consume a great amount of time in useless talk and bring as presents to the employer, but for the use of the carpenter, eatables of various sorts.

Custom further dictates that the carpenters (for in the case under consideration there were two) receive a complete outfit of clothes, such as people of their degree usually wear. When the boat is ready to be launched, the carpenters receive a second suit. Coffee is, of course, being freely administered to the carpenters and visitors during the whole time of construction.

The employer, in addition to the wood, has to find all necessary nails and bring them to the site.

The wood made use of is that of the *acacia Nilotica*, known on the Nile as "sunt," a slow-growing tree hard and close in grain. The tree can grow to a considerable size, but it seldom gets a chance. A stem of a metre in diameter is thought very large. After purchase the whole tree stem, large branches and small, is brought to the river side after being in part cut up to facilitate transport. Having arrived, the pieces of wood are scientifically sorted, all the timber to be used for the naggr being laid on the slope of the river bank, just within the water, so as to be kept always damp.

The carpenter brings his own saws, hammers, adzes and big augers, also a pair of gibbet-like affairs which are used with much craft to prop the timber for sawing. A spot having been selected close to the river side (it must be understood that the work is usually undertaken during the going down of the Nile: if the Nile is rising the spot selected is high on the bank, so near as to facilitate the floating of the finished boat) a sufficient piece of land is made level, the naggr being built parallel with the stream. Just north of it a little hut of durra straw is made to form a shelter from the prevailing north-west wind. In this the interested parties live until the work is finished, thus keeping watch over the materials and the progress of affairs.

Let us say that the naggr, when finished, will be 24 ft. long over all.

A straight line is laid down on the levelled surface of the selected site, by the aid of a piece of string, its direction parallel with the river, and on either

side of it, alternately, a small stump of a branch is fixed in the ground. In the meantime the keel, which is to rest on the before-named stumps, is being prepared.¹

From small tree stems of a suitable size the longest available pieces are got: let us say three. These are, with the adze, worked smooth along the top. The two sides are dressed vertically but not very true: the under part is left rough and shapeless. The three pieces are halved together, drilled with the auger and mighty spiked nails procured from Cairo are driven in and clinched. The keel thus formed is placed on the stumps and is fixed to them by long nails.

It will be observed that in establishing a keel we have departed from the method of the Museum boats and it may be presumed, of the ancients, for neither in models nor wall drawings do we see anything that suggests a keel. As soon, however, as it was decided to make use of a hinged rudder and not of the steering paddle, a vertical stern post became a necessity. It must be presumed that with this change the keel also was introduced, as without that the stern post could hardly have been made firm at the bottom.

The carpenter now prepares the stern post. It consists of a straight piece worked square in section, by means of the adze, and halved at the bottom end to the keel. A spike nail or two is driven in, a fixing which seems very inadequate and indeed would be so were it not that by the method of building the hull every part of the structure assists in supporting every other part (Fig. 8).

The bow of the naggr is a more imposing affair than the stern. Having selected some knees from the wood lying on the bank, three curved pieces are cut and then shaped by the adze: they form when set together a somewhat imperfect quadrant. They are halved and nailed together in the way already described for the keel and the stern post, are quite neatly fitted, being finally dressed down with the adze after they are fixed in position (Fig. 7).

Where the curved pieces for the bow start upward from the keel, the bottom piece projects downward below the keel some four inches or more.

I could not ascertain that the carpenter knew why he made it thus. It seemed with him a matter entirely of tradition, but one can imagine that long since the advantage of such a projection was observed. When the keel strikes upon a sand or mud island, the projection would make a groove in the yielding surface, through which the keel would more easily follow.

Before the stern post or bow are permanently fixed, a piece of string is procured, also a piece of red ochre, which the sandstone hills in Upper Egypt provide so liberally. It is called "moghra." The ochre, in water, provides a red sediment: this is the pigment in which the string is soaked. The string is held along the middle of the upper surface of the keel and then plucked. The ochre is thus deposited in a straight line. In the same way straight lines were made, both vertical and horizontal, in remote times, as hundreds of tomb interiors still show.

By eye the stern post and rib for the bow are set up, a string is stretched from the top of the one to the top of the other, and by means of a plumb bob made of a heavy nail and a piece of string, the centre line or axis of the hull is established.

It is not a little fascinating to watch these effective but primitive methods being put into operation. Excepting in the presence of the iron nail, there is not one of these methods that by a study of the ancient drawings and buildings we cannot see to have been in use four or five thousand years ago.

¹ In Fig. 2, from Beni Hasan, we see the sticks set up so as to keep the hull in its place.

The Egyptian knew how to execute work, when he was called upon to do it, which in its perfection has never been exceeded, as, for example, the external masonry of the Great Pyramid. Except in some of our finest metal work of to-day, screw gauges and things of that sort, we never approach it. What absolute precision and mastery over the most stubborn materials, what fineness of modelling of the mouth and cheeks of a statue did he not attain! We are still at a loss to know with what means he reached this perfection.

In other pieces of work where such accuracy was not required, he worked in a manner far more rough and undoubtedly the handiwork was, for the most part, guided by the eye alone.

The naggr we are now engaged upon comes under the last category. When one tests what the carpenter has done by a twentieth century standard and observes the tools and methods made use of, one is not a little astonished how so considerable a degree of correctness has been arrived at. On the other hand, a naggr of but a few years old wears an aspect of hoar antiquity.

Worked, as all the surfaces have been, by the adze, the surfaces being without pitch, tar, paint or varnish, they acquire a silvery hue and distinctive texture that wood from the saw or plane never gets. The rudder, although not belonging to the old order of things, is so rough in its make as to suggest a fragment of an old barn door, whilst the sails are usually the worse for wear.

The bow, stern post and keel connecting them standing complete, a little flag bearing the name of Allah is set up at the highest point of the bow and remains there during further building operations.

A reciter of the Koran, for a consideration, also attends occasionally: it is furthermore helpful to the success of the operations that pious and complimentary remarks should freely be made.

The large saw already mentioned as brought by the carpenter now comes into work. A trunk of tree, after the adze has reduced it to a section more or less square, is marked with slightly curved lines, more or less parallel. This is done by means of the string charged with "moghra" (red ochre) which is held by one of the carpenters in short lengths of perhaps 9 ins., and then plucked. The direction of the string is slightly changed after each plucking until, at last, a long line somewhat curved is clearly marked.

We now come to the erection of the sawing frame. Two fairly stout branches, selected from the stock of wood, have been set vertically, their ends buried deep in the alluvium of the river bank; a cross piece joins them at the top, they are firmly roped together. The piece of a tree to be sawn is tilted up against the cross piece. The "gibbets" above referred to are placed under the other end of the piece to be operated on. The diagram Fig. IX shows how the gibbets are used.

A, B and C, D are roped together tightly. The trunk or log to be sawn extends from the cross piece first described and is rested on the cross piece of the gibbets A, C. The whole affair, ricketty as it appears, keeps steady. One man stands on the trunk or log to be sawn, the other stands below. A handy saw-pit is established but without the pit. The contrivance can be set up almost anywhere.

The sawyer below observes the curvature of the red ochre lines which are above him; directing the saw along these lines, three or four stout planks are produced to the shape intended.

In the case I am describing the planks were about 4 ins. = 10 cm. thick and as long as the trunk or log would permit.

Sundry planks, some 2 metres long, were obtained which were used for the bottom of the hull.

The planks are not nailed down on to the keel, but fitted against the sides which, as we have said above, were got to shape not by sawing but by the adze. The keel projects, when all is finished, but little below the skin of the hull.

It may be supposed that by the somewhat rough method of work above described, the sides of the keel are not very true. The difficulty is got over in the old Egyptian manner, as it was done by the masons. The piece of material to be set in place is fitted to the irregularities of the piece already established. None of the keel is cut away.

The way in which the adjustment of the planks to the keel is made is as follows. The sides of the keel are painted with a liquid mixture of Nile mud. Before this is quite dry, the plank to be adjusted is held in position against the mud paint. Where that paint comes off on the side of the plank, the discoloured surfaces are dressed away, very deftly, with the adze; the process is repeated until the two fit very closely. The same process is repeated for all the joints throughout the hull.

The ready way in which the demands of the eye are responded to by the skilful hand is delightful to watch.

The plank, ready for fixing, being held in its allotted position, the carpenter arms himself with a small paint brush made from a piece of fibrous stick chewed at the end.¹ He dips this in the red ochre and marks the places for the nails (see Fig. X, A.)

A straight mark and a small circle indicate that the nails are to be driven in from above at A. or below at B, which when the hull is complete will be A the inside, B the outside (Fig. 10). The plank being set up edgewise on the ground, the holes for the nails are bored with a large auger. In this respect we have come away from the ancient dovetails but are not removed far from the pegs. The necessary curvature of the planks is gained entirely by the adze. This statement applies to those of less than two metres in length, which were in most cases sawn as before described.

The nails are of wrought iron, not very hard, tapering in form and with large mushroom heads: the nail must not be so stout that it cannot at the small end be bent over with some ease, as all nails are clinched.

In some cases a recess is prepared as at A, Fig. XI, giving greater facility to drive the nail diagonally into the next board B.

There are, near the top planks of the hull, pieces in the nature of thwarts set across from side to side and carrying a boarded deck. Quite half the area of the hull is thus covered in and the rigidity much strengthened thereby. Across the hull, just about the middle of its length, is fixed a stout beam, usually made from the stem of a tree, smoothed with the adze, but following all the inequalities of its shape. The thwarts above named are passed through the skin of the hull and are visible on the outside. The stout beam or tree stem is for making steady the short mast which has a socket in the keel and a strap or other form of stay to secure it to the beam.

The wooden structure of the naggr is now complete. The next duty is to enable it to float.

¹ See *Visits to Monasteries of the Levant*, by the Hon. Robert Curzon. Murray, 1850, p. 96.

We are accustomed to boats being caulked from the outside, but in the case of the naggr we find the same method employed as mentioned by Herodotus, the caulking is done from within; but instead of "byblus" old clothes are preferred. There is a great merit in this system. To caulk a hull as we do it, the boat must be on land and attacked from the outside, but in the case of the naggr the traveller remedies the leak as he travels along, which indeed I have assisted in doing.

The proprietor sacrifices a strip of his "gallabea" or "comesa," or by preference, a piece of the traveller's clothes. This is vigorously pushed into the crevice, with the result that the boat becomes remarkably water-tight. This method of caulking adds to the ancient and ragged appearance of the hull. Little bits of rag are seen fluttering on the outside.

In these days the carpenter occasionally fortifies the hull by a few ribs, but these are in no way parts of a system attached to the keel, but are fixed to the interior of the skin, giving a little extra strength where the builder thinks it desirable.

The sail is always latine.

The naggr has now to be set afloat, but this is not a great piece of business—any inequalities in the surface of the sloping bank left by the retiring waters are smoothed down. The boat, its long axis parallel with the stream, is eased down first at the bow, then at the stern, and so it wriggles its way until at last it is afloat: imperfections in the caulking are made good; the mast and cordage are set up, the sail is attached, and the new naggr at once takes its place amongst the antiquities of Egypt.

A study of what has been said shows that, as a matter of fact, the naggr of to-day must be a very direct descendant of the boats built some thousands of years ago, with the method of construction but little changed.

The saw plays a not very prominent part; pegs and dovetails have given place to iron nails. The adze is now as it was long since, the most important cutting and shaping tool. Steering by a paddle has given place to steering by a rudder.

The progress of this type of boat, primitive as it is, depends still almost entirely on the sail, punting with a "midra" or long pole is still, as it always was, universal. The oar, when it is used, is no more than a bare pole, cut a little flat at one end.

The paddle, like the crocodile, has entirely disappeared between the sea and the Second Cataract. At Kareima, however, close to Gebel Barkal, just below the Fourth Cataract, I have had the pleasure of being propelled in the ancient manner as we see it in the models and on the wall sculptures. The side of the naggr in which I was travelling rose to exactly one metre above the water. Through a loop of rope, twisted round a thwart and projecting outside the naggr, was passed the shank of the paddle.

The loop acted as a rowlock. The paddle consisted of a fairly stout stick some two metres long, and at one end was fixed the blade (Fig. XII). The blade was tied to the shank. The paddle was used nearly vertical. Observing how the Kareima people used it, one understood the ancient models in the Museums with the extreme verticality of the paddles as there to be observed.

When in a swift stream additional strength was required, two or more men pulled at a rope attached to the paddle shank immediately above the blade, and thus, drawing the paddle towards them they very much augmented the force of the man who held the paddle.

I ask permission to insert the following from *Across Asia Minor on Foot* by W. J. Childs, Blackwood. I take the paragraph from the *Spectator* of March 3rd, 1917. It seems to me of peculiar interest as it shows that, if we go to the right place, we may see an ancient type of boat on the sea at the present day, square rigged:—

"A sight of this kind I watched one summer evening on the coast of the Black Sea, when a long boat, whose bow was shaped like a swan's breast, put off from the shore. Her stern projected above the hull and was curved into a form resembling roughly the head and neck of a bird preparing to strike. Upon the mast, hanging from a horizontal yard, was set a single broad square-sail, and under the arching foot could be seen the black heads of rowers, five or six men on either side, and a bare-legged steersman placed high above them in the stern." Mr. Childs sees in this, with great reason, the direct continuance of Greek tradition. May we not go further back and see the picture of this very ship in many an Egyptian tomb of far greater antiquity?

There is yet one more machine for floating on the Nile which, exceedingly primitive as it is, is still in very general use. It is called "ramus." It is more than a raft which is merely a float; it is shaped to a certain extent and can be propelled, indeed it usually is so, by an imperfect paddle.

The ramus will take at least two people. It is made of boose—the straw of durra, which grows to a length of two, or two and a half, metres. The boose is tightly tied into long bundles, circular in section, diminishing towards one end, the bow of the machine. Three or more sticks, A, B, C, Fig. XIII, are tied across, so as to keep the structure steady. The largest of these sticks are 0.80 or 0.90 m. in length. I have measured the length of several of these ramus, all about 4 m. It is not curved upwards from the water at the bow end. The whole thing is made very rigid by being roped together, as shown in the sketch. A view of the fishermen working from these floats is given in the *Journal of Egyptian Archaeology*, IV, 255.

The passenger propels himself with a paddle made of a short piece of stick and a piece of flat board at one end. The thing is primitive but sufficient.

The ramus is much in use when cultivable islands appear above the retiring waters of the Nile.

SOMERS CLARKE.

[The old-fashioned ship-building in England was not so very different to the Egyptian method. "Stocks.—A frame erected on the shore of a river or harbour whereon to build shipping. It generally consists of a number of wooden blocks, ranged parallel to each other . . . and with a gradual declivity towards the water" (*Encyclopaedia Britannica*, 1797). Had we the facility of a rising river to float off our shipping, no doubt the methods would have been still more alike.—F. P.]

REVIEWS.

Estudio de Arqueología Cartaginesa. La Necrópoli de Ibiza.—ANTONIO VIVES Y ESCUDERO. Madrid, 1917. 8vo, 189 pp., 175 figs., 106 pls. (Junta para Ampliación de Estudios, Moreto 1, Madrid.) 20 pesetas.

This is a noble work of collecting materials for the "extension of study"; though based on the very varied contents of the Iviza Museum, all kinds of collateral materials from Carthage, and some other sites, are brought in, and briefly illustrated by sketches for comparison. The plates, $7\frac{1}{2}$ by $4\frac{1}{2}$ ins., are all photographic, fine-grained half-tone or collotype, bright and clear. Unfortunately the industry of the author has had indefinite material to work upon. The Iviza Museum appears to be a chance collection without any scientific data; not a single tomb-group, or association of objects is in evidence, not a single dating is known beyond what may be guessed from appearance. It is of the "curiosity" stage, like the Naples Museum, where no localities or groupings are stated. What might be done in a single season's work by an archaeologist who knew the dating in Greece and Egypt, would be worth all that is yet known and collected. In the absence of any dating, it is only possible to note comparisons, which we here do on the Egyptian side.

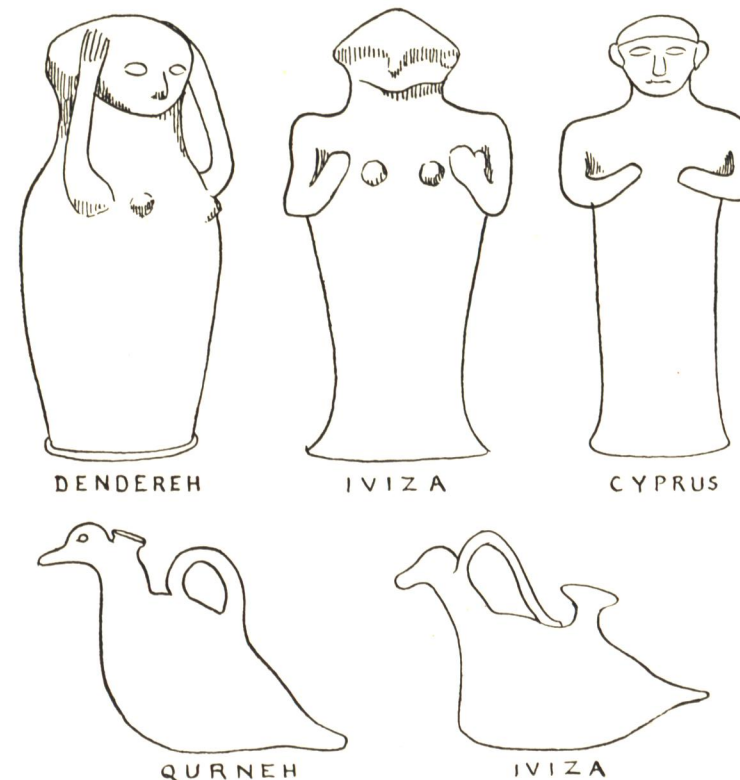
The earliest contact with dated material is in the curious pottery made on a wheel, open below and finished off with head and arms above. This style of figure is known from a tomb of the XIth dynasty (*Dendereh*, XXI); also similar figures with hands to the breast from Cyprus (Cyprus Museum 5501-5542, Sandwith Collection). Seeing how little is found in Iviza before the Carthaginian period, it is very unlikely that such figures are of the XIth dynasty age in Spain; nor are they indigenous in Egypt. They seem to belong to some centre—such as Cyprus—whence they were brought into Egypt in the XIth dynasty, and into Iviza perhaps a couple of thousand years later.

Probably a similar connection accounts for the resemblance of the bird vase (*Qurneh*, XII) of about the XVIIth dynasty, and the similar bird vase from Gades (*Estudio*, XLVII, 4).

There is perhaps an echo of the early prehistoric Egyptian style in the bone spoons with circular bowls, and the long hair pin (*Est.*, XXX, 7-9, 1); when the close relation of the pottery of that age to the modern Algerian is considered, there is no improbability in a style of ivory work lasting on in North Africa, and passing thence to Spain, long after it ceased in Egypt.

Another similarity is in the multiple vases with Hathor head and cow's head, found at Carthage (*Est.*, p. 130), and the group of vases with the cow's head and disc, from the deposit of Tehutmes III (*Koptos*, XIV, 7). The Carthaginian is also evidently related to the multiple vases on a ring as found in Egypt (*Abydos III*, XVI, 4) about the XVIIIth dynasty, and known in Asia Minor rather later. This type is foreign to Egypt, and may have been brought in there

at an earlier date than it was borrowed in Africa. All of these resemblances therefore indicate trade in common with centres of production, but not necessarily equal dates.



The case is different when we reach the XXIIIrd dynasty, the early period of Carthage. Jars of this period are well known in Egypt (the parallels here are the nearest published, but others are closer), and are the same as found in Iviza and very common in Carthage (*Est.*, XLIII, 21-23, p. 118). The glass vases with variegated bands of colour found in Iviza (*Est.*, XXXII) are all of the later period of such glass, well known from the cemetery of Cumae, and generally assigned to the ninth century B.C. The glass beads, coarsely made of varied colour (*Est.*, XXXIV, 1-7) are common about the eighth century B.C. in Egypt. Cylindrical beads of coloured glass covered with knobs (*Est.*, XXXV) belong to the same factories and period. A cowry of glazed pottery from Carthage (*Est.*, Fig. 84) has the cartouche of Shabaka of the XXVth dynasty. Thus before the familiar Greek age of the XXVIth dynasty, there are plenty of connections with the remains known to be of the ninth to the seventh centuries B.C.; but there is no direct connection before that, only joint borrowings from uncertain third centres of trade. The conclusion seems clearly to be that it was the Carthaginians who brought Egyptian things westward, and it was not until the Phoenicians had established the western connections that anything was regularly traded from end to end of the Mediterranean.

In the XXVIth dynasty the Egyptian products and influences were common. Glazed pilgrim bottles with new year wishes are found at Carthage (*Est.*, Fig. 78); circular mirrors (*Est.*, XI, 1, 5); triangular arrowheads (*Est.* XV, 4, 5); alabastra (*Est.*, Fig. 62) found at Carthage; a finger-ring (*Est.*, Fig. 50) as found in Sardinia and Carthage; a glazed ball with an uzat eye (*Est.*, Fig. 83) and scaraboids with a human head (Fig. 77), both from Carthage—all of these show the general spread of Egyptian things westward in the seventh century.

The usual little glazed amulets became familiar, and coarsely copied, in the West. That glazing was actually done at Iviza is probable from the occurrence of a lump of little balls of frit (*Est.*, XXXIV, 27), exactly such as were produced in Egypt, for the glaze factories to employ in making blue glaze. Perhaps, however, this may have been for making blue paste amulets; anyhow it shows manufacture of amulets locally. A square amulet of bronze from Carthage (*Est.*, Fig. 58) shows a Phoenician adaptation of Isis and Horus, distinguished by the moon and sun respectively.

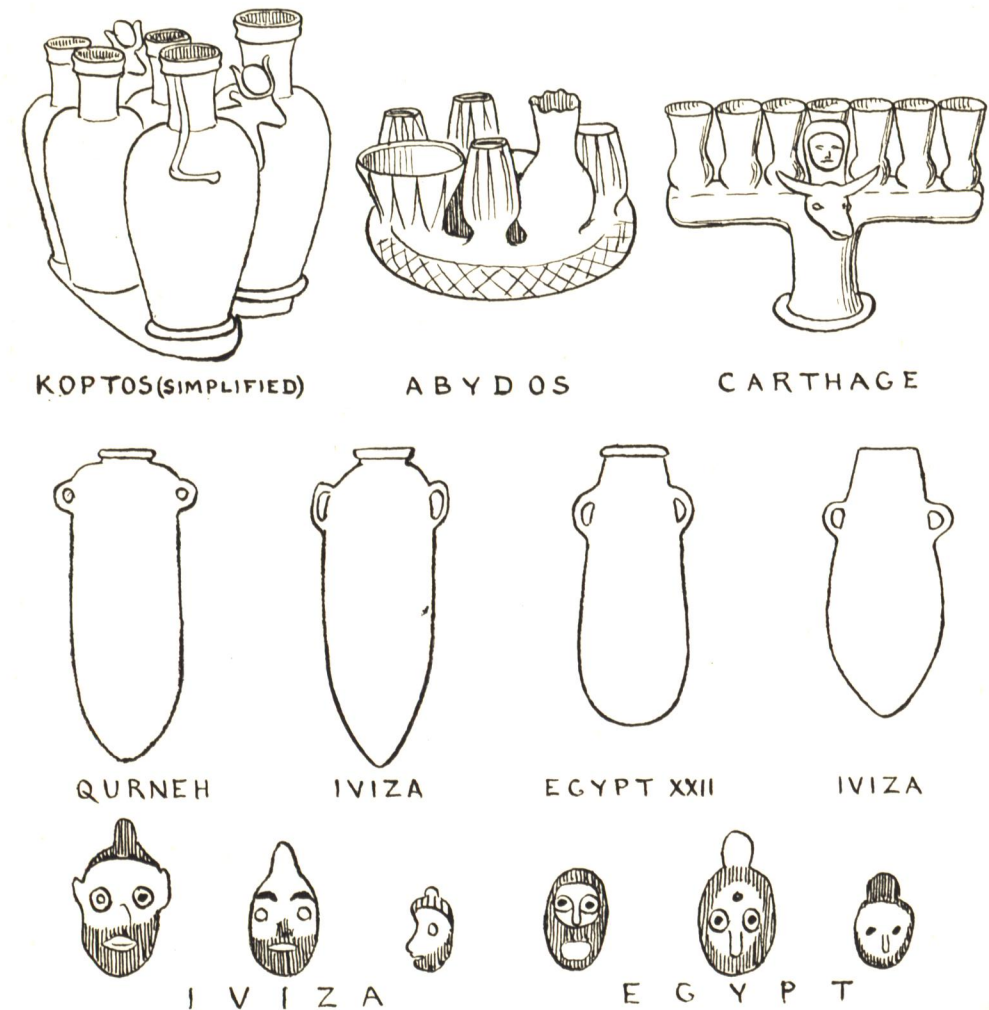
Coming later, the series of lamps runs through all stages—as at Naukratis—from the cocked-hat type of a flat pan folded over into a spout, through the central pivot-hole type, to the closed-in top, and then the addition of a side handle. There seem to be very few of the types with figures, only the two cupids and negro's head; and there are none of the multitude of frog or palm types which abound in Egypt in the second to fifth centuries A.D. This seems to show that Iviza decayed after the first century, and ceased to import foreign goods, however common. There is no trace of the Byzantine types of lamps, so frequent at Carthage and in Sicily.

Of purely Roman age there is not much. A square metal mirror (*Est.*, XI, 4), some box handles (XVII, 3-6), a glazed dish with lions on the edge, from Carthage (Fig. 82), some bone hairpins (XXX, 10-14), little figures of cast glass (XXXIV, 20-23), and what may be a surveyor's mark, like those found in Egypt (Fig. 36), are all of them early Roman rather than late. Knowing how flourishing Carthage and Spain were in late Roman times, it is strange that more does not appear in this volume. One single earring from Cadiz, seems to be of Byzantine age (Fig. 17). The only conclusion is that purely Roman work had so completely driven out local or national style, that nothing remains but entirely Roman material, which the author has rightly discarded from a work dealing with Carthaginian archaeology.

Some good plates (XLI-XLIII) are given of the "indigenous pottery." This differs from what we know of the Italian, Greek or Egyptian. How far it may be in common with the Algerian or Spanish is not settled. Of the Carthaginian forms drawn there is but one which accords with the Iviza forms. The most peculiar products are the large masks of pottery, about 6 to 8 ins. high, mainly from Carthage, but also from Sardinia and Iviza. These have no descent from the Greek Silenus and other types; they can scarcely be intended as merely comic absurdities, and rather suggest a use in regular plays or performances. If Carthaginian literature had survived we might have seen the clue to these.

The great characteristic of Spanish work in all ages has been a fulsome spread of ornament. The terracotta figures are examples of this, with headdress and tunic covered with rosettes and spirals (*Est.*, LXXXV, LXXXVII, 1; LXXXVIII, 3). This taste is what renders the mediaeval architecture of Spain so fatiguing in its details to those bred in plainer styles.

Some of the terms used here in classification are hardly exact. The scarabs named Mykenaeen are by no means so early; those called Egyptian are all Phoenician imitations; the scarabs of so-called Assyrian style are rather the Persian edition; and those termed Carthaginian are mostly local variations of Greek design. The figure called neo-Punic (XCVII) seems rather to be pure Greek in a local school, probably Cyrenean.



The general position then seems to be that there was little intercourse of the East with the Western Mediterranean till after the Trojan war; the traditional drift of peoples westward after that, in the reputed Trojan colonies, and the foundation of Cumae in 1050 B.C., began the movement which the Phoenicians carried on, and it was their trade that spread the taste for copies of Egyptian work. Scarcely anything of Egyptian make was traded West (the bust of Sekhmet, *Est.*, VIII, 2, is about the only piece), but there was a wide field for the Phoenician imitations, in scarabs and glazed ware, which flooded the trade, much as Naukratite imitations spread in the seventh and sixth centuries. Then after the Roman conquest there was a great collapse, and what little life remained in Carthaginian regions was completely dominated by Roman works.

The Tomb of Senebtisi at Lisht.—By A. C. MACE and H. E. WINLOCK. 4to, 132 pp., 35 pls., 85 figs. New York, 1916.

At last we welcome the first volume of the results from the Expedition of the Metropolitan Museum of Art at New York, begun ten years before. The scale and style of the present volume is delightful, but if one tomb claims such treatment, will the life of the explorers suffice to bring out the results of ten years? *Respice finem* is a motto which seems to be forgotten by most excavators. They scarcely regard the fact that no one else is likely to find time to work up and publish their discoveries, if they do not find time to do so themselves. Whatever a man does not issue of his own work will probably never be seen, and might as well have been left undone. It will be useless to science, and lost to sight, like the plunderings by the European consuls a century ago.

This volume is a complete account of a burial of the XIIth dynasty, which had been attacked anciently, but was saved owing to the plunderers being interrupted before much mischief had been done. The chapters deal with the general conditions, the clearing of the tomb, the coffins, the jewellery, the ceremonial stores, the pottery, and the dating. The oblong pit, large enough to lower a coffin, and about 16 feet deep, and the narrow recess chamber, are all of the usual type, like dozens of such burials in any Middle Kingdom cemetery. The great value of the account is in showing what a complete burial contained, and explaining the former contents of hundreds of similar tombs now empty.

Over the coffin, far from the loose rubbish that had fallen forward into the chamber, there was a pile of bricks and stones. This seems to have been placed there by guardians of the tomb, to cover over the attempted attack on the coffins by the plunderers; the same careful hands had filled up again the plunderer's hole down the shaft. The coffin had been considerably decayed, but the original decoration was carefully preserved by treating it inch by inch with shellac or with paraffin wax. On the outer coffin were inlaid eyes of alabaster and obsidian. This coffin was of the usual rectangular form, with raised block ends and rounded top, such as began in the third dynasty. Around the edges were gold strips, and down the axis of the lid an inscribed band, naming two women, Sät-Hapi and Senbtas; there is no explanation of the occurrence of the first name, or whether these were two names for the same person, as was often the case for men.

The careful tracing of the arrangement of the bead girdle, the collar and other parts of the outfit, has added much to our stock of information. It is an irony that the minute record of a much damaged burial should be worth more than the accounts of the perfect burials found by incompetent diggers. The detailed discussion of the coffins and fittings, compared with those from other important tombs, makes this volume a text-book of the subject.

The inner coffin is claimed to be "the earliest definitely datable example yet known" of the anthropoid coffin. Two questions are involved here. First, the style of the decoration of bead collar and tresses of hair (frontispiece and Pl. XX) seems to be far removed from a starting point. The similar form of the spiral at the end of the tresses and the marking of the breasts, shows that copying had gone on long enough to lose the original idea: the formality and want of attachment of the rectangular beadwork below the collar, again, is evidence of repeated copying. Second, how early is this coffin? Unhappily the evidence of date is not given: it is only stated (p. 114) to be "dated with great certainty to the early part of the XIIth dynasty," and to be connected with "the great wazir

in whose tomb she was buried" (p. 49). Sometimes relatives are buried in a family tomb considerably older; and here it is agreed (p. 32) that the technique and appearance of the coffin of King Hor is identical with this. Such resemblance takes us to the end of the XIIth dynasty, or more probably into the XIIIth.

This question of date is important as affecting a whole class of pottery. The application of white edging or stripes is well known, and is usually dated as after the XIIth dynasty; occurring here, it is claimed as beginning early in the XIIth dynasty. The styles in this burial which do not agree with what is usually dated to the XIIth dynasty, are stated to be due to belonging to the ruling class, whose fashions were not yet generally copied. We need very certain proof before we can thus formulate a difference of fashion of several generations between the styles used in different classes of society. Such social viscosity has not yet been proved in other periods; within a generation or two copying—however cheap or rough—takes a new style through all classes.

Let us hope that workers will devote their energies to publishing all their results, even if less luxuriously than in the present volume. No one ought to be allowed to turn up more material who is three years behind in publishing.

Études sur l'Origine et le Développement de la Vie Religieuse. I. Les Primitifs, l'Égypte, l'Inde, la Perse.—RICH. KREGLINGER. Bruxelles, Lamartin, 1919. 12mo, 370 pp. 6.50 frs.

This work is primarily written from the point of view of the study of recent peoples. It gives nearly half its exposition to these, then long sections on Egypt and India, and a shorter part on Persia; "the other great religions, including Christianity, will be studied in subsequent volumes." If all the work is similarly carried out, it will be a most welcome text-book. The present volume is clearly arranged, well written, with logical development and sympathetic treatment. It aims at reaching the point of view of the primitive thinker, and realising the aspect of life as seen by those who are without our accumulated experience. It is well documented, giving a reference for almost every statement, and quoting important passages in full.

In the first part, on primitive ideas, realism is first considered, concluding that "savages do not think or perceive as we perceive and think; with the more complex kind of life, experiences are multiplied and individualised, knowledge is widened, all the state of mind and mentality expands." To the savage mind impression constitutes reality, dreams are as real as waking impressions, drawings or statues are the equivalent of the bodies which they represent, the name is of the same effect as the person, and may give control of the person, the word of command creates the object or directs it. Magic rites are next described: of war, hunting, rain and sun. The basic idea of all these, is that man can control that which is beyond his reach by imitative actions. Under the head of Materialism are collected the instances of eating powerful men—enemies or friends—in order to acquire their abilities. The bones of oxen placed with the dead in Egypt are taken as being likewise to provide strength; but as goats and other small animals are also buried, and offerings of bread and drink, it is more likely that the ox bones are also part of the food provided. The transference of sin or disease to an animal is also quoted from many lands. The possibility of telepathy and sympathetic influence is fully accepted, and examples are quoted of physical contact in teaching and conferring powers.

A full and important section is that on *mana*, or the pervading influence emanating from sacred objects and *tabu*. This influence can be transferred, and the rudest sense of it is as a fluid or wind which passes from the possessor to the recipient. The notion is found in Australia, Borneo, Annam, New Hebrides, Madagascar, South Africa, and North America; it also lies at the root of Brahmanism. It should be added that this was familiar also in Egypt as the *sa*, or power, which was imparted by the god laying his hand on the back of the kneeling ruler. There was a class of *sa*-priests, who possessed this influence and imparted it. The essential value of it was protection by the gods, literally "backing," as *sa* was the "back" as well as the "influence." All kinds of objects may contain *mana*—stones, fire, wind, mountains, trees and weapons. The Dionysiac rites, and the eating of sacred animals, are parts of this system. The next section deals with the rites of contact with the earth, of fertility, and the marriage system.

Totemism is a valuable section, comparing and criticising the various definitions of the subject. The conclusion is "totemism is a belief that, in a society, certain persons or clans are connected, or identic, with species of animals or vegetables; and it implies all the rites resulting from such a belief." It is remarked that nearly always a whole species, and not a single animal, is the totem. Here Egypt helps us by the names of early animal divinities being all in the plural, *khnumu* rams, *anpu* jackals, *bau* herons. The animal standards of tribes in Egypt, from prehistoric times, later fixed as the standards of the Nomes, seem to be on the same footing as the animal standards of the Hebrew tribes and of the various peoples in Italy and Greece. The eating ceremonially and rarely of the sacred animal is a rite of totemism, in order to maintain the bond of unity with it: to the examples quoted may be added that of the annual eating of the ram at Thebes, and the eating of the Apis bull at Memphis, of which only fragments of bone were left to be buried, in some cases. Some interesting points of primitive thought are quoted, showing the savage, like the child, disregarding his individuality and thinking and speaking of himself as a part of the species; this further may throw light on the aspect that animals bear to each other. "The social institutions of the present world find in these fundamental characters of ancestral mentality, their distant explanation, and often their sole justification."

The second part, on Egypt, deals with the soul, the king, and the gods. Here the author follows the view that the dissection of the body was for fear of its return, and he calls it an act of impiety. This view, true in some countries, never was a motive in Egypt. The dead were often provided with weapons, unbroken and effective, proving that no dread of their action was felt. Moreover, after dissection of the body and cleaning the bones, they were carefully reconstituted in their original order. To prevent any action they would have been left in confusion. In the early texts it is stated that the body was cleaned in order to prevent decomposition, and to preserve it. The funeral prayers do not pray that the head may not be removed from the body, but that it may be returned to it, and the bones replaced; this shows that the unflensing of the body was not looked on as impious, but as part of a needful ritual of preservation. It is not the fear of division that prompts these prayers, but the fear of not being rightly re-united. The old idea is repeated that the contracted attitude of burial was embryonic; there is no ground for this, as the attitude is that usual in sleep, and the dead were merely wrapped together as they lay in order to

bury them. The dynastic people brought in full length burial, and that is the usual attitude of sleep among the Egyptian peasants in modern times.

A curious statement is given, without reference, that the Gizeh Sphinx was faced by another on the east bank of the Nile, forming a guardant pair to the entry of Upper Egypt. This needs to be verified, as it would clear up the meaning of the Sphinx, if correct.

The division of the hieroglyphs of animals, at the legs or neck, is supposed to be intended to prevent their injurious effect on the dead. This will not account for the removal of the feet of the harmless birds, which seems to show that mutilation was to hinder the animals from moving.

The earlier type of the ushabtis, as single figures of the deceased, is ignored, and only the later modification as servant figures is stated, though that did not begin till the XIXth dynasty. The idea of giving one for each day of the year was a late view in any case, and only rests on one or two having days named, which may be the day of death or of burial.

The *ka* being the family spirit, of which all descendants partake, is briefly stated; but the African belief in the same family spirit should be quoted, as it is the strongest evidence of such a view.

In describing the gods, the local origin and worship of each is well enforced, and their local and tribal origin might be further illustrated by the compounding of gods together when different tribes were mixed. A worthy summary of the great advance of Akhenaten concludes this part of the work. The usual well-fixed lines of Egyptian belief are stated, and need not be repeated here, beyond the matters just named, which require further consideration.

The third part, on the Religions of India, is a clear and well-arranged historical account of the changes that can be traced. Several long extracts give authoritative statements of belief. The gods of the Vedas and their origin are fully discussed. Next the system of Brahma, and the philosophical subtleties into which it developed. Lastly, the revolt of Buddhism, and the new morality and philosophy which it brought in.

The fourth part treats the kindred development of Zoroastrianism in Persia. The essential of this is the duality of the conflict of good and evil, which pervades the deities, the spirit world, and the actions of men. The date of Zoroaster is discussed, concluding that it cannot be later than about 1500 B.C., and that the movement originated in the Aryan homeland before the Hindu invasion of India. Though so closely akin to Hinduism, it reveals a violent antagonism in the opposite characters of the spirits. The Asuras are the good spirits in Persia, evil in India. The Devas are the evil spirits in Persia, the good in India. Indra is the great god of primitive Hindus, Andra is the worst of demons in Persia. Varuna the god of heaven in India is the demon of luxury in Persia. Vata, whose wind is the breath of life in India, is the demon of storm, snow, and destruction to Persia. "The religion of Zoroaster is one of the grandest doctrines which have ever been conceived, and which shines not only by the depth of the principles which the prophet discovered at the base of the world's evolution, but also by the admirable vigor of logic by which he subordinated all the details of his morals and eschatology to the first principles." After describing the struggles of good and evil for the possession of man, "We find thus in the religion of Zoroaster a grand conception which is not met with either in the Egyptian beliefs, nor in the profound speculations of the Hindus. The world has a history, it obeys the laws of evolution which from its present state lead it to an ideal

stage toward which are tending all the forces that move it. Neither in Egypt nor in India is the world conceived as progressing or developing; each man only thinks of his own future—his own survival or annihilation—and the happiness which he seeks either in Paradise or Nirvana is only a distant future which he waits to realise. . . . For Zoroaster the world obeys a plan, it is in historic growth, a field of battle where a passionate struggle is waged between opposing forces, . . . the eternal and unquestionable opposition of good and evil, with one only hope—that of the victory of the good. It is on this foundation, solid and simple, that his entire morality rests."

This little book, by its clear and sympathetic style, is worth more than most of the pretentious and prejudiced works which encumber the history of religions.

From the Garden of Eden to the Crossing of Jordan.—Sir WILLIAM WILLCOCKS 93 pp., 8vo, 4 maps. 1918. 5s. Cairo.

When any work appears dealing with a large number of debatable matters, the first question is whether we must accept it as a final statement, or as material for consideration, or as suggestions to be criticised. What value are we to assign to the statements of the author?

We are met on the first page by a strong statement. On Gen. ii, 6, "There went up a mist from the face of the earth," we are told "The word translated *mist* undoubtedly means free flowing irrigation," and "this Hebrew word occurred nowhere else in the Bible." But it does occur also in Job xxxvi, 27, "For He maketh small the drops of water, they pour down rain according to the *vapours* [or 'free flow irrigation'] thereof which the clouds do drop and distil." Now what has irrigation to do in a purely natural cycle here described? Also the word "*went up* a mist" is unquestionably *up*, and not *poured down* as a free flow irrigation. Were all this merely a suggestion, it might pass as unfortunate; but it "undoubtedly means" what we see to be impossible. Close to this we are told, "Now no mist, not even a primæval one, will keep a garden alive." Yet in Palestine on the hills, crops of sesame are grown entirely by dew, without rain; still more may this be the case in a low and damp situation. On p. 4 we read that "the date palm has remained even to our day the tree of life"; how then could the idea arise that the tree of life was not eaten?

Another "undoubtedly." "The letter E which precedes the names of the shrines (in Babylonia) is undoubtedly the same as the *yeh* which every Arab uses" as a vocative. Now the E means the house or temple, the *yeh* is the common vocative Oh! On p. 54 we read of "the salted lands near the lakes" of the Delta in Ramesside times. But there were no lakes at that time, as the sea broke in at the time of Justinian; till then there were marshes of the Nile stream, but no land under sea level. Such statements as these must reduce us to considering each point on its own merits, without relying on the author's judgment.

The main matters of this discursive work will now be summarised. The position assigned to the Garden of Eden is traced by identifying the four rivers which flowed from it. The Pison is said to be the old Euphrates line from Ramadie to Kerbela: the Gihon, the Chebar or Pallacopas; the Hiddekel, the Tigris; and the present Euphrates passing Niffur. The site of Eden, whence these streams divide, is claimed to be N.W. of Hit, the only position where a

garden could be placed which could be irrigated by free flow irrigation all the year. But how much of this depends on the above views on the "mist"?

The rise of the flood waters fifteen cubits is taken as showing an unusual Euphrates flood, which swept over the country, and stranded the Ark on a desert mound named Ararat. Why or where a rise of desert is so named we are not told. Much is said about the modern Arab *gebel*, meaning not a mountain but only desert land of any kind; but this is beside the point, as it does not touch the meaning of the mountains named in the account of the Flood; they are *har*, which always means a mountain, while there is an entirely different word *midbar* always used for a wilderness or desert.

Reaching the times of Israel in Egypt we are told of Joseph and Potiphar being at Zoan, but there seems no proof of this. The Auaris or Ha-uar camp of the Hyksos is identified with Hawara in the Fayum; but probably this, and many other Hawaras, are named from the Howara tribe of Arabs. A strong point is urged that the control of the Delta and Nile irrigation depended on holding the entry to the Fayum, into which the Nile could be turned, and so cut off water from the country to the north of it. But the possibility of this view, setting aside the ancient acceptance of Ha-uar in the Delta, depends on the Egyptian account. In that campaign immediately after taking Ha-uar they besieged Sherohan, Sharuhen in the south of Palestine, and fought the Menti of Satet, or Bedawin south of Palestine. This implies that Ha-uar was near Palestine and not far away south of Cairo.

The plagues of Egypt are compared in detail with the seasonal changes of the country, as Osborn did sixty years ago. The course of the Exodus is then traced in a northerly route on the Palestine road, and Mount Sinai is supposed to be Kadesh Barnea. We read "Elim is undoubtedly Katia," but this phrase is not decisive. One of the main difficulties in the view of a northern Exodus is the mention of the Wilderness of Paran, which is obviously the same as the modern Feiran in Sinai, and cannot be the same word as Barnea, with which the author suggests its connection. This one site which can be identified by name seems to make it fruitless to identify unnamed sites on any other route. The objection that Sinai was "garrisoned by Egyptian soldiers . . . more strictly garrisoned and more hostile to the wandering tribes of Asia than the Delta itself," is entirely untrue. There never was a garrison in Sinai, only armed expeditions occasionally visited the land for mining. Further, whatever Egyptians went there were only a small handful of labourers and a few soldiers, and they only occupied the actual mines, and never controlled the desert. The only valid reason for the northern route is the flight of quails, which are said never to pass far south of the Mediterranean. But that is not enough to gainsay the plain fact of the name of Paran.

Of course irrigation and water control often appears here in different connections; but it is disappointing that a writer with so many ideas, and such experience of the East, should not have seriously taken stock of the facts; thus he has missed making a valuable aid to understanding the many subjects involved.

PERIODICALS.

Journal of the Society of Oriental Research.

MERCER, Dr. S. A. B.—*Sumerian Morals*. (Vol. I, 2.) This is a long and careful study of the practical morals, as distinct from the theoretical ethics. First the family life is considered. Marriage was a civil contract and "there is no means of showing that it had any specific religious character." This accords with Egyptian usage, where the contract dealt with property as affected by a union, which apparently had no other legal status. The penalty for divorce was fixed, as in Egypt, at the marriage, and it could be performed at any time by the husband. Polygamy was possible but unusual. Polyandry was being extinguished at the time of Urukagina, before 3000 B.C. on the shortest reckoning. At that period women had an important position, the kings having the queens' names often with theirs in decrees. This looks as if an earlier matriarchal system was still respected.

In the matter of repudiation of a parent or a son, no notice is taken of the observation of Miss Simcox (*Primitive Civilisation*) that these included cases of adoption, and the separation of a child from his natural family by legal process. The system of adoption is described as regards the future position.

The business law was ample and detailed, and fully punished acts of carelessness which caused injury to others. Treaties between peoples were regarded as compacts made by the gods, under whom the rulers acted in war and peace. The ideal character attributed to the gods was high according to our ideas, much higher than that of the Greeks. So far as this reflects the ideals of the people, it puts the Sumerian above most races that we know. "Their gods were holy, righteous, just, truthful, pure, good, perfect, compassionate, merciful, mighty"; but they "were subject to the need of change and repentance, just as men are." In the summing up, "in spite of the presence of much materialism in their social life, and of much regard for ceremonial in their religious life, their moral ideals were singularly high."

A similarly exhaustive statement of all the passages of texts referring to *Early Babylonian Morals* (Vol. II, 2) seems to show very little difference from the earlier Sumerian ideas. The older population had set the standard adapted to the climate and the conditions of life in the country, and little difference could be expected, unless some great new ideals arose.

MERCER, Dr. S. A. B.—*Egyptian Morals*. (Vol. II, 1; Vol. III, 1.) In these articles the general character of the Egyptians is discussed, as shown by their ideals of life; the difficulty as to the relation of the practical life to the ideal is hardly touched. If the ideals of a people are pitched much above the average practice, there is too much hypocrisy; but if there is no suggestion of hypocrisy, or a double standard, this points to a fair correspondance between the ideal and the practice. From this consideration it seems that we may fairly give the Egyptian credit for most of the virtues that he claims or commands. There is another line of evidence, not touched in these articles, the physiognomy of the nobles and kings, which—thanks to the great art of the early times—is known

to us as familiarly as the portraits of modern statesmen. In these faces of the leaders of Egypt we see unmistakably all that is best and noblest in their ideals of action—the dignity, foresight, patience, and vigour, with usually kindness, and sometimes humour. We feel it would be an inspiration to worthy life to be led by such men: we can credit them with all the virtues that they claim.

The different standards of action are dully realised by Dr. Mercer as limiting the quality of the individual. "He must be commended or condemned not on the basis of our code of morals, but on the basis of the morals of his own nation and times." Yet it is said of the standard itself that we must judge of it as better or worse than our own. Here there should be more reserve, due to the different conditions, climate and necessities of life in different lands. The relative proportion of qualities to each other largely depends on circumstances. Entirely different builds of character are now needed in New York or an English village, in Russia or in Spain, at the present time. What is a virtue in one country might be a vice of character in another. The morality of the ancient Egyptian is so closely fitted to the nature of the country, that it seems impossible to improve upon it for the present day; all the faults of the people are so exactly reprov'd and countered in the admonitions, all the needs of character are so strongly stated in the claims to excellence, that any judgment of the moral standard by that of ourselves is inapplicable.

After classifying the various evidences of family qualities, social qualities, international and religious qualities, the general ideals are dealt with, the standards of good and evil, of free will and of right. The early Egyptian is concluded to have been "devoted to goodness, truth and justice. . . . Considering the limitations of his time, he cannot be too highly praised."

The second article, on the morality of the Middle Kingdom, is on the same lines. The main development since the early times is in the individuality, the feeling of personal right. The decay of society at the close of the Old Kingdom, left a strong sense of the hollowness, insecurity and injustice of the course of life. The strong rulers who insisted on a high standard had disappeared, and those who sought justice stood alone. Falsehood, and the insecurity of life which it produces, were the great evil of the time. The evils of life had driven men to look for future compensation, and the ideas of different kinds of future existence grew and spread. The Kingdom of Osiris, with the personal judgment, began to take its place as a more reasonable prospect than the haunting of the graveyard. Dr. Mercer's articles give a summary which will be especially useful to those who make comparative studies with other lands. It might be an advantage to bring in the sidelights given by art and by ideals of the future life, to extend the view of character.

Report upon Archaeological Research in the College of Literature, Kyoto Imperial University. Vol. II. March, 1918. Though this does not concern Egypt, yet we must welcome the rise of archaeological work in Japan. There are 76 pages of Japanese text, 24 plates, and then mercifully a summary of 24 pages in English. The style of the excavations seems thorough. Plans and sections are given, the varieties of pottery and flint implements are photographed, and the skeletons are measured in detail and the skulls photographed. This is laying an excellent foundation for comparative studies, and we congratulate Prof. Hamada, who is the director of the work. He has also published—entirely in Japanese—a volume of his travels in Greece, with many photographs, 250 pages in all.

NOTES AND NEWS.

THE troubles which have befallen Egypt and the rest of the world have much reduced the number of excavations undertaken here, though the conditions of life in Egypt are better than elsewhere. Prices of labour and of food are high, but have not risen quite as much as in England. Gold and silver have vanished, and depreciated paper is the currency. All classes of natives seem to feel how misled they were in the outburst of a year ago, organised by Germany, and they do their best to regain their character for reason and politeness. The familiar station of Bedrasheyn is a heap of brickbats, and there are no tourists going to Saqqareh.

The American work continues with Dr. Reisner in Nubia, Mr. Winlock at Qurneh, and Mr. Fisher at Memphis. England is represented by Mr. Carter, working for Lord Carnarvon at the Tombs of the Kings, and by the British School at Lahun and Gurob. Dr. Grenfell has been out on a mission to acquire papyri for the British Museum.

The work of the British School has been carried on by Prof. and Mrs. Petrie, Captain Engelbach, Captain and Mrs. Brunton, Mr. Miller, Mr. Jefferies and Miss Hughes. The duty of fully working out and recording a site is incumbent on excavators; and in clearing and planning the cemetery at Lahun, though the XIIth dynasty tombs were exhausted, there was found a cemetery of the Ist to IIIrd dynasties. A hundred graves of this period show the stages of development, from the prehistoric open pit grave, the pit divided for offerings, the shallow shaft and chambers, the stairway tomb with stone door slab, to the deep shaft tomb, which continued through all later times. Many stone vases and much pottery were found which will yield precise dating. One great tomb of the XIIth dynasty had been broken up; but the fragments of inscription left were for Anpy, noble and chancellor, over all royal works throughout the whole land, and over the store of produce. Strange to say, he was a devotee of Sneferu, though living under Senusert II.

At Gurob the *sebakhin* have removed so much earth that graves are now found ranging from the XVIIIth dynasty back to the prehistoric, with many scarabs. A few large and important objects have rewarded the work at both sites.

Captain Engelbach is going to take up his duties as Inspector of Upper Egypt. Captain Mackay is in the army at Jerusalem, awaiting the development of the Service of Antiquities, which seems to hang fire, though destruction is rampant in the Hauran. The weather at Jerusalem has been as wild as elsewhere, with two feet of snow and great icicles.



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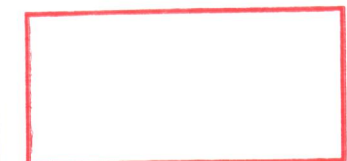
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