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ANCIENT EGYPT

1915.

PART I.

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ANCIENT EGYPT.

BIRDS IN ANCIENT EGYPTIAN ART.

(Frontispiece.)

SOME years ago, I wrote on the subject of colour as used by the ancient Egyptians in the representation of living objects; and though now one has seen so many hundred more different examples than then had been available, I have still, with some regret, to restate my original view, that we know little as to the rule that dictated to the old artists what colour they should use.

Light will doubtless be thrown on this by Mr. Howard Carter's book when it is published. Those who have been privileged to see parts of it know his extraordinary powers of observation, exact illustration, and artistic handling, which make them await the work with the utmost interest. What one, however, almost fears must necessarily be impossible to elucidate is, why the same bird—or what on every method of judgment one would say is the same bird—should be in one case coloured red, and in another blue, while the real colour in nature is neither red nor blue. We know, or seem to know, that certain classes of objects were always by some convention to be coloured one regulation colour, for instance, wood (or wooden objects) are nearly always red, whilst water is blue; but in the matter of birds there seems no fixed rule of this sort. All are aware that, over the vast period of time which one is considering, artists and schools were succeeding one another constantly, and that certain periods were artistically infinitely preferable to others. That, however, will not help us over this particular difficulty, because on the same wall, and of the same period, I have found such different renderings of the same bird that, judging by the colour, you would have to place them as scientifically different species. I still remain in this view, which was arrived at long before I had read the following:—"In studying Egyptian wall-painting the question immediately arises how far the faithfulness and realism of the artists is to be depended upon. Their bad work was often very bad; but their best work also was done principally with a view to decorative effect, and thus we see, for example, that the fins of the fishes are often misplaced, the colours of a bird may be taken from one species, and the form from another, while everything is considerably conventionalised" (*Beni Hasan*, Part III).

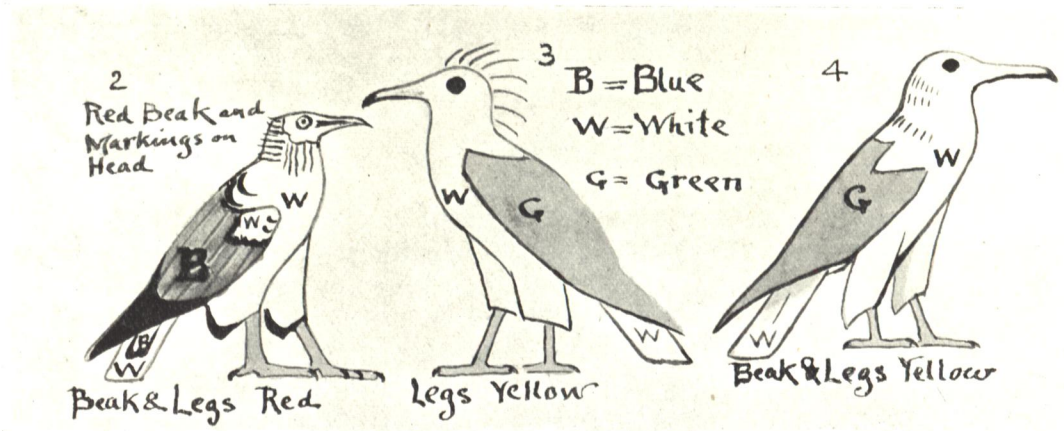
From my own notes I have selected some cases to make this clear. The first is this figure of  the Egyptian vulture used alphabetically as A. In the frontispiece, Fig. 1, you have for comparison a sketch of the actual bird, as rendered by a modern draughtsman from the living example. In Figs. 2, 3, 4, are shewn three copies of this same sign which were painted in colour, each differing considerably the one from the other, but all three being

A

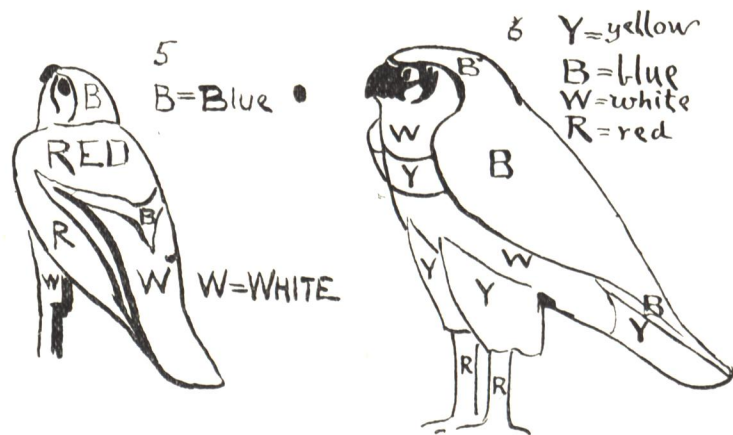
THE GOLDEN-HEADED VULTURE, HIEROGLYPHIC A.



selected because of the careful work shewn in them. No. 2, from the tomb of Ameny, Beni Hasan, is coloured blue, red, and white, as indicated by lettering. The markings on head and neck, which presumably represent the ruff of long thin feathers which adorn the neck, are painted in reddish colour, as are the beak and the face, which is bare skin. In nature, the ruff of feathers is pure white with no suggestion of red, and the bare skin of face, with the base of the beak, is bright yellow. The white parts in all three figures are correct as in nature—but the

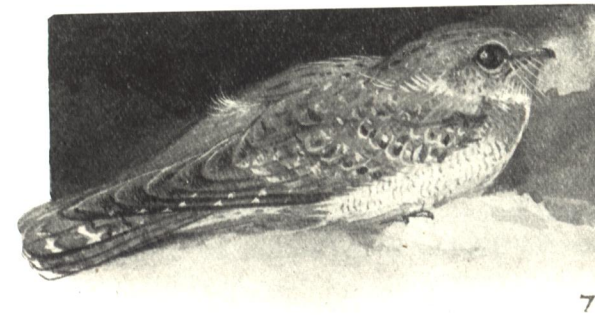


wings in this Fig. 2 are blue—with black primaries, and there is a curious white square on the point of the wing, which one is most uncertain about. In nature the wing is, as you see by Fig. 1, white, with dark grey secondaries, which at a distance look absolutely black, and with black primaries. In No. 3, which is from the inside of a painted wood coffin of the IIIrd to IVth dynasties, the bird has what looks like a crest of feathers on top and back of head and is shewn with quite bright green wings, and its legs are yellow, as they are in Fig. 4, from a XIIth

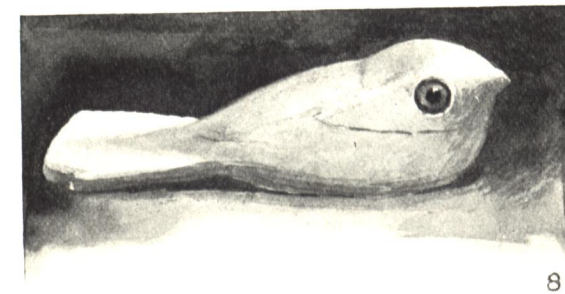


dynasty tomb. In nature the legs are a sort of chalky pink-red. In Figs. 5, 6, are shewn two wooden hawks; Fig. 5 is in the Petrie Collection, Fig. 6 is my own; both are practically as far as shape and size go identical; but the colouring, as I have shewn by my lettered diagrammatic drawing, is about as markedly different as well could be imagined.

Incidentally most will agree that the lot of the poor bird expert, who is called in to name certain birds, is not quite a happy one, and the writer has had more than one experience, where the questioner has looked upon our cautious answer as a mere subterfuge of ignorance, and seemed doubtful if one were not posing as having knowledge while being really a regular fraud. Still one goes on, and does not regret the long hours given to this side of Egypt's story; every season something new crops up, and only this year Prof. Petrie asked me to look at a very perfect little work of art.



7. NIGHT-JAR. FROM NATURE.



8. IVORY CARVING OF NIGHT-JAR. GARNET EYE. PREHISTORIC.

This little ivory is just about 2 inches long, and is in no way remarkable for any detail of markings of wings or feathers. The first point seen is that the eyes are of a different colour and substance to the rest. They are small beads of garnet, with the darker iris plainly shewn, and the same dark colour surrounding the eye gives the appearance of the heavy eyelids peculiar to the bird.

Now it may be asked, after looking at our two illustrations, Fig. 8 being of the little ivory itself, and Fig. 7 a sketch of my own of the bird from nature,—whatever is it you see in this ivory to so admire? My answer is, first, that of all birds I know the nightjar is peculiar in this identical squatting position; and that, when seen, the eye is the most marked thing visible. Indeed, it is a commonplace amongst field naturalists that it is extraordinarily difficult to discern this bird at all, as it lies or squats on the ground, possibly not a yard away from you, until you catch sight of the great luminous eye. This is because it crouches rigidly motionless, and because of the delicate markings—blotches and pencillings of brown and grey and buff, which harmonize and blend with the surrounding soil and stones, so that it

looks merely like a rounded bit of the adjoining earth. The old time artist knew this very certainly, and made a point of it. Then the next peculiarity is that the broad head ever lies close in on the shoulders, and the body and tail make one continuous line, with the feet hidden underneath, and in broad simple fashion all these characteristics are given, so that though in white ivory which cannot shew the delicacy of pattern of its brown and buff plumage, it is possible to at once identify it as being meant for the Egyptian nightjar (*Caprimulgus aegyptius*). This form is an inch smaller than the European species, which is a comparatively rare visitor to Egypt. And the Egyptian bird is again a rarer visitor still to our own country; only one case is known authentically, and that was in 1883, when, with regret it has to be stated, it was promptly shot; this was in the heart of England, Nottinghamshire.

Both species are marked with very similar delicate grey buff and brown blotches and pencillings,—but our English one has the markings rather more positively, and distinctly darker blotches. Its curious note, which is perhaps the most singular of all our native birds, once heard is never forgotten. It harmonizes completely with the wild moorlands and waste places that it loves—and loves so consistently that it returns annually, as a summer visitor, to the exact spot where it nested the previous year, and where probably itself was born from the eggs laid on the bare ground under some mass of bracken.

Two outstanding points, which are to the artist points of great merit, are, first, the extraordinary individuality of all Egyptian art from any other art; and, second, that quite apart from the actual scale of the work of art (as in this little gem of a sculptured nightjar), it is ever—in studio parlance—“big.” If you have any doubt about the first, try and paint or sculpture any bird or inanimate object to make it look like the work of some good Egyptian period. Your first essay will at once reveal to an expert that it is done by Western hands; there will be some tell-tale peculiarities, of which you yourself are quite unconscious, that will certainly, as we say, “give the show away.” Even if you simply attempt to copy direct from some Egyptian work, you will be astounded at the difficulty of getting just the identical type of line and contour that is everlastingly to be found in everything they did. Then the other point is equally certain, that theirs was the godlike gift of making everything big. Take those little wee statuette figures, only an inch or inch and half high, they are still great,—big with the same dignity, reserve, and masterly seizing in their own way the simple necessary contours and broad forms and masses. Needless to add, here reference is only being made to the great and good periods. Their bad work, as already has been pointed out, is very bad; and it is curious that bad work is points easier to copy than good. Some of the work of the worst periods might really just be the work of a badly-taught board school child of to-day, the resemblance, indeed, often is really striking. But for the rest—and it is a very big remainder—all their work ever has this individuality and this bigness, just as this little bit of ivory is a complete work of art, and the cleverest representation of a nightjar that I have ever seen.

To go back to our frontispiece, in old books of travel this bird is often referred to as Pharaoh's Chicken; travellers tell how it was to be seen in every village walking about amongst the domestic poultry, and describe how it would eat and clean up the most unsavoury filth and nastiness, that even a poor skinny Egyptian fowl would scorn. The name has some interest, because nowadays all that has changed, and in all the years I can remember Egypt I have only once seen it. This was at some small settlement of huts—not worthy even of the name of a

village—midway on the old road between Kenh and Koseir. From a group of what at a distance looked like all geese, two birds flew up and circled lazily round, and I saw they were Egyptian vultures. The geese did not seem disturbed or notice them, and I remember the whole incident because of the unsuitability of the place, a desert, for a water-loving bird like the goose. Still Egypt is full of these surprises, as all travellers must have been startled to hear for the first time the “goble, goble, goble,” of the ubiquitous turkey-cock from the roof of some high building in town or city.

It would be most interesting to bird lovers if we could reach some smallest direct knowledge of what reason dictated their choice of birds as hieroglyphs, which seem to us to have no possible connection with the ideas they are supposed to embody. Why should a vulture, which is the most repulsive looking and most foul feeding bird, and far from the best and highest type of good parent, be used as a symbol of motherhood, with all its delicate and sacred associations? Again, why should an ibis be chosen to head the embodiment of the great master mind and deity that presided over the arts, letters and literature? Above all why a duck or a goose should be chosen as the sacred and royal symbol of an earthly monarch's sonship with the greatest of their gods? In not one of these three leading cases can an ornithologist see the slightest suitability or propriety whatever. Although one has to record that, it may well be that nevertheless there may be some sound reason, which in due course will be gradually discovered, and that is the hope and inspiration of every scientific worker in this particular furrow of the great fascinating field of Egyptology.

CHARLES WHYMPER.

[Unusual as the golden-headed vulture may be in most places, it is still frequent in others, as at Denderh, where I have counted thirteen all within a stone's throw of our courtyard; they frequented that as they always found there a peaceful supply of scraps.—W. M. F. P.]

EXCAVATIONS AT SAQQARA.

THE excavations of the past season at Saqqara were conducted in a quarter of the necropolis well known to every visitor, close to the tombs of Mereruka and Kaqemni and to the pyramid of Teta. When these tombs were formerly cleared the use of light railways had not begun, and all the sand and stone, carried in baskets on boys' heads, had been banked up in close proximity to the mastabas. Underneath this equally good inscribed tombs might possibly lie concealed. Accordingly, in the last two seasons, in accordance with the wish of Sir Gaston Maspero, a beginning has been made with the task of clearing a considerable space, including the area between and surrounding the accessible tombs. No great mastaba has yet been found; a large bulk of top stuff had first to be moved, then three well defined layers of interments had to be worked through before the Old Kingdom tombs were reached, and in the limited area as yet cleared to ground level only one tomb of the earliest period has been found in good condition.

The uppermost layer was of Roman date, of the 3rd century. The superstructures were oblong benches of brick, lying north and south, higher at one end than the other, covered with plaster, and sometimes decorated with simple patterns in red and black paint. In the raised end was a niche, in the back of which there remained, in one case, a human head roughly painted in red. The graves were shallow, about 30 inches deep; in them lay bodies fully extended, loosely wrapped and bandaged. There were hardly any small objects. A coin of Marcus Aurelius had been placed in one child's mouth; this was found in the previous year (1912-13). Two interesting pieces of faience—a sphinx and a vase with decoration in relief—and a marble head of a boy, a good piece of portraiture, were the most important single objects.

In the bodies themselves the most obvious point of interest was the curiously bad condition of the teeth; not only were these generally worn down very flat, but decayed molars, and jaws almost devoid of teeth, were very common. The contrast between these people and the present population of the villages is, in this matter, most striking; but of course our interments may have been those of a poor class of townspeople from Memphis, and not countryfolk at all.

In the tombs, and still more between them, at this level, a considerable collection of pots was made, and these were carefully drawn and worked up by Mr. and Mrs. Hayter, who, this year as last rendered us most valuable volunteer assistance in every way.

The second layer of bodies was at about three feet depth below the Romans. They were oriented at right angles to those above them, the heads being to the west. Here again a poor class of the population was alone represented. Some hundreds had to be examined, so closely did they lie together, and dated objects were non-existent.

The coffins were of anthropoid form, but very roughly made of planks daubed over with mud: the faces were sometimes carved in wood and pegged on, but more often moulded in clay roughly painted. The class is but too well known to diggers, and is most difficult to date.

The third layer contained fewer bodies and was less uniform in type. Most were in oblong boxes, of greater height than width. One group with gable lids, and bands of red and yellow (a red central stripe with yellow edges), was well defined. All these were probably of the early New Empire.

One of the square-ended plain coffins contained an unexpected prize. There were two bodies in the coffin, both wrapped in plain cloth, and without so much as a bead or a pot to reward our search. The cloth was in fairly good condition, however, and as I threw one bundle of it aside it broke and disclosed, to my surprise, the head of a small wooden statuette. It is about 2½ inches high and represents a very young boy, hardly more than a baby. Two of the ordinary flower-shaped carnelian beads were suspended by gold wire to the ears: they are oddly out of scale, the child's earring being as long as his forearm; but the sculpture is very delicate and subtle, and such a charming study of a child is certainly of great rarity. Even in the Louvre the work would attract attention; in our scantier series at Cairo it is very valuable.

Another piece of fine sculpture was a wooden spoon, with an openwork handle representing a girl standing in a boat and gathering papyrus; this was only in fair condition. Wooden objects at Saqqara are rarely, if ever, in the perfect state so usual at Thebes.

At a still lower level was a set of boats from a Middle Kingdom tomb, and soon afterwards an untouched shaft of the same period was discovered. It had been sunk close by a large mastaba of the Old Kingdom, the masonry of which formed one of its sides. The massive wooden sarcophagi were in the shaft itself: the model boats, granaries and workshops in recesses at the base. There were no objects of intrinsic value, but the staffs and bows, the cartonnage masks and the sandals inside the coffins, and the models and statuettes outside, formed a rich group, and were in good condition. The types are well enough known, wooden boats propelled by oars, papyrus boats which were paddled, groups of brewers, and granaries. Less common is the carpenter's shop with a large set of model tools, and the model loom is perhaps unique. The canopic vases had wooden heads, all human, three representing men, one a woman.

The names on the two coffins were Anpu-emhat and Nekh-hetuser. Each of the groups when exposed in a museum necessarily takes a great deal of space, and it is very possible that we shall not be able to keep both of them at Cairo permanently.

This completes the tale of the interments. Of important superstructures we discovered two. At the lowest level was the mastaba of yet another Ptahshepses: it lies close to Kaqemni, to the north. The stela is a fine block of stone, with a rather roughly incised inscription; perhaps it had been usurped. The chamber is of crude brick, covered with mud plaster and painted. The scenes are commonplace, only the slaughter of oxen, but the colours are rather well preserved, and the dark slaty background is striking. It is regrettable that the tomb cannot be left long open; but there is no doubt that the damp air in winter would soon disintegrate the plaster unless it were protected by sand.

The second tomb stood above this; it must have been an extensive structure of the late XVIIIth or XIXth dynasty, and commemorated a certain Aãpudu.

The walls were of brick, faced with stone, but stood only a yard high when we found them, and had been stripped of all but half a dozen blocks. These, however, were of merit. There is a stela with a long text, a hymn to Ra; and another stela, brightly coloured, with the figures of the whole family depicted on it. Two other blocks, which fit together, show a funerary scene—boats upon a lake, and shrines (?) around it. More interesting artistically is a scene of led horses, drawn with great vigour and spirit.

There must once have been a great deal of this fine New Kingdom work at Saqqara, but it lay too accessibly, and the Copts used it as a quarry, building the whole monastery of St. Jeremias from it.

J. E. QUIBELL.

PART OF COPTIC SERMON.

[I have asked Sir Herbert Thompson to allow the publication of this, in hope that the author of it may be identified.—W. M. F. P.]

THE following text is written on a strip of vellum $8\frac{1}{4}$ inches high by 4 inches at the widest point, in a single column on obverse and reverse. The fragment is complete at top and bottom, but has been torn away on the left-hand edge of the obverse from what was originally probably a page with two columns of writing. One or more letters have been lost from the beginning of each line of the obverse, and from the end of each line of the reverse. I have filled up most of the gaps, but some of the restorations are conjectural.

The text is apparently the close of a sermon, but I have not succeeded in tracing its origin:—

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Translation:—

“ . . . [lest the ties?] of the planks [be?] loosened [before?] we have reached the harbour, the hull(?)¹ [being] laden with bad merchandise(?) . . . unjust merchandise, we having given occasion to the devil to mock us. But we weep² and we undertake to yield us up to punishments to-day(?) in order that this may not happen to us. Let us hasten(?)³ in every direction and also leave behind us all passions, and let us cast away from us desire of riches in this place,⁴ so that also we may obtain the good things that shall come to us through the grace and loving kindness of our Lord Jesus Christ our Saviour, through whom all honour is due to Him and . . . and worship and thanks, together with His Good Father and the Holy Spirit,⁵ the Trinity in a holiness of Unity⁶ which is [in?] an unfailing and unchanging Trinity, which ruleth the universe of things in heaven and things on earth now and at all times for ever and ever. Amen.”

¹ I. ORENT(?)

² Probably the scribe's error for **UAPENPIUE**, “let us weep and let us undertake,” etc.

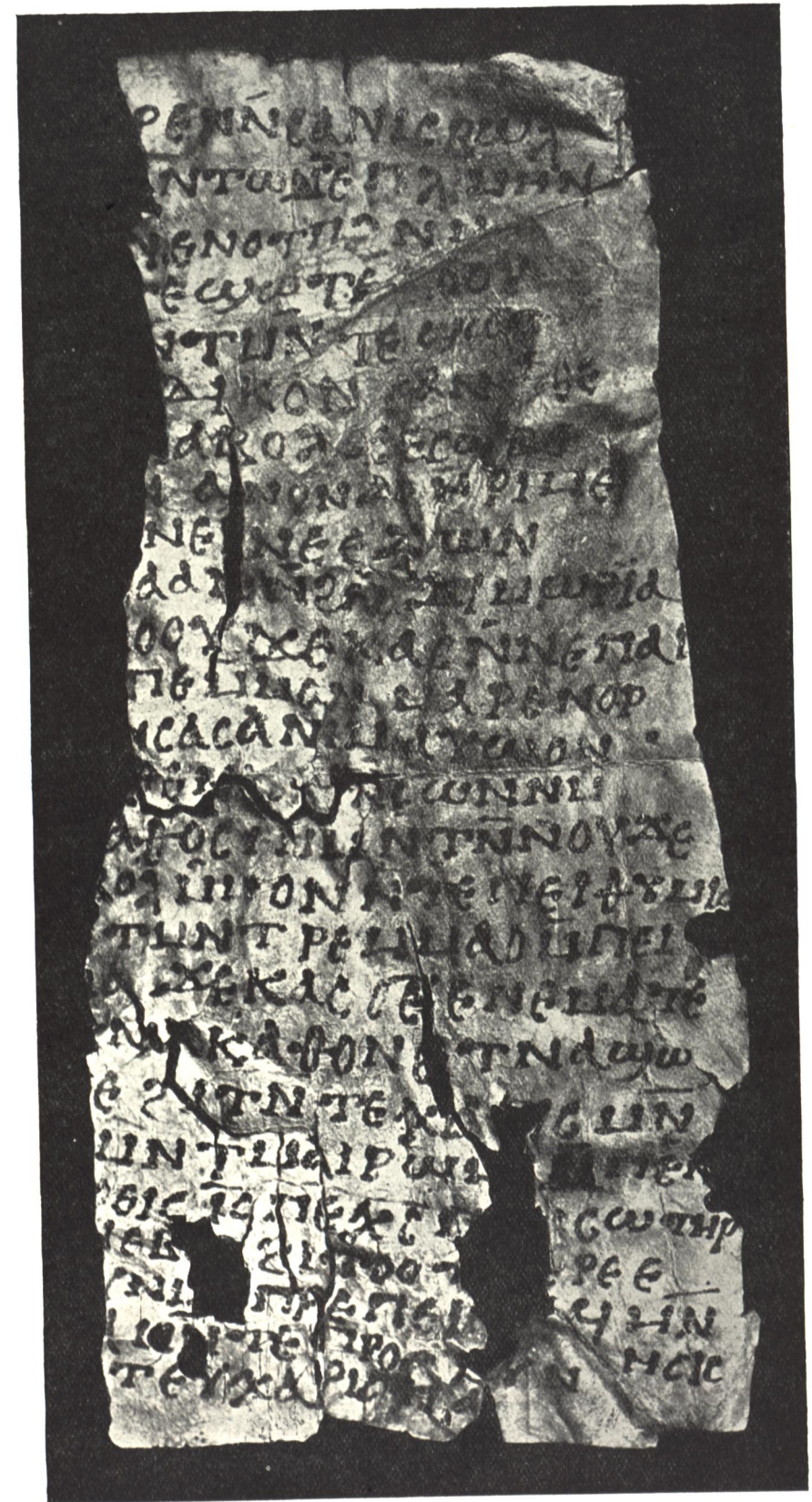
³ I. **OPUA**(?); one would rather expect **ZOPUA**.

⁴ Or, of this place, *i.e.*, this world.

⁵ I. **ΠΕΝΝΑ**.

⁶ I. **UNTOYA**.

HERBERT THOMPSON.



PAGE OF A COPTIC SERMON.

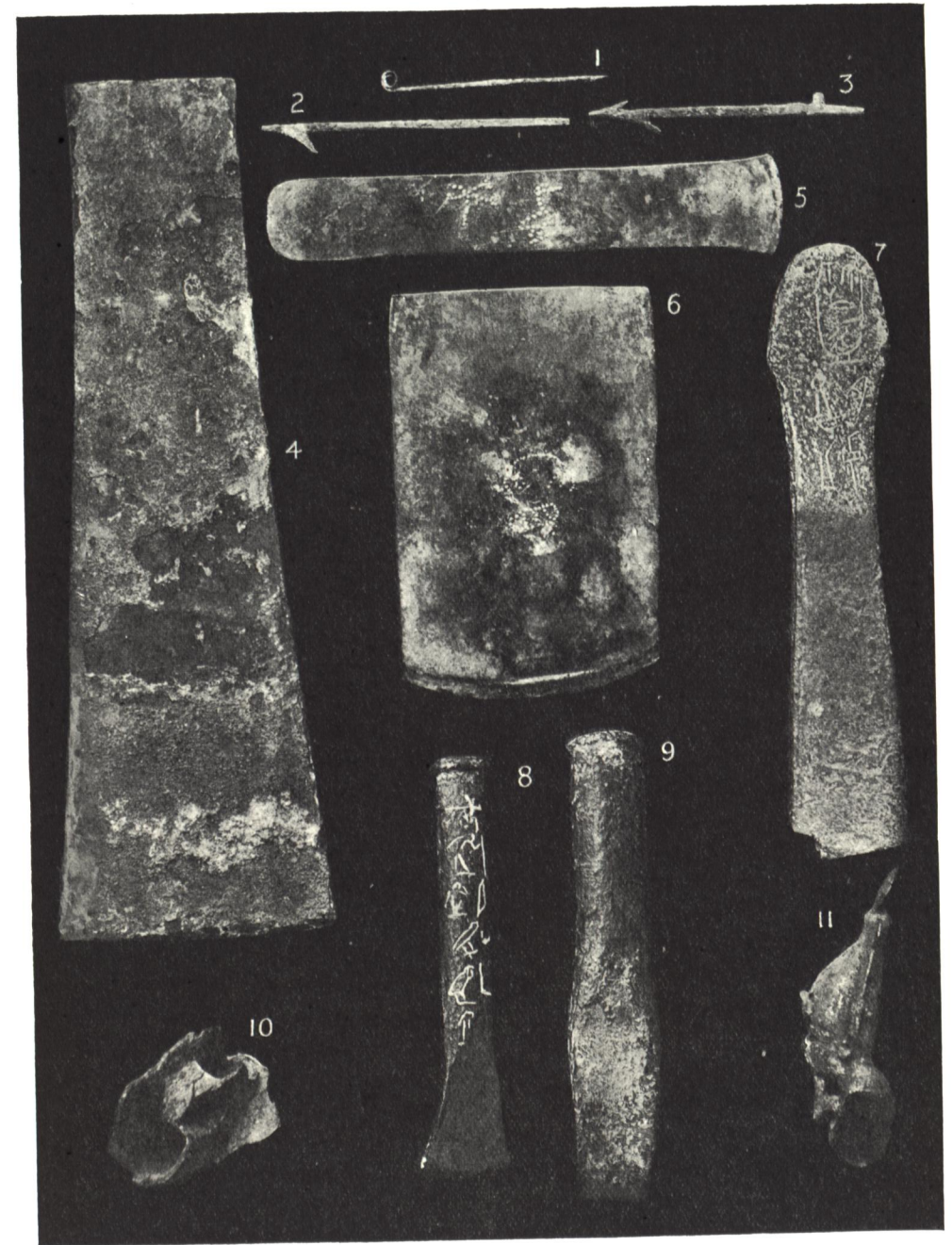
THE METALS IN EGYPT.

It might be supposed that the introduction and use of the various metals in Egypt had been sufficiently dealt with in original works and compilations; but frequent mis-statements that are met with show that a summary of the matter is needed. Dating will be referred here entirely to Egyptian dynasties, to avoid the confusion that has arisen from arbitrary shortening of periods.

COPPER is the earliest metal of which we know anything in Egypt. It occurs in the oldest prehistoric burials of Sequence Date 30, while gold, silver, and lead have not been yet found before their appearance in the beginning of the second prehistoric age, s.D. 42. The nearest important source of copper was in Sinai, where 100,000 tons of copper slag, in the Wady Nasb alone, shows what a large industry was carried on there. Later, the more distant source of the North Syrian mines yielded a supply to Egypt, as seen in the tribute from Alashiya or Asi; probably still later in origin was the overseas supply from Cyprus, which Dussaud does not place till after the Ist dynasty. Unfortunately there are very few analyses of metal and of ores in different neighbouring countries for comparison with those in Egypt. At least we may note that a piece of prehistoric copper contained 1.55 per cent. zinc and only .38 of tin (Naqadeh), while no zinc occurs in Cypriote copper tools. Copper was certainly very scarce at first, as only small pins are found, with the top turned over in a roll, probably to secure it by a string (Fig. 1). Such a pin was found with a body buried in a goat skin, without any linen, of the earliest type of burial. The harpoon (Figs. 2, 3) and small chisel of copper both came into use in the first prehistoric age. The metal became commoner continuously during the second prehistoric age, as shown by the increasing size of the tools; the adzes and, lastly, axes came in, reaching the full weight of later times at the close of the prehistoric (Figs. 4, 5, 6).

In drawing conclusions we must not presume that we have all the means of judging; our material is extremely imperfect, as we repeatedly find that only a single example of some form is known to us. Only three Egyptian prehistoric copper daggers are known (Naqadeh and El Amrah); only one prehistoric copper spear-head has been found (Tarkhan). The copper helmets of early Babylonia (Enneatum) and of Crete (Haghia Triada) are only known from sculptures, and, without these, we should never have suspected that such forms were at all early. The archaeological record is as imperfect as the geological, and whole classes of products have dropped out of knowledge. Hence it is only when we have a large amount of remains in our hands of one age that we can suppose that we have any fair idea about it.

The first dynasty marks the greatest size of copper tools. The largest knife and largest adze (12½ inches) are of that age (Fig. 4, Tarkhan); even the great adze (12 inches), which a boat builder is shown using at Meydum (*Medum xi*), is scarcely as large. Exactly the same form has been found in Cyprus (MYRES, *Catalogue*, 501), but smaller (8 inches, see Richter-Cartailhac plate). As the form hardly comes in the Egyptian series of adzes, and is not likely to have been exported from Egypt to a copper region, it seems that Cypriote copper had reached Egypt by the Ist dynasty. In this age a large use was made of copper wire, which was produced by cutting strips of thin sheet copper and hammering them round.

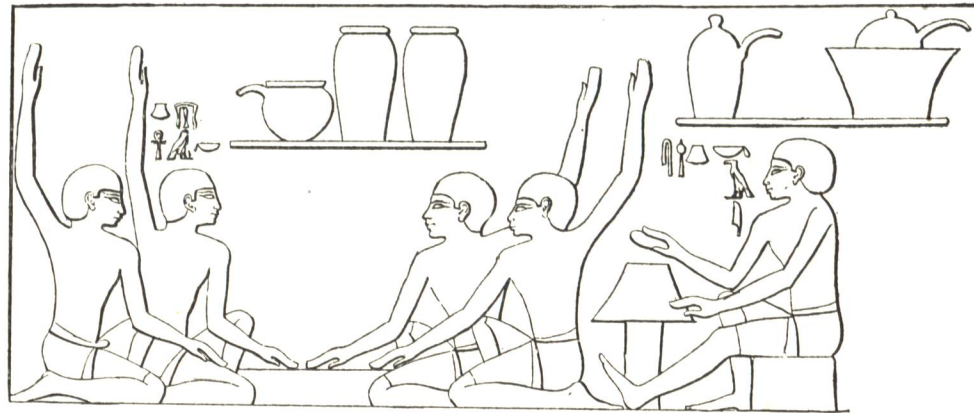


3 : 7

COPPER AND BRONZE WORK.

1. PIN, EARLY PREHISTORIC. 2, 3. HARPOONS, PREHISTORIC.
4. ADZE, CYPRIOTE, 1ST DYNASTY. 5. ADZE OF "SA NEIT," 1ST DYNASTY.
6. AXE OF "DU-QA," 1ST DYNASTY (*Royal Tombs*, I, LXIII, W. 46).
7. ADZE OF "SNEFRU-MER-HEZT, SHEMSU," IVTH DYNASTY.
8. CHISEL OF "SENIOR MINER, AMBU," XIIITH DYNASTY?
9. CHISEL, XVIIIITH DYNASTY? ALL ABOVE COPPER.
10. HOLLOW CAST BRONZE RING, SIDE BROKEN AWAY.
11. THIN CAST FIGURE, BRONZE, ⅓-1/8-INCH THICK.

Such was applied to fasten together boxes, to unite horn bracelets, and even to secure large glazed tiles to a wall. Four samples of copper from the Royal Tombs each contained a little bismuth, about 1 per cent. in a chisel; a very small amount is enough to harden copper considerably (Dr. Gladstone). The adze, Fig. 6, is dated to the close of the IIIrd dynasty by the name Snefru-mer-hezt.



12. FOUR MEN BEATING COPPER. MAN FINISHING COPPER BOWL.
FINISHED COPPER VASES IN BACKGROUND.

In the Old Kingdom the casting and beating of copper was fully developed; scenes are shown of the beating out of bowls (Fig. 12), and the great statue of Pepy and his son (see portrait at end) is of beaten plates. For the analysis, showing it to be almost pure copper, see *Denderah*, 61.

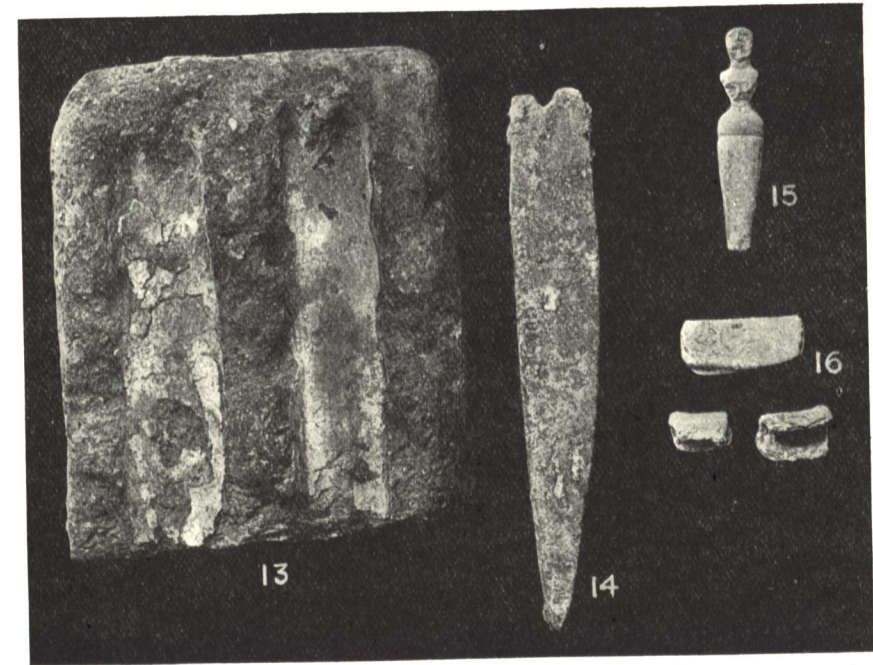
Of the Middle Kingdom are many fine tools; four analyses of these from Kahun show them to be nearly pure copper. Tin is only $\frac{1}{2}$ per cent., excepting 2 per cent. in a chisel; arsenic is 4 per cent. in an axe, but very little elsewhere; antimony and iron are only slight impurities (*Illahun*, 12); also in a piece of sheet copper, of the same age, there was only 1 per cent. of tin (*Denderah*, 61). It is, therefore, puzzling to find in analyses of Berthelot a large amount of tin in four Old and Middle Kingdom specimens. Either there were errors in settling the age of the samples, or, perhaps, as they were small objects, they were cast in shape, and the more fusible alloy was used rather than the plain copper which was beaten for the tools.

In the XVIIIth dynasty, bronze came into common use, as will be noted farther on; but copper continued to be wrought for large beaten vessels in all periods, down to the present time.

Examples of the refinement of casting are shown in Fig. 10, a hollow ring, attached to some furniture, and now broken away round the outside; also in Fig. 11, part of a statuette shewing the metal only a fiftieth of an inch thick over the ash core. The heavy metal chisels were cast in open moulds of pottery, Fig. 13; in Fig. 14 is a chisel from a similar mould.

GOLD is generally credited with being the earliest metal used, and though it has not yet been found in the first prehistoric age, that may be due to the graves having been completely ransacked for it. It is well known that the eastern desert and Nubia were gold-producing countries down to Roman times; and whether the metal was named *nub* from the country, or the country from the metal, is an open question. Large quantities of gold rings were brought down as tribute in the XVIIIth dynasty. Other sources were, however, used in the Old Kingdom,

as is shown by the mixture of silver, forming electrum. Such native alloy is found in the Asia Minor stream gold (Pactolus, etc.); and as emery and obsidian came from the Aegean in prehistoric times, it is to be expected that electrum would also



13. POTTERY MOULD FOR CASTING CHISELS.
14. BRONZE CHISEL, FROM SUCH MOULD, XVIIIth DYNASTY.
15. LEAD FIGURE, PREHISTORIC.
16. LEAD NET SINKERS, XVIIIth DYNASTY.

arrive. The alloy with silver was recognised as different from *nub*, gold, having the name *usm*, or *zom*, which is given in the IIIrd dynasty (*Medum* xiii), and as early as Aha in the Ist dynasty (*Royal Tombs* II, x, 2). The examples are:—

		Gold.	Silver.	
Ist dynasty.	Zet	80	13	<i>Royal Tombs</i> II, 40.
"	Semerkhet ...	84	13	" "
"	Qa	84	13	" "
IIInd dynasty.	Khasekhemui	78	17	Dr. Gladstone.
	VIth dynasty	78	18	<i>Denderah</i> , 61.
	"	82	16	"
	"	92	4	(Berthelot.)

Much as gold has been sought for in the cemeteries, some is still found in almost every place that is excavated. The principal examples, put in historical order from our own work, are: Naqadeh, prehistoric beads; Royal Tombs, Aha bar, Zer jewellery, Khasekhemui sceptre and vases; Koptos, bangle; Riqqeh, pectoral; Lahun, great group of royal jewellery; Nubt, gold plated scarabs; Qurneh, mummy with jewellery; Gurob, gold pin; Ehnasya, gold statuette, Pef-du-bast; Defenneh, Ra statuette, handle of tray, and much fragmentary; Memphis, Hathor head, granulated earrings; and Naukratis, Roman jewellery. Of course, it is not found in excavations where the workmen are not properly rewarded.

Gold was largely used for gilding, covering entire tops of obelisks and whole doors. The sheet gold weighs about one grain to a square inch, which is about fifty times as thick as modern gold leaf.

SILVER is found coming into use at the beginning of the second prehistoric civilisation, with other Asiatic products. It was used for a cap of a jar, a spoon, and other small objects. Later, some were placed in the tomb of Semerkhet, of which traces of chloride remained after it had been robbed. Some silver jewellery is found in the XIIth dynasty, such as the royal hornet, with inlaid wings, and pieces of pectorals, from Harageh. Of uncertain age were the great feathers of silver from a statue of Min, found at Koptos. At Qurneh bangles of the XVIIIth dynasty were made with a row of small tubes of silver. A great quantity of silver vases are recorded in the papyrus of Rameses III. In later times silver is occasionally found, as at Zagazig and Defenneh, and a large silver chain at Tanis. As a whole, silver is quite as rare as gold in cemeteries and towns, although gold would have been sought for and removed more eagerly by robbers. Though the proportion of gold to silver coming from any one source would be determined mainly by the produce of the land, the totals given to the various gods by Rameses III during his reign must show fairly the relative amounts of the precious metals in use. It is not quite clear how far totals recapitulate; but the totals offered to the various gods amount to 9 cwt. of gold and 30 cwt. of silver; the grand totals named later are 20 cwt. of gold and 33 cwt. of silver. These are in the ratio 3 to 10 and 3 to 5. Roughly, therefore, the weight of silver was two or three times that of the gold; the relative values were probably not far from this. The value of gold to silver is said to have been as low as 2 to 1 in ancient India, and 6 to 1 in mediaeval India. In other lands it has usually been between 10 and 17 to 1, at present it is 33 to 1. As we know that gold was obtained in Nubia, and in the form of electrum from the stream washings of the Aegean, while silver could only be got by mining in North Syria, it is not improbable that the values may have been as 3 to 1 in Egypt.

Silver was probably commoner in Babylonia, as is shewn by the great engraved vase of Entemena, 14 inches high. This is a couple of centuries before Naramsin (4000 B.C. according to Nabonidus, or 2850 B.C. according to Berlin dating), contemporary with the Old Kingdom in Egypt.

LEAD is found almost as early as silver in prehistoric Egypt, being used for sacred figures (Fig. 15). Probably it was looked on as an inferior kind of silver. The sulphide of lead, galena, which is the commonest ore of lead, is found as an eye paint almost as commonly as malachite, in the prehistoric and Ist dynasty times. Both galena and lead are rarely found in the Old and Middle Kingdoms, but lead became very common in the XVIIIth dynasty. It is often mentioned in the tribute from Syria, and doubtless came from the Taurus, associated with silver, which is now found there. It became so common that country fishermen used it regularly for weighting the edges of fishing nets (Fig. 16) as is done at present, and it continued to be thus used in the XXVIth dynasty and Roman times. It is also found used for filling hollow bronze weights, and for adjusting a haematite weight by plugging a hole drilled in it. In the palace of Apries at Memphis, we find, as early as the sixth century B.C., lead was used for a catchment tank to receive the washings of the palace floors.

Lead was very common in Roman times all over the Empire. In Egypt it was used for a great variety of tokens, which are supposed to have been a small currency of local usage, struck to supply the lack of regular small coinage.

Lead was used frequently in later times for alloying with copper; the cheapness of the lead and fusibility for casting were the advantages. The strength, however, was very inferior to that of bronze, and it was only employed for statuettes, nails, etc., where an edge was not used for cutting. Strangely it occurs in Western bronze-age tools; sometimes in small proportion along with tin; but also as much as 30 per cent. in Brittany celts. As celts are also known made of lead only, and therefore certainly funerary copies, so it is probable that these lead alloys are only ceremonial. A great disadvantage of lead alloy with copper is that it separates when heated to the melting point of the lead, the latter draining away and leaving an alloy of 30 per cent. lead; obviously this property is what determines the Brittany alloy of 28½ to 32½ per cent. The alloy of 18 per cent. lead occurs as early in Babylonia as Bursin, contemporary with the Hyksos (Heuzey, *Catalogue*, 314).

TIN and bronze should be considered together, as, owing to tin being found in few regions, its source is the important question. Of the pure metal there are no early dated examples in Europe, some from the late bronze-age lake dwellings being probably the earliest known. In Egypt the first examples of pure tin are in the XVIIIth dynasty; a finger ring of tin was found at Gurob, and a thin cast pilgrim bottle of tin at Abydos (*Abydos* III, xvii, 50). As bronze is sporadically found at a much earlier date, the view is doubtless correct that tin was not reduced separately from the ore, but the mixed ores of copper and tin were used together. The weight of the great ingot of tin from Falmouth Harbour throws a little light on its date. It is 138 lb., which is 100 of the mina widely known in Mediterranean trade, formed of 50 so-called Phoenician shekels. This must not lead to supposing it cast for Phoenician trade, as this standard was usual in Syria, Asia Minor, Macedonia, Spain, and known as the Italic mina from use in Southern Italy. The celebrated octopus weight of Knossos is 40 of these same minae. This connection seems to show that the trade was earlier than the Roman occupation, during which the usual Roman *centum pondium* would be the standard.

BRONZE.—The earliest hardening material for copper was arsenic, doubtless made by reducing an arsenical copper ore, such as Fahlerz, or one of the arseniates of copper. Such was found in the copper from the Ist dynasty tombs, without tin, lead, or zinc (Berthelot); in the XIIth dynasty hatchet with 3·9 per cent. of arsenic (*Illahun*); and in the Cypriote copper with 1·3 per cent. to 4·7 per cent. (Dussaud). Another means of hardening was by bismuth, amounting in some Ist dynasty examples to 1 per cent.; this was also doubtless produced by some copper ore containing bismuth naturally, and discovered to yield a superior metal for cutting purposes.

The earliest piece of true bronze known is the rod found in the foundations of a mastaba of the IIIrd dynasty at Meydum, which contained 9·1 per cent. tin and 5 per cent. arsenic (second analysis of unaltered core by Dr. Gladstone).

The ages of the Old and Middle Kingdom shew a curious contradiction of evidence. On the one hand tools analysed from Kahun shew almost pure copper, with never over 2 per cent. of tin.

	Copper.	Tin.	Arsenic.	Antimony.	Iron.	Total.
Hatchet ...	93·26	·52	3·90	·16	·21	98·05
Chisel ...	96·35	2·16	·36	0	0	98·87
Mirror ...	95·0	Some	Some	0	Little	
Knife ...	0	·5	0	0	0	

But analyses by Berthelot				Copper.	Tin.
Of a VIth dynasty fragment give	...	...	...	86.2	5.7
Of XIIth dynasty, ring from mastaba, Dahshur	...	...	...	76.7	8.2
hook...	...	...	...	69.2	9.8
bracelet	...	...	...	68.4	16.3
nail of Fuabra	...	...	...	85.0	1.0

Thus if the ages of these samples are well authenticated they would shew bronze to be usual from the VIth dynasty; but the only clearly dated piece, the last one, has scarcely any tin.

The difficulty is not removed by looking elsewhere. The daggers of the second Troy, contemporary with the XIIth dynasty, are of bronze with 8 to 11 per cent. tin. As a whole, Dussaud tabulates Troy, Crete, Cyclades, and Cyprus as using bronze in the XIIth dynasty, while Thessaly and Babylonia only had copper, or copper-lead alloy.

The present conclusion—until more analyses may enlighten us—seems to be that bronze was first brought down the Aegean in common use; and often, but not regularly, penetrated to Egypt during the XIIth dynasty. It did not come overland either from Italy or from the east. This points to a northern source for the tin. When we see how very important bronze work was later on in Hungary, how copper abounds there, and tin in the surrounding Bohemia, Saxony, Zinnwald, and Galicia, and that the bronze age in Hungary is placed as early as “the beginning of the second millennium,” or 1900 B.C., when it was certainly not common in Egypt, it seems not improbable that the Hungarian regions were the earliest source of European and Egyptian bronze. There was a well developed work in polished stone earlier in that region, which would provide a basis of culture for the early adoption of metal. Of the other possible sources of tin, Cornwall, Brittany, Portugal, and Spain are too distant, Italy is barred by the lack of bronze in early Thessaly on the road to the Aegean, and Persia would have supplied Babylonia and Egypt long before Europe, whereas they had bronze later than the Aegean. The Austro-Hungarian sources seem therefore to be the most likely for the earliest continuous use of bronze. No doubt it was produced occasionally by chance finds of ore, in the pyramid period and onward, but it was not regularly used in Egypt till the XVIIIth dynasty. Examples of wrought bronze are shown here in the very thin vases, Figs. 17 and 18, and the patterned bowl, Fig. 19. Fig. 20 is of rough hammered copper, probably of very early date.

On reaching the XVIIIth dynasty there is no question that bronze was the standard material in Egypt. The analyses are:

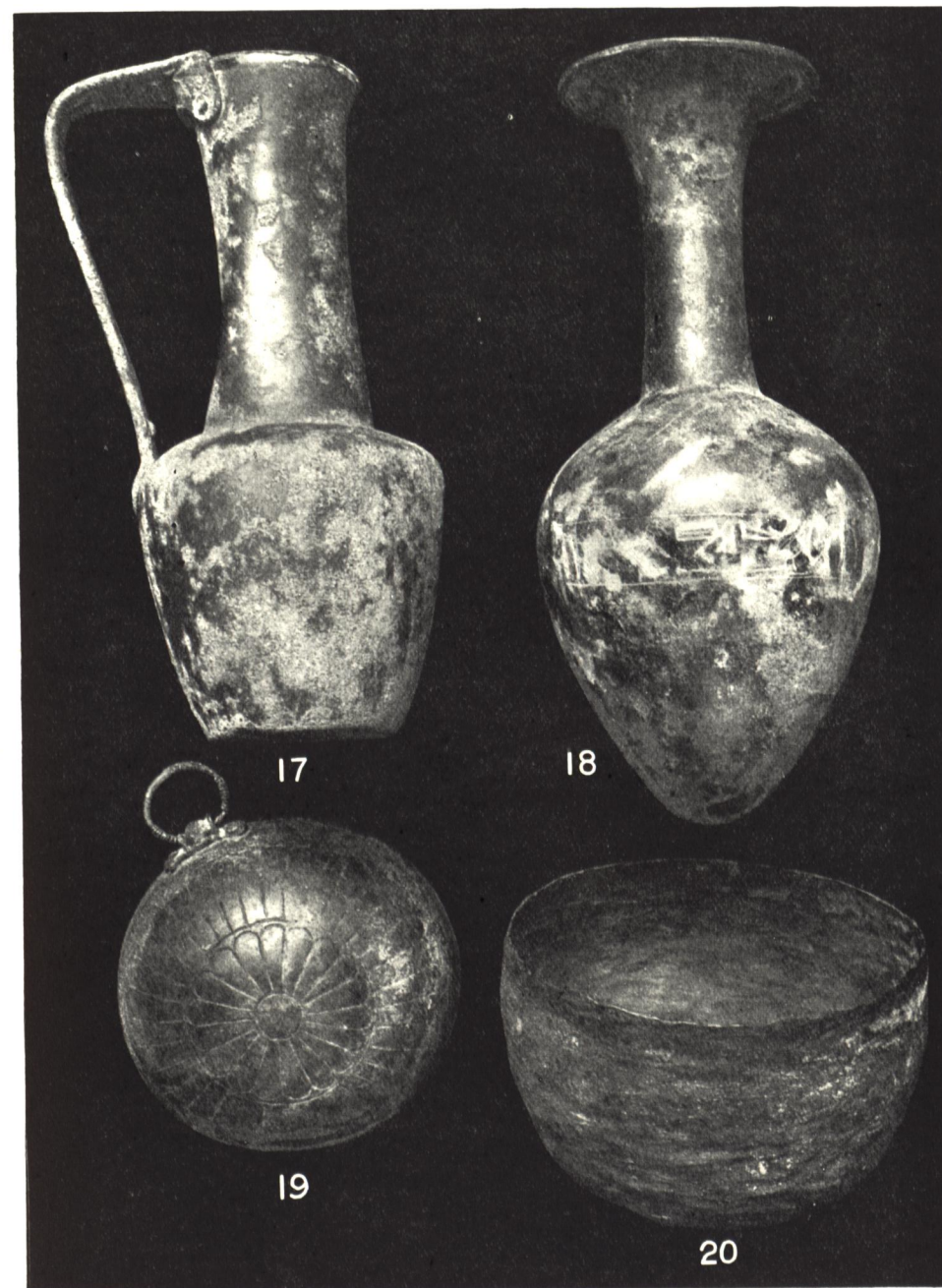
	Copper.	Tin.	Arsenic.	Antimony.	Iron.	Total.
Hatchet ...	89.59	6.67	.95	Trace	.54	97.75
” ...	90.09	7.29	.22	”	—	97.60
Ring, XIXth ...	77.5	9.6				
” ” ...	75.7	16.2				
Vase, XXth ...	76.8	15.1				
Arrow head, XXth	81.9	12.2				
Statue base, XXIInd	77.9	5.0				

Yet copper was used for some purposes, as in a foundation deposit of Sa-amen, XXIst dynasty. These alloys with 5 to 16 per cent. of tin vary as those of western bronzes, which contain 7 to 14 per cent. of tin.

IRON has had more contradictory statements made about it than any other metal. The recent discovery of the earliest iron, by Mr. Wainwright, gave occasion

to sum up all the known examples, and here we may repeat them with some comment.

The earliest examples are the Gerzeh beads, of S.D. 60-63 (*Labyrinth and Gerzeh*, p. 15). These were made of hammered iron, and so scarce was it that the



1 : 2

HAMMERED BRONZE AND COPPER WORK.

17. VASE WITH LOTUS HANDLE. BRONZE, $\frac{1}{30}$ -INCH THICK.
 18. VASE "WASHER OF SANDALS OF AMEN, TEHUTI-HETEP." BRONZE, $\frac{1}{30}$ -INCH THICK.
 19. BOWL WITH HAMMER PATTERN. BRONZE, $\frac{1}{30}$ -INCH THICK.
 20. COPPER BOWL ROUGHLY HAMMERED. $\frac{1}{10}$ -INCH THICK.
 17-19. XVIIIth DYNASTY. 20. EARLY DYNASTY.

beads were threaded alternately with gold beads. Next is the well known piece of sheet iron, declared by Perring to have been found between blocks of stone of the pyramid of Khufu at Gizeh. Then Sir Gaston Maspero cursorily mentions in his catalogue of the Bulaq Museum, 1884, that in 1882 he collected many fragments of picks of iron in the black pyramid of Abusir, of the Vth dynasty. In both of these cases there is lacking a certainty that the iron was not left by some later destroyers of the buildings. An absolutely dated case is that of the mass of rust, apparently from a wedge of iron, found stuck together with copper adzes of VIth dynasty type, at the level of floors of that age in the early temple of Abydos.

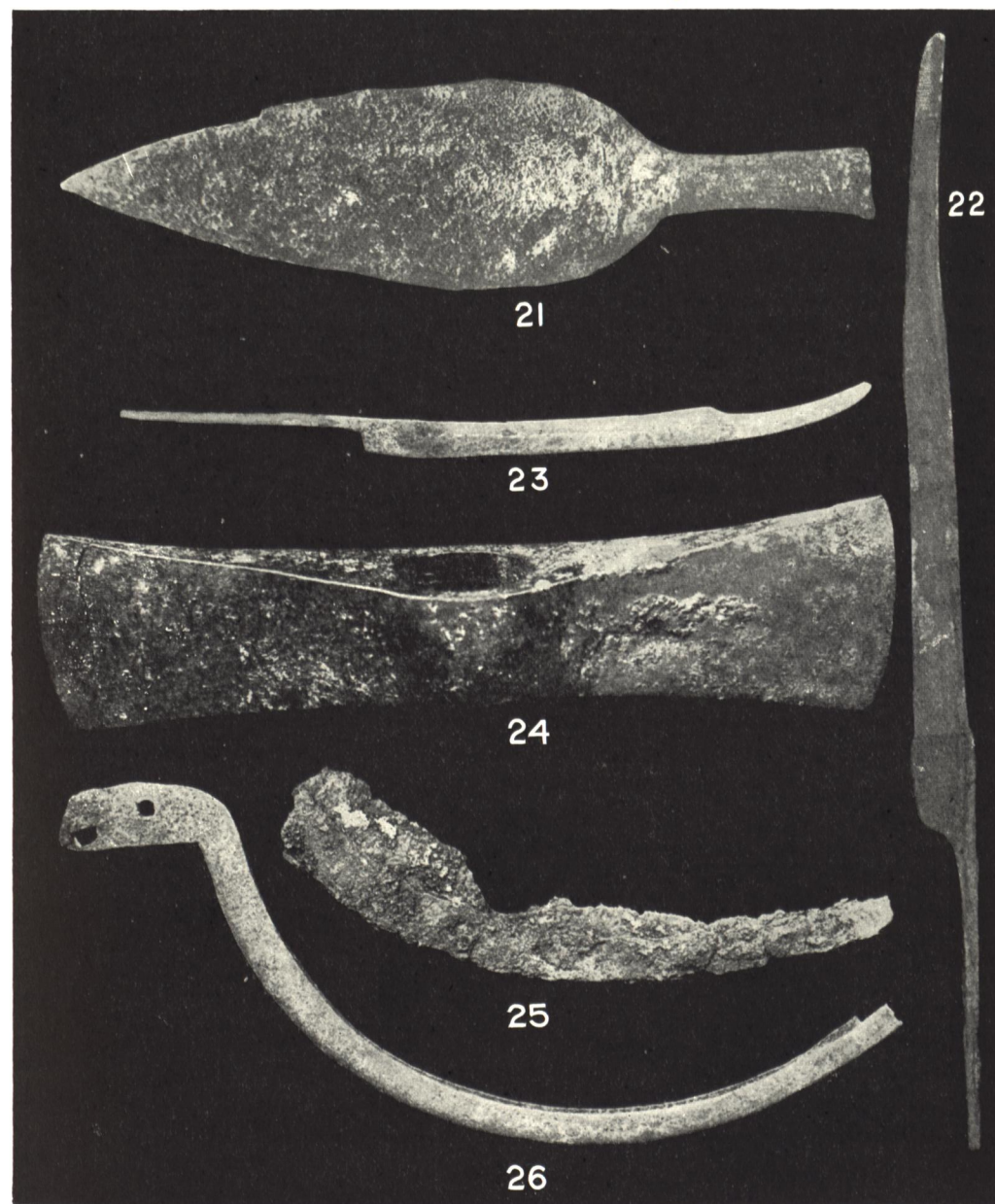
Coming to the XIIIth dynasty, there is the iron spear head (Fig. 21) found in Nubia by MacIver, in the inner chamber of a multiple tomb, which contained altogether fifteen skeletons in position, with gold ornaments and a copper dagger, and therefore was apparently quite unlooted. From the pottery and beads, this tomb (K. 32)—like others near it—was of the Middle Kingdom; it is said to be of the same age as K. 8, which contained the name of Neferhetep, the twenty-first king of the XIIIth dynasty. Contemporary with this is probably the iron stated to be found in the second city of Troy.

Attributed to the XVIIth dynasty, on unknown grounds, is the pyramid of Muhammeriah, near Esneh, where Maspero records finding a point of an iron chisel and a ferrule of a handle, in the mortar which united two blocks of stone (*Bulaq Catalogue*, as before). Attributed to the XVIIIth dynasty is an iron stud from a box, and an iron finger ring, in the Ashmolean Museum. Most unquestionable of all is an iron sickle which was found by Belzoni beneath a sphinx of Horemheb, in the avenue leading from the temple of Mut to Karnak. This is therefore fixed to about 1330 B.C. At Troy an iron knife is said to be about 1500 B.C. This is also the very vague date given for tombs by the Indus containing iron. The sculptures of this age, representing double bellows and beating metal (ROSELLINI, *Mon. Civ.*, plates L, LXIII), have no connection with iron working. The beating is evidently being done in the cold, as a man holds the metal with his hands; and a finished vase, of the usual form in copper, is shown beyond him. The bellows are only an improvement on the older reed blowpipes, used always before this time for smelting work.

We can now review what may be called the sporadic Iron Age. The supposition often put forward that iron might entirely disappear in course of time, is a mere fallacy. When buried in earth iron rusts much slower than if exposed to air, and in many situations it is remarkably preserved. When it has at last been turned to rust, it has become a material which can never disappear. A lump of oxide of iron is practically insoluble when buried, and its strong colour and staining power make it very obvious. To remove all trace of it when buried would be impossible within the human period by any conditions.

The relative number of examples of iron to those of copper and bronze must therefore give us a fair idea of the proportion in which they were used. The iron was always sporadic, in no period or place has anything like a large proportion of iron been found in the period before us. It seems impossible therefore to suppose that it was intelligently produced by an understood process as a regular manufacture. If men could produce at will a pound, they would produce before long a ton, and iron would be freely used where it was applicable. Yet this was not the case at any time before 1200 B.C. It seems therefore that the sources of the sporadic iron must have been either native iron or else casual production by accident. The great quantities of pure haematite in Sinai, and the enormous eruption of ferruginous basalt

there, which probably burnt up forests in its outflow, are ample material for producing either accidental or native iron. Two other points are clear: that the iron was not meteoric is proved by its malleability in the first instance; that there is no reason to question the less indubitable cases is shown by the completely proved and recorded cases of the prehistoric beads, the VIth dynasty lump, and the



9 : 20

IRON TOOLS.

21. SPEAR HEAD, XIIIth DYNASTY. (MACIVER, *Buhen*, Pl. 88.)
22. KNIFE WITH CAST BRONZE HANDLE, XXIIIrd DYNASTY?
23. KNIFE, XXIIIrd DYNASTY? RAMESSEUM, with 22.
24. DOUBLE AXE.
25. SICKLE WITH INSERTED STEEL TEETH.
26. SICKLE WITH GROOVE FOR TEETH.

XIIIth dynasty spear head. No shadow of doubt seems possible about these, and so all the other instances may be accepted.

Now we may turn to the developed Iron Age, when the use of the metal was continuous and extensive. It began to be used in Egypt at about 1200 B.C. There is the halbert from the sand bed of the foundations of Ramessu III at Abydos (*Abydos* II, 33); the iron knives found in the brick arches of the Ramesseum, where the objects of living use ceased about 1100 B.C. One knife is very slight in the blade, but has a bronze handle cast upon it (Fig. 22), showing that bronze was the more usual material. Another knife (Fig. 23) is entirely of iron.

The very important instance that has lately come to light is the iron sword with cartouches of Sety II, 1214–1210 B.C., now in the Berlin Museum (*Zeitschrift Aegyptische Sprache*, L, 61, plate V; and *British School Athens*, XVIII, 282). This sword, though much rusted, appears to be of the same type as a more perfect iron one from Egypt, which is of the European type, of Hungary or the Balkans. It occurs also in Cretan tombs of the age just after the Mykenaeon and before the geometric style, exactly agreeing with our previous dating of the Mykenaeon age. Now one important point is that this type of sword is more commonly found of bronze than of iron, in Crete and Europe; hence 1200 B.C. must be about the beginning of the free use of iron; had it been common before that in Europe such swords would have all been of iron. Also at 1200 B.C. comes the great overthrow of the Libyan invasion, when 9000 bronze swords were taken, showing that iron was not yet usual. This agrees with the previous, and quite independent, assignment of 1200 B.C. as the date of iron beginning to be used in Crete. There is thus a fairly close fixing of the turning point, from archaeological evidence.

The next great stage is the free use of iron in Assyria. In 881 B.C. iron came as tribute from the Chalybes region, south-east of the Black Sea. About the same date it was obtained near Carchemish. At 800 B.C. 5000 talents of iron were captured at Damascus. About 700 B.C. there was the immense store-house of iron in crude ingot, estimated to contain 160 tons of metal, as well as finished articles.

In Egypt, a group of iron tools found at Thebes is dated, by an Assyrian helmet, to the invasions of 668 or 666 B.C. (*Six Temples*). These are the parents of many modern forms; and most of them are of steel, sufficiently to take permanent magnetism. Rather later iron tools are common in the Greek settlement of Naukratis, but they do not appear in purely Egyptian sites.

Many suggestions of an Ethiopian source of Egyptian iron have been put forward. Had iron been usual there at an early date it would probably have become familiar in Egypt. So far there is no ground for supposing that any of the slag heaps at Meroe and elsewhere in Ethiopia are earlier than the considerable civilisation of that region, which began with the XXVth dynasty and continued from 700 B.C. onwards.

The sources of the European and Euphratean iron would be quite sufficient to account for the iron found in Egypt, even apart from the Ethiopian. Yet iron slag is often found in crucibles at Memphis, Defenneh and Naukratis, showing that in Greek times the ore was reduced in Egypt, from whatever sources it came. For Western Europe doubtless Noricum was the main source, as that region—the modern Styria—is one of the greatest and earliest centres of iron working. For Assyria the Chalybes region, south-east of the Black Sea, and the Tiyari mountains, north-east of Nineveh, would be the sources. It is almost certainly through the Chalybes that the Greeks first knew this iron, as they called it *khalups*, a word that

seems foreign in its form. There were two tribes of Chalybes, which are most fully mentioned in the *Anabasis*, and by Strabo. One was in the north-west of Armenia, the most warlike people of the region, wearing helmets and greaves, and armed with a long spear and a falchion. Across the mountains there were the other Chalybes along the Black Sea, behind Cerasus, who lived by working iron, and a little west of that iron working has continued to the present time.

The name of the Chalybes, from which the Greeks took their name for the metal, is apparently Semitic in origin. It seems obviously connected with the Arabic *halaby*, a tinker; and with the well known mutation of *h* and *s* we can hardly refuse to see in this the *soluby* or steel-worker of Arabia. This word *solb* for steel is Semitic, as it is clearly derived from iron being the strongest material; *solb* is loins, the strongest part; *salib* is firm or hard; *salebah*, solidity; *solb*, steel; *soluby*, a steel-worker; *halaby*, a tinker; *Chalybes*, the iron workers; *Chalups*, iron; and our own word chalybeate ends the chain.

Whether the distinction between *sideros* and *khalups* was that of iron and steel, deserves to be considered, certainly the Assyrian tools found in Egypt are mostly mild steel, as they can be permanently magnetised. The distinction in use of iron and steel is most marked in the sickles of Roman age, where the body of the sickle has a groove all along it (Figs. 25, 26), in which is fitted the thin strip of the more valuable steel cut into a saw-edge (*Ehnasya*, 23). One of the finest iron tools is the large double axe, Fig. 24; unfortunately the date of it is not known.

ANTIMONY was worked in Mesopotamia, where it was used pure, and also as an alloy in copper. In Egypt beads of antimony are found, of the XXIIInd dynasty, and therefore they may have been brought in from the East. It is generally reputed that the *kohl* eyepaint is sulphide of antimony, but that is the rarest material. In prehistoric times galena and malachite were regularly used for the eyes. In historic times, out of 34 analyses 21 are of galena, 5 ochre, 3 malachite, 3 manganese, and only 1 each of magnetite and antimony. It does not seem, therefore, that the Egyptians had any ready source of antimony.

ZINC has only been reported once, as 1½ per cent. in a piece of prehistoric copper. Probably if looked for it would be found in metal of the Roman period, as the Roman coinage is mainly of brass. Coins of the first two centuries of the empire average 12 per cent. of zinc, and only 2 per cent. of tin, and 1½ per cent. lead (SMYTH, *Catalogue of . . . Large-Brass*).

Osm-iridium is found occasionally as an impurity in gold of the XIIth dynasty, in the form of small hard white specks. The object of the Egyptian would certainly be that of the modern worker—to get rid of it if possible.

Some of the above material is due to Prof. Gowland's lecture on "The Metals in Antiquity" (*Journ. R. Anthropol. Inst.*, 1912, 235), which is valuable for the accounts of known sources and processes, though not so complete on the historical side. Dussaud's *Civilisations Préhelléniques*, De Morgan's *L'Age de la Pierre et les Métaux*, and the records of my own excavations have supplied the main facts. It still remains most desirable to have a much larger number of analyses of exactly dated examples. A spectroscopic examination of ores from different sources, for detecting rare elements, might give the clues to the origin of the various ancient supplies of metals.

W. M. FLINDERS PETRIE.

PERIODICALS.

Recueil de Travaux relatifs à la Philologie et à l'Archéologie égyptiennes et assyriennes, Vol. XXXVI, 1914. Liv. I-2.

und . HERMANN KEES. In the frequent figures of the ka following a king, with the falcon-name or ka-name on the head, there is usually the inscription over it describing it as "the king's ka, life of the lord of both lands, khent zebt khent per duat." It has long been a question what localities are described by these names zebt and per duat. One inscription at Denderah adds per dua em het seshesht, "in the temple of the sistrum," i.e., of Denderah. This implies that the localities belong to a temple. Further, at Denderah and at Edfu a chamber is called the per duat. It is too small for active ceremonies, and was probably a wardrobe. The scenes on it show the king purified with water and incense; the king's ka purified with incense; and the king's bones with natron. It appears also to be the name of part of the palace, as there is a title in the Old Kingdom Her seshtha ne per duat, "over the secrets of the per duat." When Sanehat returned to court the king ordered his officials "Go ye to the okhenuti duat that he may renew his position," suggesting that it was the wardrobe of the court. Regarding the zebt, there is a title shemsu ne zebt, also sehes zebt and mer zebt. The first occurs on the temple of Ne-user-ra. From these evidences, and much collateral material of less direct weight, it is concluded that the per duat and zebt were parts of the primitive palace; like all other parts of the palace they became transformed into the temple system.

Sallier II, p. 1, l. 8.—G. MASPERO. A short note points out a mention of a place for combats of bulls, a regular arena. This agrees with the mention by Strabo of regular bull fights in the dromos of the temple of Ptah at Memphis.

Notes on the Story of Sinuhe.—ALAN H. GARDINER. This is a supplement to Dr. Gardiner's edition of the story, giving parallel text of those parts which are duplicated in various sources. There are now thirteen sources known, most of which are of only a short passage on ostraca, probably writing exercises.

Das Felsheiligtum des Min bei Achmim.—HERMANN KEES. This is an account of the rock shrine in the cliffs north of Ekhmin, with hand copies of the inscriptions compared with those of Lepsius. It dates from Thothmes III, with additions by Ay and Ptolemy I and II.

Recherches sur la famille dont fit partie Montouemhat.—GEORGES LEGRAIN. II^{me} partie, Les enfants de Khaenhor. Chap. III^{eme}, Branche Nsiptah. This is a continuation of the list of monuments reported in ANCIENT EGYPT, 1914, p. 37. The list continues:

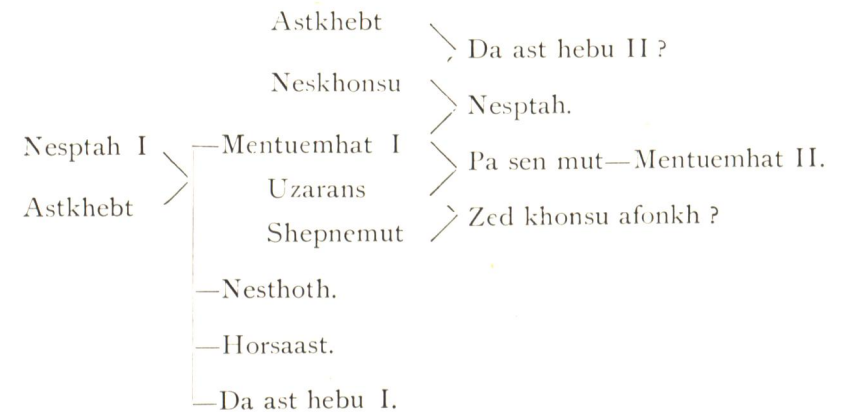
- XLVI. Chapel of Tahraqa in the temple of Mut.
- XLVII. Statue of Grant collection.

- XLVIII-LIX. Funeral cones of Mentuemhat.
- LX. Base of statue of Mentuemhat.
- LXI. Stele of adoption of Nitoeris.
- LXII, LXIII. Group of Mentuemhat and Nsiptah II.
- LXIV. Table of offerings of Nsiptah II.
- LXV. Statue of Nsiptah II.
- LXVI. Statue of Psenmut dedicated by Mentuemhat II.
- N.N. Bronze fitting of gate of Da-ast-hebu, dau. Mentuemhat.



BLACK GRANITE HEAD OF MENTUEMHAT. TEMPLE OF MUT. CAIRO.

The relationships of all the persons named here are as follow:—



Mentuemhat the great ruler had four wives ; the children of two are known, but the mothers of the other two are uncertain. The total limits of the above four generations is about 750 to 600 B.C. Mentuemhat had concentrated most of the great titles ; hereditary noble, prince of Thebes, keeper of the royal city and of Nekhen, sealbearer of Upper Egypt, fourth prophet of Amen, scribe of the temple of Amen, instructor of the priests in the temples, keeper of the royal land to its limits. In official acts he and his son took precedence of the high priest of Thebes.

Bemerkungen zum Atonhymnus.—FR. W. VON BISSING. This is a criticism of small differences in the various examples of the Aten hymn at Tell Amarna. The conclusion is that most of the errors and variants arose from the sculptor rendering in columns of hieroglyphs the documents written in lines of hieratic.

Note additionnelle sur "Le X^e nome de la Haute-Égypte."—B. TOURAIEFF. A description of a stele at Moscow giving figures of six divinities of Aphroditopolis, the Osiride family and Atmu. The latter god seems to have been represented as two hawks on a standard, like the ensign of Koptos. The stele was for a priestess of Atmu Ta-khredt-ast born of Ta-khredt-khonsu.

Une stele de Hawara.—G. DARESSY. This stele of the Ptolemaic age bears long inscriptions, which are here given in full. The person was a prophet of Neit, Pedasebek son of Peda and Nefru-sebek. The father's name contains that of god walking holding the *user*. The longest text is a copy of the *Book of traversing eternity*, of which but few copies are known. The usual text is printed here in duplicate with the stele. Another long text is an appeal to be remembered, not of the old vigorous kind of the Middle Kingdom, but very diffuse and vague. He boasts that he did not sit out and gossip on the mastaba. He was a councillor to his district, no girl wept because of him in the time of prosperity, but each mourned when he was enfeebled. He made every one that he instructed to know his duty, purified and guided him. There is a *nesut da hetep* to Amenemhat III, in which Pedasebek is written Pen-sebek.

Monuments égyptiens divers.—RAYMOND WEILL. 1. An archaic cylinder of grey glazed pottery. The inscription is rudely incised, "Horus *mery tau* (?), vulture and uraeus *nebt*, Horus, *Aty* the king standing." It appears as if after *mery* there were *ta* with two strokes of earth sign. If so this would be of Pepy I, which would be likely enough otherwise. A cylinder of the MacGregor collection is compared with this, but there are no signs in common, except Horus and *mer*, and it is certainly of a different king. Another cylinder of white pottery has a stag twice repeated on it.

2. Clay impressions of the basalt cylinder of Khufu, which has been for some years in University College, London. These clay impressions were made by the Arabs, and were commonly to be seen on sale. Capt. Weill supposes that two different cylinders were used to make the impressions, and that the impressions came from some ancient group.

3. A cylinder of dark blue glaze of Assa, curiously cut off short at the top, leaving only the feet of the falcon. It was for a "*nesut rek* chief of the prophets in all places, prophet of Neit north of the fortress." This title was parallel to that of Ptah south of the fortress, both referring to the positions of the temples to the Memphis fortress.

4. Another example of a dog with the Berber name *Behu*, like the dog *Behuka* of the Antef tomb, has been met on the remains of a tomb cut up for sale. It appears to be of the Vth dynasty.

5. A piece of a limestone tablet, with squares ruled on it, and the cartouche Ra-mäot engraved. This is connected with two scarabs which have the name Ra-mäot Sebek-hetep. This name is not yet known on any larger monuments, and the position of it is obscure. It is probably of the XIVth dynasty.

6. A wooden stamp has a cartouche on it, surmounted by feathers. It reads *Amen neb* and a uraeus.

7. An order scribbled in hieratic on a potsherd, refers to a case to be made by a carpenter, of which a sketch is put below the writing. The sketch has by it, at the side "Height 5 palms," along the top "Width 4 palms," and the proportion of the sketch agrees to this. Further out on one side is "4 in the *menu*"; hence *menu* is the name for the horizontal distance away from the eye, what we call "deep back." The proportions are familiar enough in the boxes for funeral objects, about a foot square and fifteen inches high, with a small cornice. Capt. Weill, however, supposes it to have been the stone basis for a statuette.

8. An account is given of a fine tomb at Tunch, which contained a sarcophagus now in the Cairo Museum, and many ushabtis now scattered. This was of Tehuti-ardas, son of Shepses-ardas, both high priests of Hermopolis.

9. A broken lid of a stone box, with a bound captive lying on it, bears the name of Sheshenq III.

10. A small ivory pendant, in the form of a couchant bird, has on the base a figure of a king squatting, and a blundered cartouche of late time.

11. A throne of a seated figure, coming from Saft el Henneh, bears inscriptions of Kharu (the Syrian), born of Pa-un-nekhti and the lady Tādaher.

12. Some of the inscribed blocks are described that have come to light in the recent cleaning of the Deir Amba Shenudeh, or Deir el Abyad or White Monastery. They are of Aahmes, and a shrine of Hakar of black granite. Strangely no notice is taken of the great red granite shrine of Naifaarud, which has anciently been cut up and used to floor the nave of the basilica. A reference to the Research Account volume *Athribis*, p. 14, would have supplied this, and also explained that the ruins near the monastery are those of an earlier Christian church and town, and not of a pagan temple, as is suggested in this paper.

13. Some pottery stands are formed of three closed vases, joined by cross pieces ; they are of Coptic date.

Einige Bemerkungen über den Thronwechsel im Alten Reich.—AMÉLIE HERTZ. This paper calls attention to the uniform formula of the beginning of each reign on the Palermo stone, which was already noticed some years ago. First is *nesut bati khou*, the manifestation of the king of Upper and Lower Egypt ; then the union of the lands, shewn by entwined plants around the *sma* ; then *deben hã an*, "procession round the wall" as it has been rendered. Perhaps "procession behind the fortress" would be a closer idea. It is again proposed that this is a ceremonial at the beginning of a reign, a perambulation of the boundaries to take possession. There follows a discussion of the months and days named for the fractions of years beginning and ending reigns. Unfortunately they have been wrongly extracted, 10 for 9 months, and ignoring the months lost in fractures of the stone. The

intervals really appear as follows, those with a ? being inferred from the space now damaged:—

Mena (?)	6 m.	7 d.	} 10 m. 20d., interregnum 45 d.
	+4 m.	13 d.	
Shepseskaf	3 m. ?	24 d.	} 11 m. 5d., interregnum 30d.
	+7 m. ?	11 d.	
Neferarkara	9 m.	6 d.	} 11 m. 13d., interregnum 22 d.
	+2 m.	7 d.	

Note sur l'Isthmus de Suez.—JEAN CLÉDAT. This paper describes various objects from Tell el-Maskhuta.

1. The upper and lower end pieces of a door, cast in bronze, with a dedication "Bastet give life to Peda-atum son of Peda-khonsu, born of the lady of the house Tada-hernepe, year 6."

2. Bronze base of a statuette with inlaid silver inscription of Nepat the goddess of grain, dedicated by the scribe of rolls of the palace Zed-neit-auf-onkh.

3. Head of rose granite of Saïte period, of a servant of Bastet, *uartu* of the, named Uakaremen. A large scarabeus rests on the head.

4. Handles of green glazed sistra of Aahmes and Nekht-nebef; one names the temple in Paqerhet.

5. Fragments of a blue paste cup of Aahmes.

6. Fragment of a green glazed plaque with falcon name of Nekht-nebef.

7. Fragment of black granite, mentioning either Pankhy or Cambyses.

8. Bronze Osiris, with dedication by Nesptah son of Tayfden.

9. Bronze Harpocrates, with dedication by Aoha-ardas son of Penefu-dabastet, born of Peda-uazet-pe-nefu.

10. Bronze Osiris, dedicated by Peda-pep(?).

11. Fragments of sculptured limestone, of Nekhthorheb, one with the head of Nut, and naming the gods within the temple of Paqerhet.

REVIEWS.

Les Civilisations Préhelléniques dans le Bassin de la Mer Égée.—RENÉ DUSSAUD. Large 8vo, 482 pp., 325 figures, 13 plates. 24 frs. (Geuthner, Paris.) 2nd edition. 1914.

This work, which appeared a couple of years ago, has here been re-issued with revision and many additions. It was much needed as a general view of the subject for those who cannot have the large number of scattered publications in which the discoveries of the last decade have appeared. The requirements have been well met in general, without neglecting any part of the wide field. It is only to be expected that in such a range some part of the facts or reasons should escape the summarist; and such points that we may notice here do not reflect on the construction of the work as a whole. We hope that future editions will give scope for rendering it still more suitable and exact. It will perhaps be most convenient here to give an outline of the volume, noting minor matters by the way, and then to deal with some larger questions at the end.



1.

2.

RELIEFS ON THE STONE VASES OF HAGHIA TRIADA. Scale 2 : 3.

The work is divided into six chapters on different regions, and two general chapters on the religion and ethnology. Crete naturally comes first, with 81 pages, as it has yielded a more continuous view of the early civilisations than any other of the regions. The main sites are described, Knossos, Phaestos, and Haghia Triada, following well known details. No attempt is made to explain the remarkable feature in these palaces of the very wide flights of steps, 35 to 45 feet wide; they seem to point to large groups or fraternities in procession having been a main feature of the religious festivals. The tombs are described, with the strange ossuaries, which seem to show the same custom as in modern times, of removing

skeletons from graves after two or three years and placing them in an ossuary. Nine types of grave are now recognised, no one of which extends over more than three of the nine Minoan ages.

The discussion of the pottery, metal work, painting, and other arts is arranged by periods, and is fairly complete. The only regret is that some of the supreme examples are poorly rendered. The figures of the great conical vase of Haghia Triada do not shew the very important details of the helmets, nor other points; and the cup is in bad perspective, shortening the figures. We here give photographs from casts of these, as they are not sufficiently known (Figs. 1 and 2). Another matter which yet claims representation is the beautifully varied series of stone vases from Mochlos, which give a marked character to the early period (Figs. 3-7).



COLOURED MARBLE VASES FROM MOCHLOS.

3, 4. COPIED FROM EGYPTIAN.

5. EGYPTIAN, VITH DYNASTY.

6. INFLUENCED BY EGYPT.

7. TYPICAL CRETAN.

(From Seager's Mochlos.)

The exquisite blade of a dagger from Mochlos, with its fine arched ribbing and trefoil ornament, gives perhaps a more vivid sense of the taste and feeling of its period than anything else that has survived.

The table of stratification of Knossos shews the astonishing fact that the whole of the nine classified periods occupy less thickness than the great neolithic stage beneath them. It is true that in some periods a great deal was swept away when founding new buildings, but yet the classified age of probably four thousand years cannot be much longer than the neolithic. We are thus faced with a continuous settled life in Crete quite as ancient as that of the pre-historic Egyptian. In the table of chronology it is strange how the consistent and detailed history left by the Egyptians is ignored, as if it had no more foundation than the vague guesses which modern writers try to substitute for it. The Egyptian history is not a supposition

of any modern writer, but a consistent mass of national record preserved by many sources, which very few people take the trouble to understand.

In dealing with dress, a strange remark is made that the appearance of the corset must be relatively late because it supposes the use of copper. It is very doubtful if there ever was a metallic corset till a century ago; probably all the peasant corsets of Eastern Europe now are built with beech-wood busks. The curious baggy dress shewn on a Cretan seal is closely like a dress which came into fashion in the XIXth dynasty in Egypt; it is unlike anything before it in either country, and perhaps therefore due to some third centre (Figs. 8-11). Unfortunately



BAGGY DRESS, GREEK AND EGYPTIAN.

8, 9. SEALINGS FROM ZAKRO.

11. EGYPTIAN, NINTH DYNASTY.

10. CRETAN SEALING.

no authority is given for the assertion that the female sphinx is represented in Egypt from the IVth dynasty; it is usually believed that such are not known before the XVIIIth dynasty. Surely, also, the well-known octopus weight is of red gypsum and not of porphyry.

The second chapter is on the Cyclades, and here the material is not so hackneyed as that of Knossos. A general outline of the system of tombs, and the use of obsidian and metal, comes first. Then the remains of Thera, Delos, and Melos; where Phylakopi with its succession of three towns is described. The pottery series of these towns is quoted and figured from Mr. Edgar's researches. It is expressly stated that Melos is the sole source of obsidian work in the Aegean; if so, it is remarkable that some found in Egypt is referred to Samos by the Mineralogical Department of the British Museum. Obsidian was used together with metal, and was given up only in the latter part of the bronze age. The discussion of lamps leads to a misunderstanding of a lamp with a sub-chamber, which is supposed to be for catching drippings of oil. Any oil that dripped through the pottery oil-holder would as readily soak into the body beneath. It can only be explained as a water chamber—not to keep the lamp cool, but to

saturate the pottery, so that the oil should not soak into it. Such a system in Egypt is described by Herodotus, and found provided in the limestone lamps of the XIIth dynasty.

A brief chapter is given to the Trojan discoveries, stating the stratification of the successive cities and their ages. The dates are unfortunately given in the arbitrarily reduced chronology; it is much clearer to keep to the dynastic equivalents. The first two primitive towns were of the Old Kingdom (IV-VI); the great second age, to which belonged all the gold jewellery of Schliemann, is of the Middle Kingdom age (XI-XIV); three villages fill up the Hyksos age; and the Homeric Troy is of the XVIIIth and XIXth dynasties.

The fourth chapter treats Continental Greece pretty fully. The great sites are described; and Malta is also brought in, illustrated by pottery and a figure, though no plan or description is given of the great structures there. The glass from Spata is described as usually white, more rarely blue; the white is really a decomposed blue. It is stated to have been poured liquid into moulds, but all early glass was worked in a pasty state, and pressed into moulds. In the third period of Orchomenos, called Minyan by the excavators, and dated at Phylakopi to the Middle Kingdom (pp. 182-3), the tall-stem cups (p. 186) occur which are much like the Hittite "champagne-glass" cups of the same age (see *Ancient Egypt*, I, 172). This strongly points to some connection, of trade rather than of race, which also extended to Egypt, where such long-stemmed cups or bowls were made in the early part of the Middle Kingdom. Another remarkable occurrence is that of the steatopygous figure in Thessaly with purely neolithic work of an early type. This is probably later than the steatopygous figures of the French caves, but perhaps before the similar figures of Malta. An interesting remark is that the mainland buildings have fronts with two pillars and three openings, whereas the Cretan style is with one pillar dividing the entrance in two. Such is also the style of rock tombs in Palestine, perhaps derived from the Cretan invasion. The supposed Phoenician sources of the Mykenae culture is rightly repudiated; the Phoenician power arose much later than growth of any pre-hellenic civilisation. Some brief notice is given of the Sicilian, Italian, and Iberic connections, the latter of which is, however, very uncertain.

Cyprus is treated at length; as a land of such a secondary art it receives undue notice compared with the original styles of other lands. The miserable mismanagement of its antiquities during British occupation is described, as well as the earlier frauds of Cesuola. Prof. Myres' work is recognised as the basis of scientific classification, and the different periods of the pottery are fully stated. The metal work is also well described. The largest copper adze found in Cyprus (Fig. 185, 12) is of exactly the form of the copper adzes of the Ist dynasty in Egypt, some of which are half as large again. This points to Cypriote copper being already worked at that date.

The whole question of the thrusting and cutting weapons is hardly put in shape. An entire distinction should be made between the rapier and dagger with mid-rib, which are for thrusting, and the flat sword and flat dagger with rounded end, which are used for cutting. The mid-rib type belongs to pre-historic Egypt, Cyprus, and Mykenae; the flat blade is found in Syria, and the Hyksos and XVIIIth dynasty periods. The varieties of attachment are noted by rivets or by a tang, but the meaning of the difference is not noted. The rivets are required for attachment to handles of ivory or horn, the short round handles generally used for thrusting; the tang is intended to fit through a longer handle of wood or bone,

grasped by the whole hand, and more generally used for slashing. A doubt is expressed whether the Aegean smiths influenced those of Europe and Scandinavia; the evidence of the diffusion of spiral design should suffice to shew such influence, if not, indeed, a real family of work.

In the chapter on the Aegean influence in Egypt and Syria the author seems to be less at home in his material. He states that in the Ist dynasty the Egyptian texts call the population of the Aegean isles *Hanebu*. Certainly there is nothing until late times to shew where the *Hanebu* lived, and it would be interesting to have any reference to the *Hanebu* so early as the Ist dynasty. The black ware of the Ist dynasty at Abydos, which is absolutely identical with that made in Knossos, is quite ignored; as also are the northern decorated vases found in the Royal Tombs and at Abusir. Whatever may be their source—Aegean, Asianic or Syrian, at present unfixed, they shew an important trade connection with the north. Also the great mass of fragments of over 700 Mykenae vases found at Tell el-Amarna is barely hinted in a footnote. Thus the most important connections, by their age, and by their numbers, scarcely appear, and the proportions of the historical connection with Egypt are not shewn. With a characteristic disregard of the reader, not a single illustration is given of the Old or Middle Kingdom connections, except one at the end of the chapter; while pottery of the iron age, from Cyprus, is thrust into the early Egyptian discussion.

The Egyptian gryphon of Mentu is said to be derived from the Mykenae gryphon, but the derivation is clearly from Egypt to Greece. Less than eight pages are given to the Egyptian relations, although they are the basis of the history; and only four illustrations appear, which are quite insufficient.

The Syrian and Cypriote connections are much more fully handled. There is no hint as to the abundant Egyptian dating of the brown *bilbils*; these are here classed as Cypriote, with imitations from Syria. The best part of the chapter is the discussion of the bowls with rows of imitations of Assyrian and Egyptian subjects, dating from about 700-550 B.C. While Poulsen would put them to the credit of the Phoenicians, Dussaud gives reasons, from the Aramaic dedications and the subjects, for their being Cypriote. Some assertions seem to need support. That "the primitive potter was often a nomad" is hard to reconcile with the regular use of skin, wood, and basket vessels by nomads, ancient and modern. There is not a chip of pottery to be found on the South Palestine sites, even though they were settled towns for ages, because the nomad usages prevailed. The long series of types of Syrian pottery published by the Palestine Fund are quite ignored. The Gezer game-board (Fig. 217) is called an idol, although it is a



12. POTTERY GAME-BOARD OF 60 HOLES.
XIIITH DYNASTY, KAHUN.

well known type found in perfection in Susa, with exactly the same system of holes for recording like a cribbage board; and it is also found with the same holes in Egypt (Fig. 12). That a counting game-board was modified to a suggestion of the human figure does not imply any religious meaning. The body of the chariot on the Enkomi ivory is said to be derived from Assyria; but just the same form occurs long before, from the tomb of Amenhotep II at Thebes. The *Tridacna* shells with Assyrian motives are illustrated, and their Cypriote origin considered. A fine plate shews the strongly Assyrian style of the votive bucklers from Crete; this was perhaps due to direct influence through Asia Minor, as there is nothing of Cypriote style traceable. On the whole, M. Dussaud inclines to give Cyprus a much more important place than would seem warranted by the entirely borrowed sources of its work, from Egypt and Assyria. It was only original in its clumsiness and poverty of design.

The chapter on Cults and Myths takes us back to the refreshing originality of Crete. The seals, frescoes, and figures of religious subjects are fully given, and their meaning discussed, in a chapter which is the longest in the volume. Of course the Cretan cross is figured, but no mention is made of it in the text; at least it should be remarked that the stem of it is a conjectural restoration.

The last chapter, on the Aegean Peoples, deals with different branches of the civilisation, as well as the ethnology. The shipping is well illustrated; but in the alphabet question, which occupies sixteen pages, there is apparently no consciousness of the fact that the signs discussed were all used by the Mediterranean peoples and in Egypt long before the Phoenicians. The Phoenician tradition dominates, and it is said that the prototype alphabet must have been composed of twenty-two letters identical with those of the Phoenician alphabet. The regular scheme of repetition which is imbedded in the alphabetic order proves that much is missing, and that much has been added to the prototype alphabet. Further on, we find a similarly antiquated point of view as to the identity of the Mediterranean peoples named in Egypt; for we here see Sagalassos, Sardes, Ilion, Dardanians, and others doing duty as they did fifty years ago. Modern work has put the whole subject in a different point of view.

We may now turn to some of the general questions involved in this work. There are important historical data as to the rise of the civilisations of certain lands. In the Cyclades there is no neolithic period, and they do not appear to have been inhabited before the copper age (p. 100). The western coast of Asia Minor, excepting the Troad, does not seem to have had any civilisation before the age of the XVIIIth dynasty (p. 203). The Akhaian invasion of Greece, about the XVIIIth dynasty, brought probably the earliest Indo-European speech to that peninsula (p. 441). These are all landmarks of importance in the early ages.

An unexpected boundary to the Aegean culture is presented by Thessaly, where there is no link with the south before the XVIIIth dynasty, but on the contrary a neolithic age and a copper age which are a whole cycle later than elsewhere (p. 190). Moreover, Sicily and Southern Italy are linked with the style of Northern Greece down to that time. It is only in the Mykenaeen stage, late bronze age, that Northern Greece and the West, with the whole length of the Adriatic, came into line with the Aegean (p. 212). We must realise, therefore, that the Cretan civilisation touched its bounds on the west and north, near by in the Peloponnesus, while it stretched out on the other side to Egypt and Syria.

A valuable table at the end shows the relative periods of nine different regions; the equivalence of the stages side by side enables the comparisons to be readily

grasped, and we need not complicate it by the very questionable dating in years. One of the most significant results is the difference in the introduction of bronze. In Crete, the Cyclades, Troy, and Cyprus bronze appears in the age of the XIIth dynasty; yet Egypt then remained in the copper age, and bronze does not regularly appear there till later. This bears strongly on the origin of bronze, shewing that the tin came from the north, and not from the east. The abundance of bronze at an early period in Hungary suggests that the Zinnwald may have been the source of tin then, as it has been in later ages.

Regarding the chronology followed in the table and elsewhere, it is a remarkable admission that the strongest reason to be found for the short dating is that the palace of Knossos of the XVIIIth dynasty age is built upon the foundations of that of the XIIIth dynasty (p. 56). As the whole ground was cleared for the later building the superposition must be expected, whether the interval were one or ten centuries; and it no more shows a connection of age than do our modern buildings of London which cut into the Roman wall. Each case only shows that a thorough clearance of loose soil was made. There seems to be not a single clear piece of evidence to set against the solid and consistent history given by the Egyptians. An excellent warning against assuming that similar things are contemporary is given on p. 62; to which we may add that the *larnax*, or pottery-box coffin, belonging to about 1200 B.C. in Crete, is identical with that made at the beginning of the Ist dynasty in Egypt, two thousand years before, even on the shortest reckoning.

A very important assumption is that of Alashiya (which is so frequently named in the XVIIIth dynasty) being the same as Cyprus (p. 248). The question of the position of Alashiya is not discussed, and the minute study of all the evidence by Mr. Wainwright is never mentioned. That writer's exhaustive consideration of the land of Keftiu is summarily rejected without any reason (p. 199). The whole question should be much more thought out by M. Dussaud. He attributes much importance to Cyprus, while Mr. Hall has lately shown that Cyprus and Egypt had very slight contact. We find continually the assumption that Kaphtor, Keftiu, and Crete were all identical, and that Alashiya was Cyprus, one word being substituted for the other without any hint that the author is translating his facts by surmises. We see that Mr. Wainwright—exhaustively using all the facts and keeping strictly to them—finds that there is no confusion or mistake in the Egyptian paintings of details. His results are therefore certainly preferable to those of our author, who concludes of the Keftiu that "the detail is not always comprehensible" (p. 285), and "often the artists put more haste than conscience in their work, and we have the proof of it when they mix, in the hands of foreigners, Egyptian with exotic products, or when they attribute Aegean vases to neighbouring peoples such as the Retenu of Syria" (p. 287). When assumptions are so freely made as to identifications, it is to be expected that the confusion of the modern writer should be attributed to the ancient painter.

The reader's difficulties have been thoughtfully met in one way, by giving a warning when two sites of similar names might be confounded. Other difficulties are not sufficiently considered, as there is hardly enough systematic grouping put forward. Tables of the periods and localities, placed before each chapter, would enable a reader to grasp the meaning of descriptions much more easily. In one case it is needful to track from a description on p. 101 to find the types stated on pp. 107-8, and then to go back to the illustration on p. 85. The general description seems to have been written first, and the precise facts and figures dropped in

afterwards. The main grievance is that the figures and text so often part company; the view of Phaestos is put into the account of Knossos, the plan and view of Haghia Triada into the text of Phaestos, the most important subjects on pp. 67-70 have nothing to do with the text there, the weight from Knossos is put into the Cyclad tomb chapter, the descriptions on pp. 101, 169, and 313 have no references given to the illustrations, which are strayed far away, and there is no description to Fig. 279. The whole adjustment of figures and text should be sternly kept in hand by the author, and the printer not allowed to make such confusion. The publisher keeps to the disastrous custom of paper covers that will not hold together. A volume of nearly 500 pages of thick heavy paper, lightly stitched and unbound, will not bear any opening without falling to pieces. When will French publishers put a sixpenny board cover on books costing a pound, so as to save them from ruin?

It is greatly to be hoped that the present troubles will not long delay a third edition of this valuable summary, improved by more systematic treatment and further study. There is no other work which gives so useful and complete a survey of one of the greatest advances in ancient history.

Aegean Archaeology.—By H. R. HALL. 8vo, 263 pp., 33 plates, 112 figures. 12s. 6d. 1914. (Lee Warner.)

This volume gives a well-ordered and systematic account of the pre-Hellenic civilisation in its various branches. The material is of course familiar to those who have read recent books, and there is no fresh light on the subject; but for many readers who wish for a connected view of what they only know by stray fragments, this will be a valuable handbook. The full references will serve as a key to the more detailed publications. One may only regret that so many things are mentioned without any illustration; really a portfolio of everything that is known in this subject is what is much wanted now for students.

An outline of all the excavations and sites serves first of all to put the reader in touch with the localities and course of discovery. Early Troy is carefully fenced out, as not being Aegean in culture; yet, as it is on the Aegean, whatever is there found is in "Aegean archaeology," and deserves to come in as much as any other culture. The stone and metal work occupies the next chapter, noting especially the vases with reliefs. A full account is given of the varieties and styles of pottery, both of Crete and the Cyclades; and the importance of pottery is emphasized, as being continually changing, abundant, and not worked up again like metal objects.

The town and palace plans are discussed in detail and illustrated. Another chapter deals with the shrines and tombs. Decoration, painting and sculpture are fairly exemplified. The writing is described, but some example of the Cretan language, as preserved in Greek letters, would have been of interest, to give an idea of the sounds actually used. Lastly the surprising costume is described, and the weapons and tools. Thus a comprehensive view of the type of life and methods of the civilisation is fairly given.

Some slight oversights may be noticed. Red porphyry is named more than once, though on the next page (66) it is correctly called purple gypsum. It is suggested that the Egyptian "neolithic" potters turned to making stone vases on the introduction of metal (p. 72); but metal has nothing whatever to do with the grinding of stone vases, and the stonework fell off along with the pottery, and decayed as metal came into use. The lustrous black ware is not turned red by overfiring (p. 74) but by access of air in the burning. The sloping-sided door is

not "Egyptian" (p. 122), being never found in Egypt. Grey colour was often used in Egypt (p. 179), generally for grounds, as at Saqqareh, Meydum, and Qurneh. The sword and rapier are confused, as is usual (pp. 247-9); the dagger can scarcely be derived from the spear-head, as it is much older in Egypt, and was probably a more primitive form of flint weapon.

In general, we may welcome the prominence of the real bases of archaeology—the importance of pottery as a dating material—the partial repudiation of the fable that objects "work down" in strata, the supposed instances shewing merely unobservant digging—the remark that it is easy to go wrong over the time intervals between strata. Mr. Hall condemns the German habit of framing theories regardless of facts, as illustrated by the solar theories of Max Müller and his school, which captivated an ignorant world; and it is well said that "Archaeology then came to the rescue of history from the morass into which philology had dragged her." There is, however, another Germanism which strangely is still in full force in this book—the Berlin theory of Egyptian chronology, which defies all the history and the collateral facts which support it. Archaeology will not come into her own until facts rule and theories serve. Mr. Hall shews in this book a freer style than usual, with more comparisons, and more enthusiasm, which well befits the introductory purpose of such a volume.

The Tomb of Hesy.—By J. E. QUIBELL. 4to, 40 pp., 32 plates. 56 frs. 25. 1913. (Cairo Museum; Quaritch.)

It is singular how little has been known of the tombs from which the most celebrated works have been brought. The figures of Rahetep and Nefert came from tombs at Meydum, which were left neglected till the beauty of the sculpture was ruined, and were afterwards largely destroyed; the tombs of the Sheykh el Beled statue, and of the panels of Hesy, at Saqqareh, had been lost to sight, and it is only by hunting up memories of half a century ago that Mr. Quibell has recovered the clues from the last surviving workmen of Mariette.

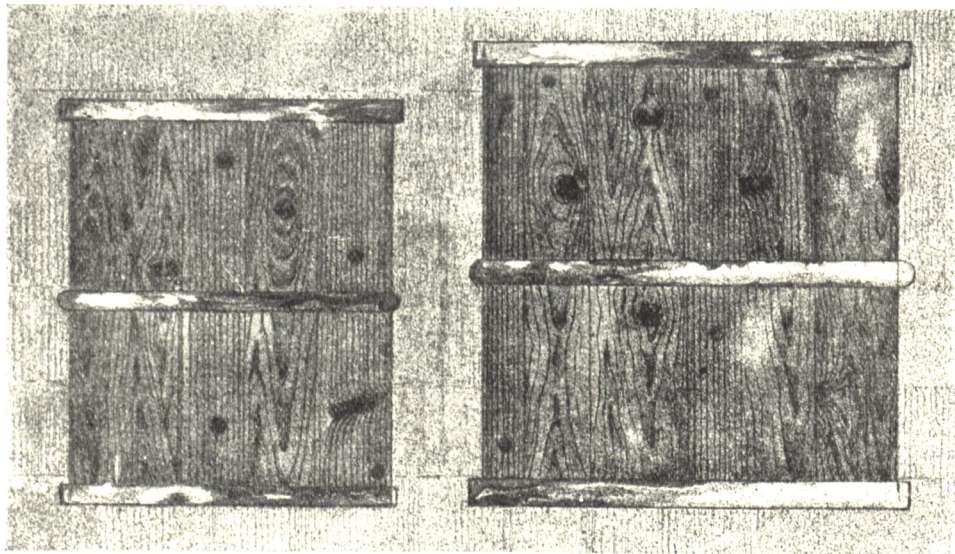
At the north of Saqqareh, above the village of Abusir, a cemetery of some 500 mastabas has been recently cleared; they were nearly all small, and not of individual interest. Among the few large ones, that on the top of the hill was the most important, built at the beginning of the IIIrd dynasty for the great official Hesy, or Ra-hesy, "rewarded by Ra." This is 141 feet long and 69 wide; but at first it was only about half that size each way, and was enlarged twice or three times. It still stands sixteen feet high, but was originally much higher. In the second facade which was built were placed the celebrated wooden panels in the recesses of the false doors. There were originally eleven, but only five and a fragment of another remained undecayed. Of these panels excellent photographs are given in this volume, of which we reproduce, in our portraits, one which is not usually known. The wall which enclosed this facade, forming a narrow corridor, had painted on it a series of offerings; these were discovered by Mr. Quibell, and the careful drawings of the paintings form the most important part of the publication.

The first question that arises is whether this long series of elaborate paintings are of the actual size of the objects. As these are by far the earliest paintings of property, and are remarkably detailed, it seems not unlikely that they would be made like the objects, not only in form and colour, but also in actual size. A difficulty in the enquiry is that not a single plate has any scale on it, except the plans; nor is any scale stated in the text except that of a plate of fragments and

taking the average of the two series (or stating both if very different) we have the following results in cubic inches:—

cubic inches.			
960	960	$32 \times 30 \cdot 0$	
502	502	$16 \times 31 \cdot 4$	
378			378 $16 \times 23 \cdot 6$
190			190 $8 \times 23 \cdot 7$
91			91 $4 \times 22 \cdot 7$
58·2	58·2	$2 \times 29 \cdot 1$	
27·5	27·5	$1 \times 27 \cdot 5$	
21·8			21·8 $1 \times 21 \cdot 8$
{ 15·9			{ 15·9
{ 11·3			{ 11·3 $\frac{1}{2} \times 22 \cdot 6$
{ 8·6			
{ 7·3	7·3	$\frac{1}{4} \times 29 \cdot 2$	
{ 5·3			5·3 $\frac{1}{4} \times 21 \cdot 2$
{ 3·7	3·7	$\frac{1}{8} \times 29 \cdot 6$	
{ 3·0			
{ 2·4			2·4 $\frac{1}{8} \times 19 \cdot 2$

In the first column are the whole of the measures. In the second column it is seen how six of them closely agree in a binary series; and in the third column seven others agree in another binary series, as nearly as can be expected from the wall drawings and modern copies from them. The unit of the second column is between 29 and 30 cubic inches; that of the third column is about 23 cubic inches.

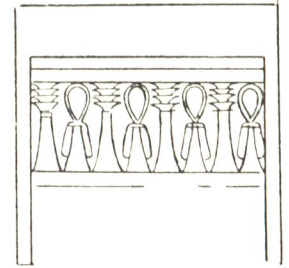


2. DRAWINGS OF TWO WOODEN MEASURES OF 16 AND 32 HONS. TOMB OF RA-HESY.

The Egyptian *hon* was $29 \cdot 2 \pm \cdot 5$ cubic inches, agreeing with the second column. The Syrian *saton* or *sabittha* was 740 cubic inches, which $\div 32$ is $23 \cdot 1$ cubic inches. This is also $\frac{1}{10}$ of the *issaron*, or $\frac{1}{100}$ of the *epha* of Hebrew measure. As the tomb is filled with sand to preserve it, an exact measurement of these most important points cannot be made until some day when it may be re-opened. Even as the facts now stand we seem to have here data of the first importance for ancient metrology, as there are few good determinations of capacity measures, and those of a late date. We need now exact measurements to a hundredth of an inch of all these drawings of weights and measures.

Beyond are four chests on legs ornamented with rows of *sed* and *thet* signs (Fig. 3); the latter was also found as an amulet of yellow glaze and of blue glaze. With the chests are four larger chests or trays. Above these are 8 poles, from 41·5 to 64·6 inches long, and 5 tent poles of 83·0 and 87 inches long.

Next are three high chairs, one with a back; also a low seat with a back and one without, both having bulls' legs as in the 1st dynasty. A bed frame, 61 × 22 inches, is over these; it has the sacking stretched by a cord, looping it to the frame all round. Following this are two sloping wooden bedsteads (?), 62 inches long; a sloping couch with stretched sacking, 37 inches long; a sloping bedstead of 62 inches; and four bedsteads with head frames, 63 inches long. It is a surprise to see how generally the actual couch frames found in graves are much shorter than the height of a person. We are driven to suppose that the early Egyptian usually slept contracted on the side, in the attitude of the burials.



3. CASKET SHOWING *SED* AND *THET* DECORATION. TOMB OF RA-HESY.

There next follow two rows of boxes and baskets, of which eighteen remain. Among the articles in them are two *sekhem* sceptres; three headrests, one carved in one piece, one with a column and abacus stem, and one with two columns, an interesting variety all dated together; a tray of eye paints; a tray with scribe's palettes, colours, and water pots; two trays with tweezers of the 1st dynasty shape, and wig curlers (?); coils of thread and string, and stone vases, come next; boxes with domed lids that cover them over contain stone bowls of the gap-mouth type of the Old Kingdom, and circular stone tables.

This tomb, dated to the beginning of the IIIrd dynasty by a sealing of King Neter-khet, forms a landmark in the early civilisation; it fixes the forms of vases and tools in the intermediate time between the Royal Tombs and the pyramid tombs; it also gives a most unexpected light on the metrology. Every detail of woven pattern in the cloths, of the form of furniture, of the shapes of hieroglyphs, is full of interest in the history of Egyptian civilisation. Happily, thanks to Mr. and Mrs. Quibell, it has all been published almost as fully as we can wish, and we hope that the questions remaining will be settled next time that the tomb can be unearthed.

The Life and Times of Cleopatra, Queen of Egypt, a Study in the Origin of the Roman Empire.—A. E. P. B. WEIGALL. 8vo, 410 pp., 14 plates. No Index. 16s. (Blackwood.)

Romance is delightful, and so is History, but the combination of the two may not improve either. Scott happily labelled his history as romance; but Mr. Weigall labels his romance as history, seriously calling it a *study* in the Origin of the Roman Empire, and we must therefore take it from this point of view. Yet the preface argues against giving any of the evidences on which a new reading of history is here presented. If a writer is accepting the usual views and lines of thought, it may not be needful to give reasons for what is generally known; but when a fresh view is urged, and colours most of a volume, it is essential to state all the grounds for it, and not to refer to quotations as a "jargon of scholarship" to be "swept into the world's dust-bin." A romance is a romance, and its illusion is ruined by the horrid footnote, "This is a fact." But a "study," which claims to show a new standpoint

must be justified by facts, and that justification is unhappily lacking at the most critical points.

We must sympathize with any endeavour to put a period of the past into its work-a-day terms, and for such a purpose enough general references are here given to enlighten an ordinary reader. For a popular restoration, to give a living sense of a period, such a treatment is sufficient. Taken as being intended to make the public have some understanding of one of the greatest crises of the world, it would be a meritorious work, however some matters of taste may jar on us. But when a new rendering of the great politics of the time is thrust forward as a main subject, we need to take it critically, and not as matter of light reading. Mysticism in Religion may be in its place, as that concerns the individual only, and may be the key for his character; but Mysticism in History, reading the author's suppositions into the springs of action of the past, is a dangerous process unless it be very fully supported by plenty of evidence, and unless the writer shows also his care not to exceed the scope of his material.

The position of Cleopatra has been largely misunderstood in all ages; in some respects Mr. Weigall rightfully states it, but the most important legal position he ignores. It hardly needs emphasis now, that the moral standpoint of our age is peculiar, and will not fit any other period of history. We stand apart from all other times in making various professions which are ignored in practice. To apply our professions rigorously to the acts of the present majority would be fatuous, to apply them to the acts of the past is still more absurd. But because—partly from political prejudice, partly from later changes,—the acts of Cleopatra have been misunderstood, that does not justify us in trying to misplace her in a different direction, proclaiming that because she was not Phryne she was therefore Egeria.

The basis of her whole status and actions was that she was hereditary queen of Egypt. The Egyptian throne, like other property in that land, descended by female right. In the earliest times we find that kings were seldom, if ever, the sons of their predecessors. The royal daughters were brought forward at the great feast of the deification of the king, apparently to be married to his successor. This matriarchal system naturally led to a compromise with the patriarchal descent, by which the royal daughter was married to her half-brother, a son of the king by another mother. Such marriages were usual in the system of the early Hebrews and the classical Greeks, and even the full-brother marriage was allowed in Roman Egypt. Throughout the Ptolemaic dynasty the queens had led a predominant part; political action, intrigue, and the raising of armies were their special sphere, and only matters of trade and actual fighting seem to have been outside of their management. The brother and sister marriages were the rule; and in the close of the dynasty the two sisters Arsinoe and Cleopatra were so much older than the boy brothers that all political action rested with them. When Arsinoe was once removed, Cleopatra remained the sole real ruler of the land. What was thus to happen if a foreigner intruded and took possession of her rule? When the Persians conquered Egypt, a fiction was at once put about that Cambyses was descended from the daughter of the last legitimate king, Apries. When Alexander took Egypt, his maternity could not be falsified, so a fiction of his descent from Amen was framed to satisfy Egyptian ideas. Though the Ptolemies appear to have kept their family entirely in the Macedonian race, yet three centuries of occupation, adopting the Egyptian administration and system, would put Cleopatra in the full status of hereditary ruler, and, through marriage with her, any man would be legally established as king of Egypt.

The connection of Cleopatra with the successive rulers of Egypt, Cn. Pompey, Caesar and Antony, and her wish to pacify Augustus for the same end, was therefore her peremptory duty as heiress of Egypt. Such a political duty was nothing new in the land. The heiress-rulers of the Thebaid, Shepenapt, Neitaqert, and Ankhnes-ra-nefer-ab, were all political consorts of the kings of the XXVIth dynasty, even without being their co-habiting wives. The political duty of a marriage was quite familiar to Egyptian ideas. The political position of itself produced such marriage.

It is therefore quite irrelevant to the private character of Cleopatra to insist upon her having been married in the European sense to the *de facto* ruler of Egypt. Her public character was vindicated by her devotion to the lord of Egypt, whoever he might be; she had done her duty to her country and to herself as ruler, when she took her place as spouse of the conqueror, and bore children to him. To have deserted her position, and refused to follow the fortunes of her country would have been political infamy. For us to insist in calling her wife, in assuming that some ceremony of "a purely Egyptian marriage" took place, in speaking of her as being "deserted by her lover," is to put her in the place of a western woman instead of an Egyptian heiress, to rule her conduct by the European laws of private life instead of by the Egyptian laws of public life. The whole subject of marriage law in Egypt appears to be one of a contract concerning property, in hand or prospective. No religious sanctions or ceremonies are known to have accompanied it. Even under Christianity, and in the family of a priest, a marriage contract was only concerned with the liberty of action, and of divorce by either party for a stipulated sum. If such was the case with ordinary private marriage, obviously no ceremonial was needed when the status of the parties was already fixed by the force of events, quite irrespective of any ceremonial marriage. Should we have had such glowing accounts of the magnificence of Cleopatrean banquets, and yet not a word of a festival which would have been the most important of all to western writers, if it had ever taken place? There was no such marriage ceremony, because it would have seemed entirely superfluous. The heiress of Egypt was at once *de facto* and *de jure* the spouse of the lord of Egypt by her position alone. She did not desert Antony at Actium, she merely followed her duty as heiress of Egypt to retreat there when the lordship was to be changed, and prepare her land and herself for a new lord. If added to her political situation there was a wealth of private feelings and a world of passion, she was bound to restrain that in its results as completely as a modern princess, who is condemned to marry politically and not as a private woman. Any other view of the western kind is merely misreading the situation by not understanding it.

The personality of Cleopatra is one of the most interesting on record. There seems to have been a fresh element beside the regular Ptolemaic stock. Her forefathers for centuries had never learned the language of the country they ruled, and some even forgot their native Macedonian, and could only speak Greek. They showed no trace of linguistic faculty; yet Cleopatra could speak seven languages, of all the countries with which she had to deal. The kings had been latterly notorious for gross bulk and pleasures of the table; Cleopatra was lithe and sprightly. Who was her mother? Her father seems, by the family history, to have made a second marriage, but with whom is not on record. Perhaps with some princess of Syrian stock, who could show a Ptolemaic descent, and so keep up an hereditary claim on Egypt. The clue to the character of Cleopatra seems to lie in the history of her unknown mother, and it is beside the mark to term her a pure Macedonian.

The characteristics which struck the public attention were her magnificence of design, shewn with good taste supported by profusion, her wit and fascination of address, her wisdom in practical matters, all blended by an incalculable versatility, "she gamed, she drank, she hunted, she reviewed." There is but one comparison with this brilliance, the great queen of Palmyra who harangued her soldiers with a helmet on; with the severity of a tyrant when necessity required, and all the clemency of a good prince; born with the tenacity of a Spaniard; sober, yet having no scruple to drink with her officers; with a magnificent table and service; speaking at least four or five languages, fond of literature; having black eyes incomparably lively and glittering, a divine spirit, and most delicate shape and presence, with a clear manly voice, as Pollio tells us. These two greatest of queens may well have had a common ancestry in some Syrian princess.

Whatever folly attaches to the history of Cleopatra is due to the childishness of Antony, his vacillation, conceit as a general, lack of foresight and bad management. The queen tried to laugh him out of his hanging upon her, but in vain. Her sound sense and good feeling was shewn in her care of her children, and equal nurture of them all. In every turn of affairs her personality was the main element; and even at the age of thirty-eight—old for a Levantine—she bewitched the envoy of Octavian.

The characters that have stamped themselves on the mind of the world were all marked out by their intense vitality. Alexander, Julius, Cleopatra, Zenobia,—in a lesser degree Charlemagne and Henry VIII,—all were versatile, and yet excelled in every kind of action. It was their number of activities, all things to all men, and their supremacy in all directions, which has justly made them each more important than a myriad million of common mankind.

We may now look at the position of Julius as regards Egypt. To get the riches of the most wealthy land around the Mediterranean had long been an object of his. He tried to get appointed to Egypt when Cleopatra was only four years old. Blocked from the east by the ambitions of more powerful men, he turned to make himself a power by the conquest of Gaul. For eight strenuous years he built up a military strength, greater than that wielded by any Roman before; and then returned with that to subdue Rome and the world to his will. To suppose that such a will, so tenacious, so ambitious, should after those long years of undisputed power, suddenly find at the age of fifty-four a new scope of life at the bidding of a young woman, is too much for our author to require of us. The vision of Cleopatra teaching Caesar ambition, and moulding his politics, is so improbable that very clear facts would be needed to support it. But there is no evidence whatever for the idea of Caesar crossing to Egypt to learn his business. He came so soon as he could, to grasp the wealth which he had tried to reach seventeen years before, and his intended Parthian expedition was but treading in the steps of Sulla and Crassus.

The position of his son Caesarion is obscure. That Julius owned him is certain, that he regarded him as his heir is very doubtful. It seems fairly shewn by Mr. Weigall that Caesar stayed at Alexandria till the birth of Caesarion, whether for that or for political reasons cannot be settled. The position of Cleopatra with her infant son at Rome, by no means implies that Caesar could have made her queen of Rome. It is doubtful if even *his* will could have put a foreigner into that position. A century later, when all kinds of foreign mixture and looser marriage prevailed, Titus had to dismiss Queen Berenice from Rome when he became Emperor, and could not invite her to a joint throne for which

there was no other legal occupant. That Caesar wished to legalise his oriental union for Egyptian purposes is doubtless true; the proposal, however, was not a law to put away Calpurnia, his Roman wife, but to sanction the recognition by Rome of his having two wives, one in Rome and one in Egypt. For that end it was desirable to familiarise the Romans with the fact of his only known descendant being the son of Cleopatra, and her stay in Rome was for that end. But it does not in the least follow that if Caesar were to be formally king, in name as well as fact, that Cleopatra would be therefore queen of the whole Roman world, as Mr. Weigall assumes. She would then be queen of Egypt indefeasibly in Roman law, but not more. If the object were to make her queen of the Empire, nothing more was needful than for Caesar to have repudiated Calpurnia and taken Cleopatra instead, as readily as dozens of other political divorces and marriages were then arranged. That he did not do so is proof that there was an entire bar to Cleopatra becoming queen of Rome, a bar in law or in the good sense of Caesar, who after all watched his democracy very carefully.

The powers that Caesar assumed are quoted by our author as hereditary (159); yet the imperatorship was not hereditary. Mommsen says: "It is only in the case of the supreme priesthood that we have express testimony to his having made it hereditary." (V, xi.) The idea that without Cleopatra and Caesarion "the creation of a hereditary monarchy would be superfluous" (p. 168) is to import our ideas into Rome. In Rome, as in Babylonia and China, adoption was so important a function in social and family life, that it often took the entire place of descent. The hereditary laws of Caesar's position would only apply in Roman eyes and Roman law to his Roman heir, the adopted nephew Octavian, and could never be applicable to the son of a foreigner. To argue that a law of inheritance of an office would apply to Caesarion, is to suppose Rome ruled by English law. The heir was obvious and well known, the adopted son Octavian, of years for politics, and not the foreigner's baby who could not be of account during any likely survival of Caesar. No evidence whatever is given for the assertion that Julius had a "scheme for training up Caesarion to follow in his footsteps" (p. 170).

The next great possessor of Egypt was Antony; and it was his policy to support Caesarion, as a harmless infant, to balance the immediate political claims of Octavian as Caesar's heir. It is remarkable how none of the Julian family were succeeded by a son: it was only the XIth and then the XVIIIth Emperor who inherited a father's throne. Yet Antony was the ancestor of three emperors, his grandson Claudius, great-grandson Caligula, and great-great-grandson Nero.

The account given of Octavian is strangely spiteful; all the infirmities and valetudinarian habits of an old man in the seventies, as he was remembered and described to Suetonius, are here attributed to the youthful conqueror of thirty. We might as truthfully describe George III during the American War as blind and wearing a black skull cap. Some other mistakes are surprising. On p. 185, we read that Alexander IV was murdered "soon after his father's death," yet he survived thirteen years. On p. 258, the daughter of Sextus Pompey is described as "marrying Marcellus, the son of Octavian," whereas she was betrothed to Marcellus, the infant son of Octavia. On p. 353, the isthmus of Suez is described as 35 instead of over 90 miles across. Misprints occur in *Mytelene*, *Systra*, *Ptolomies*, and *Ant/ony*, which have escaped the proof readers named in the preface.

It would require more accuracy than we have observed to give us confidence in the flow of assertions which carry on the narrative. Akhenaten is said to have

been epileptic (p. 141) of which no evidence is known; and on almost every page "must have been," "must have come," or "must have realised," do duty for connective facts that are missing. It is hard to forgive the cynical degradation of the story of Arria, of which Lecky rightly says "her death was perhaps the most majestic in antiquity"; it is here said to be a light matter, Arria "coolly handed the weapon" to Paetus, her exclamation is wrongly quoted as if Paetus was going to hurt her, and it is spoilt in translation. The author might qualify for managing the affairs of Cleopatra as major-domo or vizier in Amenti, rather than in expounding her life and policy that is past. Far more would we wish to see the solid stores of information that Mr. Weigall has garnered during his strenuous work as Inspector in Egypt; more volumes such as his on the monuments of Nubia would be most welcome, and build a permanent place for his reputation in Egyptology.

Ritual of the Mystery of the Judgment of the Soul.—By M. W. BLACKDEN. 8vo, 36 pp., 1 plate. 5s. (Quaritch.)

The confused mass of documents of various ages and sources, which are commonly grouped as the Book of the Dead, form the greatest task that criticism has yet to handle. The restoration of the early texts is the first necessity, and no one has yet attempted to connect the scattered material. The assigning of relative periods to the various portions might give generations of critics a fighting ground. Some parts are of so plainly a question-and-answer construction that it is natural to suppose they may have been actually recited, and not only be for a guide book to the future world. In this work Mr. Blackden has boldly re-arranged some parts so as to frame a usable ritual. The question is how far this is justified: certainly the arrangement has no kind of proof for its plan; how far does it justify itself by internal evidence?

The system of this arrangement is as follows. Chapter 125 is compiled in portions from three sources (Ani, Nu, and Nebseni); in it are inserted at different places Chapter 30B of Ani, later the remainder of 30B from Nebseni, together with part of the Introduction. At the end is the rest of the Introduction, and part of the First Chapter. Now we do not know how early the chapters were arranged in the order in which we number them; but there seems no evidence that any such patchwork as this was the original connection of the documents. As a suggestion of the author's appreciation of the possibilities of a ritual arrangement it may stand; but if we wish to reach the historical development very different criteria are required.

NOTES AND NEWS.

THE terrible disaster to civilisation is stopping research in every direction. Excavations both in Egypt and in Mesopotamia are at a standstill. Not only English but American work is arrested. Dr. Lythgoe and Mr. Mace are not trying to reach Egypt this winter. Prof. Whittemore is actively supplying necessaries to the French Medical Corps at the front. The British School of Archaeology, and also the Exploration Fund, are both waiting till a safer situation is reached.

Mr. Engelbach is in the Quartermaster's Department, behind the British lines.

Of our former workers, Mr. K. T. Frost fell in action in the beginning of the war; of course no details are known. Mr. Angelo Hayter is now interpreter to the camp of German prisoners of war at Llansannan, Abergele, North Wales. Mr. North is in training in the East Surrey Regiment. Our other friends are continuing in their training as reported in our last Journal.

Recognising that most of the subscribers to the British School will feel the present emergencies to be the urgent call, our Committee has decided to ask all the subscribers who wish to help, to contribute through our Hon. Sec. to the Officers' Families Fund. This Fund, established in the South African War, has experienced management, personal care and watchfulness to meet all cases, and no waste on offices and staff; as one of the most admirable of such auxiliaries to our afflicted people, we hope it will have full support.

Meanwhile let us keep our Journal going, as that is so slight a cost that it need not impair any other good work. The present number deals with European relations of Egypt specially; the next will give entirely new material on the palaeolithic age in Egypt and its relation to the glacial periods in Europe.

THE EGYPTIAN RESEARCH STUDENTS' ASSOCIATION.

SOME of the branches are in full working order this winter, and bravely continuing their Monthly Meetings. Others are suspending their activities for the present, but perhaps we all need to have our attention turned for a brief hour to some subject other than that which absorbs us all, and I commend the resumption of meetings to the branches which have flagged. Knitting can be pursued by all the members except the lecturer, so the meetings need not mean waste of time.

LONDON. (Hon. Sec., Mrs. Sefton-Jones, temp. address, c/o Edwards Library, University College, Gower Street, W.C.)—Meetings, monthly, at 8 p.m., lecture, 8.30 p.m. Oct. 29, at University College, Prof. Flinders Petrie, on "The Use of Metals in Egypt." Nov. 5 (by kind invitation of Mrs. Purdon), paper on "The Flint Age in Egypt," by Prof. Flinders Petrie, read by H. F. P. Dec. 10 (by kind invitation of Mrs. P. Bigland), Mrs. Sefton-Jones, on "The Bogomils."

GLASGOW. (Hon. Sec. *pro tem.*, Miss D. Allan, 15, Woodside Terrace.)—Meetings, open to public, at University, 8.30 p.m. Dec. 7, Prof. Milligan, on "Thousand Years on the Nile." Feb. 15, Prof. Gregory, on "History of the Climate of Egypt."

HASTINGS. (Mrs. Russell Morris, Quarry Hill Lodge, St. Leonards.)—Major Davenport, on "Ancient Egyptian Jewellery." Dr. Spanton, on "The Egyptian Water Lily." Rev. J. D. Gray, on "Neolithic Man." Mrs. Court, on "Sign Language."

ROSS-ON-WYE. (Mrs. Marshall, Gayton Hall.)—Oct. 21, 3.15 p.m. (Mrs. Cobbold), subject, Schedule F. Nov. 18, 3.15 p.m. (Mrs. Schomberg), subject, Schedule G. A small lending library on Egyptian and Ancient History, free for members' use, is established in Ross.

THE PORTRAITS.

AMONG the few of the great works of early art that have survived, the wooden steles of Ra-hesy are justly celebrated. Some of them have been frequently published, and can be easily obtained in photographs. The one here given has remained practically unknown until the recent publication by Mr. Quibell from which we copy it. In the other steles we see a fiercely active figure, or one of hard determination. The present figure is apparently older, and with a more suave subtilty about the expression. How the early art could realise the diplomatic cunning of age is familiar to us in the primitive king of Abydos, so astonishingly rendered in ivory. Here we see much the same character, of refined caution and reserve, which would well befit an ambassador or an archbishop. The titles read in four vertical columns. Many of them are still unintelligible to us, but we can read of his being chief of Buto, prophet of Horus of Edfu at Buto, leader of the march, and architect.

The second head is that of the small figure at the side of the copper statue of Pepy I. Some have thought that it represents his *ka*, but the *ka* was of the same age as the person; this probably is the son of Pepy, afterwards king Merenra. The two figures were found, taken to pieces and packed one inside another, in a pit in the temple of Hierakonpolis. Mr. Quibell, who found them, states that the smaller figure was in three pieces, packed inside the larger. Yet the figures were made by hammering sheets of copper, and attaching them by copper nails, apparently to a wooden core. If there were such a core it is difficult to see how the pieces could be put one in another; and certainly the metal had not been removed from a wooden core, or it would have been strained open and bent. The rows of nails at the junction of the beaten plates are evident, and certainly there must have been a solid mass to form the top and back of the head, and the waist of the larger figure, which parts are not executed in copper. The wooden core—as in the royal statues in Westminster Abbey—seems necessary for such a method of work, with nailed sheets of metal; yet it is very difficult to see how the pieces could have been placed one inside the other when the figures were taken down and dismantled. Had the wood been burnt out, the condition of the metal, and the white limestone eye of the statue, would have shown the effect of heat.

What we must admire as a masterpiece of technical and artistic skill is the hammering out of such a portrait head in beaten copper. The life-like vigour of the head could not have been exceeded in the most facile material, and it shows that in metal working, as in masonry, the Pyramid age had reached a perfection that has never been exceeded. The face and neck are worked in one piece; the hair was made separately, and then the two parts joined. The head is closely the size of the photograph here, the whole figure being two feet high. The thickness of the metal in the limbs is $\frac{1}{12}$ th of an inch. Though the hands of the figures would be the most difficult part to work by beating, yet on examination there was no evidence that they were cast. The whole of the figures was wrought by the hammer. As one of the supreme pieces of metal working we give it here in the history of the metals in Egypt.



WOOD. STELE OF RA-HESY. IIIrd DYNASTY. SAQQAREH. CAIRO MUSEUM.



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At the present time, when our thoughts are preoccupied with the momentous war of the nations, the task of conducting such a magazine as the ANTIQUARY is more than usually difficult; but the individual as well as the national duty is to "keep things going," and, with the ready help and co-operation of contributors and subscribers, the Publisher and Editor mean to keep the ANTIQUARY flag flying during 1915, the thirty-sixth year of the magazine's existence.

It is hoped to print a great variety of articles in the course of the coming year, some of them dealing with places and sites to which the present war has added new associations. The following papers have already been arranged for, among others:

Mr. A. Hadrian Allcroft, M.A., promises an article on some aspect of the *ARCHÆOLOGY OF THE SOUTH DOWNS*. **Mr. J. Reid Moir, F.R.A.I.**, will give the first account which has appeared in England of *THE OLDOWAY HUMAN SKELETON*—the skeleton discovered by Dr. Reck in German East Africa. In a series of illustrated articles, **Mr. R. Coltman Clephan, F.S.A.**, will describe *AUGUSTA TRIVERORUM: THE MODERN TRÈVES (TRIER)*. **Mr. Edward Wooler, F.S.A.**, sends a paper on *THE ROMAN STATION OF MAGIO (PIERCEBRIDGE) NEAR DARLINGTON*, and **Mr. Francis Villy, M.D.**, another, illustrated, on *THE ROMAN ROADS OF THE WEST RIDING, MORE PARTICULARLY IN CRAVEN*. A description of *CARL'S WORK, HATHERSAGE MOOR, DERBYSHIRE*, is sent by **Mr. Edward Tristram, F.S.A.**, and *NOTES ON PYGMY FLINT IMPLEMENTS IN SUSSEX*, by **Mr. Herbert S. Toms**. Some account of *SAFFRON WALDEN MUSEUM* is promised by **Mr. Guy Maynard**, the Curator, and the **Rev. G. Montagu Benton, M.A.**

An illustrated article entitled *SOME UNRESTORED CHURCHES IN KENT AND SUSSEX*, being notes and sketches made between 1862 and 1870, before the churches treated had suffered to any extent by restoration, will be contributed by **Mr. J. Tavenor-Perry**. From Ireland will come a fully illustrated article on *SAINT BRIGID CROSSES*, by **Mr. F. J. Bigger, M.R.I.A.**, and another by **Miss Elizabeth Andrews**, entitled *SOME ULSTER MEMORIES OF ST. COLUMKILLE (ST. COLUMBA)*, illustrated. The **Rev. R. M. Serjeantson, M.A., F.S.A.**, will write on *THE EARLY CHURCHWARDEN ACCOUNTS OF PETERBOROUGH*, and **Mr. R. A. H. Unthank** on *THE LONDON INNS OR HOSTELS OF COUNTRY ABBOTS AND PRIORS*.

SHAKESPEAREANA IN LONDON will be the title of an article by **Dr. William Martin, M.A., F.S.A.**; and the **Rev. J. B. McGovern** sends *AN ANCIENT IRISH MANUSCRIPT*.

Papers on historical and social subjects will be numerous. An illustrated article on a town of melancholy interest just now—*LOUVAIN*—by the **Rev. J. Charles Cox, LL.D., F.S.A.**, will appear in an early number, also an illustrated article on *RHEIMS*, by **Miss Mary F. A. Tench**. Other papers in this section will be *THE HISTORY AND ANTIQUITIES OF HAMPSTHWAITE, CO. YORK*, illustrated, by **Mr. Carl T. Walker**; *TANCARVILLE, IN UPPER NORMANDY*, illustrated, and *LA ROCHE D'ANDELI: CHÂTEAU GAILLARD*, illustrated, both by **Mr. Ch. Roessler de Graville**; *A COURT PHYSICIAN OF THE RESTORATION*, illustrated, by **Mr. Michael Barrington**; *WIRE GAUZE CANDLE-LANTERNS*, illustrated, by **Mr. G. Russell-Davies**; and *SOME ANCIENT DOMESTIC WALL-PAINTINGS OF THE EASTERN COUNTIES*, by **Mr. Guy Maynard**, Curator of the Saffron Walden Museum. **Mr. H. R. Leighton, F.R.Hist.S.**, will continue his papers on *OLD DURHAM HOUSES*.

A great variety of other articles will include the promised *TOBACCO STOPPERS*, illustrated, by **Mr. V. B. Crowther-Beynon, M.A., F.S.A.**; *ANURADHAPURA, CEYLON*, illustrated, by **Miss Mary F. A. Tench**; and *SOME DECEPTIVE PLACE-NAMES OF ENGLAND AND NORMANDY*, by **Dr. T. B. F. Eminson**, who will also send one or more papers on *THE "REACH"-NAMES OF THE EASTERN COUNTIES*.

General help and co-operation are promised by **Mr. E. Thurlow Leeds, F.S.A.**, **Mr. J. E. Hodgkin, F.S.A.**, **Mr. Stanley Casson, B.A.**, **Mr. Albany F. Major**, **Mr. Warwick H. Draper, M.A.**, and many other antiquaries.

All the usual features of the ANTIQUARY will be maintained. The latest discoveries and all current events of archaeological interest will be chronicled in the *NOTES OF THE MONTH*, while literary antiquarian chat will find place as heretofore *AT THE SIGN OF THE OWL*. Reports of the meetings of Archaeological Societies and notices of their publications will be given under *ANTIQUARIAN NEWS*; while all new publications of importance will be noticed in the section for *REVIEWS*. *THE ANTIQUARY'S NOTE-BOOK* will contain short notes and documents, and the *CORRESPONDENCE* page is always open to readers.

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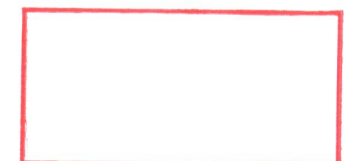
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