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VOLUME XVIII

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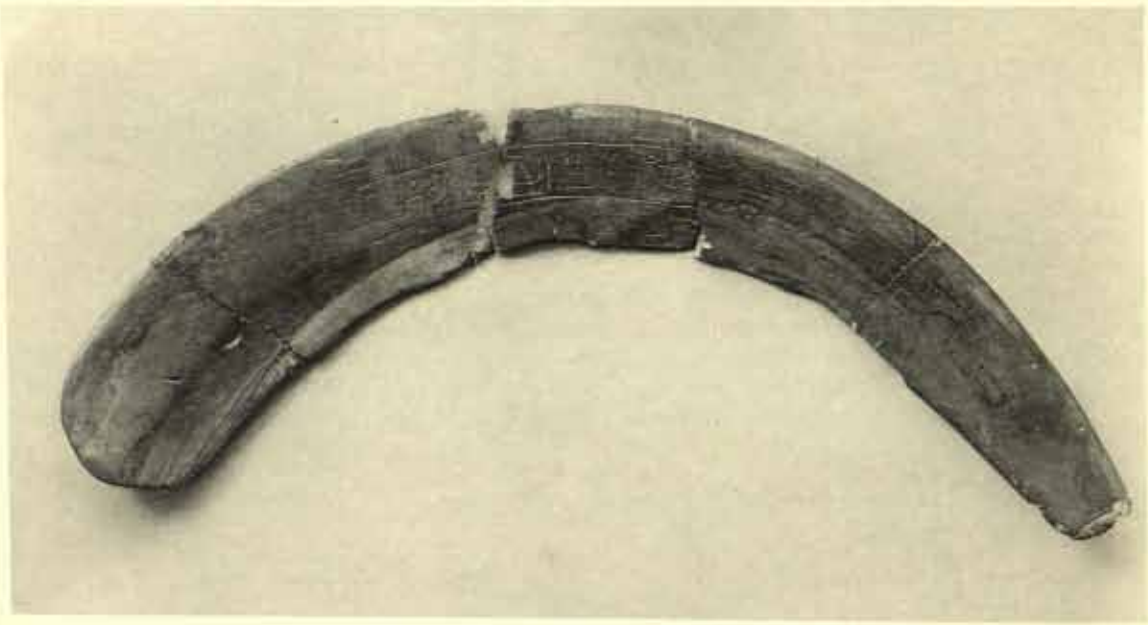
c. Échelle : env. $\frac{3}{8}$

Statuette en bronze de la mère d'Imouthès (Musée du Louvre, E 11556)

1



2

A magical ivory.

Scale c. ⅔.

A MAGICAL IVORY

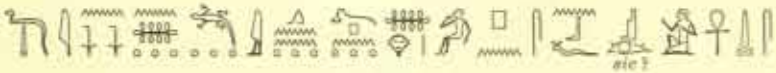
By ALAN W. SHORTER

With Plate i.

The carved ivory object reproduced on Plate i is in the possession of Mr. C. T. Apps, of Calne, Wiltshire, who has been kind enough to allow me to publish it. Many ivories of this sort are already known and published[1], and it seems useful to add this example to the series.

The ivory measures $12\frac{3}{4}$ inches in length and $2\frac{5}{10}$ inches in width at its broadest part. It has been broken into five pieces, the central break having done the most damage, and the tip of the narrower end is also missing. On the obverse are incised the following pictures, beginning from the right: a lion's head, a sun-disk mounted on two human legs, a "serpo-leopard" devouring a snake and holding a knife in one of its front paws, over the "serpo-leopard" a cobra, next the goddess Taurt holding a knife and resting her hand on ☥, a lion sitting with tail erect, a cobra and knife upon a standard, a mummified and jackal-headed being with a knife before him, a large *udjat*, and lastly a jackal head with large upstanding ears.

On the reverse of the ivory is incised the following inscription:



which is to be translated thus: *Words spoken by these many amuletic figures*[2]: "*We have come that we may protect this child, Senb-ef-Osiris* (*may he live, prosper and be healthy*)."

Like the majority of such wands this specimen may be assigned to the Middle Kingdom.

To enter into a detailed discussion regarding the probable use of these objects would be superfluous, as that has already been done by Mr. Legge in the articles quoted in note 1, and also by Miss Murray[3], the former maintaining that they were protective amulets, chiefly against serpents, the latter claiming that they represent horoscopes, and are mainly astrological in meaning. That the creatures depicted on these wands were intended to protect the owner in some way is sufficiently shown by the inscriptions, and it is true that they are often grasping or devouring snakes; on the other hand, the astronomical connexions of many of the pictures cannot be denied. On the whole, the horoscope theory seems very probable, but it remains to give an explanation for the signs of wear which the ivories often show. That objects of this shape were worn on the person is very unlikely; moreover they are not pierced for suspension, as one would expect them

[1] By F. Legge, in *Proc. Soc. Bibl. Arch.*, XXVII, 130 ff. and 297 ff.; XXVIII, 159 ff. See, too, Petrie, *Objects of Daily Use*, Pls. XXXV–XXXVII.

[2] For the use of *sj* in this sense see *Wb. d. ägy. Spr.*, III, 415, B.

[3] *Proc. Soc. Bibl. Arch.*, XXVIII, 33 ff.

to be if used in that way. Neither is the suggestion that wear was caused by grasping the wand by the middle, in order to point it at malevolent demons, a satisfactory one. Miss Murray has most probably hit on the correct explanation when she suggests that a wand of this kind, being the horoscope of some individual, was sent to an astrologer whenever special information regarding the person's future was needed, as, for instance, when an auspicious day was required for some important undertaking. The astrologer would then make his calculations from the wand. As to the actual way in which the wear was caused, I am indebted to Mr. Braunholtz of the British Museum for the suggestion that it might have been due to constant rubbing with oil or some other substance, when making invocations, just as the faces of Hindu deities and also some African fetishes are worn flat with ceremonial attrition.

IRON IN EGYPT

By G. A. WAINWRIGHT

With Pl. ii.

In 1911 the present writer found two groups of predynastic iron beads at Gerzah about 50 miles south of Cairo[1]. The groups were found in graves nos. 67 and 133, which dated to S.D. 53–63 and 60–66 respectively. The two finds were, therefore, roughly contemporary and probably belong to the period common to the two, S.D. 60–63. They belong to the very middle of the predynastic period, when the early Egyptians were still using flint implements and still only employed the minimum of copper for objects that were both few and small. Needless to say, these finds of iron come from an age long before the first elementary hieroglyphs begin to appear, and much longer still before consecutive texts were written. It is thus evident that their experiences of this iron, and no doubt other pieces like it, must have formed the background of the Egyptians' conception of the metal and of anything they wrote about it in later ages. It is, therefore, extremely important that the analysis which has been made of this earliest Egyptian iron proves it to be of meteoric origin.

Professor Desch has been commissioned by the Sumerian Committee of the British Association to carry out a number of analyses of early specimens of metals. Among others he has recently tested one of the above-named beads, and finds it to contain 92·50 per cent. of iron and 7·50 per cent. of nickel[2]. The importance of the analysis lies in the high proportion of nickel which it shows. It is just about the average nickel content of meteoric irons[3], and is in strong contrast with man-made iron, which in the ordinary way contains none[4]. The 7·50 per cent. of nickel is proof positive that the iron is meteoric.

The predynastic Egyptians were doing nothing unusual in obtaining scraps of iron from a meteorite, for it has been done by many peoples all the world over. The fragments of iron found in one of the royal tombs at Ur in Babylonia also prove to have come from a meteorite, for they contain 10·9 per cent. of nickel and 89·1 per cent. of iron[5]. They date to at least 3000 B.C. and perhaps as early as 3500 B.C. The Eskimos

[1] Wainwright, in Petrie and others, *The Labyrinth, Gerzeh, and Mazghuneh*, 15–19. There were seven iron beads in tomb no. 67 and two in no. 133. They were strung with other beads of more normal materials, gold, carnelian and agate.

[2] Desch, *Report of the British Association for the Advancement of Science*, 1928, 441.

[3] Zimmer, *Journal of the Iron and Steel Institute* (London), 1916, pt. II, 324–35, gives a table of information about iron from 287 meteorites (siderites and siderolites), including the nickel content. Three-quarters of them show amounts varying between 5 and 10 %. In exceptional cases it may rise as high as 25·6 % and once even 59·69 %, or sink as low as 1·83 %.

[4] Those iron ores which do contain nickel—and then it is very little—come from far outside our area, Cuba and the Dutch East Indies. Rickard, *Journal of the Institute of Metals* (London), 1930, pt. I, 335.

[5] Desch, *op. cit.*, 440. The iron was discovered by Woolley during the season 1926–27, and was on view at his annual exhibition at the British Museum.

of Greenland battered scraps off one of their three great masses of meteoric iron in Melville Bay. They used to make expeditions to the site bringing with them stones suitable for hammers. These they brought from a spot a hundred miles or so distant from the meteorite. In the course of generations these had accumulated until they encircled the meteorite with a ring some eighteen or twenty feet high and sixty yards in circumference at its base. The Eskimos had built stone shelters at the site to live in during operations[1], and in the course of time had reduced the mass to one-half or one-third of its original size. Shortly before Peary's discovery one party had succeeded in breaking off a large lump[2]. The iron was used in tiny flakes[3]. The ancient Mexicans had broken pieces off the Descubridora meteorite, and a piece of the last copper tool that was broken in the attempt still remains sticking in a crevice[4]. The Red Indians of Ohio who built the mounds of the Turner group in pre-Columbian days had collected iron from the local meteorites and had hammered it into ornaments. Along with these ornaments were found two pieces of meteorite, the larger one in its original state and the other already flattened by hammering[5]. While the Eskimos were merely in the Bone Age, the others were in the neolithic or chalcolithic stage of civilization like the predynastic Egyptians. The Tanganyika meteorite had been tried, but unsuccessfully, by the local natives[6], and the list of those which have been used by more advanced peoples is too long to delay us here[7]. Others who had managed to break a piece off a large mass of iron were the Kaffirs of the Keiskamma River in South Africa. Their iron, however, was no meteorite but an old ship's anchor which had been left on their coast[8].

It has already become evident that meteorites are not so uncommon as might be supposed, and moreover that they contain iron. As a matter of fact iron is the only metal to be obtained from them, and they are classed in accordance with the proportion they show of stone to metallic iron. In this way they are called *siderites*, consisting chiefly or entirely of metallic nickel-iron (Pl. ii, fig. 2); *siderolites*, being conglomerates of stones embedded in a matrix of metallic iron (Pl. ii, figs. 1, 3); and *aerolites*, which are stone practically without any metallic iron (Pl. ii, fig. 4)[9]. There are 634 meteorites known on the earth's surface to-day; of these 261 are iron and 373 stone[10]. Meteorites may be of any size from quite small pebbles which come in showers and may be no bigger than

[1] R. E. Peary, *Northward over the "Great Ice,"* II, 145–47, 597–99, 614–17, and pls. facing pp. 600, 602, 614.

[2] *Op. cit.*, 559, 561.

[3] Peary got some of these implements (p. 612) and most of the large museums seem to possess examples. A number are figured by Zimmer, *op. cit.*, Pls. xxviii, xxix.

[4] Kunz, *American Journal of Science*, 3rd series, XXXIII (1887), 234, fig. 7, where it is called the Catorze meteorite. Zimmer publishes a copy of the drawing as his fig. 8. Descubridora seems to be a more accurate name than Catorze.

[5] Putnam, *American Anthropologist*, V (1903), 49. For a drawing of one of these ornaments see Putnam, *Proc. American Antiquarian Soc.*, II (1882–83), 360.

[6] *The Times*, 17 Feb. 1931. It is reported to be fourteen feet long and four in diameter.

[7] Zimmer, *op. cit.*, 313–15, records forty-one others from which have been made such things as knives, horseshoes, nails, spurs, stirrups, gun-barrels, ploughshares and other agricultural implements, wagon-springs and anchors.

[8] J. Barrow, *Travels into the Interior of Southern Africa* (1806), I, 180.

[9] L. Fletcher, *An Introduction to the Study of Meteorites* (1914), 7, 34.

[10] Zimmer, *op. cit.*, 347.

1

2

3

4

1. The Pallas meteorite.
2. The Kendall County meteorite.
3. Meteorite from Barea, Logrono.
4. The Nakhla meteorite.

Scale $\frac{2}{3}$.

a pea, a walnut, or a hen's egg, up to single masses of many tons' weight[1]. No doubt the great masses were less acceptable to man than the small ones and the ragged iron matrix left by the weathering out of the stones from the siderolites. Moreover, though probably few of my readers have witnessed the fall of a meteorite, the descent to earth is far from a rare occurrence. The British Museum (Natural History) has published a list of the meteorites it possesses with some particulars of each[2]. By adding up the number of those which have been *observed to fall* it will be found that they amount to 289 in the hundred years between 1815 and 1914. Of course many more must really have fallen during this period; some are lost by falling into the sea, others fall unobserved, and even of those observed there are some of which the Museum has no specimen. Seeing that such falls had been going on ever since the Creation there must have been no lack of meteorites, and hence no lack of meteoric iron, for primitive man to find when he first began to examine the stones he found lying about his world.

Egypt has its share of meteorites. In A.D. 856 (A.H. 242) five stones fell from the air, one of which burned up a Bedawy tent. Four of them were taken to Fostat and the other to Tennis[3]. The author also says in the same passage that "there also fell upon a village a rain of white and black stones." In modern times four have been observed to fall during the thirty-nine years between A.D. 1877 and 1916[4]. On one of his journeys Schweinfurth found a "cannon ball" in the Wâdî Dugla, in the desert 30 kilometres east of Cairo. Being astonished to find one so far away he had it examined, when it proved to be an iron meteorite[5]. Nejd, the Hejaz, Italian Somaliland, Algeria, and Morocco, countries round about Egypt, have all produced meteorites[6]. Much of what follows depends on the widespread belief that meteorites are thunderbolts. It should, therefore, be noted that actually meteorites have nothing to do with thunderstorms. The statements that they fall in a thunderstorm, though often detailed, are erroneous. They arise from a confusion of the thunderclouds, flash of lightning, peal of thunder, and possible succeeding conflagration of a thunderstorm with the blinding light, cloud of smoke, explosions sometimes followed by rumblings, and possible succeeding conflagration which generally accompany the fall of a meteorite.

It is certain, therefore, that iron is the only metal provided by meteorites, that plenty of meteorites fall in Egyptian territory, and moreover that the primitive Egyptians found them and made use of the iron thus provided by nature. A thing equally certain is that meteorites are commonly believed to be thunderbolts[7]. So are certain fossils and

[1] 50 tons, as estimated for Bacubirito, Fletcher, *op. cit.*, 43; 36½ tons, as determined for the large one (Ahnighito) from Melville Bay, *ibid.*; 15⅔ tons, which the larger one from Chupaderos weighed on the scales, H. A. Ward, *Proc. Rochester Acad. of Science* (U.S.A.), 1902, 73.

[2] Fletcher, *op. cit.*, 68 ff.

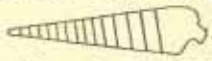
[3] Silvestre de Sacy, *Chrestomathie arabe* (1827), III, 439, extract from an Arab author who sometimes quotes from Kazwini. This fall of stones was well known, for Abou'l Mahasen mentions it and gives the date. Soyouti also mentions it under the same date, p. 440.

[4] On June 26, 1877, near Suez, A. Brezina, *Die Meteoritensammlung* (Vienna, 1885), 72; on Apl. 5, 1902, near Aswân, J. Ball, *The Meteorite of el Nakhla el Baharia* (Cairo, 1912), 19, 20; on June 28, 1911, at Nakhla in the north-western Delta, G. T. Prior, *Catalogue of Meteorites* (1923), 123; on July 14–17 (*sic*), 1916, 8 miles east of Ḳanṭarah, *op. cit.*, 166.

[5] Schweinfurth's communication to Belck, *Zeitschr. für Ethnologie*, 1908, 64.

[6] See Fletcher, *op. cit.*, *passim*, and G. T. Prior, *op. cit.*, *passim*.

[7] For the general statement see G. T. Prior, *Guide to the Collection of Meteorites* (London, 1926), 10; A. S. E. Ackermann, *Popular Fallacies* (1923), 376, 377. Plenty of examples will be found in the following pages.

other stones. Chief of these is the belemnite[1], and it is very like the shape given to Zeus' thunderbolt. There are none of these in Egypt, but the rocks at Akhmîm are full of another fossil, *Lithodomus*, which has the same shape[2]. Zeus' thunderbolt very often shows a spiral formation (Fig. 1)[3], and a large, pointed, spiral fossil occurs in great abundance in the rocks at Letopolis (Ausim). It is *Nerinea Requieniana*  , which Dr. Hume

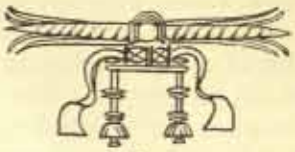


Fig. 1

does not know elsewhere in Egypt[4]. At Akhmîm the sign was the symbol both of the nome itself and of its god, and shows much evidence of being the thunderbolt[5]. It is natural, therefore, to find that Letopolis was the other home of the sacred symbol . Here the name of the city was written and the god was called [6]. Like Akhmîm, therefore, Letopolis was a thunderbolt city.

From this proceed facts that are interesting for this study, for the chief characteristic of the thunderbolt is its rending, blasting, power. As Egyptian religion included a very important ceremony of "Opening the Mouth" of the dead man, it is no accident that the chief "Opener of the Mouth[7]" lived at the thunderbolt city of Letopolis. He was in fact the high priest, and his title was , *wn rꜣ*, "the Opener of the Mouth[8]." A study of this ceremony will yield important information not only about iron but also about *bꜣ*. In early times the mouth had merely been slit open with a stone knife, copied from the forked flint knives of predynastic days[9]. A ritual implement of this date has been found[10], and the type lasted through Egyptian civilization as the *pśś-kf* [11]. Throughout historic times, however, this instrument plays a very minor part, having been superseded by the use of *bꜣ* in a number of forms. A pair of blocks of *bꜣ* were offered[12]. The priest opened the mouth with "the *nwꜣ*, the *mśḫtyw* of *bꜣ*[13]"; the Children of Horus opened his mouth "with their fingers of *bꜣ*[14]." Later the priest also used a chisel called

[1] Blinkenberg, *The Thunderweapon in Religion and Folklore*, 121.

[2] Wainwright, in *Journal*, XVII, 194.

[3] Wroth, *Cat. of the Greek Coins in the Brit. Mus. Galatia, Cappadocia and Syria*, Pl. XXXII, fig. 8.

[4] R. Bullen Newton, *The Geological Magazine*, 1898, 396 and Pl. XV, figs. 1–4. Dr. Hume of the Geological Survey of Egypt also says in his letter to me that they attain a size of about six inches. They particularly come from west of the Ga'a pyramid at Abu Rwâsh.

[5] Wainwright, *op. cit.*, 185 ff.

[6] For instance, in the Third Dynasty, Sethe, *Urk. des aeg. Altertums*, I, 6. 17, 7. 1, when the old double form is used, as often in the Pyramid Texts. The single form comes into use here in the Sixth Dynasty, *Pyr.*, §§ 810, 1175, 1670, 2078. For a beautiful example from Letopolis itself see Bisson de la Roque, *Abou Roasch*, 1922–23, Pl. XXXV, 4.

[7] The ceremony was ordinarily performed by a *ḥm*-priest.

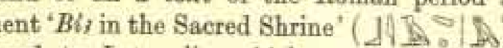
[8] Sethe, *Urk. des aeg. Altertums*, I, 6. 17, 7. 1; Lange und Schäfer, *Grab- und Denksteine des mittl. Reichs*, I, 243, no. 20221; Spiegelberg, *Rec. de trav.*, XXVI, 146; Bergmann, *Rec. de trav.*, IX, 57–59; Lieblein, *Dict. de noms hiérogl.*, no. 1164; Brugsch, *Dict. géogr.*, 1368, 1377.

[9] For the large knives of this shape see Petrie, *Naqada and Ballas*, Pl. lxxiii, figs. 61, 62, 63, 65, 66; *Diospolis Parva*, Pls. iv, vii.

[10] Wainwright, in Petrie and others, *The Labyrinth, Gerzeh and Mazghuneh*, Pl. vi, fig. 10, p. 24. Its date is S.D. 59, 61, 63. Compare the considerably larger, but still small, one of flint belonging to the time of Den, Petrie, *Abydos*, I, Pl. li, 22.

[11] For instance, Sethe, *Pyr.*, § 30; Dümichen, *Der Grabpalast des Patuamenap*, I, Pl. iii, II, Pl. v, top register and l. 100.

[12] Sethe, *Pyr.*, § 30. [13] *Op. cit.*, §§ 13, 14. [14] *Op. cit.*, § 1983.

"the *mdtft* of *biꜣ*[1]." At the end of all a text of the Roman period says the rite is accomplished with "the instrument '*Biꜣ* in the Sacred Shrine' ()[2]." This opening ceremony belonged to Letopolis, which was a thunderbolt city. The thunderbolt, or lightning stroke, is the most tremendous force in nature for splitting, rending, and blasting. A thunderbolt was, therefore, the most terrific instrument the priest could find with which to accomplish his design of forcing open that which death had closed. No wonder he preferred to put his trust in that rather than in a mere flint implement, however well fitted its form may have been.

It results that the *biꜣ* which the priest employed was the material which comes from thunderbolts, that is to say iron[3]. That this was indeed the case is made certain by the fact that we possess several of these tools, and they are made of iron. In the first place, there are the little bull's foreleg, which is entirely of iron, and a little ivory adze with a blade of iron[4]. They are "the *nwꜣ*, the *msḫtyw* of *biꜣ* which came forth out of Setesh." In the second place, in the tomb of Tutꜥankhamūn there was a box which contained a set of chisels. While the handles were large enough for use, the blades were no thicker than stout paper[5]. Like the *msḫtyw* and *nwꜣ* they also could have served nothing but a ritual or magical purpose. Seeing that their blades were all of iron, they must have been a set of *mdtft* chisels for opening the mouth, and conversely they prove the *biꜣ* of which these were made to have been iron. Iron is the product of thunderbolts (meteorites), and has been called by various peoples "lightning-iron[6]," "lightning-natured," "raw iron from lightning[7]." It has been thought to originate in the striking of a stone by lightning[8], and is used as a symbol of the thunder and lightning deity[9]. As the ceremony was so intimately connected with *biꜣ* it no doubt owed much of its efficacy to the use of this substance; and as it belonged to the thunderbolt city of Letopolis, it is clear that the value of the *biꜣ* was due to its being the thunderbolt. In popular belief the blasting force of the thunderbolt is inherent in the substance

[1] *E.g.* early Eighteenth Dynasty, Budge, *Facsimiles of the Papyri of Hunefer, Anhai, etc., The Papyrus of Nu*, Pl. 7, ch. xxiii, l. 4; Tuthmosis III, Dunham, *Journal*, XVII, Pl. xxxi, l. 4, Davies and Gardiner, *The Tomb of Amenemhēt*, 59, probably also in Rekhmireꜥ though the name of the material, which has been there, is now lost, Virey, *Le tombeau de Rekhmara* (*Mém. miss. arch. fr. du Caire*, v), Pl. xxxi, top register; Seti, Schiaparelli, *Il Libro dei Funerali*, Pls. lx, lxx; Twentieth Dynasty, *op. cit.*, I, 128, 129; Twenty-sixth Dynasty, Dümichen, *Der Grabpalast des Patuamenap*, II, Pl. iv, l. 72. They are shown on the scenes on the coffins of the First Intermediate Period, but not named, Lacau, *Sarc. antérieurs, etc.*, Pl. xl, figs. 204–210; and in a scene of Amenemhat II's reign, Blackman, *Meir*, III, 28.

[2] Schiaparelli, *Il Libro dei Funerali*, I, 103.

[3] He seems to have preferred the iron to the stone from meteorites, for no instruments of this latter material have yet been identified.

[4] Devéria, *Le fer et l'aimant* (publ. in Maspero, *Bibliothèque égyptologique*, v, 349, 351).

[5] H. Carter, *Illustrated London News*, July 7, 1928, 4 ff. They were sixteen in number and the blades were only half a millimetre in thickness. They might number as many as twenty-four, Lacau, *Sarc. antérieurs, etc.*, Pl. xl, 207.

[6] G. T. Prior, *Cat. of Meteorites* (1923), 35, "Ceylon," reports the foisting of amulets of man-made iron on customers as "lightning iron."

[7] As was said of Jahangir's thunderbolt and the weapons made from it, see below, p. 10.

[8] Soyouti states that in A.H. 679 (A.D. 1280) a thunderbolt (صاعقة) fell at the foot of Gebel Aḥmar upon a stone, which it burned. Several ounces of iron were afterwards extracted from it. Silvestre de Sacy, *Chrestomathie arabe* (1827), III, 440.

[9] Girls devoted to this deity on the Guinea Coast, West Africa, wear a piece cut in the zig-zag shape of the lightning. G. Zündel, *Zeitschr. der Gesellsch. für Erdkunde*, XII (1877), 417.

itself, and is not lost when the meteorite (thunderbolt) comes to rest on the ground. The discovery of the thunderbolt of which Antar's terrible sword *Eẓ-Ẓâmi* was made was due to its surprising effect when accidentally used by a man[1]. A herdsman threw a stone at a straying camel. It was "a black stone after the manner of a flint (صوان) and it gleamed strongly[2]." Instead of merely making the camel turn as would an ordinary stone, it blasted the creature. "I threw it at the camel, it struck her side, pierced her belly, and came out from the other side, and the camel fell to the ground." The owner of the camel took up the stone, "considered it very attentively and knew it was a thunderbolt (صاعقة)." If the same belief existed in Egypt, and it is clear that it did, it is evident that the presenting of a mere block of thunderbolt material, *bîȝ*, to the dead man would blast open his mouth as required by the priest. Antar's thunderbolt, therefore, is parallel to the pair of blocks of *bîȝ* and offers a good explanation of their purpose.

The Four Children of Horus also belong to Letopolis, the thunderbolt city[3]. Hence the assurance given to the dead man that they "open thy mouth with their fingers of *bîȝ*[4]" is in keeping with the rest of the symbolism. While one naturally tears a thing open with the fingers[5], their power is increased if they are made of a substance which has blasting power in itself.

Though the original Pyramid Texts offer no direct evidence of the meteoric origin and bursting power of the *bîȝ*, the Coffin Texts of the First Intermediate Period do. So do the later texts from time to time. Before approaching the study of these it will be well to notice that in 1885 the British Museum received the iron meteorite now known as the "Nejd." The covering letter states that Sheykh Kalaph ben Essah found it after "a great storm, thunder and lightning being particularly prevalent; and during the storm an enormous thunderbolt fell from the heavens, accompanied by a dazzling light similar to a large shooting star[6]." The ancient Egyptians knew of a star, or class of stars, which was dangerous and terrible, and was called *šśd*, [7]. The Tale of the Shipwrecked Sailor shows that in the Twelfth Dynasty they were accustomed to stars which fell with dire, and it may be with magical, effect[8]. Sheykh Kalaph's combination of shooting star and thunderbolt explains the variant spellings of *bîȝ* that are found from

[1] *Sîrat ʿAntarah* (32 vols., Bulaq, 1866–70), Bk. ii, p. 47, ll. 22 ff. = T. Hamilton, *Antar* (1820), i, 152, 153, who, however, used a slightly different version.

[2] Blackness is characteristic of meteorites. Some of the stone ones have a brilliantly lustrous surface, as in Pl. ii, fig. 4, where the blackness is not shadow. Some iron ones, especially when smooth on the outside, are not unlike a black flint. Such are Samelia, Rajputana, and Garhi Yasin, Bombay, and to a lesser extent Otumpa.

[3] *Pyr.*, § 2078, where they are said to be "the Children of Horus of Letopolis (*Ḥm*)." They are also the four stars of the body of the Great Bear constellation, which was the standard of the Letopolite nome; Wainwright, in *Griffith Studies*.

[4] *Pyr.*, § 1983.

[5] As Horus actually did the mouth of Osiris, using "his little finger," *Pyr.*, § 1330.

[6] Fletcher, *The Mineralogical Magazine and Journ. Min. Soc.*, 1887, 179, 180.

[7] Sethe, *Urk. des aeg. Altertums*, IV, 615, ll. 13–15 = Breasted, *Ancient Records*, II, § 658; Champollion, *Not. descr.*, II, 96 = Breasted, *op. cit.*, III, § 117; Gardiner, *Ä.Z.*, XLII, 23; Dümichen, *Hist. Inschriften*, I, Pls. xxii, xxiii, 30; J. B. Greene, *Fouilles exécutées à Thèbes*, Pl. i, l. 3; Rowe, *Univ. of Pennsylvania, The Museum Journal*, 1929, 96, l. 18, where *šśd* is the word used, as the photograph (unpublished) shows.

[8] Erman, *The Literature of the Ancient Egyptians* (trans. by Blackman, 1927), 32, 33. The earlier translators admit more magic touches, see Golénischeff, *Rec. de trav.*, XXVIII, 80, *cf.* also 100, 101; Maspero, *Popular Stories of Ancient Egypt* (trans. by Mrs. Johns), 104.

the First Intermediate Period onwards. From time to time the word is determined with a ★ or else a ○. Thus the of the Pyramid Texts[1] becomes [2] or [3].

The star was an important element, for from this time onwards its name *šbi* was often written out, thus[4] , and at the same time the shape of the blocks was often changed from that of mere rectangles to the angular shape here shown. These spellings offer one more proof that the *bi* with which the mouth was opened was of stellar, that is to say, meteoric origin. It was the thunderbolt.

The other variant ○ in its turn emphasizes the same thing, for it shows that these blocks were explosive, that they were of meteoric origin. Thus, in the Coffin Texts we have [5]. In the Nineteenth Dynasty it occurs again in the same association [6]. Moreover, in the First Intermediate Period Horhotep had combined the sign ○ with the star ★, for in his version of the text ★ he spells *bi* with both[7]. To appreciate the significance of the ○ it is well to remember that "the *nwi*, the *mšḥtyw*" used for opening the mouth were made of "*bi* which came forth out of Setesh[8]." For not only is ○ suitable to the *bi* but also to Setesh himself. In late days we read of "the *Mšḥtyw* of (*B*)[9]," just as at an earlier date we read of "the *Mšḥtyw* of Seth[10]." *B* is a form of Seth[11], and here the name is determined not only with the Seth animal , but also with the ○ under discussion. Yet again, the Enemies of Horus, *i.e.* Seth and his company, are sometimes written , introducing the same sign once more[12]. The sign was displayed on the standard of the Cabasite nome, the eleventh of the Delta, of

[1] *Pyr.*, § 30.

[2] Lacau, *Sarc. ant. au nouvel empire*, I, 231, côté 4, l. 4.

[3] Newberry, *Beni Hasan*, I, Pl. xvii, *cf.* Pl. xxxv; Dümichen, *Der Grabpalast des Patuamenap*, I, Pl. xviii, ll. 17–18, k.

[4] Blackman, *Meir*, II, Pl. vi. The star usually drops out, though its name *šbi* remains, Chassinat et Palanque, *Assiout*, 171, l. 7 (?), 235, l. 8 (?); Naville, *Deir el Bahari*, IV, Pls. cx, cxiii; Scheil, *Mém. miss. arch. fr. du Caire*, V, *Tomb of Aba*, Pl. viii; Dümichen, *op. cit.*, I, Pl. iii, in the table of offerings, Pl. xviii, ll. 17–18, m; while in the above cases the shape of the block is generally that of an angle, the original shape of a parallelogram is retained on other occasions along with the name *šbi*, Davies and Gardiner, *The Tomb of Amenemhêt*, Pl. xviii, top register; Dümichen, *op. cit.*, I, Pl. iii; yet again the name *šbi* is retained without either star or indication of the shape of the block in Dümichen, *op. cit.*, I, Pl. xviii, ll. 17–18, n, o, and the angular shape is retained without the name or star in *op. cit.*, I, Pls. vi, figs. 17–18, xviii, ll. 17–18, g, s.

[5] Chassinat et Palanque, *op. cit.*, 74, l. 9, 104, l. 9, 151, l. 9, 201, l. 9.

[6] Schiaparelli, *op. cit.*, Pl. lvii, b, 6, Pl. lviii, a, 3, see also Pl. lx.

[7] Maspero, *Trois années de fouilles, etc.*, plate showing the "paroi ouest" of *Le tombeau de Horhotpou* = no. 115 in the table facing p. 144 (publ. in *Mém. miss. arch. fr. au Caire*, I).

[8] *Pyr.*, § 14.

[9] Dümichen, *Geographische Inschriften*, I, Pl. lxxxi, no 20.

[10] Champollion, *Not. descr.*, II, 646, Tomb of Ramesses VI.

[11] *Wb. d. aeg. Spr.*, I, 410, *s.v. B.*

[12] Brugsch, *Thesaurus*, 6, no. 26.

which he is believed to have been patron deity[1]. ⊃ was, therefore, characteristic both of the storm-god Seth and of the *biȝ* which came forth from him. It, therefore, clearly refers to the violent nature of the god and to the splitting, breaking, power of the thunderbolt. This view is confirmed by such spellings of the name of the capital city of the nome as [illegible], [illegible], etc.[2], where the word *ḥśb* represents ⊃ and is sometimes determined by it. *Ḥśb* means "to break up[3]." When, therefore, the *biȝ* for opening the mouth is spelt with both ⊃ and ⋆, there is a clear reference to a star which breaks, to a meteorite, a thunderbolt. The blocks of *biȝ* were no cutting tools, hence their power was inherent in the material itself, just as it was in Antar's thunderbolt.

The story of Antar's sword *Eẓ-Ẓâmi* illustrates yet another point in the intention of the ceremony. On discovering the stone to be a thunderbolt the man gave it to a blacksmith to have a sword made of it. On two separate occasions a single stroke of this supernatural weapon clove through the armour and split horse and horseman asunder, "so that they fell apart in four pieces[4]." On another occasion it clove a warrior "to his girdle[5]." These magic weapons have naturally been in great demand throughout the East. In A.D. 1621 the Mogul Emperor Jahangir records in his memoirs in great detail how "a light fell from above on the ground" with "terror-increasing sound" at Jalandhar. On digging where it fell the people found a mass of hot iron. It was sent to the Emperor, who summoned his armourer to make it into weapons. The meteorite, being a brittle one[6], broke up under the hammer. On its being mixed with ordinary man-made iron two swords, one dagger and one knife were made of it. On being tested they cut very well, and Jahangir named the one "Keen Sword" and the other *Barq-sirisht* "Lightning-natured." A court poet wrote a quatrain on the subject in which occurs the line, "There fell in his reign raw iron from lightning," and "Spark of royal lightning" gave the date (A.H. 1030)[7]. In the eighteenth and nineteenth centuries A.D. the kings of Soerakarta in Java were more fortunate with their meteorite of Prambanan. They had no difficulty in forging it into weapons, which were specially valued on account of their origin[8]. The owner of the Nejd thunderbolt, or meteorite as it really was, wanted it "melted and made into weapons" as such "were of the most superior kind and temper." Four years after the fall of his own thunderbolt he had seen a similar one which the Sultan of Zanzibar was forwarding to Europe "for the purpose of having it converted into weapons[9]." That it is really possible to forge very good swords of meteoric iron has been proved by modern scientists and metallurgists[10]. The belief is, therefore, well established that the supernatural splitting power of the thunder-

[1] Brugsch, *Aegyptologie*, 450; Id., *Dict. géogr.*, 1046, *cf.* 309, 1023, 1024, 1215, and for the strange treatment of this nome in the lists see 1366 ff.

[2] Gauthier, *Dict. des noms géographiques*, IV, 42.

[3] Grapow, in *Ä.Z.*, XLIX, 116 ff.

[4] T. Hamilton, *op. cit.*, 158, 159, 163.

[5] *Op. cit.*, 162.

[6] Iron from the Toluca and Salt River meteorites similarly broke up in the forging; Zimmer, *op. cit.*, 315, 316. Other brittle ones are those of Bridgewater, Waldron Ridge, Black Mountain, Carthage, etc., *op. cit.*, 338.

[7] Rogers and Beveridge, *Memoirs of Jahāngīr*, II, 204, 205. For the text see Syud Ahmud, *Toozuk-i-Jehangeeree* (Ally Gurh, 1864 and Ghazeepore, 1863), 329, 330.

[8] von Baumhauer, in *Archives néerlandaises des sciences exactes et naturelles*, 1866, 465, 466. Zimmer states, p. 315, that the Ethnographical Collection at Vienna possesses four daggers made from this meteorite.

[9] Fletcher, in *The Mineralog. Magazine and Journ. Min. Soc.*, 1887, 180.

[10] J. Sowerby, *Exotic Mineralogy* (London, 1817), II, 138, gives full details of a sword he had made from a piece of the Cape of Good Hope meteorite. He presented it to the Czar on the occasion of his visit to London.

bolt is not destroyed by working the material into weapons. On the contrary it is even enhanced by the addition of the sharpness given by the smith.

It is now possible to form some estimate of the tremendous power which the high priest of Letopolis took to himself with "the *nwꜣ*, the *mšḫtyw* of *biꜣ*," "the *biꜣ* which came forth out of Setesh." The Opener of the Mouth was not content with blasting the sealed mouth open with his pieces of *biꜣ* or inducing the Children of Horus to tear it open with their fingers of *biꜣ*. To make quite sure, he had chopping and cutting tools made of his *biꜣ*, the new sharpness of which reinforced the splitting power already innate in the material itself. The *nwꜣ* was an adze of the ordinary type ⌐[1]. It was the earthly representative of the original heavenly adze "the *mšḫtyw* of *biꜣ* which opened the mouth of the gods," "with which he (Horus) opened the mouth of his father, with which he opened the mouth of Osiris[2]." That heavenly original glitters nightly in the skies , our constellation of the Great Bear. The other form it adopts is , the Foreleg of the Bull[3], and that was equally efficacious, either as a little iron instrument or as the leg itself cut off the sacrificial bull.

Later on the Opener of the Mouth added the *mḏtft* chisel, which is another chopping instrument, and this, as has been seen, was of iron. Truly then, when armed with so tremendous a weapon as any of these and fortified with the mystic words of power, the high priest of Letopolis might well presume to vanquish "the last enemy" and to cut open even that which was sealed in death. No doubt his faith in his priest's magic powers gave to the ancient Egyptian the equivalent of the comfort which those of another religion derive from the words "Death is swallowed up in victory. O death, where is thy sting? O grave, where is thy victory?"

The ceremony of Opening the Mouth has proved that *biꜣ* was iron and has made it highly probable that its virtue was due to its meteoric origin. This identification provides the clue to the various meanings of the root *biꜣ*, which otherwise must seem a heterogeneous, not to say crazy, collection. The *Wb. d. aeg. Spr.* provides the following: metal, copper, firmness, weight, mine or stone-quarry, coarse-grained red quartzite, a marvel, astonishment, valuable, to depart from, a heavenly throne, the waters of heaven, the weapons used in their great fight by Horus and Seth.

In the Pyramid Texts *biꜣ* is intimately connected with heaven. The gates of heaven and its vault (?) are both made of it (§§ 907, 1575 (?); 305, 1121), as are the heavenly throne of the deceased Pharaoh (§§ 736, 770 and very often) and his sceptre (§ 1562). His very bones and limbs are transformed into *biꜣ* (§§ 530, 1454, 2051; 749). This all becomes intelligible when it is realized that *biꜣ* falls from the sky as a meteorite. Primitive man was well justified in considering it a sample of the substance of which the heavens were made. Rain also falls from the sky, and the sky is blue like water. *Biꜣ*, therefore, also means "the waters of heaven." It was, therefore, reasonable to use ▽ "a well of water" as an ideogram of *biꜣ*[4].

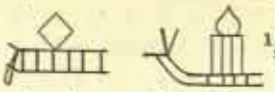
[1] As for instance, Petrie, *Medum*, Pl. xi, top register.

[2] *Pyr.*, §§ 13, 14.

[3] We think of the Great Bear as it shows itself under the Pole. The Egyptians, however, generally thought of it as it stands up on the east of the Pole and, for the ceremony, as it is turned upside down above it.

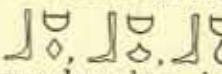
[4] Griffith, *Hieroglyphs*, p. 34, and *Pyr.*, *passim*.

Nothing leaves its original place more irrevocably than a meteorite which departs from heaven to earth. The meaning "to depart from" is quite suitable for the verb *bi*ꜣ.

"Marvel, astonishment" are natural results of the fall of a meteorite, and the ideogram  [1], consisting of the determinative of *bi*ꜣ mounted on a sledge, clearly shows that, like meteorites elsewhere, the "marvel" was brought home. "Valuable" is a self-evident meaning for anything so comparatively rare as meteoric iron, and obtained with so much difficulty as the small pieces that were battered off the mass. "Weight" is correct as applied to iron, and it has been through their unexpected heaviness, when accidentally picked up, that many small meteorites have been discovered[2]. This in its turn gives rise to the idea of "firmness."

"Coarse-grained red quartzite" is also heavy, hard, and was no doubt valuable. It is also very like such a siderolite as the famous one known as Pallas (Pl. ii, fig. 1). Both consist of a conglomerate of larger stones in a finer matrix. The meteorite would be reddish brown with rust from exposure to the weather. The red quartzite comes from Gebel Aḥmar, the famous landmark just north of Cairo. It is a curious coincidence that in mentioning several famous thunderbolts (صاعقة) of A.D. 1280 (A.H. 679) Soyouti should have said "And another [fell] at the foot of Gebel Aḥmar upon a stone, and burned it. That stone was taken and melted, and several ounces of iron according to the Egyptian *roṭl* were extracted from it[3]."

The Eskimos went to Saviksue "The Great Iron" to toil at battering scraps off the original mass. They told the explorers that the bits came from "Saviksue[4]." In the same way no doubt the word *bi*ꜣ became extended from the material itself to the place where it was found, hence a "mine or stone-quarry."

"Copper" does not seem to be at all certain, for in the Old Kingdom a signal difference of usage was observed. At this time the *bi*ꜣ of heaven and for opening the mouth, which is definitely iron, is regularly spelt out,  . On the other hand the word for copper, whatever it may have been, is never once spelt out in any of the places quoted by Sethe[5]. Instead, an ideogram is invariably used. It is generally ▯[6], and occasionally ▭[7]. The ideogram ▽ that is characteristic of *bi*ꜣ in the Old Kingdom does not occur in these scenes of copper, nor does the determinative ◇, nor yet the rarer one ⬡[8]. The others, ⬭ and ∘, though less unlike the ideograms for copper, are not quite the same. The distinction of spelling *bi*ꜣ but using an ideogram

[1] *Pyr.*, §§ 647, 800, 801.

[2] For example, one in South Carolina was kept because "it was exceedingly heavy for its size," Shepard, *American Journal of Science*, 2nd ser., VII (1849), 449. Another in Indiana was kept for the same reason, Smith, *Am. Journ. Science*, 1874, pt. I, 392. Others are those of Reed City, Michigan, Preston, in *Proc. Rochester Acad. of Science*, 1903, 90, and Bald Eagle, Pennsylvania, Ward, in *op. cit.* (1902), 87.

[3] Silvestre de Sacy, *Chrestomathie arabe* (1827), III, 440.

[4] Peary, *op. cit.*, II, 554–56, 612, 614.

[5] *Ä.Z.*, LIII, 50, n. 1.

[6] Petrie, *Medum*, Pl. xiii; Palermo Stone, Sethe, *op. cit.*, 50, 53; L., *D.*, II, Pl. 49, b; Perrot and Chipiez, *Hist. of Anc. Egyptian Art*, I, fig. 21; Davies, *Deir el Gebrawi*, I, Pls. xiii, xiv; and slightly more rounded in the Twelfth Dynasty, Newberry, *Beni Hasan*, II, Pl. vii.

[7] de Morgan, *Recherches sur les origines de l'Égypte* (1896), 199; Davies, *Sheikh Saïd*, Pl. iv; Id., *Deir el Gebrawi*, II, Pl. xix, see p. 24.

[8] *Pyr.*, §§ 1293, 1301, 1364.

for copper is kept up, for example, in the Annals of Tuthmosis III, for he received plenty of [illegible] but only once objects of [illegible][1].

Bîi being what it is, the meaning of Horus' and Seth's weapons of *bîi* now becomes clear. They used shooting stars or thunderbolts. A chance star may fly across the skies at almost any time, but between November 13 and 16 the earth crosses the track of the swarm of meteors called the Leonids. During these nights a veritable fusillade takes place, which is liable to be intensified once in each cycle of thirty-three years[2]. As the skies were the scene of this as well as of the flashes of lightning and peals of thunder, it is no wonder that there arose the ancient and widespread idea of war in high heaven. According to Sanchoniatho Cronus made himself weapons "of iron" (ἐκ σιδήρου) for his battle with Uranus[3]. Later Cronus murdered his own son Sadidus "with his own iron" (σιδήρῳ)[4]. In Greek legend, after conquering the Titans Zeus had to fight Typhon for the supremacy. It was with a thunderbolt that he finally conquered him and cast him into Tartarus[5]. In the New Testament Satan was cast out of heaven and fell "as lightning[6]." The Muslims have a tradition that Adam's guardian angel was punished by being transformed into that meteorite which Gabriel brought from heaven as the Black Stone of the Kaabah at Mecca[7]. They also believe that the angels of Allah use shooting stars to drive off the devil from heaven when he approaches too near[8], or to destroy evil ginns[9], and that the kings of the believing and unbelieving ginns fought with shooting stars[10]. In Rajputana the meteorites which fell at Khettree in 1867 were considered as the missiles of "some offended deity." The natives "pounded [them] down to powder and scattered this to the breeze, etc., so as not to let the vengeance of the offended god redound on them[11]." Returning to Egypt we find that Seth's *mtiyt*-spear of *bîi* ([illegible]) was used to repel the evil serpent from the boat of the sun-god[12]. Horus uses his weapon of *bîi* ([illegible]) against his enemies[13], and in raging against Seth his own mother Nut proposes to use "a blade of *bîi* ([illegible])[14]." This is quite in accord with all that other religions have accomplished with shooting stars, meteorites, and thunderbolts.

The appreciation of the fact that *bîi* represents a shooting star leads to the understanding of the "ropes of *bîi*" on which the deceased Pharaoh "descends," [illegible][15]. The simile is drawn from the flight of a shooting star across the sky. Like the rest, it is in accord with the ideas held by many other peoples. A shooting star is often supposed to be a soul, which falls out of heaven, which returns to earth, which is reborn as a child, or, strange though it may seem, which is passing from purgatory to heaven[16]. The idea of a rope actually occurs among the Australian aborigines. They

[1] Sethe, *Urk. des aeg. Altertums*, IV, 783. 6, and 638, no. 32 = Breasted, *Ancient Records*, II, § 537.

[2] Sir R. Ball, *The Story of the Heavens* (1905), 376 ff.

[3] Eusebius, *Praep. Evang.*, I, x. 18 (Teubner's edn., I, 45). The story makes both these gods to be very violent in character.

[4] *Op. cit.*, I, x. 21 (Teubner's edn., p. 46). Σίδηρος may of course be used here merely as a synonym for sword, as it often is.

[5] Roscher, *Lexikon*, s.v. *Typhoeus, Typhon*, cols. 1426–28.

[6] Luke x, 18.

[7] P. Partsch in *Denkschr. kais. Ak. Wiss., Math.-naturwiss. Classe*, XIII (1857), 1, though unfortunately he does not give his sources.

[8] Wainwright, *Journal*, XVII, 189, n. 3.

[9] *Op. cit.*, XVII, 189, n. 4.

[10] *Ibid.*

[11] Waldie, *Journ. Asiatic Soc. of Bengal*, 1869, pt. II, 253.

[12] From the Eighteenth Dynasty onwards, Sethe, *Ä.Z.*, LIX, Pls. 47*, 48*, ll. 23-27 = p. 75, and for the commentary pp. 85, 86; Budge, *Facsimiles of Eg. Hieratic Papyri* (1910), 21, 22, col. vi, l. 9.

[13] Schott, *Urk. des aeg. Altertums*, VI, 45, l. 4; 44, note e = Budge, *op. cit.*, 13, col. i, ll. 9, 10.

[14] Schott, *op. cit.*, 59, 2.

[15] *Pyr.* § 138.

[16] Frazer, *The Dying God* 1911), 64 ff.

consider a shooting star to be the rope which a dead tribesman throws away after having climbed into heaven by its means[1].

Plutarch states that the Egyptians called iron "bone of Typhon (Seth)[2]." We know that in so doing he was voicing a very ancient belief, for the Pyramid Texts themselves speak of "the *biȝ* which came forth out of Setesh[3]." But only recently has it become clear what he meant by the word "bone." Ḳâw was an important centre of Seth worship[4]. When Petrie was digging there recently he found great quantities of gigantic bones which had been collected in piles. They were mineralized, heavy, and black, and presented a metallic lustre and appearance. The vast majority were those of hippopotami, and one complete skull of a hippopotamus was found among them[5]. They were considered sacred, for some of them, wrapped in linen, were found scattered in the tombs at Ḳâw[6]. A stele was also found, addressed to Seth, and showing a hippopotamus in a papyrus swamp[7]. There can be no doubt that these bones were not only sacred to Seth, but were also considered to be some sort of iron, or possibly meteorite. It must have been a belief of this sort that provided Plutarch with his otherwise extraordinary expression "bone of Typhon."

Although iron had been known since predynastic days, it did not begin to enter Egyptian industrial life until the New Kingdom. Tuthmosis III's wars had brought Egypt into contact with the far north, whence in due time the Iron Age was to come. He himself had received thence vessels of what he still called *biȝ*[8]. Tutʿankhamūn possessed a heavy dagger made of iron[9], and two large amulets[10]. A stud from a box and a finger ring, both of iron, appear to be of Eighteenth-Dynasty date[11], and a pin of this date is known from Abydos[12]. An iron sickle was found under a sphinx of the late Eighteenth or Nineteenth Dynasty[13]. About this time the Hittite king was corresponding with a neighbour about iron that the latter wanted, and providing him with blades for daggers[14]. This neighbour is generally supposed to be Ramesses II, though actually the names of both the addressee and his country are lost, as are those of the sender himself and his country. An iron bracelet is recorded of the Nineteenth or Twentieth Dynasty[15]. There is a halbert which is probably of the age of Ramesses III[16], and this king used *biȝ-nî-pt*

[1] Palmer, in *Journ. Anthrop. Inst.*, 1884, 292.

[2] Plutarch, *De Iside et Osiride*, § 62 (Teubner's edn., *Moralia*, II, 536).

[3] *Pyr.*, § 14.

[4] One of the Wah-ka coffins has the *nîswt dî ḥtp* in the name of Seth (Turin Museum), and a New Kingdom stele found at Ḳâw is addressed to Seth, see *infra*. Wah-ka was governor of the Aphroditopolite nome (Canopic vase, Turin) and it was in the eastern part of this nome, near the village of Antaeus, that Isis and Horus revenged themselves upon Seth (Diodorus, *Bibl. Hist.*, I. 21). Nephthys was Seth's wife, and her husband was worshipped here in Roman times as Antaeus (Golénischeff, *Ä.Z.*, XX (1882), Pls. iii, iv, pp. 135 ff.). At least as early as the Eighth Dynasty Seth was established in the Hypselite nome opposite Ḳâw a little to the north (Moret, *Comptes rendus à l'acad. des inscr. et belles lettres*, 1914, 569).

[5] Brunton, *Qau and Badari*, III, 20.

[6] *Ibid.*; Petrie, *Antaeopolis*, I, 10, 11.

[7] Brunton, *op. cit.*, III, Pl. xxxii = Pl. xxxiii, 6, and p. 18.

[8] Sethe, *Urk. des aeg. Altertums*, IV, 733. 6, and 638, no. 32 = Breasted, *Ancient Records*, II, § 537.

[9] H. Carter, *The Tomb of Tut-ankh-amen*, II, Pl. lxxxvii, b, and pp. 135, 175.

[10] Id., *Ill. London News*, 7 July, 1928. The headrest is made of a solid mass of iron.

[11] Both in the Ashmolean Museum, without provenance. Could the stud be the pin of the next note?

[12] Garstang, *El Arabah*, 30.

[13] *British Museum, Guide to the Third and Fourth Egyptian Rooms* (1904), p. 41, no. 5410; Belzoni, *Narrative* (1822), I, 252, 253 and *cf.* Baedeker, *Ägypten* (1928), 268, 272, 288.

[14] Luckenbill, *American Journ. of Semitic Languages*, XXXVII, 205, 206. It may be noted that the iron blade of Tutʿankhamūn's dagger looks as if it did not belong to its handle.

[15] Petrie, *Hyksos and Israelite Cities*, 32, tomb no. 19.

[16] Id., *Abydos*, II, Pl. xxii, 10 and p. 33.

for a statue of a god[1]. Three iron pins each 6 cm. long were used for fastening one of the Twenty-first Dynasty coffins from Ḳurnah[2]. From the Ramesseum come several iron knives of Ramesside age or later, and bracelets of the Twenty-second Dynasty[3]. A bar of wrought iron wrapped up in linen was found at Mêdûm. It and the scraps of iron found with it also date to about the Twenty-second Dynasty[4]. An iron needle was found in Nubia which belongs to about this period or later[5]. From all this it is evident that iron must have been discussed fairly freely in the New Kingdom.

Until that time iron can scarcely have been mentioned in everyday life, and when the word *biȝ* was used mythologically or in the Opening of the Mouth ceremony it was self-explanatory. In the New Kingdom, however, it became necessary to be more explicit, and the expression *biȝ-nỉ-pt* was elaborated. Its use by Ani in the early Nineteenth Dynasty is apparently its first occurrence[6]. The expression means "*biȝ* of heaven" and, as it was so late in appearance and was applied to iron that was man-made, it only has indirect reference to the fact that the ancient Egyptians first knew iron from meteorites.

Biȝ means iron, and on several occasions the newer edition of a text replaces the old word *biȝ* by the new *biȝ-nỉ-pt*. The chisel for opening the mouth is generally called "the *mḏtft* of *biȝ*[7]," but Ani calls it "the *mḏtft* of *biȝ-nỉ-pt*[8]," as does the magical papyrus of Turin in the Twentieth Dynasty[9]. In the same dynasty an inscription of Ramesses IV's reign calls it "the *mḏtft* of *biȝ-pt*[10]." Dr. Schott kindly tells me that in a passage shortly to be published by him the "*šnw* of *biȝ* ( )" of the earlier version becomes "*šnw* of *biȝ-nỉ-pt* ( )" in the later. That *biȝ-nỉ-pt* really means iron equally with the old *biȝ* is shown by the set of Tutʿankhamūn's iron chisels which can scarcely be other than *mḏtfts*[11]. The word *biȝ-nỉ-pt* lasts on into Coptic as ϧⲉⲛⲓⲛⲉ or ϧⲉⲛⲓⲛⲓ, and this clearly means iron. In the first place it is used in the Coptic Bible to translate the Hebrew *barzel*[12]; then again, one of the Coptic saints was called ϧⲉⲛⲓⲛⲉ and this is translated by the Arabic *ḥadîd*, "iron"; and finally a Graecized form ϧⲉⲛⲓⲛⲓⲥ seems to represent the Greek name Σίδηρος[13].

Thus, then, iron in Egypt as in many other countries was obtained from meteorites long before the Iron Age set in. Moreover, the word *biȝ* proves to have stood primarily for iron, or rather meteoric material in general, whether iron, or stone, or a conglomerate of the two. From this proceed the uses to which *biȝ* was put by the priests, and the secondary meanings which the word took on. From it also are derived the New Kingdom expression *biȝ-nỉ-pt* and finally the Coptic ϧⲉⲛⲓⲛⲉ, which merely mean "iron" without any thought of the other meanings of *biȝ*.

[1] *Facsimile of an Eg. Hieratic Pap. of the Reign of Rameses III* (Brit. Mus. 1876), Pl. xl, b, l. 11 = Breasted, *op. cit.*, IV, § 302.

[2] Now in the Cairo Museum, *Journal d'entrée*, no. 31932. Schweinfurth gives a drawing of one of them in *Zeitschr. für Ethnologie*, 1908, 63, fig. 1.

[3] Petrie, *The Ramesseum*, 13, and Id., *Tools and Weapons*, Pl. xxix, nos. 246, 247, 249–51, 253 and p. 25.

[4] Wainwright, in Petrie and others, *The Labyrinth, Gerzeh and Mazghuneh*, 28.

[5] Reisner, *Arch. Survey of Nubia* (1907–8), I, Pl. 72, d, and p. 59, grave no. 164.

[6] Budge, *Facsimile of the Papyrus of Ani*, Pl. xv, l. 4; also occurs de Rougé, *Inscr. hiér.*, Pl. 226, l. 58; L., *D.*, III, Pl. 194, l. 10; Wreszinski, *Der grosse medizinische Papyrus des Berliner Museums*, no. 88.

[7] See p. 7 n. 1. [8] Budge, *ibid.* [9] W. Pleyte, *Papyrus de Turin*, p. 148, l. 2 = Pl. cxviii, l. 3.

[10] L., *D.*, Text, III, 301. [11] See p. 7.

[12] Gen. iv, 22; Leviticus xxvi, 19; Isaiah lx, 17; Ezekiel xxvii, 12, 19, etc.

[13] Crum, *A Coptic Dictionary*, I, 41, *s.v.*

ENTERTAINMENT IN THE VILLAGES OF GRAECO-ROMAN EGYPT

By W. L. WESTERMANN

The document here published was assigned to Columbia University out of a group purchase made in various parts of Egypt in the winter months of 1926. It now bears the Inventory number 441. The provenance of this fragment was probably Akhmîm in Middle Egypt, although Miniah is also given as a possible place of purchase in the report made out by Mr. H. Idris Bell. Beyond the fact that it is another example of the well-known type of contract for village entertainment made with a company of professionals from a neighbouring city, the interest of the fragment lies in the unusual meanings of the words *πραγμα(τευτής)* and *σύνταξις*. The fragment measures 2½ by 3½ inches, and the text dates from the late second century A.D.

Text.

Σιλβανὸς Ἀμμωνίου Ἑρμοπ(ολίτης) πραγμα(τευτὴς)
Πλουτίωνι Ταποῦτος καὶ Διοσκόρῳ
Ἀδριανοῦ ἀμφοτέροις ἀπὸ Ἀλαβαστρί~
νης χαίρειν. συνεφώνησα πρὸς
5 ὑμᾶς ὥστε αὐλῆσαί με ἅμα τῇ συν~
ταξί μου πάσῃ ἐν τῇ προκειμέ~
νῃ κώμῃ ἐφ' ἡμέρας η̄ ἀπὸ κδ̄
τοῦ ἐξῆς μηνὸς Ἐπείφ, μισθοῦ
ἑκάστης ἡμέρας ἀργυρίου δραχμῶν
10].[ ].[ ]...

(Remainder lost.)

Notes.

Line 1. For the adjective form Ἑρμοπολίτης, see George Méautis, *Hermoupolis-la-Grande*, Lausanne (1918), 58. The city name is always spelled Ἑρμούπολις, *op. cit.*, 30.

The right halves of the last two letters of the line, here read as *μ* and as the elevated *α*, are gone. The visible left half of the superimposed letter makes the *alpha* a necessary reading, *δ* being the only other possibility, but this is excluded by the forms of *δ* in the text. *πραγ(ματευτὴς) αὐλ(ητρίδων)*, corresponding to Wilcken's suggestion *πρω(νοή)τ(ῃ) αὐλη(τρίδων)*, in *Chrestomathie*, 495, seems to me to be out of the question. For the abbreviation, *cf.* *Δημητρίῳ πραγμα(τευτῇ)* in P.S.I. VII, 809, 6. The word *πραγματευτής* as private "trader" (Latin *actor*) and as "business agent" has long been known from inscriptions of the Empire and papyri of the Byzantine period. See the *πραγματευταί* in O.G.I. II, 525; Rostovtzeff in *Arch.-Epigr. Mitth. aus Oesterreich*, XIX (1896), 139; Otto Krüger in note to P. Ross. Georg. II, 26, 11. In the third-century document P. Berl. Inv. 11643, 8, recently published by Sigurd Möller, *Gr. Papyri aus dem Berliner Museum*, Göteborg (1929), no. 8, *Ἄμμων ὁ πραγματευτής* is the "business representative" of one

of the parties concerned in the transaction. Here also I regard the πραγμα(τευτής) as the "business representative," or manager, of a company of entertainers, this company being "his own" (τῇ σύνταξί μου). He would then correspond in position to Copreus, the προεστὼς συμφωνίας αὐλητῶν καὶ μουσικῶν of P. Oxy. 1275. Copreus was an active musician in his company as well as the manager of it, just as the πραγματευτής of the Columbia document, Silvanus, takes part in the activities of his company as flageolet player, συνεφώνησα....ὥστε αὐλῆσαί με ἅμα τῇ σύνταξί μου πάσῃ.

Line 2. Ταπους, given as a feminine name in Preisigke, *Namenbuch*, is here a man's name just as in *Stud. Pal.*, xx, 68, II *recto* 4, 24. The last *omicron* of Ταπουτος was originally written as *iota* and changed to an elongated *omicron*, without erasure.

Line 6. The ξ of σύνταξι is blotted, but still unmistakable. The use of σύνταξις in the papyri in the sense of an "organization" has heretofore been confined largely to military groups which receive their pay or land allotments on a common basis. See Preisigke, *Wörterbuch*, *s.v.* Here the meaning is extended so that it corresponds to that of συμφωνία, which occurs in the musicians' contracts P. Fior. 74 and P. Oxy. XII, 1275, 9. For συμφωνία as "company," see Teresa Grassi, *Studi della Scuola Papirologica*, III (1920), 133, and Westermann, *Journal*, x, 138. The meaning "Kapelle" given to συμφωνία in P. Fior. 74 and P. Oxy. 1275 by Preisigke, *Wörterbuch*, *s.v.*, is not warranted by the context of that document, in which the συμφωνία is composed of μουσικῶν τε καὶ ἄλλων. Among the "others" are included the two pantomimists who represent the entire company (συμφωνία) in the making of the contract.

Translation.

Silvanus, son of Ammonius, resident of Hermopolis, business manager, to Ploution, son of Tapous, and Dioscorus, son of Ammonius, both from Alabastrine, greeting.

I have come to an agreement with you that I, together with my entire company, will furnish flageolet music in the above-mentioned village for eight days, beginning with the 24th of the following month, Epiph, payment for each day being silver drachmas.....

Similar documents dealing with musicians and other minor artists are recorded by Teresa Grassi in her article, "Musica, Mimica e Danza," in *Studi della Scuola Papirologica*, III, 117–35, and in an article entitled "The Castanet Dancers of Arsinoë," *Journal*, x (1924), 134–44[1]. To the documents assembled and discussed in these articles the following are now to be added: *Stud. Pal.*, XXII, no. 47 (*cf.* Wessely, *Karanis und Socnopaei Nesos*, 26); B.G.U. VII, 1648; P. Lond. Inv. no. 1917, 194 (?) A.D., published by H. Idris Bell in *Journal*, x, 145–6; the very interesting memorandum of the Zenon group from Heracleotes to Zenon and Nestor regarding a harp, P. Lond. Inv. no. 2096; and an unnumbered papyrus in the Cairo collection. The last two documents were also published by Bell; see *Raccolta Lumbroso* (1925), 13–22.

Little need be said in explanation of the Columbia document beyond what has been recorded in the notes. Silvanus, manager of a troup of flageolet players, was a resident of Hermopolis—surely Ἑρμούπολις ἡ μεγάλη of the Heptanomis[2]. In Payni (as shown by τοῦ ἑξῆς μηνὸς Ἐπείφ of line 8) of a year that is lost, he was approached by two residents of the Hermopolite village of Alabastrine[3] and contracted with them to play in that

[1] Based upon a papyrus contract, P. Corn. Inv. no. 26, which has since appeared as no. 9 in the volume of Cornell papyri.

[2] These entertainers were commonly, as here, residents of the metropolis centres. See *Journal*, x, 136 and n. 3. The artists of P. Fior. 74 were also residents of Hermopolis, just as our Silvanus was.

[3] For the location of Alabastrine in the Hermopolite nome, see P. Strass., 5, introd. p. 24, with references.

village with his company for eight days, beginning with the 24th day of the following month, Epiph. The document drawn up between them is a *locatio operarum* in epistolary form, in which the manager of the flageolet troup acts as the *locator*. No doubt this was on the occasion of some local village festival, although a statement to that effect does not appear in this document. The exact period of the engagement and the number of days agreed upon, here eight days beginning with the 24th of Epiph, are of course an essential part of any such contract, and must be stated in the agreement. The statement as to the type of celebration which was contemplated has no legal significance. It may appear, or it may be omitted. In P. Lond. Inv. no. 1917, 4–6 (*Journal*, x, 145), it appears as *ἑορτ[ῆς] οὔσης ἐν κώμῃ Τεπτύ[ν]ι [κ]αὶ εὐ[ωχ]ουμένων ἡμῶν*. *Cf.* P. Oxy. VII, 1025, 12–15: *συνεορτάσοντες ἐν τῇ πατρώᾳ ἡ[μῶν] ἑορτῇ*, which was the birthday of Kronos, and P. Oxy. x, 1275: *ἐφ' ἡμέρας ἑορτῶν πέντε*, a festival at the village of Souis. P. Oxy. III, 475 also shows that these entertainments by dancers and musicians were commonly connected with religious festivals. In P. Grenf. II, 67, P. Gen. 73, Stud. Pal. XXII, 47, and P. Corn. 9 there is no mention of this association of the entertainers' contract with a festival. In the Columbia document here presented it is not stated that Ploution and Dioscorus held any official position in the village, nor that they were members of a local *synodos* or social club. It is therefore safest to assume that they were well-to-do private individuals who at their own expense were furnishing to their fellow villagers the musical features of an entertainment connected with a local festival. As for the dancing which was the central feature of such entertainments, it may have been supplied either by local village talent or by a troup of dancers from the metropolis[1]. In the latter case we may presume that the dancing troup, like the flageolet players, had been hired at the expense of some of the more prosperous inhabitants of the village of Alabastrine[2].

The Pleasure Clubs of Common People in Egypt.

The celebration of religious festivals as well as secular entertainment with music and dancing[3] has been practised by the most primitive peoples, however one may explain its origin. The early Egyptians, like the Greeks and other ancient peoples of higher civilization, took pleasure in watching the dance with musical accompaniment[4]. When the Greeks came into Egypt in numbers large enough to affect the life of the Egyptians, they had little to offer in this respect that was new. Herodotus records that the Dionysus (meaning Osiris) festival in Egypt was celebrated, in part, almost in the same manner as the Dionysus festival in Greece[5]. But so far as my knowledge goes, in Pharaonic Egypt after the period of the Old Kingdom private religious cults ceased to exist[6]. The private social clubs and associations, too, which developed so rapidly in the Greek lands

[1] Such as Isidora and her companions, the castanet dancers of P. Cornell, 9.

[2] See the similar suggestion made by Caspar J. Kraemer in an article entitled "A Greek Element in Egyptian Dancing," in *Am. Jour. of Arch.*, 2nd series, XXXV (1931), 136.

[3] For the special connection of music with Greek festival associations, see Poland, *Gr. Vereinswesen*, 267.

[4] For ancient Egyptian dancing with musical accompaniment and the rhythm emphasized by castanets, see Wiedemann, *Das alte Aegypten* (1920), 372, 374–5; *cf.* Teresa Grassi, *Studi della Scuola Papirologica*, III, 117. Music and dancing played an equally great part in the more limited pleasures indulged in by the ancient Babylonians; see Bruno Meissner, *Babylonien und Assyrien*, I, 421.

[5] Herodotus, II, 48; *cf.* Bilabel, *Gräko-ägyptische Feste* in *Neue Heid. Jahrb.* (1929), 49.

[6] Walter Otto, *Priester und Tempel im hellenistischen Aegypten* (Leipzig, 1905), I, 125 and n. 1; San Nicolo, *Aegyptisches Vereinswesen* (Munich, 1913), 12.

preceding the conquests of Alexander[1] were completely lacking in the social life of the Nile valley under the Pharaohs, so far as the translated sources and monuments picture that life. It is true that the sources represent the life of the ruling classes, while peasant and middle-class life appear only as essential economic background for the social organization of the upper class. But the autocratic organization of the Pharaonic state and the fixation of its social forms under the Egyptian Empire strongly recommend the conclusion that the negative evidence of the sources upon this matter is symptomatic of the actual condition which prevailed.

The existence of social groups outside of family, ecclesiastical, or state forms is equally difficult to prove in the ancient civilization of the Euphrates-Tigris basin. The authority of the family and the sovereignty of its head remained unchanged in the specifically oriental period of its history[2]. So far, indeed, as the Semitic *ideal* of life was concerned, the sovereignty of the *pater familias* was unimpaired until the fifth century A.D. Dancing and music played a great part, of course, among the pleasures of the Semitic peoples throughout their history; but after the patriarchal period had passed, just as in Egypt, no private cult organizations appear in Babylonia in which these pleasures were practised[3]. With the increasing power of priesthood and state, the contacts of private individuals with the gods were almost completely withdrawn from the sphere of private activity. Therefore there were no private cult clubs out of which private social clubs, divorced from religious practice, might develop. In Palestine itself the theocratic state dominated the lives of orthodox Hebrews, with the synagogue as the centre of all social activities. As a general conclusion it may be said that Semitic life offered little, if any, opportunity for the development either of private cult associations or of pleasure clubs which were not strictly a part of the state organization and its ecclesiastical life.

In the social and political development of the Greeks, the picture is quite reversed. In the Greek city-state, as represented most clearly in the case of Athens, there was a marked and constant trend away from the family group as the dominant feature in political, economic, and social life. In the sixth and fifth centuries the ideal of the *polis* had disintegrated the older loyalty to the family[4]. The effect of this fundamental societal change, as seen in the field of legal and religious penalties, in the diminution of parental authority, in the abolition of vengeance as restricted to the family group, in the substitution of individual responsibility for collective punishment, has long since been presented by Gustave Glotz[5]. The growth of cult clubs, fraternal organizations, and other extra-family groupings of this kind, beginning in the fourth century B.C.[6], forms the social compensation for the loss involved[7]. It is in the third century B.C., in the period of the eclipse of the *polis* by the great Macedonian kingdoms, that the private associations, offering a new outlet for the instinct of social grouping, grew so amazingly in number[8].

[1] See W. W. Tarn, *Hellenistic Civilization* (1927), 81–2.

[2] Meissner, *op. cit.*, I, 389.

[3] *Op. cit.*, I, 420; II, 52. The state and church furnished the lower classes with their outstanding organized pleasures when the great religious festivals and the triumphal processions of the kings occurred.

[4] See the dissertation of Ferdinand Mahir, *Geist und Wert der Familienerziehung im Altertum* (Munich, 1928), 6–12.

[5] *La solidarité de la famille dans le droit criminel en Grèce*, Paris (1904).

[6] Mariano San Nicolo, *Aegyptisches Vereinswesen zur Zeit der Ptolemäer und Römer* (Munich, 1913), 18.

[7] San Nicolo, *ibid.*; Ziebarth, *Das griechische Vereinswesen* (Leipzig, 1896), 192.

[8] For the time of the great increase in the number of these associations see Ziebarth, *ibid.*; W. W. Tarn, *op. cit.*, 81; Stöckle in Pauly-Wissowa-Kroll, Suppl.-Band IV, 156. For suggested causes see Stöckle, *ibid.*, and particularly Ziebarth, *op. cit.*, 192–3.

The Zenon papyri of the middle of the third century B.C. give no example either of any typical Greek cult association or of any non-family social grouping, either among the Greeks of the Fayyûm or among the Egyptian natives of that time. The conditions of life imposed by the organization which Zenon was managing in the interests of Apollonius and the King probably account for this fact. The group of Greek aliens which was working on the estate at Philadelphia and in the related services of Apollonius was closely knit by the nature of their life, which was associated with a single highly centralized economic unit. They were a body of exploiters, relatively limited in number, controlling and directing the labour of numerous natives. As alien organizers, associated with similar groups of Greek aliens in a limited district with a natural unity, the need for separate social groupings would not have been felt by them. Had we documents of the same period, similar to those of the Zenon archives, from Alexandria or Ptolemais, where Greeks were assembled in large numbers, we should without much doubt find the characteristic cult clubs already flourishing among the Greeks of those cities[1]. Apollonius was certainly a man of pious observance, if not imbued with a real piety[2]. Zenon's interest in sports is well attested by documents which show that he had boys under training for contests in the local gymnasia[3]. His interest in music was probably not so great. The memorandum of the Zenon archive from the early years of Ptolemy III published by Bell in *Raccolta Lumbroso*, 13–22, shows that Demeas, head of the gymnasium at Philadelphia at the time when Zenon was in charge of the estate of Apollonius, had at his death bequeathed a harp and some form of allowance to a pupil, a harp player named Heracleotes. Zenon and Nestor were named in the will of Demeas to provide for the living of the harp player during a certain period of training. We do not know Zenon's side of the case. Obviously there was something behind the petitions for support emanating from the musician which makes his case a dubious one. For Zenon and Nestor had paid no attention to three successive petitions which had been sent to them[4]. Bell has suggested that there was a definite reward to be given to the prize-winner[5] in the games which the young man wished to enter. This is warranted by the statement of the harp player that he hoped to find a supporter[6] and thus to be enabled to enter a contest[7] established by the King. Considered separately, this document would have little value in determining the attitude of Zenon and his entourage in matters aesthetic. Considered in relation to the total group of the Zenon archives, it is characteristic of the highly commercial interest and point of view of the group of Greek

[1] Paul Viereck, in his admirable book, *Philadelphia* (Leipzig, 1928), 66, would even grant that clubs of every kind already flourished at Philadelphia in Zenon's time. He may be right, of course; and the negative impression may be due to the nature of the Zenon material. For the reasons given above, I prefer, with respect to the situation in the Fayyûm, to rest upon the sources until actual evidence to the contrary may appear.

[2] C. C. Edgar, *Zenon Papyri in the University of Michigan Collection* (Ann Arbor, 1931), 15.

[3] *Op. cit.*, 50.

[4] P. Lond. Inv. no. 2096, with the addition of a Cairo papyrus, both published by H. Idris Bell in *Raccolta Lumbroso* (Milan, 1925), 13–22. Note lines 9–10 of the fourth petition handed in to Zenon: *οὐδὲν δὲ] τῶν κατὰ τὰ ὑπομνήματα πεποιήκατε*. *Cf.* Viereck, *Philadelphia*, 66; Viereck draws a conclusion as to Zenon's closeness in money affairs which does not seem to me warranted by the case, even as presented by the young musician. Despite Bell's skilful and ingenious restorations, it must be remembered that the right end of all the lines is gone.

[5] *Raccolta Lumbroso*, p. 14.

[6] *Op. cit.*, p. 17, line 27, *καὶ τυχὼν επιστάτου*.

[7] The words *εἰς τὸν ἀγῶνα* are supplied by Bell, but with great probability because of *ἀγωνιοῦμ[αι* in line 5.

nationals who come and go through Philadelphia of the Fayyûm in that period. The commercial tone of the Heracleotes *hypomnema* in matters musical contrasts strongly with that displayed at Delphi at the time of the Mithridatic War. The council of the Delphians had voted to "crown" a woman harpist from Thebes, named Polygnota, with a donation of 500 drachmas as reward for successful matinées given by her at the Pythian games[1]. This was not a prize for successful competition in an *agon*. Nevertheless, an attempt had been made to delete from the stone the amount of money granted to her. From this circumstance and another similar deletion, in a fragmentary inscription, of the amount of the reward granted to Asclepiodorus of Coronea[2], possibly a physician, Louis Robert has concluded that a regulation was passed later at Delphi eliminating the grants of money prizes and reverting to the older habit of granting laurel crowns alone[3].

The Zenon papyri are, then, distinctly negative in regard to the adoption of the Greek phenomenon of private, social and cult associations in Egyptian town and village life (as opposed to city life) for the middle of the third century B.C. For the second century B.C., however, we have indisputable evidence that the Greek inclination and habit of social grouping had penetrated not only into the villages of Egypt, but even into the humblest classes of the village population[4]. These are the fragmentary records of successive meetings of a club composed of servants[5], which had no set place of assembly and not enough money to hire a hall. They met in the harness-room of a stable, or in the granary, apparently several times in each month. The total number of members who appear at the recorded club-meetings, including one who first appeared as a guest and later as a paying member, was ten. At the meetings the members present, including the guests, varied from six to nine.

For the purposes of the present study it is important to note how completely organized this club was. It had a presiding officer called an *epimeletes*[6]. One assumes that he was elected for a fixed term rather than for single meetings, because the name of the president, Hermias, appears consistently at the head of the list of attending members at each of a number of successive meetings. The presence of a sacrificing priest in the club[7] indicates a cult club. The club was supported by subscriptions levied upon the members. In the single column containing names of members with assessments opposite them, the amounts vary amazingly, from 270 to 2045(?) drachmas (copper). In the account of the Tebtynis dining club, P. Teb. I, 118, a fixed assessment of 100 (copper) drachmas upon each person present, including guests, is recorded for three different meetings. Presumably some form of equalization of the contributions was also practised in the club the accounts of which were published by Edgar. Already in the Ptolemaic papyrus, P. Teb. I, 118, the forms of entertainment characteristic of the later village festivals of Roman Egypt appear. A flageolet player was present at two of the meetings, at least, and an effeminate male dancer (*κίναιδος*) at one of those attended also by the flageolet player. In Edgar's document expenditures for wine appear, especially designated as "Memphite wine" in frag. V.

The minutes of the club recorded in P. Teb. I, 118 are fairly complete for three meetings, dated Hathyr 17, Hathyr 20, and Tybi 25. This was purely a social and dining

[1] Louis Robert in *B.C.H.*, LIII (1929), 34–40.

[2] *B.C.H.*, LII (1928), 174.

[3] *B.C.H.*, LIII (1929), 37.

[4] *Records of a Village Club*, fragments of a late Ptolemaic papyrus published by C. C. Edgar in *Raccolta Lumbroso*, 369–76. There are three different records of this kind of income and expenditures of social clubs at Tebtynis, all to be dated in the late second century B.C.: P. Teb. I, 118, 177, 224.

[5] So Edgar concludes, *op. cit.*, 369–70, because of the names and the places of meeting.

[6] Frag. I, col. 2, 4–5: Ἑρμ[ίο]υ τοῦ ἐπιμελητοῦ.

[7] Frag. IV, col. 1: διὰ ἱεροποιοῦ Δικαίου.

club, in so far as the evidence of the minutes permits a decision, the members being called "fellow banqueters" (*σύνδειπνοι*). At two of the meetings eighteen members attended, with four guests at the first meeting, five guests at the second. At the meeting on Tybi 25 twenty-one regular members attended. In *Raccolta Lumbroso*, 371, n. 1, Edgar suggested three simple changes in the readings at the ends of the accounts of receipts and expenditures at the meetings of the club: *ἐν ο̣ἰ̣κο(νόμῳ)* [ ], line 8; and again, *ἐν οἰκο(νόμῳ) ρπ* in line 15, and *ὑπερανή(λωται)* instead of the *ὑπὲρ ἀνη(λώματος)* of the editors in line 18. He has drawn the correct conclusion that the figures which appear with *ἐν οἰκο( )* and *ὑπερανη( )*, preserved only in line 15, represent either surpluses or over-expenditures for each particular meeting, which were put into the common treasury, *ἐν οἰκο(νόμῳ)*, in the case of a surplus, and met out of the common treasury in the case of a deficit. The contribution levied for each person attending the meeting of a given evening stood at 100 drachmas copper per person. Edgar's suggestion makes it possible to fill out the missing numerals which are essential to complete the accounts preserved in the minutes of the three meetings. They are as follows (all sums in copper):

Meeting of Hathyr 17

Expenditures		on wine	2000 drach.
		on bread	190 dr.
Income	members present, 18		
	guests present, 4		
	total	22 at 100 drachmas	2200 dr.
Surplus placed in the treasury			10 dr.[1]

Meeting of Hathyr 20

Expenditures		on wine	2000 dr.
		on a wreath	120 dr.
Income	members present, 18		
	guests present, 5[2]		
	total	23 at 100 drachmas	2300 dr.
Surplus placed in the treasury			180 dr.

Meeting of Tybi 25

Expenditures		on wine	2000 dr.[3]
		on a wreath	120 dr.[3]
Income	members present, 21 at 100 drachmas		2100 dr.
Over-expenditure			20 dr.

It is under Roman rule that the "social club" appears in the papyri as an organized institution in the villages of Egypt. It would be highly important, from the standpoint of the social history of the village communities in Roman Egypt, if we had some full record of their meetings which could give us an insight into their scope and significance in the life of small-town people. I have found no document of this kind among the papyri from the period of Roman rule. A few facts, however, may be gleaned from the scanty material at hand[4].

[1] Reading in line 8: /*κβ ἀνὰ ρ* ϟϡ. *ἐν ο̣ἰ̣κο(νόμῳ)* [*ι*.

[2] Reading line 10 thus: *εἰσὶν ἄνδρες συνδει(πνοι) ιη καὶ ξένοι ε*. There is nothing missing in line 14.

[3] Supplying the doubtful and missing letters, line 16 must be read: *Τῦβι κε. οἶνου κε(ραμίου) α* ϟ, *στ[εφάνου ρκ* / ϟ *ρκ*. This gives the correct deficit *ὑπερανή(λωται) κ* of line 18, which should be read as a completed line, without indicating a loss of letters, as the editors have done.

[4] San Nicolo, in his *Aegyptisches Vereinswesen*, discusses the village clubs briefly on pp. 207–8.

In three papyri, all from the Fayyûm, the definite name of "village club" (*σύνοδος κώμης*) appears. A Tebtynis document of the early first century A.D. gives an account of beer delivered to various persons, in which there is a record of six *choes* received by one Psosneus, but ordered by Orsenuphis, presiding officer of the village club[1]. The second papyrus, assigned to the second century, is a contract with a dancer made by the *ἡγούμενος συνόδου κώμης* of Tanis, a village in the Heracleid division of the Arsinoite nome[2]. The third, definitely dated A.D. 237, is from Bacchias, also in the Arsinoitis, Heracleid division, and is a contract made by a president of the village club with the head of a company of flageolet players[3]. The conclusion that this was a widespread type of organization, to be found in many of the villages of Egypt, is recommended by the identity of the title of the club (*σύνοδος κώμης*) and the identity of the title of its presiding head as *ἡγούμενος συνόδου κώμης* (*ἡγούμενος κώμης συνό(δου)* in P. Teb. II, 401) in these three documents, which cover a period of some two hundred years. With this group P. Teb. II, 573, late first century, should be connected, in which the expenses of a *synodos* of Dama occurs; and in the list of members who have contributed four or eight drachmas we find the name of the presiding official (*ἡγούμενος*) given. Dama is, no doubt, the *Δαμᾶ ἐποίκιον*[4] of P. Fay. 24, 5. For Tebtynis in A.D. 14 *ἡγούμενος κώμης Τεβτύνεως*[5] is recorded. The editors seem to have regarded this as the document of a village club[6], and correctly, I think.

With this list of *synodoi* of villages, the clubs with *klinarchs* or *prostatai* must be discussed, such as: (*a*) the *Ἑρμω[νθίτων συν]όδου*, from Hermonthis in Upper Egypt of the second century[7]; and (*b*) the club with a *προστάτης* in the contract with dancers, P. Gen. 73 (= Wilcken, *Chrestomathie*, 496). In the want of decisive evidence of a *prostates* or *klinarch* at the head of a village club, these may best be explained as clubs of lesser distinction in the villages, although both *klinarch* and *prostates* may be interchangeable names for the official at the head of the "village club[8]."

A passage of Philo, *In Flaccum*, § 17, is of great importance in this discussion:

> *θίασοι κατὰ τὴν πόλιν εἰσὶ πολυάνθρωποι*
> *ὧν κατάρχει τῆς κοινωνίας οὐδὲν ὑγιές,*
> *ἀλλ' ἄκρατος καὶ μέθη καὶ παροινίαι καὶ*
> *ἡ τούτων ἔκγονος ὕβρις, σύνοδοι καὶ*
> *κλῖναι προσονομάζονται ὑπὸ τῶν ἐγχωρίων.*
> *ἐν ἅπασι τοῖς θιασίοις ἢ τοῖς πλείστοις*
> *ὁ Ἰσίδωρος τὰ πρωτεῖα φέρεται καὶ λέγεται*
> *ὁ συμποσίαρχος, ὁ κλινάρχης, ὁ ταραξίπολις.*

[1] P. Teb. II, 401, 23.

[2] B.G.U. VII, 1648.

[3] P. Grenf. II, 67, republished by Wilcken, *Chrestomathie*, 497, where the *σύνοδος* is correctly explained as a club, and the *ἡγούμενος* as its presiding officer. *Cf. Gr. Ostraka*, p. 794.

[4] Wrongly explained as a personal name by San Nicolo, *Vereinswesen*, I, 210, n. 6. See, for *Δαμᾶ ἐποίκιον*, P. Teb. II, App. II, p. 375. In the delivery of beer in P. Teb. II, 401, 35, to the *συνό(δῳ) Ἀντωνίας* I would suggest that we have to deal with a social club upon an estate called the *Ἀντωνία* (sp. *οὐσία*), with similar name but not identical with the one in B.G.U. I, 280, 4.

[5] *Verso* of P. Teb. II, 484.

[6] Note 23 to P. Teb. II, 401.

[7] Paul Viereck, *Griechische und griechisch-demotische Ostraka* (Berlin, 1923), no. 791. In Wilcken's restoration of the end of line 3, *κλιν]άρχη Ἑρμω[νθίτων συν]όδου*, I would omit *τῆς* so as to correspond to *ἡγούμενος συνόδου κώμης* of B.G.U. VII, 1648 and P. Grenf. II, 67 (*Chrest.* 497).

[8] As assumed by the editor in the note to line 2 of B.G.U. VII, 1648.

In Alexandria, in Philo's time, pleasure clubs, known definitely as *synodoi* or *klinai* among the native Egyptians, were widespread. Second, and significant to our discussion, their presiding officer was called a *symposiarch* or *klinarch*[1]. The title of *klinarch* was no doubt commonly used, being found as the designation of the presiding official in pagan cult clubs in Nubian Taphis[2] in the fourth century A.D. and in Talmis in Nubia in the fifth century[3].

Basing upon the Philo passage, we may regard the *klinarch* who appears in Viereck, *Ostraka*, 791, of the second century, as the equivalent of the *ἡγούμενος συνόδου* of the villages. We gain thereby, in addition to the village club of Viereck's ostracon at Hermonthis in Upper Egypt, a group of *synodoi* in the town of Tebtynis for A.D. 219 in the contract with flageolet players, P. Lond. Inv. no. 1917, published by H. Idris Bell[4]. This document is a *conductio operarum* in epistolary form addressed by Aurelius Philosarapis of Tebtynis "to Aurelius Onnophris, flageolet player by trade." In view of the now well-established title of one of the officials of the pleasure associations in the Egyptian towns as *κλινάρχης*, I see no reason to hesitate about forming from it the verb *κλινάρχειν* and reading in P. Lond. Inv. no. 1917, lines 5–8: [*κ*]*ᾳὶ εὐ*[*ωχ*]*ρ̣υμένων ἡμῶν ἀπὸ τῆς* $\overline{\kappa\eta}$ [*τ*]*ρ̣ῦ γ* (*ἔτους*) *ἔτι τε καὶ κλινάρ̣ξο*[*ν*]*τός μο*ῡ [*ἅμ*]*α ἑτέροις*: "Since there is a festival in the village of Tebtynis and we are feasting from the 28th of the present month of Phaophi in the present 3rd year, and moreover I am about to act as *klinarch* (*i.e.*, president of a club) along with others, I wish to engage you, etc." The difficulty lying in the statement that Aurelius Philosarapis is to act as *klinarch* "along with others," *i.e.*, along with other *klinarchs*, is to be explained by the supposition that Tebtynis in the early third century had, in addition to its "village club," other cult and social clubs each with its own *klinarch*. Philosarapis, in hiring the flageolet players, was acting in behalf of his own *synodos*, other *klinarchs* arranging for their own clubs such entertainment as they might require. In support of this view the situation in the Blemmyan town of Talmis of the fifth century is to be recalled, where there was a "*klinarch* of the city" (also called *demoklinarch*) and three distinct clubs (*σύνοδοι*), each having its own head, called a *klinarch*[5]. J. G. Milne has also published a Theban ostracon of the second century A.D., which lists by month and day the contributions of wine made to a cult club[6] by its members. The club was composed of worshippers of the god of healing, Amenothis. In P. Lond. III, 1170 *verso*, a long account of income and expenditure of the Heroninus archive, A.D. 258–259, contributions of different kinds are recorded as having been made by different departments of the estate management. These all occur in Pachon, in connection with a festival called the "first Liloïtion[7]." The contributions of the estate began with a sour wine expenditure on Pachon 12th[8]. In the case of some money expenditures

[1] *Cf.* Wilcken, *Archiv*, I, 414–15.

[2] Building inscription from Taphis, Preisigke, *Sammelbuch*, I, 5099. The ancient site (modern Tafa) lies some twenty miles south of the Aswân Dam.

[3] Republished with important commentary by Ulrich Wilcken in *Archiv*, I, 411–19. Note the term *κλίναρ(χος) τῆς πόλεως* in line 7 of the inscription and its analogy with the *ἡγούμενος σύνόδου κώμης* of the village clubs in Egypt.

[4] *Journal*, X (1924), 45–6. For the date, see Wilcken in *Archiv*, VIII (1927), 98.

[5] Wilcken in *Archiv*, I, 417–19.

[6] *Theban Ostraca* (Oxford, 1913): *Greek Texts*, no. 142, line 1: *λόγος συνόδου Ἀμενώθου θεοῦ* [*μεγίστου*].

[7] See Preisigke, *Wörterbuch*, *s.v.*, and Friedrich Bilabel, *Die gräko-ägyptischen Feste* in *Neue Heidelberger Jahrbücher*, *N.F.* (1929), 43–4. For the (*πρῶτον*) Λιλοΐτιον, see P. Lond. 1170 *verso*, line 118.

[8] P. Lond. III, 1170 *verso*, lines 253–4. This I take to be a "dry" wine, instead of vinegar as Bilabel has it.

of the estate for contributions of onions and new wine, and an outright money contribution to one of the clubs, the date is not given, except as falling in Pachon[1]. The wine department of the estate made contributions of wine for the same festival, the Liloïtion, on Pachon 19th[2]. The eight-day duration of the festival, namely, Pachon 12th–19th, is in no way surprising, since five, six, seven, eight, and even ten-day periods occur[3].

Just as there were several social clubs in Tebtynis in A.D. 219[4], so in connection with the estate which Heroninus managed in A.D. 258–259 there were certainly three, called respectively the *Synodos* of Deidas[5], the *Synodos* of the Herdsmen[6], and the *Synodos* of Sotas, son of Lilla[7]. In view of the discussion developed above, I think that these men must have been the *klinarchs* then presiding over the clubs. The man Deidas, by whose name one of the clubs is designated, was a donkey driver working for the estate[8]; and Sotas, son of Lilla, appears regularly in the accounts of the estate as receiving payments in kind (wine)[9]. It is therefore reasonable to conclude that the *synodos* of the herdsmen was also a club of the *estate* herdsmen, who appear so frequently in this account. Otherwise the estate would not have been likely to contribute to the club. The picture which we get is, therefore, that the workmen of the estate were organized into different social clubs. When the festivals occurred the estate management contributed with food, wine, and money to the entertainment of these clubs. The money contributed to the club of Sotas is designated as being for "earnest money[10]." This is probably for the *arrabon* required by the dancers or other entertainers who were hired by the *synodos* headed by Sotas. At least such advances of "binding money" appear in several of the published entertainer contracts[11].

In those cases where a "village club" appears, the name itself implies that there was but one club of this particular distinction in each village. Although there is no proven instance of the occurrence of smaller and less formal social and cult clubs existing at the same time in a village which affords evidence of having a "village club," I do not doubt that there were such. Tentatively, in the want of decisive evidence, I am inclined to see in the "village club," where it appears, a social group of the *élite* of the village, its membership implying a social distinction outranking that of the members of other lesser clubs, headed by officials called "klinarchs"[12] or *prostatai*[13].

[1] *Pap. cit.*, lines 117–19. [2] *Pap. cit.*, lines 70–3.

[3] See the table in my article in *Journal*, x (1924), 141, and the eight-day festival of P. Col. Inv. 441 published above.

[4] See above in the discussion of P. Lond. Inv. no. 1917 published by Bell in *Journal*, x (1924), 145–6, κλινάρξο[ν]τός μου [ἅμ]α ἑτέροις in line 8.

[5] P. Lond. III, p. 195, line 70.

[6] P. Lond. III, p. 195, line 72; p. 196, line 119: τῇ συνόδῳ τῶν βουκόλων. *Cf.* the *synodos* of the herdsmen at Pergamum, *Hermes*, VII, 40, no. xii.

[7] P. Lond. III, p. 196, line 122.

[8] P. Lond. III, p. 195, line 82, where he is in charge of three donkeys transporting the wine of the estate. If these were different persons the fact would be indicated by giving the patronymic.

[9] P. Lond. III, lines 54, 170, 210, 237.

[10] P. Lond. III, p. 196, lines 122–3: ὑπὲρ ἀρραβῶνος Λιλοΐτου.

[11] In the *Chrestomathie* of Wilcken, no. 496 (= P. Gen. 73), no. 497 (= P. Grenf. II, 67), and in P. Oxy. x, 1275.

[12] As in Viereck, *Ostraka*, no. 791, and in P. Lond. Inv. no. 1917 (*Journal*, x, 145) according to the restoration and explanation offered above.

[13] In P. Oxy. x, 1275, of the third century, the five *prostataî* of the village of Souis (προστάται κώμης Σούεως), who hire a company of flageolet players and musicians for a five-day festival, seem to be the heads of five such groups. They make their contract as a group, one of them, Onnophris, acting for all, and the others being called οἱ περὶ τὸν Ὀννῶφριν. Onnophris might well be the equivalent at Oxyrhynchus of the ἡγούμενος συνόδου κώμης.

The "village club" was a private organization[1], having nothing to do with the municipality or the state except that it was subject to the general public regulations. Its presiding official, the *hegoumenos*, carried on the important business of the village club with a recognized right of making contracts on behalf of the club with the entertainers to be hired for the festival celebrations[2]. He does this as representative of a group; but the organization itself is not a legal personality, and we have no example of a "village club" which draws up a contract[3]. The musicians' contracts show that the *hegoumenos* of the club also made the payments agreed upon with the entertainers. No doubt this expense was met out of the club treasury. He ordered beer for the club meetings[4], and presumably paid for it, as for other expenditures[5], out of the club's money. If he made the payments it is a reasonable assumption that he saw to the collection of the subscriptions of members. It is not possible to tell whether he kept the simple minutes of the club, with date of meeting, number of members and guests present, income collected for the meeting, and expenses, as in P. Teb. I, 118. For these duties there may also have been the secretary and the treasurer who appear in the trade associations and other types of clubs[6]. San Nicolo has discussed the concentration of the administrative activities of the club in Egypt in the hands of the presiding official[7]. For this centralization of activity he offers the explanation that the autocratic power of the Roman state in Egypt, and the lack of city-states of the Greek type there, made Egypt a particularly unfavourable place for the development of clubs with a more democratic organization[8].

When Egypt became part of the Roman Empire, an irreconcilable contradiction[9] was introduced there between a recognized and accepted social tendency, already deeply embedded in the habits of the country through the imitation of Greek life, and an established tenet of the Roman law. This was the contradiction between the Roman principle that all associations in the provinces were contra-legal which were not sanctioned by the Senate in the senatorial provinces, by the Emperor in the imperial, thus becoming *collegia licita*[10]. The *Gnomon of the Idios Logos* is a copy of abbreviated *mandata* or directions to the Idios Logos[11], assembled in the time of Antoninus Pius, giving data upon the types of income falling to his department[12]. Section 108 says: "Those who are members of *synodoi* have been condemned to pay 500 drachmas, sometimes only their presiding officials (*prostatai*)[13]." If there was a definite and general law against all associations in Egypt, it was completely nullified by non-observance. Seckel, in his notes edited by Paul M. Meyer, evidently regards this *mandatum* as referring only to unauthorized clubs[14].

[1] San Nicolo, *Aegyptisches Vereinswesen*, I, 207–11.

[2] B.G.U. VII, 1648; P. Grenf. II, 67 (= Wilcken, *Chrestomathie*, 497).

[3] San Nicolo, *op. cit.*, II, 108–10.

[4] P. Teb. II, 401, 23.

[5] See the account of expenditures by Eutychos, ἡγούμενος κώμης Τεβτύνεως (sp. συνόδου) in the description of P. Teb. II, 484 *verso* and note the verb ἐξείληφα.

[6] Stöckle in Pauly-Wissowa-Kroll, Suppl.-Band IV, 187–92.

[7] San Nicolo, *op. cit.*, 41.

[8] *Op. cit.*, 44–5.

[9] See P. M. Meyer in *Zeitschr. für vergl. Rechtswissenschaft*, XXXIX (1921), 241.

[10] Th. Reinach in *Nouv. revue historique du droit fr. et étranger*, XLIV (1920), 117–18.

[11] See Plaumann, *Idios Logos*, in Pauly-Wissowa-Kroll, IX, 882 ff.

[12] B.G.U. V (1919), edited by Seckel and Schubart; P. M. Meyer, *Juristische Papyri*, Berlin (1920), no. 93, where much of the literature is to be found. See also P. M. Meyer, *Zum sogenannten Gnomon des Idios Logos* in *Sitzb. Preuss. Akad. d. Wiss., ph.-hist. Klasse*, XXVI (1928).

[13] ο[ἱ σῡ]νοδον νέμοντες κατεχ[ρίθ̄]η̣σ[α]ν ἐκ (δραχμῶν) φ, ἐνίοτε μόν[οι] οἱ [π]ρο̣[σ]τάται.

[14] P. M. Meyer in *Sitzb. Preuss. Akad. d. Wiss., ph.-hist. Kl.*, XXVI, 35.

It is, of course, impossible to believe that all the small associations, such as the village clubs, social groups on estates, and cult clubs, had received imperial sanction to organize. Th. Reinach's suggestion is therefore a rational, perhaps a necessary one, namely, that the Roman officials closed their eyes to the existence of small *collegia illicita* so long as they gave no trouble, and proceeded against them only when some overt act forced the hands of the officials[1]. The small clubs that we have been dealing with certainly would have given little trouble to the authorities. Certainly they were very numerous and absolutely open in their activities. Perhaps it was the fact that they were above-board that made them safe from prosecution.

Conclusion: Mr. C. C. Edgar closed the introduction to his admirable study of the fragmentary *Records of a Village Club* of the later Ptolemaic period with the following words: "If we would realize what life was like in a Greco-Egyptian village, we must picture the relaxations as well as the labours of the humbler classes; and these cheap but festive clubs were as characteristic a feature of their life as the cinema is of ours[2]." On the basis of an unpublished contract with musicians in the Columbia University Library an attempt has been made to assemble the material upon the festive village clubs. Along with these the contracts of private persons, unconnected with clubs, with musical and dancing entertainers have been studied. Dancing to musical accompaniment and musical entertainment, customarily connected with religious festivals, was neither a monopoly nor an invention of the Greek people, being a common and primitive practice. But it is my belief that the organization of the private clubs, which appear in such numbers in Egypt, as elsewhere, after Alexander's time, whether connected with some cult or purely social and dissociated from religious practice, represents an element in the Mediterranean life of the Hellenistic period which has its source and inspiration in the imitation of Greek life. Further, I would add that this is another, though humble, example of the greatest among the gifts of the ancient Greeks to human society, namely, the secularization of human life[3]. Just as they dissociated the work of the physician from temple practice, replaced state and religious annals by individual and interpretative historical treatment, just as they secularized the drama, so they individualized and secularized the common pleasures of their lives. It is important also that they devised the forms, in this case the club groups, through which these pleasures could be practised and maintained.

[1] Reinach, in *Nouv. revue historique du droit fr. et étranger*, XLIV, 118.

[2] *Raccolta Lumbroso*, 373.

[3] I have to thank my colleague, Professor Frederick Barry, for this phrase.

AN EGYPTIAN IN BABYLONIA

By SIDNEY SMITH

With Plate iii.

The site of Der, an eastern frontier post of Babylonia from the earliest times down to the fall of Babylon, was long since approximately determined, and Dr. E. Forrer has rightly identified it with the modern town of Badrah[1]. In 1929 Lt.-Col. Stafford, the Administrative Inspector of the Kut liwa in Iraq, sent to the Iraq Museum an inscribed edge cut from an ancient brick. It had been found in a well-known *tall* just outside Badrah by a woman, had passed through the hands of the officials of the town and had been duly reported. The inscription proves the correctness of Dr. Forrer's identification. I myself visited Badrah in the spring of 1930. It is a miserable place; the water is very bitter and not fit for Europeans to drink, the food scanty. When I visited it, the short road from Kut had been cut by heavy rains, and it was necessary to make a long détour round the south end of the Suwaičah marsh. Badrah owes its importance to the existence of a bad but practicable caravan route into Iraq from Persia at this point, and I was told that attempts are often made by undesirable persons to smuggle into Iraq by this route when the main roads to the north and south are closely watched. I made an examination of the ruins. The main outer wall can be traced and is in many places exposed by the action of water. The whole of the interior, roughly rectangular and of no great size, is cut up by deep water beds. I have never seen a site in Iraq in which the action of water has had the effect to be observed in every part of this site. The whole place is a mass of mud brick washed aslant, the true face is nowhere to be seen, yet the line of some of the buildings is occasionally clear. I am inclined to ascribe this unusual condition to the exposed position on a high point above the stream now called Kal al Badrah, which divides the modern town in the valley on the southern bank from the ancient city on a hill on the northern bank, near the modern police post. A small dig round and about the place where the brick was found was fruitless, and I saw no other burnt bricks on the site, though there must be such in the deeper parts. The brick here published appears to have been loosened and brought down by water into the stream-bed where it was found. The site is most unattractive from the excavator's point of view.

Der was a very ancient city. The name is written BAD·AN·KI, that is wall-god-district, a formation so exactly parallel to KA·DINGIR·RA·KI, that is "gate of the god," Babylon, that some common idea probably underlies both. Babylon lies at the point of entry into Akkad on the north-west as Der does on the north-east. The geographical description of the conquests of Sargon of Agade[2] written in the late

[1] *Provinzeinteilung*, 47, 97. Forrer writes Bedrai; this form is not known in Iraq.

[2] The argument to be found in the *Reallexikon der Assyriologie*, article *Assyrien*, for assuming that the campaigns of Sargon I of Assyria, not of Sargon of Agade, are dealt with in the text published by Schroeder, *Keilschrifttexte aus Assur verschiedenen Inhalts*, no. 92, is not convincing.

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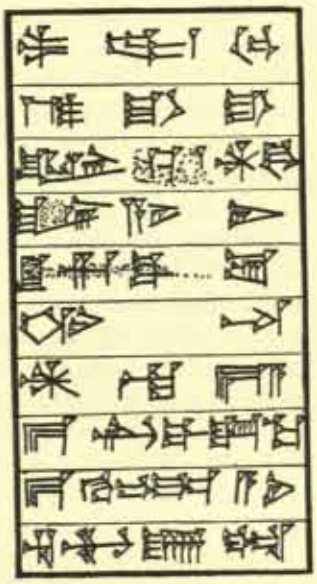
1. Inscribed edge of a mud brick from Badrah, Iraq. *Scale c.* $\frac{2}{3}$.
2. The upper drawing, enlarged. *Scale c.* $\frac{1}{4}$.

Assyrian period mentions Der, and a lament written or rather copied in the Seleucid era records the sorrow of the woman of Der at the time of the overthrow of the dynasty of Agade by the hordes of Gutium. Shulgi, shortly after 2300 B.C., installed the deity KA·DI in a temple at Der, and the inscription of Ilu-mutabel (or, as some read, Anu-mutabel), a governor of the city of Der, records that he broke the heads of the men of Anshan (Persis), Elam (Susiana) and Simash, and conquered *Barahsu*[1] somewhere between 2100 and 2000 B.C. Shortly afterwards Ilushuma of Assyria freed the place from some tyranny, perhaps that of the Larsa dynasty, but Kudur-Mabug included it in his dominions before 1950 B.C. The sources then fail us for about seven hundred years, till 1240–1230 B.C., when Kidin-Ḫutrutash of Elam sacked Nippur and Der and apparently captured the Babylonian king Enlil-nadin-shum there. Nebuchadrezzar I's successful campaign against Elam, about 1100 B.C., was conducted from Der; in 720 the army of Humbanigash of Elam drove the Assyrians under Sargon II from the plain of Der, but the city fell into the hands of Sargon when he drove Merodachbaladan out of Babylon, and received favourable treatment at his hands, for it was one of the cities exempted from supplying the royal corvée. In 693 Sennacherib enlarged the province of which Der was the capital by adding cities on the Elamite border, and Esarhaddon speaks again of the immunity of Der from taxes, and he restored the deity KA·DI, also called the great god, the queen of Der, the deity *Ṣiru*, the lady of life, "she of Durrunu," the god SAK·KUD, the god of Bubie (a city in the province), and another deity to their cities in 680. In 655 Teumman of Elam attacked Assyria, but Ashurbanipal's entry into Der caused an immediate retreat to Susa, and later the appearance of the royal messenger there was sufficient to cause a rising in Elam which led to the murder of Indabigash, the king, according to the Assyrian account. It appears that at this time the Elamite province immediately east of Der was called Ḫalebasta, and the principal town Kirbit, which we may suppose was on the R. Gawi near Malkhatai, for the Gawi and the Kal al Badrah are one and the same stream. This was the province from which Ashurbanipal took men to settle in Egypt, a minor incident of some interest. Nebuchadrezzar II makes some mention of Der in a broken context, and Cyrus restored its gods to the city when in 539 he was able to reverse Nabonidus' policy.



Apart from the importance of Der as a frontier post against Elam these historical facts show the importance attributed to the deities worshipped at Der, and the city is frequently mentioned in Sumerian texts and in omens for this reason. The principal temple there was called "the house of the great pole(?) of the land," E·DIMGAL·KALAMMA, and the brick found at Badrah records a restoration of this temple. See Pl. iii.

Transliteration.

(1) *(d)KA·DI* (2) *en- ? ?*[2] (3) *lugal Deri KI* (4) *lugal-a-ni-ir* (5) *Ku-ri-gal-zu* (6) *šakkanak* (7) *(d)En-lil-a* (8) *E-dim-gal-kalam-ma* (9) *e-ki-ag-a-ni* (10) *ḫu-mu-un-bil.*

[1] For references to discussions of this locality see Gadd and Legrain, *Ur Excavations, Texts*, I (index).

[2] *bur-bur* for Br. no. 7305? or *ga-bur*, a type of building?

Translation.

For KA·DI, the lord of....., the king of Der, his king, Kurigalzu, Enlil's governor (*i.e.*, king of Babylon), has restored E·DIMGAL·KALAMMA, his beloved temple.

As is usual with the many brick inscriptions bearing the name Kurigalzu, there is some doubt whether this inscription should be attributed to Kurigalzu "the Young," often called by Assyriologists Kurigalzu III, about 1340 B.C., or to an earlier king. The point is for our present purpose unimportant, and the later date seems the more likely.

The temple restored was the seat of a curious, but widely spread, cult. The deity KA·DI, for which we do not yet know the correct reading, is here as elsewhere treated as masculine, but is called in certain late texts "daughter of Esagila," the Marduk temple at Babylon, and "daughter of the queen Arua." Variant readings prove that KA·DI was also called "the great god, queen of Der[1]," and as such she may have been regarded as the consort of Anu, whose seat Der was. The Babylonians seem to have connected the name with the idea of "speaking (KA) justice (DI)," but a gloss on the name reads DI as *silim*, which does not favour this etymology. KA·DI had a son, a serpent or snake, *Šerah* or *Ṣiru*, who is represented as a serpent on boundary stones. This god too was sometimes treated as feminine, and is called "the lady of life," and some scholars consider her identical with the goddess ṢI·IR·TUR, the mother of Tammuz[2]. It appears then that both these deities were of uncertain sex; whether this was due to a divergence of ancient opinions, or to the idea that they were both male and female at once we cannot say. The description of the serpent *Šerah* as the *rabiṣu* of Esharra is important, for Esharra is a name only applicable to a temple of the sun-god Shamash, wherever the temple be, and the word *rabiṣu* describes not only a kind of demon who waits in odd corners to pounce upon the unwary, but an official of the Babylonian law-courts empowered to carry out investigations and to bring witnesses or defendants to court. Shamash was pre-eminently the god of justice, and *Šerah* would therefore seem to be a deity who carried out the sentences of Shamash, and the association of KA·DI with justice may have arisen from this connection with Shamash.

Above and below the inscription on the brick are drawings so surprising at first sight that for a long time I remained extremely suspicious about the character of this brick. But careful enquiries have led me to the conviction that the evidence of its freedom from any suspicion of modern handiwork is irrefragable. Colonel Stafford is certain, and I have convinced myself by enquiries, that the drawings were on the brick when it was found. In any case there is no one at Badrah capable of making this brick, and no one made any profit out of it. I am moreover of the opinion that these drawings could not have been cut after the brick was made; they were sketched out while the clay was wet. The drawings therefore date from the end of the 'Amarnah period.

[1] For recent discussions of KA·DI see *Zeitschrift für Assyriologie* (N.F.), III, 73, Anmerkung 2, and V, 266, Anmerkung 4; the text concerning the goddess in the latter place contributes nothing of importance. Landsberger's view that KA·DI of Der is certainly male is simply against the evidence; in the Esarhaddon passage, "queen of Der" can only be an epithet of AN·GAL, who is identical with KA·DI as Landsberger admits. We have also, as against Landberger's statement, no decisive proof in *K.A.V.* no. 47, l. 12 that KA·DI and AN·GAL are equated with one god; what was given in the left-hand column was the *pronunciation*, and that is in the first case completely broken, in the second case nearly so.

[2] See Langdon, *Tammuz and Ishtar*.

The drawing above the inscription is a disc over the curved body of a horned viper, cerastes. Now it is a common opinion, maintained I am told by the senior officials of the medical services during the war, that the horned viper does not exist in Iraq; but this is an error, as Dr. N. L. Corkill, late Civil Surgeon in Baghdad, conclusively proved some years ago by preserving a dead specimen of the species found in the Muntafik area, though the reptile is unquestionably rare. Representations of cerastes on boundary stones are not uncommon, and the heads of the fantastic beasts frequently shown lying by the symbols of Marduk and Nabu have the head of cerastes. The viper was then the symbol of a god in Babylonia from at least the late Kassite period onwards, and this is not surprising, for there was a cult of such reptiles in Southern Arabia, as Professor Grohmann has shown, and presumably in Palestine, as Dr. S. A. Cook assumes in his Schweich Lectures. Curiously enough there is good evidence that *Šerah* or *Ṣiru* was a hydra, or the like, and cerastes therefore represented another deity. In view of the probability that KA·DI resembled the sun in nature, but differed in some important respect, there is some likelihood that his (or her) symbol took this form. This brick seems to imply that. As to the association of the reptile with the sun, we have already seen that that accords with Babylonian ideas.

But the style of this simple drawing will strike the first observer as Egyptian, and the other, below the inscription, which is not so simple, allows of no doubt whatever. There, inverted, may be seen a human figure carrying in his left hand the *wꜣs* sceptre, in his right the *ꜥnḫ* symbol, wearing a diaphanous skirt which hangs from the waist and reaches the knee. On his head are the two plumes over a wig, and on the chest is a large pectoral which may I think best be interpreted as the winged disc, for there seems to be a tail below the section of a circle. Whether the god be Onouris, or the syncretic Onouris-Shu or another, this is an Egyptian god, in the style of the New Kingdom, a sun-god represented as many of the cycle of sun-gods were. Certain details of the drawing are not clear to me; the wig it seems may end just below the ear, the line of the collar seems to be given, and the god may have a beard, but other interpretations are possible. Whether the line behind the right leg is an erroneous continuation of the skirt, or is intended for the rear appendage Egyptian figures of this type sometimes have is also uncertain; there may be a loop above the central band of the skirt. There are also uncertain marks on the right leg which resemble flies in shape. Representations of the fly had some prophylactic significance both in Egypt and in Babylonia, for rows of them may be seen on some Kassite cylinder seals, and there are fly amulets from Egypt. Whether they were specifically associated with any god there is apparently nothing to show, but any man in a sub-tropical country will inevitably think of flies and sun together.

Not only does this drawing represent an Egyptian god, it is from the hand of an Egyptian. The accuracy of detail precludes any other explanation. And it is obvious that he was engaged on brick-making at Der. Probably then he was a captive, taken during a campaign in the west. Whether the campaign was that conducted by Kadashman-Ḫarbe, the father of Kurigalzu "the Young," against the Sutu who lived in that land of Satet in which Egypt had an interest under the Eighteenth Dynasty, or a campaign of Ashur-uballiṭ, Kurigalzu's maternal grandfather, who placed him on the throne of Babylon, or some other, will never be known. It is odd to think that some

eight hundred years later men who lived in the hills not so far east of Der were transported to Egypt; had Ashurbanipal some exquisite reasons for his choice?

These drawings are but one more proof of the relations of the Egyptian and Babylonian civilizations during the 'Amarnah period. Dr. Andrae has pointed out the Egyptian influences in Mesopotamian decoration, and the remarkable fragment of wall-painting found at the city of Nuzi near Kirkuk by the expedition of the American School at Baghdad is a new, outstanding example of this. Dr. Hall has argued for an Egyptian origin of a cuneiform literary text. Such influences can only be explained in Oriental countries, if I may be allowed to repeat myself, by the transference of individuals from one country to another, for the rule of to-day in this matter is true of yesterday and of all time. The appearance of foreign designs on objects in the Baghdad bazaars means, unless the objects have been imported, that a foreigner or foreigners produced the earliest specimens in the bazaar and adapted the design for local wares. The Egyptian at Der—and he must have had fellows in misfortune elsewhere—is a concrete example of "influence." But he has another interest for me. There seems to be a tendency at present to lump together the products of Oriental lands under geographical heads. The pagan, Christian and Mohammedan ages in one particular land are put in a row, and the aesthetic critic draws his own conclusions about the unity to be found therein. Egypt is said to belong to the "Mediterranean area," Babylonia is "Asiatic." But in vital matters time is more important than geography, so far as the Near East is concerned. The civilizations of Egypt and Babylonia ran their own individual, but parallel, courses from the fourth millennium until the Hellenistic Age, and they serve to illustrate and illumine the one the other because the mode of man's thought was the same in the two countries. One proof of this I find in this odd document from the hand of a lost soul in the miserable city of Der. That Egyptian, slaving in Mesopotamia as the Hebrews slaved in the Delta, saw in the local cult some resemblance to beliefs with which he was familiar, and placed upon a brick in the temple of a reptile-god associated with a sun-god the disk-symbol and figure of his own sun-god, and his own holy viper. Where he saw a resemblance we are busily engaged in seeing differences; but he was essentially, though not archaeologically and historically, right, because the ancient Egyptian and Babylonian religions were based upon the same root conceptions, were accepted by the minds of men at the same stage, immensely remote from later ages.

ON EGYPTIAN ART

By H. FRANKFORT

I

The Editor has, in a recent number of this *Journal*[1], drawn attention to the following paradoxical situation: while Egyptology finds within its domain an exceptionally rich legacy of art, Egyptological writings on the subject are of an appalling poverty of thought. Professor Peet therefore summarized at length some of Schäfer's work, as an exception to the rule, and insisted on its fundamental importance, declaring that "he who has no knowledge of it has neither the right to criticise nor even the ability fully to appreciate an Egyptian work of art."

With this statement we fully agree; and it seems appropriate to strengthen the Editor's plea for a less superficial treatment of Egyptian art by bringing to the fore some other recent studies, adequate to the subject and fruitful in results, but insufficiently known. The reason for this is significant in itself; these studies are all from the hand of scholars who are not Egyptologists but who were trained under the more developed discipline of classical archaeology[2]. And it is remarkable that their attitude and their methods differ, on the whole, from those adopted by Schäfer.

Schäfer has lately stated[3] what he believes to be the only scientific attitude towards Egyptian art: namely that one should try to penetrate as deeply as possible into all the manifestations of spiritual life of the Ancient Egyptians which have come down to us, to rouse in oneself what might be called Egyptian thought and feeling, and then to approach Egyptian art and interpret it. The classical scholars, however, have taken as their starting point the general and essential character of all art, that it is a creation of form, which can only be understood by an appreciation of its formal qualities. Everything which is not form becomes, from this point of view, of entirely secondary importance: "We may know a great deal about a thing as it really exists—its history, composition, market value, its causes and its effects—all that is as good as not there for the aesthetic attitude. It is all incidental; not present in the aesthetic object[4]."

This attitude is obviously legitimate, not only within the framework of a history of art, but also from the point of view of Egyptology. We cannot understand the ancient Egyptian to the full if we refuse to consider him as subject to aesthetic feeling, while continuing to interpret him as a religious or ethical being; we cannot understand him, or his culture, without treating his art as art, as an object of aesthetic contemplation. That this contemplation must result in the forming of distinct and intelligible conceptions in order to obtain scientific significance at all, is obvious.

[1] *Journal*, XVII, 147 ff.

[2] One example: for some years a lively argument has been kept up about the origin of the Keftiuans. The most important evidence is supplied by some Theban tomb-paintings. Is it conceivable that within the field of classical archaeology (or of the history of art) such evidence could continue to appear *en bloc* without any attempt at critical sifting between original and derived work?

[3] *Die Leistung der ägyptischen Kunst*, 11.

[4] B. Bosanquet, *Three lectures on aesthetic*, 9.

This need not lead us to the extremist view "that the literary and anecdotic content of a work of visual art...is mere surplusage" (Clive Bell), so that it would be possible to sum up a work of art adequately and exhaustively in terms of form and colour. We grant the artistic (as distinct from the aesthetic) value of the content of a work of art; we admit that religious ideas and historical situations may form an essential part of it and that its aesthetic qualities do not exclusively constitute its nature, but we wish to acknowledge the formal character which it possesses *qua* work of art by insisting on the absolute necessity of formal analysis[1].

If in Egypt, as elsewhere, a work of art was mostly created with an ulterior motive extraneous to art, none the less it possessed immanent aesthetic properties without which it would not be a work of art at all. It has to be carefully established to what extent alien motives have influenced the genesis of the indivisible unity with which the work of art confronts us. Yet this is but a preliminary inquiry; we must next abstract from this unity—whatever its non-artistic *raison d'être*—its peculiarity *as a work of art*, which, therefore, must be a peculiarity of form. Now this peculiarity is not discovered by any purely subjective interpretation of art or of the intentions of the artist who produced the work[2]. It is established solely by a description of the actual, objectively controllable, formal qualities of that work. Thus the starting point and the outcome of this method of inquiry have a perfectly objective existence.

A formal analysis cannot give more than an insight into formal qualities. These may next be interpreted, but each interpretation is subjective and pertains to cultural history. Here, indeed, Schäfer's method is appropriate. To reconstruct in the mind a comprehensive picture of a past civilization and thus to understand all its manifestations as organically related—such is the historian's task. But it follows that the two methods envisaged in this section of our paper are by no means mutually exclusive, but that the application of the one should precede that of the other. In other words, Schäfer skips a necessary preliminary stage: the interpretation of art in the context of cultural history should be preceded by an analysis of its formal qualities precisely as the interpretation of written documents in that same context is preceded by a critical examination of their linguistic qualities.

In stating this we do not wish to detract from the fundamental value of Schäfer's pioneer-work. He himself would, indeed, be the first to admit that much remains to be

[1] We do not, of course, maintain that content and form have an existence independent of each other; they are analytically distinguishable but actually inseparable. This is best formulated by Lipps, *Grundlegung der Aesthetik*, II, 32: "Inhalt des Kunstwerks ist das in dem Kunstwerk Geformte, *sofern es Gestalt ist*, und künstlerische Form ist nichts anderes als die Daseinsweise des Inhalts, durch welche dieser eben zum Inhalt wird." (The content of a work of art is that which has entered into its formal structure, but it is so only in so far as it has become form; and artistic form is nothing but the mode of existence of the content of the work of art, through which this actually becomes the content of a work of art.) Schäfer does not always take this (and especially Lipps' own italicizing) into account. When he explains (*Von Aegyptischer Kunst*, 41) that certain early works of art are so sparing in their indications that one cannot know to the full what the artist wanted to suggest unless one takes into account later more explicit works, his argument is unexceptional from an Egyptological point of view, but wrong as far as the philosophy of art is concerned; in these works of art the artist has not succeeded in expressing the full meaning which Schäfer claims for them.

[2] On the insufficiency of psychological "explanations" see below, p. 38, n. 1. It is obvious that the artist need not be conscious of the exact nature of the aesthetic properties of his creation. It is his business to shape matter, not to shape thoughts, much less to shape words. But see, for instances of conscious stylization, *V. A. K.*, 57.

done. And if we draw attention in this *Journal* to investigations undertaken by certain classical scholars, it is because they, though building on the results obtained by Schäfer, have at least made a beginning of filling the lacuna left by him; for they have submitted Egyptian art to a critical formal analysis whenever it fell within the scope of their own researches. It is obvious that we are not in a position to appreciate the possibilities of this treatment of art if we have only a single quotation from Schäfer's writings with which to compare it. We shall therefore next review Schäfer's main work in the light of the foregoing considerations.

II

Schäfer's work, embodied in numerous articles and books, and lately formulated afresh in a third edition of his *Von Aegyptischer Kunst*[1], has persistently, for over thirty years, aimed at an explanation of what appears strange to western eyes in the art of Ancient Egypt. This strangeness centres in the absence of perspective, or—to put it positively—in the way in which nature is rendered in the reliefs. It is obvious that every normal human eye at all times must see "in perspective." But Schäfer was the first to point out that the ancients were also conscious of this: in the Babylonian description of Etana's ascent to heaven, we read that, while rising, he saw the earth become first the size of a cottage, then of a cake, and finally disappear altogether[2]. Yet no drawing in Egypt utilizes this observation to indicate distance by a decrease in the size of objects pictured. Pushing his researches further, Schäfer has formulated a thesis of the utmost importance, which has hardly yet been recognized as it deserves by students of the history of art in general: the use of perspective, far from being natural or common, is not even usual; its principle has been discovered only once in the whole course of human history, and that in the fifth century B.C. in Greece. Perspective is only used, in the whole world, by such people as have come into touch, directly or indirectly, with Greek art of the fifth century.

It is convenient to call the people who have never seen that art or its derivatives pre-Greek, though we have to include amongst those pre-Greeks all the untaught children of our own day as well as most primitive or semi-primitive peoples. The Babylonian evidence given above, and statements from modern primitives, establish the fact that the phenomena of perspective are perfectly well recognized by the pre-Greek artist. If he does not attempt to render them in his drawing it is with good reason: he considers the picture which his eye reveals as incorrect; in fact he knows "that things are not like that"; and he draws what he knows, in principle. In practice he turns over in his mind the various aspects which he remembers of a given object and chooses those which best incorporate its characteristics, excluding, of course, all those which entail foreshortenings or in which some objects project in front of others. The best aspect is, on the whole, that of an object straight in front of him. I have said "objects," but the pre-Greek artist may even treat parts of objects in this way; if it leads to his combining in the picture of one single object aspects of its parts from entirely different viewpoints, such as are never in reality seen together, there is no reason why that should trouble him at all; for he draws a picture more true than his visual impressions, a picture, however (and

[1] Leipzig, 1930; quoted here as *V. A. K.*

[2] *V. A. K.*, 84 ff. Schäfer also compares Isaiah lx, 21, in connection with Num. xiii, 31 ff.

this should never be forgotten), which he intends to be a rendering of nature just as does the draughtsman who uses perspective. But we must not make the mistake of thinking that the pre-Greek draughtsman chooses between perspective and ideoplastic drawing[1]. He has no choice; for perspective was only developed as a mode of rendering nature after the world of appearances had been acknowledged in contradistinction to that of the mind. The difference between the pre-Greek artist and the one who uses perspective is in the end one of logic.

It will be clear that the pre-Greek artist could represent an object in many ways, and we know only too well that a number of Egyptian drawings are perfectly inexplicable for us because we do not know what the artist was picturing; and, on the other hand, there is no knowing how a pre-Greek artist is going to render any given object[2]. In practice the scarcity of invention among our kind is the reason why only a limited number of the many possible renderings are used, at least of common objects. This is the true meaning of that much abused phrase, the power of tradition in Egyptian art. Some great masters, during the first dynasties, invented and perfected certain formulae for rendering the human body, animals, etc., and these combined in such a magnificent manner clearness of meaning with decorative beauty that the inventions of later generations are but variations on the original theme.

The Egyptian relief stands most in need of explanation; but if the origin of its peculiarities is as deep-rooted as we have said above, there can be no doubt that the sculpture in the round of the Egyptian, and of all pre-Greek artists, must show related features. These Schäfer has pointed out recently and therewith rounded off his work.

We have given here the merest outline of Schäfer's view. What is characteristic is that he has undertaken to test it on nothing less than the whole of the extant Egyptian monuments. The reproach, often heard but seldom put into writing, that his work is over-elaborate betrays a profound misunderstanding of his purpose: Schäfer is not out merely to formulate an ingenious theory, he wants to demonstrate how a particular attitude towards visual impressions, a particular view as to their reality, underlies the whole multifarious structure of Egyptian art. It is of the utmost value for Egyptology that his book should be as complete and comprehensive as it is; there is no type of representation and very few, if any, isolated instances, which cannot be found in it, brought into relation with the dominating idea of all pre-Greek art.

Pre-Greek art, not merely Egyptian art. Let us be quite clear on this point: what is typically Egyptian escapes us here. If the logic of the Egyptian artist is practically the same as that of the artists of Babylon, Mexico and the Gold Coast, then we must consider this discovery as important, no doubt, but as marking no more than a first stage in our quest, from which an inquiry into the nature of Egyptian art can be profitably undertaken.

[1] We cannot share Schäfer's objection to this term (*V. A. K.*, 332). Even if the first author to use it, Verworn, has not very accurately defined its meaning, it is surely more convenient, and therefore better as a scientific term, than the cumbersome compounds "geradansichtig-vorstellig" and "schrägansichtig-sehbildähnlich," which suffer moreover from stressing the notion of "aspect" to which we have also adhered in the text, but which is, as Schäfer admits (p. 97), not strictly speaking relevant. "Ideoplastic" and "physioplastic," on the contrary, indicate the essential facts that either ideas or appearances underlie the forms used in the types of art thus distinguished; and that they do not contain in themselves the whole definition of those contrasting types is a shortcoming which they share, of necessity, with most terms of classification.

[2] *V. A. K.*, 138–147, especially 143.

Naturally Schäfer also realized this[1]. He admits even that the rendering of nature does not affect the essence of art at all[2], and distinguishes in a work of art first a basic, "logical" stratum determined by the attitude towards visual impressions which prevails in the community to which the art belongs; and secondly, upon this foundation, a "layer of expression." We may for the moment accept this division, though the "layer of expression" contains a variety of heterogeneous elements, for instance the content as well as the aesthetic properties of the work of art; in any case this did not matter to Schäfer because he was, until quite recently, occupied exclusively with the basic, logical layer. It is true that he could not there touch upon what was most characteristic in his subject. But he was convinced that, once the strangeness of Egyptian art was explained, its beauty, in all its peculiarity, but also in all its strength, would speak for itself. Its strangeness, however, he found centred in its method of rendering nature. And it remains his great achievement to have shown convincingly that Egyptian art, granted a certain attitude towards visual impressions which differs from ours, is consistent in itself and can be fully understood.

But recently and, one might say, under provocation, Schäfer has devoted more attention to the "layer of expression." For it is no longer the strangeness but the beauty of Egyptian art which is commented upon by the layman. Far from needing a justification or from being regarded as a mere prelude to the "perfect" art of Greece, Egyptian art has been the object of most enthusiastic admiration, and has been acclaimed, in the contemporary movement against impressionism, as an exemplary achievement conforming to the most modern artistic aspirations. Schäfer could not let this assumption pass after having so carefully established the unbridgeable gulf which separates us from the Ancient Egyptians. Even if we create or admire non-perspective drawings or conventionalized sculpture, we cannot possibly do so without aesthetic preoccupation, naïvely, as the Egyptian did, for whom there did not exist an alternative method of representation. Schäfer maintains, therefore, that most modern admirers of Egyptian art acclaim as aesthetic values qualities which are rather of a logical nature.

There is some truth in this contention, but it does not meet the case entirely. In fact there is a strong *prima facie* improbability that such a deeply-felt admiration for Egyptian art, a feeling moreover which is experienced in the first place by artists and art-critics, by those (that is) whose natural talent is most closely akin to that of the makers of the admired objects, should merely be based on a mistake. Schäfer has himself felt the need for a positive refutation of those recent expressions of opinion, and this could only take the shape of an interpretation by himself of the "layer of expression." Two sections of the latest edition of his book deal with this subject (pp. 17–70) and we find there, under the caption "The nature of Egyptian art," the following subjects: characterization of it by examples; relation to other arts; architecture, music and dance, poetry, religion; forms of the landscape. Next follow, under "the creative forces," the following subjects: works of art possess not only aesthetic forces; inborn formal inclinations of artists; material; tools; technique; content; use; style; priesthood; kingship;

[1] One instructive example with which Schäfer himself distinguishes the various spheres (*V. A. K.*, 343): "That we see in each Egyptian drawing of a hand the thumb and fingers fully figured side by side, that belongs to the style of all pre-Greek, ideoplastic work; that the four fingers are put closely together and show the nails drawn in profile, that is Egyptian style. That the fingertips are elegantly curved backwards, that is the style of one particular period in Egypt: the New Kingdom."

[2] *V. A. K.*, 46; 229, end; 330.

artists. Naturally such subjects, treated by a scholar and a connoisseur like Schäfer, give rise to discussions which are most precious and illuminating. And yet they remain a series of unsystematic remarks, striking and most valuable digressions indeed, but unsatisfactory because their number and arrangement seem arbitrary and without finality. If we remember that this book was originally written to explain the rendering of nature in Egyptian art, and if we next glance over the headings enumerated just now in our text, the reason for this inadequacy becomes clear: for here precisely is the lacuna revealed to which we have drawn attention in the first section of this paper: on the one hand Schäfer has established the logical foundation upon which Egyptian art was developed; on the other he is now attempting to appreciate it within the context of cultural history. The critical preparation, however, to which art must be submitted before it can suitably be assimilated by cultural history, is nowhere to be found. Egyptian art in itself, as a peculiar formal phenomenon, has not been made the focus of attention at all. This omission has two far-reaching consequences. In the first place Schäfer loses the only possible approach to an understanding of the aesthetic value of Egyptian art, which lies in the elucidation of those formal qualities that possess an aesthetic value for the Ancient Egyptians, as well as for us. He furthermore loses the opportunity of checking the precise extent of his "logical layer" within the work of art. And it will appear upon closer scrutiny that Schäfer overrates the influence of the pre-Greek system of rendering nature, both as regards the forms of Egyptian art and as regards the true source of modern admiration; and if he does not underrate the aesthetic values of Egyptian art, he most certainly underrates our ability to bring these values within objective and intelligible formulae, which enable us to understand them intellectually in addition to submitting to the feeling which they inspire[1].

If we have found in the history of Schäfer's own work the reason why he falls short in this matter, we may add that the issue has been hopelessly confused by the admirers of Egyptian art themselves. Even if one leaves alone their purely subjective expressions of delight, which are not capable of rational treatment, there remain discussions—like the well-known chapter in Frau Fechheimer's *Plastik der Aegypter*—in which authors do not confine themselves to stating which aesthetic properties are peculiar to and admirable in Egyptian art, but interweave such statements with quotations from Egyptian texts and references to Egyptian religion. Such discussions obviously leave their legitimate concern with art to embark on a treatment of Egyptian civilization as a

[1] In *Die Leistung der ägyptischen Kunst*, p. 36, Schäfer shows how the stylistic peculiarities of the works of art depend on the inborn "formal propensities" of the artists which we can "read off" from their works but never "explain." This shows the difference in standpoint between him and the modern school of philosophy of art. As soon as the artist is taken into account, in every psychological "explanation," we do lose at once contact with reality, more than ever in the case of ancient art. But we are not bound by Schäfer's alternative of either "explaining" psychologically the propensities of the artist or hesitatingly registering some peculiarities which strike us in a work. It is possible to take the works of art themselves, in their undoubted actuality, as our object, and explore their formal qualities exhaustively and systematically. Not psychology but morphology is required. We are particularly anxious not to be misunderstood where we emphasize the limitations of the work of a scholar for whom we feel the deepest admiration. It would be absurd to suggest that Schäfer is not fully alive to the aesthetic value of Egyptian art, and we may quote a few places, such as *V. A. K.*, 9, 43 ff. 189 etc., where he actually touches upon this aspect of it. But he does not know how to turn it to use in a scientific appreciation of Egyptian art. It is here that Egyptology can profit from the discoveries of the philosophers of art mentioned in the beginning of the third section of this paper.

unity manifest in the various departments of spiritual life. If Schäfer objects to this treatment because of the insufficiency of our material or of the incompetence of an author (as in the case of Worringer) one can heartily agree. But it is obvious that the real problem is entirely obscured in such a controversy. The essential problem is whether we can make statements concerning Egyptian art which attain to scientific accuracy, and so are conducive to a better understanding of the subject. We have, in the first section of this paper, given the theoretical considerations which justify those statements if they conform to a certain standard of objectivity, and which, in fact, establish the position that they alone can do justice to the most essential quality of Egyptian art. We must now show their application in an example. This, in the absence of illustrations, is an awkward undertaking, for we are apt to lose sight of the fact that the abstractions with which we deal have actual existence only in the rich variety of modifications extant in the monuments. We may try, however, to consider here, as far as the present circumstances permit, such a fundamental formal characteristic of Egyptian sculpture as its "cubism[1]."

The cubism of Egyptian statues in the round is most pronounced in the case of works in stone. It consists, roughly, in an approach of the composition to a series of block-forms. The main surfaces and planes, and also the main lines (such as those of the limbs), are so disposed, at right angles or in parallels, as to suggest the squareness of a block. It is not as if the finished statue were imperfectly freed from its original block of stone. On the contrary, its very cubism stresses the three-dimensional definition of the statue by a clearer elaboration of its coordinates than less cubistic forms of sculpture allow; and thus the statue is emphatically constituted as a self-contained object in space.

If it is, for this very reason, well suited to be admired by contemporary sculptors whose ideals have been voiced in this country by Mr. Eric Gill, and in Germany, for instance, by Adolf Hildebrand, must we therefore judge the recognition of the cubism inherent in Egyptian art as merely a product of modern imaginings? Is Schäfer right to brand this approach as an "egoistical enjoyment" of Egyptian art, sharply contrasted with a purely scientific, unselfish study? How, then, does he account for this cubism, the existence of which cannot be denied? He considers it a necessary corollary to the pre-Greek way of rendering nature; it follows from the predominance which the four main aspects (front, back and sides) assume in the consciousness of the pre-Greek artist. But here we find that exaggeration of the importance of this factor to which we have alluded already, and it is easy to show that Schäfer's explanation does not account for the fact. In the first place we know other schools of pre-Greek art; they share with Egypt the method of rendering nature but they do *not* show this cubism in their statuary, and in some cases, for instance in Babylon or in the Congo, they adhere to perfectly well-defined but completely different aesthetic formulae, as we shall see.

In the second place the history of Egyptian art itself shows us that the cubistic forms were deliberately chosen from amongst other possibilities. During the early dynasties attitudes are admitted in statuary and details are arranged in a way which is definitely

[1] The term is bad in so far as it might suggest any connection with a certain school of modern art. But as it is such an extremely useful word to denote a set of aesthetic peculiarities, and as, on the other hand, the particular modern movement denoted by this word is already defunct and its programme forgotten, there is every chance that "cubism" may survive with some such connotation as we have given it in the text without causing actual confusion.

less cubistic than those which the mature works display[1]. In the confusion of the two Intermediate Periods similar phenomena can be observed. But each time when sculpture rises again to its full power, after the political upheavals have lost their effect, the variations to which we refer are dropped. Why is this? The only reason which presents itself is also valid for us; the types accepted by Egyptian tradition are aesthetically superior to the others.

Let us consider this statement somewhat in detail. We have already noticed a first aesthetic quality which the cubism of an Egyptian statue possesses: its self-sufficiency, self-containedness, its complete plastic corporeality, its independence as an object in space clearly constituted by the emphatic elaboration of its coordinates from the block of stone of indeterminate extension. This quality Central American art, for instance, does not seem to possess; in Babylonian sculpture, if present in any marked degree, it is the consequence of an entirely different aesthetic formula: not the cube but the cylinder is the ground-form underlying sculptural compositions in that country, and its importance, as regards corporeality, is found not in a stress on coordinates but in the possession of an unbroken circular surface which, returning on itself, defines the spatial limits of the object in conjunction with the vertical axis[2]. If we choose, at random, a third example we may refer to negro sculpture, which achieves the same end by a much more complicated and subtle proceeding: besides a common use of cylindrical bodies there is a certain stress laid on the depth (if we regard the front view) by a slight bending of arms and legs in standing statues, by an accentuation of forward projections such as breasts, forehead and stomach, the last two parts often shaped as termini of a curiously scooped-out plane of great efficacy from the view-point of corporeality.

In all these cases, in Egypt, Babylon and Negro Africa, we have to deal with an art which renders nature in the pre-Greek way; in all three cases the statues are symmetrical, "frontal," "geradansichtig." But all this, though it should be realized, is of entirely secondary importance in comparison with the strikingly different solutions found in these three cultural provinces of the problem of how to give corporeality to a statue. And the study of these different solutions of a formal problem will lead, if followed up, to an insight into the essential differences between the art of those provinces, and into the mentality of its makers.

With the problem of corporeality we have not exhausted the aesthetic significance of the cubism of Egyptian art. A second aesthetic quality lies in the harmony which it is able to produce between material and form in Egyptian stone sculpture; it does admirable justice to the impenetrability, weight, massiveness and refractory nature of the material; and the relation of works in stone to those in other materials should be investigated[3].

[1] *E.g.*, *Hierakonpolis* I, Pl. ii, or Capart, *Débuts de l'art*, fig. 180, both with an anti-cubistic disposition of arms and legs, though the statues are, of course, built up in accordance with the pre-Greek method and show, in fact more clearly than aesthetic perfection would allow, the predominance of the four main aspects. See also the discussion of the seat, p. 41.

[2] Examples are given below, pp. 47—48.

[3] To this subject another classical scholar, E. Loewy, has devoted an admirable study, which, however, leaves everything for Egyptian art still undone (*Stein und Erz*, in *Kunstgeschichtliche Anzeigen, Beiblatt der Mittheilungen des Instituts für Oesterreichische Geschichtsforschung*, Vienna, 1913)—How much a special inquiry into this matter is needed becomes clear when we notice that Schäfer (*V. A. K.*, pp. 48–50) touches in the course of one discussion not less than three distinct problems without determining the exact province of one of them: firstly the aesthetic qualities of stonework in comparison with wood- and copper-work (and here should also be distinguished the problem of composition—to which Schäfer's "Geschlossenheit"

A third quality of Egyptian cubism is the harmonious contrast which it affords between organic and inorganic form; the relation between architecture and sculpture may be considered as part of this formal problem, for if, in the statues of Rahotep and Nofert, this contrast is effected by leaving stone standing as a smooth background behind the figures, in the mortuary temple of Chephren the same effect is achieved by placing the statues against the smooth square pillars, and in the New Kingdom temples by building up pillars and figures together, as in the case of the Osiride pillars. It is typical of the Egyptian that he requires smooth stone for the contrast with the organic form and never uses the rough matrix of his statue, as Michelangelo and Rodin did. But that in all cases the contrast in Egypt is harmonious and not discordant follows precisely from that cubism which reshapes organic forms so that they are not incongruous with their block-built surroundings.

We may take for our last example in the round a matter of detail, and for that purpose follow up the last mentioned formal problem, the contrast between organic and inorganic form within the work of art itself. This can best be done in the case of seated statues, for here the contrast exists between figure and seat. In passing we may remark that the arms of chairs, which we know to have existed in reality, are never rendered in sculpture in the round, no doubt because they would confuse the contrast which we have just mentioned. Furthermore we note that down to Zoser's time the seat is more or less elaborately shown to be a chair, with legs and curved supports; such details are indicated especially on the sides. In the famous diorite statue of Chephren there is, in the front view, a very intricate play of contrast between the sculptured lions of the throne-legs and the comparatively gigantic figure of the king. But Egyptian art rejects, on the whole, all these elaborations of detail in favour of the least realistic but most effective contrast: already in the limestone statues of Chephren we find the seat reduced to a simple square block of stone, with, at most, a shallow decorative design in relief on the sides. Here again our own aesthetic judgement gives us the only explanation of this decision of Egyptian art by revealing the purity and strength of the contrast which exists between the conventionalized seat and the rounded forms of the figure.

Having dealt with some aspects of sculpture in the round, and having also discussed one representative matter of detail, we may now glance for a moment at relief work. We may choose as representative the period of El-'Amarnah, during which the reliefs reflect very completely the tendencies of the new school of art. There is no doubt that Schäfer is the greatest authority on the period, and it is not a stricture on his invaluable work, but merely a statement of a significant fact, to say that we do not possess from his pen a precise account of the points in which 'Amarnah art differs from what

refers—and that of harmony between material and form); secondly the different possibilities of stonework in comparison with wood- and copper-work, where the technical limitations properly belong; and thirdly the different nature of art in its infancy, maturity and decadence, a problem not explicitly posed by Schäfer but introduced tacitly in the choice of some of his examples. For instance, it is not typical for stonework that the sceptres of the standing figure are shown as in the Louvre statue of Sepa, where the early artist proceeded with childlike care, not daring to subordinate accuracy to beauty; typical for the mature stonework is that these sceptres are simply omitted because stonework will not allow of the disposal of the arms in such a way as to make the harmonious incorporation of the sceptres possible (in contrast with wood- and copper-work). Schäfer is, even in such discussions as the one to which we refer, throughout under the spell of the question how nature is rendered and this explains the confusion of the argument. Compare also the great importance which he attaches to the "filling," the stone left standing between arms and trunk for instance, an importance which it does not seem to possess if considered as a formal element.

precedes it. We have to thank him for numerous studies which explain the meaning, the content of works of the new school; we possess furthermore some fascinating chapters in which he describes to us the life, religion and art of Akhenaten's time. But his treatment of the artistic innovations themselves may be summed up in the following quotation which serves to introduce the word "expressionism" as a label for the 'Amarnah period in the history of Egyptian art. Schäfer says: "The traditional subtle beauty of Egyptian art, excluding all excesses, must now suddenly have appeared empty and external to the young king and his circle, too narrow, in fact, to contain the stormy feelings which possessed them[1]." This surely is true. It is also true that the reliefs at El-'Amarnah are more expressive of feeling than those which precede them. But if Schäfer applies to this art the term "expressionism," which denotes a movement in modern art in which the rendering of visual impressions is sacrificed to a use of shapes and colours chosen because of the expressive value they possess for the artist, he either confuses "expressionism" and "expressiveness" or he introduces an explanation for the new features in 'Amarnah art without having studied these features in themselves. This omission becomes particularly clear if we observe that Schäfer supports his interpretation by references to the literature and the religion of the Atenists.

On the other hand a formal analysis of the new art of El-'Amarnah was attempted in the Egypt Exploration Society's publication *The Mural Painting of El-'Amarnah.* It was shown in detail, by studying first isolated figures, then those combined to form groups, and finally the wall-decorations as a whole, that we find there, in contrast with older Egyptian art, "a conscious attempt to make the visual perception, the observation of the actual appearance of nature, the basis of the artistic process." The heightened expressiveness of 'Amarnah art was not stressed particularly because it was considered to be merely a consequence of the new importance attached to appearances, which allowed the expressive attitudes and groupings observed in actuality to be rendered in the reliefs and drawings[2]. According to this view, then, the prevailing attitude at El-'Amarnah was diametrically opposed to "expressionism"; and this view, no less than Schäfer's, can be supported by reference to the literature and religion of the period, in which great stress is laid throughout on "truth[3]."

[1] *Aegyptische und heutige Kunst*, in *Die Antike*, III (1927), 240.

[2] In reply to Schäfer's objection that we have underrated there the emotional element in 'Amarnah art (*V. A. K.*, 364, n, 30 *c*) we should like to refer to our interpretation of the relief from Parennefer's tomb, *Mural Painting*, p. 9.

[3] For the meaning of the word in this context we must quote from *Mural Painting*, 27: "The truth at which Akhenaten was aiming was, at least in the sphere of art, truth of a particular and very limited kind, the subjective truth of the senses; it was characteristic of Akhenaten's self-centred nature that he ignored the objective, universal truth which the traditional formal language of earlier Egyptian art had tried to express." Thus the formulae with which Egyptian art renders the concept 'king' imply youthful strength, dignity, health; statues are merely repetitions of the formula with such modifications of facial features as to make identification in each case possible. Any given Pharaoh may have had only one eye, or may have been an imbecile, or lame, but we shall never know it from his portraits, not because the sculptor was anxious to flatter his master, but because such incidental infirmities were less important to an Egyptian than the general truth that the figure represented the King of the Two Lands; and from this notion the possession of perfect physique, of dignity, etc., was as inseparable as the wearing of the uraeus. But when, under Akhenaten, the sculptors worked on his Karnak statues, the king must have questioned the truth of the portraits which they were making in accordance with the age-old generalizing attitude of their people. He must have pointed out to them his own physical peculiarities and insisted that they should be rendered. No claim could be more revolutionary. For on the one hand Akhenaten must have offended the

Thus we find two theories in conflict, both pertaining to cultural history, both supported by evidence from written sources of the period, but explaining new features in the art of El-'Amarnah, the one as a consequence of an increased sentimentality, a predominance of feeling over restraint and traditionalism, the other as caused by an increased value attached to "truth." Within the scope of cultural history the conflict is insoluble, unless we question the new art itself as to its origin: it then appears from an analysis of its forms that the new expressiveness is a consequence of a closer rendering of visual impressions, for side by side with certain forms which are, indeed, expressive no less than realistic, there are many others which have no expressive value at all but can only be explained as an attempt to render actual appearance[1]. Thus the conflicting explanations of the art of El-'Amarnah provide a particularly clear example of the necessity of formal analysis as a preliminary stage in the interpretation of art, and of the effect of the lacuna left in Schäfer's work between the elucidation of the logical basis of Egyptian art and its interpretation in the context of cultural history. We hope then no longer to meet with opposition when we repeat that there are a number of facts relevant to art which have to be organized as scientific knowledge; which, from being first perceived by aesthetic feeling, must be made conscious, intelligible and thereby expressible; and that such an undertaking cannot be dismissed as "egoistical enjoyment" of Egyptian art, in contrast with the scientific, historical attitude which asks "what has been, and how has it been?[2]" On the contrary, we may claim with Wölfflin that a formal analysis of ancient works of art is a condition *sine qua non* of their understanding[3].

moral susceptibilities of his contemporaries by thus giving personal and incidental characteristics precedence over norms universally valid and therefore exclusively worthy of being incorporated in the monuments. And on the other hand he required his sculptors to break radically with every tradition of their craft. Let us not forget that an Egyptian artist was trained in building up figures, according to fixed schemes, out of parts which he had learned previously to form according to fixed formulae. He could not possibly look naïvely at nature with a view to copying it; his ostraca, sketches made of first impressions, are there to prove to us that this was so; we clearly see in them that there was never a question of visual impressions being obtained first, and being then translated into conventional forms; the visual impressions became actually conscious in the shape of those conventions. Thus the Karnak sculptors were required by Akhenaten (that is, by an outsider, but by one who had the power to make compliance with his wishes a matter of life and death) to execute their work according to a standard of perfection with which they were not conversant and which went against their whole method of conceiving a piece of sculpture. What could they do but return to their rejected models and belabour the shapes and distend the usual forms which, of necessity, must form the basis of their modelling? Surely they would rather exaggerate than risk to appear unwilling to do as they were told. If the colossi, requiring in any case monumental treatment because of their size, were singularly unsuitable for such experiments, we may see in other early works of the reign, such as the Berlin family-relief and its cognates, extremes to which the artists were driven before, at El-'Amarnah itself, some masters found the aesthetic possibilities of the new attitude towards appearances which Akhenaten required. But 'expressionism,' *i.e.* a wilful distortion of observed forms in order to express emotion, enters nowhere into the matter. If in certain instances (the king praying; the rewarding of an official) emotion was observed in actual life, the newly legitimized interest in the rendering of appearances led to a rendering of these observations alongside with others in the reliefs. Thus the expressiveness of Egyptian art was heightened at El-'Amarnah, but the process by which this was done was the opposite to that adopted by 'expressionists.'

[1] Here belong such details as the drawing of the outside of the foot with all five toes, and all the facts relating to composition which were enumerated in *Mural Painting*.

[2] *Die Leistung der ägyptischen Kunst*, 10.

[3] Preface to the sixth edition of *Kunstgeschichtliche Grundbegriffe*.

The further inquiry into the nature of Egyptian art should never lose sight of Schäfer's work, because we have to account throughout for a rendering of nature based on premises which are not our own; and also because he so admirably demonstrates the variety of ways in which form in Egyptian art is affected by this pre-Greek attitude towards visual impressions. But if at all times Schäfer's work must form the starting-point for the study of Egyptian art, progress now lies in a direction which he has consistently avoided.

III

The systematic study of art as such, of art as creation of form, was only inaugurated about forty years ago. But Egyptian art has actually been considered by Riegl, the founder of the new "science of art[1]," in his epoch-making *Stilfragen*, at least as far as its decorative characteristics are concerned. He discovered two leading forces in Egyptian ornamentation: "the accentuation of terminations," and the "filling of angles." He also drew attention to the absence of functional significance in the decorative art of Egypt. The peculiar character of a border, for instance, or of a corner, is as little grasped (or, at least, as little expressed in design) as, in architecture, the weight-bearing character of the columns. Riegl's main theme is, however, the continuous development of vegetable ornament, as an illustration of the decisive influence of formal qualities in the history of art. He demonstrates that the Egyptians were the first to stylize flowers for ornamental purposes, that their designs were taken over and elaborated by Phoenicians and Assyrians, acquired an unprecedented richness of harmony in Greece, and survive to this day.

In its subsequent growth the new "Kunstwissenschaft" has drawn its material naturally from schools of art better known and nearer to us than that of Egypt. And if the study of Egyptian art has recently been elucidated by an application of the newly-won insight, this gain has been made incidentally; a number of classical archaeologists have undertaken to apply to their own subject the results which Riegl and Wickhof, Dvořak and Wölfflin, Schmarsow and Wulff had obtained in dealing with the art of other periods. Thus these classical scholars touched upon Egypt whenever, in their research, early Greek art required the foil of earlier Near Eastern achievement. And it is not altogether fair to lift their references to Egypt from the contexts in which they are sometimes buried; but we do so because nothing seems so well suited to suggest what remains to be done as the success of these inroads of outsiders into Egyptology.

Two very important works can merely be mentioned here without any attempt at summarizing their contents. In the excellent history of ancient oriental art by Curtius[2] and in Evers' standard work on Middle Kingdom sculpture[3] formal analysis plays a leading part, and its results are most illuminating. But both Evers and Curtius avowedly set

[1] "Allgemeine Kunstwissenschaft" is an awkward term to translate. It is distinct from "Aesthetic" in that it is not concerned with the idea of the beautiful but with the actual works of art in the fullness of their varied significance. And "philosophy of art" seems to suggest an interpretation of art as a means to an end, which not only runs counter to much of contemporary thought but also should not be tacitly assumed in the designation of the science which has to investigate, amongst others, this very problem.

[2] Ludwig Curtius, *Die Antike Kunst*, I, in *Handbuch der Kunstwissenschaft*, begründet von F. Bürger, Berlin-Neubabelsberg, 1913.

[3] Hans Gerhard Evers, *Staat aus dem Stein, Denkmäler, Geschichte und Bedeutung der aegyptischen Plastik während des Mittleren Reichs*, München, 1929.

out to interpret art in connection with ancient civilization, and the subjectivity of their work increases, of course, in proportion with its interpretative character. Moreover, the formal analysis is so deeply interwoven with the account of the historical development that it does not reach the stage of generalization, but exists throughout in the shape of comment on single works or periods; these appear, in fact, more often than not in an entirely new light, thanks to the acuteness of observation and the sensitive understanding of these authors. Moreover, the second volume of Evers' work consists of a reasoned catalogue of the details of Middle Kingdom sculpture in their historical development, by means of which the dating of newly found works should be an easy matter, while its distinctive features compared with the art of the Old and New Kingdoms are clearly established.

A work which provides us with purely objective data is Moebius' inquiry into the history of the seated figure[1]. The study of the type reveals, among other things, a striking contrast between Egypt and Babylon. In Egyptian art the seated figure is a predominant motive, admirably suited to a tectonic, cubistic treatment. The Babylonians hardly do justice to the aesthetic possibilities which it contains. In fact Moebius has to coin the phrase "oriental silhouette" to follow up in Anatolia and early Greece a seated type in which the angles at knees and hip, which are typical for the seated posture, are so far neglected as to produce a more or less continuous line from neck to feet. Some early statues one must actually turn round to be sure whether they are meant as seated or standing figures. Moebius draws attention to the fact that the Babylonians mostly treat figures wrapped in heavy clothing, a subject which it is difficult to bring into line with the exigencies of the seated type, while it suits the standing figure well. The paper contains, furthermore, interesting remarks on the composition of more than one statue into groups, the realistic development of the motive at El-'Amarnah, the influence of the Egyptian type on Assyria.

The work, however, which is most completely in line with the considerations with which we started and demonstrates most clearly how much a formal analysis of Egyptian art may contribute to its understanding, is beyond doubt Matz' monograph on early Cretan seals[2]. Matz considers in the course of his argument three well-defined problems

[1] Hans Moebius, *Über Form und Bedeutung der sitzenden Gestalt in der Kunst des Orients und der Griechen*, in *Mittheilungen des Deutschen Archaeologischen Instituts, Athenische Abteilung*, Vol. XLI, Berlin, 1927.

[2] Friedrich Matz, *Die frühkretischen Siegel, eine Untersuchung über das Werden des minoischen Stiles*, Berlin, 1928. We must refer here to two articles of Matz and one of Krahmer, of which we cannot accept the conclusions. Matz (*Zur Komposition aegyptischer Wandbilder*, in *Jahrbuch des Deutschen Archaeologischen Instituts*, XXXVII, 39 ff.; and *Das Motiv des Gefallenen*, in *op. cit.*, XXXVIII–IX) objects that Schäfer's interpretation does not separate Egyptian art from primitive art all over the world, and attempts to show that the differentiation existed even before the Old Kingdom in an adaptation of ideographic formulae to visual impressions. The first stage of that adaptation is the introduction of a groundline on which the figures are placed; this occurs on the Narmer—in contrast with the earlier Hunter's—palette. The next step is the introduction of the frieze, which cuts up a decorated surface into a number of horizontal strips. Matz maintains that, whatever was the motive that led to the introduction of the frieze, its employment must unavoidably produce a conception of the corporeality of the objects which it contained; these, standing on the groundline, would appear against the remaining surface of the frieze, *i.e.* the background, in a way which suggested vaguely the sky or soil mounting to a high horizon. To prove this point, and to show its development in the history of Egyptian art, Matz studies in detail hunting and battle scenes, and, as a detail from these again, the fallen figure in Egyptian reliefs. It is obvious that we are on very dangerous ground with Matz' contention. It is not a far cry from here to the popular, mistaken, perspective interpretation of Egyptian drawings which Schäfer has been at such pains to dispel. And the

and contrasts the solutions which are adopted in Egypt, Babylonia and Crete respectively. The problems are: the decoration of a circular surface; the groundform of plastic composition; the interrelation of the wall-decorations within a room. It is extremely important that Matz, starting from a registration of observed facts, finds that the solutions of these problems in one civilization are intimately connected, and contrast with the solutions found in the other two cultural centres. The inference can only be that the similarity of the solutions found in one civilization for these three problems is due to an element peculiar to that civilization or to the mentality of its bearers. No better proof could be given of the essential character of the discoveries to which a formal analysis of ancient art may lead.

The decoration of a circular surface in Egypt is throughout effected in one of two ways (pp. 39–50): either the surface is cut up by two lines crossing at right angles in the centre, or the circular character of the surface is ignored and adapted as well as possible to a frieze-decoration. The radial cross occurs already on the white-on-red cross-lined bowls of the Early Predynastic Period, and recurs in glazed bowls of the New Kingdom, where the simple cross has become more elaborate and mostly consists of four lotus flowers. Sometimes, especially in metal bowls, we find animals or boats arranged in what looks at first sight like a continuous frieze round the centre, but appears at once, on closer scrutiny, to be a cross-wise composition. If we then remember that many a flower-shaped faience calix, round in section at the stem, takes all of a sudden a square shape at the rim, we see the appropriateness of Matz' remark that the Egyptian attempts in all these cases the "squaring of the circle." Examples of this type of composition can be multiplied: we may add to the foregoing some of the spiral designs on the scarabs of the Middle Kingdom, which are on the whole however much freer than similar compositions in other periods; yet often the four main coils of the designs lie at the end of the two main axes which, if drawn, would cut up the oval surface in four equal parts. It is clear that this type of decoration may easily develop into one which stresses *one* of the two axes only, and neglects the other. This happens in some button-seals and in certain glazed bowls where above and below a line a "horizontal" scene is drawn, so that one must turn the bowl round, after having looked at one scene, to contemplate the other. One step further and we find bowls where a main segment is cut off by a horizontal line and contains a frieze-like design, while the remaining segment is merely treated as subordinate and contains filling-ornament. Here the circular character of the surface which had to be decorated is simply ignored. But even in the other cases it is clear that the circle

present writer is convinced that Matz' assumption is not justified, except in the case of the art of El-'Amarnah and its Ramesside descendants, where a timid approach to the rendering of spatial relations is attempted but hardly found. We may agree with Schäfer that any interpretation of Egyptian art which does not appeal to an adaptation of visual impressions in the last resort only, when all ideoplastic means of interpretation have failed, loses all certainty of attaining the original meaning of the picture, and risks "seeing into it" what was never intended by its makers.

If Matz thus tends to confuse the essential contrast between perspective and pre-Greek art, Gerhard Krahmer (*Figur und Raum in der Aegyptischen und Griechisch-Archaischen Kunst*, 28tes Hallisches Winckelmannsprogramm, Halle, 1931) seems to have focussed that difference so intently that the two types of artistic production seem to him too far apart for one human being to understand both. It seems to us that he has contributed nothing to his subject which cannot be found in other discussions with less intricately-phrased abstract notions. A certain number of remarks are interesting, as those referring to the gradual increase in detail of the ideoplastic formulae which are apt to approach the organic form and the understanding thereof "as it were by way of integration" (p. 13), or about the absence of the pure profile in Egyptian relief (p. 62 f.).

did not provide the Egyptians with a particularly congenial decorative problem to solve. The most typical characteristic of the circle, that it is defined by its centre and its circumference, and that a design, to do justice to it, should be neutral in any direction except in that of the radii, did not lead to any decorative discoveries in Egypt as it did in Crete. Matz and especially Valentin Müller[1] show that the Cretan not only invented remarkable geometrical designs of a whirl-type, but even composed elaborate scenes in such a way that everywhere the figures use the circumference as groundline and are therefore standing along the radii. This, by the way, explains the rocks "hanging down" from the top of the Cretan frescoes. In Babylonia (pp. 80–88; 93) we find, in the stamp-seals and in the decorated bowls from Susa I, for instance, designs which differ from those of Crete and Egypt alike. They do not neglect the typical elements of the circle nor do they fill it, as it were, from the outside inward, but they use complicated designs in which all the elements—centre, periphery and radius—are equally reflected. It is obvious that this discussion cannot be followed satisfactorily without illustrations, but these are provided in Matz' book, to which we here merely want to draw attention. In the absence of these it seems furthermore pointless to follow up the argument by which the criteria of style, once established, may be used to trace Asiatic influences in Crete or Egypt, or Egyptian influences radiating in opposite directions, problems which concern even those archaeologists who do not consider art their special subject. The soundness of the stylistic criteria discovered by Matz is vindicated, as we have already suggested above, by independent phenomena observed in the field of sculpture and architecture (p. 50; 89–93). The cubism of Egyptian sculpture which we have discussed above is an obvious correlative of the "squaring of the circle." But any visitor to the British Museum who steps aside from the Egyptian Sculpture Gallery to look at the statue of Assurnasirpal will be struck by the absence of such a cubism. In western Asia it is not the cube but the cylinder which underlies sculptural composition. A well-known statue of a seated goddess discovered by Mr. Woolley at Ur[2] shows this strikingly: the hands folded on the breast unite the arms in a horizontal curve which accentuates the circumference of the cylinder; the uniform covering of vertical wavy lines, which represent a garment if we consider the "content" of the statue, finds its formal significance in the stress they lay on an unbroken surface; especially in the side-view the approach to the cylinder is remarkable; moreover, the lines continue there in the statue's hair-dress, thus unifying the greatest possible vertical extent of "cylinder-mantle." Finally we notice the birds at the side of the throne, which curve all round the block of stone, their tails being visible in the back-view, and their heads belonging almost to the front-view; all of the forementioned arrangements would be abhorrent to an Egyptian artist. The bronze statue of Napirasu in the Louvre is another clear instance of the contrast with Egypt, arms and skirt beautifully accentuating the cylindrical ground-form. Or take the obelisks: in Egypt the square section is acknowledged by the decorative scheme, which treats each side as an independent unit, complete in itself. The "black obelisk" of Shalmanasser in the British Museum is square in section, and I wonder whether that shape was adopted in imitation of the impressive Egyptian monuments. For the essential qualities of this square object are as little exploited in Assyria as the circular surface was in Egypt: continuous horizontal friezes of figures run all round it, and on the neighbouring obelisk of Assurnasirpal we find horses in relief simply bent round the corner, so that their bodies are

[1] Valentin Müller, *Kretisch-Mykenische Studien*, in *Jahrbuch des Deutschen Archaeologischen Instituts*, XL, 85 ff.

[2] *Antiquaries' Journal*, VI, Pl. li.

on one side of the obelisk and their heads on the other. If Egypt forces squareness into the circle, Assyria evidently forces cylindrical or rather circular continuity on the cube; and it is quite striking that in the decoration of rooms the same contrast prevails (we leave out Crete for the sake of clarity). Both Egypt and Babylonia use friezes; but the walls of an Egyptian room, for instance in a Theban tomb, are treated as entirely independent units; the arrangement of friezes on the one wall bears no relation to those on the other. The total decorated surface of a wall is on all sides surrounded by a block-border, and the corner of a room is merely the line where two such borders meet. In the palace at Khorsabad in Assyria, on the other hand, we find a frieze of figures running without a break all round the room, all moving in one direction towards the figure of the king; thus the "square" character of the room is totally ignored, and in fact the artists try, as Matz shows, to find solutions which will enable their design to pass round the corner with the least possible harshness of composition.

Thus three at first sight independent formal problems: the decoration of the circle, the composition of sculpture in the round, and the wall-decorations in rooms, are solved in Egypt, Babylon and Crete in a way which is peculiar in each case to the civilization in question. The criteria formulated by Matz thus appear to affect the artistic production down to the very roots by which it draws sustenance from the common ground of all culture: the peculiar mentality of the human beings who created it.

Matz's work is but a beginning. It is obvious that a complicated phenomenon like the art of a people cannot be explained by one or two formulae. It is also obvious that only those who are conversant with the material in a much more comprehensive way than Matz, that only professional Egyptologists therefore, will be able to extend and refine this research so that one may explain variations due to the particular nature of certain objects, foreign influences affecting others and so on. What we hope to have shown in the preceding pages is merely that such research is necessary, not only to obtain a deeper insight into Egyptian and ancient oriental art, but actually to obtain the basis upon which an interpretation of art in the context of cultural history can be more safely undertaken.

THE ART OF THE 'AMARNAH PERIOD

By ELAINE TANKARD

The peculiar character of the art of the 'Amarnah period has generally been attributed to an increased observation of nature connected with Akhenaten's search after truth. In the truthful representation of natural objects 'Amarnah art is at least equalled by that of the Middle Kingdom, as for instance the wall-paintings of Beni Ḥasan. The outstanding feature of the art of El-'Amarnah is the excessive fondness for curved lines, which is merely the normal development of a tendency inherent in the art of the New Empire. Only the rate of development is abnormal. It has long been acknowledged that the various periods of Egyptian art are marked by a gradually increasing use of curves. In the Archaic Period, natural curves are modified and reduced almost to straight lines. In the Middle Kingdom lines flow more smoothly, and in the New Empire curves are often used deliberately to obtain a flowing outline even where a straight line would express an object with greater truth. The art of El-'Amarnah is not satisfied with simple curves; draperies which should hang straight down are given an S-shaped outline, ribbons have curly ends, and the human body is composed of S-curves. Even fingers curl back at the tips, in conformity with the desire for complicated curves.

A similar development may be observed in Greek art though it is not carried to such extreme lengths. The severe line of the archaic vase paintings grows almost imperceptibly into the curves and flourishes of the vase paintings of Meidias, and the straight hanging draperies of the Korai of the Acropolis develop into the elaborately curling folds of the draperies of the Nike Balustrade. Even here there is a hint of curves for curves' sake, and the Roman version of these reliefs shows an excessively curvilinear treatment of the subject.

The growth of the curvilinear style is the inevitable result of increasing technical facility. When execution outstrips conception, technical facility expends itself in a striving after elaborate effects which involve the use of complicated lines and demand an accumulation of accessory details. In the art of El-'Amarnah this accumulation of detail has been attributed to a renewed interest in and observation of nature, but it is merely due to a lack of restraint which invariably follows when the balance between conception and execution is disturbed.

It is possible to cite one example of truth to nature. A striking resemblance has recently been observed between the portrait of Amenophis IV and a modern Egyptian who illustrates the effect of tuberculosis on the racial type[1]. This resemblance tends to prove the fundamental truth of the portraits. Here truth begins and ends, for the king's peculiar and exceptional type is adopted as the standard for his subjects and sets the fashion for his time.

[1] *Journal*, XVI, 93 ff., Pls. iii and iv.

KING AY, THE SUCCESSOR OF TUTʿANKHAMŪN

By PERCY E. NEWBERRY

Although so much has been written on Akhenaten and his immediate successors, we are still far from a clear understanding of the history of the royal family at the end of the Eighteenth Dynasty. Of Akhenaten himself we only know that he was a son of Queen Tyi, and of the ancestry of Queen Nefertiti and of Kings Smenkhkerēʿ and Tutʿankhamūn nothing whatever is definitely known. Smenkhkerēʿ made good his claim to the throne of Egypt by his marriage to Meritaten, the eldest daughter of Akhenaten; after their death, Tutʿankhamūn ascended the throne by virtue of his alliance with ʿAnkhesenpaten (afterwards called ʿAnkhesenamūn), who was then the eldest surviving daughter of Akhenaten. That Tutʿankhamūn was immediately succeeded by Ay is now definitely known, for a painted scene on one of the walls of the tomb of the young king represents Ay officiating at his predecessor's funeral. But Ay was not of royal descent, neither was the Queen Tyi, with whom his name is usually associated. How then did Ay make good his claim to the throne of Egypt?

A small monument has recently come to light which enables us to answer this question. Mr. Blanchard of Cairo acquired last spring, from an unknown site in the Delta, a blue glass finger-ring which has engraved on its bezel the inscription given in Fig. 1. Here we have side by side the prenomen of King Ay and the name ʿAnkhesenamūn, both names being written in cartouches. ʿAnkhesenamūn was Tutʿankhamūn's widow and the "Heiress" of the family of Akhenaten; the two names side by side on this ring, notwithstanding the fact that no titles are given, can only be interpreted as evidence of the alliance of the two people. We see, therefore, that King Ay regularized his position by marriage with the Hereditary Princess ʿAnkhesenamūn, the widow of his immediate predecessor on the throne.

Fig. 1

It must be remembered that Ay and his wife had long been favourites at the Royal Court; Tyi herself had been "Great Nurse[1]," "Nurse of the Great King's-Wife, Nefertiti[2]" and "Tutoress of the Goddess[2]" (*i.e.* the Queen), as well as "the King's Concubine." In the tomb which Akhenaten ordered to be made for Ay at El-ʿAmarnah—which was never finished and certainly never contained his burial—there is a remarkable scene showing Ay and his wife receiving gifts from the hands of the king, queen, and young princesses in the palace. Davies remarks that "an astonishing and indeed unique feature of the representation is that the whole family is absolutely nude, so far as we can see." He notes also that "the presence of the wife of Ay in this scene, as everywhere else in the tomb, is very exceptional, but her rank as nurse and tutoress of the queen, and handmaid(?) of the king, fully justify it."

[1] Davies, *El Amarna*, VI, Pls. xxxi ff.

[2] *Op. cit.*, VI, Pl. xxiv.

For many years past I have believed that Ay must have been the dominating personality in Egypt's political affairs during the last years of the Eighteenth Dynasty. The extraordinary prominence that was always given to his title "Father of the God" suggests that it had more than a mere priestly significance. Great stress was laid upon it by the common people, for the palace guards among themselves referred to Ay as "Ay, the Father of the God," and later, when he became king, Ay placed in his cartouche before his nomen. In earlier days of Egyptian history this title had been used with the definite meaning "Father of the King." Amenophis III had four daughters, but there is no record of any son. Akhenaten had six daughters, but there is again no record of any son. It is possible that Ay was the actual father of the two boys Smenkhkerēʿ and Tutʿankhamūn. Egyptologists have been far too apt to take it for granted that the Pharaohs of the various dynasties were sons of their predecessors on the throne. In Ancient Egypt the kingship appears to have been transmitted in the female line. A man generally became king by virtue of his marriage to the Hereditary Princess, she being the eldest surviving female of the reigning house. She might be the king's widow, or his eldest surviving daughter, or a more distant relative. The Hereditary Princess did not herself reign (except in two or three cases, *e.g.* Sebekneferurēʿ and Ḥatshepsut); she was only the channel through which the kingship was transmitted to her husband. It has always been assumed that Akhenaten was a son of Amenophis III, but this assumption rests solely on the fact that Queen Tyi was his mother; he is nowhere directly stated in any Egyptian inscription to be a son of Amenophis III. In spite of all that has been written in recent years, the marital relations of the royal family of the Eighteenth Dynasty are by no means understood as yet. Amenophis III married at least one—probably two—of his own daughters while Queen Tyi was still living, and at one time there were actually two ladies who bore *at the same time* the title of "Great King's-Wife." This is a fact that has been overlooked and deserves careful consideration.

The fact that Ay's tomb at El-ʿAmarnah was never finished suggests that it was begun only a short time before the city Akhetaten (El-ʿAmarnah) was abandoned as a seat of government, that is when Smenkhkerēʿ, Akhenaten's co-regent, removed to Thebes. Smenkhkerēʿ was a mere child at this time, and it is inconceivable that he did not have the guidance of a man of ripe age and experience in the difficult task of government. That both Ay and Tyi were already middle-aged when the El-ʿAmarnah tomb was made is shown by the fact that Tyi had been nurse of Nefertiti. Tyi could hardly have been less than fifteen years old when she nursed Nefertiti, and she was very probably much older. The titles borne by Ay when his tomb was excavated at El-ʿAmarnah were[1]:

(1) , Father of the God.

(2) , Fan-bearer on the right hand of the King.

(3) , Acting King's-Scribe.

(4) , Master of the King's Horses.

Besides the El-ʿAmarnah tomb there are other monuments bearing Ay's name which date from the period before he came to the throne. These are:

A. A box in the Berlin Museum (No. 17555) said to have come from Tûnah; it also bears the name of Tyi with titles.

B. Three ivory disks in the Turin Museum.

[1] All these titles are found in Davies, *El Amarna*, VI, Pl. XXIV *et passim*.

26527

C. A small ivory reel at Leiden.

D. A stud or reel of ivory in the Louvre.

E. A piece of gold foil in the Cairo Museum which was found in the Bibân el-Mulûk in a box containing other objects inscribed with the names of Tutʿankhamūn, of Queen ʿankhesenamūn, and of Ay after he ascended the throne.

F. A band of gold foil in the Cairo Museum found in the same box as E. The inscriptions on this band do not preserve the name of Ay, but it is certain that the titles refer to him.

The titles which are inscribed on these objects are the following:

Ay: (1) A. B. C. D. E. F., Father of the God.

(2) A., Chief of the Bowmen.

(3) A. B., Master of the Horse of the Lord of the Two Lands.

(4) A. C., Acting King's-Scribe.

(5) A. B. F., Fan-bearer on the right hand of the King.

(6) B., Leader in the Festival of the Cycle of Gods.

(7) F., Hereditary Prince and Mayor.

(8) F., Chancellor of the King of Lower Egypt.

(9) F., Vizier.

(10) F., Doer of Right.

(11) F., Priest of Maʿat.

(12) F.

Tyi: (1) A., Lady of the House.

(2) A., Great Favourite of Uaʿ-n-rēʿ (Akhenaten).

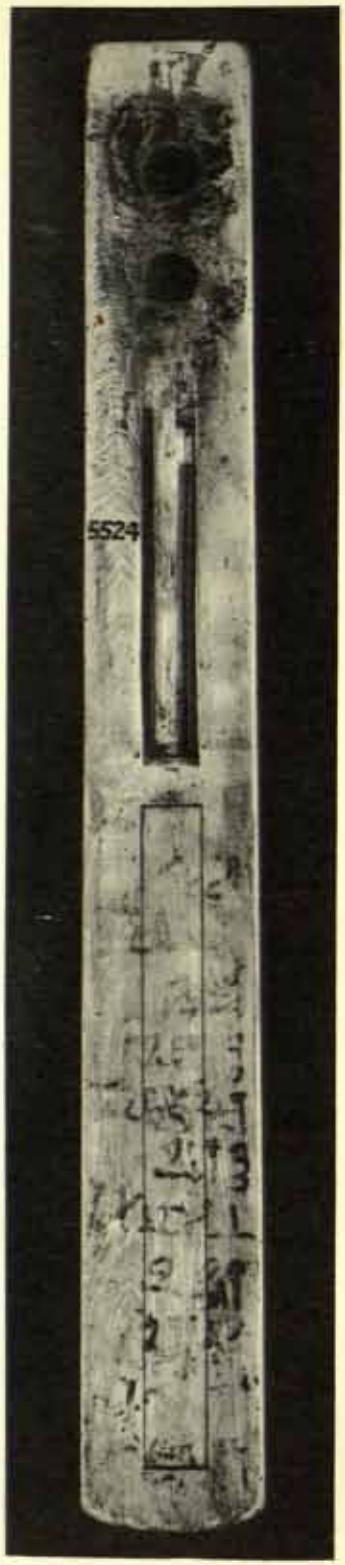
(3) A., Favourite of the Great King's-Wife.

(4) A., Concubine of the King.

It will be observed that all the titles given to Ay in the El-ʿAmarnah tomb also appear on these miscellaneous objects, but that the latter record some which do not occur there. On the Berlin box, for example, Ay is entitled *ḥrí pḏt* (No. 2) "Chief of the Bowmen," and on one of the Turin disks *sšm m ḥb n psḏt nṯrw* (No. 6) "Leader in the Festival of the Cycle of Gods." The most important of these miscellaneous objects, however, is the band of gold foil in the Cairo Museum. Here Ay is actually described as Vizier, the highest officer in the state under the sovereign. It should be noticed that with the title of Vizier appears the epithet *ír mꜣʿt* (No. 10) "Doer of Right," which is found again in the prenomen which Ay took when he ascended the throne. We now know that Ay, "the Father of the God," shortly before the death of the young monarch Tutʿankhamūn rose to the most important and powerful position in the State under the Pharaoh. Holding the viziership it must have been an easy matter for him to seize the throne, and he then legalized his position by allying himself with the widow of his predecessor, the heiress ʿankhesenamūn.

1

2



3

Scribes' palettes in the British Museum.

1. No. 52942; alabaster. *Scale* $\frac{3}{5}$.

2, 3. No. 5524; ivory. *Scale* $\frac{3}{5}$.

SCRIBES' PALETTES IN THE BRITISH MUSEUM
PART I

By S. R. K. GLANVILLE

With Plates iv–ix.

The palettes—more properly pen-cases—described below[1] were photographed some years ago with a view to a comprehensive catalogue of writing materials. This project was delayed, but with the permission of the Keeper of Egyptian and Assyrian Antiquities the existing photographs (which cover all the palettes in this Museum worth reproducing by that process) are published here. It is hoped to make the list comprehensive in a second article, which will also contain some general conclusions.

Combined pen-cases and palettes.

52942. (Pl. iv, fig. 1.) Model (?); Alabaster; provenance unknown; $11\frac{15}{16}\times2\frac{3}{8}\times\frac{11}{16}$ ins. ($30{\cdot}3\times6\times1{\cdot}7$ cm.). Two ink-wells, av. diam. $1\frac{1}{8}$ ins (2·8 cm.); depth *ca.* $\frac{3}{16}$ in. (0·5 cm.). The slot (for pens), $7\frac{3}{8}$ ins. (18·6 cm.) long, slopes away from the lower well, and is covered at the bottom by a thin slip $4\frac{7}{8}$ ins. (12·4 cm.) long. This lid, made from a separate piece of stone, fits very neatly and was originally cemented in position, but is now loose. A single vertical line of hieroglyphs runs from the top of the lid to the bottom of the palette and reads as follows: *smr wꜥtỉ ḫry-ḏꜣḏꜣ*(?) *nỉsw·t sḥḏ ḥm-nṯr ỉmꜣḫw Snny*, "The favourite and liegeman (?)[2], the overseer of priests, the revered Seneny." The of *ỉmꜣḫw* is written partly on the lid, partly on the palette itself; hence the inscription must have been cut after the lid had been cemented in place.

The word *ỉmꜣḫw* shows that the inscription was a dedicatory one, and possibly the palette was purely funerary in intention. At all events there are no traces of colour in the wells[3]. But the fact that the slot was hollowed out completely makes one hesitate to say definitely that it was only a model[4].

The forms of the hieroglyphs, the titles and the name Seneny indicate the late Old Kingdom as the date; compare Seneny, also called , of *Urk.*, I, 115, and his titles; (Lepsius, *Denk.*, II, 113, *g*).

[1] All the most important were described by Budge in the *Guide to the Fourth, Fifth, and Sixth Egyptian Rooms* (1922)—here simply called *Guide*—pp. 48 ff. When referring to them in connexion with the *Guide* I have used the number there given in heavy type (*i.e.* old exhibition No.). The overall measurements at the beginning of each description are given in inches and centimetres, and in the following order: length, breadth, thickness. Unless otherwise stated all the palettes are of wood, of which the different species used for each example are now being studied by Mr. Geoffrey Tandy of the British Museum (Natural History). His results will, it is hoped, be incorporated in the second part of this paper.

[2] Following Blackman in *Journal*, XVII, 58, n. 9; compare below, p. 54 with n. 3.

[3] So Budge, *Mummy* (1925), p. 174.

[4] *Guide*, 48, no. 1.

12782. (Pl. v, fig. 1.) Provenance unknown; $16\frac{1}{8}\times1\frac{7}{8}\times\frac{1}{2}$ ins. (41·05×4·9×1·3 cm.). Made of two layers of wood stuck together, each $\frac{1}{4}$ in. (0·6 cm.) thick. Two wells cut out of the upper layer only, the lower supplying the floor to them. The two layers have also made possible the long and spacious slot for the pens (see Fig. 1). Both wells are stained and dirty from use—the upper black, the lower red. The top left-hand corner and a piece of the left side are lost. A

Fig. 1

single vertical line of hieroglyphs runs from the opening of the slot to the base of the case (Fig. 2): "The keeper of the domain(?) of (the pyramid) of Neferka-Rēʿ-men-ʿankh[1], the judge and administrator, the superintendent of the granaries (of the Two Lands), Shema-Ba[2]—his eldest son, the (*or* his ?) deputy-in-charge-of-the-granarie(s)(?)[3], the superintendent of the scribe(s) of the King's granaries, Ba-nefer."

Sixth Dynasty.

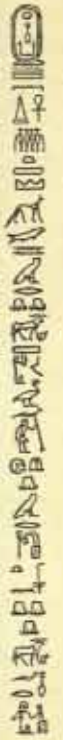


Fig. 2

5516. (Not figured.) Provenance unknown; $9\frac{5}{8}\times1\frac{1}{4}\times\frac{3}{8}$ ins. (24·05×3·1×0·9 cm.). The palette is made in four pieces: the main part consisting of three longitudinal sections running the full length of the palette, the central piece having been whittled off towards the lower end (see Fig. 3), leaving a slot when

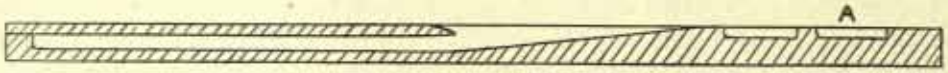


Fig. 3

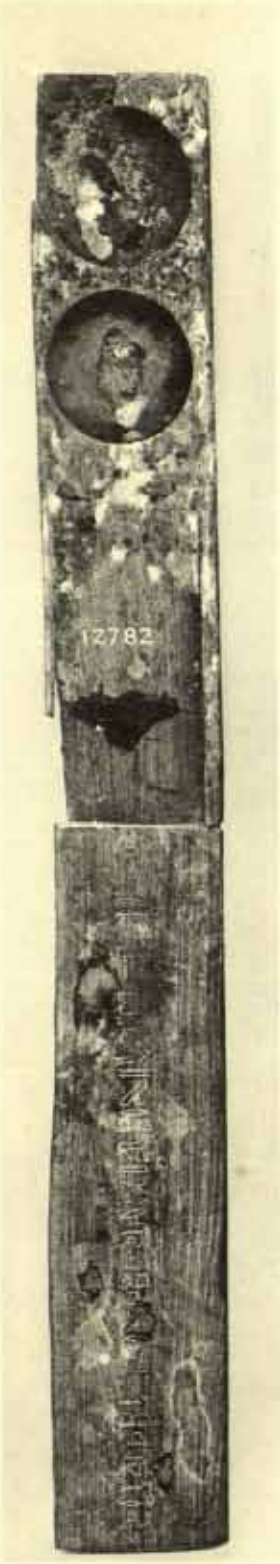
the three pieces were put together. The two outsides have bevelled edges (Fig. 4). The fourth part, a thin slip, was glued in position, and took the place of the usual sliding lid. The bottom of the palette is broken off, but the marks of the glue, on the left side, which is complete, show that the centre piece was not whittled to the very end; about $\frac{1}{4}$ in. (0·6 cm.) of the original thickness was left to prevent the pens from falling out. When the whole thing was glued together two large ink-wells were cut out (diam. $\frac{3}{4}$ in. (1·9 cm.)), so as to overlap the side pieces. There are ample remains of black and red paint in the usual order.

Fig. 4
(Section of Fig. 3 at A)

[1] A title also held by Pepinakht surnamed Hekyeb (*Urk.*, I, 131, 15), and therefore—since Pepinakht's home and recorded activities lay in the part of Egypt most remote from Memphis—probably a sinecure.

[2] The name is found in an inscription of this period in the Wâdi Ḥammâmât (*Urk.*, I, 150, 2). I was therefore first inclined to translate "Superintendent of the two granaries of the Ram (of Mendes)"—by analogy with the fairly common N.-K. title from Thebes *m-r ḥawty n ʾImn*—but it is perhaps more consistent with the undoubted reading of the son's name as Ba-nefer, to take *Bꜣ* here as part of the father's name also.

[3] A comparison of the titles of father and son leaves little doubt that the latter was his father's second-in-command or deputy in the Department (of which the father was in charge) which controlled the corn-supply. Thus *ḫry-ḏꜣḏꜣ* (*-tp*?) here—as Blackman (*loc. cit.*) suggests for the title *ḫry-ḏꜣḏꜣ-nsw*—is to be translated literally—"he who is under the head" (*i.e.* "chief").



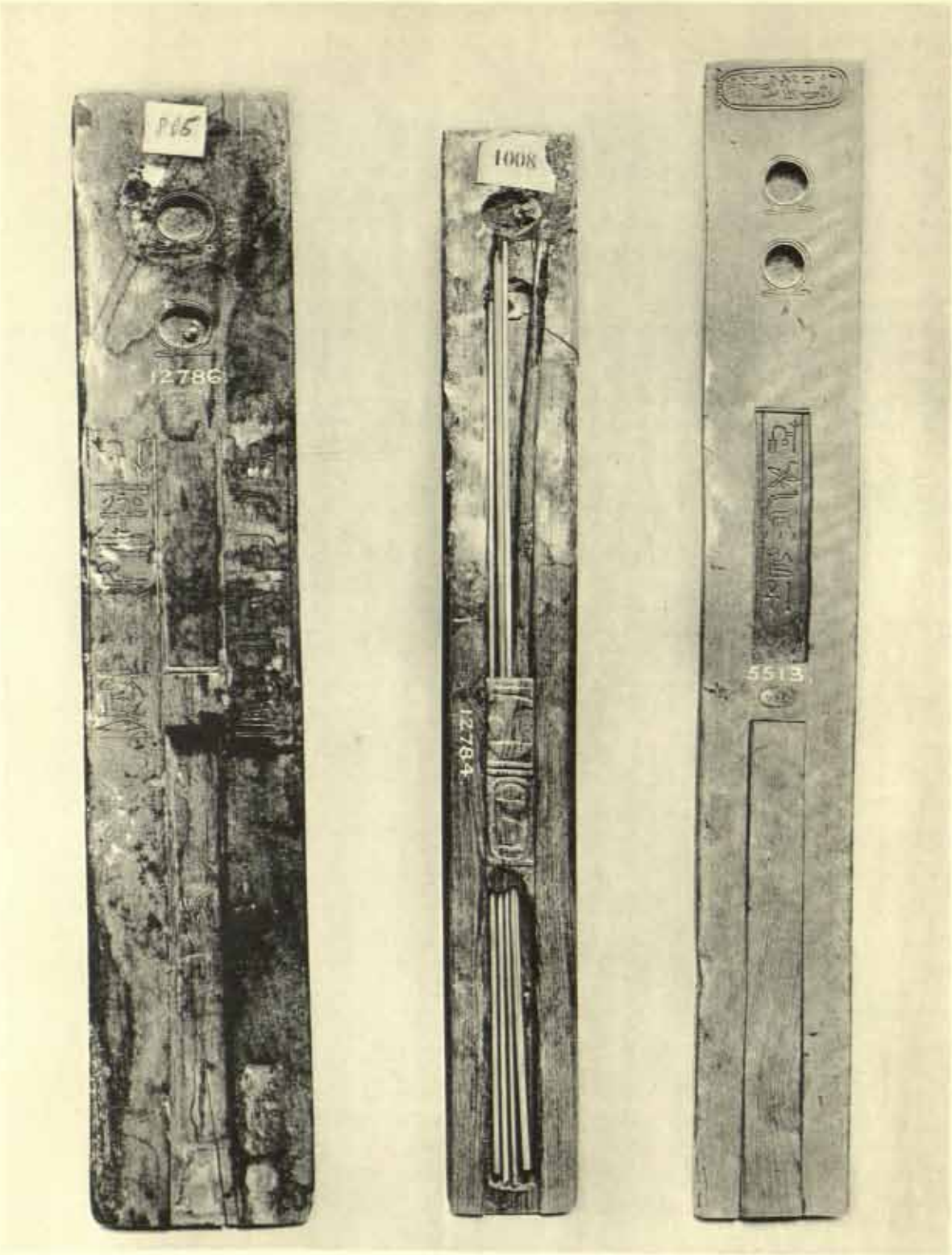
1

2

3

Scribes' palettes in the British Museum.

1. No. 12782; wood. *Scale c.* $\frac{1}{2}$.
2. No. 5525; limestone. *Scale* $\frac{1}{4}$.
3. No. 12783; wood. *Scale c.* $\frac{1}{2}$.



1 2 3

Scribes' palettes in the British Museum.

1. No. 12786; wood. *Scale* $\frac{1}{3}$.
2. No. 12784; wood. *Scale c.* $\frac{1}{8}$.
3. No. 5513; wood. *Scale c.* $\frac{1}{3}$.

The centre piece is inscribed as follows (Fig. 5): "Being what his son Ameni, the superintendent of canals(?), made for him." The lid is inscribed (Fig. 6): "An offering which the King gives to Sebekrēʿ, Lord of Smunu: that he may grant the sweet breath of life to the *ka* of [name lost]." The hieroglyphs have all been incised and filled with blue frit. Their forms are suggestive of the early Eighteenth Dynasty, but the name Ameni, and the economical writing (and early form of ⟨hieroglyph⟩) in the title *sš mr-w*(?) are in favour of the Twelfth Dynasty. Against such an early date is the compound form Sebekrēʿ. Perhaps we should therefore date the palette from the Thirteenth to the Seventeenth Dynasties. It contains five reed pens (one broken), ranging from 10 to 6 ins. (25·2 to 15·1 cm.) long. Two show signs of having been used for black ink, and two for red.

Fig. 5

Fig. 6

12784[1]. (Pl. vi, fig. 2.) Provenance unknown; $11\frac{5}{16}\times 1\frac{3}{8}\times\frac{1}{4}$ ins. (28·7×3·5×0·7 cm.). Contains four reed pens and a thicker (wooden) stick. The two wells (upper black ink, lower red) are slightly elliptical, $\frac{1}{2}\times\frac{7}{16}$ in. (1·2×1·1 cm.), and not more than $\frac{1}{10}$ in. (0·25 cm.) deep. Both contain ample remains of solid paint. The slot is grooved (Section: fig. 7) so that the lid (only the upper end of which remains) can be slid on from the bottom end of the palette. The lid was carved with hieroglyphs in relief as follows:

, "The superintendent of .... of the Good God, Lord of the Two Lands Nebpeḥtirēʿ, Son [of the Sun Aḥmose]." On the back of the palette at the top a hieratic note in red ink reads: "Third month of summer, day 15...304...100."

Fig. 7

The reed pens are 10, $9\frac{5}{8}$, $9\frac{3}{8}$ and $4\frac{7}{8}$ ins. (25·2, 24·3, 23·7 and 12·2 cm.) long respectively. Of these the first and second have been used for black ink at one end and red at the other; the third (at one end only) for black; and the fourth, similarly, for red only. The stick (5 ins. (12·5 cm.)) has some resinous(?) substance adhering to it, and was perhaps used to mix the raw colour with water or some other medium.

Early Eighteenth Dynasty.

12786. (Pl. vi, fig. 1.) Provenance unknown; $11\times 2\frac{1}{4}\times\frac{5}{16}$ ins. (29·6×5·6×0·9 cm.). Usual New Kingdom type made of a single piece of wood, with the slot so cut as to leave a bridge (of the original wood) across it, a third to a half of the way down its length. This held the pens in the slot when the lid was off, and acted as a butt to stop the lid sliding too far up (and so crushing the pens against the slope of the slot). Two wells (oval) in the shape of ⟨hieroglyph⟩. Remains of paint and considerable stains show that the upper well was for black, and the lower for red ink. The inscriptions (Fig. 8) give the owner: "The royal scribe, in charge of the offering table...... before [Amen(?), Amenhotep(?)] the son of the royal scribe, superintendent of the two granaries, and superintendent of the wine cellar, Minnekht, justified."

Fig. 8

[1] Budge, *op. cit.*, 175.

From his titles, it is clear that Minnekht is the well-known official of Tuthmosis III[1]. His equally well-known son, who succeeded to his father's office[2], was called Menkheperrēʿsonb, but neither his name nor his titles can be made to agree with the remaining signs or the traces on the palette[3]. The signs between [illegible] and [illegible] (on the left side of the slot) have been removed bodily with a chisel, worked from the lower end, with the result that the blade has slipped once or twice, and removed bits of the inscription beyond the intended range (see Pl. vi, fig. 1). The reason for this erasure can only have been that the passage contained the name of Amen, and as the only signs of which we can be certain are two [illegible]s, one above the other, we may well read [illegible] twice, first as the final word in the title which begins *ḥry ḫʿwt*.....[4], and secondly in the name of the man himself. Traces of the last sign before the [illegible] seem to require a horizontal sign with a mark above it, and if the name begins with *ʾImn* there is little choice outside [illegible]. We therefore appear to have here a second and hitherto unknown son of Minnekht called Amenhotep.

The hieroglyphs are good examples of the Eighteenth Dynasty, and are incised and filled in with blue frit.

Eighteenth Dynasty. *Temp.* Tuthmosis III.

5524. (Pl. iv, figs. 2–3.) Ivory; from Thebes; $11\frac{7}{8}\times1\frac{3}{8}\times\frac{3}{8}$ ins. (30·0×3·6×0·85 cm.). Usual type, but with lid of slot permanently fixed in place. Slot contains two pens 7 and $8\frac{1}{4}$ ins. (17·5 and 20·6 cm.) respectively. The shorter has been used for black ink. Remains of ink in and around wells, the colours in the usual order.

Down the front of the lower half of the palette are traces of eleven lines of hieratic, of which a word may be made out here and there (Pl. iv, fig. 3). On the back are written in hieratic (1) four lines of measurements in cubits, the purpose of which is not clear, and (2) twelve lines containing records of sacks of corn(?) issued to some bargemasters (Pl. iv, fig. 2). The style of this hand is not later than the middle of the Eighteenth Dynasty, and perhaps belongs to the beginning of it.

Eighteenth Dynasty.

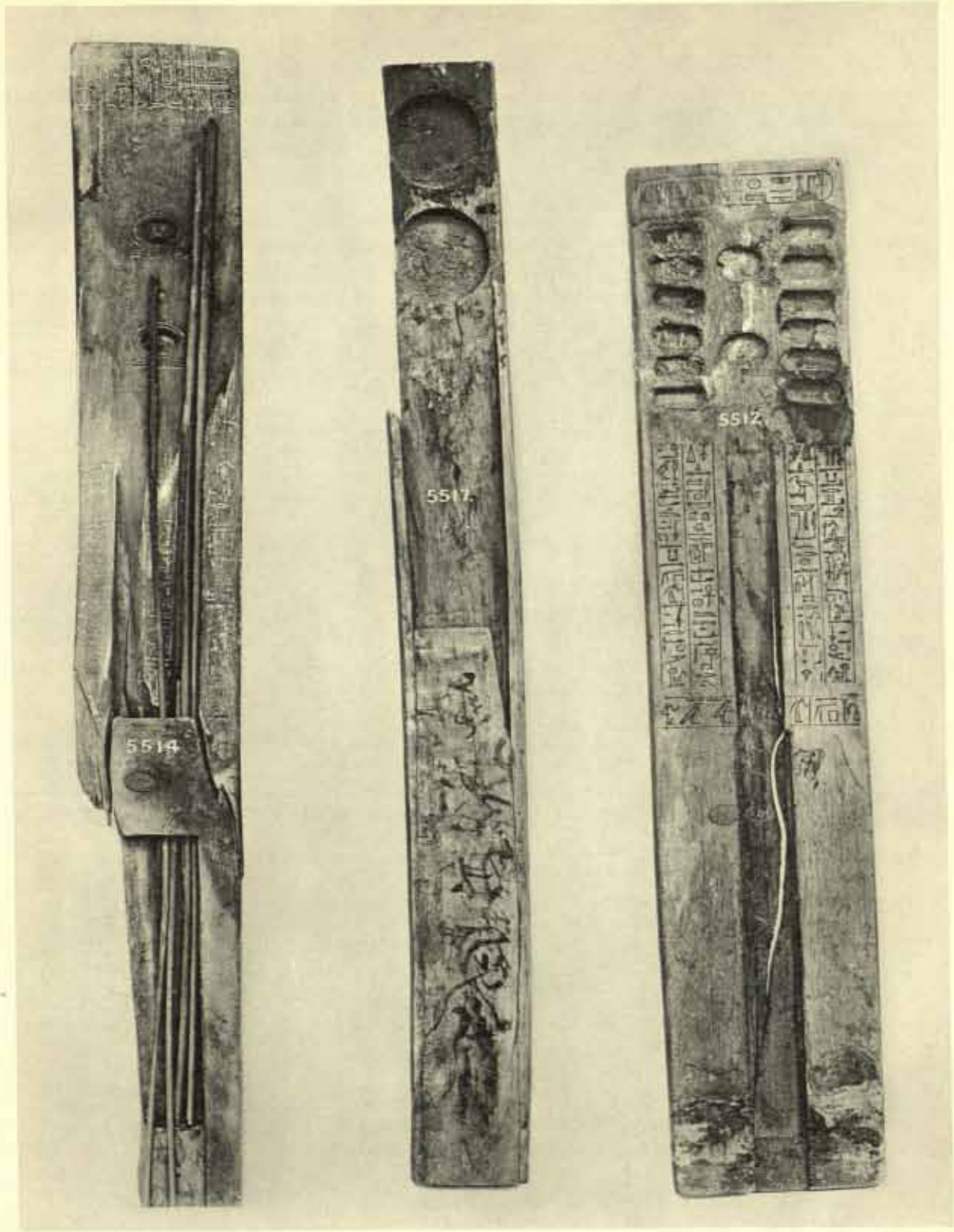
5512. (Pl. vii, fig. 3.) Provenance unknown; $13\frac{1}{16}\times2\frac{3}{4}\times\frac{1}{4}$ ins. (32·2×7·0×0·55 cm.). Usual N.K. type with bridge (now lost), except that there are fourteen wells in all, of which the two central with the slot are decorated with faint incised and inked lines in imitation of [illegible]. The wood round the middle and lowest pairs of wells on the right-hand side is stained with red and black ink respectively. Traces of both inks occur elsewhere, notably in the slot, where black predominates at the top and red at the bottom, suggesting that the two ends of a single pen were used for the two colours (*cf.* the pens of 12784), and that they were regularly replaced in the slot with the black end (because more frequently used) towards the wells. The slot is of the same type as in 12784, with a depth of $\frac{3}{16}$ in. (0·47 cm.).

[1] See Sethe, *Urk.*, IV, 1176 ff. and 465.

[2] *Op. cit.*, 1181 and 1190 ff.

[3] He is once (*Urk.*, IV, 1178) called [illegible]. N.B. The [illegible] cuts the loop of [illegible] in the original.

[4] Can [illegible] by itself read *ʿiby* ("the left-hand offering-table"); or is it a determinative due to confusion between [illegible] and [illegible]? In either case what becomes of the following [illegible]?



1 2 3

Scribes' palettes in the British Museum.

1. No. 5514; wood. *Scale c.* $\frac{1}{3}$.
2. No. 5517; wood. *Scale* $\frac{1}{3}$.
3. No. 5512; wood. *Scale* $\frac{1}{11}$.

A hieroglyphic dedication (Fig. 9) on either side of the upper part of the slot ends with a single horizontal line beneath: *Ḥtp dỉ nsw 'Imn-Rꜥ nb Nswt-tꜣwy nṯr wꜥ ꜥnḫ m mꜣꜥt dỉ-f ṯꜣw nḏm prỉ ḫnty-f ḥswt-f ꜥꜣt m pr-nsw n kꜣ n m-r pr wr n nsw Mry-Rꜥ. Ḥtp dỉ nsw Ḏḥwty nb md(t)-nṯr dỉ-f rḫ sšw pr-t ỉm-f wbꜣ ḥr m md(t)-nṯr n kꜣ n rpꜥty ḥꜣty-ꜥ*[1] *sr m-ḥꜣt špsw-nsw m-r pr wr n nsw Mry-Rꜥ. Sš n m-r pr wr* [*Mry-Rꜥ*][2] *T-n-n.* "An offering which the King gives to Amūn, Lord of Karnak, the sole god, who lives by truth: that he may cause sweet airs to come forth before him and his praises to be high in the royal household; for the *ka* of the chief steward of the King, Merirēꜥ. An offering which the King gives to Thoth, Lord of Hieroglyphs: that he may grant knowledge of the writings that came forth from him and understanding of the hieroglyphs, to the *ka* of the *rpꜥty ḥꜣty-ꜥ*, the prince at the head of the King's favourites, the chief steward of the King, Merirēꜥ. (Done by) the scribe of the chief steward [Merirēꜥ], *T-n-n*[3]."

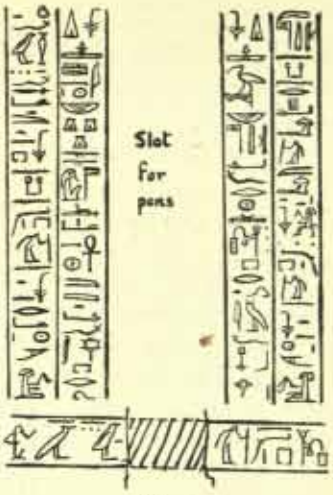
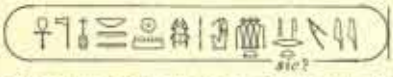


Fig. 9

At the top of the palette, above the wells, a cartouche reads (←)  "(Long) live the Good God, Lord of the Two Lands, Menkheprurēꜥ, beloved of Thoth Chief of Hesert[4]." The whole of the left-hand top corner of the palette is in a poor state of preservation, and the signs from the middle of 𓋴 to the end of the cartouche are barely legible (Fig. 10). One of the plural strokes after 𓋴 seems certain, however, so that we must suppose that Merirēꜥ achieved his position under Tuthmosis IV. Incidentally the phrase *ꜥnḫ m mꜣꜥt* is more to be expected under this king than Tuthmosis III.

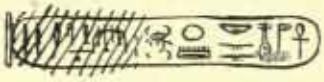


Fig. 10

The palette may have belonged to Merirēꜥ in life, but the inscription was evidently put on after his death by his secretary *T-n-n*, since different determinatives are used for the two names, 𓀀 (Merirēꜥ) and 𓀁 (*T-n-n*)[5].

5513. (Pl. vi, fig. 3; Pl. viii, fig. 2.) Provenance unknown; $11\frac{7}{8}\times1\frac{11}{16}\times\frac{3}{8}$ ins. (30·2×4·05×1·0 cm.). Usual N.K. type with two wells of diameter $\frac{7}{16}$ in. (1·1 cm.) in the form of ○, the lines surrounding the hollow being incised. The wells are not more than $\frac{1}{8}$ in. (0·3 cm.) deep. The sloping part of the slot (above the bridge) is inscribed with a single line of incised hieroglyphs, filled with blue paint: 𓁹𓂋𓏏𓂝𓂋𓀀𓋴𓏏𓂋𓋴𓂋𓋴𓂋𓋴

coloured: [illegible] "The good God Nebmaʿatrēʿ[1], beloved of Thoth, Lord of Hieroglyphs."

There are no longer any traces of ink or paint on the palette, but they may well have been washed off before the dedicatory inscriptions were cut and painted. There is no reason to suppose that the palette was not originally used in his work by the scribe named on it.

Eighteenth Dynasty.

12783. (Pl. v, fig. 3.) Provenance unknown; $15\frac{1}{8}\times2\frac{3}{8}\times\frac{5}{16}$ ins. (38·4×7·3×0·8 cm.). Two wells (elliptical, but no cartouche marks); simple slot, not grooved, and hence without lid. The upper well contains the remains of black paint which has been liberally smeared over the surrounding part of the palette. There are traces of red ink in and around the lower well. The pens were held in position by a tenon let into a dovetailed mortice. The tenon is lost. There is no dedication, but on each side of the slot are traces of hieratic writing in black ink. They appear to be lists of personal names no longer decipherable, although individual signs are legible. The orthography suggests the end of the Eighteenth or Nineteenth Dynasty.

At the left-hand bottom corner a circular hole, perhaps for attaching a string, has been drilled.

Eighteenth–Nineteenth Dynasty.

12778[2]. (Pl. viii, fig. 1.) Model; green slate; provenance unknown; $16\frac{1}{8}\times2\frac{1}{2}\times\frac{5}{16}$ ins. (40·8×6·4×0·85 cm.). There are no real wells, but where these would be in a working palette two outline cartouches have been roughly incised in the slate. The lower of these cartouches has been merged in the upper end of the slot. This is shallow, and stops about half-way down the palette, the lower part being left intact to represent a closed lid. The reed pens have been imitated by thin rods of translucent green-brown glass which have been cemented into position in the slot. Only the lower ends of these rods remain.

On each side single vertical lines of hieroglyphs, roughly incised, contain *ḥtp dí nsw* formulae for the owner of the palette. "An offering which the King gives to Osiris, the Lord of the Sacred Land; that he may give bread, beer, oxen, geese, clothes, incense, unguents and every good and pure thing for the *ka* of the great scribe of the water [*i.e.*, the sacred lake(?)] in the house of Amenrēʿsonter, Amenmose, justified of all the gods of Thebes. An offering which the King gives to Thoth, Lord of Hieroglyphs, on behalf of all the gods: that he may give a going and coming in the Necropolis without repulse of the soul; for the *ka* of the great scribe of the water, of the temple of Menmaʿatrēʿ, in the house of Amūn, Amenmose, justified of Osiris."

At the top of the palette, in the same rough technique, is an incised vignette, showing the deceased adoring Osiris, behind whom stand Isis(?) and Thoth. Over Osiris are the words, "Osiris, Lord of Eternity," over Amenmose, "made for the official(?) Amenmose, justified."

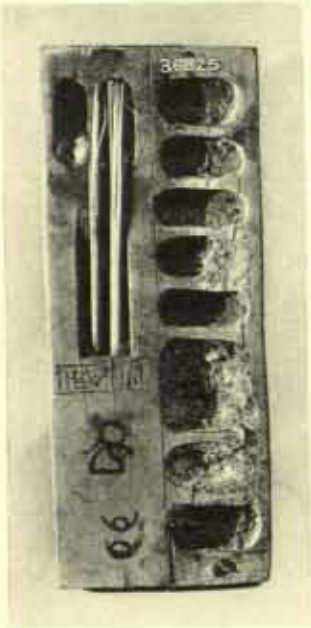
Nineteenth Dynasty.

[1] *Guide*, p. 48, no. 5. "The owner of the palette, as we thus see, was employed in the service of Amenhotep III." In that case one would expect [illegible] before the title "scribe"; perhaps the king's name is merely an expression of loyalty.

[2] Budge, *op. cit.*, 174.

1

2



3

4

Scribes' palettes in the British Museum.

1. No. 12778; green slate. *Scale c.* $\frac{1}{2}$.
2. No. 5513; detail of Pl. VI, fig. 3. *Scale* $\frac{3}{4}$.
3. No. 36825; wood. *Scale* $\frac{5}{11}$.
4. No. 12779; green slate. *Scale* $\frac{5}{12}$.

1 2 3 4

Scribes' palettes in the British Museum.

1, 4. No. 5520; wood. *Scale* ⅓.
2, 3. No. 5518; wood. *Scale c.* ⅔.

5514. (Pl. vii, fig. 1.) From Thebes; $14\frac{1}{2}\times2\times\frac{7}{16}$ ins. (36·6×5·0×1·0 cm.). (A piece has splintered off the left-hand side at the bottom.) The two wells of oval cartouche form (upper black, lower red, from stains) are interesting. The bottom in each case is slightly convex, with a pin-prick hole in the centre. This is clearly the result of the drill; for the wells are oval, and show signs of having been first cut as perfect circles and then enlarged laterally. At the top of the palette is the usual loyal inscription. It consists of the names and titles of Ramesses II on either side of the phrase "Beloved of Thoth," with "May he cause him to celebrate millions of *sed*-festivals" repeated under each cartouche. A uraeus precedes the cartouche in each case (Fig 11).

Fig. 11

The slot is of the grooved type with the bridge left in the centre. The lid is lost. Three vertical lines of dedicatory inscription on either side and down the centre of the slot respectively are shown in Fig. 12: "(An offering which the king gives to) Thoth who judges right: may he give records(?) of millions of years, for the Son of the Sun Rameses-Meryamen, given life for ever. (An offering which the king gives to) Seshat: may she give years of the kingship(?) of Horakhty to the King of Upper and Lower Egypt User-maʿatrēʿ Setpenrēʿ, like Rēʿ for ever." (Centre) "The Instructor of His Majesty, the scribe Ta(?), superintendent[1] of the cavalry of Pharaoh, L.P.H."

Fig. 12

All the hieroglyphs are finely engraved, and there are no traces of ink or filling of any kind. The palette contains four reed pens, varying from $10\frac{1}{2}$ to $12\frac{1}{2}$ ins. (26·25 to 31·25 cm.). All appear to have been used at one end only: three for black ink, one for black and red(?). The back of the palette bears at the top the unintelligible remains of two lines of hieratic.

5518. (Pl. ix, figs. 2, 3.) Provenance unknown; $15\frac{1}{2}\times12\frac{3}{8}\times\frac{3}{8}$ ins. (39·4×5·9×1·0 cm.). Same type as 12786. The wood round both wells is profusely stained with the respective colours in the usual order, and the black well is still full of dried-up ink. To the right of the slot the palette has been niched with a sharp knife, as if the scribe had wished to provide himself with a rough rule. Below the bridge on the same side are the remains of unintelligible hieratic signs, which were apparently continued across the lid (now lost) to the opposite side of the slot.

The back of the palette is covered with a series of notes in hieratic—records of some kind of account (Pl. ix, fig. 2).

5525. (Pl. v, fig. 2.) Fragment of a model; limestone; provenance unknown; $6\frac{5}{8}\times2\frac{5}{16}\times\frac{5}{8}$ ins. (17·0×5·8×1·6 cm.). A considerable part of the top is missing, and a smaller part of the bottom. The stone is cut to imitate the reed pens in their slot. Even the slight slope of the pens is indicated. The dedicatory inscriptions on either side of the slot were originally filled with blue frit, some of which still remains, and are incomplete.

[1] Possibly read *n* for *ḥry* and translate "scribe Ta(?) of the cavalry, etc.'

(→) [illegible]

(→) [illegible]

"[May he grant that he may breathe(?)] the sweet airs of the north wind, and drink at the deep waters of the river (Nile)—for the *ka* of...." "May he grant that the soul live, and that the body be preserved above the earth(?) in the land of the living, and receive the milt(?) that comes forth before the altar of Wenn[ufer]."

Clearly this palette was purely funerary in use.

Date uncertain. Late New Kingdom.

12779. (Pl. viii, fig. 4.) Model; green slate; provenance unknown; $12\frac{1}{2}\times1\frac{3}{4}\times\frac{1}{2}$ ins. (31·7×4·5×1·3 cm.) Usual N.K. type, with circular wells, except that the lid (now broken into three pieces) fits into the top instead of sliding in a groove from the bottom. The butt has two small holes drilled in horizontally, one of which still contains a wooden plug $\frac{9}{32}$ in. (1·05 cm.) long. The plug protrudes $\frac{1}{8}$ in. (0·3 cm.) from the hole when pushed home. There is no trace of paint in the wells, nor any other sign of use, so that the palette was almost certainly for funerary purposes only. The plugs in the butt may have been to hold it in position when standing vertically on a base.

On either side of the slot are dedicatory inscriptions (presumably engraved when the palette was made), but without any personal name at the end. Apparently the palette was never used. "An offering which the King gives to Thoth, Lord of Eshmûn, and Seshat lady of writings: that they may give a thousand of oxen, a thousand of duck, a thousand of oil, a thousand of incense, a thousand of cloth—every good and pure thing—for the *ka* of him who is singularly[2] favoured of his god, the scribe .... An offering which the king gives to Osiris, lord of Ta-jeser: that he may grant that (he [the deceased]) receive the smell which comes forth before the offerings that go up on his [Osiris's] altars[3], and that he may snuff the sweet airs of the north wind...."

New Kingdom.

5517. (Pl. vii, fig. 2.) Provenance unknown; $14\frac{1}{16}\times1\frac{1}{2}\times\frac{3}{8}$ ins. (35·7×3·9×1·0 cm.). Made in three pieces, of which the essential part is a combined base and lid. The slot has been cleverly cut so that a butt was left at the bottom end—it is not possible to see how long this was—and the top "returned" over the slot. The open sides of the

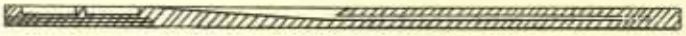


Fig. 13

slot were then closed by two bevelled strips, running the whole length of the palette. Two large circular wells (diam. $1\frac{1}{8}$ ins. (2·9 cm.)) were later bored at the top, and were evidently meant to fit just inside these strips, but actually overlapped a little on the left. The top of the palette, under the wells, has been spliced. The purpose of this is not clear, unless it was to remedy a defect in the wood. (Section: Fig. 13.)

[1] Actually a seated man holding a jar in his extended hand.

[2] Reading *wꜥi* (for *wꜥ*) *ḥsy*, etc. The ⲁ seems to be an error. Otherwise read *wꜥ iw ḥsy*?

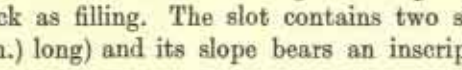
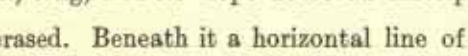
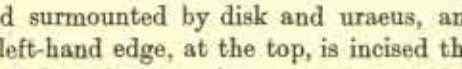
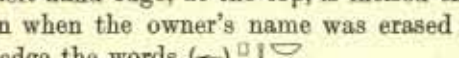
[3] An unusual phrasing of the common request: the point seems to be that the dead man was to enjoy the savour of the offerings in the temple itself while they were being given to Osiris—long before it was his turn to receive them in the tomb-chapel.

There are no inscriptions, but a few trial-signs have been made on the lower part of the palette.

Date uncertain, but probably not later than the early Eighteenth Dynasty.

5520. (Pl. ix, figs. 1, 4.) Provenance unknown; $20 \times 2\frac{1}{4} \times \frac{9}{16}$ ins. (50·8×5·8×1·4 cm.). Usual N.K. type, except that there are no wells, though the top of the palette is thick with black paint. The slot contains one pen $11\frac{3}{8}$ ins. (29·4 cm.) long, and the broken remains of another. There are no dedicatory inscriptions, but on the front are eight lines (in two groups of four) of hieratic accounts. On the back are twenty-four lines of hieratic, the first seventeen apparently accounts, the remainder perhaps a medicinal recipe. A single line runs from bottom to top along the left-hand edge of the back of the palette.

New Kingdom.

36825. (Pl. viii, fig. 3.) From Thebes; $5\frac{1}{8} \times 2\frac{5}{16} \times \frac{7}{16}$ ins. (16·5×6·1×1·2 cm.). This is a small, double palette, in which the left-hand side is similar to the ordinary type, while the right-hand is given up to nine extra wells. All the wells (including the two at the top of the slot on the left) are long straight-sided ovals in shape; several contain a considerable amount of whitish powder, in one case covered with a red surface. The lower part of the slot is left in the solid wood, and the cutting of the slot has been effected from a narrow slit in the left edge of the palette[1], into which a piece of wood has been put back as filling. The slot contains two short pens ($5\frac{1}{8}$ ins. (12·8 cm.) and $4\frac{1}{2}$ ins. (11·25 cm.) long) and its slope bears an inscription  from which the name has been erased. Beneath it a horizontal line of hieroglyphs reads  . The title explains the number of wells. Still further below are three trial-signs consisting of a hawk's head surmounted by disk and uraeus, and a disk and crescent combined (twice). On the left-hand edge, at the top, is incised the name (←)  , which evidently escaped detection when the owner's name was erased; and at the corresponding point on the opposite edge the words (←)  .

Eighteenth Dynasty.

[1] See Petrie, *Objects of Daily Use*, 64, no. 42, etc.

THE OCCURRENCE OF NATRON IN ANCIENT EGYPT

By A. LUCAS

Natron is a naturally-occurring compound of sodium carbonate and sodium bicarbonate. At the present time it is found in three localities in Egypt, two (the Wâdî Naṭrûn and the Beḥêra province) in Lower Egypt and one (El-Kâb) in Upper Egypt.

The Wâdî Naṭrûn is a depression in the Libyan desert, some 40 miles to the north-west of Cairo; it is about 21 miles long, and at the bottom there is a string of lakes, the water surface of which is about 76 feet (23 metres) below sea level and the number of which fluctuates with the season. During, and for several months after, the Nile flood (which usually begins at Cairo about the end of June and generally reaches its maximum in September, often in the latter half), when there is a considerable increase in the water supply entering the wâdî, and when, on account of the lower temperature, evaporation is at a minimum, there were a few years ago, when the writer stayed in the wâdî on several occasions, 12 lakes[1]. In summer there are always fewer than in winter, as some of the smaller and shallower ones then dry up. Lakes varying in number from 7 to 16 are mentioned by different writers about the end of last century[2], though at the beginning of the century there were apparently only 6[3]. At a still earlier date, however, there would seem to have been only either one or two lakes. Thus in 1780 Sonnini mentions two[4], which he says became merged into one during the winter; in 1849 Gmelin describes one "pit,"[5] as he terms it, but at what time of the year is not stated.

The natron in the Wâdî Naṭrûn occurs dissolved in the lake water—from which a thick layer has gradually been deposited at the bottom of some of the lakes—and also as an incrustation on the ground adjoining many of the lakes. The amount present is very considerable, although the wâdî has been the source, not only of the principal Egyptian supply, but also of a small export trade, for several thousands of years.

About 30 miles due north of the Wâdî Naṭrûn, in the Beḥêra province, and some 14 miles to the west of the ruins of the ancient city of Naucratis, there is another, but much smaller, depression, slightly below sea level, in which also are a number of shallow lakes containing natron. In September each year the level of the subsoil water, owing to the general rise of the subsoil water of the Delta and the infiltration from neighbouring canals that run full during the Nile flood, begins to rise and manifests itself in such a manner that by December the permanent lakes have increased in size and other temporary shallower ones have been formed. During the summer the area partly dries up, leaving the natron in an easily accessible form. The amount of available material, though

[1] One of these lakes was largely, if not wholly, caused by the waste water from the factory.

[2] A. Lucas, *Natural Soda Deposits in Egypt* (1912), 2.

[3] General Andréossy, *Mémoire sur la Vallée des Lacs de Natroun*, in *Description de l'Égypte*, I (Paris, 1809), État moderne, 281.

[4] C. S. Sonnini, *Travels in Upper and Lower Egypt* (1780), trans. H. Hunter, II (1807), 139.

[5] L. Gmelin, *Handbook of Chemistry*, trans. H. Watts, III (1849), 78.

large, is very much less than that in the Wâdî Naṭrûn[1]. These deposits were known to Sonnini in 1780, who rightly places them near Damanhûr[2]; during the past 12 years they have been exploited commercially to a small extent. This district is generally called either Barnugi or Harrâra after two of the lakes, which are named from neighbouring villages.

The El-Kâb natron deposits have been described by Schweinfurth[3] and very briefly also by Schweinfurth and Lewin[4] and by Somers Clarke[5]. Schweinfurth, who gives a map of the neighbourhood of El-Kâb, shows five different localities where natron occurs, which he distinguishes as (*a*) the northern natron valley, (*b*) the northern natron plain, (*c*) the southern natron valley, (*d*) a natron efflorescence, and (*e*) the southern natron-salt plain. The natron is readily accessible, as the distance of the deposits from the river is from about two kilometres to about seven. In three samples of natron from El-Kâb analysed by Lewin, whose results are quoted by Schweinfurth[3], the proportion of natron varied from 16 to 23 per cent.; common salt varied from 25 to 54 per cent., and sodium sulphate from 12 to 54 per cent.

El-Ḳalḳashandî, an Arab writer who died at the beginning of the fifteenth century A.D., describes two other natron deposits[6], one of about 100 acres in extent at Tarâbiya, near Behnesah, in Upper Egypt, which he states had been worked since the time of Ibn-Ṭûlûn (A.D. 835–884) and which yielded an annual revenue of more than £50,000, and the other in the Fâḳûs district in the Eastern Delta. These places are not now known as sources of natron.

In the ancient Egyptian records the natron deposits both of the Wâdî Naṭrûn[7] and of El-Kâb[8] are referred to, but so far as can be ascertained the Barnugi deposit is not mentioned. In the reign of Ramesses III (1198–1167 B.C.) natron gatherers of Elephantine are named[9]. This seems a most unlikely place for natron to occur in workable quantity and there is no evidence of any to-day. May it be that the natron and salt (which is also mentioned) were found, not on the island, but in the vicinity, and that the gatherers lived at Elephantine or were attached to a temple there? In the reign of Tuthmosis III (1501–1447 B.C.) natron is enumerated among the articles of tribute received from Retenu (Syria)[10].

The classical writers, Strabo[11] (first century B.C. to first century A.D.) and Pliny[12] (first century A.D.), both mention natron deposits in Egypt. The former, in his description of a journey by boat from the coast to Memphis (apparently from Schedia by canal to

[1] This description was kindly communicated by Dr. H. Sadek, Controller Mines and Quarries Department, Cairo.

[2] C. S. Sonnini, *op. cit.*, I, 324.

[3] G. Schweinfurth, *Die Umgegend von Schaghab u. El-Kab (Ober-Ägypten)*, in *Zeitschrift der Gesellschaft f. Erdkunde zu Berlin* (1904), 575–9.

[4] Id. and L. Lewin, *Beiträge z. Topographie u. Geochemie des ägyptischen Natron-Tals*, in *op. cit.*, XXXIII (1898), 1–25.

[5] Somers Clarke, *El-Kâb and its Temples*, in *Journal*, VIII, 17.

[6] S. Lane-Poole, *A History of Egypt in the Middle Ages* (1901), 304.

[7] H. Gauthier, *Dictionnaire des noms géographiques contenus dans les textes hiéroglyphiques*, V, 56. H. Brugsch, *Dictionnaire géographique de l'Ancienne Égypte* (1879), 150, 496–7. A. Erman, *The Literature of the Ancient Egyptians*, trans. A. M. Blackman, 116, 117, 120.

[8] H. Gauthier, *op. cit.*, III, 99. H. Brugsch, *op. cit.*, 45, 355.

[9] J. H. Breasted, *Ancient Records of Egypt*, IV, 148.

[10] Id., *op. cit.*, II, 518.

[11] *Geography*, XVII, 1, 22, 23.

[12] *Natural History*, XXXI, 46.

the Canopic branch of the Nile and then by river) refers to two pits that furnished natron (νίτρον) in large quantities, which he states were situated (as was also the Nitriote Nome) beyond (above, or south of) Momemphis and near to Menelaus. Then he goes on to say that on the left in the Delta was Naucratis and that at a distance of two *schœni* from the river was Sais. The question that arises is whether the natron pits were at the Wâdî Naṭrûn or at Barnugi. This could be settled at once if the precise position of either Momemphis or of Menelaus were known, but unfortunately neither of these places can be fixed with certainty. Parthey[1], Perthes[2] and Dümichen[3] all show Momemphis well south of Naucratis, and Parthey shows Menelaus south of Momemphis. If these maps are correct the natron pits must have been those of the Wâdî Naṭrûn. The evidence for assigning the positions, however, is not given, but it may have been that the Barnugi deposit was not known to these cartographers and that they therefore fixed Momemphis and Menelaus with reference to the only natron deposit with which they were acquainted, namely that of the Wâdî Naṭrûn. If so, then to appeal to these maps is to argue in a circle. Strabo's allusion to Naucratis and Sais immediately following his mention of Momemphis and Menelaus is ambiguous, but seems to be unconnected with his reference to the position of the natron pits, which, if near Naucratis, must have been those of Barnugi. Since there are two natron deposits fairly close together and since Strabo only mentions one, which he states contained large quantities of natron, it seems likely that this should be the larger and more important of the two, namely that of the Wâdî Naṭrûn.

With reference to Barnugi, Evelyn White wrote that "There is strong evidence to show that Barnugi is the Coptic Pernoudj, and the latter is certainly Nitria. Barnugi then would be the modern representative of the famous Nitria (not the Wadi el Natrun). Ancient authors clearly show that natron was obtained in the N.W. Delta in the region of Naucratis—not far distant[4]."

Pliny states[5] that in Egypt natron (*nitrum*) used to be found (*nitrariae...tantum solebant esse*) only near Naucratis and Memphis. The position of the first-mentioned deposit would fit that of Barnugi and, if so, then by exclusion the second would be that of the Wâdî Naṭrûn, since only two deposits are known in this locality. It is true that the Wâdî Naṭrûn is not very near Memphis, but it is difficult to believe that this important source should be ignored in favour of some small and insignificant place nearer to Memphis, even if such existed, which is doubtful. Pliny's whole account of natron in Egypt, however, is very confused and often unintelligible. The natron from near Memphis is described as being inferior to that from near Naucratis because the heaps petrify and are turned into rock, from which vessels are made; and it is further stated that the material is often melted with sulphur—though for what purpose is not mentioned. Both these statements appear to be most improbable.

If by the natron from near Memphis that from the Wâdî Naṭrûn was meant, as seems likely, then the statement that the quality was inferior to that obtained from Barnugi is not correct. The better quality of the Wâdî Naṭrûn material, however, is that dredged up from the bottom of certain of the deeper lakes, and this may not have been known in Pliny's time. But even if the natron from the shallower lakes, from the edges of the

[1] G. Parthey, *Zur Erdkunde des alten Aegyptens* (1859), Maps i, ii, viii, xv, xvi.

[2] J. Perthes, *Atlas Antiquus* (1897), Tab. 3.

[3] J. Dümichen, *Zur Geographie des alten Ägypten* (1894), Map viii.

[4] Private letter (dated 14. i. 1920) to Dr. W. F. Hume, who has kindly allowed me to make use of it.

[5] *Op. cit.*, 46.

lakes and from the adjoining ground was meant, the correctness of the statement is doubtful.

Pliny states, too[1], that natron was prepared artificially in Egypt, much in the same manner as salt, the difference being that to make salt sea water was used, while to make natron the water employed was that of the Nile. From this account, which is largely wrong, and most misleading, especially in the analogy to sea water which it suggests, it would seem that Pliny had some very confused idea of the manner in which natron occurs in Egypt, namely as a deposit in certain low-lying areas, which become flooded soon after the annual rise of the Nile, by reason of the infiltration water (either directly from the river or from canals or other sources fed by the river) that finds its way into them. The Nile water, however, does not, and never did, yield natron on evaporation.

It is suggested that the confusion may have originated in the following manner. When sea water evaporates, salt is left, and when the seepage water (either direct or indirect) from the Nile that finds its way into certain depressions evaporates, natron is left. Hence, at first sight, the two phenomena might appear to be similar, though they are fundamentally different. In the case of sea water, the salt is in solution in the water, and is left as a dry deposit when the water evaporates; whereas in the case of the Nile seepage, the natron exists not in the water, but in the low-lying ground into which the water penetrates, having slowly accumulated there as the result of chemical reactions that have taken place in the soil during the course of long ages; all that the water does is to dissolve the natron already present and to bring it to the surface, where it is left when the water evaporates. Pliny's reference to the hasty collection of the natron if rain falls, for fear it should be redissolved, is suggestive of the Barnugi deposit, rather than that of the Wâdî Naṭrûn, since in the latter the rainfall is insignificant and does not seriously affect the natron, while at Barnugi the amount of natron is less and the rainfall greater, and in the autumn, before the natron is gathered, there might be sufficient rain to flood the area that had dried during the summer and so spoil the harvest[2].

In ancient Egypt natron was used in purification ceremonies[3], especially for purifying the mouth[4]; for making incense[5]; for the manufacture of glass[6], glaze, and possibly the blue and green frits used as pigments, which may be made either with or without alkali, but which are more easily made if alkali is present; for cooking[7]; in medicine[8] and in mummification.

During the Ptolemaic period natron was a royal monopoly[9]; in Arab times it was a

[1] *Op. cit.*, 46.

[2] Early rain at the Lake Mareotis salt works near Mex limits considerably the amount of available salt.

[3] J. H. Breasted, *op. cit.*, IV, 865; A. M. Blackman, *Some Notes on the Ancient Egyptian Practice of Washing the Dead*, in *Journal*, V (1918), 118–20.

[4] A. M. Blackman, *The House of the Morning*, in *Journal*, V (1918), 156–7, 159, 161–3. At the present time natron mixed with tobacco is chewed in Egypt.

[5] British Museum, *Introductory Guide to the Egyptian Collections* (1930), 5; E. A. Wallis Budge, *The Literature of the Ancient Egyptians* (1914), 14, 38, 218. Natron mixed with an odoriferous gum-resin, almost certainly incense, was found in the tomb of Tutʿankhamûn.

[6] The remains of ancient glass factories still exist in the Wâdî Naṭrûn.

[7] According to Pliny (*Natural History*, XXXI, 46) the Egyptians used natron for cooking radishes, and at the present day it is used to a small extent in cooking vegetables.

[8] J. H. Breasted, *The Edwin Smith Surgical Papyrus*, I, 412, 491; C. P. Bryan, *The Papyrus Ebers* (1930), 18–19, 22, 56, 60, 64, 88, 100, 104–5, 115, 130, 159–60, 165.

[9] E. Bevan, *A History of Egypt under the Ptolemaic Dynasty* (1927), 148.

considerable source of revenue to the Government[1] and at the present day a small royalty is paid on all that is extracted.

As found in Egypt, natron practically always contains sodium chloride (common salt) and sodium sulphate as impurities, these being present in very varying and often considerable proportions; thus, for instance, in 14 samples of natron from the Wâdi Naṭrûn analysed by the writer[2], the proportion of common salt varied from 2 to 27 per cent. and that of sodium sulphate from a trace to 39 per cent., while in three samples from El-Kâb[3] the common salt varied from 12 to 57 per cent. and the sodium sulphate from 11 to 70 per cent.

[1] S. Lane-Poole, *A History of Egypt in the Middle Ages* (1901), 304.

[2] A. Lucas, *Natural Soda Deposits in Egypt* (1912), 15–16.

[3] See p. 63.

THE KEFTIU SPELL

By F. G. GORDON

The article by G. A. Wainwright on Keftiu in the May number of this *Journal* has brought this spell once more into prominence, and has taken us a step further towards its decipherment. One name at the end of the formula, Tarku, had already been recognized by Dr. Hall. Mr. Wainwright has now shown the existence of another name, Sandas or Sandokos, at the beginning. This prompts the consideration whether, with the help of these clues, it is possible to divide the rest of the spell intelligibly.

As the phrase begins and ends with a god, it would probably be in one of two forms:

(*a*) a petition or command: "Sandas (or Sandokos) give health; restore him, Tarku!" (or some equivalent, with an inversion of clauses),

(*b*) an invocation consisting of a rosary of divine names.

Of these (*a*) is not demonstrable at present, but on the hypothesis of (*b*) it seems to be possible to obtain a simple and reasonable result. The division suggested is as follows:

(1) *Sanda*. In spite of the attractiveness of Wainwright's Sandokos I am inclined to think, having regard to (2), that the true reading is *Sanda* (*cf.* Sanda-sarme, Damali-sanda), in which case the final *s* of the classical form must be merely the Greek nominatival ending.

(2) On the assumption that the first group is *Sanda*, the second appears to be *Kpp*. This at once suggests *Kupapa*, the alternative form of *Kubaba* (Κυβήβη). Professor Albright in an article dealing with this goddess [1] points out that in the Anatolian languages the voiced and voiceless stops interchange regularly, and that the name may be pronounced as *Kubaba* or *Kupapa*. He quotes an example of the latter spelling (*K.U.B.* XXII, 69, 4). It is unnecessary, therefore, to assume an Egyptian modification, although the sharper form would no doubt commend itself, as it would recall *Kꜣ Pp*. If the suggested construction of the spell is correct, Kupapa is a probable element, for it is unlikely that a goddess whose worship was so important and so widely diffused would have been omitted.

(3) The vocalization of the next group, transliterated *Wymn*, is more doubtful, though the *r* preceding the *n* would rather indicate a long syllable. Under the Egyptian system of transcribing foreign names there would appear to be no insuperable objection to reading *Amān*, *i.e.* Mt. Amanos in Cilicia. No god of this name is known at present, as far as I am aware, but it is quite conceivable that such a mountain deity may have existed.

On the other hand the signs may be thought to imply a long initial syllable, perhaps a diphthong, giving *Aim-n*. Again it is impossible to specify any god, but the form recalls two names, Haimôn and Haimon. The first, which is very common, was borne by a son of Lykaon, whilst Haimonia is an old appellation not only of Thessaly but of Ephesus (Hesych., *s.v.*). The second occurs as Haimon, Haimos and Aimos (Pauly-Wissowa 2222/5).

[1] W. F. Albright, *The Anatolian Goddess Kubaba*, in *Archiv für Orientforschung*, 1929, 229–231.

As the aspirate could be dropped in the masculine form, this may well have been the case in the neuter also. The personification of Mt. Haimos is well known, and is thought to have led to the adoption of the masculine ending. Is the neuter form cognate with Aman-os? And have we in *Amān* or *Aimon* the parent of both? These alternatives are put forward merely as a possible reading. They are of course insufficient to support any theory of Graeco-Asianic relations.

(4) *Tarku*. This name is generally admitted to occur here, though it seems to need disentanglement. *Trkkr* is an unusually complicated spelling, and even if the second *k* be accepted, the force of the succeeding *r* is not obvious. I suggest that these two letters should be separated to form a further proper name, *viz.*

(5) *Kar*, the eponymous founder of Karia, who was of divine origin, being the grandson of Ouranos and Gaia. He might quite properly, therefore, figure in this company.

If these tentative suggestions are correct, they form further evidence for Wainwright's view, since whether or no *Wymn* is to be placed in Cilicia, Kar and Kybebe are to be found on its confines. Even though the area of Keftiu may be widened in consequence, the reference is still to the western and southern parts of Asia Minor.

A PETITION FOR RELIEF FROM A GUARDIANSHIP P. MICH. INV. No. 2922

By A. E. R. BOAK

This petition belongs to the same find of Karanis papyri as P. Mich. Inv. No. 2895 published in *Journal*, XIII (1927), 151–4 and the five documents edited as *Select Papyri from Karanis*, in *Ann. Serv.*, XXIX (1929), 47–63. I previously suggested that this find formed part of the records of some village official at Karanis, but now agree with Mr. Liev Amundsen that they constituted a private, family, archive preserved through several generations.

The papyrus sheet upon which this document was written measured when intact 29·5 × 28 cm. The upper left corner has been torn away for 9·5 cm. along the top and 4 cm. down the left side to a depth of from 2 to 2·5 cm. A strip 17 cm. long and 6 cm. wide is missing from the lower portion of the left side. There are also numerous small holes and rents in the body of the sheet. Yet apart from these gaps the papyrus is well preserved and the writing very distinct. The whole document was written in a single hand; a fine, upright, official script characteristic of the latter part of the second century A.D. The verso is blank. The writing begins about 2 cm. from the top of the sheet, and stops about 1 cm. from the bottom. The left margin, where preserved, is about 3 cm., but on the right side the lines run to the very edge.

The date of the document is uncertain since the name of the ruling emperor has been omitted from the date (Pauni 2 of the 13th year) in the last line and the official to whom the opening petition was addressed, the epistrategos Julius Lucullus, is otherwise unknown. I believe, however, that it should be assigned to the 13th year of Marcus Aurelius (172/3 A.D.) because:

(1) It cites a judgement of the 11th year of Antoninus Pius (*cf.* ll. 12–13) and, consequently, must be later than this date.

(2) The petitioner, Gaius Apolinarius Niger, had a son, Gemellus, known from other documents to have been active at Karanis from 189 to 200 A.D. The father's *floruit*, therefore, may reasonably be placed earlier rather than subsequent to these dates, but not so early as the 13th year of Antoninus.

(3) No epistrategos of the Heptanomis and the Arsinoite nome is known for the years 169 to 176 A.D., so that there is no objection to placing the epistrategia of Julius Lucullus in 172/3 A.D.

(4) The handwriting agrees well with this date.

The document is a copy of a petition (*ἀντίγραφον ἀναφορείου*, l. 1) addressed to the epistrategos by Gaius Apolinarius Niger, a citizen of Antinoopolis, resident at Karanis in the Fayyûm and of part of the decision of the epistrategos in the form of a subscript (*ὑπογραφή*). The petition proper occupies ll. 2–12. It sets forth that Gaius Apolinarius by the will of the deceased veteran M. Anthestius Gemellus has been appointed one of the guardians of the latter's infant daughter, Valeria Tertia. The petitioner claims that he is not liable to this service on the ground that the property inherited by the ward is in the

Arsinoite nome, whereas decisions rendered previously in like cases have established the rule that an Antinoite is not obliged to serve as guardian for anyone except an Antinoite residing in the nomarchy of Antinoopolis, and consequently asks permission to submit a copy of these decisions and begs to be relieved from the duty that has been thrust upon him.

The copy of the first decision follows: ll. 13–31. It is the *procès verbal* of a suit tried in the court of the epistrategos Herennius Philotas on Mesore 6, of the 11th year of the Emperor Antoninus Pius (July 30, 148 A.D.). This suit arose out of a complaint entered by a certain Dionysius against a person called Eudaimon, apparently for neglect of duty with respect to a guardianship to which he had been appointed in a will. In the course of the proceedings Philotas states (ll. 16–18) that the defendant was justified in refusing the guardianship since it involved the management of properties not in the nomarchy of Antinoitis.

The copy of the second decision begins in l. 31 and runs to the middle of l. 35. It contains an ordinance in the form of a letter addressed by Antonius Macro to the exegetes of Antinoopolis in reply to a communication from the latter, and is dated Phamenoth 9 of the 22nd year of Hadrian (March 5, 138 A.D.). The exegete is ordered personally to appoint guardians for the property of orphan Antinoites which is in the Antinoite nome, and to notify the strategoi of the other nomes to appoint guardians for the property of these orphans which happens to be in their respective districts.

After this comes (ll. 35–8) a copy of the subscript which contained the judgement of Lucullus. This was an order to Apolinarius to announce to the relatives of the orphan that the petition had been approved, followed by the conclusion of the decision which apparently warned him against demanding the guardianship in the future. At the end are the date and the order to despatch the document.

The importance of our papyrus lies in its revelation of the exemption enjoyed by citizens of Antinoopolis in the matter of guardianships.

Text.

ἀντίγρα]φον [ἀνα]φ[ορ]είου

Ἰουλίωι Λουκούλλωι τῷ κρατίστῳ ἐπιστρατηγῷ

π]αρὰ Γαίου Ἀπολιναρίου Νίγερος Ἀντινοέως Ὀσοραντινοείου τ[ο]ῦ καὶ Ἑρμα[ιέ]ως. Μάρκος Ἀνθέστιος

Γέμελλος οὐετρανὸς τελευτῶν δι' ἧς ἔθετο διαθήκης ἠθέλησεν κληρονό[μο]ν ἑαυτοῦ γενέσθαι τὴν θυ-

5 *γατέρα Οὐαλερίαν Τερτίαν τὴν καὶ Θαισάριον ἀφήλικα τῶν ἀπολιφθέντων ὑπὸ αὐτοῦ ἐν νόμῳ Ἀρσι-*

νοείτῃ ἧς τῆς ὀρφανείας κατέλιψεν ἐπιτρόπους μὲν ἐμὲ τὸν Ἀπολινάριον Νίγερα καὶ Οὐαλέριον

Κόμωνα ἐπακολουθήτριαν δὲ τὴν τῆς παιδὸς μάμμην Οὐαλερίαν Σεμπρονίλλαν. κεκελευσμένου

οὖν, κύριε, ὑπό τε Ἑρεννίου Φιλώτα τοῦ ἐπιστρατηγήσαντος καὶ Ἀντω[ν]ίνου Μάκρωνος ὁμοίως

περὶ τοῦ Ἀντινόεα μηδενὸς ἄλλου ἐπιτροπεύειν ἢ μόνου τοῦ ἐν τῇ νομαρχίᾳ Ἀ[ν]τινοέως, οὐ δυνάμε-

10 *νος οὖν οὐδὲ αὐτὸς ὑπακούειν ταύτῃ τῇ ἐνχειρισθείσῃ μοι ἐπιτροπῇ ἀξιῶ ὑποτάξαι σοι τῷ κυρίῳ*

μου ἀντίγραφ[ον] τῶν ἐφ' ὁμοίων ἀπαλλαγῆναι τούτου κατὰ τὰ κελευσθέντα καὶ τὸ δόξαν σοι κελεῦσαι
γενέσθαι ἵνα ὦ [β]εβοηθημένος. διευτύχει. ἔστι δὲ ἀντίγραφον. (ἔτους) ια αὐτοκράτορος Καίσαρος
Τίτου Αἰλίου [Ἀδρι]άνου Ἀντωνίνου Σεβαστοῦ Εὐσεβοῦς, Μεσορὴ ς. κληθέντος ἐκ βιβλίδου Εὐδαίμονος
Ἑρμαίου, προσελθόντος Διονυσίου, καὶ ἀναγνωσθέντος τοῦ ἐπιδοθέντο[ς] ὑπὸ αὐτοῦ βιβλιδίου, Φιλώ-
15 τας εἶπεν· πόθεν ἦν [ὁ] καταλιπὼν Εὐδαίμονα ἐπ[ί]τροπον; Ἀπολλώνιος Νεώτερος εἶπεν· Ῥωμαῖος
ὢν κατῴκησ]εν ἐν [Ἰ]βίωνι Πανυκτέρει. Φιλώτας εἶπεν· τοῦτο δικαίως ἀ[π]έλεγεν εἰ Ἀντινοεὺς ἦν
ὁ καταστὰ]ς αὐτὸν ἐ[πίτ]ρ[ο]πον ἄλλῳ γὰρ οὐδενὶ ἀγώγιμος ἐστὶν ἐπιτ[ρο]πεύει⟨ν⟩ αὐτοῦ τῶν κτημάτων
οὐχ ὑπαρχόν]των ἐν τῇ νομαρχίᾳ. Ἀπολλώνιος εἶπεν· ἀποδίξομεν αὐτοὺς ἀντιλαβομένους
τῆς ἐπιτροπῆς] καὶ πάντα πεποιηκότας ὡς ἐπιτρόπους. Φιλώτας εἶπεν· ὅτι μ[ὲ]ν οὐκ ὀφε⟨ί⟩λει ὁ Εὐδαί-
20 μων ἐπιτροπ]εύειν εἰ μὴ μόνου Ἀντινοέως κέκριται. εἰ δὲ ἀντελάβετο αὐτῆ[ς] τῆς ἐπιτροπῆς
τὸν κριτὴν κ]αὶ λογοθέτας δώσωι. Ἀπολλώνιος ὁ Νεώτερος εἶπεν· Εὐδαί[μω]ν Ἑρμ[αίο]υ οὐκ ἀντελάβετο
.....α]ὐτοῦ ἀντελάβετο. Φιλώτας εἶπεν· Ἀντινοεὺς ἐστίν; Ἀντινοεὺς ἐστίν; ἀπεκρίνατο, ναὶ
καὶ αἰτεῖ εὐ]εργεσίαν τὴν ἀπὸ σοῦ. Φιλώτας εἶπεν· δώσω κριτὴν καὶ λογοθέτην τὸν αὐτὸν ὃς ἐξετά-
σει εἰ ἀντ]ελάβετο τῆς ἐπιτροπῆς καὶ τοὺς λόγους ἐξετάσει καὶ ἐπαναγκάσει τὸ φανὲν παρὰ τοῖς ἐπι-
25 τηδείοις καὶ] τῶι κ[ατ]ασταθησομένωι ἐπιτρόπῳ. ὁ δὲ τῆς Ἑρμουπόλεως ἐξηγητὴς προνοήσει
ἐπίτροπ]ον κατασταθῆναι. Θρακίδας εἶπεν· ἵνα μὴ δοκῶμεν σεσιωπηκέναι ἀσφαλιζόμεθα
.....]α ἥμισυ τάλαντα ὀφείλειν τῇ ὀρφάνῃ. Φιλώτας εἶπεν· ἃ εἶπας γέγραπται. Διόσκορος
εἶπεν· ἀξιο]ῦμεν τὸν κατασταθησό[μενο]ν ἐπίτροπον ἐπὶ τοῖς α[ὐ]τοῖς δικαίοις κατασταθῆναι
ἐφ' οἷς Εὐ]δαίμων κατὰ τὰς διαθήκα[ς] κατεστάθη. Φιλώτας εἶπεν· ἐπὶ τοῖς αὐτοῖς κατασταθῆναι.
30 Διόσκορος ε]ἶπεν· ἐ[μο]ὶ δοκεῖ. ὃς ἡμεῖν τὸν λογοθέτην. Φιλώτας εἶπεν· Ἑρμίαν τὸν ἀγορανομήσαντα
καὶ κοσμη]τε(ύσαντα). καὶ ἄλλου. Ἀντώνιος Μάκρων Ἀφροδισίῳ ἐνάρχωι ἐξηγητῇ Ἀντινουπόλεως.
....τῶν δὴ] ὀ[ρ]φάνων Ἀντινοέων περὶ ὧν γράφεις, τῶν μὲν ἐνθάδε πραγμάτων αὐτοῖς ἐπιτρόπους
ἀξιοχρέους κ]αὶ ἐπιτηδείους κατάστησον, τῶν δὲ ἐν ἄλλοις νόμοις ἐπιστεῖλον τοῖς στρατηγοῖς ἵνα

.....]ω καὶ αὐταὶ ἐπι[τη]δείους καὶ ἀξιοχρέους ἕλωνται. (ἔτους) κβ̄ αὐτοκράτορος
Καίσαρος Τραιάνου
35 Ἀδριάνου Σεβασ]τοῦ, Φαμενὼ[θ] θ̄. ἀντίγρ(αφον) ὑπογραφῆ[ς]. παραγγείλῃ τοῖς
οἰκείοις τῆς
ὀρφάνης ἡ ἐν]έτυχε μοι τὴν ἀξίωσιν σοῦ δοκιμα[στ]ήν. ἡ ἔγβασις τῆς διαλήμψεως, ἐάν
ποτε ἀπαιτήσ]ῃ τὴν ἐπιτροπὴν οὐκ ἀγνοεῖς ὅτι δὴ καὶ εἰς τὸ παρεληλυθὸς τῷ σῷ κιν-
δύνῳ ἀνε]χώρησας. (ἔτους) ιγ̄ // Παῦνι β̄. ἀπόδος·

Translation.

Copy of a petition

To Julius Lucullus, the honorable epistrategos,

From Gaius Apolinarius Niger of Antinoopolis, of the Osirantis tribe and the Hermaeios deme. Marcus Anthestius Gemellus, a veteran, expressed in the will which he drew up his dying wish that his daughter Valeria Tertia, also called Thaisarion, a minor, be heir of his property left in the Arsinoite nome. As guardians of her orphan state he left me, Apolinarius Niger and Valerius Komon, and as associate the child's mother Valeria Sempronilla. Since, my lord, both Herennius Philotas the former epistrategos and Antoninus Macro have rendered similar decisions concerning an Antinoite's acting as guardian for no one else than an Antinoite who is in the nomarchy, therefore, being myself unable to undertake this guardianship which has been entrusted to me, I have submitted, my lord, a copy of the decisions in like cases, and ask to be relieved of this according to the judgements, and beg you to order your decision to be carried out, so that I may receive relief. Farewell. The copy is:

"The eleventh year of the emperor Caesar Titus Aelius Hadrianus Antoninus Augustus Pius, Mesore 6. When Eudaimon son of Hermaios had been summoned in accordance with the petition, and Dionysius was present and the petition presented by him had been read before the court,

Philotas said: 'Whence was he who left Eudaimon as guardian?'

Apollonios the Younger said: 'He was a Roman who dwelt in Ibion Panukteris.'

Philotas said: 'This duty he rightly refused if he who appointed him was a citizen of Antinoopolis, for he is liable to no other to act as guardian for his property which is not in the nomarchy.'

Apollonios said: 'We shall show that they undertook the guardianship and have done everything like guardians.'

Philotas said: 'It has been decided that Eudaimon is not obliged to act as guardian except only for an Antinoopolite. But if he undertook this guardianship, I shall appoint a judge and auditors.'

Apollonios the Younger said: 'Eudaimon son of Hermaios did not accept it, his.... accepted it.'

Philotas said: 'Is he an Antinoite? Is he an Antinoite?'

He replied: 'Yes, and he asks your clemency.'

Philotas said: 'I shall appoint the same person as judge and auditor who shall investigate if he accepted the guardianship and shall examine the accounts and shall compel the result to be made known to the proper persons and to him who is to be appointed guardian. And the exegete of Hermoupolis shall see to it that a guardian is appointed.'

Thracidas said: 'Lest we should seem to have remained silent we guarantee that we owe....and a half talents to the orphan girl.'

Philotas said: 'What you have said has been written.'

Dioscoros said: 'We ask that he who is to be appointed guardian be appointed upon the same conditions as Eudaimon was appointed according to the will.'

Philotas said: 'He is to be appointed on the same terms.'

Dioscoros said: 'I concur. Give us the auditor.'

Philotas said: 'Hermias the ex-market commissioner (agoranome) and ex-cosmete.'"

(Copy) of another: "*Antonius Macro to Aphrodisios officiating exegete of Antinoopolis: For whatever property of the Antinoite orphans, about whom you write, is in that nome appoint as guardians reputable and suitable persons, but for what is in other nomes notify the strategoi so that...and they may choose suitable and reputable persons.*

Twenty-second year of the Emperor Caesar Trajan Hadrian, Augustus, Phamenoth 9."

Copy of the subscription. "*Announce to the relatives of the orphan who has appeared before me that your petition has been approved. The conclusion of the judgement (is) if you at any time demand the guardianship, you are not ignorant that you have appealed to the past at your own risk.*"

The thirteenth year, Pauni 2.

Despatch it.

Notes.

1. *ἀντίγρα*]*φον* [*ἀνα*]*φ*[*ορ*]*είου*. An official copy prepared in the court of the epistrategos and issued to the petitioner.

2. The petition is addressed to the epistrategos and not to the strategos of the Antinoite nome since the Antinoites were directly under the control of the former; Kuhn, *Antinoopolis*, 142.

3. Although the name of Gaius Apolinarius Niger betrays his Roman citizenship, his status as a Roman does not affect his case since his plea for exemption is based upon his citizenship in Antinoopolis.

Ἀντινοέως Ὀσοραντινοείου τ[*ο*]*ῦ καὶ Ἑρμα*[*ιέ*]*ως*: another example of a citizen of Antinoopolis domiciled at Karanis; *cf.* Kuhn, *Antinoopolis*, 83, and Boak, *Journal*, XIII (1927), 152–3. *Ὀσοραντινοείου* is an error for *Ὀσειραντινοείου*. *Ἑρμα*[*ιέ*]*ως* confirms Kuhn's attribution of the Hermaios deme to the Osirantis tribe, *op. cit.* 127–8, where the significance of both these names is explained.

3–4. *Μάρκος Ἀνθέστιος Γέμελλος*. The restoration of the praenomen is somewhat conjectural, for the last two letters are doubtful. The ink has been partly rubbed off at this point and the scribe seems to have made an extra stroke with his pen which somewhat spoils the ς. Two Lucii Anthestii Gemelli are mentioned in *B.G.U.*, I, 256, 6, a second-century document from Karanis, and an Anthestius Gemellus with uncertain praenomen appears in *B.G.U.*, II, 613, 30, which probably comes from the same place. The Gemellus in question here is not called an Antinoite, although he may well have enjoyed that status. His Antinoite citizenship (or lack of it) does not affect the argument presented in the petition, since that is based on the location of the estate.

4. *δι' ἧς ἔθετο διαθήκης*. The reasons for this appointment of Apolinarius Niger as testamentary guardian of the deceased's daughter are not clear as we do not know whether he was related to Anthestius Gemellus in any way or not.

5. *ἀφήλικα*. As Mitteis has pointed out (*Grundzüge*, 251) we do not know at what age the Greek or Egyptian attained majority. But since Valeria Tertia probably inherited Roman citizenship from her father, the Roman rule may have applied here. On guardian-

ship among the Greeks in Egypt, *cf.* Mitteis, *Grundzüge*, 248–56; Meyer, *Juristische Papyri*, 31–40.

6–7. *Οὐαλέριον Κόμωνα.* This Valerius may well have been the brother of Valeria Sempronilla, wife of Anthestius Gemellus, and so the uncle of the infant Valeria Tertia. If so, this would account for his appointment as one of the guardians.

7. *ἐπακολουθήτριαν.* On the position of the *ἐπακολουθήτρια*, who is regularly the mother of the ward, see Mitteis, *Grundzüge*, 250–1.

8. *Ἑρεννίου Φιλώτα τοῦ ἐπιστρατηγήσαντος.* An epistrategos called *Μάρκωι* [...].*ωι Φιλώτᾳ* appears in *B.G.U.*, I, 195, 1. The editors, followed by Martin, *Les Épistratèges*, 181, date the document and consequently his term of office in 161 A.D. Professor Hunt, however, calls my attention to the fact that although the new emperor would then have succeeded, Antoninus in ll. 16–17 is still called *Καίσαρ ὁ κύριος* and not *θεός*, and that the name of the new emperor is omitted in l. 33. He suggests, therefore, that the year in l. 33 should be read *ια* or [*ι*]*α*. This would make it correspond with the date given in l. 13 of our text and would enable the identification of the Herennius Philotas in question with the Marcus ....os Philotas of the Berlin papyrus. The latter could then be restored to read *Μάρκωι* [*Ἑρεν*]*ίωι Φιλώτᾳ*. The Crispus whom Martin, *op. cit.*, 180, places conjecturally in 147/8 A.D. cannot have functioned for the whole of this year.

Ἀντω[*ν*]*ίνου Μάκρωνος.* Antoninus Macro is otherwise unknown. Although his title is not given, it can safely be inferred from his association with Philotas as the author of a decision affecting the Antinoites that he was also an epistrategos. No other epistrategos of the Heptanomia and Arsinoite nome is known for the 22nd year of Hadrian (137/8 A.D.).

9. *περὶ τοῦ Ἀντινόεα, κτλ.* Here is the statement of the rule by virtue of which the petitioner claims exemption from the guardianship, namely that an Antinoite is not obliged to act as a guardian for anyone but an Antinoite who is in the nomarchy. Hence Apolinarius, although residing at Karanis, can, as an Antinoite, refuse to act as guardian for another resident of Karanis. The nomarchy here and in l. 18 is the sphere of the nomarch of Antinoopolis, whose functions are discussed by Kuhn, *op. cit.*, 143–8. It corresponded to the Antinoite nome. This privilege is restated in slightly different terms in ll. 16–18 and 32–4.

9–10. *οὐ δυνάμενος.* This probably refers to his legal disqualification, but may also indicate a real or alleged inability to perform the duties of a guardian because of ill-health, financial difficulties, or other reasons.

10. *ὑποτάξαι* is certain, but is probably an error for *ὑποτάξας*, as Professor Hunt suggests.

11. *τῶν ἐφ' ὁμοίων*: for *τῶν κεκελευσμένων ἐφ' ὁμοίων.*

ἀπαλλαγῆναι: inf. depending upon *ἀξιῶ.*

τούτου: *i.e.* the *ἐπιτροπή.*

13–30. I interpret the *dramatis personae* of the proceedings incorporated in these lines as follows. Philotas is Herennius the epistrategos of l. 8, in whose court the case was heard. Eudaimon, son of Hermaios (ll. 13–14) is the defendant, who has been summoned by reason of a petition presented by Dionysios (l. 14). Apollonius the Younger (l. 15) is the rhetor who represents Eudaimon. He is to be distinguished from the other Apollonius (l. 18) who is an associate of Dionysios. Thracidas, who makes an interpolation in ll. 26–7, is apparently connected with Eudaimon. Dioscoros (l. 27), on the other hand, belongs to the party of Dionysios, the plaintiff.

The suit seems to have been directed against Eudaimon by Dionysios for failure to perform the duties of a testamentary guardian for an orphan girl. It is also possible that

an accounting was asked for, implying that the property of the ward had been neglected or even mismanaged. The epistrategos goes at once to the question of the liability of Eudaimon to assume the charge, by asking the place of residence of the man who designated him a guardian. When the answer reveals that the deceased was a Roman living at Ibion Panukteris, and not at Antinoopolis, Philotas exclaims that even had the latter been an Antinoite, Eudaimon would not have been obliged to accept the guardianship for the property to be administered was not in the nomarchy. When Apollonius, speaking for the plaintiff, promises to show that Eudaimon and others actually assumed the guardianship, the epistrategos replies that it has been decided that Eudaimon had no obligation to do so, but if he did, the court would appoint a judge and auditor. Apollonius the Younger here interposed that Eudaimon himself did not assume the charge but some other person, apparently a relative of his, did so, whereupon Philotas asks, rather impatiently, if he is an Antinoite. Upon receiving an affirmative answer, he announced that he will appoint one and the same person to act as judge and auditor to determine if he actually did exercise the guardianship and to examine the accounts of the management of the property. The result is to be made known to the interested parties and to a new guardian to be appointed by the exegete of Hermoupolis. Thereupon Thracidas stated that in order to avoid the suspicion of having concealed anything he and his associates declare that a certain number of talents are due the infant girl. As such a statement would only be made by a representative of the party whose accounts were liable to inspection, Thracidas must be speaking on behalf of Eudaimon. Dioscoros then asked that the new guardian be appointed subject to the terms of the will and, upon receiving assurance on this point, requests that the auditor be named. Thereupon Philotas appoints Hermias the ex-agoranome and ex-cosmete.

16. *ὧν κατῴκησ]εν ἐν [Ἰ]βίωνι Πανυκτέρει.* While the restoration may not be strictly accurate it seems to give the required sense. The village of Ibion Panykteris must have been in the Hermoupolite nome, since the exegete of Hermoupolis is entrusted with appointing the new guardian (l. 25). This is the first mention of an Ibion called Panykteris. For others, *cf.* Cronert, *Stud. Pal.*, IV, 106.

17. *ὁ καταστά]ς.* The *ς* precludes the restoration *καταλιπών.*

αὐτοῦ. Unless this is an error for *αὐτός*, it must refer to the maker of the will and must qualify *τῶν κτημάτων.*

The point which Philotas makes in ll. 16–18 is that even if the maker of the will had been an Antinoite, Eudaimon could have justly refused the guardianship, for the property concerned lies outside the nomarchy. He has even more right to do so since the deceased was a Roman, and, apparently, not an Antinoite.

18. *αὐτούς.* This implies that Eudaimon had an associate in the guardianship.

19. *μ̣[ἐ]ν.* The reading is very uncertain but seems to fit the traces of letters that are visible.

21. *τὸν κριτήν.* Restored from l. 23.

Ἀπολλώνιος ὁ Νεώτερος. This statement of Apollonius the Younger seems to make him the advocate of Eudaimon, for it contradicts the assertion of the other Apollonius in ll. 18–19 that he will show that they (Eudaimon and another) exercised the functions of guardian.

22. *α]ὐτοῦ ἀντελάβετο.* Perhaps *ὁ ἀδελφὸς α]ὐτοῦ.*

Ἀντινοεὺς ἐστίν. This refers to the person alleged to have acted as guardian. If he is an Antinoite, he can claim the same exemption as Eudaimon.

ἀπεκρίνατο. Sc. *Ἀπολλώνιος ὁ Νεώτερος.*

23. *καὶ αἰτεῖ εὐ]εργεσίαν τὴν ἀπὸ σοῦ. σοῦ*: corrected by the scribe from *τοῦ*. I am indebted to Professor Hunt for the suggestion *αἰτεῖ*.

25. On the functions of the exegete, *cf.* Jouguet, *Vie Municipale*, 315–18.

27. *]α ἥμισυ τάλαντα*. As nine or ten letters are missing, perhaps we should restore *τρισκαίδεκα*.

ἃ εἶπας γέγραπται. This may mean either that this is already stated in the will, or that a record of the admission has been made there and then in the court.

31. *καὶ κοσμη]τε(ύσαντα)*. *ἐξηγη]τε(ύσαντα)* is equally possible; *cf.* Jouguet, *Vie Municipale*, 292 ff.

ἐνάρχωι ἐξηγητῇ Ἀντινουπόλεως. On the exegete of Antinoopolis in particular and the collegiate character of his office, *cf.* Kuhn, *Antinoopolis*, 111.

32. *ἐνθάδε*: *i.e.* in the Antinoite nome.

33. *ἀξιοχρέους κ]αὶ ἐπιτηδείους*: completed from l. 34: *ἐπι[τη]δείους καὶ ἀξιοχρέους*.

34. I have no satisfactory restoration for this line.

35. *παραγγείλῃ*. An order addressed to the petitioner, Gaius Apolinarius.

36. *ἢ ἐν]έτυχε*. I owe the *ἢ* to Professor Hunt.

δοκιμα[στ]ήν: for *δοκιμα[στ]ὴν εἶναι*. Professor Hunt suggests *δοκιμα[σθ]ῆναι*, but I hardly think the *αι* would have been omitted.

37–38. The restorations in these lines are based on my interpretation of the passage as a warning to Gaius Apolinarius that, since he has sought to be relieved of this guardianship, if he should seek it at a future date, he will be held responsible for deserting it. Professor Hunt raises the question whether *ἡ ἔγβασις* may not be the subject of the verb in l. 37, but I cannot see it that way.

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A. PAPYRI (1930–1931)

The work is again divided as follows:

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§ 2. Religion, Magic, Astrology (including texts). A. D. NOCK, Harvard University, Cambridge, Mass., U.S.A.
§ 3. Publications of non-literary texts. H. I. BELL, British Museum.
§ 4. Political History, Biography, Administration, Topography and Chronology. J. G. MILNE, 20 Bardwell Road, Oxford (Ptolemaic and Graeco-Roman Periods), and N. H. BAYNES, Fitzwalters, Northwood, Middlesex (Byzantine and Arab Periods).
§ 5. Social Life, Education, Art, Economic History, Numismatics and Metrology. J. G. MILNE (Ptolemaic and Graeco-Roman), and N. H. BAYNES (Byzantine and Arab).
§ 6. Law. F. DE ZULUETA, 37 Norham Road, Oxford.
§ 7. Palaeography and Diplomatic. Miss M. E. DICKER, 21 Elm Bank Mansions, London, S.W. 13.
§ 8. Lexicography and Grammar. R. M'KENZIE, St. John's College, Oxford.
§ 9. General Works, Bibliography, General Notes on Papyrus Texts. H. I. BELL.
§ 10. Miscellaneous, Excavations, Personal. H. I. BELL.

The authors wish jointly to express their gratitude to all those scholars who have sent them off-prints of their articles, a kindness which has greatly facilitated the work of compiling this bibliography.

The following abbreviations have been used in quoting periodicals:

A.J.A. = *American Journal of Archaeology.*
Am. Hist. Rev. = *American Historical Review.*
Am. Journ. Phil. = *American Journal of Philology.*
Anc. Egypt = *Ancient Egypt.*
Ann. Serv. = *Annales du Service des Antiquités de l'Égypte.*
Arch. f. Rel. = *Archiv für Religionswissenschaft.*
Arch. Giurid. = *Archivio giuridico.*
Archiv = *Archiv für Papyrusforschung.*
Arch. R. u. W. = *Archiv für Rechts- und Wirtschaftsphilosophie.*
Ä.Z. = *Zeitschrift für ägyptische Sprache und Altertumskunde.*
B.C.H. = *Bulletin de correspondance hellénique.*
Boll. fil. class. = *Bollettino di filologia classica.*
Bull. bibl. et péd. = *Bulletin bibliographique et pédagogique du Musée Belge.*
Bull. Ist. Dir. Rom. = *Bulletino del Istituto di diritto romano.*
Bull. Soc. Arch. d'Alex. = *Bulletin de la Société Royale d'Archéologie d'Alexandrie.*
Bursian = *Jahresbericht über die Fortschritte der klassischen Altertumswissenschaft.*
B.Z. = *Byzantinische Zeitschrift.*
Chron. d'Ég. = *Chronique d'Égypte.*
Cl. Phil. = *Classical Philology.*
Cl. Quart. = *Classical Quarterly.*
Cl. Rev. = *Classical Review.*
Cl. Weekly = *Classical Weekly.*
C.-R. Ac. Inscr. et B.-L. = *Comptes-Rendus de l'Académie des Inscriptions et Belles-Lettres.*
D. Lit.-Z. = *Deutsche Literaturzeitung.*
G.G.A. = *Göttingische Gelehrte Anzeigen.*
Hist. Z. = *Historische Zeitschrift.*
Jahrb. f. Lit. = *Jahrbuch für Liturgiewissenschaft.*
J.H.S. = *Journal of Hellenic Studies.*
Journal = *Journal of Egyptian Archaeology.*
Journ. Sav. = *Journal des Savants.*
J.R.S. = *Journal of Roman Studies.*
K.V.G.R. = *Kritische Vierteljahresschrift für Gesetzgebung und Rechtswissenschaft.*
L.Q.R. = *Law Quarterly Review.*
N.G.G. = *Nachrichten der Gesellschaft der Wissenschaften zu Göttingen.*
O.L.Z. = *Orientalistische Literaturzeitung.*
Phil. Woch. = *Philologische Wochenschrift.*
Rech. sc. relig. = *Recherches de science religieuse.*
Rev. arch. = *Revue archéologique.*
Rev. belge = *Revue belge de philologie et d'histoire.*
Rev. de phil. = *Revue de philologie.*
Rev. d'hist. eccl. = *Revue d'histoire ecclésiastique.*
Rev. ét. anc. = *Revue des études anciennes.*

Rev. ét. gr. = *Revue des études grecques.*
Rev. hist. dr. = *Revue de l'histoire du droit français et étranger.*
Rev. hist. rel. = *Revue de l'histoire des religions.*
Rhein. Mus. = *Rheinisches Museum für Philologie.*
Riv. di fil. = *Rivista di filologia classica.*
Riv. Stor. Dir. Ital. = *Rivista di storia del diritto italiano.*
Sitzungsb.... = *Sitzungsberichte....*
Symb. Oslo. = *Symbolae Osloenses.*
Theol. Lit.-Z. = *Theologische Literaturzeitung.*
Z. f. Kirchengesch. = *Zeitschrift für Kirchengeschichte.*
Z. f. Numism. = *Zeitschrift für Numismatik.*
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1. Literary Texts.

General. A fresh instalment (the last was in *Archiv*, VIII, of 1927) of Körte's invaluable reports on *Literary Texts in Papyri* appears in *Archiv*, X (1931), 19–70.

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S. Eitrem and L. Amundsen have issued *Papyri Osloenses*, fasc. II, 1931, containing (nos. 7–14) the following literary pieces, viz.: [*Il.* VI, 196–276], [*Od.* IV, 483–92], [Plato, *Politicus*, 308 E–309 C], [Dem., *De Corona*, 200–4], [Septuagint, frs. of *Gen.* and *Is.*], Vocabulary of *Il.* I, 5–24, 2nd cent. A.D., similar to P. Berl. 5014; Grammar, 2nd cent. A.D., largely coinciding with the *Techne* of Dionysius Thrax, [Sibylline Oracles]. Nos. in brackets already published.

Les Papyrus Grecs d'Achmîm, edited by P. Collart in *Bull. Inst. fr. d'arch. or.*, XXXI (1930), 35–111, includes Epitome of *Il.* I and Glossary of *Il.* I, 1–21; Hes., *Theogony*, 75–144; Euripides, *Rhesus*, 48–86; *Anth. Pal.* XIV, 10; all previously published by Wilcken.

Epic. In *Aegyptus*, XI (1931), 169–78, A. Bataille and P. Collart publish Homeric Papyri from the Reinach collection presented to the Institut de Papyrologie. In one of them the syllables are marked off, obviously for the use of a pupil.

F. M. Deratin mentions a 4/5th cent. codex of *Il.* XIII, 512–560, in the Papyrus collection at Washington University, Saint Louis, in *A.J.A.*, XXXV (1931), 62.

A. Wifstrand in *Eranos*, XXVIII (1930), 102–4, identifies Dionysius Periegetes as the author of the Brit. Mus. *Dionysiaca*, unaware of Keydell's previous discovery in *Phil. Woch.*, 1929, 1101.

The evidence of papyri is used by E. Delage in his *Biographie d'Apollonios de Rhodes* (1930), and by P. Collart in his important work, *Nonnos de Panopolis: Études sur la composition et le texte des Dionysiaques* (1930). The latter is reviewed by Calderini in *Aegyptus*, XI (1931), 508–9.

Hunt and Johnson's *Two Theocritus Papyri* receives an important review by M. Pohlenz in *G.G.A.*, 1931, 361–76. Other reviews by E. Bignone in *Boll. fil. class.*, IX (1931), 177–80, and by P. Collart in *Rev. de phil.*, 1931, 390–1.

G. Vollgraff emends idylls XIV, 33 and XXVI, 28 in *Mnemosyne*, LIX (1931), 315–6.

Elegiac. The *Cambr. Univ. Reporter*, 2 June 1931, 1151, gives a summary of a lecture by Powell on "Some recent additions to Greek Elegy and Lyric Poetry from the 4th cent. B.C."

J. M. Edmonds has edited for the Loeb series *Elegy and Iambus* (2 vols., 1931), excluding the choliambic writers but otherwise including the poets from Callinus to Crates, and the Anacreontea.

An important article by A. D. Knox in *Philologus*, XLI (1932), 18–39, on the metrics of "The Early Iambus" uses the evidence of papyri.

R. Keydell reports on *Die griech. Poesie der Kaiserzeit* up to 1929 in *Bursian*, CCXXX (1931), 41–161.

Reconstructions of Tyrtaeus are essayed by W. Klinger in *Bull. Ac. Polon.* (Sc. et Lettres, 1929), 35–9.

In the Brit. Mus. scholia of Callimachus I now read *al* κατὰ λεπτ(ὸν), thus supporting Rostagni's proposal. A. Wifstrand in *Eranos*, XXVII (1929), 116–8, makes important suggestions for restoring these scholia.

Lyric. Lobel's dating of Corinna is opposed by Bowra in *Cl. Rev.*, XLV (1931), 4–5.

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In *Cl. Phil.*, XXVI (1931), 153–65, S. E. Bassett on *The Place and Date of the First Performance of the* Persians *of Timotheus* gives the date as 412–408 B.C., and the recipients as the Athenians.

A. TURYN's *Studia Sapphica* is reviewed by P. CHANTRAINE in *Rev. de fil.*, LVI (1930), 403.

I propounded some of the following readings in *Sappho* before the Cambr. Philolog. Soc. on 28 Jan., viz.: *Ode to the Nereids*: ὀνίαν δὲ λύγραν | [ἐξέλοιτ]ο τοῖσι etc. [θῦμον ἐδά]μνα="May he remove the bitter grief from those whose hearts he broke"; τὸ κέγχρῳ | [..... ἄλ]λ' ἐπάγ⟨αγ'⟩ [ἴ]ᾳ πολίταν | [ἐν λύαισ' ἄλ]λως, [ἐπό]ψηκε δ' αὖτ' οὔ-|[τω διὰ μί]κερω="Which (as) by a single millet-seed swayed (his thoughts) now this way, now that ⟨ἄλλο ἄλλωε⟩ and again righted them"; [Νήρεος γ]όναι, κ[οῖλαισι ναῦ]σι | [πέμπετ' ἄψ]ερ[ο]ν· σὺ δὲ Κύπ[ρ]ι σ[έμ]να | [λώπε' αἶψα περ]θεμ[έν]α κάκαν [ἔ-|ριν δωάλυσα]ι; *Anactoria Ode*: τὸν ἄνδρα | [πρῶλιπ', ἄρι]στον | [φαῖσα καὶ] σέβας Τροΐα[ς ἔ]λεσθαι="Abandoned her husband, thinking best (so to do) and to choose the cynosure of Troy (i.e. Paris)"; παράγαγ' αὔταν | [αὔτικ' ἴδοι]σαν or [αἶψ' ἐπίδοι]σαν | [Ἄρος· εὔκ]αμπτον γὰρ [ἔτεινε τόξον | μειδίαις] κούφως τ[' ἐχάλα β]ίηον="And softly released the string", cf. νεῦρα βόεια | [ὃς] με νῦν etc.; κἀν ὄχοισι for καὶν ὅπλοισι="And among the chariots"; A new ode after πεσδομάχενταε, viz. [Ὀλβιών] μεν etc. | [πάντ' ὁ]ν ἀνθρώποις; *Ode to Hera*: πλάσιον δή μ[' εὐχομένᾳ παρείη], τὰν ἀράταν Ἀτ[ρεῖδ(αι) ἔσκεθον δίτ-]ροι; πρίν σε καὶ Δί' ἀντ[όμεν(οι) ἱλάσασθαι; l. 19 κ]ἄμμε ν[ῦν; l. 20 Ἤ]ρ' or ἐ]ξ ἀπί[κεσθαι. Cf. *Cambr. Univ. Reporter*, 16 Feb., 1932.

The Hymn to Demeter by *Philikos* has been re-edited with additional fragments by GALLAVOTTI in *Stud. ital. di fil. class.*, IX (1931), 37–60, and after him by KÖRTE in *Hermes*, LXVI (1931), 442–54.

Drama. Vol. CCXXXIV (1932), 107–74, of *Bursian* is devoted to a *Bericht über die Literatur zur griech. Komödie von 1925–1931* by E. WÜST.

J. BORGERHOFF publishes a thesis on *Satyros et sa biographie d'Euripide* (Brussels, 1929).

JENSEN's *Menandri Reliquiae* receives a detailed review from G. COPPOLA in *Riv. di fil.*, IX (1931), 247–54, 391–7.

E. FRAENKEL in *Philologus*, XLI (1932), 117–20, identifies Menander's Συναριστῶσαι as the original of the *Cistellaria*.

V. COULON discusses Menander readings in *Rev. ét. gr.*, XLIV (1931), 26–8.

In *Mnemosyne*, LIX (1931), 239–48, W. E. J. KUIPER identifies the "Incerta Fabula" of Menander (Jensen, pp. 84–7) with the "Canephorus," and *ib.*, 165–83, develops ideas on the "Colax."

The Monostichs of Menander in TAIT's *Ostraca* (nos. 405, 449) are restored by P. COLLART in his review of Tait in *Rev. de phil.*, V (1931), 349–50, and also in his article "A propos de quelques exercices scolaires" in *Bull. Inst. fr. d'arch. or.*, XXX (1930), 417–23. Tait's *Ostraca* is also reviewed by K. FR. W. SCHMIDT in *Phil. Woch.*, 1931, 535–42.

In *Cl. Rev.*, XLV (1931), 24–8, EDMONDS reviews KNOX's Herodas.

R. M. RATTENBURY reviews in *Cl. Rev.*, XLV, 38–9, URSING's *Studien zur griech. Fabel.*

PASQUALI writes on the new *Hipponax* fragment in *Stud. ital. di fil. class.*, IX (1931), 307–11.

Grammar. LOBEL re-edits P. Bouriant 8 on the Aeolic dialect in *Archiv*, X (1931), 1–4.

An article by F. MÜNZER on *Das Konsulpaar von 139 v. Chr.*, in *Klio*, XXIV (1931), 333–8, draws its evidence from the Oxyrhynchus *Livy* epitome.

History. "A New Fragment of the Acta Isidori" is edited by BELL from P. Lond. Inv. No. 2785, with plate, in *Archiv*, X (1931), 5–16. [See too § 3.]

A. NEPPI MODONA writes on *Il nuovo frammento berlinese degli "Atti dei Martiri Alessandrini"* in *Aegyptus*, XII (1932), 17–24. [See § 3.]

G. DE SANCTIS in *Riv. di fil.*, IX (1931), 330–4 would assign P. Oxy. 13, a letter to Demetrius Poliorcetes, to the "History of the Diadochoi" by Hieronymus of Cardia.

In *Riv. di fil.*, LVIII (1930), 449–66, G. COPPOLA edits a Florence papyrus of Philistus Περὶ Σικελίας, and MOMIGLIANO adds a note, 467–70. In *Studi ital.*, VIII (1931), 311–5, G. PERROTTA discusses the same text.

Music. In *Chron. d'Ég.*, 1931, 441–55, C. DEL GRANDE writes on the musical papyri discovered in Egypt.

The oldest Greek musical document extant, a Cairo papyrus, is discussed by J. F. MOUNTFORD in *J.H.S.*, LI (1931), 91–100. Acquired with the Zenon papyri, it dates *circ.* 250 B.C.

Oratory. A new discourse of *Favorinus*, Περὶ φυγῆς, more or less complete, is published by NORSA and VITELLI as vol. 53 of *Studi e Testi*, with transcript, text, and plates. Numbered Pap. 11 in the Vatican, and dating *circ.* 215 A.D.

Rev. by MAAS with many suggestions in *D. Lit.-Z.*, 1931, 1210–3, and by AMATUCCI in *Boll. fil. class.*, 1931, 4–7.

BOLLING restores ll. 106–8 of the Brit. Mus. Dio. Chrysostom in *Cl. Phil.*, XXVI (1931), 315–6.

In *Charisteria A. Rzach*, 1930, 5–10, M. ADLER re-edits, under the title "Der Arkesilaos-Papyrus," a rhetorical fragment first published in *Archiv*, III, 151–7.

Philosophy. SANDBACH reviews EDMONDS' *Theophrastus* (Loeb series) in *Cl. Rev.*, XLV (1931), 23–4.

Romance. LAVAGNINI's *Eroticorum Graec. fragg. papyracea* receives a long and important review from FR. ZIMMERMANN in *Phil. Woch.*, LI (1931), 193–202, 225–34.

Finally we may here mention "A Fragment of a Greek Illustrated Papyrus from Antinoë" by S. J. GĄSIOROWSKI in *Journal*, XVII (1931), 1–9.

2. RELIGION, MAGIC, ASTROLOGY.

(Including Texts.)

General. K. PREISENDANZ, *Zur Papyruskunde* (ch. 5 of MILKAU, *Handbuch der Bibliothekswissenschaft*, 300–31: Leipzig, Harrasowitz, 1931), gives an admirable survey of papyrology as a whole, in which we may here remark pp. 319–21 on religious and magical papyri.

O. WEINREICH, *Allgemeine Religionswissenschaft* (*Arch. f. Rel.*, XXVIII (1931), 318–79), gives a valuable account of recent work on the study of religions in general. FR. PFISTER, *Die Religion der Griechen und Römer*, is reviewed by W. BAUER, *Theol. Lit.-Z.*, LVI (1931), 409; O. WEINREICH, *Gebet und Wunder*, by H. SCHLINGENSIEPEN, *ib.*, 75–8; F. CUMONT, *Les religions orientales dans le paganisme romain*, ed. IV, and the German translation (which has *addenda* by C.) by M. P. NILSSON, *D. Lit.-Z.*, III (1931), 2065–6, and E. BICKERMANN, *O.L.Z.*, XXXIV (1931), 210–13; the German translation by W. BAUER, *Theol. Lit.-Z.*, LVI (1931), 195–6; W. PEEK, *Isishymnos von Andros*, by O. WEINREICH, *D. Lit.-Z.*, II (1930), 2025–30 (with valuable remarks).

K. LATTE, *Synkretismus*, in GUNKEL-ZSCHARNACK, *Die Religion in Geschichte und Gegenwart*², V, 952–9, is brief and good.

W. SCHUBART, *Orakelfragen* (*Ä.Z.*, LXVII (1931), 110–15), collects the texts on papyrus containing questions to oracles and discusses in an interesting and suggestive commentary the practice and procedure of consulting oracles in Egypt.

S. EITREM, in his *Varia* (*Serta Rudbergiana*, 1931, 18–23), has notes on P. Berol. 1026 and P. Bouriant I, p. 21.

O. WEINREICH, *Zur hellenistisch-ägyptischen Religionsgeschichte* (*Aegyptus*, XI (1931), 13–22), well connects Menander's *σεμνὸς ὁ Σάραπις θεός*, P. Oxy. 1803, with Ptolemy's invitation to Alexandria, and has instructive remarks on the paean from Ptolemais and on P. Oxy. 1381.

S. EITREM, *A Greek Papyrus concerning the sale of a slave* (*Journal*, XVII (1931), 44–7), is noticed in § 3, but we may here remark the street-names *ἁγ(ιᾶς)* Ἀρσινόης, *ἁγ(ιᾶς)* Ἀρσινόης Νείκης, still in use in A.D. 154, and E.'s suggestion that each street had a chapel.

W. OTTO, *Zusätze*, printed after W. SPIEGELBERG, *Die demotischen Papyri Loeb*, col. 107–16 (volume not yet accessible; see § 3), has valuable remarks on royal titulature, *e.g.* the avoidance of an early designation as *θεός* of kings who were minors, the use of cult names for the ruler's parents, but not for the ruler in early Ptolemaic *Aktpräskripte*.

J. G. TAIT, *Greek Ostraka*, I, 24, no. 144, records an *οἰνολογία* which is, he suggests, perhaps to be identified with the tax called *σπονδὴ Διονύσου* and to be connected with the Dionysiac policy of Philopator.

L. R. TAYLOR, *The Divinity of the Roman Emperor* (Philological Monographs published by the American Philological Association, I, edited by JOSEPH WILLIAM HEWITT, 1931. Pp. XV+296), includes a sketch of Hellenistic ruler worship and a discussion of the cult of Agathos Daimon at Alexandria.

A. D. NOCK, ΣΥΝΝΑΟΣ ΘΕΟΣ (*Harv. Stud. Class. Phil.*, XLI (1930), 1–62), discusses the inclusion of Ptolemies in the worship of existing Egyptian deities and the relations of this to earlier Egyptian practice, also the probable abandonment of the custom by the Roman rulers. On the chronology of the worship of the Theoi Adelphoi and the Theoi Soteres reference should be made to OTTO's important remarks, pp. 414 f. of his article, *Zu den syrischen Kriegen der Ptolemäer* (*Philol.*, LXXXVI (1931), 400–18).

CH. PICARD, in his *Chronique de la religion grecque: sur quelques cultes primitifs à Délos* (*Rev. hist. rel.*, CI (1930), 223–50), raises, pp. 242–4, the question of possible Egyptian influence on Delos long before the Hellenistic period.

A. DEGRASSI publishes in *Notizie degli scavi*, Serie sesta, VI (1930), 430–2, a statuette of Isis-Fortuna found at Salvore in Sardinia; G. BRUSIN, *ib.*, 437, a small basalt base from the statue of a priest of Thot, *ca.* 700–500 B.C., found at Aquileia; A. TARAMELLI, *ib.*, VII (1931), 118–23, a votive cippus to Isis with a

female human-headed serpent, a dog, and a crocodile, all adorned with lotus flowers, and a headless statue of Isis, found at Porto Torres in Sardinia, and refers to excavations now being conducted by C. ANTI in the sanctuary of the crocodile-god of Tebtunis (see § 10).

I gather from W. BAUER's review, *Theol. Lit.-Z.*, LVI (1931), 75, that J. KEIL, *Ephesos*², 75 ff., describes the remains of the large building at Ephesos thought to have been a Serapeum.

Chron. d'Ég., no. 11 (Jan. 1931), 95–9, reprints an important communication by G. MEYER to *Le Journal du Caire*, 4 Oct. 1930, on the French excavations at Medamûd and gives, pp. 103–6, an equally interesting account by G. ROEDER of the German excavations at Hermopolis (see too § 10).

J. AMANN, *Die Zeusrede des Ailios Aristeides* (Stuttgart: Kohlhammer. 1931. Pp. viii+112. *Tübinger Beiträge zur Altertumswissenschaft*, XII. 7 M. 50) is a contribution of rare excellence to the religious history of the Antonine age. A. argues that the speech was delivered in Egypt; this is attractive, but I doubt his suggestion that αὐτοπάτωρ in § 9 points to local speculation such as we find in Hermetism and Valentinianism: the Orphic parallels, αὐτοφυής and αὐτογένεθλος in the Clarian texts discussed by me, *Rev. ét. anc.*, 1928 (they have much in common with Aristides), and αὐτογένεθλος in the Chaldaic Oracles (W. KROLL, *De oraculis Chaldaicis*, 25), all suggest that Aristides learnt the idea in Asia Minor. Incidentally it may be remarked that the scheme of an encomion on a deity discussed in ch. I of this work has influenced the Imuthes-aretalogy in P. Oxy. 1381 (the τόποι of (1) the impossibility to a mortal of worthy treatment of the theme, (2) the fulfilment of a vow by a literary offering).

E. BICKERMANN, *Zur Datierung des Pseudo-Aristeas* (*Z. neut. Wiss.*, XXIX (1930), 280–98), makes a strong case for a date between 145 and 127 B.C.

L. RADERMACHER, *Zur Charakteristik neutestamentlicher Erzählungen* (*Arch. f. Rel.*, XXVIII (1930), 31–41), has interesting parallels for the Alexandrian parade of the mock Agrippa.

J. GROSS, *Philons von Alexandreia Anschauungen über die Natur des Menschen* (Diss. Tübingen, 1930. Druck: Tübinger Chronik. Pp. 91), is a careful study of Philo's sources and mode of thinking.

H. LEWY, *Sobria ebrietas*, is reviewed by G. VAJDA, *Rev. études juives*, XC (1931), 109–12.

R. REITZENSTEIN, *Eros als Osiris. Ein Nachtrag* (*Nachr. Gött. Ges.*, 1930, 396–406), publishes a jug with a representation of Eros giving a drink to Psyche as she rises from the ground, and returns to the question of the origin of the tale.

Hermetism. F. CUMONT's most important *La fin du monde selon les mages orientaux* (*Rev. hist. rel.*, CIII (1931), 29–96) includes, p. 61, n. 3, remarks on the prophecy in the *Asclepius*. In this context should be noted E. BICKERMANN's instructive review, *Gnomon*, VII (1931), 277–9, of H. WINDISCH, *Die Orakel des Hydaspes*.

R. BULTMANN, *Untersuchungen zum Johannesevangelium*, Θεὸν οὐδεὶς ἑώρακεν πώποτε (*Z. neut. Wiss.*, XXIX (1930), 169–92), includes valuable illustrations of the idea, found in the *Corpus*, of God's providence seen in his εἰκών, the universe, and an indispensable discussion of the meaning of γνῶσις in Paul.

CARL H. KRAELING, *The Apocalypse of Paul and the "Iranische Erlösungsmysterium"* (*Harvard Theol. Rev.*, XXIV (1931), 209–44), is of interest for the Anthropos myth: on this *cf.* also J. SCHEFTELOWITZ, *Der göttliche Urmensch in der manichäischen Religion* (*Arch. f. Rel.*, XXVIII (1930), 212–40).

A. D. NOCK, *A diis electa: a chapter in the religious history of the third century* (*Harvard Theol. Rev.*, XXIII (1930), 252–74), bears on the doctrine of divine right in *Corpus* XVIII.

As the *Koiranides* professes to be a work of Hermes, we should here mention M. WELLMANN, *Der Physiologos, eine religionsgeschichtlich-naturwissenschaftliche Untersuchung* (*Philol. Supp.*, XXII, i (1930) pp. 116). W. shows the connection of the *K.* with the *Phys.* (pp. 35 ff.), concluding that both have used a first century A.D. work, based in the main on Bolos-Democritus and the Neopythagorean Anaxilaus of Larissa, and comparable with the magic books of the Essenes (on whom *cf.* F. CUMONT, *Esséniens et Pythagoriciens, d'après un passage de Josèphe* [*C.-R. Ac. Inscr. et B.-L.*, 1930, 99–112], where the Pythagorean character of their eschatology is shown: it localized the Islands of the Blest in Heaven, the Ocean to be crossed being identified with the atmosphere); the ultimate source was perhaps a *Physica* current under the name of Solomon, the immediate source possibly the *Physica* of Didymus of Alexandria. Reviewed by FR. PFISTER, *Theol. Lit.-Z.*, LVI (1931), 196–7.

REITZENSTEIN-TROJE, *Die Vorgeschichte der christlichen Taufe*, is the subject of an instructive review by M. DIBELIUS, *Theol. Lit.-Z.*, LVI (1931), 128–33.

Magic. The event of the year is the publication of *Papyri magicae graecae. Die griechischen Zauberpapyri herausgegeben und übersetzt von* KARL PREISENDANZ. II. *Unter Mitarbeit von* ERICH DIEHL, SAM EITREM, ADOLF JACOBY. Mit drei Lichtdrucktafeln. (Leipzig: Teubner, 1931. Pp. XV+216.) This completes the collection of magic papyri and kindred documents already published and includes certain

inedita. Further *inedita* and full indexes should fill a third volume, the appearance of which will be most eagerly awaited. The character of the editing is beyond praise: it is not too much to say that PREISENDANZ has opened up this literature to non-specialists, and for specialists he has made it far more easy to use. There is not a page of the work on which one does not find clear improvements in the text which are due to his penetrating ability and devoted application. Volume I has been reviewed by FR. ZUCKER, *B.Z.*, XXXI (1931), 355–63.

PREISENDANZ has also in his review of P. Iand. V in *Phil. Woch.*, LI (1931), 985–90, drawn attention to the identity of the text preserved in no. 87 (=*P. mag. gr.*, II, pp. 186 f., no. lviii), a fragment of an illustrated treatise, with a *defixio* (Audollent 188). His *Deux papyrus magiques de la collection de la Fondation égyptologique* (*P. Bruxelles Inv. E. 6390 et 6391* in *Chron. d'Eg.*, VI, no. 11, janvier 1931, 137–40) gives us a small incomprehensible text with magical signs, the letters probably forming magical words, and another amulet fragment. On these and other recent discoveries he reports in *Die neuen Zauberpapyri* (*Forsch. u. Fortschr.*, VII (1931), 121–2) and *Neue griechische Zauberpapyri* (*Gnomon*, VII (1931), 271–3).

S. EITREM and L. AMUNDSEN, *Papyri Osloenses*, fasc. ii, is noticed in § 3. This magnificent volume, dedicated to H. I. BELL, includes as no. 15 (pp. 29 ff.) a revised text with commentary of the magical ostrakon previously published by AMUNDSEN, *Symb. Oslo.*, VIII. [In this volume we may note also the remarks on *συνείδησις καθαρά*, p. 42, and pp. 112 f. on an *Ἀφροδείτη*, or figure of the goddess, mentioned in an inventory and of interest for domestic cult, and P. HEGAARD's observations, pp. 146–51, on the horoscope earlier published as P. Oslo. 6.]

TH. HOPFNER, *Orientalisch-religionsgeschichtliches aus den griechischen Zauberpapyri Aegyptens* (*Archiv Orientální*, III (1931), 119–55 and 327–58), gives a full and admirable account of the pantheon of the magic papyri. His *Apollonios von Tyana und Philostratos* (*Seminarium Kondakovianum*, IV (1931), 135–64) is another careful study (note p. 143, on the impossible statements in Phil.'s account of the visit to Egypt).

R. MOUTERDE, *Le glaive de Dardanos. Objets et inscriptions magiques de Syrie* (*Melanges de l'Université Saint-Joseph, Beyrouth (Liban)*, XV, 3 (1930), 53–137, with 3 plates), publishes a gem at Beyrouth conforming with slight variants to the directions given in the "Sword of Dardanus," a charm contained in *P. mag. gr.*, no. iv, l. 1716 ff. and discussed in *Journal*, XI, 154–8 [the inscription IACIM HIMA on the side showing Eros and Psyche embracing is puzzling. Perhaps *ημα* is the Hebrew name for the sun mentioned by Epiphanius, *Panarion*, XVI, 2], other gems from Syria with magic words and various deities including Anubis in military dress and Abraxas, various amulets, a *defixio* directed against all the horses and charioteers of the Blue faction at Berytus, and another *defixio* from Damascus. This is an admirable work, giving much new material with full commentary and opening up important possibilities of investigating the place of Graeco-Egyptian magic in the world of the time at large. [In this connection I may draw attention to a find on the Via Nomentana, *Notizie degli scavi*, 1908, 352: *αβλαναθαναλβα* written in a cruciform schema, indicating that the user of the palindrome was a Christian, on one side of a stone on the back of which is a magical formula which I cannot parallel.]

ERICUS DIEHL, *Magica Bosporana* (*Acta universitatis Latviensis: filol.-filos. Fak. Serija*, I, 7 (1931), 391–400), publishes what is probably a magic lead wheel and a square lead tablet with an inscription also no doubt magical, both from Panticapaeum.

A. AUDOLLENT, *Note sur une plaquette magique de Carthage* (*C.-R. Ac. Inscr. et B.-L.*, 1930, 303–9), publishes a representation of a serpent-headed personage with a scorpion in his right hand, a palm in his left, *ω|με|λαμ|φα|ρω|κ* on his body, and under him *Ἀρποκρατίων ὁ καὶ Νεῖλος*, and discusses a very similar object published by DELATTRE and MERLIN (*ib.*, 33–6), with the name *Πρόκλος*.

A. JACOBY, *Ein Berliner Chnubisamulett* (*Arch. f. Rel.*, XXVIII (1930), 269–85), is of far-reaching importance for the interpretation of magic words. J. is clearly the man with the right linguistic equipment for this much needed work.

C. WESSELY's *Synopsis Florae magicae* (*Bull. Inst. fr. d'arch. or.*, XXX (1930), 17–26) is a valuable collection of plants prescribed for magic use in the papyri.

Reference may be made to V. LAROCK, *Essai sur la valeur sacrée et la valeur sociale des noms de personnes dans les sociétés inférieures* (*Rev. hist. rel.*, CI (1930), 27–67, 101–201: esp. 119 ff., on the change of names in magic).

Christian. F. G. KENYON in *The Times*, 19 Nov. 1931, has made a public announcement of a most important new group of Biblical papyrus *codices*, most of which are in CHESTER BEATTY's possession. They range from the 2nd century to the 5th, indicate the spread of Christianity southwards in Egypt,

and are significant textually. *Chron. d'Ég.*, no. 11 (Jan. 1931), 162, mentions a dictionary of Hebrew proper names with Greek equivalents discovered by HUNT.

EITREM-AMUNDSEN, *Papyri Osloenses*, II, includes as no. 10 (pp. 10 f.) four fragments from Genesis and Isaiah previously published by RUDBERG.

P. COLLART's *Les papyrus grecs d' Achmîm*, for which see § 3, *Roman*, contains (no. 1) a fragment of the homily in P. Bour. 3, which Collart publishes along with columns I and III of the Bouriant papyrus, of which he has found some further small scraps.

C. SCHMIDT, *Ein Berliner Fragment der alten* ΠΡΑΞΕΙΣ ΠΑΥΛΟΥ (*Sitzungsb. Pr. Ak.*, 1931, 37–40, pl. i), publishes a 4th-century fragment so well written as to confirm the idea that those *Acta* had a quasi-canonical standing in Egypt.

L. VAGANAY, *L'évangile de Pierre*, is highly praised by E. B. ALLO, *Rev. Biblique*, XL (1931), 434–42, and M. R. JAMES, *Journ. Theol. Stud.*, XXXII (1931), 296–9. Another review by R. DRAGUET appears in *Rev. d'hist. eccl.*, XXVII (1931), 854–6.

M. R. JAMES, *The Rainer Fragment of the Apocalypse of Peter* (*ib.*, 270–9), gives a restoration and discusses its relation to the Ethiopic text.

G. OSBORN, *Note on P. Oxy. 655* (*ib.* 179), identifies this fragment as Mt. x. 16.

P. L. HEDLEY, in reviewing the new edition of KITTEL, *Biblia Hebraica*, in *Journ. Theol. Stud.*, XXXII (1931), 302–7, gives revised readings of P. Lond. 37 for the Psalms.

H. C. YOUTIE, *Gothenburg Papyrus 21 and the Coptic Version of the Letter to Abgar* (*Harvard Theol. Rev.*, XXIV (1931), 61–5), shows the striking agreement of the two forms.

G. SCHOLEM, *Über eine Formel in den koptisch-gnostischen Schriften und ihren jüdischen Ursprung* (*Z. neut. Wiss.*, XXX (1931), 170–6), argues that the scheme "real name *x*, explanation *y*" in the Book of Jeu, I, 47–8 is based on the Jewish "real or secret name *x*, speakable name *y*."

R. P. CASEY, *Two Notes on Valentinian Theology* (*Harvard Theol. Rev.*, XXIII (1930), 275–98), discusses Valentinian mythology and the differences between the Eastern and Western forms of that sect. His *Greek manuscripts of Athanasian Corpora* (*Z. neut. Wiss.*, XXX (1931), 49–70) sums up the results of much work. Students of Athanasian history should not miss E. SCHWARTZ, *Der griechische Text der Kanones von Serdika* (*ib.*, 1–35).

Serapion of Thmuis against the Manichees by ROBERT PIERCE CASEY (*Harvard Theol. Stud.*, No. XV, Harv. Univ. Press and Humphrey Milford, London, 1931. Pp. vi + 80) gives the first text based upon the Genoa and Athos MSS., with a valuable introduction.

F. HALKIN, *L'Histoire Lausiaque et les vies grecques de S. Pachôme* (*Anal. Bolland.*, XLVIII, 257–301), is approved by H. KOCH, *Theol. Lit.-Z.*, LVI (1931), 161–3; J. QUASTEN, *Musik und Gesang in den Kulten der heidnischen Antike und christlichen Frühzeit*, by W. BAUER, *ib.*, 133–4.

TH. HOPFNER has produced fascicules 2–4 of the first volume of his invaluable *Index locupletissimus* to MIGNE's *Patrologia graeca*: fascicule 1 was noticed in *Journal*, XVI, 126.

3. PUBLICATIONS OF NON-LITERARY TEXTS.

(N.B. *Notes on and corrections of miscellaneous documents previously published are referred to in* § 9. *Reviews, when sufficiently important for mention, are noticed here. I am greatly indebted to my colleague, Mr T. C. Skeat, who, as I was occupied with other pressing work, has kindly relieved me of the task of reading the periodicals for which I am responsible.*—H. I. B.)

General. The year under review witnessed the publication of an unusually large number of important volumes of papyrus texts. Unfortunately, the undertaking of a piece of special research, which compelled me to lay aside all other work, made it necessary to defer detailed study of several among them to a later time.

TAIT's Greek Ostraca has been reviewed by P. COLLART (*Rev. de phil.*, 3 S., V (1931), 349–50; chiefly on the literary texts); M. ROSTOVTZEFF (*Gnomon*, VII (1931), 21–6; important); W. SCHUBART (*O.L.Z.*, 1931, 336–7); K. FR. W. SCHMIDT (*Phil. Woch.*, LI (1931), 535–42; many suggestions); and in *Ancient Egypt*, 1931, 56.

The second part of P. Oslo has appeared during the year, edited by S. EITREM and L. AMUNDSEN. Unlike the first, which contained only magical or allied texts, this is miscellaneous in character. Nos. 7–14 are literary (see §§ 1, 2), no. 15 magical (see § 2), and in an Appendix P. Oslo 6 is republished with an astronomical commentary by P. HERGAARD; the remaining texts, 16–64, are documentary and range in date from 261/60 B.C. to the 5th century of our era; but the great majority are of the Roman period. They include several very noteworthy and valuable legal documents, and an interesting series of

private letters. Needless to say, the editing is excellent, the commentaries (in English) full and learned, and the reading, so far as can be judged, accurate; and some good facsimiles are a particularly useful feature of the volume. The editors are warmly to be congratulated on their accomplishment of a task which offered many difficulties, since not a few of the papyri were clearly hard to decipher. *Papyri Osloenses*, fasc. II. Oslo, Det Norske Videnskaps-Akademi i Oslo (on commission by Jacob Dybwad), 1931. Pp. xi + 182, 9 plates (separately bound). Reviewed by F. Z[UCKER] (*B.Z.*, XXXI (1931), 416); WILCKEN (*Archiv*, X, 83–7; important, as usual); and W. SCHUBART (*D. Lit.-Z.*, 3 F., II (1931), 1163–5).

Another part of the series of texts from papyri in the Giessen University Library (P. bibl. univ. Giss.) has recently been edited by H. BÜTTNER. It consists entirely of private letters, ranging in date from the 2nd century B.C. to the 6th century of our era; only the first letter, a small fragment, belongs to the Ptolemaic age. So far as can be judged from a hasty examination, this series of letters contains much material of interest, and the texts are furnished with an ample and careful commentary. No. 20, a letter referring to the disappearance of some legal documents and written in a particularly fine hand, is specially notable. There are four excellent facsimiles. Prof. HUNT kindly sends me the following emendation of no. 22, 3–5, which he authorizes me to publish here. For the editor's *τρία κνίδεια σταλ(έντα)* Ἡρώδε[ι, | τ]ὸ δὲ λοιπὸν *κνίδειον ἐν πλ(οίῳ) ἡμῶν* read *τρία κνίδεια στατήρων*, [τ]ὸ δὲ λοιπὸν *κνίδειον ἐν νούμμων*. *Mitteilungen aus der Papyrussammlung der Giessener Universitätsbibliothek.* III. *Griechische Privatbriefe* (*P. bibl. univ. Giss. 18–33*). (*Schriften der Hess. Hochschulen*, 1931, Heft 3.) Giessen, A. Töpelmann, 1931. Pp. 40, 4 plates.

Ptolemaic. M. NORSA's *Papiri greci delle collezioni italiane* (*Journal*, XVII, 124) has been reviewed, among others, by WILCKEN (*Archiv*, X, 77–8) and M. HOMBERT (*Rev. belge*, X (1931), 611–2).

C. C. EDGAR's great catalogue of the Cairo Zenon papyri, one of the most important collections of non-literary texts published for many years, is completed by the appearance of vol. IV. There still remain indeed, as Edgar explains in his preface, a number of fragments, but they are too small to be worth publishing in so sumptuous a form as the official catalogue necessitates. Even the texts here assembled are in the nature of a *Nachlese*, but besides many fragmentary papyri there are a fair number of comparatively complete ones and much valuable material; indeed, if I can judge from a preliminary inspection, the volume shows far less falling off in interest from the standard of its predecessors than might have been expected from a final instalment. As before, there is a fine series of collotype facsimiles, most of which are admirably clear. They include the musical papyrus (see § 1) and an interesting drawing on the verso of an account (59706). *Catalogue Général des Antiquités Égyptiennes du Musée du Caire*, Nos. 59532–59800. *Zenon Papyri*, vol. IV. Le Caire, Impr. de l'Inst. fr. d'arch. or., 1931. Pp. v + 291, 24 plates. £2. 2*s*. 0*d*.

The same year which witnessed the completion of the Cairo catalogue saw also the publication of the Zenon papyri in the University of Michigan, also by C. C. EDGAR; see *Journal*, XVII (1931), 125. This volume has been reviewed by WILCKEN (*Archiv*, X, 72–6); HUNT (*Journal*, XVII (1931), 263); EV. BRECCIA (*Bull. Soc. Arch. d'Alex.*, No. 26, 301–11); A. C. JOHNSON (*Am. Journ. Phil.*, LII (1931), 285–7); and H. I. BELL (*Cl. Rev.*, XLV (1931), 180–1; quotes extracts from a recently acquired Zenon papyrus in the British Museum which throws light on the subsequent employment of Zenon's predecessor Panacestor).

W. L. WESTERMANN'S *Regarding Receipts in the Zenon Archive* (*Journal*, XVII, 1931, 125) is reviewed by WILCKEN in *Archiv*, X, 77. Westermann has now published four further receipts of the same class and regnal year, on which he gives a commentary, with some observations supplementary to his previous remarks. *Four Double Receipts from the Estate of Apollonius*, in *Seminarium Kondokovianum*, IV (1931), 205–10.

For a reference to an article on the Zenon archive by CL. PRÉAUX see § 9.

WESTERMANN'S *Upon Slavery in Ptolemaic Egypt* has been reviewed by V. EHRENBERG (*Hist. Z.*, CXLIV (1931), 406–7) and in *Ancient Egypt*, 1931, 56–7. See also §§ 5, 6, B ii.

O. GUÉRAUD has begun the publication of a work of the first importance. This is a complete edition of the petitions (*ἐντεύξεις*) found among the mummy cartonnage of Magdola and Ghorân. Those from Magdola include the 42 petitions edited, after a first publication by JOUGUET and LEFEBVRE, by the late JEAN LESQUIER in vol. II of the Lille Papyri. Some of these have now received additions by the identification of detached fragments once forming part of them, and the whole are included in Guéraud's masterly work, along with further texts from Magdola and those from Ghorân. The first fasciculus, which is all that has at present appeared, contains 52 texts, besides an elaborate introduction by the editor, and facsimiles. This is the first publication of the recently founded Société royale égyptienne de papyrologie. ΕΝΤΕΥΞΕΙΣ: *Requêtes et plaintes adressées au roi d'Égypte au IIIe siècle avant J.-C.* Premier fascicule.

Le Caire, Impr. de l'Inst. fr. d'arch. or., 1931. Pp. xcv+128, 13 plates. Reviewed by WILCKEN (*Archiv*, x, 96–8); A. CALDERINI (*Aegyptus*, xi (1931), 413–4); and EV. BRECCIA (*Bull. Soc. Arch. d'Alex.*, No. 26, 297).

F. ZUCKER publishes a papyrus (P. Jena Inv. 75 in the Seminar für klassische Philologie) which furnishes a new instance of a village gymnasiarch. It is a document of the 2nd century B.C., but of unknown origin, concerning a case arising out of a theft of jewellery, which was tried before a village gymnasiarch and five *katoikoi*. Zucker adds a list of known cases of such gymnasiarchs in villages and discusses the question of village gymnasia. ΓΥΜΝΑΣΙΑΡΧΟΣ ΚΩΜΗΣ, in *Aegyptus*, xi (1931), 485–96.

One of the last undertakings of W. SPIEGELBERG, whose death is such an irreparable loss to Demotic studies, was the preparation of an edition of the Loeb Demotic papyri, which I believe has now appeared, though I have not seen the volume itself. W. OTTO contributes (cols. 107–116) addenda and corrections from his wide knowledge of Hellenistic history. The papyri, which date from the 6th century B.C. to the end of the Ptolemaic period, many of them belonging to the reign of Alexander, the son of Alexander the Great, include letters and returns, contracts, accounts, and receipts, from both Upper and Lower Egypt. *Die demotischen Papyri Loeb.* (*Papyri der Universität München*, herausgegeben von W. Otto, W. Spiegelberg und L. Wenger, I^tes Heft.) Pp. xvii+68, 38 plates, RM. 120.

Ptolemaic-Roman. F. BILABEL publishes a Demotic ostracon, probably of 97/6 B.C., from a place called Pentacomia, apparently near Thebes, which is now recognized as occurring in WILCKEN, *Griech. Ostr.* II, 713, and appends to it transcripts, supplied by J. G. TAIT, of three Bodleian ostraca of the Roman period (A.D. 106, 136, and 150) which mention the same place. *Aegyptiaca.* I. *Ein demotisches Ostrakon aus Pentakomia*, in *Aegyptus*, xi (1931), 386–8.

KRÜGER's *Ptolemäische und frührömische Texte* (*Journal*, xvii, 125) is reviewed by WILCKEN in *Archiv*, x, 78–82.

Roman. A hearty welcome—the more hearty because the decipherment of cursively written tax-registers is a particularly thankless task—is to be extended to a volume of papyri of the early Roman period from Philadelphia in the Princeton collection, edited by A. C. JOHNSON and H. B. VAN HOESEN. Fourteen registers, several of which are of considerable length, are here published. They are all (except perhaps no. 13) concerned with taxes, chiefly with the *syntaximon*; and having seen them before they were assigned to Princeton I can testify that they offer many difficulties of decipherment, as also of interpretation. The editors have done excellent work in both respects, though naturally there are many points, alike in texts and in commentaries, where their results are open to question and will receive (or have already received) correction. *Papyri in the Princeton University Collections.* (The Johns Hopkins University Studies in Archaeology, No. 10.) Baltimore, The Johns Hopkins Press, 1931. Pp. xxiii+146. Reviewed by WILCKEN (*Archiv*, x, 87–8); HUNT (*Journal*, xvii (1931), 263–4); A. E. R. BOAK (*Cl. Phil.*, xxvi (1931), 438–9); C. W. KEYES (*Am. Journ. Phil.*, lii (1931), 288–9); W. L. WESTERMANN (*Cl. Weekly*, xxv (1931, 14 Dec.), 68–71); and anonymously in *J.H.S.*, li (1931), 308. The reviews by Keyes and Westermann are particularly important. Both reviewers dispute the conclusion of the editors that the *syntaximon* was distinct from the λαογραφία, and hold rather that it was the latter *plus* some minor taxes. [I may point out that J. G. TAIT, *Gr. Ostr.*, Petr. 79, takes a similar view, though the taxes he associates with the λαογραφία to form the *syntaximon* are different; and that in a review of the Princeton volume which will probably have appeared before this Bibliography I have myself questioned the editor's view. Apart from other considerations, I find it well-nigh incredible that the same taxpayer should have been required to pay both *syntaximon* and *laographia*.]

The Akhmîm papyri, first bought by U. BOURIANT, acquired by the Bibliothèque Nationale in 1887, and in large measure published by WILCKEN in the same year, have now been re-edited with indices in a single series by P. COLLART, who explains in a preface the curious manner in which they have been preserved, namely through the use, some two centuries later, by Christian monks of old papyri first used on the recto only at Panopolis about the end of the 2nd century. Nos. 1–5 are literary or theological (see §§ 1, 2); the other four are administrative in character. *Les papyrus grecs d'Achmîm à la Bibliothèque Nationale de Paris*, in *Bull. Inst. fr. d'arch. or.*, xxxi (1930), 35–111.

J. C. NABER re-edits, with attractive corrections, the petition first published by SCHUBART as B.G.U. 1105. *Ad papyrum Graecum lepidi argumenti* (*B.G.U. 1105*), in *Aegyptus*, xi (1931), 179–84.

The papyrus referring to a senate, probably at Alexandria, published by M. NORSA and G. VITELLI (*Journal*, xvii, 126) has continued to attract attention. W. SCHUBART, reprinting the text (*Die* BOYAH *von Alexandreia*, in *Bull. Inst. fr. d'arch. or.*, xxx (1930), 407–15), maintains his view that it refers to a request for a (non-existing) senate, not to a senate already in existence, and is inclined to identify the Emperor

with Claudius rather than Octavian. He goes on to examine the well-known passage of Dio Cassius on the senate, for which he suggests a quite new interpretation, namely that Dio was referring not to the Alexandrian but to the Roman senate. The passage is certainly very ill expressed, and Schubart's view, though not entirely free from difficulties, is without doubt suggested by the way in which Dio introduces the subject of the senate. The remainder of Schubart's case, even the attribution to Claudius, is strengthened by an article on *The* BOYAH *papyrus* contributed by JAMES H. OLIVER, a pupil of ROSTOVTZEFF, to *Aegyptus*, XI (1931), 161–8. In this he points out that certain expressions and references in the text of the new papyrus would be anachronistic at the time of the conquest of Egypt, and impose a later date, when Roman government had become familiar. He also makes suggestions for the interpretation and improvement of the text, including a brilliant and most convincing emendation of καταβαρβαρεῖτο to καταβαρεῖτο (dittography).

A. NEPPI MODONA comments on the new fragment of the *Acta Isidori* published by UXKULL-GYLLENBAND (*Journal*, XVII, 126). He inclines to adhere to A.D. 53 as the date of the trial, and defends the thesis that the Jews were citizens of Alexandria. *Il nuovo frammento berlinese degli "Atti dei Martiri Alessandrini"* (*P. 8877*), in *Aegyptus*, XII (1932), 17–24. A further fragment of this text, the *Acta Isidori*, has been published by H. I. BELL. It coincides in part with col. II of the Berlin fragment (W. *Chrest.* 14) but does not clear up as many of the doubtful points as might have been hoped, while it raises fresh problems; but it does provide new information, the most important fact being (if Bell's supplement is correct) that the death of Macro, the prefect of the praetorian cohorts, was due (or at least attributed) to Isidorus, and it corrects some of the supplements proposed for the Berlin fragment. [I may add that my doubts as to the correctness of the supplement ὑπερθε[τικόν] grow with further consideration; but I do not think any suggestion which involves a different reading of the last two letters of p. 11 can be considered. Prof. CRÖNERT favours ὑπὲρ Θέ[ωνος], which I considered but rejected; but this seems to me improbable, among other reasons because a reference to Theon is hardly relevant to the context. More attractive is a suggestion by Mr H. J. M. MILNE, ὑπὲρ θέ[σιν], "off the point," "irrelevant"; but I am not sure whether the phrase is attested.] *A New Fragment of the Acta Isidori*, in *Archiv*, X, 5–16, with facsimile.

LÖSCH's *Epistula Claudiana* (*Journal*, XVII, 126) has attracted a good deal of attention, having been reviewed by E. BICKERMANN (*D. Lit.-Z.*, 1931, 320–2); W. WEBER (*Z. f. Kirchengesch.*, 3. Folge, I (1931), 225–7); W. BAUER (*Theol. Lit.-Z.*, LVI (1931), 151–3); M. J. LAGRANGE (*Rev. biblique*, XL (1931), 270–6); and H. I. BELL (*Cl. Rev.*, XLV (1931), 146). All the reviewers, while recognizing the useful service done by the author in his monograph, call attention to the too frequent errors and misconceptions which disfigure it. W. SESTON, in an interesting article, *L'empereur Claude et les chrétiens* (*Rev. d'hist. et de phil. relig.*, 1931, no. 3, 32 pp. of offprint), comes to the same conclusion as LÖSCH and his reviewers: that there is no reference to Christianity in Claudius's letter. He seeks further to date, by their relationship to the letter, Philo's *In Flaccum* and *Legatio ad Gaium*, placing the former between January and July of A.D. 41, the latter after 10 Nov. 41, probably during 42 and certainly before 49. His arguments are perhaps a little forced and over rigid, but they certainly deserve attention.

STROUX's re-edition of B.G.U. 611 (*Journal*, XVII, 126) has been followed up by an elaborate article from the pen of F. V. WOESS, who, emphasizing the great importance of Stroux's work on the text and cordially accepting his main conclusions, amplifies or modifies them in detail. He places the speech in A.D. 42, or, preferably, 43, rather than, with Stroux, in 47. *Die oratio des Claudius über Richteralter, Prozessverschleppung und Anklägertyrannei* (*BGU. 611*) in *Z. Sav.*, LI (1931), 336–68. [See also § 6, F.]

A. E. R. BOAK's *Select Papyri from Karanis* (*Journal*, XVII, 127) is reviewed by WILCKEN in *Archiv*, X, 89–91.

In two articles published together HENRY A. SANDERS, who has for some time devoted his attention specially to Latin tablets and papyri, does a great service by editing some fragments from the rich papyrus collection of Michigan. In the first he publishes, with a detailed and valuable commentary, two waxed tablets containing birth-certificates in Latin; in the second, three Latin papyrus fragments. The problems presented are many and puzzling, and Sanders's attempted solutions are not always acceptable, but his discussion, in which he summarizes with great fairness the existing evidence, and on several points definitely advances our knowledge, is of real value even when the final conclusion does not command assent. *Two Fragmentary Birth-Certificates from the Michigan Collection*, in *Mem. of Amer. Acad. in Rome*, IX (1931), 61–80, plates 1, 2; and *Some Papyrus Fragments from the Michigan Collection*, *ibid.*, 81–8, plates 3, 4. Reviewed by H. I. BELL, *Journal*, XVII (1931), 268–9.

SANDERS has further published an article on the waxed tablet published as P.S.I. 1027, maintaining that the editors were wrong in supposing that it is the last tablet of a triptych. This error was due, he points out, to a misapprehension as to the arrangement of such documents; and he holds that the tablet is really the first of a diptych. *The wax tablet PSI. IX, 1027*, in *Aegyptus*, XI (1931), 185–9. [See also § 6, E.]

G. VITELLI has published an extract from the archives (μεταδόσιμα) of the strategus of the Heraclides Division of the Arsinoite nome, A.D. 132, which is of interest from several points of view: diplomatically, as illustrating the procedure with regard to petitions, which would appear to have been returned in a copy with the Prefect's reply to the strategus; administratively, inasmuch as the mother of a deceased son, who was to have been gymnasiarch, asks that his son (an infant) may be cosmetes; and legally, since we find property hypothecated to safeguard the ἐπιτροπή of sons under age. *Estratto dall' archivio di uno strategos dell' Egitto romano*, in *Bull. Inst. fr. d'arch. or.*, XXX (1930), 59–63. Reviewed by WILCKEN in *Archiv*, X, 88–9.

H. HENNE has revised the edict of Hadrian published by JOUGUET from Cairo 49359, 49360 in the *Rev. ét. gr.*, XXXIII, and made the subject of an article in the *Raccolta Lumbroso* by V. MARTIN. He makes various corrections, mostly of a minor kind, to Jouguet's text, which he describes as on the whole remarkably correct, the most important change being in respect of the date, which, it appears, is 6 Payni 20 Hadrian, not 16 Payni of the 21st year; and he agrees with Martin as to the sense of the edict, which is now seen to be less "philanthropic" than it professes to be. *Sur un édit d'Hadrien*, in *Bull. Inst. fr. d'arch. or.*, XXX (1930), 152–60.

S. EITREM publishes a distinctly interesting summary of a contract for the sale of a slave, which the street names show to have been made at Alexandria, and which is dated in A.D. 154. He discusses the various problems presented by the text. *A Greek Papyrus concerning the Sale of a Slave*, in *Journal*, XVII (1931), 44–7, pl. vi.

The late Prof. GRENFELL was preparing an edition of the Warren papyri, a small but by no means unimportant private collection. His lamented death put an end to this scheme, as to so many others, but A. S. HUNT is proposing to publish the more interesting texts singly, and one of them has now appeared. It is a petition to Lucius Silius Satrianus, *vir egregius*, very likely the Idiologus, from an Antinoite, with a copy of an earlier petition dated 12 May 164. A new deme-name of the tribe Ὀσειραντινοῖς occurs. *Lucius Silius Satrianus*, in *Bull. Inst. fr. d'arch. or.*, XXX (1930), 477–80. Reviewed by WILCKEN in *Archiv*, X, 94.

HOMBERT's *Une famille nombreuse* (*Journal*, XVII, 126 f.) is reviewed by WILCKEN (*Archiv*, X, 93).

The long roll, edited by M. NORSA and G. VITELLI, which bears on the verso the copy of Favorinus, Περὶ φυγῆς (see § 1), has on the recto extensive portions of a land register from the Marmarica, which is not only of interest as coming from a district hardly represented in papyri but makes very valuable additions to our knowledge in many respects; *inter alia*, it shows that the Marmarica was in the time of Commodus, as when Ptolemy wrote, a nome of Egypt. Naturally the novelty of the text, introducing us to a district which clearly differed in many points of organization from the nomes familiar to us, offered many difficulties; and the editors are to be congratulated on a remarkable achievement in producing in so short a time so masterly an edition of the two long texts which occupy a roll acquired by the Vatican as recently as 1930. *Il papiro vaticano greco 11*: 1. ΦΑΒΩΡΙΝΟΥ ΠΕΡΙ ΦΥΓΗΣ. 2. *Registri fondiari della Marmarica*. Città del Vaticano, Bibl. Apost. Vaticana, 1931. Pp. xxiii+70 (registers on pp. 49–70), 15 plates. Reviewed by WILCKEN in *Archiv*, X, 94–6. See too § 6, A v.

By an oversight A. SEGRÈ's *Tre papiri giuridici inediti* (*Studi Bonfante*, III, 421–36), though the last of these papyri was documentary, was omitted from this section in last year's Bibliography (it was recorded in §§ 1, p. 119, and 6, p. 133). It concerns a petition to the exegetes of Alexandria, asking for the ἀπογραφή of the goods of Sabina Apollonaria and enclosing a copy of her will, made *per aes et libram*. Reviewed by WILCKEN in *Archiv*, X, 93.

A Greek inscription found at Medamûd which P. JOUGUET has published with a valuable commentary (*Dédicace grecque de Médamoud*, in *Bull. Inst. fr. d'arch. or.*, XXXI (1931), 1–29, with plate) really belongs to Mr Tod's bibliography of inscriptions but must be referred to, as it is of considerable interest and importance from several points of view. Jouguet dates it 2nd–3rd century.

JOUGUET's *Lettre sur l'enregistrement des libelles* (*Journal*, XVII, 127) is reviewed by WILCKEN in *Archiv*, X, 92–3.

HENRY A. SANDERS, to whose edition of various Latin fragments reference has been made above, has

also published separately another Latin papyrus from the Michigan collection. It is a list of officers (in large rustic capitals), with the record of each added in cursive, and as the dates appended to each name show that the list was drawn up soon after A.D. 242 the papyrus is very useful palaeographically. [On p. 2, l. 1 for "Bell" read "Hunt"; so too p. 18, l. 17. In l. 20 of the text Sanders reads Ç[al]EFOFES, and that this is not a misprint is shown by his note on p. 7 ("*efofes* is read clearly"); but in the facsimile FOTES seems to me clear.] *Papyrus 1804 in the Michigan Collection*, in *Class. Studies in Honor of John C. Rolfe* (Univ. of Pennsylvania Press), 19 pages, 1 plate.

The following work, to which I have been given a reference, should be important, but is at present inaccessible to me: A. BLUDAU, *Die ägyptischen Libelli und die Christenverfolgung des Kaisers Decius* (=*Römische Quartalschrift*: 27. Supplementheft), Herder, Freiburg im Breisgau, 1931. Pp. vii+79.

L. AMUNDSEN has published, primarily for its philological interest, a Michigan ostracon of A.D. 288 from Karanis, in which *τῶν συμπαρὰ αὐτῶν* is used as equivalent to *τῶν μετόχων*. He quotes instances of similar compound prepositions and essays an explanation. ΣΥΜΠΑΡΑ, in *Serta Rudbergiana* (1931), 85–7.

A posthumous publication of W. SPIEGELBERG is that of two Demotic mummy labels in the Michigan collection which show an unusual formula, the deceased being described as entered in "the book of the *x* quarter." To illustrate these he publishes two bilingual labels in the Greek part of which the quarter is indicated by *x* λ(*αύρας*?), and a Demotic label, in which a number occurs alone. *Zur Bestattung der Mumien in der römischen Kaiserzeit*, in *Ä.Z.*, LXVI (1930), 39–41.

In an article in *Chron. d'Ég.*, VI (see § 10), G. K. GARDICAS refers to an article of his own in *Ἀθηνᾶ* (ΑΓ. σελ. 52) in which he makes a suggestion for the reading of the description of a branding mark in a sale of a camel in B. G. U. 100 (*φῦ ῥῶ*, i.e. ΦΡ, for *φυρῷ*); but the periodical referred to is not accessible to me.

Roman-Byzantine. H. FRISK has published an interesting little volume, in which he edits a number of papyri from the Berlin collection. The *pièce de résistance* is a long roll of receipts for payments from the public bank of Arsinoe during Mecheir of the year A.D. 155; the payments were mostly to donkey-drivers. To this series of documents he adds: 2, a fresh document in the Drusilla case; 3, the beginning of a petition of about A.D. 211–2; 4, a petition of the 4th or 5th century; 5, a lease of hypothecated land, A.D. 510; 6, a letter of A.D. 710 from Ḳurrah b. Sharîk to Basilius of Aphrodito. All these texts have features of special interest, and they are admirably edited, with most valuable commentaries. *Bankakten aus dem Faijûm nebst anderen Berliner Papyri. Göteborgs Kungl. Vetenskaps- och Vitterhets-Samhälles Handlingar*, 5 F., Ser. A, Band 2, No. 2. Göteborg, Wettergren och Kerber, 1931. Pp. 120, 1 plate. Kr. 6:—. Reviewed by F. Z[UCKER] in *B.Z.*, XXXI (1931), 414–5, and H. I. BELL, *Cl. Rev.*, XLV (1931), 244.

Byzantine and Arab. Reference must be made in passing to a note, primarily of legal interest (see § 6), by R. TAUBENSCHLAG on P.S.I., VII, 767: *Zum gerichtlichen Moratorium im röm. Provinzialrecht*, in *Z. Sav.*, LI (1931), 403–4. A reference may also be made to P. COLLART's *À propos de quelques exercices scolaires* (*Bull. Inst. fr. d'arch. or.*, XXX (1930), 417–23); see §§ 1 and 5.

W. HENGSTENBERG, whose *Die griech.-kopt.* **ⲙⲟⲩⲗⲟⲛ**-Ostraka (*Journal*, XVII, 127) is reviewed by F. Z[UCKER] (*B.Z.*, XXXI (1931), 416–7), has followed up that article by another, in which he publishes 49 more ostraca of the same type, partly in the Coptic Museum of Cairo, partly in the Seminar für Ägyptologie at Munich, while one was seen at a dealer's in Cairo. The texts of those in the Coptic Museum are published from transcripts in part by C. SCHMIDT, in part by G. SOBHY. Hengstenberg accompanies them with a detailed and valuable discussion; and at the end he adds a note, stating that according to information given by C. Schmidt the provenance has been identified as the neighbourhood of a large Coptic settlement in the extreme west of the Fayyûm. *Nachtrag zu "Die griechisch-koptischen* **ⲙⲟⲩⲗⲟⲛ**-*Ostraka*," in *Ä.Z.*, LXVI (1930–31), 122–38.

Finally, I may refer to a publication by C. SCHMIDT of a Coptic ostracon (dated by the editor as 6th–8th century) containing a contract for the hire of a workman by an unidentified monastery of Apa Mena: *Ein koptischer Werkvertrag*, in *Ä.Z.*, LXVII (1931), 102–6.

4. POLITICAL HISTORY, BIOGRAPHY, ADMINISTRATION, TOPOGRAPHY AND CHRONOLOGY.

Most of the books and articles noted in this section, and many of those in § 5, of the Bibliography for this and previous years are mentioned in L. WENGER's *Juristische Literaturübersicht* for 1914–1931 in *Archiv*, X, 142–76.

General. U. KAHRSTEDT reviews the second edition of W. W. TARN's *Hellenistic Civilization* in *G.G.A.*, 193 (1931), 399–400.

The review of DESSAU, *Geschichte der römischen Kaiserzeit*, II, 2, by E. GROAG, in *Hist. Vierteljahrsch.*, XXVI (1931), 380–6, is largely concerned with Egyptian topics.

Political History. The relation of Alexander the Great to Egypt (see *Journal*, XVII, 128) has reached a new stage in the works of G. RADET, *Alexandre le Grand* (reviewed by S. R[EINACH] in *Rev. arch.*, XXXIII (1931), 354) and U. WILCKEN, *Alexander der Grosse.*

Questions of Ptolemaic history are discussed by W. OTTO, *Zu den Syrischen Kriegen der Ptolemäer*, in *Philologus*, LXXXVI (1931), 400–18; by W. W. TARN, *The date of Milet I. iii. no. 139* (on the struggle of Ptolemy II with Antiochus) in *Hermes*, LXV (1930), 446–54; and by R. HERZOG, *Griechische Königsbriefe* (on a letter of Ptolemy III to Kos) in *Hermes*, LXV (1930), 455–71. Here also should be noted W. OTTO's *Zusätze* to SPIEGELBERG's *Die demotischen Papyri Loeb*, which are important for chronology, and E. BICKERMANN's *Zur Datierung des Pseudo-Aristeas* in *Z. neut. Wiss.*, XLIX (1930), 280–98.

In *Bull. Soc. Arch. d'Alex.*, no. 26, pp. 300–1 E. BRECCIA reviews P. GRAINDOR's *La guerre d'Alexandrie.*

On the Jewish troubles in Alexandria (see *Journal*, XVII, 128) the most important contribution is H. I. BELL's *New Fragment of the Acta Isidori*, in *Archiv*, X, 5–16. A. NEPPI MODONA writes on *Il nuovo frammento berl. degli "Atti dei Martiri Aless."* in *Aegyptus*, XII (1932), 17–24: and S. LÖSCH's *Epistula Claudiana* is reviewed by H. I. BELL in *Cl. Rev.*, XLV (1931), 146 and by C. WEYMAN in *Hist. Jahrbuch*, LI (1931), 241–2. [See § 3, where an important article by W. SESTON, received as this Bibliography goes to press, is also noted.]

In W. REUSCH's *Der historische Wert der Caracallavita* (Beiheft XXIV, N.F. XI, of *Klio*, 1931), pp. 44–7 and 58 deal with Egypt.

Administration. In *Bull. Soc. Arch. d'Alex.*, no. 26, pp. 347–8, E. BRECCIA reviews P. JOUGUET, *La politique intérieure du premier Ptolémée.*

F. ZUCKER analyses the evidence as to the office of the γυμνασιάρχος κώμης in *Aegyptus*, XI (1931), 485–96. [See § 3.]

Reference for the Roman period may be made to A. CALDERINI, *La più antica scheda di censimento romano proveniente dall' Arsinoite* in *Rend. R. Ist. Lomb.*, LXIV (1931), 551–8; to C. W. KEYES, *Syntaximon and Laographia in the Arsinoite Nome*, in *Am. Journ. Phil.*, LII (1931), 263–9; and to A. S. HUNT, *Lucius Silius Satrianus*, in *Bull. Inst. fr. d'arch. or.*, XXX (1930), 477–80. [See § 3.]

Some information on military recruiting is given by H. A. SANDERS, *Some papyrus fragments from the Michigan collection*, in *Mem. Amer. Acad. in Rome*, IX (1931), 81–8.

The Giessen dissertation by O. HORNICKEL on *Ehren- und Rangprädikate in den Papyrusurkunden* (see *Journal*, XVII, 129) is reviewed by P. COLLART in *Rev. de Phil.*, 3, V (1931), 391; by A. STEIN in *Gnomon*, VII (1931), 172–4; and by G. SOYTER in *Phil. Woch.*, 1931, 29, 885; it contains an index of honorary titles of persons and cities.

GOODENOUGH's *Jewish Courts* (see *Journal*, XVII, 128) is reviewed by N. HOHLWEIN in *Bull. bibl. et péd.*, XXXIV (1930), 9–10, and by P. COLLART in *Rev. de Phil.*, 3, V (1931), 147–8.

V. MARTIN has studied *L'état actuel des archives de Flavius Abinnaeus et la biographie de cet officier*, in *Chron. d'Ég.*, VI (1931), 345–59. He discusses (i) the correct spelling of the name and decides for Abinnaeus, not Abennius, (ii) the chronology of the career of Abinnaeus, and in particular (iii) the problems raised by the Latin petition P. Lond. 447 which was published in *Journal*, XIV (1928), 320–2.

For the part played by the great feudal estates in the organism of Byzantine Egypt see the notice of E. R. HARDY's book in § 5 below.

ADOLF GROHMANN, *Probleme der arabischen Papyrusforschung*, in *Archiv Orientální*, III (1931) 381–94 + Tabelle: *Übersicht über die Einteilung Oberägyptens nach Al-Maqrīzī und Al-Qudā'ī* is a paper studying the administrative organisation of Upper Egypt in the early period of Arab rule; the *Kūras* of the lists of Arab geographers correspond in general with the pagarchies of the Byzantine period, though the boundaries of the *Kūras* are often changed to meet administrative convenience.

Topography. A. E. R. BOAK and E. E. PETERSON have issued *Karanis: topographical and architectural report of excavations during the seasons 1924–28*; it is reviewed by V. COCCO in *Aegyptus*, XI (1931), 408–10. [See § 10.]

The *Illustrated London News* of 2 May 1931, pp. 724–6, contains an article on the tracing of Roman aqueducts and photographing the Kharga Oasis from the air.

Chronology. The fourth section of KENNETH SCOTT's article on *Greek and Roman Honorific Months* in *Yale Classical Studies*, II, 201–78 deals with the Egyptian material.

E. STEIN, in his article *Konstantin d. Gr. gelangte 324 zur Alleinherrschaft*, in *Z. neut. Wiss.*, XXX (1931), 177–85, bases his argument upon P. Oslo. II, 44.

5. SOCIAL LIFE, EDUCATION, ART, ECONOMIC HISTORY, NUMISMATICS AND METROLOGY.

General. A paper by J. PARTSCH on *Die griechische Kultur in Aegypten* is included in the collection *Aus nachgelassenen und verstreuten Schriften von J. Partsch: Freiburg. Rechtsgesch. Abh.* I, Berlin, 1931.

There has reached us as we go to press a monograph by E. R. HARDY, Jr., on *The large estates of Byzantine Egypt* (=Studies in History, Economics and Public Law, edited by the Faculty of Political Science of Columbia University, no. 354), Columbia University Press, New York, 1931, pp. 162. $3. The frontispiece reproduces the consular diptych of Apion II. The evidence is mainly derived from the Apion papyri, but the author studies the general problems of feudalism, serfdom, and estate management and the part played by the large estates in the social and economic life of Byzantine Egypt. In the bibliography reference is made to an article by the author which has not previously been noted here: *New Light on the Persian Occupation of Egypt*, in *Journal of the Society of Oriental Research*, XIII (1929), 185–9.

Finance, Agriculture, Industry. HEICHELHEIM's *Wirtschaftliche Schwankungen* (see *Journal*, XVII, 129) is reviewed by U. KAHRSTEDT in *G.G.A.*, 193 (1931), 78–80; by F. OERTEL in *Z. Sav.*, LI (1931), 572–85; by H. I. BELL in *O.L.Z.*, 1931, no. 7, cols. 620–3; by W. W. TARN in *Economica*, Nov. 1930, 315–8; by F. GEYER in *Phil. Woch.*, LI (1931), 475–80; and by A. C. JOHNSON in *A.J.A.*, XXXV (1931), 353.

P. JOUGUET, in an article entitled *Dédicace grecque de Médamoud*, which deals with a dedication by two women and a man engaged in the Red Sea shipping trade, discusses that trade and the routes from the Nile valley to the Red Sea: *Bull. Inst. fr. d'arch. or.*, XXXI (1931), 1–29, with a supplementary note by P. GRAINDOR, pp. 31–2.

WESTERMANN's *Slavery in Ptolemaic Egypt* (see *Journal*, XVII, 129) is reviewed by K. F. W. SCHMIDT in *Phil. Woch.*, 1931, 211–2; by N. HOHLWEIN in *Bull. bibl. et péd.*, XXXIV (1930), 10; and in *Ancient Egypt*, 1931, pp. 56–7. See also B ii. §§ 3, 6.

N. HOHLWEIN writes on *L'économie egyptienne* in *Chron. d'Ég.*, VI (1931), 225–33.

ETHEL H. BREWSTER contributes a paper on *A weaver's life in Oxyrhynchus* to *Classical studies in honour of John C. Rolfe* (Univ. of Pennsylvania Press, 1931). Pp. 19–45.

ADOLF GROHMANN, *Zum Weizenpreis im arabischen Ägypten*, in *Bull. Inst. fr. d'arch. or.*, XXX (1930), 541–3, concludes that during the first three centuries of the Islamic era the prices for wheat vary within the same limits as during the Byzantine epoch. It is only in later centuries of economic decline that prices fall to such an extent as to show that there was a grain surplus in Egypt.

Education, Science, and Art. P. COLLART writes *A propos de quelques exercices scolaires* in *Bull. Inst. fr. d'arch. or.*, XXX (1930), 417–23. [See also §§ 1 and 3.]

CASPER J. KRAEMER, Jr., deals with *A Greek element in Egyptian dancing* in *A.J.A.*, XXXV (1931), 125–38.

W. SPIEGELBERG's article *Zur Bestattung der Mumien in der römischen Kaiserzeit* in *Ä.Z.*, LXVI (1930), 39–41, should be noted here. [See also § 3.]

G. RODENWALDT has a useful note *Zur polychromie des Petosirisgrabes* in *Jahrb. Deut. Arch. Inst.* (*Arch. Anz.*), XLV (1930), 262–5.

In the same volume, pp. 503–16, A. L. SCHMITZ discusses *Die Formengeschichte der ägyptischer Menapolis.*

E. PFUHL's *Ikonographische Beiträge zur Stilgeschichte der Hellenistichen Kunst* is reviewed by E. BRECCIA in *Bull. Soc. Arch. d'Alex.*, no. 26, pp. 313–23.

L. TH. LEFORT, *La Littérature égyptienne aux derniers siècles avant l'invasion arabe*, in *Chron. d'Ég.*, VI (1931), 315–23, concludes that the year A.D. 699 when the Arabic language was rendered obligatory in public use "marque le terminus final des littératures grecque et égyptienne sur le sol d'Égypte." After that date the era of translation of Coptic works into Arabic begins.

Numismatics and Metrology. W. GIESECKE has formulated his views on the currency of Egypt under the Ptolemies in *Das Ptolemäergeld*: the book is reviewed by G. SEURE in *Rev. de Phil.*, 3, V (1931), 177; and by AGNES B. BRETT in *A.J.A.*, XXXV (1931), 360.

A. DIEUDONNÉ describes a specimen of the so-called gold *exagium* in an article on *La donation Rockfeller* [sic] in *Rev. Num.*, XXXIII (1930), 151–3.

G. F. HILL publishes a list of *Alexandrian and Ptolemaic coins found in England* in *Num. Chron.*, X (1930), 335–8.

J. G. MILNE deals with *Egyptian leaden tokens* in *Num. Chron.*, X (1930), 300–15.

There is an article (not seen) by C. O. CASTELIN on *Die Bedeutung der griech. Papyri für die antike Numismatik* in *Der Münzensammler* (1929), 16, 18–24.

6. LAW.

A. *General.*

i. *Bibliographies and collected works.* S. ROMANO, *Bull. Ist. Dir. Rom.*, XXXIX (1931), *fasc.* iv–vi, 63–104, continues that journal's bibliography; period 1924–30 inclusive, but rubric *Epigrafia-Papirologia—Diritti orientali* not yet reached. A. CALDERINI, *Aegyptus*, XI (1931), 103–27, 233–54, 418–31, continues his *Bibliografia metodica* (*Diritto e amministrazione*, 115–7, 245–6, 424–5), to which, 517–21, he supplies an *Indice degli autori.* The lists of *Testi recentemente pubblicati* are also continued, 76–84, 202–12, 399–405, 497–500, with *Aggiunti, Correzioni, Riedizioni di papiri e di ostraca*, 85–8, 213–6, 406–7. *J.R.S.*, XX (1930), Part 2, supplies *Consolidated Indexes* to the first 20 vols. (little papyrology).

In *Bull. Ist. Dir. Rom.*, XXXVIII (1930), 291–4, P. BONFANTE gives S. PEROZZI's (†) bibliography. *Josef-Kohler-Bibliographie* (Berlin, Rothschild, 1931, 10 M., very extensive) is commended by L. ADAM, *Z. f. vergleich. Rechtsw.*, XLVI (1930–1), 473–4.

The first volume of the *Freiburger Rechtsgesch. Abhandlungen: Aus nachgelassenen u. kleineren verstreuten Schriften von Josef Partsch* (Berlin, 1931), is both appropriate and welcome. Its five *anecdota* include (besides those mentioned below, A v and D i) continuations of *Studien z. Negotiorum Gestio* and *Die Lehre vom Scheingeschäfte im röm. Rechte.* Among the reprints of importance to us we note: *Neue Urkunden zum justinianischen Reskriptenprozesse, Die demotischen Papyri Hauswaldt*, and the long reviews of PREISIGKE's *Girowesen* and KOSCHAKER's *Babyl.-assyr. Bürgschaftsrecht.* A general bibliography was given by W. KUNKEL, *Z. Sav.*, XLVII (1927), 586–94.

ii. *Miscellaneous reviews.* E. LEVY, *Z. Sav.*, LI (1931), 543–67, reviews *Studi Bonfante* (*Journal*, XVII (1931), 130), as does U. RATTI, *Bull. Ist. Dir. Rom.* XXXIX (1931), *fasc.* i–iii, 349–67, while E. V., *Arch. Giurid.*, CVI (1931), 231–45, gives a careful résumé of Vol. I. RATTI is selective; LEVY deals with all the contributions, unequally of course, but so as to make "cf. LEVY" advisable as a general note to the four volumes. Short notices of *Opere di Contardo Ferrini* (*Journal*, XVII (1931), 130), Vols. III–V, are given by P. COLLINET, *Rev. hist. dr.*, X (1931), 359–61, and M. SAN NICOLÒ, *Z. f. vergleich. Rechtsw.*, XLVI (1930–1), 449–50; an analytical account of Vols. I–II is given by G. FERRARI, *Gnomon*, VII (1931), 320–3.

Reviewing favourably E. LEVY's *Ergänzungsindex zu Ius u. Leges* (*Journal*, XVII (1931), 132–3), M. SAN NICOLÒ, *K.V.G.R.*, XXIV (1930–1), 321–4, compares its letters *A* and *R* with those of the Indexes to *Codd. Theod.* and *Just.* He also notes Greek words not to be found even in PREISIGKE's *Wörterbuch.* G. SEGRÈ, *Arch. Giurid.*, CV (1931), 245–7, is equally favourable. E. LEVY, *Z. Sav.*, LI (1931), 567–8, supplies corrections for O. GRADENWITZ's *Ergänzungsband zum Heidelb. Index zum Theodosianus* (Berlin, 1931), and, *ibid.*, 568–9, welcomes P. COLLINET's bibliography of French works on Roman law (*Journal*, XVII (1931), 130).

P. KOSCHAKER, *Z. Sav.*, LI (1931), 541–3, is highly appreciative of É. CUQ's *Études sur le droit babylonien* etc. (Paris, 1929); shorter in the same sense is M. SAN NICOLÒ, *O.L.Z.*, XXXIV (1931), 227–8.

G. SEGRÈ, reviewing P. DE FRANCISCI's *Storia del diritto romano*, I, II, 1 (Rome, 1926–9), in *Bull. Ist. Dir. Rom.*, XXXVIII (1930), 272–84, draws attention to the author's definition of the relation of Egypt to the emperor.

iii. *Legal history of antiquity.* L. WENGER's marvellous *Literaturübersicht*, III (1914–31), *Archiv*, X (1931), 98–176, is on the same plan as last year (*Journal*, XVII (1931), 130), though the proportions of the subdivisions are altered. Items coming within our scope are referred to below. Here we cannot refrain from chronicling the thorough account (pp. 103–13) of M. SAN NICOLÒ's *Beitr. z. Rechtsgesch. im Bereiche der keilschriftlichen Rechtsquellen* (Oslo, 1931), of which WENGER justly remarks that its constant comparative reference to Egypt and her papyri "*macht die Lektüre auch für den Nurpapyrologen notwendig.*" It is a fascinating book, but we must be content to refer to WENGER's account. A. CALDERINI, also, has brief notes on it in *Aegyptus*, XI (1931), 227, and its own *Register* carries one readily to the papyrological passages. The book is written from the point of view of WENGER's programme of *Antike Rechtsgesch.* (cf. M. SAN NICOLÒ's *Zum Problem einer antiken Rechtsgesch., Forschungen u. Fortschritte*, VII (1931) 140–1), a programme which W. EILERS, reviewing the book in *O.L.Z.*, XXXIV

(1931), 922–37, holds to be impracticable, because between the world conquered by Greek culture and that of the secular Sumerian tradition there exists, at least in the sphere of law, no community. But to be just, EILERS' point is rather that the East remained unaffected by Hellenism than that late Hellenism remained unaffected by the East. WENGER (p. 123) mentions another excellent orientalist work, *Hethitische Staatsverträge. Ein Beitr. zu ihrer juristischen Wertung* (*Leipzig. Rechtswiss. Studien*, Heft 60, 1931), by V. KOROŠEC. This includes a study of the treaty of 1292/1 B.C. between Ḫattušili III and Ramesses II, which exists both in a Hittite and an Egyptian (*Journal*, VI (1920), 179–205) version.

iv. *Legislative and juristic texts. Editions and comments.* The second volume of the charming pocket Digest edited by P. BONFANTE and others has now appeared (*Libri XXIX–L*, Milan, 1931. Lire 60). The editorial principles, apparently unchanged, are expounded by P. BONFANTE in *Conferenze per il XIV Centenario delle Pandette* (Milan, 1931), a book in which are collected addresses by twelve leading Romanists affording a vivid picture of the state of critical studies of the Digest. S. RICCOBONO defends his position on the Berytus question in an admirably written article; against him, on the whole, are P. DE FRANCISCI, P. BONFANTE, F. PRINGSHEIM, E. ALBERTARIO and, one gathers, others. But the exceptionally weighty judgement of B. KÜBLER is substantially on his side. Notable among the several studies devoted to the discovery of post-classical compilations which may have been the guides of Tribonian, is V. ARANGIO-RUIZ's *Precedenti scolastici del Digesto* (cf. his *Di alcune fonti postclassiche del Digesto, Atti Acc. Sci. Mor. e Pol. Napoli*, LIV (1931)), which adopts a line suggested (but not to him) by P. COLLINET some years ago. The strictly papyrological article is *Il diritto dei papiri nell' età di Giustiniano* (pp. 215–33) by L. WENGER. Their discovery of non-Roman legal currents has led papyrologists perhaps to underrate the force of the main Roman stream. The numerous Roman texts found in Egypt show that Roman law was studied there, and good fortune may bring us more of them. But even now fresh light would be derivable from a study of the constitutions, down to Justinian's Ed. XIII, addressed to Egypt. The papyri are only snapshots of life, but this defect is corrected by their numbers and especially by their occurrence in groups, *e.g.* the Zenon and Apion documents. We have learnt that from the 5th century the centralized state was being ousted by feudalism, a process which led to the national Coptic reaction against the foreigner. In private law the impression that we get is not one of sharp conflict between imperial and popular law: the Roman law of the higher tribunals had seen a fusion of *ius civile* and *ius gentium*, whilst the small local courts would be tolerant of departure from Roman principle. In fact, there remained something national, which in the East as in the West defied the unifying power of Roman law. Still, late papyri give some good Roman illustrations: thus, the proceedings against the runaway wife in P. Masp. Cair. III, 67295, the will in 67312, the sale in P. Munich 9. Egyptian conditions in the middle of the 6th century are vividly illustrated by the story of Dioscorus, poet and lawyer, *μιξοβάρβαρος καὶ μιξέλλην*.

Ein Blatt aus einem antiken Exemplar des Codex Justinianus, Z. Sav., LI (1931), 417–21, by F. SCHULZ, shows that no real reason has as yet been given for the attribution of the fragment published by A. SEGRÈ, *Studi Bonfante*, III, 429–30, to the first edition of the *Codex*. Where its text probably differed from our modern text, the latter is conjectural, and early corruption is possible.

C. A. NALLINO's study of the *Syro-roman Lawbook* in *Studi Bonfante*, I, 201–61 (*Journal*, XVII (1931), 133), is subjected to a searching analysis by L. WENGER, *Archiv*, X (1931), 138–41. The question which one would wish to hear authority speak is: of what value as evidence of non-Roman customary law can a work be, the local origin of which is not determinable? E. LEVY, *Z. Sav.*, LI (1931), 550, has some reassuring words, as has E. SEIDL, art. *Syrisch-römisches Rechtsbuch* in *Paulys Realenzyklopädie* (excellent). R. HARTMANN, *O.L.Z.*, XXXIII (1930), 1012–3, finds NALLINO convincing.

G. SCHERILLO, *Sui "Tractatus de gradibus cognationum," Studi Fac. Giur. Cagliari*, XVIII (1931), and the same, reviewing E. VOLTERRA on the *Collatio* in *Arch. Giurid.*, CIV (1930), 255–65, can barely be mentioned. On the *Collatio*, SCHERILLO agrees in the main with E. LEVY (*Journal*, XVII (1931), 132), but he has some original points.

Textes et documents pour servir à l'enseignement du droit romain, by A. LEVET, E. PERROT, A. FLINIAUX, Paris, 1931, 25 frs. is announced (not seen).

v. *Documents and comments.* Taking U. WILCKEN's *Urkunden-Referat, Archiv*, X (1931), 70–98, as read, we mention here some publications which do not fall readily under one of our systematic subheads. M. NORSA and G. VITELLI have edited the recto of the Vatican papyrus, the verso of which has given us Favorinus *Περὶ φυγῆς* (above § 1): *Registri fondiarii della Marmarica. Il papiro Vaticano greco 11. Studi e Testi* 53. (Città del Vaticano, 1931. Lire 100.) = P. Marmarica. C. GALLAVOTTI and

G. La Pira, *Un registro catastale e un libro processuale dalla Marmarica*, *Bull. Ist. Dir. Rom.*, xxxix (1931), *fasc.* iv–vi, 19–39, address themselves to what U. Wilcken in a preliminary notice (*Archiv*, x (1931), 94–6, *cf.* 81) declares to be the chief question, namely that of the purpose of this collection or selection of cadastral entries. The entries are not uniform. Those of cols. ix–xii form a distinct block, being of properties in one district in topographical order with two valuations: first a higher, evidently that of the time of writing, and then a lower, that of the *lustrum* 175/6–179/80. They appear to be extracts from the ἐπίσκεψις of 188/9, intended to serve as a basis for the prefect to raise the taxes. Both for the system of ἐπίσκεψις and for economic history this is valuable material. In cols. i–viii, though the properties are grouped topographically, the purpose is not cadastral, but processual. Some of these entries illustrate the authority of the *strategus* to procure settlement of disputes (*Grundz.* ii, 10); against the recalcitrant he uses freely the weapon of interim sequestration of revenues. Other entries show declaration of some irregularity in the legal situation, of which the *strategus* is requested to take note (*Grundz.*, ii, 33), and though the matter may eventually be for the *Idios logos*, meanwhile the *strategus* can sequestrate. Lastly, there are simple entries of proprietor and cadastral inventory—cases under suspicion, perhaps. It is suggested that what we have is a general clearing up of outstanding questions for the purpose of presenting to the prefect the results of the ἐπίσκεψις of 188/9. The date Jan. 191 in col. xii, 12 is explained on the supposition that the process of cleaning the sheet took two years or more.

Anhang 2 to W. Kunkel's article in *Z. Sav.*, li (1931), 229–76 (below, F), discusses (pp. 269–70) the interpretation of the ostracon which appears as 110 A in *Chrest.*, i; *Anhang* 3 (pp. 270–3) the interpretation of various points in Spiegelberg's demotic book of civil procedure (*Journal*, xvi (1930), 137), on which Kunkel differs from E. Seidl; *Anhang* 4 (p. 273, by R. Hartmann) concerns the Aramaic P. Cowley 44; *Anhang* 5 (pp. 274–6) contains a new translation by Dr Polotsky of P. Strasb. dem. 12. On *Anhang* 3 see further L. Wenger, *Archiv*, x (1931), 125–7.

Coptic Law (*Juridical Rev.*, xliii (1931), 211–40), by A. A. Schiller, describes, and discusses from the legal point of view, ten Coptic business documents from Jeme-Thebes, which the author will shortly publish (possibly has published) in *Papers of the Metropolitan Museum of Art* (New York).

L. Wenger, under the title *Der röm. Kognitionsprozess* (*Aus nachgelassenen etc. Schr. von Josef Partsch*, pp. 1–2; above, A i), publishes interesting comments, found in a set of Partsch's papers, on P. Oxy. 2, 237, P. Fay. 21 and P. Lond. ii, 359 (p. 150); also textual suggestions for P. Tebt. 434 (*Chrest.*, ii, 51), B.G.U. iv, 1042, P. Flor. 36 (*Chrest.*, ii, 64) and P. Lond. ii, 354 (p. 164). P. Collart, *Rev. de phil.*, lvi (1930), 411–2, emphasizes the juristic interest of the first two documents in S. Möller's *Griech. Papp. aus dem Berliner Museum* (Göteborg, 1929), the first being a ὁμολογία περιλύσεως of A.D. 300, the second the missing beginning of P. Oxy. 1203.

In *Aegyptus*, xi (1931), 179–84, J. C. Naber suggests new interpretations and readings of B.G.U. 1105; incidentally, in B.G.U. 993, iii, 11 he would read ἐνενεχυρον for ἐπενεχυρον, *i.e.* ἐνέχυρον without the dittography. The same writer, continuing his *Observatiunculae* in *Mnemosyne*, lviii (1930), 339–68, offers a harvest of novel textual suggestions too rich to be detailed here. Thus (pp. 358–9) for Mommsen's correction προίεμαι of B.G.U. 140, 16–17 (*Chrest.*, ii, 373) προειεναι he proposes προσίεμαι, which is better sense. And in his final section (pp. 360–8), observing on the interest of B.G.U. 361, he points out that Dareste's re-edition in *Nouv. Rev. hist. dr.*, xviii (1894), 584–6, is not noticed in Preisigke's *Berichtigungsliste*.

vi. *System of documentation.* In *Anhang* 1 (pp. 265–9) to his above-mentioned (v) article W. Kunkel discusses χειρογραφία, χειρογραφεῖν and ὑποχειρογραφεῖν. Though χειρογραφία and χειρογραφεῖν regularly refer to the written royal oath (*Chrest.*, i, 113), χειρογραφεῖν sometimes indicates autograph writing, either of the whole document or of the *subscriptio*, in which latter case ὑποχειρογραφεῖν is more exact. This suggests that the royal oaths were autograph, at least in their ὑπογραφαί, though there are objections. Autograph ὑπογραφή may have been a legal requisite in taking a royal oath.

The question of ἀνανέωσις (*Grundz.*, ii, 91, n. 3; 163) has arisen again out of a Dura parchment of A.D. 121 published by M. Rostovtzeff and Bradford Welles in *Yale Class. Stud.*, ii (1931), 1–78, but we seem not much nearer a solution: P. Koschaker, *Z. Sav.*, li (1931), 429 and *Abh. Phil.-Hist. Kl. Sächs. Ak.*, xlii (1931), Nr. 1, 65–68; L. Wenger, *Archiv*, x (1931), 134–5.

In connection with textual suggestions for B.G.U. 8, J. C. Naber, *Mnemosyne*, lviii (1930), 357–8, discusses the effect of δημοσίωσις (cf. A. B. Schwarz, *Die öffentl. u. priv. Urkunde im röm. Ägypten*, 271 ff.). We may not do more than just mention the following recent articles in *Paulys Realenzyklopädie*: *Subscriptio* (B. Kübler), *Syngrapha* (W. Kunkel), Συμβολαιογράφος (E. Seidl). K. Staritz, *Z. neut.*

Wiss., XXX (1931), 157–70, explains βιβλίον in *Apocalypse*, v, 1, as a *Doppelurkunde*. On the scheme of diptychs see below, E.

B. *Law of persons.*

i. *Juristic persons.* In *Byz.-neugr. Jahrb.*, VIII (1931), 377–8, C. WESSELY shortly approves of A. STEINWENTER's *Die Rechtsstellung der Kirchen u. Klöster nach den Papyri* (*Journal*, XVII (1931), 135). A. STEINWENTER, *Zur epistula Hadriani v. J. 121*, *Z. Sav.*, LI (1931), 404–8, observes that Hadrian's permission (GIRARD, *Textes*[5], 196; RICCOBONO, *Fontes*, I, Nr. 67) to the head of the Epicurean school at Athens to make his will in Greek and to choose a peregrine successor should be brought into connection not only with the philosophers' wills in Diogenes Laertius, but also with certain wills of heads of monasteries in cents. vi–xii. What is illustrated is the utilization of the forms of private law for the purpose of keeping alive a corporate body which has not yet achieved full legal personality.

ii. *Slavery.* H. LÉVY-BRUHL, *Esquisse d'une théorie sociologique de l'esclavage à Rome*, *Rev. gén. dr.*, 1931, 1–17, maintains that in the primitive and basic conception *civitas* and *libertas* were one, so that every slave was an alien, and every alien a slave. Slavery was thus an absolute status (cf. *servus sine domino*), something permanent and almost ethnic. Conversely, it was impossible for a citizen to become a slave under Roman law. These ideas, true for Roman law, the writer is inclined to generalize, citing (p. 11, n. 2) P. Hal. I, 219. But we must distinguish between primitive law and ancient law. Of W. L. WESTERMANN, *Upon Slavery in Ptol. Egypt* (*Journal*, XVII (1931), 135) there are favourable, but very short, reviews by N. HOHLWEIN (*Bull. bibl. etc. du Musée Belge*, XXXIV (1930), 10) and K. FR. W. SCHMIDT (*Phil. Woch.*, LI (1931), 211–2). C. C. EDGAR, *Journal*, XVII (1931), 160–1, gives an approving account of some of the chief points of the book, but has some criticisms: thus in l. 11 of P. Columbia 480 read ράξονται for πράξονται. This papyrus (198–7 B.C.) is claimed by F. V. WOESS (*Z. Sav.*, LI (1931), 426) as decisive in favour of his doctrine (*Asylwesen*, 82 ff.) that under the Ptolemies an insolvent debtor might come to real slavery, and L. WENGER, *Archiv*, X (1931), 134, unhesitatingly agrees.

But this interpretation of P. Columbia 480 is resisted by P. KOSCHAKER, p. 59 of *Über einige griech. Rechtsurkunden aus d. östl. Randgebieten des Hellenismus* etc. (*Abh. Phil.-Hist. Kl. Sächs. Ak.*, XLII (1931), Nr. 1). This is emphatically the book of the year (cf. *Z. Sav.*, LI (1931), 427–30); largely it is occupied with two of the Dura-Europus parchments, in regard to which see the literature collected by, and the valuable comments thereon of, L. WENGER, *Archiv*, X (1931), 128–37. Here (see above, A vi, and below, C and E) we are concerned with P. Dura 10 (Ch. 2 of KOSCHAKER's book), a contract of loan published by M. ROSTOVTZEFF and BRADFORD WELLES in *C.-R. Ac. Inscr. et B.-L.*, 1930, 158–81, and, with full commentary, in *Yale Class. Stud.*, II (1931), 1–78. Executed A.D. 121 near Dura, on the Euphrates on the Parthian side of the frontier, the contract contains, besides other security, an antichrestic self-pledge of debtor to work for creditor, expressed in terms of a παραμονή. Successive sections of the book study παραμονή in the papyri and in the Delphic manumissions, and its cuneiform parallels. The general conclusion is that the person in παραμονή is subjected to some sort of *potestas*, and that the position in manumission-παραμονή is one of half-freedom (contrast the Roman *statuliber*) and in debt-παραμονή is one of divided ownership (contrast the Roman *ius in re aliena*). In spite of its Greek dress the παραμονή in P. Dura 10 cannot be attributed solely to Greek law; the nationality of the parties suggests rather the application of the parallel cuneiform institute. It is a case neither of reception nor of simple parallelism, but of the Greek scribe absorbing the indigenous custom and expressing it in his own forms. A similar combination is found (ch. 3) in a Susa inscription (a manumission by dedication, *ca.* 175 B.C.) pieced together by F. CUMONT, *Mém. de la mission archéol. de Perse*, XX (1928), 84–8.

iii. *Civitas.* E. R. GOODENOUGH, *The Jurisprudence of the Jewish Courts...under the early Roman Empire* (*Journal*, XVII (1931), 131), maintaining that Philo's four books *De specialibus legibus* give us the actual jurisprudence of the contemporary Alexandrian Jewish courts, has had several reviews. P. COLLART, *Rev. de phil.*, LVII (1931), 147–8, thinks it a useful work, but showing too much bias. J. G. MILNE, *J.H.S.*, L (1930), 353, suggests that Philo's intention was indeed practical, but in the sense that his object was to prove to the Romans that Jewish law could be made to harmonize with Roman principles; there is no evidence that what Philo preached the Jewish courts at Alexandria practised. S. KRAUSS, *O.L.Z.*, XXXIV (1931), 451–3, thinks that GOODENOUGH has proved his point, which however is not entirely novel, but that in certain matters he has neglected the rabbinical evidence. He has thrown an important sidelight on the organization of the contemporary Jewish courts at Jerusalem. N. HOHLWEIN, *Bull. bibl. etc. du Musée Belge*, XXXIV (1930), 9–10, regards the work as an excellent contribution to the difficult subject of the status

of the Alexandrian Jews. They certainly had their own courts, but were they competent in all the matters dealt with by Philo, and is it safe to see in him a reflection of their jurisprudence? On the whole, GOODENOUGH has proved his point. Another review (analytical): P. D(HORME), *Rev. biblique*, XL (1931), 466.

E. SCHÖNBAUER, *Reichsrecht gegen Volksrecht? Studien über die Bedeutung der Constitutio Antoniniana für die röm. Rechtsentwickelung*, *Z. Sav.*, LI (1931), 277–335, is stimulating. He shows (I, pp. 278–85) that MITTEIS' denunciation of the *Const. Ant.* receives no support from subsequent ancient writers, even those hostile to Caracalla; on the contrary, praise is universal. Discussing the modern controversy as to P. Giss. 40 (II, pp. 286–98; cf. *Journal*, XIII, 114–5; XIV, 151–2; XV, 131; XVII, 135), he rejects E. BICKERMANN's view that the papyrus does not give the *Const. Ant.*, on the ground that BICKERMANN's meritorious proof that the *Const.* covered Egyptians of the χώρα involves that it did not exclude *dediticii*. To G. SEGRÈ's interpretation he objects that, even if the completion πολιτευμ]άτων (l. 9) were palaeographically allowable, *civitates dediticiae* never existed. Still, SEGRÈ was right in saying that the exception of *dediticii* must refer to the saving clause which immediately precedes it. SCHÖNBAUER's own reconstruction (III, pp. 298–320) of the sense of that clause is extremely plausible: what could not be saved for *dediticii* was what they had not got, namely appurtenance to their own πόλεις. But in his textual reconstruction at the critical point: μ]ένοντος [πολιτικοῦ σφισι ἀπαραβ]άτως (ll. 8–9), it is questionable whether πολιτικόν can bear the sense put upon it. The preparatory development for the *Const.* (IV, pp. 320–32), by which Greek πολῖται acquired Ῥωμαιότης without losing their own πολιτικόν (in SCHÖNBAUER's sense), is illustrated by the double *civitas* of the Cyrenean Edicts, and most instructively from the *Encomium* of Aelius Aristides, the Polybius and Panaetius of the Antonines. The *Const.* is the fulfilment of Augustus' policy, with an extension, on account of military necessities, to *dediticii*. Its result (V, pp. 332–5) was a unified, but not unitary, constitution of the empire: the numerous πόλεις remained, "*die auch weiterhin einen selbständigen—wenn auch bescheidenen—Lebens- und Rechtskreis bilden*" (p. 333). We presume that this means, amongst other things, that the Greeks preserved their own private law; otherwise the article disposes of MITTEIS' rhetoric rather than of his legal doctrine. But we are promised further enlightenment, and look forward to it.

iv. *Family.* In *Journal*, XVII (1931), 268–9, H. I. BELL gives an account of H. A. SANDERS' *Two fragmentary Birth-certificates* and *Some Fragments from the Michigan Collection* (*Mem. Amer. Ac. Rome*, IX (1931)). SANDERS keeps to his own expansion of *q. p. f. c. r. ad K* (*Journal*, XV (1929), 131), but BELL thinks that U. WILCKEN's objections (*Archiv*, IX (1928), 101) have the better of it.

P. FREZZA (BREZZA in the *Index*), *Aegyptus*, XI (1931), 363–85, *La capacità delle donne all' esercizio della tutela nel diritto romano classico e nei papiri greco-egizi*, makes a technical point against G. LA PIRA (*Journal*, XVII (1931), 136), who in his article (*Bull. Ist. Dir. Rom.*, XXXVIII (1930), at pp. 56–7) assumed that Roman law, which did not allow a mother to be tutor, but came to allow her to administer, subject to indemnity to the official tutor, gave the pupil in the latter case an *ao. tutelae* against her. The possible proceedings against her were, according to FREZZA, *ao. neg. gest.* by pupil and *ex stip.* by tutor. The ἐπακολουθήτρια of the papyri is not copied from the Roman *gestio materna*, neither is the Roman practice copied from the Egyptian. In the first 30 years of the 2nd century local magistrates realized that they must not appoint a woman ἐπίτροπος, the official version of *tutor*, and so hit on the idea of respecting the official terminology while giving her the substantial position as ἐπακολουθήτρια, which is simply *tutrix* camouflaged. Thus, in P. Loret (cf. U. WILCKEN, *Archiv*, X (1931), 88–9) the mother, who is ἐπακολουθήτρια with full control, gives security, not as at Rome to the nominal tutor, but presumably, like a tutor proper, to the magistrate. See also below, E.

v. *Marriage.* P. E. CORBETT, *The Roman Law of Marriage* (Oxford, 1930), is favourably reviewed by E. VOLTERRA, *Bull. Ist. Dir. Rom.*, XXXVIII (1930), 259–71 (valuable criticisms); also, shortly, by J. C. v. OVEN, *Tijdschrift voor Rechtsgeschiedenis*, XI (1931), 97–8. L. WENGER, *Archiv*, X (1931), 127, has a short note on W. F. EDGERTON's *Notes on Egyptian Marriage chiefly in the Ptol. Period* (*Stud. in Ancient Or. Civilisation*, Chicago, 1931). The multiformity of national Egyptian marriage is denied; it rested on formless agreement with consummation. The distinction, γάμος ἄγραφος and ἔγγραφος, whatever it may mean, belongs to the Roman period (not seen).

S. G. HUWARDAS' *Beitr. z. griech. u. gräko-äg. Eherecht der Ptol.- u. frühen Kaiserzeit* (*Leipz. Rechtswiss. Stud.* 64, 1931) is a clear and thorough work, whose careful definition of technical terms borrowed from Germanistic literature is particularly commendable. He holds that the two Greek Ptolemaic forms, i.e. the full marriage with συγγραφὴ συνοικεσίου and the free, or pre-, marriage (enchoric

ὁμολογίαι and Alexandrian συγχωρήσεις), are distinguished by the full marriage setting up a *Hausgemeinschaft* in the family property, and the free not, though it is provisional and looks forward to a συγγραφὴ συνοικεσίου. Though the συγγραφή is to take place in these cases before certain officials, official co-operation may not have been necessary when the marriage was "full" *ab initio*. The later Graeco-Egyptian γάμος ἔγγραφος, though the *Hausgem.* created by it is in a weakened form, is taken to be descended from the Ptolemaic full marriage, and so ultimately from the home Greek. But the derivation of the contemporary γάμος ἄγραφος, without *Hausgem.*, is still a mystery. It does not seem to come from the native alimentary (τροφῖτις) marriage, which imposes markedly heavier duties on the husband, but is more like the Greek free marriage, except that it is not provisional. Possibly, or probably, the Roman marriage without *manus* contributed to the evolution. Full account is taken of previous literature (cf. *Journal*, XVII (1931), 136), but only at the last moment of G. PETROPOULOS, Τινὰ περὶ γάμου ἐν Αἰγύπτῳ, κατὰ τοὺς ἑλληνο-αἰγυπτιακοὺς παπύρους (Πρακτ. Ἀκ. Ἀθ., VI, 1931), as to which I rely on the notes of a friend and the review by F. ZUCKER, *B.Z.*, XXXI (1931), 477–8. PETROPOULOS rejects both WILCKEN-PARTSCH's view (P. Freib. III) that the two Ptolemaic forms are derived from Egyptian varieties of marriage-contracts, and that of V. ARANGIO-RUIZ (*Journal*, *l.c.*) that they were not two forms, but that the συγγραφὴ συνοικεσίου is a later step in documentation, taken for the purposes of publicity and taxation. It is fatal to the second view that the execution of the συγγραφή is made by the previous contract to depend on demand by one or other party. The truth is that Egyptian women marrying Greeks wished to secure the rights, especially in property, which the native forms gave them, and therefore insisted on a contract providing for the future execution, in terms settled in advance, of a συγγραφὴ συνοικεσίου. Ἄγραφος and ἔγγραφος of the imperial period describe respectively Greek or Roman marriage, for which no document was required, and Egyptian, which required writing. Thus in *Chrest.*, II, 84 (A.D. 124), the marriage is taken to be Roman *sine manu*, and in P. Oxy. 237 (A.D. 186) the decision that Dionysia cannot be divorced by her father against her will, because not under his *potestas*, is based on the fact that she married by γ. ἔγγρ., i.e. under Egyptian law. ZUCKER is not convinced.

E. ALBERTARIO, *Alcuni referimenti al matrimonio e al possesso in Sant' Agostino*, *Arch. Giurid.*, CVI (1931), 28–44 (no papyri), offers valuable illustration of the contrast between classical Roman and Christian ideas of marriage.

vi. *Soldiers.* P. COLLINET, *Rev. hist. dr.*, X (1931), 189–90, has a useful note on new military *diplomata*, throwing important light on the legality of soldiers' marriages. P. M. MEYER, *Z. f. vergleich. Rechtw.*, XLVI (1930–1), at p. 444, analyses A. DEGRASSI's article, *Il papiro 1026 della Soc. Ital. e i diplomi militari romani*, *Aegyptus*, X (1929), 242–54, which was omitted here last year. MEYER withdraws his objection to the reading *Vibius Kadus* (*Z. Sav.*, L (1930), 521) in the P.S.I. Cf. J. C. NABER, *Mnemosyne*, LVIII (1930), 352 ff., on P. Bad. 72, and U. WILCKEN, *Archiv*, X (1931), 91.

vii. *Clerks and monks.* *Z. Sav.*, LI (1931), 598–9, briefly notes a paper read by A. STEINWENTER to the International Byzantine Congress, Athens, 1930: *Byzantinische Mönchstestamente.* The same writer in *Die Ordinationsbitten Koptischer Kleriker*, *Aegyptus*, XI (1931), 29–34, compares the proceedings (παράκλησις and ἀσφάλεια) leading up to ordination in the Coptic Church at the end of the 6th century, as shown by certain ostraca, with the Benedictine *petitio* and *promissio*; a difference is that the Coptic ordinands made use of the forms of profane law. Probably the clothing of a Coptic monk would be nearer the Benedictine form: cf. P. Lond. 1917 (330–40). In *B.Z.*, XXXI (1931), 61–9, B. GRANIĆ, *Das Klosterwesen in der Novellengesetzgebung Kaiser Leons des Weisen*, carries the study mentioned last year (*Journal*, XVII (1931), 137) to a later date. The chief changes from Justinian are that, while Leo was more liberal to the monk's proprietary capacity, he made the conditions of entering and especially of leaving the monastic state more stringent. No papyri. See also above, B i.

C. *Law of property* (see also below, D ii).

We have mentioned above (B ii) that P. KOSCHAKER's study of παραμονή leads him to conclude that Greek lawyers, like English (a comparison which KOSCHAKER does not fail to make), saw nothing unacceptable in the idea of divided or double ownership. The idea of pledge, conceived of as a *ius in re aliena*, which is the obvious Roman category under which to bring παραμονή, will not fit the manumission case; moreover, even the papyri referring to debt-παραμονή show an avoidance of the terminology of hypothec and ἐνέχυρον. The reason for that avoidance might be that it was desired to avoid the implication of a *ius in re aliena*, but KOSCHAKER doubts this explanation. He suspects that for the Greeks the idea underlying real security was not *ius in re aliena*, but, once more, divided ownership. If that be

so, we should understand why the Greek law of real security is at once more plastic and less definite than the Roman. It is with reluctance that we leave this book, which is, of course, dealing with ideas immanent in Greek law, never expressly formulated because Greek jurisprudence never reached maturity.

In a rather stiff article, *Εὐδόκησις u. Kauf mit fremdem Geld, Z. Sav.*, LI (1931), 408–17, F. WIEACKER follows W. KUNKEL (cf. *Journal*, XV (1929), 131–2) in regarding εὐδόκησις as the subsidiary approval given by a second party to a principal act, which without such approval would be void. It corresponds to an ancient Greek concept, which is expressed in varying terms. After an elaborate classification of the cases of εὐδόκησις and its Greek equivalents, he examines one in which the εὐδοκῶν waives the lien which, as F. PRINGSHEIM has shown, arises in favour of the lender over a thing bought by the borrower with the borrowed money. This occurs in C.P.R. 1 of A.D. 84 (*Chrest.*, II, 220), where the purchaser, Maron, pays the seller, Ptolemais, with money borrowed from one Proclus. Hence Proclus gives his εὐδόκησις. To this case there is no true parallel in the papyri, and it must be read in the light of native Greek consents of mortgagees to sales by mortgagors. Under a system of registration of land this kind of lien, when attaching to land, would either take the more substantial form of a registered hypothec or would not affect third parties; hence in Egypt it is generally submerged.

To be noted (pure Roman law): B. KÜBLER, arts. *Submissio* and *Superficies* in *Paulys Realenzyklopädie*; E. ALBERTARIO, *Le derivazioni dai fiumi pubblici in diritto Romano, Bull. Ist. Dir. Rom.*, XXXVIII (1930), 197–214, combated by G. GROSSO, *Atti R. Acc. Torino*, LXVI (1931), 369–91.

D. *Law of obligations.*

i. *General. Das Dogma des Synallagma in röm. u. byz. Rechte* is one of the *anecdota* in the Freiburg collection of J. PARTSCH's studies (above, A i, pp. 3–95). The specifically papyrological points can readily be found in the *Quellenverzeichnis*. See also E. SEIDL, art. Συνάλλαγμα in *Paulys Realenzyklopädie*. F. PRINGSHEIM's contribution to the Milan *Conferenze* (above, A iv) at pp. 205–6 points out that the Roman *fides* is not πίστις, and that καλὴ πίστις, a mere translation, is first found in the papyri in the *Gnomon*. In *Z. f. vergleich. Rechtsw.*, XLVI (1930–1), 445–7, P. M. MEYER gives a close analysis of A. SEGRÈ's rather difficult *Note sulla ἐγγύη greco-egizia* (*Journal*, XVI (1930), 136).

ii. *Sale.* P. M. MEYER, *ibid.*, also analyses A. SEGRÈ's *Note sulla compravendita etc. in diritto greco e romano* (*Journal*, XVII (1931), 138). A. SEGRÈ continues in *Aegyptus*, XI (1931), 129–44, with *Note sui formulari della compravendita in diritto greco e romano.* The early Ptolemaic Greek formularies are pure Greek, and they survive intact into the empire with the addition of some indigenous clauses, others of which disappear. The ἀπέδοτο—ἐπρίατο form passes into ὁμολογεῖ πεπρακέναι, a formulation *a latere venditoris* which spreads west in the Byzantine period. Contrast *emit mancipioque accepit.* Thus in Egypt the Greek formulary developed under the influence of the indigenous without any decisive Roman influence, and from the 1st century remained substantially unchanged. Clauses which appear for the first time in Egypt in the 4th or 5th centuries are (apart from those introduced by general imperial law) due to the notarial practice of Constantinople. The scanty remains of that practice show that in the East generally the Greek formularies had followed an evolution analogous to the Egyptian, but under the influence of Roman law. This fusion of Roman and Hellenistic formularies took place in Egypt only in the 5th century, a century later than elsewhere. On a wider canvass A. EHRHARDT, *Byz. Kaufverträge in Ost u. West, Z. Sav.*, LI (1931), 126–87, traces the development of sale-formularies in both halves of the empire, reaching the conclusion, contrary to the dominant view (STEINACKER), that the early medieval document is not in part descended from the Egyptian. The study being unsuitable for short summarization, we mention a few notable points. The sale-homologies of Byzantine Egypt are not, as V. DRUFFEL maintains, governed by central ideas from Constantinople, though after the *Const. Ant.* they are no longer provisional, looking forward to the redaction of the contract in public form, but become final, and therefore more formal and closer to the public contracts, whose function they now perform. The scanty papyri for the 4th century, studied according to locality, reveal disorganization: in some districts there is development of the earlier forms, in others a fusion with Byzantine elements. In the 4th—5th centuries we see a development of the old Graeco-Egyptian forms, Roman influence being confined to the law of persons. The altered agricultural conditions in the 5th century leave some marks on the formularies. EHRHARDT argues that the sale-homologies of this period are dispositive, and that sales of land had to be written. There is no evidence of conveyance by handing over documents. The concluding sections of the article (p. 164 ff.) deal with the western material of the Byzantine period (parallelism rather than interdependence of East and West), and with Roman influence upon early German law (sale-documents in the past, donations in the present tense; writing not obligatory for donation).

Reviewing E. CARUSI's study of *Arra* (*Studi Bonfante*, IV, 503–64; *Journal*, XVII (1931), 138), L. WENGER, *Archiv*, X (1931), 137–8, advances important considerations, especially in regard to oriental influences in Justinian's law. M. SAN NICOLÒ, *Der Kauf des Pfandes durch den Gläubiger im Lichte des neubabylonischen Rechtes*, *Z. Sav.*, LI (1931), 421–6, illustrates from Babylonian documents of the 6th and 5th centuries B.C. the use of suspensively conditioned sale to the creditor as a form of mortgage, a practice which, according to P. KOSCHAKER, is also found in Assyrian documents of the late 2nd century. It occurs occasionally in Roman legal texts, and Constantine's prohibition of the forfeiture clause in mortgages was regarded in the West as applying also to it: C. T. 3, 2, 1, *interpretatio*.

iii. *Novation.* R. TAUBENSCHLAG, *Die Novation im Rechte der Papyri*, *Z. Sav.*, LI (1931), 84–91, subjects the papyrological instances of substitution of one contract for another to a Romanistic classification. In general the old obligation is a loan, and the new obligation, for which the old is *causa praecedens*, is either another loan or else an abstract contract. The most interesting special question is that of *novatio inter easdem personas* resulting from change of ground of obligation. No novation results from reduction of *mutuum* to writing, the writing being merely for proof; nor again even where a six-witness contract of loan with hypothec is subsumed into the agoranomic document necessary for the hypothec.

iv. *Inheritance of contractual liabilities.* V. KOROŠEC, *Die Erbenhaftung nach röm. Recht*, I (Leipzig, 1927), is criticized by H. KRELLER, *Gnomon*, VII (1931), 375–9, chiefly on the ground that it is wrong to speak in general terms of transmissibility in primitive times. Each case has to be considered apart; thus we cannot generalize from Gaius 4, 113. The tradition of the Twelve Tables is clear that liabilities did descend, and that tradition at any rate represents the law not later than the end of the period of pure civil law. But KOROŠEC's is a good book.

v. *Delict.* F. DE VISSCHER's comparative study of the Alexandrine and Roman law of *iniuria* committed by a slave (*Journal*, XVII (1931), 138) appeared in *Tijdschrift voor Rechtsgeschiedenis*, XI (1931), 39–55, and has also been included in his *Études de dr. rom.* (Paris, 1931), a collection of excellent articles dealing chiefly with early Roman law.

E. *Law of succession.*

R. BESNIER, *Un nouvel acte de "cretio": le P.S.I. 1027*, *Rev. hist. dr.*, X (1931), 324–38, agrees with the received (*cf.* P. M. MEYER, *Z. Sav.*, L (1930), 517–8) interpretation of the relations to each other of the parties to that document, and develops the consequent mingling of Roman and Egyptian practice of which it is evidence: *cretio* by a *sua heres*, made on her behalf by her mother, probably as her *tutrix* appointed by the father's will, with the *auctoritas* of the mother's *tutor*, which, if given to the *testatio* and not to the *cretio*, is entirely out of place. BESNIER also agrees with the received view (*cf.* P. M. MEYER, *l.c.*; U. WILCKEN, *Archiv*, IX (1928), 81) that the tablet is the last of a triptych. The document begins in stylus on the waxed side and, after a gap of about a line, continues in ink on the wood of the other side: the two pages are supposed to give the greater part of *scriptura exterior*. But H. A. SANDERS, *The wax tablet*, *P.S.I. IX, 1027*, *Aegyptus*, XI (1931), 185–9, shows that it is the first tablet of a diptych. The scheme of diptych which he propounds (*cf. A.J.A.*, XXXII (1928), 309–29) is that the interior writing begins on p. 2, lengthwise, and ends on p. 3, while the exterior begins on p. 4, on the left of and at right angles to the seals and names of witnesses, and ends on p. 1. Thus here we have the beginning of the interior (p. 2) and the end of the exterior (p. 1) writing. He thus dissents from the scheme given in BRUNS, *Fontes*[7], p. 274, and elsewhere. The perfect Bodleian diptych (GRENFELL, *Bodl. Quart. Record*, II, 259–62) supports him.

J. C. NABER, *Mnemosyne*, LVIII (1930), 351–5, is noteworthy on the question of the succession of a legionary's children (above, B. vi), and *ibid.*, 360–8, on that of the opening of wills (above, A. v, *in fin.*).

P. KOSCHAKER (with F. CUMONT's adhesion), *Z. Sav.*, LI (1931), 427, and also in Ch. 1 of his book (above, B. ii), and L. WENGER, *Archiv*, X (1931), 130–1, unreservedly accept the textual corrections made by D. PAPPULIAS (Συμβολὴ εἰς τὴν ἱστορίαν τῆς ἐξ ἀδιαθέτου κληρονομικῆς διαδοχῆς ἐν τῷ Ἑλληνικῷ δικαίῳ, Πρακτ. Ἀκ. Ἀθ., 1929, 418 ff.; not seen; cp. *Journal*, XVII (1931), 133) in the Dura-Europus law of intestate succession, P. Dura 5, first published by B. HAUSSOULLIER, *Rev. hist. dr.*, II (1923), 519, and republished, with some doubts, by P. KOSCHAKER, *Z. Sav.*, XLVI (1926), 297. The corrections are: in l. 6 for ἐὰν δὲ μηθεὶς, τοῦ νόνου read ἐὰν δὲ μηθεὶς τούτων ᾖ, and in l. 8 for ἀδελφοὶ read ἀδελφαί.

U. WILCKEN, *Archiv*, X (1931), 93, praises A. SEGRÈ's edition of a fragmentary will in *Studi Bonfante*, III, 430 (*Journal*, XVII (1931), 133). On monks' wills, see above, B. i.

F. *Lawcourts and procedure.*

E. SEIDL's dissertation *Der Eid im ptol. Recht* (*Journal*, XVI (1930), 137) has received the compliment of very serious criticism. H. I. BELL, *Journal*, XVII (1931), 152–3, is on the whole favourable, and so is M. SAN NICOLÒ, *K. V. G. R.*, XXIV (1930–1), 107–12. The latter draws attention to a parallel cuneiform evolution, from which, as from the Ptolemaic, the institution of oath-helpers is absent. Though the line between the royal and the temple oaths cannot as yet be drawn, the royal, he agrees, was usable in private as well as public affairs before the Ptolemaic period; he agrees, also, that in national Egyptian procedure the oath was a method of formal conclusive proof. It is notable that there is no indication of the oath being used in private law to make obligations binding. W. KUNKEL, *Griech. u. äg. Elemente im Eideswecht der Ptolemäerzeit*, *Z. Sav.*, LI (1931), 229–76, treats of the subject from a wider point of view. While appreciating the merit of E. SEIDL's dissertation, he differs from it on many points, on some of which L. WENGER, *Archiv*, X (1931), 125–7, defends SEIDL's view. Setting aside the Alexandrian oath as pure Greek, KUNKEL finds in the χώρα two types, the temple and the royal, the latter essentially written (ὅρκος γραπτός, χειρογραφία). He doubts SEIDL's view that the oath was usable in private affairs, save perhaps exceptionally. SEIDL exaggerates the Egyptian element in the royal oath; this, though pre-Ptolemaic, became so hellenized as to be a new thing. The important section on the decisory oath in Egyptian law (pp. 245–57) must be read in the original. (New documents are provided by TAIT, *Ostr. Bodl.*, 273–5.) It is held to be native Egyptian, so that Diodorus, I, 79, is confirmed. But Greek ideas (cf. LATTE, *Heiliges Recht*) were so close as to be readily absorbed. A Greek form of processual oath may have existed in the χώρα in the 3rd century: P. Hibeh 31 (a textual correction, p. 259). The Appendices to this article have been mentioned above (A. v and vi).

Reviewing, by no means unfavourably, E. BERNEKER's dissertation: *Zum Gesch. der Prozesseinleitung im ptol. Recht* (Ansbach, 1930), M. SAN NICOLÒ, *K. V. G. R.*, XXIV (1930–1), 315–20, gives a summary, with some criticisms: as that the treatment together of the introduction of civil and criminal cases is, if not incorrect, at least a rash conclusion from our haphazard material; that the delivery of a plaint διὰ τῆς θυρίδος deserves more serious consideration in view of an early Babylonian parallel; that it is overlooked that προσαγγέλματα leading to process before the ἐπιστάτης τῆς κώμης or the local police officials are practically confined to penal law. BERNEKER could not use E. BICKERMANN's article Ἔντευξις und Ὑπόμνημα, *Archiv*, IX (1930), 155–82, and he fails to notice two important papyri published by C. C. EDGAR in *Journal*, XIV (1928), 288–93. With regard to one of these, now P. Mich. Zen. 70, U. WILCKEN, *Archiv*, X (1931), 75–6, rejects M. SAN NICOLÒ's suggestions (*B.Z.*, XXX (1929–30), 158–62; cf. *Journal*, XVII (1931), 139), and keeping to EDGAR's insertion between ll. 8 and 9, would himself also insert both there and in l. 13 ὑπὸ or διὰ before ὑπερημερίας.

That P. Marmarica contains procedural matter is maintained by C. GALLAVOTTI and G. LA PIRA in the article on it mentioned above, A. v. J. C. NABER, Περὶ ἐνοικίου δίκης (*ad P.S.I. 940*), *Aegyptus*, XI (1931), 40–4 (*cf.* the same, *Mnemosyne*, LVIII (1930), 349–51), observes that in the matter of recovery of damages for use and occupation in a real action there is a contrast between Greek and Roman law. The more liberal Greek provision is, in the case of a house, covered by the δίκη ἐνοικίου, which, as Ptolemaic papyri show, gave plaintiff so much per month of occupation. The stricter Roman rule was not relaxed till Diocletian at the earliest, but that the Greek idea survived the *Const. Ant.* is shown by the true reading of P.S.I. 940, ll. 20 ff. (a very ingenious correction).

R. DÜLL, *Der Gütegedanke im röm. Zivilprozessrecht*, etc. (Munich, 1931), insists very strongly on the importance of the idea of peaceful settlement in Roman civil procedure, and incidentally throughout the ancient world. Hence (pp. 112–23) a section on the idea in Greek law and in Hellenistic, as illustrated by Ptolemaic papyri, and a special subsection (pp. 118–23) on the διάλυσις institute. This is all that directly concerns us, but we may say that Part I is a valuable contribution to the explanation of the *actiones arbitrariae*: their common feature is that they contain a clause directing the judge to seek in the first place a peaceful or semi-peaceful settlement. The rest of the book, though containing much interesting suggestion, rides a good horse too hard.

G. DONATUTI, *Le Praesumptiones Iuris in Diritto Romano* (Perugia, 1930), reopens an eternally attractive theme, with good fruit (no papyri). The misprints are excessive.

Two excellent and justifiably appreciative articles on J. STROUX, *Eine Gerichtsreform des Kaisers Claudius* (*B.G.U. 611*) (*Journal*, XVII (1931), 132) come from F. v. WOESS, *Z. Sav.*, LI (1931), 336–68, and A. FLINIAUX, *Rev. hist. dr.*, X (1931), 509–19. In the main v. WOESS (from whom FLINIAUX hardly differs, though he considers some of the proposals very hypothetical) presents STROUX's results from the juristic

point of view. With some reason he prefers to date the *oratio* A.D. 42 or 43 (STROUX 47); he holds that the lowering of the age in its first part must have been confined to civil suits, but that the second part refers to criminal cases as well, in spite of the singular *iudicem* l. 11. The third part was not a severer anticipation of the *SC. Turpillianum* (STROUX, p. 52), but only gave the praetor discretion to condemn an absentee accuser for *calumnia*; the *SC.* may thus be a codification of praetorian practice. The *oratio* was not, at this date, the equivalent of the *SC.*, as it later became, to the detriment of legislative style; hence the rhetoric of our *oratio* is not inappropriate. The draft *SC.* would come in the *relatio* of the *consul designatus*.

A. STEINWENTER, *Z. Sav.*, LI (1931), 460–4, renders a service by reviewing in a profane place *Der Prozess des Eutyches*, by E. SCHWARZ (*Sitzungsb. Bay. Ak.*, 1929, Heft 5). This little book makes accessible to all the account of the proceedings for heresy in 448 against Eutyches. The reviewer points to the parallels with the contemporary Oxyrhynchus libellary documents (*Journal*, XIV (1928), 155); it is indicated that ecclesiastical procedure was much influenced by civil law, though a preponderant influence has been claimed for Jewish law by a recent Polish work by B. WILANOWSKI (rev. H. SCHMID, *Z. Sav.* (*Kan. Abt.*, XIX), L (1930), 834–41).

G. *Public law.*

In *Bull. Ist. Dir. Rom.*, XXXVIII (1930), 295, tidings are given of an early publication in *Africa Italiana* of an inscription recording the testament whereby Ptolemy Euergetes II bequeathed Cyrenaica to Rome.

A. V. PREMERSTEIN, *Zu den kyren. Edikten des Augustus* (*Literaturübersicht u. Nachträge*), *Z. Sav.*, LI (1931), 431–59, gives a complete bibliography (*Journal*, XVII (1931), 140), recommending for a short orientation on essential points the articles of J. C. ANDERSON and V. ARANGIO-RUIZ, but according the front place to the monograph of J. STROUX and L. WENGER, of which the article is substantially a detailed review. The writer holds out against L. WENGER's doctrine that both the phrases *θανατηφόροι δίκαι* and *ὑπόδικοι κεφαλῆς* refer here to the death penalty, but he had not the benefit of E. LEVY's *Die röm. Kapitalstrafe* (*Sitzungsb. Heidelb. Ak.*, 1930–1, Abh. 5), which, pp. 40 ff. and 73, proves that WENGER is right. LEVY's study is well summarized by its author in *Z. Sav.*, LI (1931), 569–71. J. L. STRACHAN-DAVIDSON's well-known criticism of MOMMSEN's *Strafrecht* on this matter is shown to be justified, though it was itself too much under MOMMSEN's influence. In criminal law *caput* and the connected expressions never meant anything but the death penalty, except that from the very end of the Republic for a certain period some of the expressions, e.g. *capitalis causa*, but never *capitis poena*, connoted the alternative penalty of exile. Where the classical jurists speak of interdiction as *poena l. Corneliae*, this is interpretation; these statutes said and meant death. But this curious terminological aberration only concerned *cives*, never *peregrini*; moreover, execution of *cives* was reintroduced in practice from the beginning of the empire, and as the empire went on, *capitalis causa* gradually returned to its old connotation of *capitis poena*. Papyrological points pp. 62 and 72–3.

An example of the death-penalty for *peregrini* is the Nazareth (?) *διάταγμα Καίσαρος* against violation of sepulchres. Its possible connection with the Holy Sepulchre has provoked an enormous literature: see J. TEILLER, *Rech. sc. relig.*, XXI (1931), 570–6. If the inscription comes from Galilee, it cannot date from before 44, when direct Roman rule was introduced there: V. CAPOCCI, *Per la data del rescritto imperiale sulla violazione di sepolcro recentemente pubblicato*, *Bull. Ist. Dir. Rom.*, XXXVIII (1930), 215–53. But J. CARCOPINO, *Encore le rescrit impérial sur les violations de sépulture*, *Rev. hist.*, CLXVI (1930), 77–92, points out that FRÖHNER's note says "*envoyée de*" not "*découverte à Nazareth.*" From the juristic point of view L. WENGER's admirable article, *Eine Inschrift aus Nazareth*, *Z. Sav.*, LI (1931), 369–97, is to be preferred to É. CUQ's, mentioned here last year (*Journal*, XVII (1931), 137).

W. H. BUCKLER, *Un discours de consulaire sous Justinien*, *Byzantion*, VI (1931), 365–70, studies an inscription from Sardis published long ago (*C. I. Gr.*, 3467), of which he gives an improved text, with translation, comment and facsimile. It records an address by the governor of the eparchy of Lydia, exhorting to the observance of certain laws, published in his *πρόγραμμα*, which BUCKLER shows to be *Nov. Just.* 8 and 17. The *πρόγραμμα* is doubtless the publication of the *ἰσότυπον*, while the address reported was delivered to the assembly of notables—both being measures of divulgation ordered by the laws themselves (*Nov.* 8, 14. 17, 16). Besides throwing light on the process of promulgation under Justinian, the article contains useful linguistic points.

F. G. SAVAGNONE, *Studi sul Diritto Romano Ecclesiastico*, *Ann. Sem. Giurid. Palermo*, XIV (1929)

(not seen), is reviewed, not very favourably, by A. STEINWENTER, *Z. Sav.* (*Kan. Abt.*, XX), LI (1931), 616–22, more favourably by F. MAROI, *Arch. Giurid.*, CV (1931), 94–5, and by O. ZILNO, *Riv. Stor. Dir. Ital.*, III (1930), 398–401. The work, so far as it has gone, appears to treat of the State legislation regarding the Church from Constantine to Justinian, the sources used being *Codd. Theod.* and *Just.* and the ecclesiastical writers. ZILNO gives an analysis of the first chapter, on Caesarism.

7. PALAEOGRAPHY AND DIPLOMATIC.

E. GROHMANN in *Zur Paragraphos* (*B.Z.*, XXX (1929–30), 163–5) discusses the development of the paragraphus from a simple line or hook to a bird form, as in the Timotheos papyrus, or a human face, as in a 9th—10th century paper literary fragment in the Schott-Reinhart collection at Heidelberg. He refers also to other examples in Coptic and Greek MSS. of the 11th century.

A. MENTZ has written three articles on ancient shorthand, *Römische u. griechische Stenographie* (*Nunquam Retrorsum*, 1930, 67–70), *Die Entstehungsgeschichte der römischen Stenographie* (*Hermes*, LXVI (1931), 369–86), and *Beiträge zu den tironischen Noten* (*Arch. f. Urkundenforsch.* XI (1930), 2, 153–75), of which unfortunately only the last is at present accessible to me. These should be of considerable importance for the study of Greek as well as Latin shorthand.

K. PREISENDANZ contributes an article *Zur Papyruskunde* to the *Handbuch d. Bibliothekswesen*, I, 300–31.

I know only by reference CH. WESSELY's *Comment j'enseigne les cursives grecques et latines* in *Chron. d'Ég.*, VI (1931), 411–3.

8. LEXICOGRAPHY AND GRAMMAR.

PREISIGKE's *Wörterbuch der griechischen Papyrusurkunden* has been completed by the publication of vol. III, part 3, which contains the remainder of the 25 special lists to which reference is made in vols. I and II. The longest of these is the list of geographical names, which is offered as a substitute for the late B. P. Grenfell's projected "Geography of Egypt." In this and several others of the lists the *Wörterbuch* approximates more to an encyclopaedia or gazetteer than to a lexicon, and users who are more interested in things than in words will be correspondingly grateful.

Two other classes of proper names have received attention. *Die Personennamen der Kopten*, I (*Untersuchungen*), by G. HEUSER (=*Studien zur Epigraphik und Papyruskunde*, edited by F. BILABEL, Band I, Schrift 2, Leipzig, 1929) is a discussion based on the still unpublished "Schrift 3" of the same series, which will contain the same author's alphabetical list of the names, with references to the places in which they occur. SPIEGELBERG, reviewing the work in *Gnomon*, VII (1931), 222, expresses a wish that there had been more points of interrogation. *Die Semitischen Menschennamen in griechischen Inschriften und Papyri des vorderen Orients*, by HEINZ WUTHNOW, Leipzig, 1930, forms Band I, Schrift 4, of the same *Studien*. It consists of two alphabetical lists, one according to the Greek, the other according to the Semitic forms, of the names, each name being followed by the references to the places in which it occurs. It is reviewed by M. HOMBERT in *Rev. belge*, X (1931), 641–5, by C. BROCKELMANN in *O.L.Z.*, Nov. 1931, col. 959, and by H. LEWY in *D. Lit.-Z.*, 1931, 593–7.

A Greek counterpart to GRADENWITZ's *Laterculi Vocum Latinarum* has appeared: *Heidelberger Konträrindex der griechischen Papyrusurkunden*, by F. BILABEL, E. PFEIFFER, and O. LAUER, under the direction of O. GRADENWITZ, Berlin, 1931. It is reviewed by M. ENGERS in *Museum*, XXXVIII (1931), 281–2. See also § 9.

The ἄρτος ἐπιούσιος controversy is very clearly and concisely summarized by ANTON FRIDRICHSEN in *Symb. Oslo.*, IX (1930), 62–8.

L. AMUNDSEN publishes in *Serta Rudbergiana* (1931), 85–7 (inaccessible to me) an ostracon from Karanis with the words τῶν συμπαρα αὐτῶν,=τῶν μετόχων. [See also § 3.]

Three lexicographical works have appeared which, though not dealing with papyri, may be of importance to papyrologists. The first of these is *Cassii Dionis Cocceiani Historiarum Romanarum Index Graecitatis quem composuit* W. NAWIJN, Berolini, 1931, which forms the fifth volume of U. P. BOISSEVAIN's monumental edition. The second is the first part of a *Lexicon to Josephus* by the late H. ST J. THACKERAY (pp. 1–80: A to ἀργός, Paris, 1930). Finally, mention may be made of E. LEVY, *Ergänzungsindex zu Ius und Leges*, Weimar, 1930, which contains 3½ pages of Greek words, mostly from the scholia Sinaitica published in the fourth volume of the *B.C.H.*

9. General Works, Bibliography, General Notes on Papyrus Texts.

The "contrary index" to papyrus texts which Gradenwitz long ago projected has now appeared. It includes not only all words found in papyri which occur in Preisigke's *Wörterbuch* but also all those not in that work which appear in any text published up to 1928, with a few from unpublished papyri. These additional words are separately collected, in alphabetical order, at the end. The work will be of immense utility to all editors and even to philologists generally, and hearty thanks must be accorded to Gradenwitz himself and to the three scholars on whom the arrangement of the material fell, F. Bilabel, E. Pfeiffer, and A. Lauer. *Heidelberger Konträrindex der griechischen Papyrusurkunden.* Berlin, Weidmann, 1931. Pp. x+127. Reviewed (*inter alios*) by M. Hombert, *Rev. belge*, x (1931), 616–7. See also § 8.

Claire Préaux has published two interesting articles of a general nature on papyrus texts, both in the *Chron. d'Ég.*, vi (1931): *Recherches sur les papyrus de Zénon* (pp. 363–6) and *Quelques réflexions sur les sentences retrouvées dans les papyrus* (pp. 140–8).

W. L. Westermann gives a pleasant account of the Columbia collection, with reflexions on papyrus collecting in general, in a paper, *The Columbia Collection of Greek Papyri*, contributed to the *Columbia University Quarterly*, xxiii (1931), 276–85, 1 plate.

The late C. Wessely (see § 10) read to the Congress of Papyrology at Brussels in 1930 an account of some papyri of his own collection, which has since been published: *Quelques pièces récemment publiées de ma collection papyrologique* in *Chron. d'Ég.*, vi (1931), 367–9.

Two instalments of the bibliography in *B.Z.* have appeared, *viz.* in xxxi (1931), 119–230 (papyri pp. 129–33) and 408–79 (papyri pp. 413–7); and another is to be found in *Byz.-neugr. Jahrb.*, viii (1931): *Paläographie, Papyrus-, Handschriften- und Bücherkunde*, pp. 408–14. For S. de Ricci's *Bulletin papyrologique*, see above, § 1, *General*.

In *Serta Rudbergiana* (1931), 18–23, among *Varia* by S. Eitrem, are the following notes on papyri: 52. P. Berol. 1026, xxii, 24 (magic); 53. *ib.*, no. 923, 27 (not σοὶ πάντες but σοίπαντες=σύ⟨μ⟩παντες); 54. P. Bouriant i, p. 21; 55. P. Oxy. 119, 8; 120, 2; 114, 7; 744, 9; 1674, 7; 1677, 8; 56. P. Hib. 93, 8; S.B. 7032, 7031; 61. P. Oslo. 17, 8, 12–13 and B.G.U. i, 248, 29.

10. Miscellaneous, Excavations, Personal.

The personnel of the Comité international de Papyrologie is specified in the *Rev. belge*, x (1931), 315. Accounts of the new Société royale égyptienne de papyrologie (see *Journal*, xvii, 141) will be found in *Chron. d'Ég.*, vi (1931), 197–200 (by P. Jouguet) and *C.-R. Ac. Inscr. et B.-L.*, 1930, 206–7.

The Congress of Papyrology at Brussels in 1930 was made the occasion for a general review of the state of papyrological studies in the various countries of Europe, and the papers then read by scholars representing those countries have since been published in *Chron. d'Ég.*, vi (1931). The following are the titles of the articles, with the page references: E. Weiss, *Die Papyrusforschung in der Tschechoslovakei*, 343–4; C. Wessely, *Quelques pièces*, etc. (see § 9), 367–9; N. Terzaghi, *Lo stato attuale della papirologia in Italia*, 370–4; A. Calderini, *L'opera della scuola di papirologia di Milano nelle sue direttive e nei suoi propositi*, 375–82; H. B. van Hoesen, *Papyrus Studies in the United States*, 383–91; A. E. R. Boak and C. Bonner, *The Papyrological Work at the University of Michigan*, 392–5; A. S. Hunt, *Papyrology in England*, 396–7; P. Jouguet, *L'état actuel de la papyrologie en France*, 398–402; D. Cohen, *La papyrologie dans les Pays-Bas*, 403–10; S. Witkowski, *De papyrologia in Polonia*, 416–7; F. Bilabel, *Neue Heidelberger Arbeiten zur Förderung der papyrologischen Studien*, 420–8; V. Martin, *La papyrologie en Suisse*, 429–31; G. K. Gardicas, Η ΠΑΠΥΡΟΛΟΓΙΑ ΕΝ ΕΛΛΑΔΙ, 432–4; M. Hombert, *La papyrologie en Belgique*, 435–40; K. Preisendanz, *Das Studium der griechischen Zauberpapyri*, 456–9; G. Zereteli, *La papyrologie grecque en Russie*, 460–3; H. Gerstinger, *Die Wiener Papyrussammlung (Papyrus Erzherzog Rainer) 1915–1930*, 464–70.

At the same Congress A. Calderini gave a preliminary account of a scheme which will be as valuable to all papyrologists as Preisigke's *Namenbuch*: *Intorno al "Dizionario dei nomi geografici e topografici dell' Egitto greco-romano,"* in *Chron. d'Ég.*, vi (1931), 360–2. The publication is shortly to be commenced by the Royal Geographical Society of Cairo; and this dictionary is to be followed by one for Coptic and one for Arabic names.

I may mention here that work has been commenced on Vol. vi of the British Museum *Catalogue of Greek Papyri*. This volume, which will consist entirely of Ptolemaic texts, mainly from the Zenon archive,

has been entrusted to the editorship of Mr. T. C. SKEAT, recently appointed to the staff of the Department of Manuscripts.

A. E. R. BOAK and E. E. PETERSON have published in a handsome and splendidly illustrated volume their first report on the important excavations at Karanis (Kôm Washîm). A study of the excellent photographs and the accompanying letterpress will do much to make the life lived by the people whose fortunes and business transactions we follow in papyrus texts more vivid and actual. *Topographical and Architectural Report of Excavations during the Seasons 1924–28.* (Univ. of Michigan Studies, Humanistic Series, Vol. XXV.) Ann Arbor, University of Michigan Press, 1931. Pp. vii + 69, 42 plates, 1 map, 19 plans. Reviewed in *Ancient Egypt*, June, 1931, 53 (it is surely unfair to say that after Prof. Kelsey's lamented death "the inspiration of the scheme ceased"; on the contrary, the excavations have been steadily and systematically continued to the present year. Nor is it quite just to complain of omissions in this Report, which is confessedly only partial and provisional, and will be followed by others which will, it is to be hoped, deal with matters not touched upon here); by EDGAR (*Journal*, XVII (1931), 267–8); and by V. COCCO (*Aegyptus*, XI (1931), 408–10). PETERSON has also published a brief *Report on the Excavations of the University of Michigan at Karanis 1929–1930*, in *A.J.A.*, XXXV (1931), 65–6.

A preliminary report on the important Italian excavations at Umm el Breighât (the name adopted by the expedition for the site of Tebtunis, better known in England as Umm el Baragât) is given by C. ANTI, *Gli scavi della Missione archeologica italiana a Umm el Breighât* (Tebtunis), in *Aegyptus*, XI (1931), 389–91. It is clear that the results so far are exceedingly valuable. The approaches and surrounding wall of the temple of the crocodile god, with its annexes, have been examined, and though the excavation of the temple itself is reserved till the next campaign, the expedition has already obtained not only much information as to the topography and lay-out of the block of buildings but many objects and texts, some of which are likely to be of great importance. Among them is a long Hieratic graffito, which appears to be a hymn to Suchos; but perhaps even more striking is the discovery of part of the temple library, including many Hieratic and Demotic texts of a religious character, and some Greek papyri, among them a fragment of a medical treatise and many medical recipes. [The discovery of the last increases the probability that the British museum papyrus of Theophrastus (?), *De Animalibus* (MILNE, *Cat. of the Lit. Pap. in the B.M.*, no. 164), which was acquired along with a mass of papyri all of them from Tebtunis, was also found on that site.] ANTI also contributed an account of his dig (*Excavations at Tebtunis*), with excellent photographs, to the *Illustr. London News*, 30 May 1931, 908–10.

The German excavations at Hermopolis are described by G. ROEDER in two articles: *Deutsche Ausgrabungen in Hermopolis*, in *Forschungen und Fortschritte*, VI (1930), 385–6, and *Deutsche Hermopolis-Expedition*, *ibid.*, VII (1931), 353–4.

Dura-Europos is a site so important for our knowledge of the mixed Hellenic and Oriental culture of the Nearer East and from the legal and palaeographical value of the documents found there that it is hardly necessary to apologize for a reference to two articles dealing with it: M. ROSTOVTZEFF and C. BRADFORD WELLES, *La "Maison des Archives" à Doura Europos*, in *C.-R. Ac. Inscr. et B.-L.*, 1931, 162–88; and JOTHAM JOHNSON, *Dura Studies*, doctoral thesis, Philadelphia, 1932, pp. vii + 47, 3 plates (I. *The Dura Horoscope and the Seleucid Calendar*, pp. 1–15; II. *The Hereditary* Strategos, pp. 17–34; III. *A Revision of Parchment II*, pp. 35–47).

I may mention here that in the present economic situation the Papyrusinstitut at Munich finds it very difficult to purchase books and so to maintain the library without which its work must inevitably be hampered. The institute has rendered such valuable service to our science that probably many scholars will be willing to assist by sending copies of their works, a gift which will be very greatly appreciated.

The year under review was marked by the death of a great scholar, ULRICH VON WILAMOWITZ-MOELLENDORFF, whose many-sided activity had left traces on almost every department of Greek studies. I had the good fortune (if a personal reminiscence may be pardoned), as a student at Berlin in the winter semester of 1901–2, to hear his course of public lectures on Athens of the age of Pericles. The memory these lectures left with me is ineffaceable: the spare ascetic figure, the fine features lit up with some secret fire of inspiration, the daemonic yet restrained energy, the marvellously modulated voice, responding like a delicate instrument to every change of mood, made up a total effect which gave, more than any other in my experience, the impression, not merely of learning or conspicuous ability but of genius. Nearly thirty years later, at the centenary celebrations of the Staatliche Museen at Berlin, I heard him speak once more. He was greatly aged and his figure shrunk, though not bowed. In that post-war gathering, listening to a democratic speech by a Socialist Kultusminister, the old Junker seemed like a

revenant from some vanished age. When he rose to speak his feebleness was obvious, and his voice, though distinct, was low and weak; but with every sentence his utterance grew stronger, the old fire returned to his eloquence, and as he spoke of the gifts of the Muses and the eternal value of the things of the spirit I was conscious again of the magic which had thrilled me long since and felt as if I had sprung thirty years backward. Certainly, in him we have lost one of the great ones of the earth. E. SCHWARTZ has published an obituary notice of him in *Forschungen und Fortschritte*, VII (1931), 403–4.

WILAMOWITZ had contributed much to papyrology, as to so many other branches of classical study; but C. WESSELY, whose death occurred on 21 November, was far more closely associated with the science. He was indeed one of its founders, and his name will always be inseparably connected with papyrus studies, and particularly with the great Rainer collection. His interests were, however, far wider than this one sphere; he was a true polymath, of a type which grows yearly scarcer, and delighted in curious learning of every kind. As an editor he was, it must be confessed, rather exasperatingly unmethodical, so that it is often difficult to trace his successive publications of single papyri, and he would begin ambitious schemes, like his corpus of Hermopolite documents, which were never completed; but his skill as a decipherer was great, his learning vast, and his energy untiring; and he enriched papyrology, and particularly our knowledge of the Byzantine age, incalculably. I never had the happiness to meet him, but I could cite several instances of generous kindness shown by him to myself and others. He was buried on 25 November in the Centralfriedhof, Vienna, and speeches were made at the graveside by Professors KAPPELMACHER, HUSSAREK, and GERSTINGER.

L. WENGER has contributed a notice of SPIEGELBERG to *Z. Sav.*, LI (1931), 606–8, and a special memoir, *Zum Andenken an Wilhelm Spiegelberg* (pp. 16, 1 portrait), has been published.

P. VIEREC K publishes a notice of PREISIGKE in *Jahresb. f. Altertumswiss.*, 233 B, Nekrologe 1931, 78–102.

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BIBLIOGRAPHY: GREEK INSCRIPTIONS (1929–1930)

By MARCUS N. TOD

In the following Bibliography, which continues that for 1927–1928 published in this *Journal*, XV, 259 ff., I attempt to present, in the first place, a brief survey of books and articles published in 1929 and 1930 relative to Greek inscriptions found in Egypt, and, secondly, some notes on the publications of those same years dealing with inscriptions which, though discovered elsewhere in the Graeco-Roman world, are of value for Egyptian studies[1].

I

J. J. E. Hondius has given a brief but interesting account of Greek and Roman tourists in Egypt, dealing with their mode of travel, the homes whence they came, their professions, the forms taken by the records they left behind them, the chief sites they visited and the extent of their travels (*XIIIe Nederl. Philologencongres*, Groningen, 1929, pp. 15 ff.).

E. Breccia's full and well-illustrated report (*Bull. Soc. Arch. d'Alex.*, VII, 99 ff.) of the recent excavations in the great Hellenistic necropolis of Hadra, close to Alexandria, contains a number of brief epitaphs painted on tombs or on stelae or, in one case, engraved on a funerary hydria: most bear a simple name, or a name followed by χαῖρε or χαῖρε πολλά, but one woman is described as ἀστή. "Not only the Greek cemeteries of the first half of the third century," Breccia concludes, "but also those of the second half of that century and those of the first half of the second show a freedom from any perceptible influence of the religion or of the sepulchral rites of Egypt.... In truth, Alexandria had at its earliest times an essentially Hellenic character, and this character remained predominant even at a later age." Under the modest heading of "Epigraphical Notes" Breccia publishes (*op. cit.*, VII, 60 ff.: *cf.* the comments of G. D[e] S[anctis] in *Riv. di fil.*, LVII, 569) an interesting group of six Greek and two Latin inscriptions recently added to the Museum at Alexandria. The Latin texts are both epitaphs of Roman soldiers buried in the cemetery of the Roman camp near Sidi Gaber, while the Greek are (1) an honorary inscription for Ptolemy Philopator, set up by a γραμματεὺς τῶν κατοίκων ἱππέων and his sons; (2) the dedication of a synagogue and appurtenances by the Jews at Nitriae (Wâdî Naṭrûn) in the name of Ptolemy Euergetes II and Cleopatra (143–116 B.C.); (3) an honorary inscription for Ptolemy Auletes, νέος Διόνυσος Φιλοπάτωρ καὶ Φιλάδελφος, erected in 59–58 B.C. by Hephaestion ὁ συγγενὴς καὶ διοικητὴς καὶ πρὸς τῷ ἰδίῳ λόγῳ καὶ τοῖς πρωχίροις (*i.e.* προχείροις); (4) an inscription set up by πρῶτοι φίλοι καὶ χιλίαρχοι λογχοφόροι εἶδους Βιθυνῶν δευτέρων in honour of a fellow-soldier; (5) two long and interesting decrees passed by an association of συγγεωργοί in honour of a benefactor, and (6) an inscription from the village of Aghurmi in the Oasis of Siwa honouring Hadrian, perhaps on the occasion of his visit to Egypt in A.D. 130. P. Perdrizet describes (*B.I.F.*, XXX, 1 ff.) a bronze icosahedron of the Ptolemaic period, acquired in Cairo by King Fuad but in all probability of Alexandrian origin. It was used in a dice-game and each of its twenty faces bears a numeral, ranging from 1 to 48, and the name of the throw in question: among these names, Perdrizet says, "we can view the Hellenism of Ptolemaic Alexandria under some of its characteristic aspects." He adds a list of thirteen other extant icosahedrons, mostly from Egypt, together with a dodecahedron and a cube, but none of these are of metal and, though all have numerals on their faces, none bear names in addition.

Sir E. A. Wallis Budge has devoted a book (*The Rosetta Stone in the British Museum*, London, 1929) to the famous "Rosetta Stone." After tracing its history from the time of its discovery and describing its form and contents, he deals successively with its three texts and then gives two chapters to an account of the nature of the Egyptian hieroglyphic script and the process of its decipherment. In an appendix (pp. 249 ff.) he deals at some length with the "Decree of Canopus" conferring additional honours on

[1] Periodicals are quoted under the abbreviated forms used in the Bibliography of Graeco-Roman Egypt. See p. 77 of this volume.

Ptolemy III, of which two copies survive, giving its three texts with English renderings. A second appendix (pp. 296 ff.) deals with the decree passed at Memphis in honour of Ptolemy IV Philopator, which I return below. W. E. Blake and J. E. Dunlap publish (*Art and Archaeology*, xxvii, 195 ff.) a bronze mirror, acquired in 1924 by the University of Michigan, one face of which is covered with letters which run in a retrograde direction and form, if the lines be read from the bottom upward, part of the text on the Rosetta stone: they conclude that the inscription is a forgery, probably of the time of Napoleon. In the course of a summary report on a mission to Tell el-Yahûdîyah, 26 kilometres N.N.E. of Cairo, Count du Mesnil du Buisson publishes an epitaph, found in the eastern part of the necropolis, and a stamped amphora-handle (*B.I.F.*, xxix, 156 f., 172 f.). A vase inscribed Διονυσιακὸν λαγύνι and a terracotta cat with three cocks bearing the legend ἰσάγομεν εὐγοατήρια, acquired in Cairo and now in private possession, are discussed by O. Rubensohn (*Arch. Anzeiger*, xliv, 204 ff., 216 ff.).

Now that every effort has been made by the philologists to provide an accurate text and translation of the trilingual decree above mentioned, passed in honour of Ptolemy IV by the priests assembled at Memphis and recently discovered at Tell el-Maskhûṭah (*cf. Journal*, xv, 259 f.), A. Momigliano claims (*Aegyptus*, x, 180 ff.) that it is now the turn of the historians to utilize the new materials supplied by it, more especially by lines 23–26, for the history of the Fourth War of Coelesyria: this he seeks to do by comparing the version given by the decree, so far as the discrepancies between the Greek and the demotic texts allow, with the narrative of the same events given in Polybius, v, 86, 87. I. Levy's essay on the Aramaic inscriptions of Memphis and the funerary epigraphy of Graeco-Roman Egypt (*J.A.*, ccxi, 281 ff.) contains some material of value from the point of view of Greek inscriptions.

To C. C. Edgar we owe a publication (*Ann. Serv.*, xxix, 77 ff.) of a limestone stele discovered by M. Baraize in clearing the Sphinx and now housed in the Cairo Museum. On it is a decree of A.D. 22–23, in which Busiris praises a στρατηγός of the Letopolite nome, Cn. Pompeius Sabinus, for his incorruptible justice, his devoted superintendence of the annual work on the irrigation-dykes, his thoughtfulness for the labourers and his fairness in the διάπρασις τῶν δημοσίων. A. Wilhelm completes the restoration of an inscription recorded by Pococke as having been copied at Boeotian Thebes (*C.I.G.*, 1681), and shows that its phraseology points to Egypt and that it should in all probability be assigned to Egyptian Thebes (*Archiv*, ix, 214 ff.).

Among the Coptic stelae in the Egyptian Museum of the Vatican (*Riv. Arch. Cristiana*, vi, 127 ff.) are four Greek inscriptions (Nos. 70, 71, 74, 74 *a*) and one partly Greek and partly Coptic (No. 73). Nineteen amphora-stamps and an inscribed plate from Alexandria, now in the Museo dell' Accademia Etrusca at Cortona, are published by A. Neppi Modona (*Ann. Univ. Toscane*, xlvii, 13 ff.). In view of the fact that only six *tabellae defixionum* were known from Egypt, special interest attaches to a new example, dating from the fifth century of our era and bearing a long and well-preserved text: it was left by T. Reinach to the Institut de Papyrologie of the Faculté des Lettres of Paris, and has been edited, with photograph, text, translation and full commentary, by P. Collart (*Rev. de philol.*, iv, 248 ff.).

II

I now turn to indicate briefly some inscriptions which, though found beyond the confines of Egypt, are nevertheless of interest to students of Graeco-Egyptian history and religion.

Among the dedications erected at Delphi during the period of Aetolian supremacy R. Flacelière has published (*B.C.H.*, liii, 19 ff.) four fragments of a base which supported three or more statues, one of which, as the inscription indicates, was that of Arsinoë III, daughter of Ptolemy III Euergetes and of Berenice, dating from the second half of the third century B.C.; another statue, set up at the same period or a little earlier, was that of Ptolemy Euergetes or Ptolemy Philadelphus. N. Greipl has shown (*Philologus*, lxxxv, 159 ff.: *cf.* the summary by G. D[e] S[anctis] in *Riv. di filol.*, lviii, 261) that the chronological problems presented by a well-known and often discussed inscription of Halicarnassus (Dittenberger, *O.G.I.S.*, 16) arise from the failure of previous editors to realize that of the stone, now in the British Museum (*Brit. Mus. Inscr.*, 906), almost half has perished: she proposes a new restoration of the text, showing that the ἱερόν was dedicated to Sarapis, Isis and Arsinoë Philadelphus at some date after the death of Arsinoë II, which took place in 271–270 B.C. Thus the inscription can no longer be claimed as evidence for the introduction of the cult of Sarapis by Ptolemy I Soter or for the Egyptian domination of Halicarnassus during his reign. U. Wilcken accepts this restoration in the main (*Archiv*, ix, 223 ff.), though he expresses doubts about lines 2 and 3, but he criticizes the latter part of Miss Greipl's

article, which denies that we now have any unexceptionable evidence for the Hellenistic cult of Sarapis under the first Ptolemy. I must not do more than refer in passing to the discussion between W. KOLBE (*J.H.S.*, L, 20 ff.) and W. W. TARN (*op. cit.*, L, 29 ff.) regarding the neutrality of Delos and to W. H. PORTER's essay on Aratus of Sicyon and King Antigonus Gonatas (*Hermathena*, XLV, 293 ff.), although they have frequent occasions to deal with the policy and foreign relations of Ptolemaic Egypt.

P. COLLART's account of the sanctuary of the Egyptian divinities at Philippi (*B.C.H.*, LIII, 76 ff.), excavated in 1920 and 1921, contains four Greek inscriptions unearthed in the sanctuary itself, which made its identification certain—(*a*) the base of a statue erected by a priest of Isis, (*b*) a dedication to Horus-Apollo-Harpocrates offered by the same man, now described as priest of Isis and Sarapis, (*c*) a votive offering to Harpocrates, Isis and Sarapis, and (*d*) a votive "to the gods" by an ex-priest—as well as three Latin inscriptions attesting the cult of Isis Regina in and near Philippi. W. PEEK has published an exhaustive edition, with a greatly improved text, of the Hymn of Isis from Andros, together with certain "cognate texts"—the aretalogiae of Isis from Cyme, Ios and Cyrene, the enigmatic hymn from Gomphi in Thessaly, the Hymn of Anubis from Cius, the poem of Mesomedes and an epigram from Cyrene (*Der Isishymnus von Andros und verwandte Texte*, Berlin, 1930: reviewed by O. WEINREICH in *D. Lit.-Z.*, 1930, 2025 f., H. FRÄNKEL in *G.G.A.*, CXCII, 198 ff.), and a valuable article has also been devoted by P. ROUSSEL to the Cymean version of the Hymn of Isis (*Rev. ét. gr.*, XLII, 137 ff.: *cf.* G. D[E] S[ANCTIS] in *Riv. di fil.*, LVII, 570 f., R. DUSSAUD in *Rev. hist. rel.*, C, 86 ff.). I do not know an article on the same prose-poem by A. SALAČ (*Listy Filol.*, LVI, 76 ff.). P. BÜLOW has discussed "a much-sung paean to Asclepius" (*Xenia Bonnensia*, Bonn, 1929, pp. 35 ff.), of which one of the four extant copies, dating from A.D. 97, was discovered at Ptolemais (*I.G. Rom.*, I, 1154: *cf.* J. U. POWELL, *Collectanea Alexandrina*, 136 ff.). L. ROBERT has examined the worship of Isis-Eleuthera, an assimilation between Isis and the great goddess of Lycia, and has collected the epigraphical evidence for her cult found in the Lycian region (*Rev. hist. rel.*, XCVIII, 56 ff.).

NOTES AND NEWS

This year is the fiftieth anniversary of the foundation of the Egypt Exploration Fund, out of which the present Society has grown. Some kind of official celebration of the event is contemplated, but it has not yet been decided what form it is to take.

It is unfortunate that in what should be a particularly auspicious year it has been found necessary to reduce the cost of the *Journal* by a very considerable amount. However, various economies in printing are being effected, and it is hoped that the reduction in the size of the *Journal* will be very slight.

At Armant the season of excavation was short. The staff consisted of Mr. O. H. Myers, Mr. H. W. Fairman, Mr. T. J. C. Baly, Mr. R. N. Lester and Mr. W. B. K. Shaw. Through the kindness of the Senate of Manchester University, and by the generosity of Sir Henry Wellcome, Dr. J. Wilfrid Jackson was enabled to stay at Bucheum House during the season and to deal with all the osteological and conchological material. He also assisted greatly with the geology and the flint implements.

Some human cemeteries were dug and tombs of all periods were investigated. The most important results were obtained from a pre-dynastic cemetery ranging from S.D. 36–S.D. 80. There was a great quantity of pottery in an unusually fine state of preservation, some very well-carved slate palettes and many strings of interesting beads. There were also found the remains of two beds, one woven from osier, somewhat similar to the modern *sirîr*, and one with wooden legs and framework. Two unusual objects of stuccoed linen were perhaps the most surprising find from this cemetery.

Two archaic tombs showed remains of great splendour utterly destroyed by successive plunderings. Two large Twelfth-Dynasty tombs produced a stela, a statuette and a splendid set of beads (all raised in their original order).

Work began at El-'Amarnah last year on October 25th and continued until January 13th, 1932. The first piece of work dealt with was the clearance—begun at the end of last season—of the Great Wall which runs north and south between the North Excavation House and the cultivation, and also the raising of the painted plaster which had fallen in the gateway. This was carefully recorded and much of it preserved, and judging from the painted cartouches found of Akhenaten, Smenkhkerēʿ and Meritaten, and the absence of that of Nefertiti, it would seem to confirm the theory that Nefertiti fell from power towards the close of the reign. In this northern part of the site many large houses and estates were cleared, including the grounds of the Excavation House itself (U. 25. 11). Some good finds came from this district, notably an inscribed bronze cup, shaped like a lotus.

Further south the north part of the North Suburb was completed, and evidence was found to prove that this was the latest built section of Akhetaten. A little north of this, and well out in the desert, towards the North Tombs, the three altars mentioned by Petrie were thoroughly dug. Later in the season the Royal Estate in the centre of the town, including Petrie's Small Temple, his Houses 13 and 17 on the north of it, and the

priests' quarters and magazines immediately to the south, were carefully cleared and planned. Inscriptions found named the temple "The Sanctuary of the Aten which is in the centre of Akhetaten." Good finds were made in the houses and grounds; they included a complete alabaster vase over 30 cms. in height inscribed for Hatshepsut, and several fine trial pieces.

Photographs, plans, coloured re-constructions, original objects and casts of those retained in Cairo, will be shown at the Summer Exhibition.

Once again the Society is greatly indebted to Sir Henry S. Wellcome, who has generously put at its disposal a room in the Wellcome Historical Medical Museum for the annual Exhibition. This will probably take place from mid-June to mid-July, and will be confined this year to the results of our three expeditions.

We mentioned in Notes and News of last year the special efforts made by the President and other officials and the excavating staff of the Society to make the Summer Exhibition of last year a noteworthy event in Egyptological history. In view of this it is gratifying to be able to record that the Exhibition was visited by more people than all our previous exhibitions put together, the number of visitors being over 6000.

Miss Calverley and Miss Broome have spent another patient winter working on the Temple of Seti at Abydos. The first volume of the publication should very soon appear, and in the mean time much of the material for later volumes is already collected.

The publication of the Cenotaph of Seti I at Abydos, popularly known as the Osireion, by Dr. Henri Frankfort, has now reached the final proof stage, and will very shortly be issued.

Although the lectures delivered during the winter were fewer in number than usual they cannot be said to have fallen below the standard of interest maintained in previous years. On November 25th Professor Margaret A. Murray, D.Litt., gave an illustrated lecture on "Egyptian Sculpture," a stimulating subject in excellent hands. On January 27th and March 2nd Mr. G. D. Hornblower gave a lecture in two parts on "Old Customs in Modern Egypt," in which he traced many interesting survivals to their sources. On April 6th Mr. T. A. Rickard, D.Sc., A.R.S.M., lectured on "Metals in Antiquity"; in tracing the use of various metals in very early times, the lecturer dealt with many interesting points, among them the question of the earliest use of man-made, as opposed to meteoric, iron.

With regard to future lectures, the summer lecture on the excavations at El-'Amarnah will once again be followed by a cinematograph film taken on the dig.

Professor F. Ll. Griffith, who retires from his Chair of Egyptology at Oxford this year, and who also reaches the age of 70, is to be presented by the Society with a volume of Egyptological Studies dedicated to him. The presentation will take place on May 27th at a lunch given in his honour by the President and Mrs. Mond.

We congratulate a German colleague, Professor Georg Steindorff, on the attainment of his seventieth birthday on November 12th of last year.

In a very recent number of the *Journal* we were able to congratulate Dr. A. E. Cowley, Bodley's Librarian at Oxford, and a Semitic scholar of wide reputation, on the conferment on him of the rank of knighthood. It is with great regret that we record his death within a very few months of receiving that honour.

The British Organizing Committee desire to bring to the notice of archaeologists the First International Congress of Prehistoric and Protohistoric Sciences, which will be held in London from August 1st–6th, 1932. The Congress will be divided into sections, the third of which deals with the Neolithic, Bronze and Early Iron Ages in the Ancient World. Historical civilizations will only be dealt with in so far as the material is auxiliary to prehistoric and protohistoric studies or is treated according to their methods. The British Organizing Committee cordially invite the co-operation of archaeologists engaged in research in Egypt and the Near East, more especially those interested in the relations of the Near East with the Ancient Mediterranean World and the area of the Caucasus and South Russia. Agenda and invitations will gladly be sent on application to the Secretary of the British Organizing Committee, Society of Antiquaries, Burlington House, London, W. 1.

We are asked to call the attention of Egyptologists and Orientalists to a proposed publication of the life and letters of Dr. Edward Hincks, 1792–1866, a well-known pioneer in oriental studies. Some account of his life has recently been prepared, together with a selection of his voluminous correspondence. The latter includes letters from many English and foreign scholars, among whom are Layard, Gardner Wilkinson, Fox Talbot, Edwin Norris, G. C. Renouard, Max Müller, Leemans, Lepsius, Grotefend, Brugsch, Lassen, Oppert, Renan, de Rougé, Ménant, Chabas. The correspondence, and the diary which Dr. Hincks kept for the last eighteen years of his life, show the difficulties and disappointments which he encountered in his work, and throw much light upon his rivalry with Rawlinson.

The book is of considerable size, and the cost of printing and producing it is estimated at about £165 for 250 copies. This can only be met by obtaining private subscribers. If 165 persons will subscribe £1 each for a copy, the book can be produced. The cost of each copy would of course be lessened if a larger number of subscribers were procured. Those willing to subscribe for a copy are asked to write to this effect to Dr. Hincks' grandson, Mr. E. F. Davidson, Baidland, Seaford, Sussex, who is preparing the volume.

We have received the following from Mr. A. W. Shorter:

"Since I wrote the article (*Journal*, XVII, 23 ff.) describing a scarab of Tuthmosis IV which bears an inscription mentioning the god Aten, Dr. A. M. Blackman has suggested to me a rendering of the last two lines, of which I was unable to make any sense. He proposes to read [illegible] for my [illegible] in line 7 and to understand lines 7–8 thus: *r rdit wn nı n ḫıswt mı rḫyt r ḫrp n 'Itn n ḏt* "in order to cause those of the foreign lands—or simply 'the (or 'these') foreign lands'—to be like the *rḫyt* in order to contribute to Aten forever." This is good Egyptian and makes excellent sense. Dr. Blackman also suggests two explanations of the two signs after *'Itn* in line 8:

(1) perhaps a bungled writing of <= (*r ḏt*), but hardly likely in view of other clear examples on the scarab.

(2) [illegible] = *n dt*, [illegible] at this time, like [illegible] of the M.K., simply reading *n*; undoubtedly the best explanation possible.

I take this opportunity of adding a note on the writing of *itn* as [illegible] in this text. It was established some years ago (Wolf, *Ä.Z.*, LIX, 110–111) that ⊙ alone is found a number of times as a writing of *itn*, hence the expansion of such a writing to [illegible] is fully in accord with Egyptian hieroglyphic principles and should cause no great surprise.

To conclude, as does Dr. Schäfer in the September number of the *Orientalistische Literaturzeitung*, that the scarab is a forgery is indeed the easiest way out of the difficulties presented by it, but after carefully reading his article I must confess myself unconvinced by him.

We note here several books which their authors have been good enough to send to us, but which, since they do not bear directly on Egyptology, we are unable to review at length.

The recent excavations at Beth-Shan are dealt with by Alan Rowe in *The Topography and History of Beth-Shan*, and by G. M. Fitzgerald in *The Four Canaanite Temples of Beth-Shan*, and *Beth-Shan Excavations*, 1921–1923, *The Arab and Byzantine Levels*. These form Vols. I–III of *Publications of the Palestine Section of the Museum of the University of Pennsylvania*.

The Department of Antiquities in Palestine has begun to publish a *Quarterly*, of which three numbers have already appeared.

S. A. Cook's Schweich Lectures for 1925 have appeared under the title *The Religion of Ancient Palestine in the Light of Archaeology*. John Garstang's *Joshua and Judges*, *The Foundations of Bible History*, contains a critical analysis of the Biblical account of the period of the entry into Palestine and the Judges, in which due attention is paid to the results of recent excavation. That the time is felt to be ripe for the writing of Palestinian history is shown by A. T. Olmstead's *History of Palestine and Syria to the Macedonian Conquest*, a large-scale work in which the literary evidence is ably combined with that of the monuments.

On the Mesopotamian side the only work we have received is Mrs. E. Douglas Van Buren's *Clay Figurines of Babylonia and Assyria*.

NOTICES OF RECENT PUBLICATIONS

Annals of Archaeology and Anthropology, issued by the University of Liverpool Institute of Archaeology. Vols. XVII and XVIII. Liverpool University Press, 1930–31.

The Liverpool *Annals* continue to maintain their high standard of interest and of production. Whilst the two volumes now under notice contain less of exclusively Egyptological interest than their predecessors, they are not on that account ineligible for notice in this *Journal*, because a great part of their space is devoted to archaeology in other regions of the Near East, and the results of the recent excavations at Ur, Kish, Crete and elsewhere have rivetted special attention on the mutual relationships of the cultures and civilizations of the great neighbouring peoples of Western Asia and the Eastern Mediterranean. The *Annals* and this *Journal* must be regarded as mutually supplementary to one another, as indeed they are. Volume XVII contains two Egyptological articles of unusual interest. Mr. Alan Shorter publishes a series of inscribed amulets that belonged to two functionaries of the Eighteenth and Nineteenth Dynasties respectively. The objects are not only fine specimens of their class, but they have the additional interest of handing down to us a previously unknown title, "steward of the Sed-Festival Chapels." A very important contribution to the not-too-abundant epistolary material from Egypt is provided by the publication by Professor Peet of two letters of the reign of Akhenaten. Unfortunately these letters are in a deplorable state, but in spite of their fragmentary condition, Professor Peet with his accustomed skill has been remarkably successful in compelling them to render up their secret, and his translations, broken as they necessarily must be, allow us to grasp their purport. The fullest possible palaeographical value has been obtained from these fragments by photographs supplemented by hand-facsimiles.

The XVIIIth volume opens with a posthumous article from the pen of Dr. H. R. Hall. He has described and figured an axe in the British Museum on the blade of which is depicted a man on horseback. The axe has been known since the days of Wilkinson, and if Dr. Hall was right in assigning it to the first part of the Eighteenth Dynasty, it is the earliest yet known Egyptian representation of horsemanship. Chariots and horses were unknown in Egypt before their introduction by the Hyksos, and they do not become at all common in Egyptian art until some centuries later; riding is at all periods very rarely depicted.

The other articles in these volumes are concerned with regions other than Egypt, but reference may be made to the detailed account of the excavations at Nineveh by Dr. R. Campbell Thompson and Mr. R. W. Hutchinson (begun in *Archaeologia*, LXXIX) which is continued in *Annals*, XVIII. This report is accompanied by no less than 27 plates, and such profuse illustration permits the detailed comparison of the antiquities discovered with those of Egypt. The magnificence of the plates has long been a feature of the *Annals*. The two volumes now before us contain 30 and 51 plates respectively, and their technique is admirable. Apart altogether from the scientific value of the text, subscribers have in the plates alone a splendid return for their very modest subscription.

WARREN R. DAWSON.

Dr. ERNST ZYHLARZ, *Das meroïtische Sprachproblem*. (*Anthropos, internationale Zeitschrift für Völker- und Sprachenkunde*, XXV, 1930.) Sonderabdruck. Vienna, 1930. 8vo, 409–64.

It is a rare pleasure to the reviewer to welcome a new recruit for Meroitic studies. Hitherto the veteran Professor Sayce, ever eager for and efficient in new fields of research, and the well-known Africanist Professor Meinhof alone have deigned to turn their attention seriously to this obscure subject; but now at length it seems as if both Egyptologist and Africanist must take notice. The late Professor Turaieff in Russia and Dr. Hestermann in Germany have each in their time displayed some useful interest in Meroitic. Now Dr. Zyhlarz, having mastered both the scanty literature that has gathered round the Meroitic language and the original documents collected for its study, and employing both knowledge of kindred African languages and remarkable powers of criticism and interpretation, has given us a large contribution to the materials for grammar and vocabulary of this absolutely extinct language.

Dr. Zyhlarz, who has just received an appointment in the University of Hamburg for African languages

with special regard to Hamitic, associates Meroitic with the Hamitic group, and I gather that he considers the names of the earlier Ethiopian royal families of Napata and Meroe to belong to an older phase of the same tongue.

In the first forty-seven pages of his essay he studies critically the decipherments and interpretations already given from the point of view of a grammarian. He accepts the alphabet and its transcription so far as the consonants (seventeen in number) are concerned, only substituting χ for ḫ and ḍ for ṭ, but rejects the too precise equivalents *e*, *ē*, *i* given for the vowel signs, vague and troublesome as they are, and replaces them by purely conventional symbols ʿ, *ɨ*, *i*. It may be noted that while the sound *a* is often unrepresented by any vowel sign, the letter ꜣ (here = ʿ) frequently occurs in the writing where no vowel seems to have existed in pronunciation. With regard to the new transcription, I beg to approve, only remarking that the aid to ear-memory afforded by definite vowels will be sorely missed by the student. From phrases and texts already sufficiently "translated" Zyhlarz extracts words and grammatical elements. The verbal roots that can be recognized are monosyllabic and the syntactical position of words is shown chiefly by post-positions. To the verb is attached a similar element denoting the plural when either the subject or direct or even indirect object alone is in the plural.

Fortified by these studies Dr. Zyhlarz then proceeds to attack documents hitherto only partly "translated," and with very considerable success: the series of obeisance-graffiti at Philae, the column-inscriptions of Naga and Amāra, the benediction formulae in the funerary texts. Then, breaking still newer ground, he identifies the pronoun of the first person, points out an example of alliteration, and gives an approximate version of a formidable inscription in the "Meroitic chamber" at Philae.

It is at once refreshing and encouraging to follow Dr. Zyhlarz's studies; they consolidate the acquisitions already made, make new conquests and prepare fresh victories. We now begin to realize the Meroitic language and its mechanism, instead of perforce contenting ourselves with the recognition of words chiefly borrowed by Meroitic from Egyptian.

F. Ll. Griffith.

The Art of Egypt through the Ages. Edited by Sir E. Denison Ross. London, 1931.

This work, which is issued under the auspices of *The Studio*, covers the whole range of Egyptian Art from prehistoric to Muslim times. In addition to the usual subdivision into the main historic periods, a special section is devoted to objects from the tomb of Tutʿankhamūn, and the section on Muslim Art is divided into Architecture and Metalwork, etc. The various sections are provided with short chapters of text written by specialists, the Editor provides an introduction, and a concluding chapter following the plates discusses briefly the position of Egypt in the history of art. A useful index completes the volume.

With regard to the subjects selected for the photographic plates, an excellent choice has been made from the mass of available material, and the result is a good general view of Egyptian artistic achievement. Apart from the well-known pieces which must always be included in such a work as this, we welcome especially such items as the fine head of Prince Hemōn (p. 104); the curious statuette of Mesekhti (p. 123); the delightful little white mouse (p. 151); the charming study of a small boy in the figure surmounting Tutʿankhamūn's gold stick (p. 195); the four goddesses from that king's tomb (p. 200); and the reconstructed furniture of Queen Ḥetepheres (pp. 116–17). On the other hand, one feels the omission of any illustration of the Mêdûm geese as representing painting in the Old Kingdom, and the temple of Edfu (which is wrongly dated in the Saite instead of the Ptolemaic period) would be better represented by an exterior view showing the pylons, in order to give an idea of the general appearance of a complete temple of the later period. The temple of Khaʿfrēʿ too cannot be said to be fairly represented by the fraction of it shown in Fig. 1 on p. 96. The illustrations of Muslim architecture are particularly excellent.

Unfortunately, this book, excellent though it is on the whole, is not free from blemishes. Apart from the wrong dating of the temple of Edfu mentioned above, several errors have been noted. Two slips have been made in the Introduction, where it is stated that "Manetho records upwards of twenty dynasties," and that the sceptres of the Two Kingdoms were united under the Twelfth Dynasty; such mistakes as these ought to have been detected in proof. On p. 90 the palette of Naʿr-mer is wrongly entitled "Stela of the Serpent King"; on p. 207 the captions have been transposed; on p. 40 "statues" is misprinted as "stutues," and on p. 351, line 8 from bottom, "sight" should clearly read "site." Further, many of the plates are too dark and heavy in tone; a particularly glaring instance is the wooden statuette of Sesostris I figured on p. 138, where the details of the face are almost lost; in this case a fresh photograph taken with a panchromatic plate and suitable filter would probably show a great improvement. Other instances of

this excessive heaviness of tone are the diorite statue of Khaʿfrēʿ on p. 101, where the details of the wing of the falcon are completely lost in shadow[1]; the left-hand panel of Hesirēʿ on p. 113[2]; and the reliefs from Mēr on pp. 143–44; the same comment might be made on other plates besides those specifically mentioned.

R. O. Faulkner.

Byblos et l'Égypte. By P. Montet. Paris, 1928.

The present publication gives the results of four seasons of excavations, 1921–24, on the site of Byblos. It consists of a volume of 310 pages of text and an atlas of 147 plates, nearly all in collotype. The volume of text contains an Introduction giving a *résumé* of previous work on the site and of the course of the excavations, a descriptive catalogue of the objects recovered arranged under the chapter-headings of the localities excavated, a chapter of conclusions summarizing our knowledge of the relations of Byblos and Egypt in the light of the newly discovered evidence, and a long list of additions and corrections.

Excavations were carried out both on the site of the temple of the city and in the cemeteries. The temple or temples have been so effectively ruined that nothing in the nature of a standing structure remains, but M. Montet was able to clear portions of two groups of ruins which he distinguishes tentatively as the "Egyptian" and the "Syrian" temples, but which he admits may quite possibly be part of one and the same building. Unfortunately the expedition was hampered by having to dig on privately owned land, with all the difficulties which this entails. Nevertheless, evidence for the Egyptian connexion was not lacking. Of objects from the ruins themselves the most interesting were an Egyptian bas-relief with two scenes of a king offering to Ḥathor, Lady of Byblos, attributed to the Sixth Dynasty, and a broken stela of Ramesses II, one portion of which shows the king making offering, while another bears the remains of a hieroglyphic inscription in bad condition; the photograph of the inscription published on Pl. xxxiv is useless for purposes of study, and no other copy is given.

Of greater importance historically were the foundation deposits from the temple, which yielded the names of a number of Pharaohs of the Old Kingdom, namely Wenis, Pepi I and Pepi II, besides a broken fragment which may belong to either Mycerinus or Menkauḥor. It is also stated that remains of Cheops and of Khasekhemui have been found in later excavations, thus carrying the documentary evidence for the Egyptian connexion with Byblos back to the end of the Second Dynasty. In this regard it must be pointed out, however, that the grounds for attributing the monkey-vase No. 58 (Pl. xl, fig. 23, left) to Cheops are slight in the extreme, and the like remark applies to No. 64 (fig. 23, right), which is attributed to Queen Mertitefs; according to the quite inadequate figure (which does not even indicate the shape of the fragment), the inscription shows [illegible] preceded by indeterminate traces on a broken edge which Montet interprets as [illegible].

The tombs of the local princes yielded the names of four "Counts" (*ḥity-ʿ*) of Byblos under the Middle Kingdom, together with a number of objects of pure Egyptian style, the most important of which are a vase of obsidian mounted with gold bearing the name of Amenemhat III and a coffer of the same materials with the name of Amenemhat IV. Another local dynast of later date was named Ahiram, in whose tomb was found a vase with the cartouches of Ramesses II. The most interesting object of this tomb, which had been pillaged, was a decorated stone sarcophagus. The base represents four crouching lions bearing the sarcophagus on their backs, while two more lions appear on the lid. The sides bear a scene of Ahiram seated at table, with a procession of attendants defiling before him. Above the scene, which extends along all four sides, is a frieze of the Egyptian lotus-flower and bud pattern. The monument also bears two Phoenician inscriptions, one stating that it was made for Ahiram by his son Ithobaal and the other threatening any invader who shall violate the tomb. The private tombs yielded little of interest except pottery and some bronze weapons.

The foregoing summary of the most salient features of interest will suffice to indicate that valuable results have been attained. Unhappily, however, the material is presented in a manner not at all convenient. The objects found are shown in the plates in topographical order of the sites whence they were obtained, and there is no classification in an archaeological sense. The pottery in particular should have had fuller treatment. There are no line plates arranging the vessels into types and periods, such as we are accustomed to find in English excavation memoirs, so that the archaeologist working on the pottery

[1] *Cf.* Erman-Ranke, *Aegypten*², Pl. 6, fig. 1.
[2] *Cf.* Erman-Ranke, *op. cit.*, Pl. 10, fig. 1.

will have to draw up his own classifications from various scattered photographs and a few figures in the text. The same comment applies to the scarabs, where a series of line drawings would have doubled the value of this aspect of the work; the published photographs of the designs are sometimes quite inadequate. The plates also lose in value through not bearing any indication of the scale of the objects figured, while to devote the whole of a collotype plate to a few such fragments as those shown on Pl. cvi is sheer extravagance, and merely adds to the cost of publication without corresponding gain. Finally, though the usual table of contents and lists of text-figures and of plates are provided, there is no index, even of royal names.

R. O. FAULKNER.

Ausgewählte Koptische Zaubertexte. By Dr. A. KROPP, O.P. 3 vols. Brussels, 1931.

Magic permeates Egyptian civilization in all directions and through all periods, from the Pyramid Texts to the spells of the village wizard of to-day. The effects of the exchange of paganism for Christianity had been but superficial here; the ancient superstitions persisted, despite the fulminations of the preachers —of Shenoute, for example. If we read the old gnostic books and disallowed gospels we meet with plenty of magical names and words, now and then with directions for magical procedure. In the stories of the popular martyrs the wicked magician is a standing character, to be outwitted and sometimes converted by the hero, who himself rarely escapes being accused of magical arts by his persecutors. We read of appeals to the magician in sickness, of amulets and charms buried in the highway to impede progress, or nailed to a hated pagan's door, even written by a saint himself when a pestilential snake needed exorcizing. To what a degree the Copts in daily life would still put faith in the gods and demons of their ancestors and how they were ready to combine appeals to these and to the saints and angels of the new religion can be well seen in the texts or translations given us by Fr. Kropp.

The basis of his book is a body of highly interesting pieces, here published for the first time. Of these there are eleven, while of other four he has produced emended texts—among them two from my British Museum Catalogue, which badly needed improved readings, and Prof. C. Schmidt's revision of Rossi's long *Trattato*. In all 67 pages of text, mostly new: a very substantial contribution towards the scanty non-ecclesiastical literature of the Copts.

The interest of the new material is great, both as folklore and liturgically. The most interesting group is perhaps the first, composed of those texts in which the old gods reappear (vol. II, 3–27); then the second group, since it contains the most curious—and obscure—text of all: no. xiii, Lord Carnarvon's long papyrus from Thebes. With scarcely an exception there is something fresh to be learned from each text: we make acquaintance with unfamiliar legends and superstitions, whether by allusion, more or less obscure, or by direct narrative, with a number of new magical recipes or charms, potent in sickness or distress, and we gather many a new and, too often, still unintelligible word for the vocabulary.

All have been edited with the minutest care in volume I, while volume II contains translations and elaborate commentaries, not of the new texts alone, but also of all those already published elsewhere, making a total of 75 translations; and further, among these, versions of three Berlin papyri, whereof Prof. Hengstenberg has promised an edition. In his commentaries Fr. Kropp shows himself at home in the related literature, Greek as well as Coptic, while his third volume is devoted to a discussion and estimate of his material, in its relations to folklore and to religion, *i.e.* liturgical practice, and here reference might have been made to the ritual of St. Tarabô, *B.I.F.* IV, 112, Rylands Copt. Cat. no. 467; to the supernatural beings whose aid the magical formula can compel; to the various mediums through which the magician operates (animals, plants, names, words); to the magical act (prayer, exorcism, medical treatment) to be performed by him. Each volume is provided with several indexes and a number of plates and facsimiles help to make the book one of the most important contributions to our knowledge of Coptic Egypt which recent times have seen. One small text which might have been added (no. 295 in vol. XX of Wessely's *Studien*) has since been edited by Fr. Kropp in vol. II of Preisendanz's *Pap. Gr. Mag.* as no. xlviii.

In these days the scholar concerned with subjects so far from the beaten track as is Coptic magic may hold himself fortunate indeed if he can find a benevolent publisher, and Fr. Kropp is to be congratulated on having secured the help of M. Capart and the *Fondation Reine Élisabeth* for the production of his work.

W. E. CRUM.

The Mirror of Egypt in the Old Testament. By Lieut.-Com. VICTOR L. TRUMPER. London and Edinburgh, n.d.

The scheme of this short book is to take all the passages of the Old Testament which deal with connexions between the Hebrews and Egypt, and to illustrate and explain them by references to the discoveries of Egyptian archaeology. The idea is well carried out, and the comments always interesting and often ingenious. The author has read widely and drawn cleverly on his own twenty years' experience of Egypt. Occasionally he ignores modern work which is of vital importance to his subject, as for instance Gardiner's article in this *Journal* on Per-ramessu. Occasionally, too, he allows phantasy to run away with him, as when he suggests that the *tannin* into which Aaron's rod was turned before Pharaoh involves a play on the name of the Egyptian god Ptah-Tenen, or that there was something specifically Egyptian in Joseph's asking first whether his father was well, and only afterwards whether he was alive. There are even a few actual mistakes of fact; for example Tanis (Zoan) was not the Hyksos capital. But what one misses most of all is any statement of the position taken up by the author with regard to the nature and history of the O.T. narrative as a whole. To take a single instance: is it worth while to discuss the position of the various halting-places in Sinai until we have considered whether we have any reason whatsoever for placing the biblical Sinai in the peninsula which now bears the name—and bears it solely because the pious pilgrims of the fourth century A.D., infinitely more ignorant of history and archaeology than ourselves, took it into their heads to locate the wanderings there?

There are a few illustrations from photographs by the author, which are so good that they make us wish for more. The reading of the book is not facilitated by the author's quaint habit of inserting a comma between the subject of the sentence and its verb ("exactly as a modern tourist or trader, has to have his passport stamped").

T. ERIC PEET.

The Jurisprudence of the Jewish Courts in Egypt. Legal Administration by the Jews under the Early Roman Empire as described by Philo Judaeus. By ERWIN R. GOODENOUGH. New Haven, Yale University Press, 1929. x und 268 Seiten.

Das Recht in den Werken des jüdischen Hellenisten Philo von Alexandrien ist bereits Gegenstand mehrfacher Untersuchung gewesen; sowohl ex professo für einzelne Materien (z. B. das Strafrecht), als auch bei Textausgaben und Uebersetzungen (Heinemann) oder endlich in einem allgemeineren kulturgeschichtlichen Zusammenhang. Es handelt sich jedoch bei diesen Arbeiten in erster Linie um die Feststellung des Verhältnisses der von Philo geschilderten,—zum Teil m. E. auch nur postulierten,—jüdischen Rechtszustände in Alexandrien zu Beginn unserer Zeitrechnung zum Rechtssystem des Pentateuchs und zur rabbinischen Tradition des Mutterlandes, so dass demgegenüber die griechisch-römischen Elemente naturgemäss nur geringe Beachtung finden. Der Verfasser hat dagegen diese letzteren in den Vordergrund seiner Untersuchung gestellt und will durch eine ausführliche und systematische Durchbesprechung der Philonischen Schrift *de specialibus legibus* nachweisen, dass in der ägyptischen Hauptstadt damals eine selbständige rabbinische Tradition bestanden hat, welche sich unter ptolemäischem und römischem Einfluss entwickelt hat und darauf zurückzuführende weitgehende Abweichungen gegenüber der Ueberlieferung aus Palästina zeigt, ohne deswegen je von dieser abgeschnitten gewesen zu sein. Der Nachweis griechisch-römischer Komponenten rechtsphilosophischer oder positivrechtlicher Art in der jüdischen Praxis Alexandriens wird von ihm mit grosser Sorgfalt auf Grund von ausgedehnten Urkunden- und Literaturkenntnissen geführt und liefert in seinen Einzelergebnissen wertvolle Beiträge auch für die allgemeine Erfassung des griechisch-hellenistischen und römischen Provinzialrechts in Aegypten. Wir sehen hier wieder einmal, wie ungemein aufschlussreich das Studium der antiken Autoren sich gestalten kann, sobald wir in der Lage sind, ihre Aussagen mit einem hinreichenden Urkundenmaterial zu vergleichen; denn erst dadurch erhalten diese literarischen Zeugnisse den zu ihrem richtigen Verständnis so notwendigen realen Hintergrund.

Ich will hier nur die wichtigsten unter den von Philo in seiner Schrift nach der Reihenfolge der zehn Gebote der Sinaigesetzgebung behandelten juristischen Tatbestände und Rechtsinstitute anführen, um die Aufmerksamkeit der Rechtshistoriker darauf zu lenken. Im Zusammenhang mit dem dritten Gebot steht die Lehre des Eides und seines Schutzes, sowie die göttliche und weltliche Bestrafung des Meineides (zum letzteren noch einmal später S. 174 ff.). Das vierte Gebot über die Feiertage gibt den Anlass zur Besprechung des Zinsrechtes und einiger Institute des Sklavenrechtes, worauf ziemlich unvermittelt das *Intestaterbrecht* folgt. Die hier von Philo mitgeteilte und begründete Erbfolgeordnung geht zwar vom

israelitischen, in 4. Moses 27, 8 ff. anlässlich des Rechtsstreites der Töchter Zelophchads festgesetzen System aus, enthält aber tiefgehende Abweichungen davon, die zum Teil materiell auch über das griechische Recht hinaus reichen und vielleicht,—das ist wenigstens die Ansicht des Verfassers S. 60 f.,—römischem Einfluss zuzuschreiben sein könnten; so vor allem in der Auffassung eines den Töchtern *neben* den Söhnen des Erblassers zustehenden Erbrechts. Beachtenswert ist weiters der Hinweis auf eine Berechtigung des *Vaters* vor den väterlichen Onkeln (und Tanten), wozu jetzt unter anderem auch die bekannte Pergamene aus *Dura-Europos* zu vergleichen ist. Gerade diese Urkunde aus einer makedonischen Kolonie in Vorderasien aber, nach welcher der Vater und in dessen Ermangelung auch die verwitwete Mutter,—entsprechend der hier strikte durchgeführten Parentelenordnung,—sogar *vor* den *Brüdern* des Erblassers berufen werden, zeigt uns noch deutlicher als die griechischen Papyri Aegyptens, welcher Umgestaltungen die hellenistische Rechtsentwicklung auf erbrechtlichem Gebiet fähig gewesen ist.

Vom fünften Gebot leitet sich auch das Züchtigungsrecht der Eltern gegenüber ihren Kindern ab; doch glaube ich nicht, dass die in Alexandrien vorgesehene Tötung des missratenen unverbesserlichen Kindes entgegen der biblischen Vorschrift (5. Moses 21, 18 ff.) ohne Verfahren erfolgen durfte. Das dafür von Goodenough S. 69 ff. herangezogene *ius vitae ac necis* des römischen *paterfamilias* hat hier m. E. keinen Einfluss ausgeübt; denn auch die Tötung des Sohnes, der die Hand gegen seine Eltern erhoben hat (II § 243), setzt ein richterliches Urteil voraus. Im Anschluss an das sechste Gebot kommen dann die Sittlichkeitsdelikte, über die wir eine Menge auch rechtsvergleichend wertvoller Details erhalten; so z. B. über die Verfolgung und Ahndung des Ehebruchs und über das von der Halacha geübte Ordal zur Ueberführung der verdächtigten Ehefrau, welches letztere allerdings kaum der alexandrinischen Praxis angehört haben dürfte. Eherechtlich sehr interessant ist weiter die Bemerkung II § 73: *αἱ γὰρ ὁμολογίαι γάμοις ἰσοδυναμοῦσιν, αἷς ἀνδρὸς ὄνομα καὶ γυναικὸς καὶ τὰ ἄλλα τὰ ἐπὶ συνόδοις ἐγγράφεται*, weil sie uns die Bedeutung der in den P. Freib. III, 26 ff., sowie in BGU. 1050–1052, 1198–1101 enthaltenen Verträge veranschaulichen; ich vermisse aber dabei auch einen Hinweis auf die trotz ihres hohen Alters doch zu berücksichtigenden aramäischen Papyri aus Elephantine. Zu den Vergehen gegen die Sittlichkeit gehört endlich noch ein besonderer, auch im mittelassyrischen Rechtsbuch (§ 8, col. 1, 78 ff.) wiederkehrender Tatbestand (S. 130 ff.), der von Philo, III, §§ 169 ff., in einem breiten Rahmen behandelt wird.

Beim Mord wird vorerst zwischen *φόνος ἑκούσιος* und dem straflos bleibenden *φ. ἀκούσιος* unterschieden und das Asylrecht auf den letzteren beschränkt (S. 118 ff.); dafür aber wird nicht allein die Anstiftung (*βούλευσις*), sondern wie in der lex Cornelia auch der Versuch (*ἐπίθεσις*) dem *φ. ἑκούσιος* gleich behandelt. Auf die übrigen stark differenzierten Delikte gegen Leib und Leben, darunter zahlreiche Fälle von *βία* und *ὕβρις*, will ich nicht näher eingehen, obwohl wir gerade dafür in den Dikaiomata des P. Hal. 1 ein ausgezeichnetes griechisches Vergleichsmaterial aus Alexandrien selbst haben. Eine Gegenüberstellung der beiderseitigen Normen zeigt übrigens, dass die Unterschiede zwischen der jüdischen und der griechischen Rechtsanschauung auf diesem Gebiet weit grösser sind, als Verfasser S. 137 ff. und S. 233 ff. annimmt. Dafür möchte ich hier einen anderen Tatbestand hervorheben, der in allen Gesetzgebungen Vorderasiens, von den vorhammurapischen sumerischen Stadtrechten bis zum mittelassyrischen und dem hethitischen Rechtsbuche normiert ist, nämlich das Schlagen einer Schwangeren mit tötlichem Ausgang für die Leibesfrucht (S. 111 ff.). Die von Philo gegenüber der einfachen Vorschrift in 2. Moses 21, 22 gemachten Distinktionen dürften m. E. nur zum Teil auf griechische Einwirkungen zurückzuführen sein und sind daher auch für die Interpretation der älteren vorderasiatischen Normen von besonderem Wert. Im vierten Buche erörtert Philo die drei letzten Gebote des Dekaloga. Im Anschluss an den Diebstahl und seine verschiedenen Erscheinungsformen, unter welchen sich auch der *ἀνδραποδισμός* oder Menschenraub befindet, werden dann eine Reihe von Vorschriften eingehend besprochen, die sich auf die Unterschlagung und auf die Haftung des Depositars für Untergang und Diebstahl der ihm anvertrauten Sache beziehen, wobei bei der *παραθήκη ἀμάρτυρος* ein mehrgliedriger Reinigungseid des Verwahrers eine grosse Rolle spielt (S. 165 ff.). Der Tatbestand der *ψευδομαρτυρία* wiederum bietet die Gelegenheit, daran aufschlussreiche Ausführungen über das Beweisverfahren, sowie über die Aufgaben und Pflichten des Richters zu knüpfen. In diesem Teil zeigt es sich nach meinem Dafürhalten am deutlichsten, wie Philo in seiner Schrift *de specialibus legibus* bestrebt ist, philosophische Grundsätze und Erwägungen mit praktischen Rechtserfahrungen zu verbinden.

Wie man schon aus diesem knappen Ueberblick und noch mehr aus dem letzten Kapitel des hier zur Anzeige gelangenden Werkes (S. 214 ff.) sehen kann, ist der Inhalt der Philonischen Schrift ungemein reichhaltig und bietet sowohl dem Papyrologen, als auch dem auf anderen Gebieten der antiken Rechtsgeschichte arbeitenden Forscher eine Fülle von Aufklärungen und von Vergleichsmaterial, die nicht

unbeachtet beiseite gelassen werden dürfen. Denn auch die alexandrinische Diaspora ist eines jener vielen kleinen Zentren, in deren Rechtsentwicklung die fruchtbare Berührung zwischen Osten und Westen einen deutlich wahrnehmbaren Niederschlag hinterlassen hat. Aus diesem Grund hat sich der Verfasser zweifellos ein grosses Verdienst erworben, indem er die einzelnen Normen mit dem griechisch-römischen Hintergrund ihrer Zeit in Verbindung gebracht und sie uns damit einheitlich in einer neuen Beleuchtung gezeigt hat. Allerdings ist auch seine Untersuchung nicht frei von jener Einseitigkeit, die man nach der anderen Richtung hin den älteren Bearbeitungen zum Vorwurf gemacht hat. Gewiss hat Goodenough die praktischen Ziele, die Philo mit seiner Schrift verfolgte, treffender charakterisiert als seine Vorgänger, aber ich glaube trotzdem, dass wir nur dann zu einem einigermassen richtig eingestellten Bild über den darin verarbeiteten Rechtsstoff gelangen können, wenn wir auch die Fortentwicklung des biblischen Gesetzes in der Tradition ausserhalb des ägyptischen Diaspora, wie sie etwa ein Jahrhundert später in der Mischna niedergelegt worden ist, weiter heranziehen, so dass man auch gegenüber der Darstellung des Verfassers die anders orientierten früheren Würdigungen nicht wird entbehren dürfen. So wie diese auf der einen Seite die Selbständigkeit der jüdisch-hellenistischen Rechtstradition in Alexandrien zu stark zugunsten der Fortbildung aus dem Mutterlande herabdrücken, so geht anderseits Goodenough wohl allzu freigebig mit der Annahme griechischer und selbst römischer Einwirkungen vor, und vor allem der auf S. 214 formulierte Schlussatz, dass die von Philo gebotene Interpretation des mosaischen Gesetzes sich mit den "general principles" und zum Teil sogar mit den "specific statutes of the Graeco-Roman system" decke, erscheint mir in dieser Verallgemeinerung mehr als gewagt. Auch die Frage, wer des näheren die Träger der alexandrinischen Tradition gewesen sind, bedarf ebenso noch eingehender Klärung, wie das Problem einer selbständigen Kompetenz der γερουσία und eines zweiten vom Verfasser angenommenen jüdischen Gerichtshofes (θεῖον δικαστήριον) in Alexandrien nach der römischen Eroberung. Die S. 249 ff. entwickelte Argumentation hat gewiss vieles für sich, aber der Umfang dieser Zuständigkeit ist namentlich in Kriminalsachen, wegen der Spärlichkeit eindeutiger Zeugnisse, noch ziemlich dunkel, zumal wir nicht den geringsten Anhaltspunkt für eine Analogie mit der von Augustus in Kyrene zwischen Griechen und Römern geschaffenen Regelung (S. 19 ff.) besitzen.

Bringt somit die vorliegende Schrift trotz ihres neuen einheitlichen Gesichtspunktes gerade in Bezug auf die Hauptprobleme noch keine endgültige Lösung, so sind anderseits die darin enthaltenen Anregungen und der Fortschritt, der im einzelnen erzielt wird, gross und wertvoll genug, um dem Verfasser den Dank der Rechtshistoriker zu sichern.

M. San Nicolò.

Hethitische Staatsverträge. Ein Beitrag zu ihrer juristischen Wertung. Von Dr. Viktor Korošec. (*Leipziger rechtswissenschaftliche Studien*, herausgegeben von der Leipziger Juristen-Fakultät, Heft 60.) Leipzig, 1931.

This is a scholarly and well documented work in which the Hittite treaties which have come down to us are analysed from the legal point of view. They are divided into two classes, international treaties made between equals, and treaties between the Hittites and their vassals. The main interest of the book for Egyptologists lies in the fact that the first class of treaty is represented solely by the pact between Ḫattušiliš III and Ramesses II of Egypt, of which, as is well known, we have both the Hittite and the Egyptian versions. The author is not to be blamed for not having anything very original to say about this treaty, for the exhaustive treatments of Roeder in *Der alte Orient*, xx, 36 ff. and of Langdon and Gardiner in this *Journal*, vi, 179 ff. have left practically nothing more to be said, unless some new source of information should be discovered. At the same time Korošec's work is important for the Egyptologist in so far as it shows that the Ramesses treaty can no longer be treated as an isolated unit but only as one of a group of allied diplomatic documents whose form—and even to some extent details—were prescribed by international usage.

T. Eric Peet.

The Tomb of Ken-Amun at Thebes. By Norman de Garis Davies, with plates in colour by Norman de Garis Davies, H. R. Hopgood and Nina de Garis Davies. (The Metropolitan Museum of Art Egyptian Expedition.) New York, 1930.

It is inevitable that an artist who has worked as long as Mr. Davies studying and copying the tombs of the nobles at Thebes should have his favourites, and the tomb of Ḳenamûn is clearly one of them. In order to realise how much loving care and patient labour have gone to the making of this book it is necessary to do as the reviewer has done and to work solidly through it, trying to assimilate every word.

This is the task not of a day or two but of several weeks, so packed are the pages and plates with valuable material. Yet he who accomplishes the task will find it has been worth his while, for not only will he know this particular tomb but he will have acquired a mass of general knowledge which will enable him to understand things which have been dark to him in other tombs.

The book is issued in two volumes. Volume I contains the letterpress and most of the plates, while Volume II, which is in folio, contains seven plates which were too large for the format of the first volume. This arrangement is a compromise, and a perfectly satisfactory one, between the normal size in which the work of the Metropolitan Museum is issued and the sumptuous folio volumes of the Tytus Series, in which much of Mr. Davies's work has appeared. The book is beautifully made, the letterpress printed on good paper with wide margins in a large and clear type with marginal headings. The illustration is most lavish, and in some cases we have actually a line plate, a monochrome collotype and a colour plate of one and the same subject. The plates that come from the hand of Mr. and Mrs. Davies need no words of the reviewer to recommend them, and Mr. Hopgood proves himself a worthy collaborator. The frontispiece, which shows a dozen or so fish and a few lotus flowers, is one of the most perfect studies in still life from Ancient Egypt, and the reproduction of the colours is a masterpiece of delicacy.

For the letterpress Mr. Davies alone is responsible. It is no easy task to find words to describe freshly and attractively the scenes on the walls of a tomb, especially when one has done it a hundred times before. Yet Mr. Davies contrives to make his matter interesting, and he does it by means of a style which is in no sense light and easy—some might, on the contrary, describe it as almost too solid—but which is always correct, and which shows considerable variety and originality of thought. He has realised, too, that in translating from Egyptian one must try to find the real English equivalent and not be satisfied, as too many of us are, with collocations of words which may be individually correct renderings of the Egyptian words but which are wholly meaningless to those who do not happen to know what the original was. There are few lapses from this ideal, even in the renderings of laudatory epithets, where they would be most easily excusable, and the only serious one may be recorded simply as a curiosity; on p. 16 we find the epithet "One who, if he gives attention to anything in the evening, it is mastered early in the morning"; the substitution of "such that" for "who" restores grammar, if not grace, and the result is just as literal.

Mr. Davies is always master of his material, and that mainly by reason of his intimate knowledge of the contents of other Theban tombs, for the meaning of a particular scene can often only be profitably discussed by reference to parallels. A typical instance of the value of this knowledge is to be seen in his treatment of the New Year's Gifts scene.

Technically and artistically this is an unusual and an interesting tomb. The use of a yellow background and of varnish throughout, and the combination of the finest decorative with the finest naturalistic work make it stand out among its fellows. To say that we would gladly have heard more about these things from Mr. Davies is in no sense a criticism of this volume but the expression of a hope that he will some day record for us in print some of his impressions about Egyptian art. In this tomb alone there are a dozen points on which we should like to have essays from his pen. How comes it, for instance, that in one and the same tomb we find such artistic contrasts as the highly conventional geese of Pl. xxxi and the animals of the hunting scene? What is the precise method of rendering detail on the bodies of the animals in the latter scene, and how far can it be called an attempt at chiaroscuro? Or yet again: what is the relation of natural to geometric line—see, for example, the near hind leg of the ibex—in the work of this same scene, and how far does this work anticipate the highly geometrical style which is one of the marks of the art of El-'Amarnah? All these are points of importance; Mr. Davies is continually increasing the material at our disposal for answering them, but we hope that he will make time to answer some of them himself.

The task of publishing a tomb involves not only the copying and description of the scenes but also the translation of the legends which accompany them. It is quite usual for the copyist to hand these over to a philologist for treatment. But Mr. Davies has no need to do this; he is himself a hieroglyphic scholar of a high order, and has an immense acquaintance with the kind of inscription that is likely to be found in an Eighteenth-Dynasty Theban tomb. Consequently his treatment of the inscriptions of this tomb is perfectly adequate. They are not always easy; some of them, indeed, are exceedingly difficult. To the philologist the most interesting is that printed on Pl. viii, in which the appointment of Ḳenamūn to his office is related. The reviewer has spent many hours over these thirty-six broken lines in the hope of gathering up any little gleanings which might have been left by Mr. Davies, but the harvest is very meagre. It is contained in the short notes which follow; several of the suggestions are made with extreme

diffidence, and the reviewer is not at all certain that he has in every case improved on Mr. Davies's version.

Line 16. "It is thy second self and will come to pass." This supposes that *ḳi·k pw ḫpr·s* is to be read, and that *ḳi·k pw* is a complete clause in itself and *ḫpr·s* another. It is probably better to take *ḫpr* as a participle, leaving the *s* to go with what follows. We then get *ḳi·k pw ḫpr*, "It is thy will that comes to pass," a type of sentence for which we have a good parallel in Pap. Prisse, 7. 2, *sḫr pw n grḥ ḫpr*, "It is the counsel of night that comes to pass." For the construction see Sethe, *Nominalsatz*, § 139, where, however, some of the examples given perhaps contain not participles but Old Perfective forms.

Line 17. *gmntwf* can hardly be present tense "he is just entering," and the courtiers do not speak of or to the king as *nisw*. Surely we must suppose that their speech ended about the middle of line 16, and that the narrative part of the inscription was there resumed in some such words as "Then his majesty said, Go and summon Ḳenamūn...."

Line 19. That *grg·k* should be an Old Perfective used actively seems highly improbable in an inscription of this date; moreover *grg* followed by a direct object of the person is very rare. The only alternative is that it should be the 2nd sing. active *śḏmf*, and that the king, whose speech, as Mr. Davies rightly saw, began in l. 17, is now directly addressing Ḳenamūn: "Thou shalt equip it like thy predecessors." "It" (*św*) is presumably the estate of *Prw-nfr*, mentioned towards the end of the previous line. For *św m nḫb* the reviewer has no suggestion to offer.

Line 22. *bw* cannot mean "and do not," for it is not used so early as this in a negative sense, and in any case cannot negate the imperative. At the broken end of the line suggests *tl wi m* [*rpʿt*], "when I was Crown Prince" or something similar.

Line 23. The correct restoration and translation of this line are suggested by the Installation inscription of Rekhmirēʿ, lines 5–6 (Sethe, *Urk.* IV, 1087): "Now the office of steward is not sweet; it is bitter as gall (read *wdd*, not *wšd·f*). It is copper round about[1] the gold of the house of his lord."

Line 24. *ḏʿr·nk*. The *śḏmnf* form must have some point. Perhaps "Put forth thy arm (to punish) when thou hast examined a crime."

Line 25. *psiṯ·f pw irt mśʿt*. These words can hardly be separated, and give good sense taken together: "The doing of righteousness is his (the steward's) province," or possibly "The doing of righteousness is what is due to him" (*i.e.* to the god). If the second is correct we might continue "and he loves him who will establish it" (reading *s*[*t*]). But why is *mr·nf* in the *śḏmnf* form?

Line 32. *nfr ḥśt* in this context must surely be the phrase for the royal diadem. The preceding word, however, is not the usual *iry* "he who is in charge of." Restore perhaps *śip* "who inspects the royal diadem at the ceremonial adornment of the king."

Line 34. It seems quite impossible that *wn·in imi·r iḫw* should introduce a general statement in present time: "For the overseer of cattle is prosperous of hand...." Here, as elsewhere, it must begin a new section of the narrative; the speech of the courtiers ends at *spd ḥr*, and the inscription is rounded off with a short account of Ḳenamūn's success in his office of overseer, followed by a line of laudatory epithets and his name. Translate "Now the overseer of cattle and steward Ḳenamūn prospered.....in all that he had to do. If he but stood before a task it was done...."

No Egyptologist will read this book without admiring the perfection to which Mr. Davies's technique in the publication of a tomb has been brought. A glance through the plates or, better still, a visit to the tomb itself will show that, for all its interest, it is one of the most severely damaged in the necropolis; and yet out of it Mr. Davies has managed to construct what is perhaps the most attractive memoir which has ever been published on a single tomb.

One small suggestion to conclude with. The idea of inserting opposite each plate a thin interleaf bearing its number and description, together with a reference to the pages on which it is described, is in itself excellent, but has one disadvantage, namely that it completely hides the plate numbers; endless time is thus spent in searching for a particular plate among the seventy, so much so that the reviewer soon found himself compelled to pencil at the top right hand corner of each interleaf its plate-number. Would it not be possible in future to print the plate numbers in this position? The users of the volumes would be grateful for them.

T. Eric Peet.

[1] So Sethe, but the sense given is not very convincing, and *m ḏr* in Pap. Kahun, Pl. ii, 19 means "against," not "round about." Render perhaps "He is copper rather than gold for his lord's house," taking both metals metaphorically, and contrasting them like "bitter" and "sweet" above.

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Statuette of Sekhmet or Ubastet in steatite.

Scale 5 : 3.

TWO STATUETTES OF THE GODDESS SEKHMET-UBASTET

By ALAN W. SHORTER

With Plates x and xi.

The photographs on Plate x reproduce the lower half of a statuette of carved steatite in the collection of Mr. G. D. Hornblower, who very kindly suggested that I should describe it in the *Journal*, and also generously provided me with these photographs of it.

The upper part of the enthroned figure is missing, the lower part is clothed in the tight-fitting dress of women and goddesses, and we are able to conclude, from a study of the carvings which decorate the throne, that the statuette was one of the goddess Ubastet, or of Sekhmet, into whom she so often merges. The height of the piece is 5·8 cm. The carving of the whole is very fine, but the skill of the artist is shown pre-eminently in the figures of gods and demons adorning the sides of the throne and of the base, which are exquisitely worked in low relief. The front of the statuette has suffered more damage than any other part, the steatite having flaked off in large pieces, carrying away the lower part of the goddess's legs and the reliefs or inscription which must have decorated the front of the base. The reliefs may be described as follows, and are shown enlarged on Plate x.

I. Left side of throne (Pl. x, fig. 3)

Register A:

(1) Osiris, squatting, wearing *ꜣtf*-crown, collar and counterpoise, and holding crook and *wꜣs*-sceptre.
(2) Serpent, standing erect upon its tail.
(3) Horus, squatting, wearing double crown and holding *wꜣs*-sceptre.
(4) Bearded god, squatting.
(5) Sebek, with head of crocodile, advancing and offering two vessels of wine (?).

Register B:

(1) Hathor, squatting, wearing sun-disk, horns and uraeus, and holding papyrus-sceptre.
(2) Khonsu, represented as a man, walking, wearing moon-disk inside crescent upon his head, and holding a *wꜣs*-sceptre in the right hand and a flagellum in the left. For an exactly similar representation of the god see Lanzone, *Dizionario di mitologia egizia*, Pl. cccxliii, fig. 3, where the god is called, in the accompanying hieroglyphic inscription, "Khonsu in Thebes, Nefer-hotep, Horus at the head of the Two Lands."
(3) Nephthys, squatting, wearing her name-group upon her head, and holding a papyrus-sceptre.
(4) Serpent as A (2).
(5) Ram(?)-headed god, advancing and offering two vessels of wine (?)[1].

[1] For ram-headed gods carrying offerings, depicted on the throne of Sekhmet-Ubastet, see Cairo No. 39035 and perhaps 39033, *Cat. gén.*, *Statuettes de divinités*, 259–60.

Register C. An inscription: *di·tn ꜥnḫ wḏꜣ śnb ꜥnḫ-Ḥr*, "May ye grant that Ankh-Ḥor live, prosper and be healthy." A prayer evidently addressed to the deities represented on this object on behalf of the dedicator of it, who is named Ankh-Hor.

II. Right side of throne (Pl. x, fig. 1)

Register A:

(1) Sekhmet or Ubastet, with head of lioness (or cat?), enthroned, wearing uraeus on head, holding a papyrus-sceptre in one hand and *ꜥnḫ* (?) in the other.
(2) Male deity with uncertain head, advancing, holding *wꜣs*-sceptre and *ꜥnḫ*.
(3) Winged serpent, standing erect upon its tail.
(4) The deity Neḥebkau, as a serpent provided with human legs.

Register B:

(1) Osiris, wearing *ꜣtf*-crown, collar and counterpoise, squatting upon a stool with a low back.
(2) Male deity advancing, holding *wꜣs*-sceptre and flagellum. Khonsu-Neferhotep?
(3) Serpent standing erect upon its tail. It has a male, bearded head, and its human arms have been cut off near the shoulders.
(4) Serpent as I. A (2).
(5) Sekhmet or Ubastet as II. A (1), but without uraeus.

Register C:

(1) Male deity, with indeterminate, non-human (?) head, advancing, holding *wꜣs*-sceptre. The *ꜥnḫ* in his left hand has almost entirely vanished.
(2) Male deity with human (?) head, advancing, offering.
(3) Neḥebkau as II. A (4).
(4) Deity with animal's head, species uncertain, seated on a throne.
(5) Male deity, the lower portion of whom is broken away, with head of a jackal (? *i.e.*, Anubis), advancing, holding *wꜣs*-sceptre.

III. Base, left side (Pl. x, fig. 3)

(1) The goddess Uto as an uraeus[1], upon the palace-sign. Above, judging from the traces, was a bird of some sort, probably a vulture or hawk, but only the tail remains.
(2) Sekhmet or Ubastet as II. A (1).
(3) Mummiform figure standing, holding flagellum. The god Imseti ?
(4) Winged serpent, similar to II. A (3).
(5) Serpent as I. A (2).

IV. Base, right side (Pl. x, fig. 1)

(1) Male deity with damaged and therefore uncertain head, advancing and offering.
(2) Serpent as I. A (2).
(3) Ditto.
(4) Sekhmet or Ubastet as II. A (1).
(5) Iḫy, holding sistrum and flagellum, advancing.
(6) Neḥebkau, with human legs and arms.

[1] As on the Cairo statuette No. 39127; *op. cit.*, p. 279.

V. Base, back (Pl. x, fig. 2)

(1) Iḥy as IV (5).
(2) Nude person or child, in a sitting position.
(3) Serpent as I. A (2).

VI. Back of throne (Pl. x, fig. 2)

Registers A, B and C: four figures of the goddess Taurt, holding the symbol *sꜣ* in front of her, in each register.

Register D:

(1) Male deity with indistinct head, advancing and offering (?).
(2) Neḥebkau as IV (6).
(3) Ubastet, seated on throne, holding a sistrum in the right hand and a papyrus-sceptre in the left.
(4) Khonsu-Neferhotep, as I. B (2). Disk and crescent almost obliterated.

Register E:

(1) Sebek (?) with head of crocodile (?), advancing and offering (?).
(2) Neḥebkau as IV. (6).
(3) Serpent upon a sledge.

The statuette of Ubastet, which bears the number 63516 in the British Museum collections, has already been published in the *British Museum Quarterly*, VI, No. 4, p. 101, but it is here republished (Pl. xi) in greater detail in order to consider the gods and demons represented on the sides of the throne. I am indebted to the Keeper of the Department for permission to do this.

The statuette is of sandstone glazed blue-green, and measures 10·6 ins. (27 cm.) in height. It may probably be assigned to the Twenty-second Dynasty. The strangest feature of the object is the cat's face, which is made of bronze attached to the stone figure (the latter shows the ruff, and is therefore properly of Sekhmet). The eyes were originally inlaid with some translucent material, such as crystal, now vanished; the backing of gold leaf, intended to give a yellow glow like a cat's eyes, alone remains. We are here concerned, however, with the figures carved in open work on the sides of the throne. They may be described as follows:

I. Left side of throne (Pl. xi, fig. 2)

Register A: Serpent with four coils.
Register B:

(1) Bearded god walking.
(2) Neḥebkau, with human legs and arms.
(3) Serpent, made to look like the *ḏd*-symbol by the addition of three cross-bars.
(4) Serpent with a head at each end, the heads looking outwards.
(5) Serpent as last, but with heads looking inwards.
(6) Duamutef, mummiform, standing, holding the bandage.

Register C: *ḏd*-symbol, on either side of which are two "Girdles of Isis."

II. Right side of throne (Pl. xi, fig. 1)

Register A:

(1) Serpent with two coils, having a head at each end. Beneath the foremost head is attached a pair of wings; beneath the rear head are three cross-bars to give the appearance of the *ḏd*-symbol, as in I. B (3).
(2) Neḥebkau as I. B (2).
(3) Male deity with lion's (?) head, walking.

Register B:

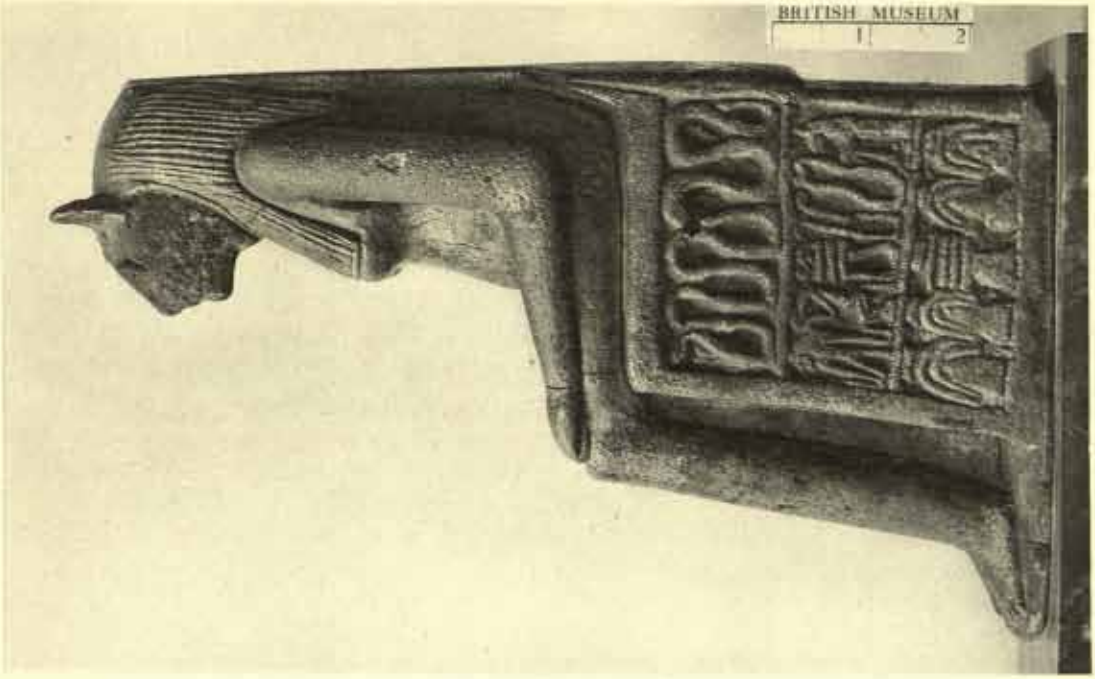
(1) Serpent with two coils and a head at each end: above it is an *uraeus*.
(2) *Cynocephalus* ape.
(3) Neḥebkau as serpent with human arms, but no legs.
(4) Ibis supporting upon its beak a *ka*-sign enclosing an ostrich feather; part of the beak is broken away.

Register C:

(1) Serpent.
(2) Neḥebkau as II. B (3).
(3) Male deity with cat's (?) head, walking.
(4) Duamutef, mummiform.
(5) Separated from (4) by a dividing line (probably inserted to fill space), an *uraeus* with human head, *i.e.*, the goddess Uto.

The presence of a large number of these deities on the throne of Sekhmet-Ubastet may be easily explained by the fact that they are known to be connected in some way with that goddess. Thus Taurt, who presides over child-birth, is represented owing to the part played by Ubastet herself as a birth-goddess[1]; Khonsu appears elsewhere as the son of Mut-Ubastet and Amen-Rēʿ-Harakhte[2]; the child Iḫy would be naturally thought of as son of Ubastet when she is identified with Hathor, and the cobra Uto is a deity with whom Sekhmet-Ubastet was easily equated, in her capacity of the Eye of Rēʿ. The appearance of Osiris and Horus, again, is not difficult of explanation, and presumably the seated goddess with the head of a lioness (or cat?) is Sekhmet-Ubastet herself, while the god with a lion's (?) head who occurs on the British Museum example is perhaps Maaḥes, who appears at Denderah as the son of Ubastet[3]. The serpent-god, whom we have assumed to be the deity Neḥebkau, and the other snakes are not so easily explained, and I propose to leave all discussion of them for another paper, in which I hope before long to deal with the whole question of the nature and history of Neḥebkau and his associates.

[1] See, *e.g.*, Brugsch, *Dict. géogr.*, 731. She is, of course, there thought of as Hathor.
[2] See Brugsch, *Religion und Mythologie der alten Aegypter*, 334.
[3] Budge, *Gods of the Egyptians*, I, 446.



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1

Statuette of Ubastet. British Museum No. 63516.
Scale 1 : 2.

THE USE OF NATRON IN MUMMIFICATION

By A. LUCAS

Despite the numerous descriptions of the mode of embalming practised by the ancient Egyptians that have been written, beginning with that of Herodotus in the fifth century B.C., there is still a considerable difference of opinion regarding both the method and the materials employed.

As it seemed exceedingly probable that the secret was present in the known facts, although it had hitherto escaped notice, and in the hope that it might be revealed, the writer has ventured to go over the well-trodden ground once more and to try, without bias, to re-state the significant facts and to give the conclusions that arise from them.

In order that the chemical aspect of the matter may be understood, it may be stated that natron is a naturally occurring compound of sodium carbonate and sodium bicarbonate. As found in Egypt, natron always contains sodium chloride (common salt) and sodium sulphate as impurities, these being present in very varying proportions. Thus in fourteen specimens of natron from the Wâdî Naṭrûn analysed by the writer the proportion of common salt varied from 2 per cent. to 27 per cent., and that of sodium sulphate from a trace to 39 per cent.[1]; and in three specimens from El-Kâb the common salt varied from 12 per cent. to 57 per cent. and the sodium sulphate from 11 per cent. to 70 per cent.[1]

The facts may now be enumerated, and at the end of each series a short summary will be given and, when all the facts have been marshalled and summarized, the conclusions that follow from them will be stated.

Solid Natron

This has been found as follows:

1. In vases and jars in tombs. Examples: (*a*) in the tomb of Yuaa and Thuiu[2] (Eighteenth Dynasty). This was probably refuse embalming material, as it was contained in fifty-two large jars "wrapped up in bits of cloth" and in one instance at least it was a mixture of natron and sawdust; (*b*) in ten large jars in the tomb of Maherpra[3] (Eighteenth Dynasty). This, too, was probably refuse embalming material, as it was mixed with resin and sawdust; (*c*) in the tomb of Tutʿankhamūn[4] (Eighteenth Dynasty); (*d*) in an Eighteenth Dynasty tomb at Thebes[5] and (*e*) in a Twenty-first Dynasty tomb at Saḳḳârah[6].

The significance of some of this natron is not known, but in two instances, as already suggested, it was almost certainly refuse embalming material. In the tomb of Tutʿankhamūn a vase containing natron[4] was in the same "kiosk" as another vase containing resin of a kind somewhat similar to that used (with linen) for packing the abdomen, and this natron, therefore, may have had a direct connexion with the embalming. Another specimen of natron from the

[1] A. Lucas, *Natural Soda Deposits in Egypt* (1912), 15–16.

[2] J. E. Quibell, *The Tomb of Yuaa and Thuiu*, in *Cat. gén. du Musée du Caire* (1908), pp. VI, 75–7. Analyses by the writer.

[3] Lortet et Gaillard, *La faune momifiée de l'Ancienne Égypte*, I (1905), 317–18.

[4] Howard Carter, *The Tomb of Tut-ankh-Amen*, II (1927), 32. Analysed by the writer.

[5] Submitted by the Department of Antiquities and analysed by the writer.

[6] Submitted by C. M. Firth and analysed by the writer.

same tomb[1] was mixed with an aromatic gum-resin, almost certainly incense, and this probably had no direct connexion with the embalming. There were also two other specimens[1], the meaning of which is not apparent.

2. Buried in cemeteries with refuse embalming material. All the examples that can be traced have been found at Thebes, the dates of the specimens ranging from the Eleventh Dynasty to the Persian period[2].

3. Encrusting a wooden embalming platform and the four wooden blocks belonging to it that were doubtless used for supporting the body; also encrusting four wooden *ankh*-signs and a wooden object used in connexion with embalming. These, which are of Eleventh Dynasty date, were found by Winlock at Thebes[3] and are now in the Cairo Museum, where the writer has had an opportunity of examining them. In addition to natron, there is also resin on the platform.

4. On certain mummies. Examples: (*a*) in two packets attached to the feet of the mummy of an unknown woman found in the tomb of Amenophis II[4]; in one of these packets there was a mass of epidermis and in the other there were portions of the viscera, in both cases mixed with natron; (*b*) covering an anonymous mummy from Dêr el-Baḥrî[5]; (*c*) as minute crystals on both the exterior and interior surfaces of a mummy examined by Granville[6], which were proved by analysis to consist of "carbonate, sulphate and muriate[7] of soda," that is to say natron, mixed with potassium nitrate and traces of lime; (*d*) as small white crystals on a mummy (probably Twentieth Dynasty) in the Leeds Museum[8], which were analysed and found to consist "almost entirely of carbonate of soda, with some muriate[7] and sulphate." Also on the bandages from the same mummy[8]; (*e*) impregnating the tissues of the mummy of Nekht-Ankh[9] (Twelfth Dynasty); (*f*) impregnating the brain of the mummy of a boy from the tomb of Amenophis II[10] (Eighteenth Dynasty); (*g*) impregnating the resin from the cheeks, mouth, arm and rib respectively of certain mummies of the Eighteenth and Twentieth Dynasties[10].

5. Mixed with fatty matter in mummies. Examples: (*a*) in the body of Menephtah[11] (Nineteenth Dynasty) and (*b*) in the mouth and body cavities of certain mummies of the Twenty-first and Twenty-second Dynasties[11, 12]. The material was examined by Schmidt, who, in his original paper[12], attributed the fatty matter to butter that had been mixed with the natron,

[1] Not yet published. Analysed by the writer.

[2] The refuse embalming material from the tomb of Tut'ankhamûn was found in a "pit" near the tomb about ten years before the tomb was discovered. The material was in "large earthen pots," in which, among other articles, were "small bags containing a powdered substance," which was doubtless natron. (Theodore M. Davis, *The Tomb of Harmhabi and Touatânkhamanou* (1912), 3.) See, too, A. Lansing, in *Bull. Met. Museum of Art, New York*, Pt. II (1920), 12, Fig. 4 (three lots); H. E. Winlock, *op. cit.*, Pt. II (1922), 34, Fig. 34 (five lots); 1924, 31–2, Fig. 30 (two lots); 1928, 25–6, Figs. 30–1; E. Naville, *The Temple of Deir el Bahari*, II (1896), 6; I (1907), 16. A number of these specimens have been analysed for Mr. Winlock by the writer.

[3] Winlock, *op. cit.*, Pt. II (1922), 34, Fig. 33.

[4] G. Elliot Smith and Warren H. Dawson, *Egyptian Mummies* (1924), 101. A. Lucas, *Preservative Materials used by the Ancient Egyptians in Embalming* (1911), 6–7.

[5] Mathey, *Note sur une momie anonyme de Deir el-Bahri*, in *Bull. de l'Inst. Égyptien*, 2e sér., no. 7 (1886), 186–95. G. Maspero, *Les momies royales de Déir el Bahri*, in *Mém. de la Mission Arch. française au Caire*, I (1889), 782–7.

[6] T. J. Pettigrew, *A History of Egyptian Mummies* (1834), 62.

[7] *I.e.*, chloride.

[8] W. Osburn, *An Account of an Egyptian Mummy Presented to the Museum of the Leeds Philosophical and Literary Society* (1828), 8, 44.

[9] M. A. Murray, *The Tomb of Two Brothers* (1910), 47.

[10] Lucas, *op. cit.*, 13–19; *Journal*, I, 122–3.

[11] G. Elliot Smith, in *Ann. Serv.*, VIII (1907), 111. See also p. 128.

[12] W. A. Schmidt, *Chemische u. biologische Untersuchungen v. ägyptischem Mumien-material* etc., in *Zeitschr. f. allgem. Physiol.*, Bd. VII (1907), 369–72.

and this is still quoted, although, in a later paper[1], Schmidt stated very definitely that, as the result of further work, he had changed his opinion and that he believed the fatty matter to have been derived from the body; (*c*) from the pelvis of a female mummy called "Mummy No. 1" found in the tomb of Amenophis II (Eighteenth Dynasty), the fatty matter having probably been derived from the body[2].

Summary. Examples Nos. 2, 3, 4 (*a*) and (*b*), and 5, prove, and probably No. 1 also, that solid natron was employed in connexion with embalming in a number of instances from at least as early as the Eleventh Dynasty to as late as the Persian period.

Natron Solution

Not only was natron employed in the solid state, but it was also used in the form of a solution, and such a solution has been found on two occasions, once by Brunton[3] in an alabaster canopic jar from a royal tomb of the Twelfth Dynasty at Lahun, in which, however, there were no viscera, and once by Reisner[4] in three compartments of the alabaster canopic box of Queen Hetepheres (Fourth Dynasty), the remaining compartment being dry, owing probably to leakage from a defect that exists in that particular corner of the box. This natron solution, which was analysed by the writer, is of approximately 3 per cent. strength and contains the usual impurities of Egyptian natron, namely, common salt and sodium sulphate. In each compartment of the box is a flat package wrapped in woven fabric (presumably linen) that almost certainly contains viscera.

Summary. If it be accepted that the packages contain viscera, it is proved that in the Fourth Dynasty the viscera of a royal personage were preserved in a natron solution, and the example from the Twelfth Dynasty would seem to be evidence that the practice was still in use, at least occasionally for royal personages, about a thousand years later.

Salt

Common salt (sodium chloride) has been found in the solid form both on mummies and on non-mummified bodies. Examples: (*a*) on the mummy of Menephtah[5] (Nineteenth Dynasty), the skin of which Elliot Smith states was "thickly encrusted with salt"; (*b*) as a few tiny crystals on the skin at the top of the shoulders of the mummy of Tutʿankhamūn[6,7] (Eighteenth Dynasty) and (*c*) as a small aggregate of crystals inside the innermost (gold) coffin at the head end[6]; (*d*) in small amount (1·5 per cent.) with resin from the mummy of Nesikhonsu[8] (Twenty-first Dynasty); (*e*) on a Coptic "mummy" (fifth century A.D.) from Nagʿ ed-Dêr[8]; (*f*) on bodies of early Christian date from near Aṣwân, the wrappings of which "were heavy and sticky with salt[9]," a number of specimens of which were analysed by the writer; (*g*) on certain mummy tissue examined by Schmidt[10], who states that the authentic embalmed material was largely impregnated with salt, in many cases the interior of the mummies being entirely covered with salt crystals. The Coptic mummies contained the most salt and in one instance 8·5 per cent. occurred in the arm muscles. Ruffer, commenting on this, writes[11]: "These observations of Schmidt have not been confirmed so far, and are all the more remarkable because Coptic

[1] W. A. Schmidt, *Über Mumienfettsäuren*, in *Chemiker-Zeitung* (1908), Nr. 65.

[2] Lucas, *Preservative Materials*, 7.

[3] Guy Brunton, *Lahun*, I (1920), 20. Analysed by the writer.

[4] G. A. Reisner, in *Bull. Museum of Fine Arts*, Boston, XXVI (1928), 81.

[5] Elliot Smith, *ibid.* [6] Analysed by the writer.

[7] D. E. Derry, *Report upon the Examination of Tut-ankh-Amen's Mummy*, Appendix I, in H. Carter, *The Tomb of Tut-ankh-Amen*, II (1927), 152.

[8] Lucas, *Preservative Materials*, 19, 20.

[9] Reisner, *Archaeological Survey of Nubia, Report for* 1907–8, 100. [10] P. 126, n. 12.

[11] Sir Armand Ruffer, *The Use of Natron and Salt by the Ancient Egyptians*, in *Cairo Scientific Journal*, IX (1917), 43–4.

mummies (so-called) show no incision; salt has been placed on the integuments, and it is difficult, if not impossible, to understand how under such circumstances the quantity of salt mentioned by Schmidt can have penetrated into the muscles. I have seen the inner surface of the body cavities—the muscles, liver and other organs—of Coptic mummies covered with white crystals, but these were crystals of fatty acids and not salt[1]. The mummies which I have examined often contained inside the wrappings lumps of common salt; and in one case a lump of sodium chloride about the size of a fist was lying on the anterior surface of the abdomen; but it appears to me very doubtful whether much salt has been used, as the wrappings had not been infiltrated with visible crystals of salt, and analysis did not reveal any abnormal quantity of salt in the skin or muscles."

The mummy of Menephtah, which is described by Elliot Smith as being "thickly encrusted with salt," is in the Cairo Museum, where by the courtesy of Mr. R. Engelbach, the Curator of the Museum, the writer has recently had an opportunity of examining it, and he ventures to suggest that the description "thickly encrusted" applied to the salt on it is unfortunate and is likely to convey a wrong impression, as meaning that the mummy is entirely or almost entirely coated with a thick layer of salt, which is not the case.

The skin of the mummy, which is mostly of a light brown colour, is very patchy and mottled, the patches consisting of a number of areas, some of considerable size, that are white, and the mottling taking the form of numerous small, raised spots, practically of the same colour as the skin, covering the chest and abdomen and occurring also on the forehead and having the appearance of an eruption. Neither the white patches nor the mottling is salt. With respect to certain of the white patches, Elliot Smith says[2] "a thin layer of red paste had been applied to the face. In places this has now peeled off leaving white patches." A further white patch round the mouth appears to be where the beeswax covering for the mouth has been removed.

Although the skin of the mummy contains salt, most of this is invisible to the naked eye. There are, however, a few very small areas where there is an efflorescence of tiny salt crystals, so small that they can only just be seen without a lens.

The skin of the mummy is slightly acid, this acidity being due to the presence of fatty acids, and it seems probable that some of the white patches may be caused by these same acids, an efflorescence of which, looking very like salt, was found on all the layers (about twenty) of what was manifestly part of the original wrappings. These were very dark brown in colour and contained resin and a trace of salt. Other parts of the wrappings, which appeared to belong to the re-wrapping of the mummy, also contained a little salt. The "white cheesy material" mentioned by Elliot Smith[3], with which the body had been packed (a small portion of which still remains attached to the inner surface of the abdominal wall), consists essentially of soap, doubtless formed by the combination of fatty acids, derived from the body, and natron. The acidity of the body of Menephtah is not proof that natron, which is alkaline, had not been used for embalming, since, as will be shown later[4], two pigeons that had been treated for 40 days with natron were both acid, due to the fact that the slight amount of natron left after washing had been more than neutralized by fatty acids and possibly other acid decomposition products of the body. The salt, too, on the mummy of Menephtah is not evidence that salt was employed for mummification, since the small amount present might easily have been derived from that occurring naturally in natron, as actually was the case with the pigeons treated with natron[4].

[1] The writer has also examined a number of specimens of white efflorescent material from mummies, including one example from the liver of a Coptic mummy, that proved to be fatty acids (Lucas, *op. cit.*, 55).

[2] Elliot Smith, *op. cit.*, 110.

[3] *Ibid.*

[4] See p. 134.

With regard to the few crystals of salt on the mummy and in the coffin of Tutʿankhamūn, the amount was so small that it is unlikely to have been derived from the use in embalming either of salt or of natron containing salt, and it appears much more probable that it came from the water used in washing or in ceremonially sprinkling the body. Although the water from the Nile at Elephantine was esteemed the most efficacious for this purpose, it is improbable that it was always employed and, if not, then the alternative would be (*a*) water obtained from the river locally, (*b*) water from a sacred pool[1] or from the sacred lake of a temple, or (*c*) well water, the last two of which, (*b*) and (*c*), would probably often contain a considerable proportion of salt[2]. Some such explanation might also reasonably account for the small amount of salt found with the resin from the mummy of Nesikhonsu, or this may have been derived from salt contained as an impurity in natron.

In early Christian times many of the bodies on which salt has been found were not mummified and these, therefore, may be left out of account in the present discussion. The Coptic "mummy" from Nagʿ ed-Dêr mentioned, although termed a mummy in the description that accompanied the specimen of salt received for analysis, had probably not been mummified.

Summary. So far as the foregoing examples of the use of salt are concerned, when the explanations suggested are taken into account, there is no evidence that salt, either solid or in solution, was used in embalming until early Christian times, when it was frequently employed in the dry state, generally outside or between the clothes or wrappings.

Pathological Evidence

The evidence for the use of natron or salt may be considered from the point of view of the pathological changes, if any, that have taken place in the tissues caused by these materials. The only studies of this kind known to the writer are those of Sir Armand Ruffer, who examined a large number of mummies, chiefly of late periods, in order to study "pathological changes histologically."

Ruffer at first accepted the current idea of a bath in which the body was soaked and, as the outcome of his earlier investigations, he stated that "It appears to me probable that the solution used was one of 'natron,' but that this 'natron' consisted chiefly of sodium chloride with a small admixture of carbonate and sulphate of soda[3]." Later, however, as the result of further work, he evidently changed his opinion, since in an unfinished article published after his death he wrote as follows:

"The histological study of the skin does not point to the regular use of a natron bath[4]."

"...there is no evidence whatever for the supposition that the body was ever steeped in a natron solution[4]."

"The wound through which the organs were extracted is always clean, not encrusted with natron and nothing in its state suggests exposure to the action of a caustic fluid[4]."

"Microscopical examination of the muscles of the abdominal wall does not suggest contact with natron. Even if, after immersion, the natron had been carefully washed out of the body —a very difficult and tedious operation—some chemical or histological evidence of use of the natron bath would have been expected. There is no such evidence[4]."

[1] A. M. Blackman, in *Proc. Soc. Bibl. Arch.*, XL (1918), 61–4.

[2] At the present time the water of the sacred lake at Karnak is very salty and, in addition to common salt, it contains both natron and sodium sulphate. Originally, doubtless, this water was sweet, but owing to the position and low level of the lake the various salts now present in considerable quantity would soon begin to accumulate. (A. Lucas, in *Ann. Serv.*, XXV (1925), 50–1.)

[3] Ruffer, *Histological Studies on Egyptian Mummies*, in *Mém. Institut Égyptien*, VI (1911), fasc. III, 31.

[4] Ruffer, in *Cairo Scientific Journal*, IX, 48–51.

"The organs, which had first been removed from and then replaced in the body, also show no sign of having been steeped in natron, and it is very difficult to believe that any amount of washing could have removed the natron so thoroughly as to leave no trace of it behind[1]."

"Microscopically the parietal and visceral pleuræ, the capsule of the liver, the kidneys and, above all, the intestines show no signs whatever of having been in contact with an alkaline fluid[1]."

"...the contention of Schmidt, who asserts as a fact that the bath used was one of sodium chloride. The chemical evidence on which this theory is based is of the thinnest and the biological evidence is practically nil[1]."

"My objection to the theory of the natron or salt bath is that, unless a saturated solution of either was used, it would have led to the most intense putrefaction....If, on the other hand, a saturated solution was used, then, in spite of all successive washings, some excess of salt or natron should be present either on the muscles, skin or elsewhere. This, however, is not the case[1]."

"Although, therefore, I agree that salt and natron were used by embalmers I can find no evidence that the bodies were placed either in a natron bath or in a salt bath[2]."

Summary. The evidence from the pathological examination of mummies furnishes no justification for thinking that the bodies were soaked in a bath or solution.

Was a Bath employed?

In view of the considered opinion just quoted from such a competent authority as Sir Armand Ruffer, the question of whether there ever was a bath of any sort may reasonably be raised. When and how the idea of a bath originated it is unnecessary and profitless to enquire, but it certainly dates from Pettigrew's time (1834) and was accepted by him, since not only does he repeatedly refer to a bath but he quotes[3] a translation, by Laurent, of Herodotus' description of the methods of embalming, in which it is stated that in the first of the three methods described "they steep the body in *natrum*," which can only mean in a solution, and that in the second method they "lay the body in brine," again meaning a liquid, since brine is a strong salt solution. In the third method the statement is merely that "they salt the body," which is suggestive of the use of dry salt, rather than of a solution. In a rendering, by Elliot Smith and Warren Dawson, of the passages in Herodotus relative to embalming, it is stated[4] with respect to all three methods that they "soak" the body "in natron," which can only mean in a solution of natron. But the translations of Herodotus by Rouelle (1750), Rouyer (1809), Wilkinson (1841), Rawlinson (1862) and Godley (1926) respectively make no mention or suggestion of a bath or solution. According to Rouelle[5], in the first method "*ils salent le corps en le couvrant de natrum*"; in the second method "*on sale le corps*", and in the third method "*on met le corps dans le nitre*[5]." Rouyer's translation[6] is identical with that of Rouelle, except that for the third method he uses the word *natrum*[6] in place of nitre.

According to Wilkinson[7], in the first method "they salt the body, keeping it in natron"; in the second method "they keep it in salt" and in the third method "they...salt it."

[1] *Ibid.*

[2] Unfortunately Ruffer's paper was left unfinished at the time of his death, so we are deprived of his alternative suggestion.

[3] Pettigrew, *op. cit.*, 46.

[4] Elliot Smith and Dawson, *op. cit.*, 57–8.

[5] G. F. Rouelle, *Sur les embaumemens des Égyptiens*, in *Histoire de l'Académie Royale des Sciences*, année 1750 (Paris, 1754), 126. Rouelle states (p. 127) that the nitre of the ancients was not saltpetre, but *natrum*, "*un vrai sel alkali fixe*," that is to say natron.

[6] P. C. Rouyer, *Notice sur les embaumemens des anciens Égyptiens*, in *Description de l'Égypte, Antiquités, Mémoires*, I (1809), 209. Rouyer says (p. 212) that *natrum* was obtained from several lakes in Egypt, where it occurred abundantly as "*carbonate de soude*."

[7] J. G. Wilkinson, *The Manners and Customs of the Ancient Egyptians*, II (1841), 452–3.

According to Rawlinson[1], in the first method "the body is placed in *natrum*"; in the second method the body is "laid in *natrum*" and the third method is to "let the body lie in *natrum*."

According to Godley[2], in the first method "they conceal the body for seventy days, embalmed in saltpetre[3]," which strongly suggests that it was hidden in, or covered with, solid material; in the second and third methods "they embalm the body."

Turning now to the original Greek, the word used by Herodotus (II, 86–8) to explain the operation of embalming in the three methods described is the same in each case, namely, *ταριχεύουσι*, which is the third person plural, present indicative, active voice of the verb originally meaning to preserve fish with salt[4], and hence the literal meaning is that they (the embalmers) preserved the body in a manner similar to that in which fish were treated. But, as the description is qualified in one place by the word *λίτρῳ*[3], meaning "with natron," to embalm, therefore, meant to preserve the body like fish, but using natron instead of salt. Both Herodotus[5] and Diodorus (I, 7; II, 1) employ other tenses and variants of the same verb and also related nouns in connexion with embalming. Variants of the verb are used, too, by Herodotus (II, 77[6]; IX, 120) with reference to preserved fish and preserved birds and by Diodorus (I, 3) for preserved fish. In order to understand the method of embalming, therefore, it becomes necessary to know in what manner fish were preserved anciently, which may now be considered. But before doing this, the modern practice may usefully be described.

The principal methods of preserving fish at the present day are salting, smoking and tinning in oil, the two last of which need not be dealt with, as they were not known anciently and have no bearing on the problem.

The first method[7] consists in packing the gutted and "headed" fish in water-tight receptacles (troughs or barrels), in alternate layers with coarse dry salt. The fish are not quite dry, and the water present, and also the body fluids which exude, are absorbed by the salt, which has an affinity for water, with the result that a saturated solution of salt (brine) is formed, in which the fish soak. After this preliminary treatment, the method varies, certain kinds of fish, especially herrings and mackerel, being kept in the brine (pickle) until sold to the consumer; but usually after several days the fish are removed from the brine and stacked in heaps with alternate layers of salt. Aided by the pressure from the weight of fish and salt, more fluid exudes and drains away. After about a week the pile of fish is turned over, those that were at the top being now placed at the bottom and vice versa. After about another week, the fish are firm, flat and fairly hard and dry. They are, however, further dried, either in the open air or by artificial heat, and in this condition they will last indefinitely, if kept in a dry place, whereas herrings and mackerel or other fish, which are not dried, will only remain in good condition so long as they are kept in the brine.

In Egypt, where preserved fish (*fissîkh*) is largely eaten, the preparation, when properly carried out, is as follows[8]: the fresh fish (ungutted) are laid on a sloping cement floor and washed

[1] G. Rawlinson, *History of Herodotus*, II (1862), 86–8.

[2] A. D. Godley, *Herodotus* (1926), *The Loeb Classical Library*, II, 86–8.

[3] The word *λίτρον*, usually *νίτρον* in later Greek writings (*e.g.*, Strabo, *Geography*, XVII, 1, 23), means natron (natural soda) and not saltpetre, as translated by Godley.

[4] For the meaning and use of the word see H. Stephano, *Thesaurus Graecae Linguae*, VII, 1843–7.

[5] II, 67, 69, 85–90; III, 10, 16; VI, 30.

[6] Godley's translation "preserved with brine" is misleading, since brine means a salt solution, whereas salt is not mentioned, but only inferred, and there is no indication that a solution was used and a strong probability that dry salt was employed.

[7] P. C. Cloake, Department of Scientific and Industrial Research, *Red Discolouration on Dried Salted Fish* (1923), 6–7. *Fish Curing*, in *Ency. Brit.* 14th edition (1929), 9.

[8] Department of Public Health, *Report on the Sale of Fish and the Preparation of "Fissîkh" in Egypt* (1916), 17.

with water, after which coarse salt is well rubbed into the gills, mouths and scales, and the fish are then placed in heaps, covered with dry salt and matting and allowed to remain for a period of from about three to five days in summer and for a few days longer in winter. During this treatment, the body fluids (which readily putrefy) drain away and salt solution penetrates and subsequently dries, and the fish are ultimately left almost dry and impregnated with salt.

Frequently the above-mentioned process is varied by being incompletely followed, but, apart from this, there are also other variants, such as washing the fish, placing dry salt in the mouths and gills, then packing it with dry salt in baskets, where it is left for several days, after which it is re-packed with clean salt in tins, jars or barrels, which are closed and left for several months[1]. Another method is to wash the fish, pack it (with or without salt) in baskets (where it is left for several days), then put it into tins or jars with salt and leave it for about three to twenty days, when it is removed, washed and replaced in the tins or jars with clean salt and sealed[1]. A further variant is to treat the fish with dry salt for about a day and then to place it in barrels in strong salt solution (brine)[2]. Fish prepared by this latter process rapidly putrefy when removed from the brine[2]. Fish prepared by dry salting are often kept in brine until sold to the consumer[3]. At Tor (Sinai) the fish are gutted, salted and dried in the sun[1].

Anciently in Egypt, according to Wilkinson[4], fish were preserved by being "opened, salted and hung up to dry in the sun", and the operations of opening and drying are shown on the walls of certain tombs. Diodorus (I, 3) states that fish were preserved (mummified) and exported from Egypt in large quantities; these must have been dried and were probably also salted.

The fullest account of preserved fish that can be found in the works of the ancient writers is that by Athenaeus[5], a native of Naucratis in Egypt, who lived in Rome at the end of the second and the beginning of the third century A.D. Athenaeus discourses at great length on the subject of preserved fish as an article of food, mentioning it more than sixty times in the space of a few pages. To describe it he always employs the same word, or one of its derivatives, that is used by Herodotus and Diodorus not only for preserved fish but also for mummies, and in one instance (III, 119) he calls attention to the use by Sophocles of the same word for mummy as for preserved fish. Some of the Egyptian preserved fish is termed "excellent," but of the Mendesian variety it is said, "fish which even a mad dog would not taste" (III, 118), which one would think must have been similar to the present-day badly prepared *fissîkh*. Some, and probably most, of the preserved fish mentioned by Athenaeus was salted and dried and not pickled in brine, since he writes "sharp-snouted pike, which jagged lumps of salt adorn" (III, 116); "lightly salted" (sprinkled, III, 119); "in baskets I will bring salt fish of Pontus" (III, 119); "I sprinkle more salt on the salt fish" (III, 119); and Diphilus is quoted (III, 120) as saying that salt fish "is dry." Athenaeus, however, also mentions the use of brine for preserving fish (III, 117), though the passage is not very clear. He says: "Take, however, a mackerel three days out of the water before it enters the salted water (pickle) and while it is still new in the jar and only half-cured (half-mummified)," which seems to suggest that there was a preliminary treatment with dry salt before the pickling in brine[6].

In a number of papyri written in Greek that have been found in Egypt, dating from about

[1] *Op. cit.*, 26–7.
[2] *Op. cit.*, 5, 18.
[3] *Op. cit.*, 3, 5, 17–19, 22–3.
[4] J. G. Wilkinson, *The Ancient Egyptians*, II (1890), 181, 189, 190.
[5] *The Deipnosophists*, III, 116–121.
[6] Mackerel is one of the few kinds of fish pickled in brine to-day. See p. 131.

the first century A.D. to about the seventh century A.D.[1], the same word, or a variant of it, that is used by Herodotus and Diodorus to describe both the making of mummies and the preserving of fish is employed sometimes in connexion with mummies and sometimes in connexion with fish, and in one instance, where the context does not help, it has not been possible for the translators to say whether a certain word means fish-salters or embalmers.

Summary. There is nothing in the original Greek of Herodotus' description of embalming to warrant the idea that a bath or solution was used in which the body was soaked. The phraseology of Herodotus, Diodorus, Athenaeus and other writers makes it perfectly clear that the ancient Egyptian process of embalming the human body was analogous to that used for preserving fish, and Herodotus amplifies this by stating that natron was the preservative agent used. The modern method of preserving fish, apart from smoking and tinning in oil, which were not known anciently, is usually by salting and drying, though a few kinds are preserved in brine. In Egypt at the present day fish are generally preserved by means of dry salt. Anciently in Egypt fish were preserved by drying, with or without the use of salt.

The Effect of Natron and Salt

Some years ago[2], when the writer accepted the prevalent idea that the process of mummification included soaking the body in a solution of either natron or salt, in order to satisfy himself that such a method would not destroy the soft tissues, he soaked two chickens (plucked and eviscerated) for 70 days in an 8 per cent. solution of natron and one chicken for the same length of time in an 8 per cent. solution of common salt. There was much putrefaction with considerable smell in both cases. After the soaking, the chickens were immersed in water for about a minute and then exposed to the air for a fortnight to dry. Under the conditions of the experiments and with the particular strength of solutions employed, all three chickens were preserved, but the two that had been in the natron solution were in a much better condition than the one that had been in the salt solution. These mummified chickens were kept for thirteen years before being destroyed, at the end of which time they were in as good a state of preservation as when they were first prepared. Unfortunately no determinations were made to ascertain whether or not the skin and flesh of the chickens had become impregnated with natron and salt respectively, and in order to remedy this omission, further experiments have recently been carried out, using pigeons in place of chickens and a 3 per cent. solution of natron[3] and salt respectively instead of an 8 per cent. solution, 3 per cent. being the strength of the natron solution found in the canopic box of Queen Hetepheres.

Moreover, in order to determine the effects of dry natron and salt, experiments with both these materials were also made as follows: a thick layer of natron[3] in one case and of salt in the other was put at the bottom of a glazed earthenware vessel, and on this in each vessel a pigeon (plucked and eviscerated) was placed, which was then thickly and completely covered with natron or salt, the body being concealed as described by Herodotus. The duration of all four experiments was reduced from 70 days, which was the period previously chosen, to 40 days, the latter being probably more nearly the time taken anciently for this part of the embalming process[4].

[1] B. P. Grenfell and A. S. Hunt, *The Oxyrhynchus Papyri*, I, 84; III, 256; IV, 228; VI, 293; X, 254; *The Amherst Papyri*, II, 150. Grenfell, Hunt and H. I. Bell, *op. cit.*, XVI, 202. Grenfell, Hunt and D. G. Hogarth, *Fayum Towns and their Papyri*, 105, 107. The same rendering also occurs in the Zenon papyri and other papyri that need not be particularized.

[2] Lucas, *Preservative Materials*, 9–10.

[3] Containing 29·4 per cent. of sodium chloride (common salt) and 9·8 per cent. of sodium sulphate.

[4] F. Ll. Griffith, *Stories of the High Priests of Memphis* (1900), 29–30.

At the end of 40 days the experiments were discontinued and the pigeons were taken out of the natron and salt and examined. The pigeon that had been in the natron solution was bleached white, but was whole, plump and in good condition with the skin intact. It was rinsed under the tap, immersed in water for 15 minutes, drained and dried. While it was draining, putrescent blood-coloured fluid came away for several hours, and a slight smell of putrefaction remained for some weeks. The pigeon from the salt solution was no longer recognizable as such, having been reduced to a formless mass of skin, bones and fat (no flesh). The remains, which were bleached white, were rinsed, washed, drained and dried like the other pigeon. During the 40 days the pigeons were soaking there was a very strong smell of putrefaction from both.

The pigeons that had been buried in solid natron and salt respectively were much alike, being hard, dry and much emaciated, with the skin intact; they were practically free from disagreeable smell, of which there had been very little during the 40 days of burial. Neither pigeon was bleached. The natron from the one, where it had been in contact with the body, was discoloured and consolidated from the effects of the exuded body fluids and contained a large number of small dead insects (probably larvae). On dissolving this natron in water, the solution was much discoloured and a considerable number of additional insects became manifest. There were also a number of these insects adhering to the body. The salt from the other pigeon had become slightly consolidated from the exuded body fluids, but was not visibly discoloured, though on dissolving it in water a discoloured solution was produced, in which were a few dead insects similar to those from the first pigeon, but there were no insects on the body. After nine days' drying the pigeons were examined for the presence of natron and salt. There was no visible efflorescence or other perceptible indication of either, but on testing, salt was found to be present in all four instances, in two of which it had manifestly been derived from that contained in the natron. There was no natron present on the two pigeons that had been treated with this material, the bodies being very slightly acid, as were also the two pigeons that had been treated with salt, though with these latter the acidity appeared to be slightly greater.

Summary. Birds (chickens and pigeons) may be preserved whole and in good condition by soaking them either in an 8 per cent. solution of natron for 70 days or in a 3 per cent. solution of natron for 40 days. Birds may be preserved, too, though not nearly in such good condition, by soaking them for 70 days in an 8 per cent. solution of common salt, but they are not preserved when the strength of the solution is reduced to 3 per cent. Birds are dried and excellently preserved by packing them for 40 days either in dry natron or in dry salt. Birds that have been treated with natron do not contain natron, but are acid, the alkali of the natron having been more than neutralized by acid decomposition products from the body. These birds, too, contain salt derived from that originally present as an impurity in the natron. Birds that have been treated with salt contain salt and are also acid from the acid decomposition products of the body.

Argument

The available significant facts having been stated and summarized, it now remains to be seen what conclusions may legitimately be drawn from them. The purpose of mummification was to preserve the body for all time in as life-like a condition as possible and the method of doing this adopted was, at its best, first to remove the brain and other viscera, except the heart (all of which, especially some of the abdominal viscera, readily putrefy), then to dry the body and, as a further measure of protection, to wrap it in a large number of layers of linen cloth and finally to bury it in a dry tomb. Since about 75 per cent. of the human body by weight consists of water, to dry it is not an easy matter, and there are two methods by which this may be done, one by means of heat (which may be either the natural heat of the sun, or

the artificial heat of a fire) and the other by the use of some material (dehydrating agent) that will abstract and absorb the water. Drying such a bulky object and one containing so much water as the human body by exposure to the sun would be a very slow process even in Upper Egypt, and still slower in Lower Egypt, especially during the winter, when there are many sunless days. There is not the slightest evidence that the ancient Egyptians ever employed such a method.

It is sometimes stated, however, that the bodies of the dead were dried by artificial heat. Thus Rouyer says[1], "*Il est certain que les embaumeurs...les plaçoient dans des étuves,*" and Dawson thinks[2] that it is "probable that fire-heat was used, through the medium of some apparatus of which we at present have no information." He also says[3], "considerable heat must have been required to remove the moisture absorbed during their long immersion in salt water. We do not know, however, whether this was done by the heat of the sun, or by fire; probably both methods were employed...." During the Mond excavations in the necropolis at Thebes a chamber was found in the tomb of a certain Hatiay, "where a vast number of dried mummies were piled up almost to the ceiling[4]," and Yeivin, who was associated with the work, states[4] that "the mummies, to judge from their appearance, seem to have been dried over a slow fire, which would explain the smoky appearance of all the chambers and passages above." What there was about the mummies to suggest fire-drying is not mentioned. The mere fact of so many mummies being together in one tomb seems to be strong evidence against this having been the place where they had been prepared, for it is difficult to believe that a large number of people should have handed over the bodies of their relatives to the embalmers and, in the absence of any general cataclysm, should never have reclaimed them.

The piling together of numbers of mummies in one tomb has often been reported and Rouyer says[5], "*on trouve des milliers de momies entassées les unes sur les autres*"; Pettigrew states[6] that Captain Light "found thousands of dead bodies placed in horizontal layers side by side"; Rhind states[7] that "bodies of the humbler classes were, at Thebes, deposited in large catacombs...and piled together to the number, it is said, of hundreds"; Belzoni states[8] that one place "was choked with mummies," and again[9]: "Thus I proceeded from one cave to another all full of mummies piled up in various ways," and Wilkinson explains[10] that "mummies of the lower orders were buried together in a common repository."

That the tomb described by Yeivin was smoke-blackened is no proof that the smoke was that from a fire used to dry human bodies, and there is ample evidence that such blackening of tombs, which is not uncommon, is generally due to one of two causes, namely, either to the tomb having been occupied as a dwelling or to the use of smoky torches by robbers or sightseers. Not only in this case, but also in all others, there is a complete absence of any evidence for the drying of human bodies in ancient Egypt by artificial heat. Such a method would have been very expensive on account of the great scarcity of fuel in the country, besides which it was not necessary, since perfect desiccation may be obtained by means of a dehydrating agent, as is proved by the experiments on the pigeons already described. The drying of the body is not mentioned either by Herodotus or by Diodorus in their accounts of the methods employed for embalming.

One dehydrating agent, the use of which for preserving fish was probably well known in

[1] Rouyer, *op. cit.*, 212. [2] W. Dawson, in *Journal*, XIII, 45.
[3] Dawson, *Contributions to the History of Mummification*, in *Proc. Royal Society of Medicine*, XX (1927), 851.
[4] S. Yeivin, in Liverpool *Annals*, XIII (1926), 15.
[5] Rouyer, *op. cit.*, 214. [6] Pettigrew, *op. cit.*, 40.
[7] A. H. Rhind, *Thebes, its Tombs and their Tenants* (1862), 132.
[8] G. Belzoni, *Operations and Recent Discoveries in Egypt and Nubia* (1820), 157.
[9] Belzoni, *op. cit.*, 157. [10] Wilkinson, *op. cit.*, II, 400.

ancient Egypt at an early date and certainly in Greek times, was common salt, and, as this was plentiful and very effective, one would have expected salt to have been employed in mummification, but, as shown, it was not used until the early Christian period and then not to the best advantage, but only in comparatively small amount, often placed, not in contact with the body, but outside or between the clothes or wrappings, where any drying effect must have been almost negligible, and its use may possibly have been ritualistic or conventional, rather than practical. That it was indeed natron and not salt that was the dehydrating agent employed there cannot be any reasonable doubt, for not only is natron definitely specified by Herodotus, but it has been frequently found on mummies; it is the principal item in all hoards of refuse embalming material; it is encrusted on an embalming platform and on the objects connected with it; it occurs in the form of a solution in two canopic boxes and it has often been found in jars in tombs, whereas salt (apart from that contained naturally in natron) has never been discovered among refuse embalming material, or in tombs, or in any other manner suggesting its use in embalming, except on the body, where its presence, until early Christian times, may satisfactorily be explained by the use of natron, which always contains salt. Moreover, it was natron and not salt that was the great purifying agent in ancient Egypt[1], the embalmer's workshop being the "Place of Purification[2]."

In spite of this array of facts against the use of common salt in embalming, it is frequently stated that salt was the material employed. Thus Schmidt states[3] very emphatically that salt was used and not natron; Elliot Smith and Warren Dawson say[4] "it can be confidently stated that at most periods common salt (mixed with certain natural impurities) was the essential preservative material employed by the Egyptians for embalming," and Dawson states[5] that "in general terms it may be said that for the immersion-bath common salt (mixed with various impurities) and not natron was used." What the various natural impurities consisted of with which the salt was mixed is not stated, but if one of them was natron, then to call the material common salt is incorrect and misleading.

Egyptian natron always contains salt and often in considerable proportion, one specimen from El-Kâb containing as much as 57 per cent.; but this is exceptional and this particular specimen had no connexion with embalming and is not representative of the bulk of the natron from El-Kâb (another specimen of which contained only 12 per cent. of salt), and much less is it representative of that from the Wâdî Naṭrûn, where the highest proportion of common salt in fourteen samples of natron analysed by the writer was 27 per cent.[6] and the lowest 2 per cent. To contend that the material employed in mummification, although nominally natron, was actually common salt, would be fallacious, and if the mere presence of impurities, such as common salt and sodium sulphate, in Egyptian natron makes it reasonable to deny to it the name of natron, then there is no natron in Egypt and it becomes absurd to speak of natron, or of the Wâdî Naṭrûn, or other natron deposits. Egyptian natron consists of sodium carbonate and sodium bicarbonate always mixed with common salt and sodium sulphate, never of sodium carbonate and bicarbonate alone; its characteristic and valuable property, due solely to the carbonate and bicarbonate, is alkalinity, which persists even in presence of considerable proportions of common salt and sodium sulphate, neither of which is alkaline, and it was on

[1] A. M. Blackman, Article *Purification (Egyptian)* in *Hastings Ency. of Religion and Ethics*, x, 476; *Journal*, v, 118–20, 156–63; *Rec. de trav.*, xxxix, 53; E. A. Wallis Budge, *The Liturgy of Funerary Offerings* (1909), 155–7, 207–9.

[2] Blackman, *Journal*, v, 122.

[3] P. 126, n. 12.

[4] Elliot Smith and Dawson, *op. cit.*, 168.

[5] Dawson, *op. cit.*, 49.

[6] The natron bought locally that will be referred to later was probably from the Wâdî Naṭrûn and this contained 29 per cent. of salt.

account of the alkalinity, and not because of the salt or sodium sulphate present, that the ancient Egyptians used natron for making glaze and glass, and possibly also, before soap was known, for washing both clothes and the person, for none of which purposes would either salt or sodium sulphate have been of the slightest use. It seems reasonable to suppose, therefore, that it was also for the alkali that natron was employed in mummification.

The natron sold and used in Egypt to-day is exactly like that employed anciently and is obtained from the Wâdî Naṭrûn, and the specimen bought recently for use in the mummification experiments described, although labelled natron and paid for as natron, contained 29 per cent. of common salt and 10 per cent. of sodium sulphate, despite which it was certainly natron and not "common salt mixed with certain natural impurities." Naturally occurring materials are frequently impure, but by reason of this very impurity they are often more suitable for the purpose for which they are employed than a purer material would be, and it is possible that a purer natron than that used anciently might have been too caustic for mummification. It may be mentioned in this connexion that a number of specimens of salt from early Christian bodies did not contain even a trace of alkali (natron)[1] and therefore had not been obtained from either El-Kâb or the Wâdî Naṭrûn. In these instances salt was manifestly required and not natron containing salt.

One argument that has been used against the employment of natron in embalming is that mummies are generally, though not invariably[2], acid and not alkaline[3]; yet a body may have been treated with natron and still be acid, as is proved by the two pigeons mummified by the writer, one of which had been immersed in a natron solution for 40 days and the other buried in solid natron for the same period. The reason for this apparent anomaly is manifestly that in most cases the fatty acids and possibly other acid products of decomposition have more than neutralized the small amount of alkali (natron) left on the body after washing. The probability that this would prove to be the case was suggested by the writer more than 20 years ago[4].

But, accepting the fact that natron and not salt was the preservative material employed in embalming, was it used in the dry state or as a solution? The latter is generally assumed, apparently largely because certain translators of Herodotus incorrectly state or infer that a solution was used. Two of the earlier writers on the subject of embalming, however, not only translated Herodotus rightly, but realized that the underlying principle of the process he described was essentially one of desiccation. Thus Rouelle says (*op. cit.*, 128, 138, 141), "*les embaumeurs égyptiens ne saloient donc le corps avec le natrum que pour le dessécher*"; "*ces momies ...ont été simplement desséchées en les salant avec le natrum*"; of a certain mummy he is describing he states, "*le corps a été simplement desséché par le natrum*"; and "*ils enlevoient toutes les différentes liqueurs & les graisses aux cadavres par le moyen du sel alkali &...par ce moyen ils les desséchoient si fort qu'il ne restoit que les parties fibreuses...*"; and Rouyer states (*op. cit.*, 211), "*et qu'ils soumettoient ensuite les corps...à l'action des substances qui devoient en opérer la dessiccation.*"

Since the aim of mummification was not merely to preserve the body, but to preserve it in a dry condition, it would have been both unnecessary and irrational to have commenced by soaking it in a solution for a lengthy period, especially when the material employed, if used in the dry state, would have given better results than when used as a solution, and without the very objectionable putrefaction and intensely disagreeable smell attendant upon the wet method. Another reason for thinking that the process was a dry and not a wet one is that human bodies were undoubtedly mummified in a manner analogous to that in which fish were preserved (fish-curing antedating mummification), but with natron instead of salt, and both

[1] Lucas, *Preservative Materials*, 20.
[2] See p. 126, examples 4 (*a*), (*b*), (*c*), (*d*) and (*e*).
[3] P. 126, n. 12.
[4] Lucas, *Preservative Materials*, 11.

ancient and modern methods of preserving fish generally apply salt in the dry state and not as a solution. Sometimes, however, fish, especially certain kinds of fish, are preserved in a solution (brine), but in these instances the fish remain in the brine until sold to the consumer, since, if removed, they quickly putrefy; this mode of preserving fish, therefore, has no bearing on the method of embalming, as it was in the dry condition that the mummy was returned by the embalmers to the relatives and in the dry condition that it was buried and required to last[1].

When the specimens of brain and resin impregnated with natron (see above p. 126) were first examined and described by the writer[2], it was thought that, for the natron to have become so intimately incorporated with the material, it must have been used in the form of a solution, that is as a bath. It is now realized, however, that there are other possible explanations; for instance the body may have been washed with a natron solution, as was sometimes done[3], or a little solid natron left on the body after treatment might have been dissolved by the water employed for the subsequent washing and so might have penetrated to the brain. The resin may have become contaminated by coming into contact with solid natron, either accidentally or intentionally, during the embalming process. In some such manner, too, the presence of natron on Granville's mummy, on the Leeds mummy and on the mummy of Nekhtankh may reasonably be explained.

As evidence against the employment of a solution for embalming we have the fact that no vessel of the size or kind that must have been used for the bath, had there been a bath, has been found. Whether the body had been stretched at full length in the horizontal position in an oblong receptacle, or placed, as suggested by Dawson (*Journal*, XIII, 44), in a sharply flexed position in a large jar, the vessel would have been either pottery or stone; but no such vessel, either whole or broken, has ever been discovered, nor even any pieces of material suggesting such a vessel. Pottery jars of sufficiently large size to contain a human body are known, but they are often of a date anterior to mummification and they have never been found in such circumstances or in such a condition as to suggest their use in embalming. The pottery vessels employed by the writer for soaking the chickens and pigeons used in his mummification experiments were so impregnated with natron and salt respectively that there was no mistaking the nature of the solutions they had contained, and the condition of any pottery vessel used in mummifying the human body by soaking would have been equally unmistakable.

Although a pottery or stone vessel might have been used for the dry method of embalming, this would not have been essential, and a wooden box[4] would have been equally suitable; or the packing in natron might have been done on an embalming platform, such as that found by Winlock[5], or on a mat, such as was also found by Winlock[5], or even on the ground. The actual method of applying the natron is not known, but the repeated occurrence of a large number of small parcels of this material tied up in linen cloth found with refuse embalming material[5] might be explained by supposing that each parcel was a unit of some kind, and that possibly a number of them were packed into the body cavities (thorax and abdomen)[6] or placed on the body or only in special positions on the body, as for instance on the face, the rest of the body being covered with the loose powdered material. One frequent feature, too, of natron found

[1] The viscera, however, were occasionally preserved in a natron solution, as is proved in the case of Hetepheres, but when so preserved they remained in the solution in the tomb.

[2] Lucas, *Preservative Materials*, 13–18.

[3] Blackman, *Rec. de trav.*, XXXIX, 53; *Ency. of Religion and Ethics*, X, 476.

[4] The wooden coffins found containing refuse embalming material may have been used for this purpose; p. 126, note 2.

[5] See p. 126, notes 2 and 3.

[6] The value of this would have been the ease with which they could have been withdrawn when the operation was finished.

with refuse embalming material is its admixture with sawdust[1], which may have been added as an additional absorbent.

An argument that might be advanced in favour of a bath is that the epidermis of mummies is often missing. Elliot Smith attributes this to the action of the bath and says, "the skin shows unmistakable signs of having been macerated until the cuticle...had peeled off[2]"; "the general epidermis, as it was shed (which occurred when the body was steeped...in the preservative brine bath)[3]." Elliot Smith and Dawson say, "in the steeping process the epidermis peeled off[4]"; "the epidermis is nearly always absent owing to maceration[4]." Ruffer says of the mummy of a woman that "the *rete mucosum* of the skin of chest and mammae is almost completely gone[5]," but he explains that at first he "attributed this state of things to the effect of the salt bath, but that it cannot be wholly due to this is proved by the fact that the epidermis of bodies which had certainly never been placed in the bath had also fallen off[5]." He states, too, that "in many cases the epidermis, especially that of the toes and hands, is practically normal[5]"; "it has been taken for granted that the natron bath...would so soften the skin that the epidermis would either fall off in the bath or be easily stripped off afterwards, and because the epidermis has evidently been removed in some instances, this was assumed to have been the result of the natron bath[6]"; "very often...the epidermic layer is absent, but in mummies of the twenty-first Dynasty...the epidermic layer can often be demonstrated[6]"; "the skin of mummies of the Roman epoch is as a rule perfect, the epidermis shows no signs of having been shed[6]"; "it has been taken for granted that a solution of natron...would loosen the cuticle so much that this could easily be removed. As a matter of fact the evidence ...is nil[6]"; "the fact that the skin, including the epidermis, of certain bodies was almost normal shows that the 'natron' bath cannot always have had a very powerful macerating effect[5]." Ruffer further explains that "with the onset of putrefaction the epidermis is raised and ultimately falls off[5]," and quotes the instance of the body of a child where "there was absolutely no sign that it had been touched by the embalmer[5]," and yet "the whole of the epidermis of the soles of the feet and toes was almost completely detached[5]." The fact that the epidermis of mummies is often absent, therefore, is not proof that the body had been soaked in a solution, since putrefaction alone may have been the responsible agent.

That the inner layers of the wrappings of mummies are not infrequently more corroded than the outer layers has often been noted. Thus in the case of the mummy of Tut'ankhamūn "the increasing state of disintegration of the wrappings was noticeable[7]." But attention may be called to a mistake sometimes made in assigning the cause for this phenomenon, as this has a bearing upon one of the details of the mummification process. Elliot Smith states[8]: "The corrosion of the innermost wrappings, as well as other indications, supply evidence that salts probably mixed with crude natron, had been applied to the surface of the skin," and Dawson says[9]: "Another method of preservation was to sprinkle the body after desiccation with crude natron. This has a corrosive effect on the bandages nearest to the body, which often present the appearance of having been scorched or burnt." The writer has failed to find any evidence that dry natron corrodes linen in such a manner as to account for the appearance of the bandages in question and he is unable therefore to agree with the statements quoted respecting the cause for the corrosion. That there may be a slight tendering of linen cloth by

[1] See p. 125, n. 1, 2; p. 126, n. 2. Also J. G. Wilkinson, *Topography of Thebes and General View of Egypt* (1835), 256–7, in which natron is not mentioned, but merely sawdust in linen bags enclosed in earthenware jars, of which many were found at Thebes.

[2] Elliot Smith, in *Mém. Inst. Égyptien*, v (1906), fasc. 1, 18.

[3] Id., *The Migrations of Early Culture* (1929), 23.

[4] Id. and Dawson, *op. cit.*, 88, 124.

[5] Sir M. A. Ruffer, *Studies in the Palaeopathology of Egypt* (1921), 66, 67, 69, 70.

[6] Id., *Cairo Scientific Journal*, IX, 47, 48, 51.

[7] Derry, *op. cit.*, 149.

[8] Elliot Smith, in *Journal*, I, 192.

[9] Dawson, *op. cit.*, 48.

natron is not denied, but that the characteristic blackening and disintegration of mummy wrappings is due to natron is most improbable. As some proof that linen is not always, if ever, corroded by natron, it may be mentioned that none of the linen, seen by the writer, that was used as wrapping for the small parcels of natron found by Winlock at Thebes among refuse embalming material, some of which dates to the Eleventh Dynasty, was either blackened or disintegrated. With respect to the wrappings on the mummy of Tutʿankhamūn, the writer stated several years ago[1]: "The mummy wrappings were in the same disintegrated condition and have all the appearance of having been partly burned. This disintegration seems to be the result of some kind of slow spontaneous combustion in which, almost certainly, fungoid growth plays a part. The precise nature of the phenomenon has not yet been determined, but it is suggested that it commenced with a fungoid attack induced by the warmth and humidity present and that, after a time, chemical changes took place[2]." It seems to be highly probable that after the washing to which, according to Herodotus, the bodies were subjected, they were sometimes, and possibly always, wrapped up without any special drying. At the most the body would be only slightly damp from the washing and in the hot weather (especially in Upper Egypt), or if the wrapping operation was slightly delayed, it would quickly dry, but occasionally in the winter (especially in Lower Egypt) the body might still be damp when the wrappings were applied, and if so, the first layers of linen would absorb the moisture present and would be in a condition that would invite attack by fungus, the spores of which would be likely to be present on the body or on the linen.

To return to the statements by Elliot Smith and Dawson just quoted, any natron present on the mummy (to which the disintegration of the wrappings is attributed) would surely be a little of that left after the natron treatment and subsequent washing, and not natron specially applied and, therefore, it would be proof of dehydration by means of dry natron for which the present writer is contending. Maspero states[3] that "coarsely powdered natron was scattered here and there over the body as an additional preservative" and Dawson says (*Journal*, XIII, 48) that "this sprinkling with natron was common in the New Kingdom and was probably intended to absorb any moisture which might exude from the body or from the paste[4] with which it was coated." No specific instances, however, are mentioned by these writers where material has been found scattered or sprinkled on the body beneath the bandages and found on analysis to be natron; and any such treatment seems very unlikely.

Conclusions

The conclusions of the whole matter are as follows:

1. There is no evidence that soaking the body in a bath or solution played any part in the ancient Egyptian method of mummification, and there is a considerable amount of evidence to the contrary.

2. There is abundant evidence that the body was treated by means of a dehydrating agent, and since, as the result of this treatment, it would have become thoroughly desiccated there was no need for further drying.

3. There is unequivocal evidence that the dehydrating agent employed was natron and not common salt, the natron, however, always containing a certain proportion of salt as a natural impurity.

4. There is a small amount of circumstantial evidence that, at least in some instances, the body was not specially dried after the washing that followed the dehydration treatment and that it was sometimes still damp when wrapped up.

[1] A. Lucas, *The Chemistry of the Tomb*, App. II, in H. Carter, *The Tomb of Tut-ankh-Amen*, II (1927), 185–6.
[2] *Ibid.*
[3] G. Maspero, *The Struggle of the Nations* (1910), 510.
[4] The nature of the paste is not indicated.

MISCELLANEA

By P. E. NEWBERRY

1. A Middle Kingdom Official of Pelusium

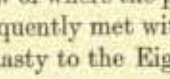
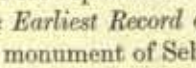
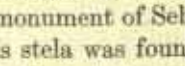
In Mr. Blanchard's collection at Cairo there is a scarab of the *imi-r-pr ḥtpw nṯr, imi-r st Ṡnw Snbb*, "Steward of Divine Offerings, Overseer of the Office in *Ṡnw* (Pelusium), Sen-beb(i)" (Fig. 1). Judging from the style of the back, this scarab dates from the late Twelfth Dynasty or the period immediately succeeding it. It is of special interest in that it mentions the famous frontier fortress *Ṡnw*, Pelusium, and is the only instance that I know of where the place-name is written within the fortress-sign. The first title is frequently met with on monuments of the period from the end of the Twelfth Dynasty to the Eighteenth. The second title may be compared with  , "Overseer of the Office in the Way-of-Horus," *i.e.*, Silē, Tell abu Ṣêfah, the garrison town on the boundary between Egypt and Syria, which occurs upon a statue in the British Museum (Sethe, *Urkunden*, IV, 547). The personal name Sen-bebi was common in the late Twelfth Dynasty, especially in the region of the Eastern Delta and Sinai (see, *e.g.*, Griffith, *Kahun Papyri*, Pls. xi, 26; xiii, 19; Gardiner-Peet, *Sinai*, Nos. 85, 170, etc.).

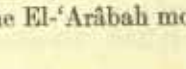
Fig. 1
Scale 1 : 1.

2. A Stela of the Military Officer Sebek-khu who served under Senusret III

In 1901 I published in Garstang's *El Arabeh*, Pl. iv, pp. 32–3, an important Middle Kingdom stela with the autobiographical inscription of a military officer of King Senusret III, named Sebek-khu. I noted then that there was another record of the same officer on a rock at Semneh which is dated in the 9th year of Amenemhet III. The El-'Arâbah stela was allotted to the Manchester Museum, and in 1914 Peet republished the monument in a Museum Handbook entitled *The Stela of Sebek-khu; the Earliest Record of an Egyptian Campaign in Asia*. Both Peet and I had overlooked another monument of Sebek-khu which is preserved in the British Museum (Stela No. 249 (1213)). This stela was found at Abydos and has been published by Budge in *Hieroglyphic Texts*, III, Pl. 12, but the name has been incorrectly copied  (for ), and the plate is wrongly entitled "Stela of Sebek-tau, surnamed Nefer-tchaa" instead of "Sebek-khu with the good name *Ḏꜣꜣ*[1]." The inscription on this stela adds nothing to our knowledge of the officer's career, but it records the names of some members of his family which do not appear upon the El-'Arâbah monument.

3. The King's-Mother Itti

Three scarab-seals of the *mwt-niswt 'Itti*, "King's-Mother Itti," are in the Blanchard Collection, Cairo (Fig. 2). One has a scroll pattern not joined at the top; the other two are

[1]  , *rn-f nfr ḏꜣꜣ*, "his good name *Ḏꜣꜣ*." *Rn-f nfr* is a very common and well-known expression that is found in inscriptions of all periods from the Old Kingdom onwards to Saite times.

plain. Another scarab of this King's-Mother was in the Golenishchef Collection (No. 264). This royal personage belongs to the Second Intermediate Period, perhaps to the Hyksos group.

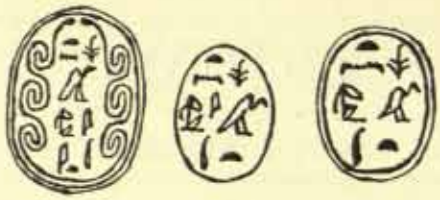


Fig. 2
Scale 1 : 1.

4. The Queen ʿAnkhmʿari

A scarab-seal of the *ḥmt-niswt wrt, ḫnmt nfr ḥdt ʿnḫ-mʿri*, "Great-King's-Wife, Consort-of-the-Beautiful-White-Crown, ʿAnkhmʿari," is in the Blanchard Collection, Cairo (Fig. 3). It is of glazed steatite, the glazing gone grey; the back is broken away. This queen belongs to the Second Intermediate Period and should be classed with Queen Ini, who is also only known from her scarab-seals (Newberry, *Scarabs*, Pl. xii, 5).

Fig. 3
Scale 1 : 1.

Fig. 4
Scale 1 : 2.

Fig. 5
Scale 1 : 1.

5. The Scribe Amenemhēt, Son of Thutimes

In the von Bissing Collection (T. 2360) in the Museum Scheurleer at the Hague is a rectangular clay base for a magical figure inscribed with the name and titles of the [illegible], "Steward who reckons the grain, the scribe Amenemhet, son of the Master of Ceremonies Thutimes, born of the Lady Intef." The tomb of this official (No. 82 in the Theban Necropolis) has been fully published by Davis-Gardiner in *The Tomb of Amenemhēt*, 1915.

6. A Hyksos Scarab with a Scene of Boats

The scarab, a drawing of which is given in Fig. 4 (scale ½), was in the possession of the late Dr. Bull of Benenden, Kent. It is of glazed steatite finely cut, but the glaze has turned grey. The human-faced scarab on the back is typically Hyksos. I know of no other example with a similar scene of canoes upon the water.

7. A Scarab of a Mayor of Heliopolis

In the Blanchard Collection is a glazed steatite scarab-seal (Fig. 5) with the inscription: *ḥꜣtí-ʿ n ʾInw N-mꜣʿt-rʿ m Ḥt-ʿꜣ St*, "The Mayor of Inu (Heliopolis) Nemaʿtrēʿ-m-het-ʿa-Set." This scarab belongs to the Second Intermediate Period.

PRELIMINARY REPORT OF THE EXCAVATIONS AT TELL EL-'AMARNAH, 1931–2

By J. D. S. PENDLEBURY

With Plates xii–xix

The season's work started on October 25th and ended on January 13th. The staff consisted of Mr. J. H. S. Waddington, now archaeological architect to the Palestine Government, whose work will be seen in the excellent plans in the memoir *City of Akhenaten II*; Mr. R. S. Lavers, to whom the plans and restorations in this report are due; Mr. H. W. Fairman, who was able to come, thanks to the acquiescence of Mr. Myers, and without whose services the success of the season would have been impossible; Mr. S. R. Sherman, whose hand will be seen in *City of Akhenaten II* and who was in charge of the re-excavation of the Royal Tomb for most of the latter part of the season. Miss M. A. Chubb, who was again lent us by the London office and whose work, not only in the copying of frescos but also, particularly after my wife's departure, in the running of the camp, was invaluable.

After my wife left Miss Angas completed the party and took charge of the cleaning of the bronzes and of much of the packing of the antiquities. Mr. Engelbach of the Cairo Museum with Mrs. Engelbach spent some days in camp and assisted greatly in the packing of the finds from the Royal Tomb.

It must again be pointed out that I am by no means responsible for the brilliant results which I am here reporting. They are entirely due to the skill and keenness of the staff.

The first half of the season was largely spent in completing the excavation of the northern part of the North Suburb, which lies beyond the Wady, and in digging the Desert Altars which lie in the north-east corner of the site. The result will, I hope, shortly be published in full in the memoir *City of Akhenaten II* and will therefore not be treated here.

The re-excavation of the Royal Tomb, which we undertook at the request and with the financial assistance of the Service des Antiquités, provided important evidence, which must, however, wait until the mending of the finds has been completed. In this connexion we wish to thank the director and curators of the Cairo Museum for the trouble they have taken and the help which they gave and are still giving. A preliminary report, merely describing the excavation, has already been published in the *Annales du Service*.

The North City

While three of the five companies of workmen were engaged in finishing up the North Suburb and in clearing the Desert Altars, the other two continued the work which we had had to leave unfinished at the end of last season, in the extreme north of the city. As was explained in the last report, we had begun to clear the great gateway which lies due west of the north excavation house, and had already obtained evidence of a considerable amount of fallen wall paintings. This season the remainder of the débris was cleared by hand, a laborious process,

carried out by Mrs. Pendlebury, Miss Chubb and Mr. Sherman. To our disappointment there were no large stretches of paint preserved unbroken, owing to the fact that it was not, as we had originally imagined, the gateway itself which was decorated but the room above.

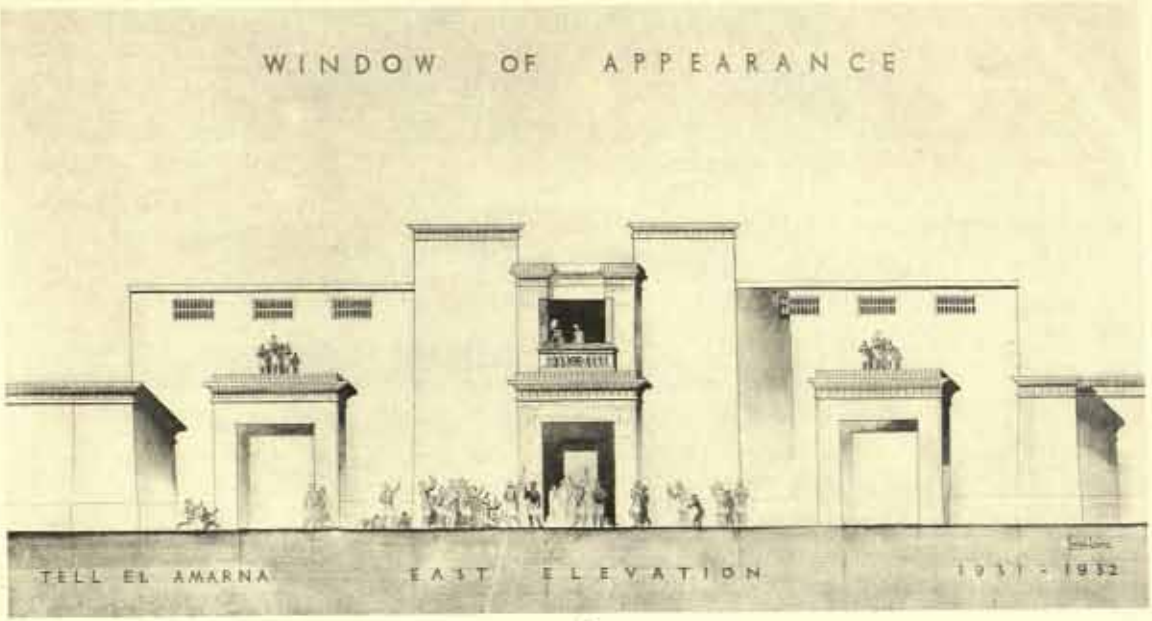
The gateway when cleared (Pl. xiii, fig. 4) proved to have been quite undecorated unless, as is possible, the mud brick had once been faced with stone slabs. Two more fragments of statuary in very bad limestone were found, which had obviously come from the group which originally stood above the smaller uraeus cornice which crowned the false doors. The brilliant elevation of the main gate, with the flanking towers and false doors, which is the work of Mr. Lavers, is put forward tentatively (Pl. xii, fig. 1). The height of the lower room on the north side of the gate is fixed by the height of the solid tower to the south. The height of the upper rooms has been obtained by taking the proportion of the former height to the diameter of the large column bases found below, and giving the columns of the upper room the same proportion to the smaller bases which were found fallen from above. The details of the arrangement of beams and rafters within, which is too long a question to go into now, are also due to Mr. Lavers.

The decoration of the "Window Room" above the central gateway was determined by the careful noting of the position of every fragment of plaster, and the reconstruction here given by Mr. Lavers is the result of the labours of those engaged in raising the paint (Pl. xii, fig. 2). Since only fragments of the lintels were discovered, their proportions and those of the doors were taken to be the same as those in Hatiay's house (*Journal*, XVII, 237 ff.).

The details which are uncertain are the exact nature of the two side swags—since only very small pieces of the birds were recovered—and the exact nature of the decoration of the two side panels. We have taken a piece discovered last year, which seems to be a jewellery stand, as the main motive; and that would be very suitable if we are right in believing this to be a place from which the king would present the gold of his favour to his followers. With the central panel we are on firmer ground. We know from the cartouches that Akhenaten and Smenkhkerēʿ and Meritaten were present, and we found traces of horses and chariots, as well as human faces. The panels were framed, Victorianly, in imitation grained wood—a method used also in a fresco from Tiryns. The scenes themselves were painted on a yellow background, the top of which curved over before running up into the frieze so as to give the impression of a window. The presence of Smenkhkerēʿ and Meritaten alone with the king and the complete absence of Nefertiti make it clear that this gateway was at any rate decorated—if not built—after Nefertiti's fall from power. It is therefore all the more remarkable that our theory of last year seems to have proved correct, and that the palace whose presence we suspected built up against the wall, to the west, really does seem to be the place to which she retired.

As we feared, most of the building was under the cultivation, and though, thanks to the intervention of the 'omdah, we were able to extend our excavation underneath, we found nothing to encourage us to risk the expense of continuing. The palace was evidently terraced, and near the cultivation occurred really massive walls and piers (Pl. xiii, fig. 5). The objects found were few and far between, the most notable being the fragments of a fine alabaster vase with the titles of Akhenaten and Nefertiti inlaid in blue (Pl. xiv, fig. 4). At the very north end, in a shallow pit, lay a cow trussed for sacrifice, perhaps a foundation deposit (Pl. xiii, fig. 3).

But the most interesting things were a great number of clay wine-jar sealings. By far the largest proportion of them bore the name of Nefertiti, hitherto unknown on such objects. Nearly all the rest were inscribed *Ḥꜣt ỉtn*. This very definitely connects Nefertiti with the building, and yet the building is later than the wall and gateway, which, as we have seen, can be dated to after her fall from power. I do not see what other theory will fit the facts. The



1

2

1. Elevation of the Great Gate and the Window of Appearances.
2. Reconstruction of one of the decorated walls in the room above the Gate. *Scale c.* $\frac{1}{12}$.

1

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1. Bridge over Royal Road.
3. Cow trussed for sacrifice in Palace west of the Wall.
5. Square piers in Palace west of the Wall.

2. P. 43.2. Priest's Robing Rooms.
4. Great Gate cleared.
6. U. 24.1. Column bases surrounded with mud.

Plate XIII.

presence of Akhenaten's name on the vase and on various fragments of door jambs and lintels we found last year can easily be explained if we regard Nefertiti as having gone into a dignified retirement and carried on as if nothing had happened.

The excavation of the grounds of our own house U. 25. 11, and, I regret to say, the partial excavation of the house itself, were also undertaken (Pl. xv). The only existing plan had been made, apparently, of the house as it had been rebuilt; it bore no relation to facts whatsoever. On the front steps we found a large number of fragments of inscription belonging to the jambs and lintel. Other fragments had been discovered and are now lost. Of the internal decoration we know nothing but what we gathered from the careful excavation of a mass of painted plaster, at the bottom of which was a label saying it had been re-buried. There seems to be no record.

The house proved to be, as we expected, the biggest in the whole city; the West Loggia contains twelve column bases and the central room four, of a size greater than any others hitherto discovered. It has, like U. 25. 7, a two-columned room to the south of the central room with two rooms opening off south of that. As in U. 25. 7 again the private quarters are meagre in the extreme.

To the south lies a wooded garden with traces of a stone chapel fronting on to a deep lake. A passage running round the north side of the house leads first to a large open court with sixteen corn bins and eventually to a row of workmen's cottages—some of which had been excavated by the Germans and later rebuilt to house our own Ḳuftis. These cottages are of the same type as those in the workmen's village near the South Tombs. They consist of an entrance hall, a central room with two smaller rooms behind, and a flight of stairs up to the roof. Another curious parallel to the workmen's village was the discovery of the skeleton of a cow under the stairs, in the same peaceful attitude as that of the horse described by Woolley. Behind the cottages lie the great barns and compounds which we excavated last year. The whole estate, which is some two hundred by one hundred metres, gives one the impression of being, perhaps, the "Ministry of Agriculture."

Three other well-preserved houses to the north were cleared. A peculiar feature in U. 24. 1 was the fact that the stone column bases in the West Loggia were surrounded with mud, and part of what seemed to be a red mud column was lying near them (Pl. xiii, fig. 6). U. 24. 2 was exceptional in boasting a guests' cloakroom, or rather a stone washing-slab in a lobby opening off the porch.

U. 24. 3 had been much built over by squatters, but in clearing up the house for photography the bronze cup, bearing the name of the Royal Scribe Iuaa, shown on Pl. xiv, fig. 5, was found hidden in a crevice between two bricks.

The Royal Estate

When the three companies had finished their work on the North Suburb and the altars, they were shifted down to the most promising part of the city, where they were soon joined by the rest of the men once a clear line had been obtained in the extreme north.

The first point of attack was the site known as the Small Temple, which lies due east of Petrie's Palace. Petrie had dug a trial trench in the outer court but without finding anything to justify a more thorough examination. The plan as we recovered it is shown in Pl. xvi. The building was entered from the west by three gates, the main gate being flanked by massive brick pylons (Pl. xvii, figs. 1, 2). All the stone paving had been ripped up from the gateways. But the cement foundation in which it had been bedded retained the impression of a number of mason's marks, the most frequently recurring of which was the sign for "foundations."

The central gateway was a problem. There were three layers of cement, and the only

explanation possible was a change of plan during the construction. Originally there had been a gangway across the middle at a higher level, while the sides were lower; but perhaps the danger of a chariot going over the edge induced them to raise the level of the side wings even higher than the centre. The pylons are of solid brick; there is no trace of any inner chambers or of any means of climbing to the top. Outside were the usual slots for flag-poles and inside two niches for stelae. One of these had been blocked up and contained a large number of broken fragments of sandstone which are still waiting to be put together.

Immediately inside the entrance were the foundations of a building whose plan was clearer from the indications before its excavation than from the darker marks left by brick dust in the sand after it had been dug. It was probably a large altar with a ramp up to it, of the type seen in the tomb reliefs, where the king could make his preliminary offerings. Surrounding it were a number of mud bases in orderly rows which must have supported an awning, though immediately within the gateway were two oblong ones strengthened with stones on which sphinxes or statues of the king may have stood (Pl. xvii, fig. 3).

The rest of the first court was open. The second series of gateways was identical with the first, with the same slots for flag-poles and the same niches for stelae on the inner side. Some fragments of a granite stela were recovered from here. They show several of the princesses and first gave us the name of the temple: *Tꜣ ḥꜣt n pꜣ ỉtn*, the Castle of the Aten "in the centre of Akhetaten," as the phrase continues. On many of the bricks, particularly from this court, the sign [illegible] occurs, and the name is evidently the same as that lost "—*t* of the Aten" which Akhenaten mentions on the boundary stela as his second project after the construction of the *Pr ỉtn*.

Immediately within the second pylon seems to be another altar on the main axis, though only the very slightest traces remain. In the second court are two side doors in the north and south walls leading to the King's House and to the Priests' Quarters respectively (see below). From the base of the pylon came the exquisite hand and arm in sandstone (Pl. xiv, fig. 3). In the south-east corner, built up against the third pylon, is a small house, probably that of the priest on duty.

In the third court, entered in the same way as the first two, lies the sanctuary proper, surrounded by an ambulatory planted with trees. The excavation and the restored plan of the sanctuary are due to Messrs. Fairman and Lavers and to the practical genius of that prince of *reises* 'Ali Sherraif. Like those of the great temple the walls were of rubble faced with good masonry, and we tackled them in the same way as the Great Temple has been tackled, *viz.*, by attempting to cut away the mass of rubble until some solid core was reached, for as in all the buildings at 'Amarnah the good stone facing had been entirely quarried away. But it was soon realized that there was no core to the rubble, and when a corner of the foundations was laid bare it could be seen that upon a cement bed had originally rested a course of stone above which the rubble began. This stone also had been taken so that not one piece of rubble remained *in situ*. The only plan was therefore to clear away every scrap of rubble and trust that the cement foundation-setting would be well enough preserved to give the plan. Incidentally, this will also have to be done some day to the Great Temple, where quite meaningless walls of rubble have been left standing, with the real lines, shown by the cement foundations, running in and out below them. Until this has been done and until the other large buildings in the temenos have been cleared, no one has a right to talk about it.

Pl. xvii, fig. 4, gives a good idea of the state of the sanctuary of the Small Temple after excavation. In the foreground is a mud ramp. Immediately beyond that the foundations of the west wall cross the photograph. Impressed in them can be seen the marks of the bottom course of stones and the holes made by the picks in levering them up. Beyond that again are

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1. Caricature of Akhenaten. P. 42.1.
2. Painted limestone statuette. Temple.
3. Sculpture fragments. Temple.
4. Inlaid alabaster vase. Palace west of the Wall.
5. Bronze cup. U. 24.3.
6. Sculptor's trial piece. P. 42.1.

Scale of 1, 2, 5, 6 : ½; 3 : ⅔; 4 : ⅙.

the foundations of an altar on the main axis, lying in the middle of an open court; further east is a second court with a colonnade all round, and at the extreme east end is a row of three small rooms which may be the inner sanctuary. The cement bedding is at three levels; the highest was the foundation of the floor slabs, where the pressure was not great; the middle layer was sunk somewhat below the level of the ground to support the walls; the lowest received the concentrated pressure of the great columns, or of the square piers behind them. Many fragments of these columns were found buried in the rubble; some can be seen in the photograph. It appears probable that most of them were engaged. They are of an entirely different set of orders from anything we know. What sort of capitals crowned them it is difficult to say, for the only pieces of cut stone which would do duty were in appearance more like *anta* caps than capitals of columns.

Several hundred fragments of inscriptions and sculpture were found in the sanctuary. They had all been wantonly smashed. The finest pieces of sculpture were in very hard white limestone from Ḳâw, beautifully finished (Pl. xviii, figs. 2–4). There are fragments of arms and headdresses, thighs and feet, but no single face except a tiny chip (Pl. xiv, fig. 3 centre). On the sculpture and in the inscriptions it is noteworthy that the Aten name is everywhere in its early form. The only head from the whole temple was that in sandstone of one of the princesses (Pl. xix, fig. 1). It originally formed part of a dyad, but her sister has disappeared. The inscription at the back begins "Royal Daughter" and then breaks off—so even now we do not know the name of a single one of the princesses whose heads we have.

From the south-west corner outside the temenos wall came the small figure in painted limestone (Pl. xiv, fig. 2). It very much resembles that found by Newton in Q. 44. 1. Unfortunately it is uninscribed. Outside the side gate south from the second court lay another mass of débris which contained more fragments of inscriptions and sculpture. They had evidently been dumped there at the time of the destruction. In the same area were two rubbish pits filled with painters' refuse, lumps of colour and broken pots used as palettes, etc.

Further south lay the temple property; to the east the sacred lake with a terrace at one side; in the middle a building which seems to have been the dormitory and robing rooms of the priests (P. 43. 2: Pl. xiii, fig. 2); to the west a large building, apparently the temple workshops and magazines (P. 43. 1). Here were ovens and glazing kilns all opening off a central gangway. In this house were found two fragments of a dark blue faience statuette representing a bearded foreigner. The country from which he came was inscribed on his kilt (Pl. xviii, fig. 1) but except for the final signs it has been broken off. The bricks of P. 43. 1 and 2 were alike inscribed with the mark of the temple [illegible].

To the north of the temple lay Petrie's House 13, which is also stated to have had bricks inscribed with this sign. Since part of the house had been left unexcavated it was decided to complete it. But the inaccuracies of the plan as a whole made it necessary to re-excavate nearly half. It was from this house that the fresco of the princesses now at the Ashmolean came, and during the course of excavation a great deal more of the same scene, admittedly mostly in small fragments, was recovered. Besides this, a large piece of dado from the main room, still *in situ*, was successfully removed by Miss Chubb, though it was almost immediately broken in two by careless handling on my own part.

The house itself does not conform to the normal type at all, and, having regard to its private entrance to the temple as well as to the bridge which connects it with Petrie's Palace, and to the presence on its walls of an intimate scene in the life of the royal family, I think we are justified in regarding it as the private residence of the king, particularly since the great palace has no domestic quarter. If this is so we have discovered two very interesting points of personal contact with the king. The first is the row of six bedrooms opening all off one corridor, which

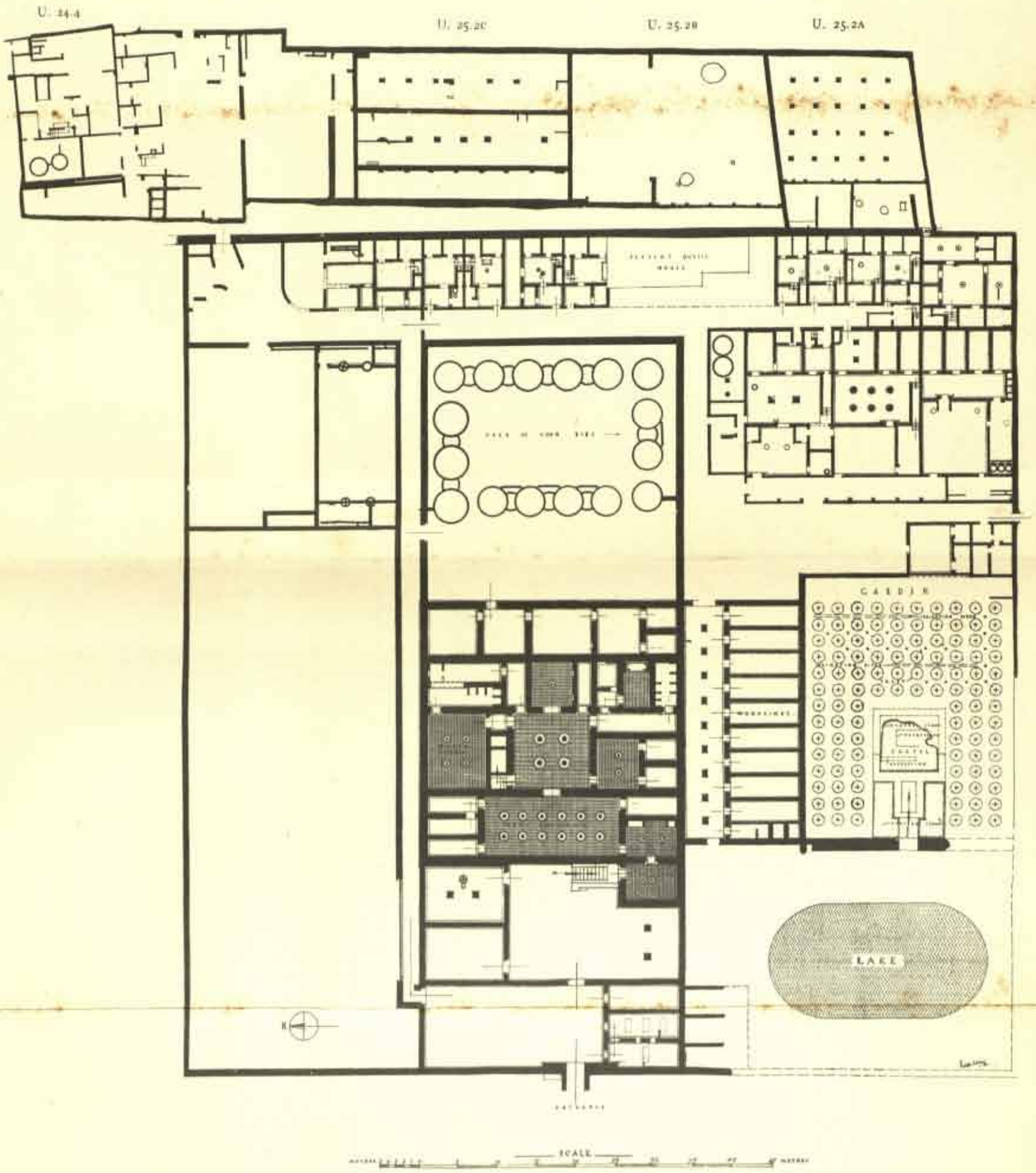
may well be the night nurseries of the six little princesses. The second is a painting outfit consisting of two brushes, three fishbones, whose coloured tips showed they had been used for drawing, and a number of lumps of paint. May they not be Akhenaten's own?

The garden of the house extended some way north and was in three terraces. From the second terrace ran the bridge across the road to the great official Palace. The road passes below it through three gates, the central one being paved in brick, the two side ones in stone. A feature of the construction is the presence of huge balks of timber in the brickwork often as much as 30 cm. square by three or more metres long (Pl. xiii, fig. 1). This is much greater than is necessary for the prevention of the ordinary shrinkage of drying mud brick. Above the gates —in the bridge proper in fact—were stretches of wall paintings of which fantastic fragments, green leaves on black, impossibly brilliant flowers on olive green, were found. Since the excavation of the westernmost of the three gates has not yet been completed we still hope for more. This bridge must surely have been a "Window of Appearances." It spans the main road of the city and is intimately connected with the royal buildings. When we excavate the end which is in the Palace we may get more evidence as to its exact nature.

East of the King's House lies the great series of magazines, some of which were excavated by Petrie under the name of No. 17. They are built over an earlier building, whose massive foundations run below the later walls and whose pavements can be made out here and there. In the north court of the magazines there seems to have been a small shrine running along the east side. At the north end of this court were made in one day the three most impressive finds of the season. A wooden ushabti box inscribed with an official's name, which when opened proved to contain a pair of ivory castanets in the shape of hands (Pl. xix, fig. 4), a sculptor's trial piece in sandstone bearing the exquisitely worked head of a king—perhaps Smenkhkerēʿ —certainly not Akhenaten (Pl. xix, fig. 2), and—just as the whistle was going in the evening —a magnificent alabaster jar (Pl. xix, fig. 3) inscribed with the names of Queen Hatshepsut (the name of Amūn is carefully erased) and with the amount, 24½ *hin*, which it would hold. This perfect vase must have been an heirloom brought from Thebes when the city was first founded.

In the garden to the north of the Royal House we found two more sculptor's trial pieces; one of them (Pl. xiv, fig. 6) shows the beginning of a portrait of a princess. It is the work of a novice, for one can see how the eye has originally been put in too high and corrected later. But the mouth is a wonderful example of 'Amarnah sweetness. The second trial piece (Pl. xiv, fig. 1) is a really rude caricature of the king. It is roughly, but villainously well drawn, and shows him blear-eyed and unshaven, with a bristly chin. The only parallel to this that I know is the portrait of Ramesses III in his own tomb. The other side of the stone was also sculptured and showed part of a man's face. In this case the portrait was finished and coloured, and again there are traces of whiskers, though it is not the king. Several more trial pieces were found in the road to the north. Some of them have faces of princesses, one has the face of the king in the grotesque early 'Amarnah style, and one is engraved on both sides with a number of hieroglyphs very carefully cut for practice. The presence of all these may well indicate that we are nearing another sculptor's house with who knows what treasures.

This part of the city was the centre of life. Until it has been completely cleared we have very little right to talk about 'Amarnah. The two hundred yards or so between the northern limit of this year's work and the Great Temple bristle with opportunities. Just to the east lies the house where the 'Amarnah letters were found, and beyond that are more official buildings. The mere re-excavation of the official Palace should provide a lot of material. Only the fringe in fact of the centre of the city has as yet been touched. Meanwhile the steady clearing of a number of private houses each year should proceed. We cannot help forming theories as we

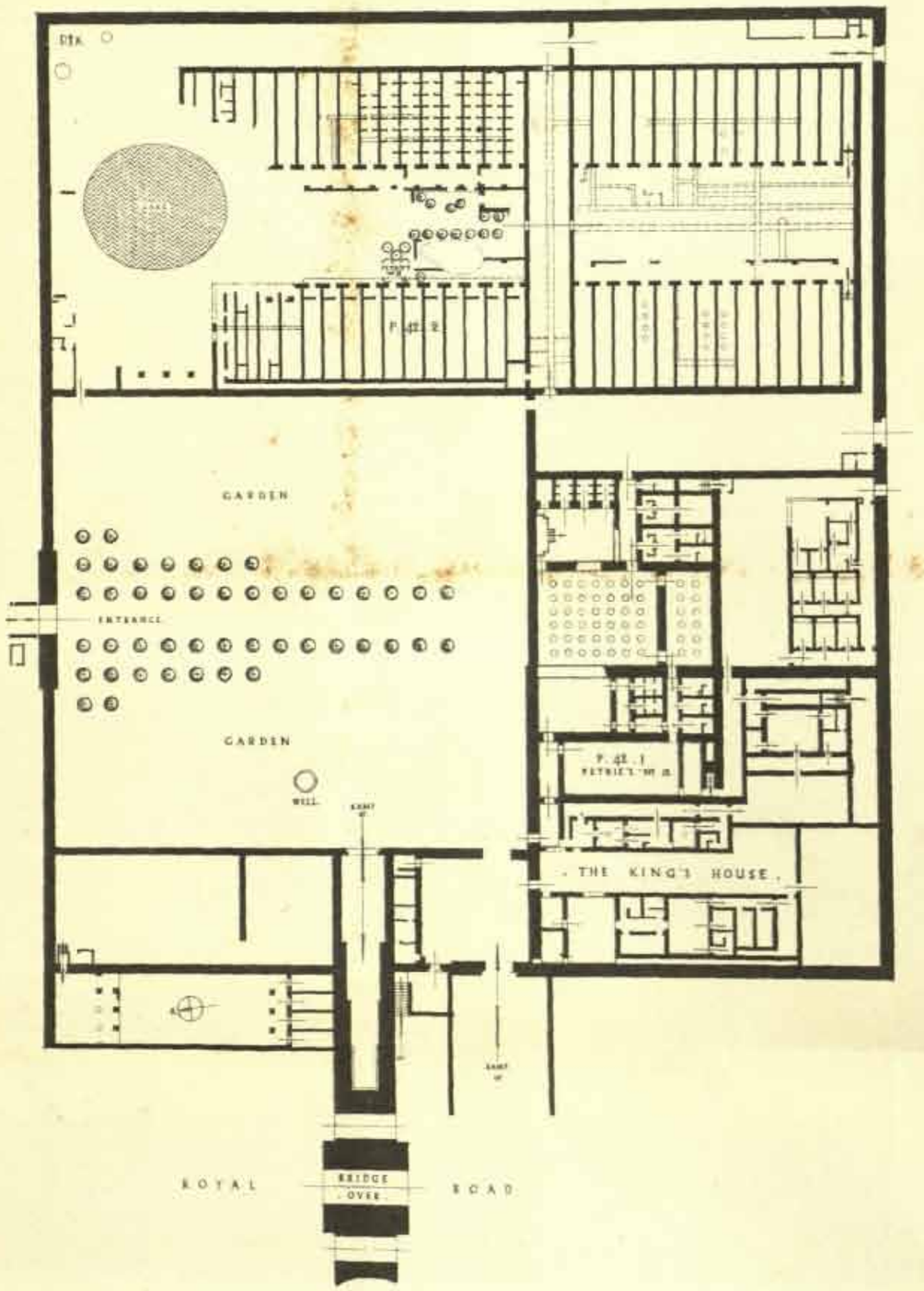


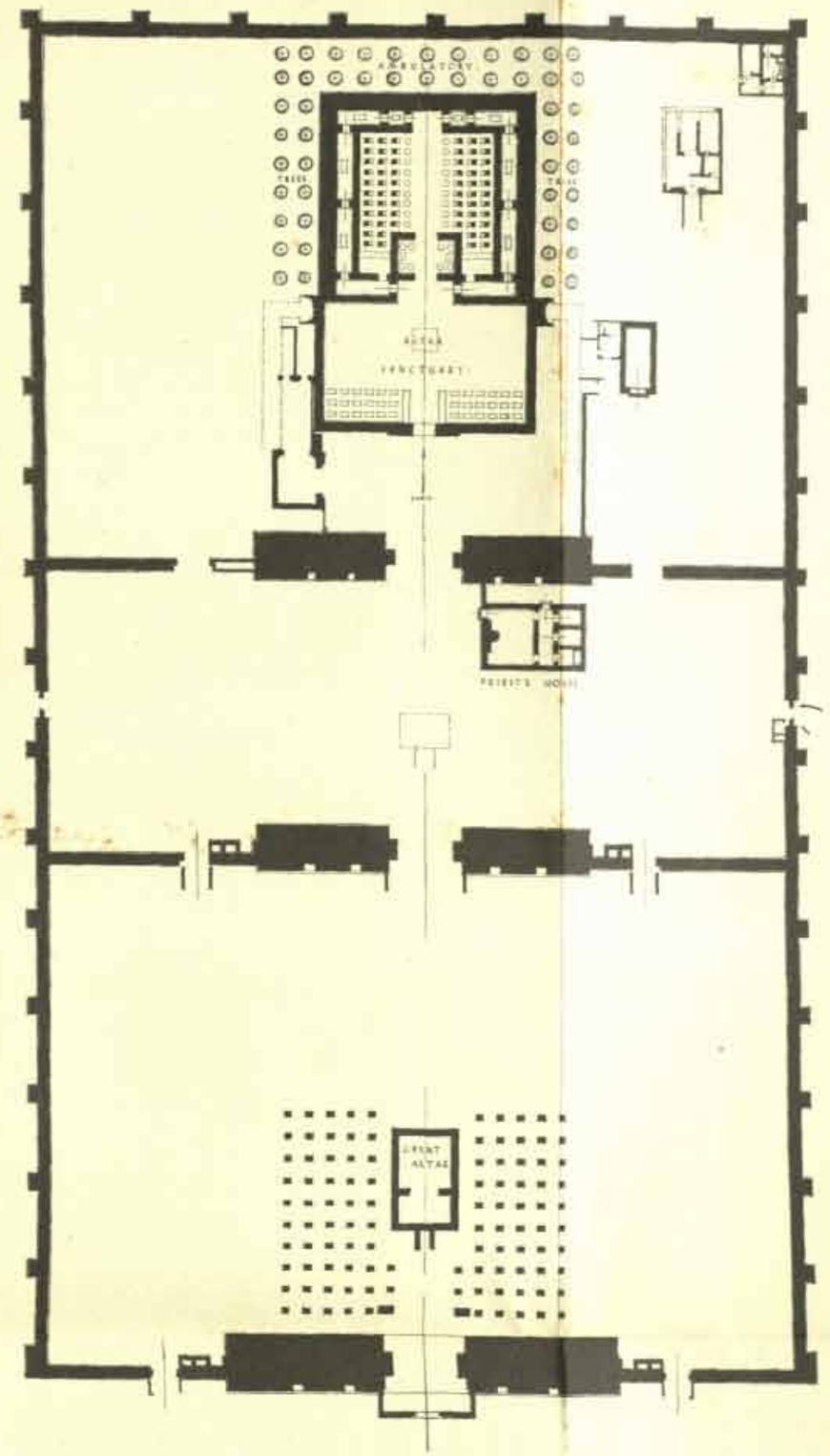
House U. 25.11 and grounds.

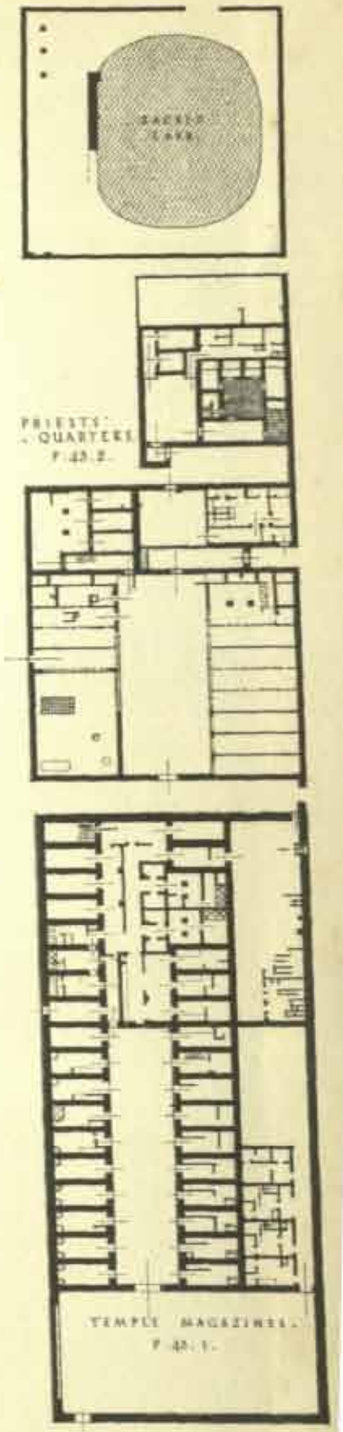
Plate XV.

THE ROYAL ESTATE TELL EL AMARNA, 1931-32.

SCALE







THE ROYAL ESTATE.

1

2

3

4

The Temple, Hat Aten.

1. The First Pylon, North Tower.
2. The main entrance.
3. The mud bases inside the entrance.
4. The Sanctuary from the West.

1

2

3

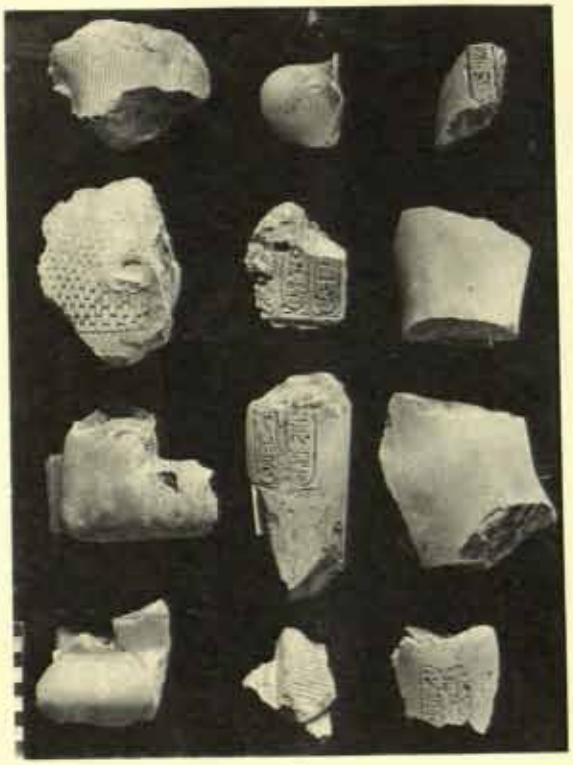
4

The Temple, Hat Aten.

1. The First Pylon, North Tower.
2. The main entrance.
3. The mud bases inside the entrance.
4. The Sanctuary from the West.

1

2



3

4

1. Fragments of faience figure of a foreigner. P. 43.1. *Scale* ½.
2. Fragment of relief; from the Temple. *Scale* ½.
3 and 4. Fragments of hard white limestone statues, of life size; from the Temple. *Scale* ½.

1

2

3

4

1. Head of Princess in sandstone; from the Temple.
2. Sculptor's trial piece. P. 42.2.
3. Alabaster vase inscribed for Hatshepsut. P. 42.2.
4. Shawabti case with ivory hands. P. 42.2.

Scale of 1 *&* 2 : *one half*; 3 *&* 4 : *one quarter.*

go along, but until the whole of the city has been worked over we cannot take any of them as proved. And the period is so fascinating that we cannot afford to miss anything.

This year again our gratitude is mainly due to Mrs. Hubbard for her continued support. But also we wish to thank most warmly all those givers of shillings at the exhibition. If £29. 10*s*. 0*d*. does not actually represent five hundred and ninety people whose interest in 'Amarnah has been aroused, it represents a very large number, and if we cannot interest people in our work the sooner we stop the better.

STUDIES IN THE EGYPTIAN MEDICAL TEXTS

By WARREN R. DAWSON

1. The words [illegible] and [illegible]

In the Egyptian medical texts, but so far as I am aware, not elsewhere, there occurs from time to time a rare word with an ovoid determinative, [illegible], *ꜥmm*, which is a part of some animal, for it is never used in connexion with the human body. The passages in which the word occurs are as follows:

1. Of the *nꜥr*-fish: *Ebers*, 30. 1 (128)[1].
2. Of the *nꜥr*-fish: *Hearst*, 13. 10 (203).
3. Of the *ꜥpnnt*: *Ebers*, 63. 20 (427).
4. Of the *trp*-duck: *Ebers*, 32. 3 (146).
5. Of the *pggt*: *Hearst*, 13. 6 (198).

The word *ꜥmm* has been variously interpreted as a viscus, as brain, and as roe or eggs. The last-named sense is doubtfully attributed to the word by Reisner[2] and by the editors of the *Wb. d. aeg. Spr.* (I, 186). Wreszinski[3] and Chassinat[4] adopt the meaning "brain," on the ground that the first of the above-named passages speaks of the "*ꜥmm* of the *nꜥr*-fish, which is found within its head." This phrase at once disposes of the possibility of the meaning "roe" or "eggs."

I cannot think, however, that *ꜥmm* can mean brain. The word for "brain," *ỉs* or *ỉs*, is already well known, and is used both of human beings and of animals[5]. The fact that the writer of the Ebers passage takes the trouble to explain that the *ꜥmm* of the fish is found inside its head to my mind indicates that some organ or structure other than the brain is intended. Had "brain" been meant, the explanatory phrase is quite unnecessary in speaking of so obvious an organ. It is as needless to explain that the brain is found within the head as it would be to say that the heart is in the thorax or the intestines are within the abdomen. The fact that in the case of the fish the *ꜥmm* is stated to be inside the head rather implies that it is usually found elsewhere in other animals. We have therefore to find something other than the brain that is contained in the head of a fish to which the word *ꜥmm* can refer. The alternative, it seems to me, is clear, and the structure referred to can be no other than the otolith, a calcareous shell-like concretion in the internal ear. Otoliths occur in various stages of development in many vertebrate animals, and they are especially conspicuous in numerous species of teleost fishes, where they form hard shell-like bodies of appreciable size, generally two in each ear. The *nꜥr*-fish is the species known to science as *Clarias anguillaris*, and the size of its otolith would range from about 5 mm. to 10 mm. in a specimen of average size, and up to about 12 mm. or 15 mm. in a very large individual. Assuming, therefore, that I am right in suggesting *ꜥmm* = otolith in the case of the fish, it remains to discover how this interpretation fits in with the other animals mentioned.

[1] The numbers in brackets refer to the sections of Wreszinski's edition.
[2] *Hearst Medical Papyrus*, Vocabulary, 18.
[3] *Der Londoner Medizinische Papyrus*, 118.
[4] *Un papyrus médical copte*, 214.
[5] Examples: *Urkunden*, IV, 84; *Ebers*, 80. 20; 97. 8; *Edwin Smith*, 2. 18 and often.

The word ꜥpnnt, with determinative either or , has had many translations proposed for it. It has been variously interpreted as a kind of snake, as a worm, as a lizard, as a mole, etc. Chassinat believes that the word denotes two different animals: a reptile when written with the snake-determinative, and a mammal, the otter, when determined with the hide, the usual determinative of animals, and especially of quadrupeds[1]. In my opinion, the interchange of general and specific determinatives, especially in hieratic texts, is far too promiscuous a ground upon which to found the proposal that two animals so widely different as a snake (or worm) and an otter can be signified by the same word, differing merely in its determinative. The ꜥpnnt is nearly always determined by the snake-sign[2]; the hide-determinative, so far as I am aware, occurs but twice[3]. It appears to me quite clear that some creeping animal is meant, and an animal so small that seven of them, together with seven flies and seven earthworms, are used in a single prescription[4]. Now the only small creeping animal that secretes calcareous matter at all resembling the otoliths of fishes is the slug. In most species of slugs the shell is small and rudimentary, often internal and partly concealed by the mantle, and in at least one genus (*Arion*, which includes the common black slug of Europe, *A. ater*) the rudimentary or vestigial shell is represented by numerous irregular calcareous granules. I submit therefore that "slug" is the probable meaning of ꜥpnnt and that ꜥmm is its shell.

In the case of the duck, the identification of ꜥmm with a shell-like or calcareous concretion is at first sight more difficult, but when it is remembered that the gizzards of many birds (and especially those of pigeons, fowls and ducks) when opened are found to contain small pebbles, fragments of shells and other similar objects, in such cases, therefore, it is quite possible that the word ꜥmm can mean a small pebble, shell or granule taken from the stomach of a duck.

The remaining animal, the *pggt*, occurs, so far as I am aware, but once only, in circumstances that do not help us to define it. In this case and oil are used as a medicament for sore toes[5]. As the prescription is an alternative to the one that precedes it, which consists of a slug ( ) cut up and brayed with salt[6], it is probable that the *pggt* is an animal similar in nature to the ꜥpnnt and may be another kind of slug or snail.

It may be added that the existence of otoliths in fishes was known to the Greeks[7], and in medieval times they were worn as charms against colic and other ailments, or ground up and used in medicines.

2. The bird

In one of the glosses to the twenty-second case in the Edwin Smith surgical treatise the meaning of the expression "the end of the ramus" is explained (recto, 8. 14–15). "The ramus (*ꜣmꜥt*), the end of it is in his temple just as the claw of an *ꜣamꜥe*-bird (*ꜣmꜥ*) grasps an object[8]." Professor Breasted has pointed out that the "claw of the *ꜣamꜥe*-bird" is written as a single word, with a special determinative, , and adds "this is obviously the claw of some two-toed bird, inserted here more or less as a drawing or sketch of the bird's claw" (p. 294). Professor Breasted, in speaking of *some* two-toed bird, suggests that we have a choice of several species, but actually the only two-toed bird is the ostrich, in which the two digits are not opposable but parallel, and have no ability to grasp. The special determinative in the text

[1] E. Chassinat, *op. cit.*, 215.

[2] *Ebers*, 74. 14 (576); 88. 15 (733); *Hearst*, 10. 4 (144); 10. 18 (157); 11. 3 (159); 13. 5 (197); *Cairo Hymn to Amûn*, 6. 5.

[3] *Ebers*, 63. 20 (427); 88. 5 (727).

[4] *Ebers*, 74. 14 (576).

[5] *Hearst*, 13. 6 (198).

[6] *Hearst*, 13. 5 (197).

[7] Aristotle, *Hist. Anim.*, VIII, 19; Aelian, *De Nat. Anim.*, IX, 7; Pliny, *Hist. Nat.*, IX, 24.

[8] J. H. Breasted, *The Edwin Smith Surgical Papyrus*, I, 293.

rather seems intended merely to denote the grasp of the foot of *any* perching bird in which the hallux is opposed to the other toes. The bifid sign must accordingly be taken as a rough sketch of a bird's foot, one member of it denoting the hallux and the other the grouped anterior digits to which the hallux is opposed. The digits, however, are wrongly represented as pointing outwards instead of inwards. There is nothing particularly distinctive in the grip of any one particular species of such bird, and any kind would equally well satisfy the simile. It is evident that the *ꜣmꜥ*-bird is selected merely because its name puns on the word *ꜣmꜥt*, "ramus."

"To this two-toed bird's claw", adds Professor Breasted, "the ramus is appropriately compared, for its familiar forked head, terminating in the condyle and the coronoid process, readily suggests such a forked or two-toed claw." Actually, however, the simile chosen by the Egyptian writer is neither an appropriate nor a happy one. In a bird's foot the claws are conspicuous and they play an essential part in the function of grasping, whereas the two prominences at the head of the *rami mandibulae*—the coronoid process and the *capitulum mandibulae* (condyle)—are both blunt-ended: the former is flat with a semicircular contour above, and the latter is semi-spheroid and is supported by a well-defined neck, the *collum mandibulae*. Moreover, with the skull in its normal vertical position, as it would be in a living man, these two prominences point upwards, whereas the claws of a bird when grasping, point downwards. Nor could the simile be suggested by the glenoid fossa into which the condyle articulates, as it is a small depression, the form of which does not in the least suggest the grip of a bird.

3. The Lettuce as an Aphrodisiac

In the important and interesting *Chester-Beatty Papyrus*, No. 1, recently published in an admirable edition by Dr. Alan Gardiner, there is a strange episode in which the aphrodisiac properties of the lettuce-plant are referred to (11. 10–12). The association of the lettuce with the phallic god Min has been pointed out by Dr. L. Keimer[1], and it is quite evident that the herb was eaten by Min to enhance his sexual powers. The new passage shows equally clearly that Seth consumed it for the same purpose, and that its potency was increased by the special treatment to which Isis subjected the plant. Clearly the Egyptians regarded the lettuce as an aphrodisiac, and it is curious to note that other ancient medical writers, instead of, as so often, borrowing Egyptian ideas on the properties of plants, ascribed to the lettuce the opposite function, *i.e.*, that of an antiaphrodisiac.

Dioscorides (*De Materia Medica*, II, 165) says that the lettuce (θρίδαξ) taken as a drug suppresses erotic dreams and restrains sexual impulses, and Pliny (*Nat. Hist.*, XX, 26) repeats "peculiares earum...somnum faciendi, Veneremque inhibendi." The same properties are noted by Oribasius (*Euporista*, s.v. θρίδαξ), and Hippocrates (*De Dieta*, II, 25) describes the lettuce as being of a very cold nature and productive of bodily debility—the reverse of an aphrodisiac. The ancient writers were followed by the herbalists of later ages. John Gerard (*Herball*, ed. 1636, 308) says: "The iuice of Lettuce cooleth and quencheth the naturall seed if it be too much used, but produceth sleep," and according to John Parkinson (*Theatrum Botanicum*, 1640, 813) "it abateth bodily lust, and therefore both it and Rue are commended for Monkes, Nunnes and the like Sort of People to eate, and use to keep them the chaster: it represseth also venerous dreames."

[1] *A.Z.*, LIX, 140.

4. The word

The word , *wḏʿyt*, has generally been considered to be the fruit of some tree or herb, but this is only an assumption, for the word is determined always by the sign , never by or .

The verb *wḏʿ* means "to divide," "cleave" or "sever," and in attempting to identify the drug, I sought for an object that is cloven, severed or divided and which has "something inside" (, *Ebers*, 55. 2). The possibility of a bivalve mollusc at once occurred to my mind, for molluscs, both univalve and bivalve, and from land, sea, or fresh water, were much used by the ancients in medicine and magic. The hypothesis of *wḏʿyt* being a bivalve shell was enhanced by the peculiar determinative of the word in *Hearst*, 1. 17, which, it seems to me, may well be the hieratic form of . As the animal within the shell is used in medicine, it is unlikely that a marine species is intended, as molluscous animals could only be used when fresh. A river mollusc therefore seems more probable than a marine one, and it is accordingly very likely that a fresh-water mussel is meant. Various species of pearl-bearing fresh-water mussels, of the genera *Aetheria* and *Unio*, are common in the Nile, and specimens of the shells, either entire or made into amulets, have been recovered from many ancient sites in Egypt[1]. These molluscs were therefore quite familiar to the Egyptians.

The medicinal uses of *wḏʿyt* mentioned in the papyri are as follows:

(*a*)

External. To make hair grow after alopecia, *Ebers*, 66. 14 (467).
For a burn, *E.* 68. 20 (496).
For sore fingers and toes, *E.* 78. 6 (616); *Hearst*, 12. 1 (173).
For the eyes, *E.* 56. 19 (343).
Diuretic, applied as suppository in the rectum, *E.* 9. 3 (26).

Internal. To promote appetite, *E.* 51. 12 (292).
For "eating blood" (? anaemia), *E.* 87. 21 (723).
To banish magic, *E.* 34. 3 (165) = *H.* 3. 6 (36).
To banish a dead man, *E.* 35. 13 (182) = *H.* 1. 17 (16).
Influence of a god, goddess, etc., *E.* 45. 2 (225) = *H.* 7. 1 (83).

(*b*)

Internal. For a disease called [2], *E.* 55. 2 (326).

(*c*) simply

External. For pain in nerve or muscle, *H.* 8. 17 (120).

Molluscous animals, with or without their shells, and brayed, calcined, boiled or otherwise treated, are common in ancient and medieval medical works. They are used for affections of the eyes, for skin diseases, eruptive diseases and affections of the scalp. They are employed for the teeth, for inflammations, for pains in the nerves and muscles, stomach and bowels. They

[1] W. M. F. Petrie, *Six Temples at Thebes*, 31; T. E. Peet and W. S. L. Loat, *Cemeteries of Abydos*, III, 30, and Pl. xii; etc.

[2] All the prescriptions for this complaint in *Ebers*, ten in number, are internal and contain elements that are known for their properties of purgative or vermifuge. Perhaps, therefore, some kind of intestinal parasite is meant.

are described as excellent for the stomach, to promote appetite, for affections of the bladder, as purgative and vermifuge, and as antidotes for poison[1].

These uses all harmonize with the purposes for which *wḏʿyt* is employed in the medical papyri. The prescriptions to banish magic and the influence of gods, goddesses, the dead, etc. (), are mostly purgatives, emetics and antidotes, as these affections were envisaged as some evil emanation or poison within the patient's body that had to be voided through one of the natural openings of the body. They were therefore usually treated as disorders of the stomach and bowels. Taking all the facts of the case into account, I therefore propose the provisional equation:

= Fresh-water mussel.

Probably no distinction was made by the Egyptians between the various species known to them, and we can get no nearer to actual identification than to suggest that the word *wḏʿyt* stands for one or more species of the genera *Unio* and *Aetheria*.

[1] See, *inter alia*, Dioscorides, *De Mat. Med.*, II, 11; Pliny, *Hist. Nat.*, XXX, 15, 43; XXXII, 21; Ibn al-Beithar, *Book of Simples*, s.vv. حلزون, شنج, صدف, صدف البواسير, etc.

TWO RELIEFS IN THE LOUVRE REPRESENTING THE GÎZAH SPHINX

By ALEXANDRE PIANKOFF

Representations of the god Harmachis in the form of a sphinx are not common. The Louvre, however, possesses two typical examples. These are the stelae B 18 and B 19, almost identical, which formed the side walls of a small structure built between the fore-paws of the Gîzah Sphinx. They were discovered in 1816, during Caviglia's excavations, a report on which, drawn up by Salt, is to be found in Colonel H. Vyse's *Operations carried on at the Pyramids of Ghizeh in 1837*, vol. III, appendix (London, 1842). The plate opposite p. 110 of this work represents B 18 *in situ*, attached to the left wall of a little chapel built between the Sphinx's paws at right angles to the so-called Dream Stela. A detailed drawing of it, with a description by Birch, occupies the plate facing p. 117. Stela B 19, which stood opposite to B 18, is said by Salt to have fallen and to have been sent to the British Museum. How they both reached the Louvre is not known. De Rougé describes them[1], and notes that they once stood in front of the Gîzah Sphinx beside the stela of Tuthmosis IV.

They are of white limestone, very friable and damaged by salt, which has loosened and flaked off the surface of the relief in the upper right-hand part of B 19, leaving only vague outlines of the scene; the left half of B 18 has suffered in the same way. Both are painted red to resemble granite and so to harmonize with the Dream Stela. B 18 measures 1·05 m. in height by 1·00 m. in width, and B 19 1·07 m. by 1·50 m. B 19 is figured here.

In both scenes Ramesses II is adoring a sphinx on a pedestal. In B 18 the sphinx faces left, in B 19 right. In both the king looks towards the sphinx. In B 18 he presents the censer with his right hand and holds in his left a vase with handle and curved spout. In B 19, however, he holds the censer in his loosely hanging left hand while his empty right hand is raised in adoration. An altar, identical in the two reliefs, stands before the king; in B 18 it is surmounted by three lotus flowers with long stalks, in B 19 by one only.

The king wears the *nemes* headdress and the royal beard. His Horus-name (preserved in B 18), carried by a *ka*-sign with arms holding the one the feather and the other the sceptre, is written behind him. Above the king is the solar disk flanked by two uraei, each with an *ankh*-sign at its neck; that on the left wears the red crown, that on the right the white. Thus in B 18, where the inscription speaks of the red crown, this is borne by the uraeus which faces the sphinx; while in B 19, in which the king is said to "assume the white crown," it is this crown which is borne by the uraeus which faces the sphinx. It is curious that the two crowns do not correspond in position to the north and south respectively, for B 18 with its red crown was actually found in position on the south side of the chapel, while B 19 comes from the north.

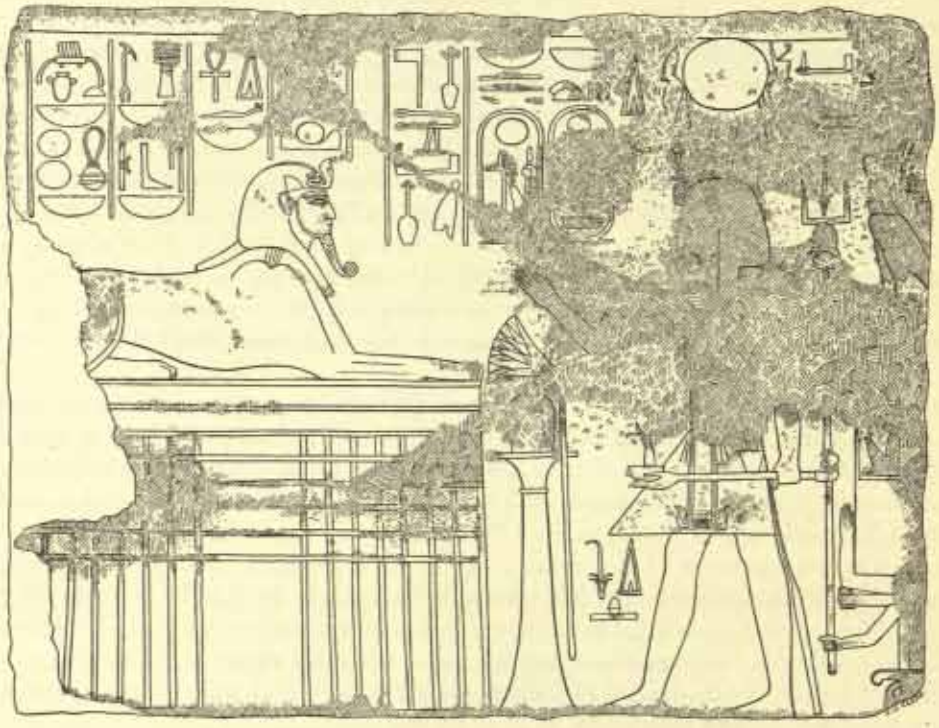
The upper part of both stelae is given up to the inscriptions, written in vertical columns. In B 19 we read over the sphinx "Harmachis[2]; may he give all life, all stability and prosperity, all health and all joy, like Rēʿ every day." In front of the king is "The Good God, who seizes the white crown, Lord of the Two Lands, Usimarēʿ..., Lord of Crowns Ra..., endowed

[1] *Notice des monuments exposés dans la Galerie d'antiquités ég. au Musée du Louvre*, 8e éd., 60–61.

[2] Restoring *Ḥr m ỉḫt*.

with life." Under the solar disk stood the usual *Bḥdti*, "He of Edfu," which is preserved in B 18. Behind the king stands "May he give life, stability and prosperity," also complete in B 18. Below, between the king and the altar, stands "An offering which the king gives." The king raises his hand, and by this gesture consecrates the offerings presented to the god[1].

The inscriptions of B 18 are similar except that the king's title "The Good God" is here followed by , "Who is united to the red crown," while the inscription between the king and the altar reads , "Censing and making libation." This act accompanies all presentations of offerings and is very frequently represented[2].



In B 18 the Horus name , "Strong Bull, beloved of Maat," is well preserved. It is to be noted that in Vyse's copy this stela shows both to right and left a vertical column of inscription giving the names , "*Two Mistresses* Protector of Egypt and Subduer of the Foreign Lands, *Golden Horus* ....." These two columns must have been sawn off after the removal of the monument.

The lower part of both stelae is covered with Greek graffiti made almost illegible by salt. At the very bottom of B 18, however, one can still distinctly read ΕΥΦΡΟCΥΝΟC.

These two stelae have a special interest in view of their provenance. Do they give us an Egyptian representation of the Great Sphinx?

[1] *Cf.*, for the same gesture, J. Capart, *Abydos, le temple de Seti Ier*, Pl. xliv; Mariette, *Abydos*, I, Pl. 44; L., *D.*, III, Bl. 48, 143; Moret, *Rituel du Culte Divin en Égypte*, pp. iii and 120.

[2] The king is making the same gesture as in the Dream Stela. *Cf.* L., *D.*, III, Bl. 147, 212; Capart, *op. cit.*, Pls. xxxix (libation and fumigation), xxxii, xix; Gayet, *Le temple de Louxor*, 1er fasc. (*Miss. arch. franç. au Caire*, tome xv), Pl. xlix.

The sphinx shown in them, in which de Rougé thought he recognized the features of Ramesses II, is a human-headed lion, wearing the *kleft*-headdress, the uraeus on its forehead, a short plait of hair falling on to the back, and the divine beard on the chin. It is called Harmachis, *i.e.*, Horus on the Horizon. The base on which it rests is a pedestal with vertical edges. In the centre is a door. The form and decoration of this pedestal recall the *srekh* in which the Horus-name of the Pharaoh is commonly written. There are five more representations of the same kind, all of which have been regarded by those who have described and published them as figures of the Great Sphinx. They are, in chronological order:

Stela 12974 of the Louvre, once in the collection of the Comte de Saint-Ferriol, and published and described by Moret[1]. It seems to belong to the Eighteenth Dynasty, probably to the reign of Tuthmosis IV, and shows the god Harmachis in the form of a sphinx.

Two stelae published by Hölscher. One bears the cartouche of Amenophis III above the sphinx. On the other, dated by Hölscher to the reign of Tuthmosis IV, the sphinx is called *Ḥr-m-ꜣḫt*, "Horus in the Horizon."

The Dream Stela (attributed to Tuthmosis IV) and the so-called Stela of Cheops' Daughter, where the sphinx is called "The Sphinx (*ḥw*) of Harmachis."

While in all these cases the sphinx is shown as a human-headed lion there are important variations of detail. In one of Hölscher's stelae the headdress is surmounted by the solar disk and two uraei, in the other by a headdress resembling the *atef*-crown.

The beard varies. In Louvre B 18 the forward curving divine beard is quite clear. It is plaited like the fragment of that of the Great Sphinx which dates from the New Empire (sent by Caviglia to the British Museum) and the similar fragment recently discovered by Baraize. This detail is not quite clear in Louvre Stela 12974, where Moret sees the square-cut royal beard, though the damaged condition of the stela leaves this doubtful. Hölscher's stela with the cartouche of Amenophis III has the royal beard, while the other has the curved beard[2]. The sphinxes of the Dream Stela have divine beards; the stela of the Daughter of Cheops is damaged at this point.

The pedestal, too, shows variations. It may be in the form of a rectangular naos as in Louvre B 18 and 19, or of a mastaba with sloping sides as in Hölscher's stelae. The flat block on which the sphinx rests is usually very simple. In Louvre E. 12974, however, it has the Egyptian cavetto moulding, and, what is more important, the whole pedestal is set on a base with a sloping front cut into six steps. Moret has pointed out the interest of this variation in the article cited above. It seems that the centre of the naos was generally occupied by a door. This is quite clear in the Louvre reliefs and the Dream Stela, but absent in the Stela of Cheops' Daughter; Hölscher's stelae are too damaged to allow its presence or absence to be determined.

These variants in the form of the beard and the pedestal[3] might be attributed to the fact that successive restorations had modified the appearance of the Great Sphinx and given differing models to the artists who copied it on the stelae[4]. But it is not necessary to suppose

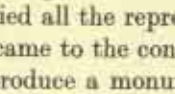
[1] Moret, *Mon. ég. de la collection du Comte de Saint-Ferriol*, round-topped stela of Merhet; *Rev. ég.* (1919), Pl. iv.

[2] Vyse, *op. cit.*, III, plate opposite p. 109; Hölscher, *Grabdenkmal des Königs Chephren*, 107–8: *British Museum Guide to the Egyptian Galleries* (sculpture) (1909), 7.

[3] It would seem that the excavations begun by Baraize round the Gîzah Sphinx now suggest that the buildings of Old Kingdom date decorated with niche-and-buttress work and the door which lie in front of the Sphinx may have given the impression that it was set upon a pedestal of the *srekh*-type provided with a door. At present the mound of sand which has not been removed prevents one from getting this view of the whole, which has been rendered, in accordance with the rules of Egyptian perspective, by a representation of the façade surmounted by the Sphinx seen *in side view*.

[4] On the subject of the Great Sphinx's beard see Borchardt, in *Sitzungsber. der preuss. Akad.* (Berlin, 1897), 753.

this. It must not be forgotten that Egyptian draughtsmen did not copy faithfully the appearance of the monuments which they reproduced. They interpreted them at their will, adding symbolical details, or omitting such characteristics as seemed to them of minor importance. Thus Davies, who has studied all the representations of the palace of Amenophis IV in the tombs of Tell el-'Amarnah, came to the conclusion that an Egyptian artist never felt himself under any obligation to reproduce a monument as it actually was. He narrowed or broadened it according to the space available for it in the main scene[1]. In fact, if we compare an Egyptian building with an ancient representation of it we find that the number of columns or statues never corresponds to the actual number, but merely serves to indicate that in such a position there were columns or statues; thus in a representation of the Karnak temple two columns on each side of the pylon are used to represent a whole hall[2].

The headdresses of the sphinxes shown on Hölscher's stelae might be symbolic expressions of the phrase  found on the Dream Stela, and translated by Erman "The Shadow of Rēʿ which hovers over the Sphinx[3]."

We may therefore conclude that the reliefs B 18 and 19 represent, like the Dream Stela, which has a similar figure which Erman clearly interprets in this sense, the Great Sphinx of Gizah beside which they were found. The differences between these, the Great Sphinx itself, and other representations of it, are to be explained as variants arising almost of necessity out of the method of interpretation which the Egyptians adopted in reproducing their monuments[4].

To judge by the names which accompany the figures of the sphinx on the stelae one might suppose that it was regarded sometimes as the god Horakhti and at others as the king in the form of this god, according to period. To this view subscribes Hölscher, who sees in one of his stelae a figure of the Great Sphinx of Gîzah conceived as a representation of Amenophis III. De Rougé seems to have had the same idea when he described Louvre B 18 and 19 as effigies of Ramesses II. This is no unusual phenomenon, for other divine statues have borrowed human features. The statue of Amūn in the Louvre with the mask of Tutʿankhamūn is by no means unique, and it is not unlikely that after a restoration or clearance the Gîzah Sphinx should sometimes have been regarded as an image of the reigning king, especially in the Eighteenth and Nineteenth Dynasties, while in later days, such as those of the Dream Stela and the Stela of Cheops' Daughter, the Sphinx was regarded as a very old monument which personified the god Harmachis himself.

[1] Davies, *El Amarna*, VI, 36.
[2] Borchardt, *Zur Baugeschichte des Amontempels von Karnak*, Fig. 17, p. 27.
[3] Erman, in *Sitzungsber. d. preuss. Akad.* (Berlin, 1904), 428, 1063.
[4] For similar interpretations see G. Bénédite, *Signa Verba* in *Recueil Champollion* (Paris, 1922), 38.

LETOPOLIS

By G. A. WAINWRIGHT

A series of studies has proved Amūn and Min to be closely connected with meteorites and thunderbolts, which are the same thing. These gods were two of the partners in the *kꜣ-mwt·f* object of Thebes, and Horus was the third. While Amūn possessed an omphalos at his subsidiary shrines at Napata and Siwah, Horus also possessed one at Hierakonpolis[1], which was one of his most important sanctuaries. As an omphalos was a substitute for a meteorite or thunderbolt, Horus was clearly of the same nature as his partners Amūn and Min.

The owner of the omphalos at Hierakonpolis was a mummified falcon [2], as was the local god of Letopolis[3], who became Horus[4]. It is, therefore, scarcely surprising that the name of Letopolis was written with the sign , which is the symbol of one of the *kꜣ-mwt·f* gods, Min. It formed both the ideogram for his name and the standard of the Panopolite nome, Akhmîm, of which he was the patron deity[5]. But besides being devoted to the same sacred object , the Panopolite nome and Letopolis also claimed the same sacred animal, the shrewmouse. It is exhibited on the Roman coinage of these two nomes[6], and on these two alone. Shrewmice were buried in great quantities at Akhmîm (Panopolis) in the south[7] and at Letopolis in the north[8]. A fine bronze figure of one bears an inscription asking benefits for the dedicator from "Horus, Lord of Letopolis[9]." Thus the worship of Letopolis was closely related to that of Akhmîm, at which place there was much to suggest the thunderbolt. The present article brings much evidence to show that there was a thunderbolt worship at Letopolis also. Hence this fact supports the deductions already drawn for Min and Panopolis, while the latter may be used as the background for the study of Letopolis.

The evidence for the history of the shape of the Letopolite symbol is not nearly so complete as for that of the object of Min and Akhmîm. But what there is makes it clear that the two followed much the same course of development. The connexion between Letopolis and its symbol, unlike that between Min and Akhmîm, cannot be traced in either predynastic or proto-dynastic times. It is, however, a moot point whether some of the predynastic standards

[1] *Ann. Serv.*, XXVIII, 175–89; *Journal*, XVI, 35–8; XVII, 151, 152, 185–95.

[2] *Journal*, XVII, 190, Fig. 6.

[3] Sethe, *Urk. des aeg. Altertums*, I, 6, ll. 17 ff.; id., *Pyr.*, §§ 1670, 1723, 2086, and often.

[4] *Pyr.*, § 810, and often in later times.

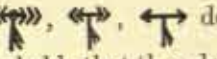
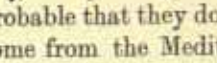
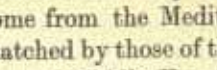
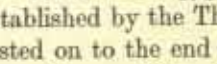
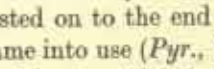
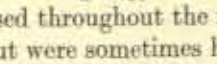
[5] *Journal*, XVII, 185.

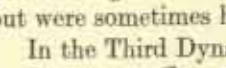
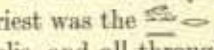
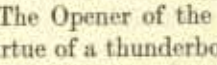
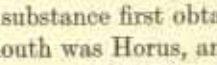
[6] Feuardent, *Numismatique: Égypte ancienne*, II, 300, 301, nos. 3512, 3513 (Panopolis); 327, 328, nos. 3581–3 (Letopolis). It is here called an ichneumon, which it is perhaps not unlike in shape, though very different in size.

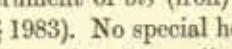
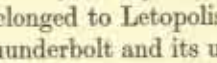
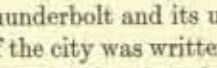
[7] Lortet and Gaillard, *La faune momifiée de l'ancienne Égypte*, II, 79–83, and Fig. 58. The other sites from which they have been reported are Thebes and Saḳḳârah.

[8] Gaillard and Daressy, *Cat. gén. du musée du Caire: La faune momifiée*, nos. 29786–9. *Cf.* the statement made by Lortet and Gaillard, *op. cit.*, 79, that they are also found at Gîzah, which at this time was included in the Letopolite nome: Edgar, *Ann. Serv.*, XXIX, 77.

[9] Univ. Coll. Collection, London, unpublished. For others see Petrie, *Amulets*, Pl. xiii, 103, p. 26; Pl. xl, 232, a–f, p. 46.

 ,  ,  do not in reality belong to Letopolis rather than to Akhmîm. It is very probable that they do, seeing that the pottery itself on which they are painted is likely to have come from the Mediterranean coastland[1], and that so many predynastic standards can be matched by those of the historic nomes along the western branch of the Nile and in the northern part of Middle Egypt[2]. But the connexion is sufficiently ancient, for it had already been established by the Third Dynasty[3]. At that time the sign was written  , a form which lasted on to the end of the Sixth Dynasty[4]. But under Pepi I the new simple form  came into use (*Pyr.*, § 1175), which under Pepi II Neferkerēʿ was more favoured than the old double sign (§§ 810, 1670, 2078). From this time onwards the simple form was the only one used throughout the rest of Egyptian history. Its butt ends were generally straight as here[5], but were sometimes hollowed  [6].

In the Third Dynasty the sign occurs in the name of the god  , *Ḫnty-Ḫm*, whose priest was the  , *Wn-rꜣ*. *Ḫnty-Ḫm*, "He who is before Letopolis," was the god of Letopolis, and all through history the *Wn-rꜣ* was the high priest of that city[7]. His title means "The Opener of the Mouth," and this mystical opening was effected through the blasting virtue of a thunderbolt[8]. The thunderbolt in ancient Egypt, as elsewhere, was a piece of iron, a substance first obtained from meteorites. The divine pattern for the earthly openers of the mouth was Horus, and others were his Four Children. Each of them used *bꜣ*; Horus, an instrument of *bꜣ* (iron) (*Pyr.*, §§ 13, 14), and his Four Children, "their fingers of *bꜣ* (iron)" (§ 1983). No special home is given to this Horus, but his Four Children at any rate definitely belonged to Letopolis, for on one occasion their father is called "Horus of Letopolis[9]." The thunderbolt and its users were, therefore, intimately associated with Letopolis, and the name of the city was written with the sign  ,  or , which elsewhere proves to have been the thunderbolt.

Min's thunderbolt  was developed from a double arrow  [10], therefore the Letopolite symbol was probably derived from the same thing. This is helpful in understanding the special ensign of the *Wn-rꜣ*, the high priest of Letopolis, for it also was a double arrow  , crossed instead of being set end to end[11]. The thought is continued in the deities whom the

[1] Petrie, *Koptos*, 8. *Cf.* also Petrie and Quibell, *Naqada and Ballas*, 40.

[2] Liverpool *Annals*, v, 135, 136.

[3] Sethe, *Urk.*, I, 6, 17 ff. [4] Id., *Pyr.*, §§ 2086, etc.

[5] Mariette, *Mons. divers*, Pl. 5, l. 116 (Piankhi); Daressy, *Textes et dessins magiques*, Pl. i, l. 4 (Ptolemaic); Duemichen, *Geogr. Inschr.*, III, Pl. xxviii; IV, Pl. cviii, L., *D.*, IV, Pl. lxxxix, a (Roman).

[6] Budge, *The Papyrus of Ani*, Pl. xiii, B, ll. 2, 4 (Nineteenth Dynasty); Bisson de la Roque, *Abou Roasch*, 1922-3, Pl. xxxv, 4 (Nectanebo I); Duemichen, *Geogr. Inschr.*, II, Pl. xliii, no. xix (Ptolemaic). It is impossible to substantiate such a detail as the shape of the ends of the sign from Fig. 25, Drioton, *Médamoud*, 1926, 54, l. 19, dating to Tuthmosis III's reign. In Budge, *op. cit.*, Pl. xiii, C, l. 1, one side is straight while the other is hollow.

[7] Sethe, *Urk.*, I, 6, 17 ff.; Lange and Schäfer, *Grab- und Denksteine des mittl. Reichs*, I, 243, no. 20221; Drioton, *Médamoud* (1926), 54, l. 28; *Rec. de trav.*, IX, 57, 59, XXVI, 146; Lieblein, *Dict. de noms hiérogl.*, no. 1164; Brugsch, *Dict. géogr.*, 1368, 1377.

[8] *Journal*, XVIII, 6, 7, etc.

[9] *Pyr.*, § 2078. In § 1483 the Four Children are said to be "Watchers of Upper Egypt." Has this reference to the position of Letopolis at the entrance to Upper Egypt from the Delta? It was near here that Menes built his fortress of Memphis which became "The Balance of the Two Lands." It is also from this neighbourhood that Cairo dominates both Upper and Lower Egypt to-day. *Cf. Ann. Serv.*, XXVII, 89–93.

[10] *Journal*, XVII, 185–7.

[11] Brugsch, *Dict. géogr.*, II, 1377. All priests of Letopolis had Horus falcons for ensigns, but the high priest, as so often, was distinguished by a special one as well.

Greeks connected with Letopolis, for they were Leto and Apollo. Apollo was the classical Greek equivalent of Horus, the god who finally absorbed the native god of the city. The connexion is even more radical than that, for the sacred animal of Letopolis was the shrew-mouse (p. 159), and in Greek lands, as is well known, Apollo absorbed a primitive mouse-god with the pre-Greek name of Smintheus[1]. In fact, just as the arrow and shrewmouse occur together at Letopolis, so do coins of Alexandria Troas show Apollo Smintheus holding his bow and standing by the mouse[2]. The Greek goddess Leto, who gave her name to the city, was Apollo's mother, and both he and her other child, Artemis, were famous archers, and both were omphalos and meteorite deities[3]. The omphalos is representative of the meteorite[4], and in religion the meteorite and the thunderbolt are the same thing[5]. Both have been widely considered as weapons of the storm- or sky-god, as have arrows. All over Europe, and also elsewhere, flint arrow-heads are still regarded as "thunderbolts" to-day[6], and the names "thunder-arrow," etc. are commonly given to those fossils and stone axes which are also supposed to be thunderbolts[7]. In south-eastern Asia Minor at Malâtia a god holds the lightning trident in one hand and the bow in the other[8], while coins from Selge in Pisidia exhibit both the thunderbolt and the bow[9]. In Syria Resheph, whose name probably means "lightning, flame, heat," is called "Resheph with the arrow[10]." Assyrian seals show a god shooting at a monster with an arrow whose point is the triple lightning flash[11]. Hence, as the lightning and the meteorite are not distinguished, it is interesting to note first that the natives of Nyassaland to-day call a shooting star a "many pointed arrow[12]," and then that the of Egypt is many pointed,

Fig. 1

Fig. 2

[1] Roscher, *Lexikon*, s.v. *Smintheus*. He seems to have been native to the west coast of Asia Minor and its islands.

[2] Wroth, *Cat. Greek Coins of Troas, Aeolis, and Lesbos*, Pl. iii, 6, and p. 9. Other issues, while omitting the mouse, show the arrow set ready on the bow, Pl. iv, 1, 2.

[3] The omphalos at Apollo's city of Delphi is well known, and at Perga, Pogla, and Andeda Artemis was represented by omphaloi. The Stone of Cronus at Delphi must have been a meteorite, and at Ephesus the image of Diana "which fell down from Jupiter" must have been one also.

[4] See last note. There is also the case of Amûn's meteorite of Thebes, which was replaced by an omphalos at each of his secondary shrines of Napata and Siwah; *Ann. Serv.*, XXVIII, 184.

[5] *Journal*, XVII, 189.

[6] Blinkenberg, *The Thunderweapon in Religion and Folklore*, §§ 103, 104, 110, 113, 115 b, 117?, 127, 128; Sir A. J. Evans, *Ancient Stone Implements*, 1897, 362, 364, 367. Balfour in *Folklore*, XI, 172, and Pl. ii, figs. 18, 19, and *cf.* 20.

[7] Blinkenberg, *op. cit.*, §§ 44–6, 81, 94 e, 96 a, 102, 104, 106.

[8] Fig. 1 = Garstang, *The Hittite Empire*, Pl. xxxviii, a = Olmstead, *History of Assyria*, Fig. 97.

[9] G. F. Hill, *Cat. Greek Coins: Lycia, Pamphylia, and Pisidia*, 261 ff., nos. 45–52, 75, 77, 81, 83.

[10] Pauly-Wissowa, *Real-Encyclopädie*, s.v. *Rescheph*, col. 621.

[11] Fig. 2 = W. Hayes Ward, *The Seal Cylinders of Western Asia*, Fig. 570. *Cf.* for instance the lightning flashes which a god brandishes against the same monster, Layard, *The Monuments of Nineveh*, II, Pl. 5 = Ward, Fig. 564.

[12] Stannus in *Harvard African Studies*, III, 319.

like the arrows from which it is derived , , [1]. Finally, a splendid passage of the Psalms (xviii, 13, 14) describing the majesty of Yahweh expresses the idea very clearly when it says "The Lord also thundered in the heavens, and the Highest gave his voice; hail stones and coals of fire. Yea, he sent out his arrows, and scattered them; and he shot out lightnings, and discomfited them." Therefore, the depicting or mention of arrows religiously is a presumption that a thunderbolt or meteorite is being represented. Returning to Egypt, words very similar to those of the Psalms are found in a passage describing the overthrow of the evil serpent, *Wnti*, by Seth the storm-god. A late Nineteenth Dynasty passage says "Nubti striketh his arrows (*šsrw*) in him, after he hath.....heaven and earth with his thunder[2]." Yet again another text of the same period says "Nubti [kills him] with his arrows (*šsrw*)[3]." That Seth was a patron of the archer is suggested by the fact that he helps Tuthmosis III to shoot at his *sed-ḥeb* festival[4]. This widespread conception of the divine weapon as an arrow was therefore not foreign to Egypt, and no doubt Piankhi referred to it when he asked the conquered Hermopolitan "Did heaven rain with arrows?[5]" In fact the swift-moving dangerous star[6] called *šśd* was definitely thought of as an arrow, for it is said of Ramesses III "He sends arrow upon arrow like *šśdw* (shooting stars?)[7]" Crossed arrows like those of Letopolis were elsewhere actually associated with a star, for the two symbols of the high priest of Sebennytus were and [8]. Hence there is much to make it probable that the of the high priest of Letopolis indicates his connexion with the thunderbolt. If it did, his symbol would correspond to his title "Opener of the Mouth," and moreover both would accord with the symbol of the city itself and the use there of *bi3*, the thunderbolt material.

Arrows and thunderbolts were not the only weapons belonging to Letopolis. Yet another was the , "The Throwing Sticks of *Ḫnty-Ḫm*, which drive away evil before him and disperse evil behind him" (*Pyr.*, § 908). In another spell, which later on mentions the Imperishable Stars and members of *bi3*, Horus himself repels the evil[9]. The Throwing Sticks seem to have been personified into an actual deity, for there was a god called "Repeller of Evil" whose activities took place "before *Ḫnty-irty* in Letopolis" (*Pyr.*, § 2086). The statement that the Throwing Sticks are ready for action both before and behind relates them to the predynastic double arrow and the later thunderbolt . Not only are these objects like the Throwing Sticks in being effective in either direction, but, like the arrow, the throwing stick is a projectile weapon. The Pyramid Texts (§ 1150) actually use the throwing stick) in spelling the word , *šnit*, "hail." Hail is a missile from the sky, and at times a dangerous one, and the passage just quoted from the Psalms shows it to have been

[1] At least in the case of Min: *Journal*, XVII, 185, 186; *cf.* also 193.

[2] Lange, *Der magische Papyrus Harris*, 40, ll. 30, 31. There seems no reason for translating *šsrw* "Speer," as Lange does, rather than the usual "arrows."

[3] *Ä.Z.*, XXXVIII, 20.

[4] L., *D.*, III, Pl. xxxvi, b. What it is that Horus helps him to do is not evident.

[5] Schäfer, *Urk. des aeg. Altertums*, III, 19, l. 52 = Breasted, *Ancient Records*, IV, § 845.

[6] "Star 'Speedy of March' in the *šśd*, traversing the earth in an instant" (*Ä.Z.*, XLII, 23); "Running like the stars and the *šśdw* in heaven" (J. B. Greene, *Fouilles exécutées à Thèbes*, Pl. i, l. 3). Its dangerous nature is certified by the desire of the Pharaoh to seem to his enemies in battle to be like the *šśd*, *e.g.*, Sethe, *Urk.*, IV, 615, 13–15, copied word for word by Seti (Champollion, *Not. descr.* II, 96); also Rowe, *Univ. of Pennsylvania:-The Museum Journal*, 1929, 96, l. 18, where *šśd* is the word used.

[7] Duemichen, *Historische Inschr.*, Pls. xxii, xxiii, l. 30.

[8] Brugsch, *Dict. géogr.*, II, 1379.

[9] *Pyr.*, § 746. It is not stated that this Horus is He of Letopolis. For the *bi3* and the stars see § 749.

included in the divine armoury. Hence, like the others, the Throwing Stick is a suitable simile for the "weapon" of the sky-god.

The thunderbolt ceremony of the Opening of the Mouth has already been mentioned (p. 160) as belonging to Letopolis. The high priest was the *Wn-rꜣ*, "The Opener of the Mouth," and the Four Children of Horus of Letopolis opened it with "their fingers of *biꜣ*." There is at least one more feature of the ceremony which associates it with the city, and, therefore, the city with thunderbolts again. It is that another means of opening the mouth was with "the *nwꜣ*, the *mšḫtyw* of *biꜣ*" (*Pyr.*, §§ 13, 14). Like the fingers these instruments were also made of the thunderbolt material, *biꜣ*, "iron." But besides this they were also earthly representatives of their heavenly original, that being the constellation of the Great Bear in its two forms and [1]. It is this that relates them to Letopolis, for the nome was especially devoted to the worship of the Great Bear. The Egyptians ordinarily represented the constellation as a bull's foreleg[2], and the Letopolite nome used this as its standard. At first it only displayed the fleshy part [3], [4] but finally the whole leg [5]. The association of the nome with the heavenly leg often finds expression. A spell in the Pyramid Texts which identifies the deceased's face with the Letopolitan god *Ḫnty-irty*[6], and calls it "imperishable," identifies his four legs and arms with the Four Children of Horus[7]. The thighs of *Ḫnty-irty* are often mentioned in these texts[8], and later, when religion was still more Osirianized, it was "this left arm of Osiris which is in Letopolis" that the god guarded[9]. The Four Children of Horus of Letopolis provide other connexions between that city and the Great Bear. They represent four of the stars of the constellation[10], and being four in number it must be the fleshy part for which they stand. This is the part originally selected by Letopolis as its standard. The same passage also names a group of seven *iꜣḫw*, of which they are the first four. The seventh and last is Horus-*Ḫnty-irty*[11], who was their father, and god of Letopolis. As the Great Bear, *Mšḫtyw*, is composed of seven stars the reference is clearly to it, and the passage shows once more how intimate was the relationship between Letopolis and the constellation.

Fig. 3

[1] *Journal*, XVIII, 11.

[2] Fig. 3 = Chassinat and Palanque, *Assiout*, Pl. xxv. See, too, Griffith, *Studies*, 373–5, 382.

[3] Third Dynasty, Sethe, *Urk.*, I, 2, nos. 10, 17; Fifth Dynasty, Davies, *The Mastaba of Ptahhetep and Akhethetep*, I, Pl. ix, no. 134; II, Pl. x, lower register.

[4] Nineteenth Dynasty, Caulfeild, *The Temple of the Kings*, Pl. xviii and probably already in the Twelfth Dynasty, see Ahmed Bey Kamal, *Tables d'offrandes*, Pl. i, a = Gautier and Jéquier, *Fouilles de Licht*, Fig. 19.

[5] Duemichen, *Geogr. Inschr.*, I, Pls. xxix, b, 2; xxxvii, d, 2; lxii, b, 2, etc.

[6] For the statement that the god dwelt at Letopolis see *Pyr.*, §§ 1670, 2086.

[7] *Pyr.*, §§ 148, 149. Apart from Anubis and Sopd, who are not far removed from the Letopolite gods, the only other deities named here are the Two Daughters of Atum. Their intrusion is no doubt due to solarization.

[8] *Pyr.*, §§ 1211, 1367, 2015. *Cf.* also § 1547.

[9] Naville, *Das aeg. Todtenbuch*, II, 7, 8; ch. i, ll. 15, 16. The arm is once said to be the right one.

[10] Grapow, *Urk. des aeg. Altertums*, V, 42, ll. 2, 3; 44, ll. 15, 16.

[11] Grapow, *op. cit.*, V, 42. 13 ff.; 45. 9 ff. There is quite a different list, which is at least as old as the Middle Kingdom (*op. cit.*, 40. 13 ff.), and lasted down to the Late Period as a gloss on the other (*op. cit.*, 43. 5 ff.; 46. 1 ff.). Another Middle Kingdom copy in *Rec. d'études ég. dédiées à J. F. Champollion*, 642. Both sets of gods are shown in the vignette, Budge, *Facsimile of the Papyrus of Ani*, 1894, Pls. viii, ix.

Further contacts between the Great Bear, Letopolis, and the Four Children of Horus are established through the Imperishable Stars. These stars were those so close round the pole that they never set. They have altered considerably since the time that Egyptian astronomy was taking shape, at which time the Great Bear itself never set[1]. While the expression evidently included the various minor stars that keep the Great Bear company[2], the name "Imperishable Stars" must have referred primarily to this splendid constellation. Therefore a parallel drawn between these stars and the Four Children of Horus is in effect one between them and the Great Bear. It is the Four Children of Horus who "bring thee this thy name of Imperishable (𓇋𓐍𓅓𓂜𓏤𓋭𓇼)[3]." The statement "The bones of N. are of *bỉ3*, the limbs of N. are like the stars, the Imperishables" (*Pyr.*, § 2051, *cf.* § 1454) is reminiscent of the Four Children of Horus who had "fingers of *bỉ3*" and were four of the Great Bear's stars. The use of *ḏʿm*-sceptres is also an important link. One of the characteristics of the Four Children of Horus is said to be that "they are supporting themselves on their *ḏʿm*-sceptres" (*Pyr.*, § 1483), and a certain group of four unnamed gods or spirits is often said to use these sceptres[4]. Of the Imperishable Stars the statement is also made that they are "standing with their *ḏʿm*-sceptres" (*Pyr.*, § 1000). Elsewhere a similar statement about them is thrice repeated (*Pyr.*, §§ 1456–8). The *ḏʿm*-sceptres of the Imperishable Stars are mentioned again and this time just after *Mḫnty-ỉrty*, the god of Letopolis, and a sky ladder (p. 168) which tended to absorb the Letopolite one (*Pyr.*, § 1432). Numbers of divine beings come to the deceased Pharaoh in various attitudes of humility. Those who come "bowing down" are the Imperishable Stars (*Pyr.*, § 1155). One link between them and Letopolis is probably provided by the statement that the "Two Enneads" come bowing down (§ 1993), for elsewhere this name is given to the Great Bear and the Imperishable Stars (§ 458). At a later date the Book of the Dead probably provides another when it says that the deceased is "the lord of bowings in Letopolis[5]." Hence the association already established between Letopolis and the Great Bear had many ramifications, and both were also intimately connected with at least one thunderbolt ceremony, and with the use of iron which was of meteoric origin.

As might be expected of a thunderbolt city, Letopolis was a terrible place. Already in the Pyramid Texts there were "Throwing Sticks" there "which drive away evil before him and disperse evil behind him." There was also a god named "Repeller of Evil" who played his part "before *Ḫnty-ỉrty* in Letopolis," and Horus himself repels evil, though whether it be Horus of Letopolis is not stated (p. 162). By the Middle Kingdom more detailed accounts are given as to what was done at Letopolis. There was "the Great Tribunal in Letopolis[6]," and "on that day of reckoning the transgressors" Horus of Letopolis "binds the evil-doers at his place of judgment, in order to cut the souls to pieces[7]." The New Kingdom version of the text speaks of "that Night of reckoning the transgressors, that is the Night of Fire for the Adversaries[8]." "His Two Eyes of Flame coming forth from Letopolis" were very well known, for which the variant "His Two Eyes of *Dś*" is sometimes given[9]. Though transgressors were

[1] Griffith, *Studies*, 379, 380.

[2] *Pyr.*, § 458, speaks of *Msḫtyw* and the Imperishable Stars, which it calls "the Two Enneads."

[3] *Pyr.*, §§ 2101, 2102. *Cf.* §§ 148, 149, where the expression "Imperishable" is repeated continually in a strongly Letopolite passage.

[4] *Pyr.*, §§ 339, 355, 1510, which last passage calls them "Children of Geb." *Cf.* § 360, where four brothers are "seated with their *ḏʿm*-sceptres."

[5] Budge, *Nu*, Pl. xxi, ch. lxxxviii, l. 5.

[6] Grapow, *op. cit.*, v, 102, 16. *Cf.* 119, 2, 6 for the New Kingdom.

[7] Grapow, *op. cit.*, 55. 12 ff. In l. 17 it is stated that the god is Horus, Lord of Letopolis.

[8] *Op. cit.*, 56. 14, 15.

[9] Ch. cxxv, l. 7. See Naville, *op. cit.*, II, 292, for a number of variants, to which may be added Budge, *Nu*, Pl. xlviii; id., *The Papyrus of Ani*, Pl. xxxi.

reckoned and repelled there by fire, yet if the dead man were safe with Horus he could say "I come forth and I go in in the devouring fire[1] on the day of the repelling of rebels in Letopolis[2]." A devouring fire is a fierce one, as is also a flame that is fanned by the wind. Hence the "devouring fire" of Letopolis is reminiscent of "the flame before the wind to the end of heaven and the end of earth" which is connected with ⟷, the primitive form of the thunderbolt sign such as that of Letopolis[3].

"His Two Eyes of Flame or *Dś*" is clearly a reference to *Ḫnty-Ḫm*, the god of Letopolis, whose proper name had reference to his eyes, being some variation of *Ḫnty-irty* ([illegible])[4]. While the meaning of "flame" is self-evident, that of *dś* needs study. In religious belief *dś* was much connected with the sky, storms, the storm-god, and with fire. A Middle Kingdom text describes the mountain of Bakhau "upon which heaven is supported." A serpent lives on the top of that mountain and "the first three cubits of the serpent are of *dś*[5]." In the early Eighteenth Dynasty one passage dealing with the storm seems to liken *dś* to the storm itself[6], in another a magic *wȝś*-sceptre of *dś* bears the name "Giver of Winds[7]," and in yet another *dś* is said to be "coming forth out of Suti" (Seth, the storm-god)[8]. The *wȝś* also belonged peculiarly to Seth (see p. 171) and was often decoratively employed with the sky-sign as if supporting it[9]. The serpent of *dś* of Mount Bakhau was named "He who is in his Fire[10]," and "a repeating of *dśw* ([illegible]), a burning of rebels" was encountered in the next world[11]. Then again, like *bȝi*, *dś* was greatly used for overthrowing Aapep, the evil serpent[12]. *Bȝi* was iron, the thunderbolt material which is obtained from meteorites, and very specially belonged to Letopolis[13]. *Dś* also specially belonged to Letopolis. Not only did it provide the eyes of the local god, but in a strongly Letopolite passage *dś* is one of the things to be feared[14]. Hence the use of "flame" as an equivalent for *dś* at the thunderbolt city of Letopolis is noteworthy, and implies that *dś* was one more form of thunderbolt. The word appears to mean "flint," and it has been seen that flint arrow-heads are widely held to be thunderbolts. No doubt this is yet another reason why arrows were characteristic of the high priest of Letopolis.

The argument may be developed further. As *dś* and *bȝi* evidently represent thunderbolts or shooting stars, the repelling of the evil monster Aapep is singularly like the treatment Satan receives at the hands of the angels in Muslim belief. When he approaches too near heaven they drive him back by casting shooting stars at him[15]. This gives the clue to the ordeal, whether in the spirit or in the flesh, that the devout Egyptian expected to undergo at the meteorite

[1] *Wnmyt*, a word especially used of fire as a destroying, devouring element, *Wb. d. aeg. Spr.*, I, 321. *Cf.* Exodus xxiv, 17, "And the sight of the glory of the Lord was like devouring fire on the top of the mount."

[2] Budge, *Nu*, Pl. vi, ch. i, ll. 10, 11; Naville, *op. cit.*, II, 8, ch. i, ll. 16, 17; Budge, *Ani*, Pl. v, ch. i, ll. 22, 23.

[3] *Pyr.*, § 324, and see *Journal*, XVII, 186.

[4] *Ḫnty-irty*, *Pyr.*, §§ 17, 826, etc.; *Ḫnty-n-irty*, *Pyr.*, §§ 601, 771; *Mḫnty-irty*, *Pyr.*, §§ 601, 826, etc.; *Mḫnty-n-irty*, *Pyr.*, § 771. For studies of the name see Junker, *Die Onurislegende*, 135; Sethe, *Untersuchungen*, X, 2, p. 164.

[5] *Ä.Z.*, LIX, Pls. 44*, 45*, ll. 8 a, 14, 16, and p. 74.

[6] Budge, *Nu*, Pl. 13, ch. xcv, ll. 2, 3.

[7] *Op. cit.*, Pl. 50, ch. cxxv, l. 25.

[8] *Op. cit.*, Pl. 62, ch. cxlix, § xi, l. 5.

[9] As a frame for stelae, *e.g.*, Gardiner and Peet, *The Inscriptions of Sinai*, Pl. v; Couyat and Montet, *Les inscriptions du Ouâdi Hammâmât*, Pls. vi, 60, xvi, 63, xxv, 103, xxix, 110.

[10] Sethe, *Ä.Z.*, Pl. 46*, l. 18, and p. 74.

[11] Budge, *Nu*, Pl. 53, ch. cxlv, § xi, ll. 45, 46.

[12] Id., *Facsimiles of Egyptian Hieratic Papyri*, 1910, Pl. viii, col. xxii, 20–3, etc.

[13] *Journal*, XVIII, 6, 7.

[14] Grapow, *op. cit.*, 60. 13. One of the New Kingdom glosses, 61. 6, 7, explains the passage as referring to Anubis and Horus-*Mḫnty-n-irty*, and the text, l. 17, goes on to speak of the eye of an invisible god.

[15] The Koran, Surah xv, 18, and again Surah xxxvii, 10, where in a similar passage the same word *shihâb* is used again. On one occasion it is called "visible" and on the other "brightly shining."

city of Letopolis. There was something unusual about the "devouring fire" there, for the just man could go in and come forth from it unharmed. The escape of some persons and the destruction of others by fire is commonly reported about the fall of a star. In ancient Egypt it is to be found in the tale of the Shipwrecked Sailor (lines 129 ff.)[1]. Unfortunately the passage is a most difficult one and the efforts to translate it vary as to details. The Serpent King himself comes in a thunderous manner. In conversation he tells of the mysterious arrival of a maiden, the fall of a star (𓇋𓂋𓄿𓇋𓂝⊙), a fire, a number of "beings of the flame" or "burned ones (?)," certain persons who were found "as one heap of corpses," and another, himself, who survived the conflagration. Semitic ideas as to the effect of shooting stars, and other ideas as to thunderbolts, sufficiently explain the general tenor of the story. Evil beings are destroyed or at least driven back by them, while good ones need not fear them, just as at Letopolis some men are repelled by fire while upon others it has no power. In the Arabian Nights the king of the unbelieving ginns could not stand before the "shooting star of fire" (*shihâb min nâr*) of the king of the believing ginns[2]. The infidels marching against Mecca were destroyed by "stones of fate" cast upon them by heaven-sent birds[3]. Commenting on this, Gelal-ed-Din describes the stones as burning up the men, their helmets, and their elephants[4]. Even the Arabic newspapers preserve the idea in their accounts of the fall of the meteorite in 1911 near Nakhla in the Delta. *El Ahaly* stated that a stone "fell on a dog at Denshal, leaving it like ashes in a moment[5]." Dr. Hume of the Geological Survey, who made enquiries on the spot, was unable to substantiate this statement, hence it is of interest to remember that the dog is one of the unclean animals of Islam. The idea that the offended deity strikes the sinner dead with the thunderbolt is often found in Homer, and is still widespread in Europe to-day. In 1867 it caused the natives at Khettree in Rajputana to collect the meteoric stones which fell there, when they "pounded [them] down to powder and scattered this to the breeze, etc., so as not to let the vengeance of the offended god redound on them[6]." On the other hand, good beings need have no fear of the meteorite or thunderbolt. It was by divine intervention that Lot, the just man, was brought forth in safety from the conflagration (Gen. xix, 24, 28), when "the Lord rained upon Sodom and upon Gomorrah brimstone and fire from the Lord out of heaven" until "the smoke of the country went up as the smoke of a furnace." In the Arabian Nights tale just quoted the "fire" cast at the king of the believing ginns was unable to take effect. Another of these stories tells how two *'afrîṭs* were flying through the air together; the one was taken by the "shooting star of fire" (*shihâb min nâr*) while his companion continued on her way unharmed[7]. After this and what has come to light about thunderbolts at Letopolis there can be no doubt what happened there. The repelling of transgressors and "the Night of Fire for the Adversaries" must have originated in a thunderbolt or meteorite, like the "Throwing Sticks" "which drive away evil before him and disperse evil behind him." The thunderbolt would have been responsible for the "devouring fire."

However, the ordeal may well have been undergone in the flesh and in this world. Besides the other information given about the Night at Letopolis, it is known to have been called

[1] Erman, *The Literature of the Ancient Egyptians* (transl. Blackman), 1927, 32, 33.

[2] R. F. Burton, *The Thousand Nights and a Night* (Benares, 1885), VI, 100.

[3] The Koran, Surah cv, 4. In Surahs xi, 82 and xv, 74 the same apparently unique expression is used in the tale of the destruction of Sodom and Gomorrah which the Old Testament ascribes to "brimstone and fire from the Lord out of heaven," Genesis xix, 24. On the Koran's phrase "stones of fate," which has been much misunderstood, see Maulvi Muhammad Ali, *The Holy Qur-ân*, 468, *n.* 1198.

[4] Savary, *Le Coran*, ch. cv, n. 1.

[5] *Cairo Scientific Journal*, 1911, 212.

[6] *Journal of the Asiatic Society of Bengal*, 1869, pt. ii, 253.

[7] Burton, *op. cit.*, I, 224.

"The Night of the Festival (*iḫt ḥꜣwy*)" or perhaps of "the Evening Sacrifice or Meal[1]." Nu spells the word *ḥꜣwy* with the sign for a festival[2]. Its celebration was an important event in the calendar, for Aahmose mentions it in his list[3]. This was set up as far away as Abydos. Evidently, therefore, the thoughts of all Egypt were with the faithful at Letopolis on that day. No explanation seems to be given of the real meaning of the *iḫt ḥꜣwy*[4], but it can hardly be separated from the other Letopolitan Nights. It would doubtless be the occasion of the judgment, the reckoning, and the fire for the adversaries. If so, it would be highly probable that the great night of the famous periodical festival culminated in a ceremony of fire-walking in honour of the thunderbolt-god of the temple. Then, those under his inspiration would have entered a blazing fire in a state of religious exaltation, no doubt after due preparation and perhaps a sacrifice.

Fire-walking is too common and widespread a practice to need emphasis here[5]. Sometimes it has a purifying effect, but generally ability to pass through the ordeal unscathed is accepted as proof of holiness to the Lord. The Anglo-Saxons, like other nations of northern Europe, were accustomed to walk over red-hot ploughshares or to carry the red-hot iron. Thus they used to prove judicially either their innocence or the justness of their accusation. It was the judgment of God as opposed to the judgment of man, and Athelstan's law (IV, 7) is still extant in which he regulated the details. It was a most solemn occasion, carried out in the church with a special service and after careful religious preparation and purification of the appellant and everyone present[6]. The Israelites caused their children to "pass through the fire to Molech" (Levit. xviii, 21, Jer. xxxii, 35), but the most famous case of fire-walking is that of Shadrach, Meshach, and Abednego who "in the midst of the burning fiery furnace" proved themselves to be "servants of the most high God" (Dan. iii, 19–27). The handling of fire and red-hot irons is still not uncommon in Egypt to-day, and ability to do so still proves the same thing as it did in ancient Babylonia. It not only shows forth the power of the Lord, but also the blessing He is willing to confer on those able to receive it. "The Lord being merciful unto him" (Gen. xix, 16) is given as the reason of the angels' urgency in saving Lot from the burning at Sodom. If there was such a fire-walking ceremony at Letopolis, those upon whom the power of the god had not descended must have shrunk back on "the Night of Fire for the Adversaries." They would have been unable to say "I come forth and I go in in the devouring fire on the day of the repelling of rebels in Letopolis." They would have been repelled in a very real and physical sense, and would, therefore, have been reckoned among the transgressors.

Letopolis was not only a place where the dead were judged and rebels repelled by fire, but it was also a place whence the justified soul ascended into heaven. It is said "Thine arm is [that of] Hapi and Duamutef, and when thou desirest to ascend to Heaven thou ascendest. Thy legs are [those of] Imsety and Ḳebhsenuf, and when thou desirest to descend to the Under Heaven thou descendest" (*Pyr.*, § 149). These four genii belonged to Letopolis, as did at least some of the gates of heaven so often mentioned in the Pyramid Texts. Though these

[1] Grapow, *op. cit.*, v, 102. 16, 17; id., *op. cit.*, 119. 3, 4, 17; Naville, *op. cit.*, I, ch. clxxxi (Pl. ccvi), 3; ch. clxxxii, 21. In these last two cases the word *Ḥm* might be read "shrine" but the name of the festival ensures that Letopolis is intended; *cf.* other variants, Grapow, *op. cit.*, 103. 2, 3.

[2] Budge, *Nu*, Pl. v, ch. xviii, ll. 7, 9.

[3] Sethe, *Urk.*, IV, 27. 5. This is evidently the Letopolite festival, for among the many recorded in the twentieth chapter of the Book of the Dead, Letopolis alone has an *iḫt ḥꜣwy*, Grapow, *op. cit.*, 101 ff.

[4] The only one seems to be Grapow, *op. cit.*, 119. 10; 120. 6, which is purely Osirian and therefore not original to Letopolis.

[5] See Frazer, *Balder the Beautiful*, II (1913), 1–15; H. C. Lea, *Superstition and Force*, 3rd edn., 1878, 266 ff.

[6] B. Thorpe, *Ancient Laws and Institutes of England*, 96, 110; Lea, *op. cit.*, 252 ff.

spells are not clear on the point, the Book of the Dead, in the Eighteenth Dynasty, is, for Nu says that "The gates which are in Letopolis are opened unto me[1]." The statement comes at the end of a chapter dealing with the ascent to heaven, and referring to other things characteristic of Letopolis and the sky. It begins by addressing "This Leg dwelling in the northern heaven," *i.e.*, *Mšḫtyw*, to which the nome was dedicated. It goes on to mention phenomena of the sky, such as divine clouds, and the great dew, and the assistance rendered by Shu, air-god and supporter of the sky. It also makes the deceased say "I have journeyed from earth to heaven" and then speak of the ladder which the next paragraph will show to be Letopolitan. The gates in Letopolis clearly gave access to heaven.

The ancient Egyptian considered a ladder as a good means of climbing the steep ascent of heaven. It made part of the star worship of Egypt, for it assists the Pharaoh "in order that he may sit among the stars of heaven[2]." Elsewhere the gods of the sky and the gods of the earth "construct a ladder for Pepi and he entereth to the sky upon it: the gates of the sky are opened for this Pepi, the gates of the *šḫdw* are thrown open for him[3]." This is very like Jacob's ladder which reached to heaven to the very presence of the Lord, causing Jacob to exclaim "...and this is the gate of heaven." There were two forms of the heavenly ladder in Egypt, the rigid one (*mꜣḳt*, once together with a form *pꜣḳt*, *Pyr.*, § 995) and the rope ladder (*ḳꜣś*). The usual one was the rigid ladder, and it belonged to Seth[4] the storm-god. The rope ladder (*ḳꜣś*) is rare, for it occurs in only one spell of the Pyramid Texts. This is No. 688, which is primarily Letopolitan, beginning as it does with an invocation of "Imsety, Hapi, Duamutef, and Ḳebhsenuf, Children of Horus of Letopolis" (*Pyr.*, § 2078), and ending with a mention of "*Ḫnty-irty* in Letopolis" (*Pyr.*, § 2086). After calling on the Four Children the spell goes on to state that "they knot the rope ladder (*ḳꜣś*) for this N., they make firm the *mꜣḳt* ladder for N.[5]" It is natural that the two ladders should tend to merge, and it is evident that they had already begun to do so. Another spell names *Mḫnty-irty*, the god of Letopolis, and then says that the *mꜣḳt* ladder is set up (*Pyr.*, § 1431). Though it does not definitely say that the Letopolite god set it up, it at least associates the two. Moreover, the text goes on to state that when the dead man has climbed into heaven by its means, he receives a boat from the *ḏꜥm*-sceptres of the Imperishable Stars. As has already been shown, these included, and were the companions of, the Great Bear, with which Letopolis was so intimately concerned.

In enquiring into the nature of the Letopolite rope ladder, those other ropes which the dead man used in heaven will be remembered. They were "ropes of *bꜣ*," were connected with a Horus, with the *Ḳbhw* of the Stars (𓇋 ★★★) and with the Imperishable Stars (*Pyr.*, §§ 138, 139). They were, therefore, stellar ropes and were associated with the Letopolite stars. *Bꜣ* carries on the idea, for it proves to have been meteoric material and to have been specially connected with Letopolis and the Great Bear constellation[6]. The meteorite gives the clue to the meaning of the ropes, for shooting stars have been widely connected with the passage of a soul from this

[1] Budge, *Nu*, Pl. xviii, ch. xcviii, l. 10. [2] *Pyr.*, § 1253.

[3] *Pyr.*, § 1474. The passage has suffered some solarization, for Atum is said to direct their activities. The Sun religion of Heliopolis seems to have offered a similar means of ascent, using a staircase (*rdw*) instead of a ladder, § 1090.

[4] Generally the Pyramid Texts only make passing reference to the ladder, but Spell 478 consists of a long and detailed invocation of it. Here it is regularly called "Ladder of Seth," §§ 971 twice, 974, 975. *Cf.* § 979, where the Pharaoh appears on the ladder wearing the uræus of Seth. This spell only once calls it the "ladder of Horus," § 971, and solarization only appears in the reason given for climbing the ladder "in order to protect Rēʿ," §§ 971, 974, 975. Elsewhere, in § 390, the ladder is said to be made by Rēʿ, when Horus and Seth help the climber, and in § 472 it is made by Rēʿ and Horus.

[5] *Pyr.*, § 2079. In § 2082 the solarization is apparent in the repetition of this statement with the name of Atum substituted for those of the Four Children.

[6] *Journal*, XVIII, 6, 11; Griffith, *Studies*, 374, 382.

world to the next[1]. In fact, a tribe of native Australians actually considers the dead man to have climbed into heaven by a rope, which he then throws away in the form of a shooting star[2]. The idea of a rope up to heaven is widespread in South Africa and often alluded to, though nothing seems to be said about a shooting star. Seeing, therefore, that there is already much evidence that Letopolis was a meteorite city, there can be little doubt that the way into heaven, which was offered there by a rope ladder, was derived from the flight of a meteorite. It might even have been a thunderbolt, which primitive religion does not distinguish from a meteorite. While we to-day look upon death by a stroke of lightning as due to divine vengeance, this has not always been the case. Such a death has often been an apotheosis. Zeus Casius accepted Hadrian's sacrifice on the summit of his holy mountain by a stroke of lightning which took not only the victim but the priest also[3]. Among the Zulus a bull struck by lightning is considered to have "the heaven, or power of the heaven, in it." Its flesh, therefore, becomes powerful "medicine," and by anointing himself with its fat the medicine man brings himself into sympathy with the heavens[4]. In Greece a man for whom the deity had sent the lightning was literally "in Elysium," and the divinity thus conveyed to him made him immortal or at least imperishable[5]. In Italy Romulus went up to heaven in a thunderstorm[6]. In Palestine Elijah's instantaneous translation "by a whirlwind into heaven" with the "chariot of fire and horses of fire" sounds very like this form of divine favour (II Kings ii, 11). This interpretation receives confirmation from the name given to the riding animal sent for Muhammad's ascent into heaven. It is called *al-Burâḳ*, signifying "The Little Flash of Lightning[7]," *al-barḳ* being the lightning itself. The superb picture in Nizami's Poems shows Muhammad enveloped in a blaze of leaping flame, conducted by Gabriel similarly enveloped, and accompanied by flame-bearing angels[8]. The presence of Gabriel is significant, for in Jewish literature he presides over fire, thunder, etc.[9] and in Muslim tradition it was he who brought the Black Stone to Mecca[10]. The Black Stone is a meteorite[11]. When during his lifetime Elijah went up into the presence of Yahweh he did so in a thunderstorm, as Moses did before him. This reminds one of the entry into heaven made by some of the early Pharaohs: "The sky rejoiceth loudly at him; the earth trembleth at him; the hail is dispersed for him; he roareth like Setesh; the guardians of the limbs of heaven open the gates of heaven for him" (*Pyr.*, §§ 1149–51). Pepi and Neferkerēʿ must have gone to heaven in a thunderstorm. So must Wenis and Teti, for on their appearance in heaven "The sky rains, the stars darken(?), the Bows rush about, the bones of the Earth-gods tremble[12]." Thus both the idea of ascent into heaven in a thunderstorm and that of heavenly ropes which are likely to have represented shooting stars were well established in Egypt. It is, therefore, hardly possible to doubt that the rope ladder on which the soul mounted from Letopolis to heaven was either a flash of lightning itself or a shooting star, a meteorite, which non-scientific man does not differentiate from a thunderbolt. The rope ladder would, therefore, be one more variation of the thunderbolt theme so often encountered at Letopolis, the thunderbolt city.

[1] Frazer, *The Dying God*, 1911, 60 ff.
[2] Palmer in *Journ. Anthropol. Inst.*, 1884, 292.
[3] Aelius Spartianus, *De Vita Hadriani*, ch. xiv, § 3.
[4] Callaway, *The Religious System of the Amazulu*, 380, n. 30.
[5] A. B. Cook, *Zeus*, II, 22, 23–9, 33–6.
[6] Livy, I, 16.
[7] Sir T. W. Arnold, *Painting in Islam*, 117, n. 1, and foll. pages; Houtsma, Arnold and others, *The Encyclopaedia of Islam*, 793, s.v.
[8] L. Binyon, *The Poems of Nizami*, Pl. xiv, and p. 28.
[9] *Encyclopaedia Biblica*, s.v. *Gabriel*.
[10] Partsch in *Denkschriften kais. Ak. Wiss.: Math.-naturwiss. Classe*, XIII (Vienna, 1857), p. 3; Lenormant, *Lettres assyriologiques*, II, 140.
[11] For what is known about the Black Stone see Partsch, *op. cit.*, 1–5.
[12] *Pyr.*, § 393; *see Journal*, X, pp. 97 ff.

Moreover, the thunderbolt is a potent means of blasting open that which is closed. At Letopolis it was used for at least one opening, that of the mouth of the dead man[1], and it seems likely that it would also have opened for him "the gates which are in Letopolis." That the opening of heavenly gates was one of the powers of the meteorite in Egypt is shown by the title of Amūn's high priest. Amūn was the other self of Min, and these two, with Horus, formed the group of *Kꜣ-mwt·f* gods. His high priest was called "The Opener of the Gates of Heaven[2]" or, as it once is, "The Opener of the Gates *in* Heaven[3]," which defines them more accurately. The information is once added "in order to see what is therein[4]," and on another occasion what he saw is described as "splendour" (*šps*)[5]. Usually it is merely said that he was the opener of these gates "in Karnak[6]," just as the Letopolite high priest is commonly said to be "The Opener of the Mouth in Letopolis." But a fuller explanation of these titles is provided by the variant which describes the high priest of Letopolis as "The Opener of the Mouth upon Earth[7]," for this shows that these men were the mortals here on earth upon whom the heavenly power was conferred. Hence the idea that the thunderbolt could open not only the dead man's mouth but even Heaven itself was familiar to the Egyptians. Indeed, a splendid flash of lightning does seem to split open the clouds and sometimes to illumine their interior. If there were such a train of thought as has been suggested in these pages, it might well be said that the one flash not only fetched away some favoured individual, but also forced his way into heaven for him at the same moment. It would indeed be a terrific opening of "the gates which are in Letopolis," to give access to the climber on the heavenly ladder which also belonged to that city.

The stories relating to thunderbolts or lightning flashes often mention or suggest blindness. The sinful men of Sodom were smitten with blindness before the overthrow of their city. Elisha's enemies were struck with blindness when supernatural "horses and chariots of fire" were sent to protect him. There was a doubt whether Elisha would see Elijah's departure by the similar "chariot of fire and horses of fire." The idea was no doubt due to the blinding nature of the lightning flash. It therefore becomes of interest to note how often this characteristic is encountered at Letopolis. The sacred animal of the city we know to have been the shrewmouse, and Plutarch says that it (μυγαλῆ) was deified by the Egyptians because it was blind[8]. Similarly, the name of the god of the city, *Ḥnty-irty*, has reference to his eyes, and he has been called by Egyptologists "The Blind Horus." A Twelfth Dynasty text, which appears to be built up of much older material, relates that *Ḥnty-irty* had lost his eyes, which Horus replaced for him[9]. That Horus himself was partly blinded by Seth the thunder-god is a commonplace of Egyptology, and a newly published text gives another account in which he was completely blinded by the angry god[10]. Though it is usually offending mortals who are blinded, this disability in *Ḥnty-irty* and Horus his successor is perhaps some other version of the same idea. If so, it would provide yet one more bond between Letopolis and the thunderbolt.

The Letopolitan worship was clearly very early, and when it was attempted to relate its god to the myth of Horus and Seth his position was ambiguous. Although *Ḥnty-irty* nominally became the Horus of Letopolis, yet he and his city have much to do with Seth. The standard

[1] *Journal*, XVIII, 6, 7, 8, 11; Griffith, *Studies*, 374, 382.
[2] Wreszinski, *Die Hohenpriester des Amon*, Berlin, 1904, 49, 50.
[3] *Op. cit.*, no. 73.
[4] No. 33.
[5] No. 30.
[6] Nos. 32, 33, etc.
[7] Brugsch, *Dict. géogr.*, II, 1368.
[8] Plutarch, *Quaestionum Convivalium*, IV, Problem 5, 670, B. Its near congener, the mole, is commonly said by us to-day to be blind.
[9] Sethe, *Dramatische Texte* in *Untersuchungen*, X, Pt. ii, p. 162, ll. 54 *bis*, 55, and commentary, p. 164.
[10] Gardiner, *The Chester Beatty Papyri*, No. 1, Pl. x, ll. 3, 4.

of the nome was *Mšḫtyw*, the Great Bear, which Plutarch records was "the Soul of Typhon[1]." Already in the Old Kingdom the *mšḫtyw* instrument for opening the mouth represented "the *bꜣ* which came forth out of Setesh," and in later times one was made of iron, a material which the Egyptians called "Bone of Typhon[2]." As *bꜣ* or iron has much to do with Letopolis, it forms still another connexion between that city and Seth. Again, *ḏꜥm*-sceptres are often spoken of in association with the Four Children of the Letopolite Horus and with the Imperishable Stars (p. 164). His *ḏꜥm*-sceptre was the weapon with which Seth proposed to kill the gods who had angered him[3]. Another sceptre of very similar shape which finally assimilated the *ḏꜥm* was the *wꜣś*[4]. The *wꜣś*-sceptre was not far removed from the Letopolite gods. There were certain gods who were called "Imperishable"; supported themselves upon their *ḏꜥm*-sceptres; and were four in number. There can be little doubt, therefore, that they were the Four Children of Horus at Letopolis. In joining them by order of Horus and making their fourth it is thrice repeated that the Pharaoh "supporteth himself with you upon the *wꜣś*-sceptre and upon the *ḏꜥm*-sceptre" (*Pyr.*, §§ 1456–8). The *wꜣś*-sceptre belonged to other gods of a similar nature to the Letopolite ones. Thus it gave its name to, and provided the standard for, the city and nome of Thebes. It therefore was, or became, closely related to Amūn, and he was Horus' partner in the *kꜣ-mwt·f* meteorite. It was still more closely related to Seth, for its top was formed of the head of his sacred animal[5]; it was the sacred object of his city of Nubt[6]; and a pair of them was displayed on the standard of his nome of Oxyrhynchus[7]. It has already been mentioned that artistically the *wꜣś*-sceptre was a suitable support to give the sky (p. 165) and that one was made of the thunderbolt material *dś* and named "Giver of Winds" (p. 165). *Ḏꜥm*-sceptres thus provide an important connexion between Letopolis and Seth.

Other connexions are that each possessed a ladder, and, it may be noted, that these, like the *ḏꜥm* and the *wꜣś*, tended to merge together. While Seth was a patron of archers the high priest of Letopolis was distinguished by his arrow-ensign. Again, a number of gods render certain services to the deceased. Among them are the Four Children and their father *Ḥnty-irty*. Of these the first group takes up its position on that "side of T. which is in Horus," while *Ḥnty-irty* himself joins Seth's wife Nephthys on the other side "which is in Seth" (*Pyr.*, § 601).

There must have been foundation for this mass of beliefs, and some reason why the worship of the thunderbolt-god should have been established at Letopolis. At Akhmîm it was due to the quantities which occurred there of a thunderbolt-like fossil, *Lithodomus*[8]. It is, therefore, satisfactory to find that another thunderbolt-like fossil is very common in the rocks at Leto-

[1] Plutarch, *De Iside et Osiride*, § 21.

[2] *Op. cit.*, § 62.

[3] Gardiner, *op. cit.*, Pl. v, l. 2.

[4] *E.g.*, Lacau, *Sarc. ant. au nouvel empire*, II, p. 23, no. 41 = Pl. xlv, fig. 313, where all the *ḏꜥm*-sceptres are called *wꜣś*; I, 185, nos. 101, 102 = Pl. xlv, fig. 312, where one *ḏꜥm*-sceptre is called *wꜣś* while the other retains its true name.

[5] Borchardt, *Das Grabdenkmal des Königs Saḥureʿ*, II, Pls. xviii, xxiii; Id., *Das Grabdenkmal des Königs Neʿuser-reʿ*, Fig. 69; Lacau, *op. cit.*, Pl. xlv, fig. 315, where only an eye is supplied in each case. The mouth and muzzle are also shown in Mace and Winlock, *The Tomb of Senebtisi*, Pl. xxix, c, and p. 89; Petrie, *Naqada and Ballas*, Pl. lxxviii. For *ḏꜥms* with the eye see Lacau, *op. cit.*, Pl. xlv, figs. 312, 313; Mace and Winlock, *op. cit.*, Pl. xxix, a, and p. 89.

[6] Petrie, *op. cit.*, Pl. lxxviii, and p. 68.

[7] Murray, *Saqqara Mastabas*, Pl. i, right-hand and central columns, Pl. ii, top; *Pyr.*, § 864; Moret in *Comptes rendus de l'acad. inscr. et belles-lettres*, 1914, 569, fifth vertical line; Caulfeild, *The Temple of the Kings*, Pl. xviii, fig. 19; Brugsch, *Dict. géogr.*, II, 1359; in the Eleventh Dynasty the name is spelt out and determined by the sceptre, Couyat and Montet, *Inscr. du Ouâdi Hammâmât*, no. 114, l. 11; no. 192, ll. 13, 14.

[8] *Journal*, XVII, 194.

polis. Moreover, it seems characteristic of this district, for Dr. Hume of the Geological Survey, Cairo, informs me that at present he knows it nowhere else in Egypt. This fossil is *Nerinea Requieniana* [1]. It grows to a length of about six inches and so would represent a massive bolt, and, with the exception of the butt, is very like the shape which the Letopolite symbol finally assumed. It is identical in all respects with the shape often given to the classical thunderbolt, which shows the rounded butt and spiral formation of the fossil[2]. It can hardly be doubted that it was the presence in quantity of these "thunderbolts" in its neighbourhood that caused Letopolis to be consecrated to the thunderbolt-god.

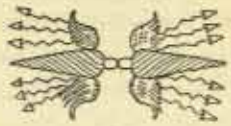


Fig. 4

[1] *The Geological Magazine*, 1898, Pl. xv, figs. 1–4, and pp. 395, 396.

[2] Fig. 4 is drawn from Daremberg and Saglio, *Dict. des antiquités*, s.v. *Fulmen*, Fig. 3313.

THE RELATIONS OF THE ELEVENTH DYNASTY AND THE HERACLEOPOLITANS

By T. J. C. BALY

An examination of the facts concerning the Thebans and the Heracleopolitans towards the end of the First Intermediate Period shows that hardly enough attention has been paid to the subject, for a clearer picture of the period can be drawn than has been yet attempted, though it must be admitted that there are great difficulties. Before dealing with the relations which are the chief subject of this article it will be necessary briefly to consider the earlier part of the First Intermediate Period and to examine any evidence as to the order of the Ninth and Tenth Dynasties[1].

The first question is one of extreme complexity, and a major problem emerges even from the short sketch it will be possible to give here. From the evidence so magnificently codified in *Gau and Badari I–II* Brunton has drawn two conclusions which bear on the question: first, that one single civilization develops steadily from the Sixth to the Eleventh Dynasty without definite extraneous impetus; and secondly, that it falls into two sections. It seems, however, a pity that these were not simply called First Intermediate I and II, since the naming by dynasties somewhat prejudges the difficult problem of the dynasties' sequence. The evidence tends to show that, in part at least, they were contemporary. The Coptos Decrees of *Nfr-kꜣw-Ḥr* and *Wꜣḏ-kꜣ-Rʿ*, which mention only the nomes of the South, imply that there was a dual rulership at that time, while the Abydos list ignores the Heracleopolitans. This seems to show that they were illegitimate from the point of view of the Nineteenth Dynasty, and the simplest explanation of this illegitimacy, in view of the fact that they are known to have been partially contemporary with the Eleventh Dynasty, is that they were always a secondary dynasty reigning in the North.

The question of Syrian rulership enters this problem and presents the worst difficulty. Manetho derives his Seventh and Eighth Dynasties from Memphis, but the decrees referred to above, which are of rulers who did not hold Memphis, show either that he was wrong or that he is missing out at least one dynasty, and in either case this destroys his value as evidence here. It rather looks as if there was a dynasty of Syrians, possibly confined to the Delta, and as if, while the main kingship went on in the South, there was also an independent buffer-state around Heracleopolis, which later drove out the Syrians but was finally conquered by the South. On the other hand Brunton has pointed out the lack of Syrian pottery-forms as far north as Ḳâw, though one would have expected to find them if this had been the course of events. The alternative of placing the Syrian names in the Second Intermediate Period, though tempting and by no means impossible on the evidence of the scarabs[2], upsets the Abydos list completely, and, while accepting the fact that it would be less likely to be right in a period of

[1] Winlock (*American Journal of Semitic Languages*, 1916) has brilliantly analysed the evidence for the order of the Eleventh Dynasty, and further examination merely amplifies his conclusions.

[2] Weill (*Fin du Moyen Empire*) places in the Second Intermediate Period several kings accepted by Petrie and Gauthier as belonging to the First.

confusion than at other times, it would be very dangerous for us to throw over the one definite authority we have on the strength of the scanty archaeological evidence.

The second preliminary problem is more immediately relevant. Unfortunately the only material available for ordering the Ninth to Tenth Dynasties consists of some mutilated passages in Pap. St. Petersburg 1116 A, and is in the highest degree doubtful, though it does give some clue. Merikerēʿ is obviously at least the fourth of his family, as the speaker refers to two predecessors. One of these, Mer----Rēʿ, is referred to as a warrior, and the other, Khety, vaguely as the author of some instructions. To these indications it is necessary to fit kings known from other sources. The Merikerēʿ of the papyrus is fairly clearly the Merikerēʿ of the Asyûṭ tomb, but where Mery-ib-Rēʿ, Neb-kau-Rēʿ and Waḥ-ke-Rēʿ come is less certain. I am inclined to see Mery-ib-Rēʿ in the Mer-----Rēʿ of the Papyrus, as there seems to be no other king of this period whose name would fit. He is referred to as a fighter of some fame, who was, however, unable to get farther south than the northern boundary of the Thinite Nome, and it is perhaps not an unfair conjecture that he was the founder of the dynasty[1]. There is an objection to this identification in the fact that his name appears at Aṣwân[2], and this would contradict the papyrus. If there were other kings whose names would fit the lacuna this objection might rule him out, but as it is, apart from the possibility that the king of the papyrus is one unknown from other sources, the simplest solution is to assume that during a period of peace he sent to Aṣwân for stone, as Merikerēʿ's father appears to have done. To the position of the others there is no clue unless one is daring enough to suggest that the Khety who is referred to as being wise is the Neb-kau-Rēʿ on whom the story of the Eloquent Peasant was fathered. King Shenes, whom Petrie names as the only king of the Tenth Dynasty, is quite impossible to place.

Coming to the relationship between the Heracleopolitans and the Eleventh Dynasty the materials are as follows:

(1) Stele of Antef I. Mariette, *Monuments Divers*, 49.
(2) Stele of *Ḏṛí*. Petrie, *Qurneh*, Pls. ii, iii.
(3) Stele of *'Intf*. B.M. No. 99. (*Eg. Sculpt.*, Pl. vii.)
(4) Pap. St. Petersburg 1116 A. Golenishchef's edition and *Journal*, I, 20 ff.
(6) Asyûṭ, Tombs III and IV.
(7) Hatnub, graffiti 14, 16, 20, 25. Anthes, *Untersuch.* x.

There is subsidiary evidence bearing on the actors from the Bersheh tombs and other graffiti at Hatnub.

Gardiner has argued in this *Journal*, I, 22 ff., that the fighting at Thinis recorded in Pap. St. Petersburg 1116 A, 119 ff. refers to Antef I's capture of that place, but there are objections to this identification:

(1) A previous reference to Thinis, though extremely mutilated, does seem to indicate at least a final victory including an accession of territory by the North.

(2) The word used is *ʿḏ* and not *iṭi*, which one would expect, as it is used elsewhere in the papyrus for "capturing" a place.

(3) The speaker, being apparently Merikerēʿ's father, must have been contemporary with Tefibi of Asyûṭ, who seems, from his admittedly damaged inscription, to have had a victorious career.

(4) The speaker refers specifically to the peaceful relations with the South, which he would hardly do if the Thinite affair had been the beginning of a Southern "drive" to conquer the

[1] Or perhaps "dynasties." It is not possible to separate the Ninth and Tenth Dynasties.
[2] Sayce, *Academy* (1892), II, 333.

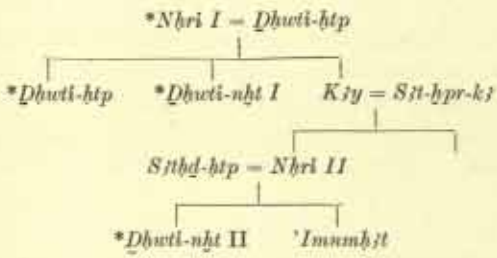
North; though against this it might be argued that there does seem to have been a period of peace after the capture, since the frontier did not change for some time.

Thus it seems probable that Merikerēʿ received Thinis intact from his father. It is possible that the events referred to above took place at the beginning of Antef I's reign. He was apparently a nomarch who seized the throne of Upper Egypt, and it may well be that in the resulting confusion the Heracleopolitans had trouble around Thinis and finally improved the occasion by pushing their boundary still farther south. Antef would naturally be glad to have peace, at least for a time, in order to consolidate his own position. The most likely time for the taking of Thinis would be during the revolt of Middle Egypt under Merikerēʿ referred to in the tomb of Khety I, who suppressed it. He speaks of having used a fleet, and it is perhaps more than a coincidence that *Ḏꜣrí* refers to a naval engagement during the Thinite campaign.

Though outward peace seems to have reigned, the ensuing period must have been one of friction, and the stele of *ʾIntf* refers to a revolt at Thinis in the fourteenth year of Mentuhotep I, but we have a fairly clear indication that the boundary remained constant till at least that reign. The probability is that the Lower Egyptian Kingdom disintegrated (rather than was conquered) during the reign of Mentuhotep II. Mentuhotep III's name of [hieroglyphs], compared with the [hieroglyphs] of his predecessor, suggests that he was the first ruler of a united Egypt[1]. While there is no certain contributory evidence, the events of the break-up seem to be illuminated by certain happenings which must have taken place about this time.

Apart from obscure hints of disorder the only history recorded in the Hatnub graffiti is the life of Neḥeri the son of Dhutnakht, and this is really in the form of vague references to events. From these it may be gathered that he was vizier to a king of Lower Egypt, who either advised him, or at least permitted him, to form a private army. He later became nomarch of the Hare Nome, which had apparently been held by a relation. Anthes (commenting on 22, 13) has noted that Neḥeri seems to have supported at least one man who was out of favour with the previous nomarch, and this suggests that there was more than a mere "transfer by descent." While Neḥeri was nomarch there was a very considerable amount of trouble, and we find him fighting "all Egypt," but he kept his nome safe and ended his days in peace, which suggests that he came to terms with the victors.

It is not possible to fix his date with any certainty but we can construct a genealogy which enables us to reach an approximation:



This table, which omits unessential names, gives four generations and four nomarchs (indicated by asterisks), of whom two belong to the same generation; and we know that Amenemhat, brother of the last nomarch, was contemporary with Senusret I, as we have a graffito dated in his thirty-first year. Thus, despite the fact that Neḥeri had his troubles before the graffiti begin, it is necessary to date them as late as possible, and since it is extremely unlikely that the events

[1] Sethe, *Ä.Z.*, LXII. It is worth noting that in later times he was regarded as a king of great importance and coupled with Menes and Aḥmose; so, for example, at the Ramesseum, L., *D.*, III, 163.

described took place later than the reign of Mentuhotep II (if he conquered the North, as is here assumed), they were probably part of that conquest. If this is so, the fact that Neḥeri was attacked from both sides suggests that the Northern Kingdom broke up into a number of warring nomes and that this gave the South her long awaited opportunity[1].

Like most Egyptian history, all this rests on a somewhat daring interpretation of scanty evidence, but the general course of events does seem to have been this. At some period after the Sixth Dynasty the North broke away and founded a kingdom which was either fixed at that time or, perhaps more probably, extended later, by Mery-ib-Rēʿ, who, however, could not get further than Abydos despite all his efforts. His successors probably had a certain amount of friction with the South, and Merikerēʿ's father fought a strenuous campaign against the Southerners, driving them out of Thinis and concluding a peace with (probably) Antef I, who was consolidating his power over the South after a successful usurpation. This peace probably lasted only a short time, as Antef I seems to have captured Thinis quite early in his reign, but the Heracleopolitans made use of it to pacify their kingdom and drive back the invaders on the North. Merikerēʿ had to deal with a revolt but suppressed it with the support of Khety I of Asyûṭ, though he probably lost Thinis during the turmoil.

In the long run the victory appears to have been bound to go to the South, since, apart from questions of the relative capacities of the dynasties, it held two big advantages over the North. First, a stronger and more centralized government (it is noteworthy that the large decorated tombs of nomarchs are in the North), and secondly, relatively peaceful relations with the countries to the south of it, thus enabling it to control the gold supplies. The North, on the other hand, continually troubled with threats of Syrian invasion, was economically weaker and had no time to organize the kingdom properly.

[1] Breasted has suggested (*Anc. Rec.*, I, 191, n. a) that Khety II of Asyûṭ is the Khety of the Mentuhotep III inscriptions. If this is so it would support this theory, since the most likely way for him to gain high rank in the South would be to desert to it. It is probable that Neḥeri's peaceful ending to his life and the continuance of his family in the nome was due to submission to the South. At Beni Ḥasan, for instance, the family seems to change at this time.

TO WHAT EXTENT DID THE ANCIENT EGYPTIANS EMPLOY BITUMEN FOR EMBALMING?

By PERCY E. SPIELMANN

From classical times down to 1908 statements have been made to the effect that bitumen, mainly Judaean, was used in mummification by the ancient Egyptians.

Herodotus travelled in Egypt between 457 and 453 B.C., and wrote in copious detail of what he had learned. He describes the methods of embalming that were practised according to the price that the relatives of the deceased were prepared to pay. Pettigrew, in his *History of Egyptian Mummies*, 1834, commenting on the second method given by Herodotus (that performed without abdominal incision), gives numerous references to the reported use of bitumen, though Herodotus himself makes no reference to it.

Diodorus Siculus, writing probably just after 44 B.C., makes reference to "Jews' Pitch" (*bitumen Judaicum*), and Pettigrew repeats statements that it was used in mixtures for embalming.

Many other writers have made similar statements, which, even if they were copied one from the other to some extent, form interesting negative evidence that there was nothing to disturb this belief in the accuracy of each previous writer.

Bitumen had been said to have been known for ages in Egypt and Mesopotamia as a valuable waterproofing material (as, for instance, in the infant adventures of Sargon I and Moses, if observation and translation are correct), and as constructional material for walls, streets, drains and granaries. Such was the position of mixed fact and tradition when in 1908 a *Preliminary Note*[1] began a series of publications by A. Lucas, at that time Head of the Government Laboratory at Cairo, in which doubt was thrown on the use of bitumen for embalming.

This 1908 paper was superseded in 1911 by another[2], which extended and consolidated the whole matter, by which time he definitely identified certain resins and gum resins.

In a later paper[3] (1914) Lucas again examined the question, and in face of an impressive collection of authorities to the contrary, which he quoted, maintained his contention: that the embalming materials consisted of resins, gums and wood pitch; and that bitumen was not used for embalming before Ptolemaic times, and even though it might have been used then and subsequently, he found no evidence of it. He reaffirmed this in 1924 and 1926, after another examination of the subject[4].

In all this work Lucas relied for his evidence on solubility tests, and on sulphur content, which in Judaean bitumen is high (about 9 per cent.), as well as on characteristic smell, the marked fluorescence of the solutions in various solvents, and the colour and appearance of the substances extracted by solvents. This was justifiable in so far as no reliable identification seemed attainable by chemical determination of the elements present. In some cases the pro-

[1] *Cairo Scientific Journal*, II (1908), no. 9, April.

[2] *Preservative Materials used by the Ancient Egyptians in Embalming. Survey Dept. Paper*, no. 12 (1911).

[3] *Journal*, I, 241 ff.

[4] *Antiques, their Restoration and Preservation* (Arnold, 1924). *Problems in Connection with Ancient Egyptian Materials. Analyst*, LI (1926), 435.

portions of the elements in two comparable substances were too similar for differentiation to be possible; in others chemical change may have taken place with the passage of years, whilst other materials seem to have remained unaltered.

The first method employed by the present writer, namely fluorescence, aimed at identifying the presence of Judaean bitumen; no detailed search was made for other materials that might have been present, but in view of the fact that resins were certainly used in mummification, these were also tested for. Another method was also used: the spectrographic analysis of the ash of certain samples, which were sent to me by Lucas.

1. Bitumen and Resin

Fluorescence. The samples were examined under a quartz mercury lamp, very courteously put at my disposal by the British Hanovia Quartz Lamp Co. Ltd., with a filter passing ultra-violet light of 4000 to 3000 Å units.

It was immediately obvious that the bitumen gave no trace of fluorescence, and that all the samples of resin gave colours averaging round a strong yellow ochre. Lucas (private communication) had previously found ancient Egyptian resins to fluoresce between a fine golden yellow and a brownish red, while amber (probably 100 years old) gave a yellow colour.

It is very significant that the materials taken from the mummies occupy positions between the undoubted bitumen and the undoubted resins, and that the colour of the fluorescence runs parallel to the appearance under normal light. It is impossible to avoid the expectation that the presence of bitumen would become substantiated by further work rather than disproved.

Spectrographic Analysis. The justification for the employment of this method of investigation lies in the possibility of identifying, even in minute quantities, the elements which may be characteristic of the material. For the present purpose the following elements were identified: Al, Sb, As, Ba, Bi, Bo, Cd, Cs, Ca, Cr, Fe, Pb, Li, Mg, Mn, Mo, Ni, K, Si, Ag, Na, Sr, Sn, Ti, V, Zn. It was found that, in common with certain other asphaltic oils and residues, vanadium and nickel were predominant components in the ash, in this case accompanied by molybdenum. The resins, on the other hand, show only the smallest traces or none of these metals, so that together the three can be used for the identification of the presence of the bitumen.

The results obtained by both methods are brought together in Table I.

Great care must be taken in the interpretation of the figures in the tables, as the descriptive word refers to the proportion in which the metals are present in the ash and has nothing to do with the proportion of the ash in the material, that is, the proportion of the bitumen in the embalming mixture. Here is found strong evidence for the presence of bitumen in two of the three samples examined if the bitumen was present in a mixture in no overpowering proportion, and if resins also were not present in superabundance.

The converse problem, that of establishing the presence of resins in the mixture, cannot be solved, as the resins do not contain any characteristic element. There is much silicon in all of them, which is absent in the bitumen, but this is too common an element to be used for identification in this case.

I am very grateful to Mr. F. Twyman, F.R.S., Director of Messrs. Adam Hilger, for having made himself responsible for producing for me the spectrograms for this paper.

2. Bitumen and Wood Tar

In face of these somewhat indecisive results, a similar examination was made with samples of wood tar, the only other alternative to bitumen, and a material of which Lucas had definitely identified the presence.

The results are set out in Table II.

Table I

Lab. No.	Museum No.	Material	Appearance	Fluorescence	Spectroscope			
					Ash %	V	Ni	Mo
8482	1305/10	Bitumen, Judaean	Black shiny	None	0·66	Dominant	Substantial	Much
8485	397/08	Material from cranial cavity (Ptolemaic)	Greyish brown-black, shiny patches	Yellowish brown	1·0	A little	Heavy trace	Very heavy trace
8578	20/11	Material from head (Ptolemaic)	Dull black	Deep brown	16·6	Very slight trace	0	0
8480	A. 2696/16	Bones from junction of ribs and spine	Black, dull and shiny	Dark brown	5·7	Heavy trace	Trace	Very heavy trace
8481	29/29	Resin (Twenty-sixth Dyn.)	Brown, dull outside; Vitreous green inside	Yellow outside; Turquoise inside	*a* 4·0 *b* 2·3 *c* 0·83	0 Very slight trace 0	Minute trace ,, ,, ,, ,,	0 Slight trace 0
8483	304/08	Resin from skin of mummy (Ptolemaic)	Dull, dark brown	Dull yellow greenish streak	*a* — *b* —	Slight trace Trace	Very slight trace Trace	0 Heavy trace
8484	53/24 (or 54)	Resin from pre-dynastic grave	Dull, grey brown outside; Strong red inside	Uniform yellow	10·93	Slight trace	Very slight trace	0
8579	24/1931	Resin, Graeco-Roman, from jar	Very deep brown, shiny or dull	Deep yellow ochre	1·0	Minute trace	Heavy trace	0
8580	1604/07	Resin (?) from probable royal mummy (Twenty-first Dyn.)	Very deep brown, shiny or dull	Deep yellow ochre	2·85	Minute trace	Heavy trace	0

Table II

Lab. No.	Museum No.	Material	Appearance	Fluorescence	Spectroscope			
					Ash %	V	Ni	Mo
8716	1008/10	Judaean bitumen	Deep brown	Deep brown	0·13	A little	Much	Considerable proportion
8717	1380/10	Judaean bitumen	Black	None	0·5	Much	Considerable proportion	Much
8718	323/08	Pitch-like material from chest cavity of Ptolemaic mummy	Dull, deep brown black	Dull deep ochre	16·0	Much, but less than in 8717	A little	Heavy trace
8719	32/32	From mummy. Probably wood pitch; undated	Black	Dull ochre	0·3	A little	Heavy trace	Heavy trace
8720	1381/10	Wood pitch (Stockholm tar)	Black	Dull deep ochre	0·15	0	0	0

It will be seen that the appearance of the Judaean bitumen and the mummy materials closely resembles that of those already examined and recorded in Table I.

The outstanding feature in Table II is the absence of Mo, Ni and V in the undoubted wood pitch. It may be objected that the comparison with Stockholm tar is not justified, since this comes from a different locality and is of a different age; but it is very striking that all three metals, of which two are known to be characteristic for oil and bitumen from a definite and large area of the world, are completely absent from the vegetable product.

If it be true, as has been suggested above, that bitumen and resin are present in the embalming material in relatively low proportions—the bitumen, because the characteristic metals are not very pronounced, and the resin, because the ochre fluorescence is not strong—then the metal-free wood tar would be just the substance to act as the diluent for both.

Thus, the evidence for the presence of these substances is:

Bitumen: tradition, and presence of characteristic metals.

Resin: lighter colour and fluorescence tending towards ochre.

Wood Pitch: chemically identified by Lucas; acting as metal-free diluent.

It might be contended that the Ni, V and Mo in the mummy substances were derived from the resins. This is not possible, because their proportion in the pure resin is minute; and as the pure resin shows a vigorous fluorescence while the mummy substances show a very dull one, the proportion of resin present can only be low. Therefore, the metals from the resin would be a small proportion of what was already minute.

It seems clear, therefore, from the materials available for examination, that bitumen was used for embalming, mixed with resin and wood tar.

In addition, this investigation indicates the value of spectroscopic analysis in dealing with unknown substances. Its limitations are obvious; but it is likely that in chosen directions identifications may be made unerringly. The source of a sample of soda might be determined by the presence of minute traces of impurities characteristic of one locality and not of another; the ash of plant fibres from different places or of different kinds may be found to differ; the origin of metal in domestic and commercial use—these are a few of the possibilities that rise to the mind. Within the realm of Egyptology, as well as outside it, subtle problems may be solved with little difficulty.

BIBLIOGRAPHY: CHRISTIAN EGYPT (1931–1932)

By DE LACY O'LEARY, D.D.

The following abbreviations are used in this Bibliography:

A.B. = *Analecta Bollandiana, Brussels.*
A.S. = *Annales du Service, Cairo.*
Ä.Z. = *Zeitschrift f. ägyptische Sprache.*
B.I.F. = *Bulletin de l'inst. français d'arch. orient. au Caire.*
B.J.R.L. = *Bulletin of the John Rylands Library, Manchester.*
B.N.J. = *Byzantinisch-Neugriech. Jahrbuch.*
B.Z. = *Byzantinische Zeitschrift.*
D.L.Z. = *Deutsche Literaturzeitung.*
H.T.R. = *Harvard Theological Review.*
J.A. = *Journal asiatique.*
J.R.A.S. = *Journal of the Royal Asiatic Society.*
J.T.S. = *Journal of Theological Studies.*
O.C. = *Oriens Christianus.*
O.L.Z. = *Orientalistische Literaturzeitung.*
R.B. = *Revue Biblique.*
R.E.A. = *Revue de l'Égypte ancienne.*
R.H.E. = *Revue d'histoire ecclésiastique, Louvain.*
R.O.C. = *Revue de l'Orient Chrétien.*
T.L.Z. = *Theologische Literaturzeitung.*
Z.D.M.G. = *Zeitschr. d. Deutschen Morgenl. Gesellsch.*
Z.N.T.W. = *Zeitschr. f. neutestamentliche Wissensch.*

I. BIBLICAL

Kenyon's article in the London *Times* of 19. 11. 31 drew attention to the most interesting Biblical Papyrus in the Chester Beatty collection, containing portions of Gn., Nu., Dt., Isai., Jer., Esther, Ezek., Dan., Eccles., the Gospels, Acts, Apoc., and Enoch. This valuable material is discussed by C. Schmidt, *Die neuesten Bibelfunde aus Ägypten*, in *Z.N.T.W.*, xxx (1931), 285–93, and S. speculates on the provenance of the papyrus, his conclusions favouring Bûsh, about 115 km. above Cairo, as the most probable locus. This article also describes an ancient Fayyumic Papyrus of Ecclesiastes, the Song, and Lamentations, which shows a very early form of the dialect. On the Chester Beatty Papyrus see also G. Mercx, *Novi codices S. Scripturae*, in *Biblica*, xiii (1932), 118–20, a brief account by Mrs. S. New, *The new Chester Beatty Papyrus*, in *J. of Bibl. Lit.*, New Haven, Conn., li (1932), 73–4, as well as a brief description, with two illustrations representing the Biblical Papyrus, in *Illustrated London News* (1931), 884. On the Chester Beatty collection generally reference may be made to A. H. Gardiner, *The Library of A. Chester Beatty. Description of a Hieratic Papyrus etc. The Chester Beatty Papyri, No. I* (1931), 46 pp., 31 plates.

The leading Coptic publication of Biblical content during the past year is Sir Herbert Thompson, *The Coptic Version of the Acts of the Apostles and the Pauline Epistles in the Sahidic Dialect*, Camb. (1932), xxxii + 256, and 13 plates. The Acts and Pauline epistles are the weakest feature of Horner's edition. This text is from a MS. in the possession of Mr. Chester Beatty, of date about a.d. 600, and from the monastery of Apa Jeremias at Saḳḳârah, purchased in Cairo in 1924–5.

A. Vaschalde, *Ce qui a été publié des versions coptes de la Bible*, in *Muséon*, xliii (1930), 409–31, is a further instalment of the writer's detailed bibliography.

Burmester-Devaud, *Les Proverbes...* (*cf. Journal*, xvi (1930), 255), is reviewed by W. Hengstenberg in *O.L.Z.*, xxxiv (1931), 528–32.

W. H. Worrell, *The Proverbs of Solomon...* (*cf. Journal*, xvii (1931), 248), has been reviewed by W. E. Crum in *J.T.S.*, xxxiii (1932), 193, and briefly noticed by A. C(alderini) in *Aegyptus*, xii (1932), 79.

A monument has been erected to the memory of the late G. Horner in Mells (Som.) parish church. At the dedication of this monument the Bishop of Gloucester gave an interesting and appreciative account of Mr. Horner's work: a report of this address is given in the *Somerset Standard* for 18. 12. 31.

II. APOCRYPHAL, GNOSTIC, ETC.

(a) Apocryphal

M. R. James, *The Rainer Fragment of the Apocalypse of Peter*, is published in *J.T.S.*, xxxiii (1931), 270–9.

F. Blatt, *Die latinischen Bearbeitungen der Acta Andreae et Matthiae apud Anthropophagos*, Giessen (1930), xii + 197, is reviewed by M. Manitius in *Phil. Woch.*, li (1931), 1044–6.

A. Mingana, *Woodbrooke Studies*, iii, Camb. (1931), 449, reprinted from *B.J.R.L.* (1931), contains (1) The Vision of Theophilus, and (2) The Apocalypse of Peter. These are reviewed by M. R. James in *J.T.S.*,

XXXIII (1931), 76–7. Reviews of the earlier parts of these studies have appeared by R. STROTHMANN in *T.L.Z.*, LVI (1931), 290–1, and by J. B. CHABOT in *J. des Sav.* (1932), 82–5.

C. SCHMIDT, *Neue Fremde zu den alten* Πράξεις Παύλου (*cf. Journal*, XVI (1930), 263), is noted by F. Z(UCKER) in *B.Z.*, XXXI (1931), 433–4, and the same author's *Ein Berliner Fragment* (*cf. Journal*, XVII (1931), 248) in the same periodical, p. 434.

L. VAGANAY, *L'Évangile de Pierre* (*cf. Journal*, XVII (1931), 248), is reviewed by E. B. ALLO in *R.B.*, XL (1931), 435–42, by M. TH. DISDIER in *Échos d'Or.*, XXX (1931), 249–50, by M. R. JAMES in *J.T.S.*, XXXII (1931), 296–9, and by W. BAUER in *T.L.Z.*, LVI (1931), 249–50.

(b) GNOSTIC

The leading work on Gnosticism published during this year is F. C. BURKITT, *Church and Gnosis*, Camb. (1932), 160. It is largely concerned with the Egyptian elements in Gnosticism.

G. SCHOLEN, *Ueber eine Formel in den koptisch-gnostischen Schriften und ihren jüdischen Ursprung*, appears in *Z.N.T.W.*, XXX (1931), 170–6.

G. R. S. MEAD, *Fragments of a Faith forgotten; Short sketches among the Gnostics, mainly of the first two centuries* (1931), 633, is the third edition of a popular account of Gnostic doctrines.

(c) MANICHAEAN

A. V. W. JACKSON, *A sketch of the Manichaean doctrine concerning the Future Life*, in *J. Amer. Or. Soc.*, L (1930), 177–98, is compiled from the evidence of Manichaean fragments and scattered references, with very instructive results.

The article by P. DÖLGER, *Altchristliche Symbolik der Taufe auf den Durchzug durch das Rote Meer u. auf den Jordan*, in *Antike u. Christentum*, II (1930), 63–79, has a bearing upon Manichaean teachings.

III. LITURGICAL

A. HEBBELYNCK, *Un fragment de psalmodie du manuscrit Vatican copte* 23, *en dialecte bohairique*, appears in *Muséon*, XLIV (1931), 153–68, but the fragment belongs to a ⲯⲁⲗⲓ already contained in published editions of the Theotokia.

O. BURMESTER, *A Coptic Lectionary Poem*, is published in *Muséon*, XLIII (1930), 373–85.

J. QUASTEN, *Musik und Gesang in der Kultur der heidnischen Antike und christlichen Frühzeit*, Münster i/W. (1930), xii + 274, 39 plates, has some bearing upon the development of hymnody which played so important a part in the evolution of Coptic offices. It is reviewed by E. WELLESZ in *B.Z.*, XXXI (1931), 373, and by the same writer in *O.C.*, V (1930), 265–6. In this connexion may be mentioned also H. J. W. TILLYARD, *The Stichera Anastasima in Byzantine Hymnody*, in *B.Z.*, XXXI (1931), 13–20.

J. M. HARDEN, *The Anaphoras of the Ethiopic Liturgy*... (*cf. Journal*, XVI (1930), 251), is reviewed by E. LOHMEYER in *O.L.Z.*, XXXV (1932), 48–9.

J. DESLANDES, *Le prêtre oriental ministre de la confirmation. Au nom de quelle autorité le prêtre oriental confère-t-il la confirmation?*, in *Échos d'Or.*, XXIX (1930), 5–15, deals with a question which concerns the Coptic as well as other oriental rites.

The Wellcome Expedition to Armant (*cf. Journal*, XVII (1931), 223–32) brought back a number of fragmentary Bohairic manuscripts, all liturgical in character, mostly pages of the Katameros, of the Theotokia, and of the *Kitâb al-Laqan* (ⲡⲓⲭⲱⲙ ⲛⲧⲉ ϯⲗⲁⲕⲁⲛⲏ) or order of special services for the Blessing of the Waters on Epiphany, the Foot-Washing of Maundy Thursday, and similar rites. Several of these fragments were displayed at the exhibition held last autumn at the Wellcome Museum in Wigmore Street.

F. PREISENDANZ, *Unbekannte Zauberpapyri in Deutschland*, in *Forsch. und Fortschr.*, VI (1930), 63–4, deals with Berl. P. 11737 and 13895, incidentally giving a passage which resembles one of the prayers in the Anaphora of Serapion.

F. J. DÖLGER, *Die Bedeutung von βαπτίζεσθαι in einem Papyrustext des Jahres 152–151 v. Chr.*, in *Antike u. Christentum*, II (1930), 57–62, shows satisfactorily that there is no reference to any religious rite of purification, etc.

IV. LITERATURE

(a) GENERAL

L. TH. LEFORT, *Littérature bohairique*, in *Muséon*, XLIV (1931), 115–36, is an interesting and valuable contribution to the study of Bohairic literature in which the author maintains a rather novel position which, it is understood, he intends to vindicate in forthcoming articles. He holds that Bohairic played a very much more prominent part at Alexandria and in Lower Egypt generally than has been generally supposed and

that St. Athanasius and other Alexandrian fathers wrote in Bohairic as well as in Greek. The thesis has obvious difficulties, but L.'s evidence in support of the claim that some of the Bohairic texts of St. Athanasius are originals and not translations demands serious consideration. The same author's *La littérature égyptienne aux derniers siècles avant l'invasion arabe*, in *Chron. d'Égypte*, XII (1931), 315–23, maintains a similar position: "j'ose affirmer que, sur le sol d'Égypte, l'activité intellectuelle d'expression égyptienne ne cessa qu'en même temps et pour le même motif que l'activité intellectuelle d'expression grecque: l'invasion arabe" (p. 317).

W. SPIEGELBERG, *Die demotische Literatur*, in *Z.D.M.G.*, LXXXV (1931), 147–71, is not directly concerned with Coptic but will naturally demand attention from those who believe in a native tradition of literature apart from the Hellenistic culture of Alexandria.

(b) PATRES APOSTOLICI

J. MUILENBURG, *The literary relations of the Epistle of Barnabas and the Teaching of the Twelve Apostles*, Mount Holyoke Coll. (1929), xii + 170, has been the subject of reviews by F. C. BURKITT in *J.T.S.*, XXXIII (1931), 25–7, and by G. KRÜGER in *T.L.Z.*, LV (1930), 226–7.

The pseudo-Clementine question is treated in H. WAITZ, *Pseudo-klementinische Probleme*, in *Zeitschr. f. Kirchengesch.*, L (1931), 186–94. CULLMAN'S *Le problème littéraire...* (*cf. Journal*, XVII (1931), 249) on the same subject is criticized by C. SCHMIDT in *T.L.Z.*, LVI (1931), 533–8, and by F. C. BURKITT in *J.T.S.*, XXXIII (1932), 199–201, who says: "In Dr. C.'s study, so well written, so plausible, we see the bitter fruit of the false ideas about the religion of the Mandaeans that have had such a vogue since the publication of Lidzbarski's German translation of the *Ginza*" (p. 201).

(c) CHURCH FATHERS

R. E. WITT, *The Hellenism of Clement of Alexandria*, appeared in the *Class. Quarterly*, XXV (1931), 195–204.

D'ALES, in *Rech. de Sci. Relig.*, XX (1930), 224–68, deals with the learning of Origen in the light of the problems raised by De Faye. R. CADIOU, *Origène et les reconnaissances clémentines*, in *Rech. de Sci. Relig.*, XX (1930), 506–28, deals with the subject of Origen and the Clementine Recognitions. E. KLOSTERMANN, *Eine Stelle des Origenes*, in *Theol. Stud. u. Kritiken*, Gotha, CIII (1931), 195–8, is concerned with Origen's commentary on Mt. 26. 26–8. P. GLAUE, *Ein Bruchstück...* (*cf. Journal*, XVII (1931), 249), is reviewed by P. THOMSEN in *Phil. Woch.*, LI (1931), 297–8.

On St. Athanasius we have R. P. CASEY, *Armenian MSS. of St. Athan. of Alexandria*, in *H.T.R.*, XXIV (1931), 43–59, and the same writer's *Greek MSS. of Athanasian corpora*, in *Z.N.T.W.*, XXX (1931), 49–70. P. JERPHANION, *La vraie teneur d'un texte de S. Athanasius rétablie par l'épigraphie:* l'Epistula ad Monachos, is published in *Rech. de Sci. Relig.*, XX (1930), 529–44; the letter appears as no. 585 in Winlock-Crum-White, *Monastery of Epiphanius* (1926). Of more general bearing is J. KOIBERAKI, τί διδάσκει ὁ μέγας Ἀθανάσιος περὶ Ἀρείου καὶ Ἀρειανισμοῦ in Ἐκκλησ. Φάρος, XXIX (1930), 496–516. J. LIST, *Das Antoniusleben des hl. Athanasius d. Gr.*, Athens (1930), 63, is vol. X of *Texte u. Forschungen zur byzantinisch-neugr. Philologie*, and is reviewed by F. HALKIN in *B.N.J.*, VIII (1931), 372–4.

On St. Cyril we have J. LEBON, *Fragments arméniens du commentaire sur l'épître aux Hébreux de St. Cyrille d'Alex.*, in *Muséon*, XL (1931), 69–114.

H. G. HOSKIER, *The complete commentary of Oecumenius on the Apocalypse, now printed for the first time from MSS. at Messina, Rome, Salonika, and Athos*, with notes, Ann Arbor (1928), 263, is reviewed by A. C(ALDERINI) in *Aegyptus*, XI (1931), 509, by K. in *B.Z.*, XXXI (1931), 374–9, and by P. HESELER in *Phil. Woch.*, LI (1931), 772–7.

W. ERICSEN, *Faijumische Fragmente der Reden des Agathonicus Bischof von Tarsus*, in *Videnskabernes Selskab*, Hist.-Filol., XIX, Copenhagen (1932), 50: introd., text (8–32), glossary (33–50): an account of Agathonicus, who lived towards the end of the fourth century, will be found in Crum's *Der Papyruscodex saec. VI–VII der Phillippsbibliothek...* (1915), 154–71. The present text, from a Copenhagen MS., gives portions of the Apology (ⲉⲟⲩⲉ ⲧⲙⲉⲧⲁⲡⲉϩ† = Crum, 126. 5. ⲛⲉⲣⲓ ⲁⲛⲓⲥⲧⲉⲓⲁⲥ) and a fragment of the discourse with Stratonicus the Cilician (Crum, 96). This Fayyumic text corrects the Sahidic in two places. The text given here covers eight folios of 28–30 lines on each side.

A. VAN LANTSCHOOT, *Fragments coptes d'un panégyrique de S. Jean-Baptiste*, in *Muséon*, XLIV (1931), 235–54, gives 5 folios text: the subject is fairly frequent in Coptic literature.

A. MOBERG, *On some Syriac fragments of the Book of Timothy Ailuros against the Synod of Chalcedon*, Lund (1928), 13, 2 illust., has a bearing upon the life and thought of the Egyptian Church. It is reviewed by A. RÜCKER in *O.L.Z.*, XXXIV (1931), 53.

W. TILL, *Osterbrief und Predigt im achmimischen Dialekt* (*cf.* sect. VII, *Philology*, below), very fragmentary, is chiefly of interest for its dialectal character and punctuation.

V. HISTORY

(a) General

V. Laurent, *À propos de "l'Oriens Christianus,"* in *Échos d'Or.*, xxix (1930), 176–92, is a "note de géographie et d'histoire ecclésiastique."

A. Bludau, *Die ägyptischen Libelli und die Christenverfolgung des Kaisers Decius*, appears in *Röm. Quartal.*, fasc. 27 (1931), 79. C. Schmidt, *Ein neues Originaldokument aus der Diokletianischen Christenverfolgung*, in *T.L.Z.*, lv (1930), 227–9, refers to a text in the Frisk Papyrus.

Amongst the publications of the German Institute in Cairo is W. Schubart, *Christliche Predigten aus Ägypten*, in *Mitt. d. deutsch. Inst. f. äg. Altertumsk. in Kairo*, i (1930), 93–105.

Th. Hermann, *Johannes Philoponus als Monophysit*, appears in *Z.N.T.W.*, xxix (1930), 209–64.

Gaudefroy-Demombynes et Platonov, *Le monde musulman et byzantin jusqu'aux croisades*, is part of the *Hist. du Monde*, vii, i, Paris (1931), 591.

On modern history we find R. Strothmann, *Die koptische Kirche in der Neuzeit*, Tübingen (1932), vi + 167, a very important and valuable work: it is drawn entirely from native sources, for the most part entirely unknown in Europe, note especially the section "Neuere Literatur" (102 ff.), and gives a great deal of information not hitherto accessible. Of less direct interest is A. G. Politis, *L'hellénisme et l'Égypte moderne*, Paris (1930), 576, which is reviewed by P. Darmstadter in *Hist. Zeit.*, cxlv (1931), 610. An interesting article appears in *Maallem Yakoub dit le "Général Jacob" commandant la légion copte* (1798–1801) (*documents inédits*), in *L'Acropole*, vi (1931), 137–45.

Amongst publications announced but not yet, I believe, accessible, is G. Hanotaux, *Hist. de la nation égyptienne des origines préhistoriques jusqu'à nos jours*, of which vol. iii will be M. Jouguet, Ch. Diehl, et M. Chapot, *L'Égypte alexandrine jusqu'à la conquête arabe*, and vol. iv, M. Wiet, *L'Égypte arabe jusqu'à la conquête ottomane, 642–1517*. This work is to be completed in 1935.

In Ethiopic Church history, so closely allied with that of the Coptic Church, Coulbeaux, *Hist. politique et relig.* (*cf. Journal*, xvi (1930), 252), is reviewed by A. Klingenheben in *O.L.Z.*, xxxv (1932), 67–9.

(b) Hagiography

E. A. W. Budge, *George of Lydda* (*cf. Journal*, xvi (1930), 252), is reviewed by J. Simon in *A.B.*, xlix (1931), 163–8.

H. Grégoire et M. A. Kugener, *Marc le Diacre: Vie de Porphyre évêque de Gaza, texte établi, trad., commenté*, Paris (Collection byzant., Assoc. Budé) (1930), cxii + 155, deals with Porphyry, who was a monk in Scetis in 372–7, and illustrates contact between the Delta and Byzantium. It is reviewed by A. C(alderini) in *Aegyptus*, xi (1931), 507, by Nau in *R.O.C.*, viii (1930), 422–41, by E. B. in *Ricerche religiose*, vii (1931), 85–6, by F. Halkin in *A.B.*, xlix (1931), 155–60, by H. Dörries in *T.L.Z.*, lv (1930), 611, by F. Peeters in *Revue de l'Univ. Brux.*, xxxv (1930), 108*–13*, by F. Cumont in *Revue Belge*, ix (1930), 922–4, and by F. Diekamp in *Theol. Rev.*, xxx (1931), 258–60.

Studies on Severus of Alexandria appear by O. Schissel in *B.N.J.*, viii (1931), 1–13, and by Fr. P. Karnthales in the same periodical, 327–31.

The latter writer also contributes *Theophilus von Kynopolis*, in *B.N.J.*, viii (1931), 331–49.

K. Triantaphyllopoulos, *Die Novelle des Patriarchen Athanasius über die τριμοιρία*, appears in *B.N.J.*, viii (1931), 136–46.

A. Mayer, *Der Heilige und die Dirne. Eine motivgeschichtliche Studie zu Hrotsvits "Abraham" und "Pafnutius,"* in *Bayer. Blätter f. d. Gymnasialsschulwesen*, lxvii (1931), 73–96, deals with the Pelagia-Martinianus legend, etc.

G. Nöllet, *Les miracles de Saint-Mercure Philopater*, appeared in *Aethiops*, iv (1931), 20–4; the same writer's *Les miracles de Gabra-Manfas Zedous*, *ibid.*, 33–6 (à suivre).

(c) Monasticism

P. Resch, *La doctrine ascétique des premiers maîtres égyptiens du IVᵉ siècle* (1931), xxxviii + 287, belongs to the series "*Études de Théol. historique.*"

S. Sajdak, *Que signifie κυριώτης Γεωμέτρης?*, appeared in *Byzantion*, vi (1931), 343–53, the writer contending that ἐν τοῖς Κύρου denotes a monk of the cloister. It receives a brief notice by F. D. in *B.Z.*, xxxi (1931), 410.

A. L. Schmitz, *Die Welt der äg. Einsiedler...* (*cf. Journal*, xvii (1931), 251), is reviewed by E. Breccia in *Bull. Soc. d'Arch. d'Alex.*, xxvi (1931), 345.

F. Halkin, *L'hist. Lausiaque...* (*cf. Journal*, xvi (1930), 251), is reviewed by H. Koch in *T.L.Z.*, lvi (1931), 161–3, and by F. Dölger in *O.L.Z.*, xxxv (1932), 328.

A very important contribution to the study of S. Pakhom and his rule is Dom A. Boon, *Pachomiana Latina: Règle et épîtres de S. Pachôme, épître de S. Théodore et Liber de S. Orsiesius. Texte latin de S. Jérome, édité par Dom A.B.*, Louvain (*Bibl. de la Revue de l'Hist. ecclés.*, Fasc. vii) (1932), lx + 209: the Latin text is as in Migne's *Patr. Lat.*, but a critical and corrected edition, and there is given also a reprint of Lefort's edition of the Coptic fragments of the Rule (= *Muséon*, xl). The work has a very full apparatus from all material at present available.

VI. NON-LITERARY TEXTS

C. Bonner, *Notes on the Paris magical papyrus*, in *Classical Philology*, xxv (1930), 180–3, on Paris B.N. Suppl. gr. 574, cites evidence from unpublished magical papyri in Michigan.

P. Collart, *À propos de quelques exercices scholaires*, in *B.I.F.*, xxx (1930), 417–23, gives a school-boy exercise containing sentences from Menander.

S. Eitrem and L. Amundsen, *Papyri Osloenses*, ii (*cf. Journal*, xvii (1931), 251), has been reviewed by W. Schubart in *D.L.Z.*, lii (1931), 1163–5, very briefly by A. M. in *Bull. de la Soc. de Ling.*, xxxii (1931), 94, and by F. Z. in *B.Z.*, xxxi (1931), 416, more fully by H. I. Bell in *Class. Rev.*, xlvi (1932), 23–4, and by H. C. Youtie in *Classical Philology*, xxvii (1932), 86–95, this last a very full critique of laudatory tone.

W. Hengstenberg, *Die griechisch-koptischen* MOYAON *Ostraka* (*cf. Journal*, xvii (1931), 252), is reviewed by F. Z. in *B.Z.*, xxxi (1931), 416–7.

T. Hoffner, *Orientalisch-Religiongeschichtliches aus den griechischen Zauberpapyri Aegyptens*, appears in *Archiv Orientalni*, Praha, viii (1931), 327–58.

A. Jacoby, *Zu Pap. Graec. Mag.*, iii, 479 ff., in *Archiv f. Religionwissenschaft*, xxix (1931), 204–5, is largely concerned with Coptic.

P. Jernstedt, *Die koptischen Papyri des Asiatischen Museums, Publ. de la Soc. Égyptologique...Léningrad*, vi (1931), 21–44.

A. C. Johnson and H. B. van Hoesen, *Papyri in the Princetown University Collection*, Baltimore (1931), xxiii + 146, has been described by H. I. Bell in *Class. Rev.*, xlvi (1932), 22–3, and by A. S. Hunt in *Journal*, xvii (1931), 263–4, who notes "the principles of abbreviation do not seem to have been fully grasped."

H. Munier, *Les stèles coptes du Monastère de Saint-Siméon à Assouan*, in *Aegyptus*, xi (1931), 257–300, 433–84, inscriptions with translation and notes, from Monneret de Villard and other sources. Altogether 177 inscriptions.

K. Preisendanz, *Neue griechische Zauberpapyri*, appears in *Gnomon*, vii (1931), 217–73. The same author's *Papyri Graec. Magic.*, ii (1931), xv + 216, contains a considerable proportion of Coptic interest, old Coptic magical words and names, etc. A short Coptic amulet appears in No. 48 (p. 181); Nos. 189 ff. are Christian. A review appears by Bauer in *T.L.Z.*, lvii (1932), 169–70. The earlier volume receives a full review by F. Zucker in *B.Z.*, xxxi (1931), 355–63. The third volume of this valuable collection, to contain hymns, a much-needed index, etc. is in preparation.

K. Preisendanz, *Deux papyrus magiques de la collection de la Fondation Égyptologique*, appears in *Chron. d'Égypte*, vi (1931), 137–40, and deals with MSS. P. Brux. Inv. E. 6390, 6391.

The same author's *Zur Papyruskunde* forms a section of Milkau, *Handbuch der Bibliothekwissen.*, Leipzig (1931), 299–331.

H. A. Sanders, *Two fragmentary Birth-Certificates from the Michigan Collection*, and *Some Papyrus fragments from the Michigan Collection*, publications of the American Academy in Rome (1931), are described by H. I. Bell in *Journal*, xvii (1931), 268–9, and reviewed by Wilcken in *Archiv*, ix (1931), 244–5.

C. Schmidt, *Ein koptischer Werkvertrag*, in *Ä.Z.*, lxvi (1931), 102–6, gives 13 lines of text from a Cairo MS.

A. Steinwenter, *Byzantinische Mönchstestamente*, appears in *Aegyptus*, xii (1932), 55–64.

W. Wessely, *Die Papyrologie u. die ersten Anfänge des Neugriechischen*, in *B.N.J.*, viii (1930/1), 317–26, has reference to Christian papyri, if not so directly concerned with Coptic. The same author's essay, *La minéralogie mystique des papyrus magiques*, was a communication read (by M. Hombert) at the Leiden Congress.

H. C. Youtie, *A gnostic amulet with an Aramaic inscription*, is published in *J. Amer. Or. Soc.*, l (1930), 214–20. The inscription is ιακωβ/ακουβτα/ιαω/βερω, which Y. regards as Aramaic and translates "Jacob, likeness of Jahweh his son."

On material specially connected with jurisprudence attention may be drawn to A. Schiller, *Coptic Law*, in *The Juridical Review*, xliii (1931), 211–40, which is based on the author's *Ten Coptic Legal Texts* (from Jême) to be published this year in *Papers of the Metrop. Mus. of Art*: a translation of No. 7 of these is appended to the article cited.

M. Steinwenter, *Proposition relative à la publication des papyrus et ostraca coptes du contenu juridique*,

was the title of a communication to the Oriental Congress at Leiden (read by M. Seide). The proposal was cordially endorsed by the Congress, as recorded in *Gnomon*, VII (1931), 670.

A. STEINWENTER, *Die Rechtsstellung der Kirchen u. Klöster nach den Papyri* (*cf. Journal*, XVI (1930), 255), is reviewed by C. WESSELY in *B.N.J.*, III (1931), 377–8.

J. SIMON, *Répertoire des bibliothèques publiques et privées contenant des manuscrits coptes*, in *Muséon*, XLIV (1931), 137–52, is a useful, and indeed necessary, attempt to furnish a guide to available Coptic material, but will need supplementing.

M. HOMBERT, *Bulletin Papyrologique* (1930), appears in *Byzantion*, VI (1931), 722–36.

R. MOUTERDE, *Le glaive de Dardanos: Objets et inscr. magiques de Syrie*, in *Mél. de la Fac.*, Beyrouth, XV (1930–31), 51–137, contains material which has at least an indirect bearing on Egyptian magical papyri.

P. A. M. KROPP (not Kroppe, as by error in *Journal*, XVII (1931), 252), *Ausgewählte koptische Zaubertexte*, is reviewed by K. PREISENDANZ in *Phil. Woch.*, LII (1932), 571.

VII. PHILOLOGY

On phonetics we find W. H. WORRELL, *Coptic Sounds. I. The main Currents of their History*, Ann Arbor (1932), 59.

W. E. CRUM, *Coptic Dictionary* (*cf. Journal*, XVII (1931), 252), is reviewed by W. HENGSTENBERG in *B.Z.*, XXXI (1931), 96–9, and by F. CALICE in *O.L.Z.*, XXXV (1932), 253–4. W. E. CRUM also contributes *Un nouveau mot pour navire* to *B.I.F.*, XXX (1930), 453–5, dealing with the word ϩⲓⲛⲟⲩⲛⲁ̀.

W. CZERMAK, *Der Rhythmus der koptischen Sprache und seine Bedeutung in der Sprachgestaltung* (Akad. d. Wiss. in Wien, Ph.-Hist. Kl. Sitz.) (1931), iv + 257, is largely concerned with phonetics, accents, etc., very technical in character.

†E. DEVAUD, *Études et notes*, in *Kemi*, III (1930), 136–48, includes (note viii, 2) *Sur la genre et la forme de* ϩⲣⲟⲥ (*S*) *et de ses variantes*.

W. F. EDGERTON, *Etymologies of* ⲧⲏⲛⲟⲩ *and* ϫⲟⲟⲩ, *in Amer. J. of Sem. Langs. and Lit.*, XLVII (1930), 53–4.

G. HEUSER, *Die Personennamen...* (*cf. Journal*, XVI (1930), 253), is reviewed by M. HOMBERT in *Rev. Belge, Phil.-Hist. Cl.*, X (1931), 613–5, and by P. A. BOESER in *Museum*, XXXIX (1932), 88–9.

P. JERNSTEDT contributes *Zur lexikalischen Neuschöpfung im Koptischen* to *Ä.Z.*, LXV (1930), 127–8.

L. KEIMER, *Quelques remarques sur la huppe* (*upupa epops*) *dans l'Égypte ancienne*, in *B.I.F.*, XXX (1930), 305–31, cites Coptic ⲕⲁⲕⲟⲩⲛⲁⲧ = Greek κουκούφα.

V. LORET, *Deux racines tinctoriales de l'Égypte ancienne, Orcanette et garance*, in *Kemi*, III (1930), 23–32, deals with *nátj* and *jp'* = ⲟⲛⲓⲟⲛ, ⲁⲛⲓⲁ.

H. J. POLOTSKY, *Zur koptischen Lautlehre*, I, in *Ä.Z.*, LXVII (1931), 74–7, refers especially to unaccented ⲉ in Fayyumic.

W. SPIEGELBERG, *Die Vokalisation von* mhj·t "*Nordwind*" (*ⲙϩⲏ), appears in *Ä.Z.*, LXVI (1930), 131.

W. TILL, *Die Vokalisation des Faiyumischen*, in *B.I.F.*, XXX (1930), 361–8. The same writer publishes *Koptische Dialektgrammatik*, Munich (1931), xv + 91 + 48*, containing readings and glossary: it is reviewed by P. BOESER in *Museum*, XXXIX (1932), 117–8, by A. C(ALDERINI) in *Aegyptus*, XI (1931), 507, and by H. J. POLOTSKY in *O.L.Z.*, XXXIV (1931), 333–43. The same writer's *Osterbrief und Predigt in achmimischen Dialekt*, giving a new, but very fragmentary, Akhmîmic text, appears in *Stud. zu Epig. u. Papyrusk.*, Leipzig (1931), 51, 1 plate, and is chiefly of interest for its light on the dialect and punctuation. It is from a Rainer frag. at Vienna. It is reviewed by C. SCHMIDT in *D.L.Z.*, LIII (1932), 481, and by H. J. POLOTSKY in *Gnomon*, VIII (1932), 173–4.

In the review of H. G. EVELYN WHITE, *The monasteries of the Wadi 'n Natrûn*, Part I (*cf. Journal*, XIII (1927), 257), by C. SCHMIDT in *O.L.Z.*, XXXII (1929), 259–63, a considerable space is devoted to criticism and analysis of Dr. Sobhy's appendix on the transliteration of Arabic in the Copto-Arabic MS. with which he deals.

Amongst works on kindred languages and comparative philology may be noted E. ZYHLARZ, *Das meroïtische Sprachproblem*, in *Anthropos*, XXV (1930), 409–63, which is reviewed by M. COHEN in *Bull. de la Soc. de Ling.*, XXXI (1931), 198–200.

L. HOMBURGER, *Les dialectes coptes et mandés* (*cf. Journal*, XVI (1930), 253), is reviewed by H. JENSEN in *O.L.Z.*, XXXIV (1931), 713–4.

M. COHEN, *Quelques mots préméditerranéens*, in *Bull. de la Soc. de Ling.*, XXXI (1931), 37–41, includes a note on Coptic *hrēre* = "lily."

L. HOMBURGER, *La morphologie nubienne et l'égyptien*, appears in *J.A.* (1931), 249–79, but does not refer to Coptic.

VIII. ARCHAEOLOGY AND ART

(a) Exploration and Excavation

The 8th ed. of K. Baedeker, *Aegypten und der Sudan* (*cf. Journal*, xv (1929), 268), is reviewed by L. Borchardt in *O.L.Z.*, xxxv (1932), 26–8.

Johann Georg Herzog zu Sachsen, *Neue Streifzüge...* (*cf. Journal*, xvii (1931), 253), is reviewed by W. F. Volbach in *O.C.*, v (1930), 255–6, by Leipoldt in *O.L.Z.*, xxxiv (1931), 948, and by H. Duensing in *T.L.Z.*, lvi (1931), 273–4.

O. H. Myers and H. W. Fairman, *Excavations at Armant 1929–31*, appears in *Journal*, xvii (1931), 223–32, and describes excavations at Armant to the south of Luxor. A note, *Erment* (*Hermonthis*), also appears in *Archiv Orientforsch.*, vi (1931), 245–6. On the Coptic material obtained by the workers, *cf.* p. 182 above.

Oric Bates, *Excavations at Marsa Matruh*, in *Harvard African Studies*, viii (1927), chap. iv, 177–87, deals with "The Byzantine site and the Isle of the Jews" (*cf.* E. Breccia below).

Crum-Winlock-White, *Monastery of Epiphanius* (*cf. Journal*, xiii (1927), 258), is reviewed by C. Wessely in *B.N.J.*, viii (1931), 213–5.

The *Annual Report* (1931) of the New York Metropolitan Museum of Art contains (p. 14) the note: "Very important phases in the origin of Christianity and of early Christian art are treated in The Monasteries of the Wadi 'n Natrun, by H. G. Evelyn White, edited by Walter Hauser and now being printed with funds contributed by Edward S. Harkness."

W. B. Emery, *Preliminary Report of the Work of the Archaeological Survey of Nubia*, appears in *A.S.*, xxx (1930), 117–28.

W. Hauser, *The Christian Necropolis in Kharyeh Oasis*, in *Bull. Metrop. Mus. of Art*, New York (1932), 38, is not a repetition of De Bock's notes but a much more careful and professional account of part of the same cemetery: it is preliminary to a general account of the Museum's expedition to the Oasis, in which H. G. Evelyn White took part. The first three plates represent Christian chapels, but the others have no Christian bearing.

Prince Omar Toussoun, *Étude sur la Wadi Natroun, ses moines et ses couvents*, Alexandria (1931), 58, contains a general sketch of the history and a description of the monasteries of the Wâdi 'n-Naṭrûn. Monneret de Villard, *Les églises du monastère des Syriens au Wadi en-Natrun*, is announced but I have not been able to trace it.

S. A. B. Mercer, *An expedition to Abyssinia*, in *Bull. Amer. School of Oriental Res.* (1930), 27–9, in which the author describes an expedition to collect Biblical and liturgical manuscripts.

In the *Illustrated London News* of 4. 7. 31; 14–16, 10 illust., were some interesting pictures of St. Antony's monastery in the Qalala Hills, due to the work there of the American Byzantine Institute. The illustrations are from photographs in the Paris International Exhibition of Byzantine Art and show copies of paintings of the twelfth to fifteenth centuries.

(b) Art and Architecture

Marcus H. Simaika Pasha, *Dalīl el-Maṭḥof el-qibṭiy wāham el-kanā'isi wa-l-'adīrat el-'atariyya*, Cairo, i (1930), 233; ii (1932), 292, with numerous illustrations, is a guide to the Coptic Museum in Old Cairo and to the various Coptic churches and monasteries in the vicinity. An English translation entitled "A brief guide to the Coptic Museum and the ancient Coptic Churches and Monasteries" is in course of preparation.

Dr. Dora Zuntz, *Koptische Grabstelen. Ihre zeitliche und örtliche Einordnung*, is published in the *Mittheilungen des deutsch. Inst. f. aeg. Alt.*, Kairo, ii (1931), 22–38. It is the subject of a review by U. M. V(illard) in *Aegyptus*, xi (1931), 501–2.

The British Museum Quarterly, vi (1931), 33, gives an account of Coptic and Greek gravestones recently added to the collection.

J. Wilpert, *I sarcofagi cristiani antichi* (1929), xvi + 194, and 111 figs., with Album of x + 158 plates, is reviewed by L. H. Vincent in *R.B.*, xl (1931), 588–600.

E. Breccia, *Una statuetta del Buon Pastore di Marsa Matruh*, in *Bull. Soc. d'Arch. d'Alex.*, xxvi (1931), 247–57, deals with a statue found at El-Baratun, the ancient Paraetonium, which may be of Christian origin.

G. Duthuit, *La sculpture copte*, Paris (1931), 64, with 72 plates in heliotype reproducing 200 specimens, statues, bas-reliefs, masques, etc.

T. Rice, *Byzantine Glazed Pottery*, Oxford (1930), 122, 21 plates, frontispiece, 1 map, opens up fairly new ground as its only precursor was Wallis's *The Byzantine Ceramic Art*, London (1907), but in it Egypt occupies a very secondary place. It is reviewed by A. Alföldi in *B.Z.*, xxxi (1931), 400.

F. Sucklingo, *Die Taube als religioses Symbol im christlichen Altertum* (1930), xxiv + 399, is not directly concerned with Coptic art. It is reviewed by L. H. Vincent in *R.B.*, xl (1931), 588–600 (with Wilpert, above).

C. Boreux, *Musée du Louvre. Antiquités Égyptiennes, Catalogue-Guide*, Paris (1932), 285, 40 illustr., is naturally mainly occupied with the objects belonging to ancient Egypt, but there are also Christian relics from Bawiṭ and elsewhere, including pottery and liturgical bronzes of Coptic and Byzantine type.

(c) Textiles

S. Dimand, *Coptic Textiles in the Metropolitan Museum*, appears in *Metrop. Museum Studies*, New York, ii (1931), 239–52, 19 illustr. (*cf.* the same writer's *Coptic and Eg.-Arabic Textiles*, mentioned in *Journal*, xvii (1931), 253).

R. Pfister, *Tissus coptes du Musée du Louvre*, Paris (1931), 12 pages text, 48 plates in colours representing 222 subjects.

In the two catalogues mentioned above, of the Museums in Old Cairo and the Louvre respectively, there are several references to Coptic and Byzantine textiles.

(d) Folklore

E. A. W. Budge, *Egyptian Tales and Romances, pagan, Christian, and Muslim*, London (1931), 424, contains Christian stories from texts already published by B.

O. Lasally, *Amulette und Tätowierungen in Ägypten*, in *Archiv f. Religionwissensch.*, xxix (1931), 130–8, is more concerned with ancient Egypt. This is the case also with Ghallab Mohammed, *Les survivances de l'Égypte antique dans le Folklore égyptien moderne*, Paris (1929), 210. This latter work is reviewed in *Anc. Egypt* (1930), 79–80.

NOTES AND NEWS

The excavations at Tell el-'Amarnah are to be continued this winter under the direction of Mr. John D. S. Pendlebury, who expects to begin work about December 1st. The staff includes Mr. Ralph Lavers, architect, Mr. H. W. Fairman, Mr. Stephen Sherman and Mr. Hilary Waddington, all members of last year's expedition, and Mr. Philip Chubb and Mr. Charles O. Brasch, two new recruits. The Committee had feared that owing to general financial difficulties no field work would be possible this winter, but thanks to Mrs. Hubbard, who has again made a generous contribution, and to the Director of the Brooklyn Museum, who has allocated a considerable sum to this particular work, the expedition has been made not only a possibility but almost an obligation.

No expedition will be sent to Armant this winter, but Mr. Myers and Mr. Baly will work up the materials already in hand with a view to bringing out the final report next autumn.

Plans for continuing the epigraphical work at Abydos had not been completed at the time of going to press, but it is hoped that arrangements similar to those of the past two seasons may be possible. The material for the first two volumes is all finished and in the hands of the printers. It is hoped that Volume I will be published in the spring of 1933 and Volume II in the autumn of the same year. The excellence of the specimen plates exhibited at the Summer Exhibition was attested by all who saw them.

Under the auspices of the Society Dr. Alan Gardiner is bringing out the fifth and last volume of the Theban Tombs Series; no date is yet fixed for its publication, but it should not now be long delayed.

In the hope of enrolling many who are interested in the work of the Society but are not able to subscribe to full membership, the Committee has instituted a new status for Associates, who, for an annual subscription of seven shillings and sixpence, will be entitled to attend the Lectures and Special Meetings and Exhibitions arranged by the Society, and to read in the Society's Library, though they will not be allowed to take books out. Associates will also receive the Annual Report, notices of all new publications, and similar literature. It is hoped that a large number of persons will thus be able to keep in touch with the Society's work and help to further its activities.

The Annual Summer Exhibition was held from June 27th to July 27th in rooms kindly lent by the Wellcome Historical Medical Museum. Objects from the excavations at Armant and Tell el-'Amarnah were shown, as well as drawings, photographs and finished plates from the temple of Seti I at Abydos. During the course of the Exhibition Mr. Pendlebury gave two lectures on the work at Tell el-'Amarnah, and Mr. Myers one on the Prehistoric Peoples of Armant.

The Society will celebrate the fiftieth year of its foundation by holding a Meeting in the Meeting Room of the Royal Society on October 31st. Short papers on the work of the three branches of the Society's activity will be read by Professors Griffith, Newberry and Hunt.

The price of the volume of *Studies* presented to Professor F. Ll. Griffith in honour of his seventieth birthday on May 27th last will, in accordance with the circular issued with the last number of the *Journal*, be raised to five guineas after the publication of this present number. It may be added here that the volume consists of about 500 pages of articles contributed by almost every Egyptologist of note in the world.

We congratulate our President, Dr. Robert Mond, on the honour of knighthood which has been conferred upon him. It is a matter of the greatest satisfaction to those who are aware of his devoted enthusiasm for the many causes he espouses that his immense services to science and to society should have received this recognition.

The Society loses an old friend by the death on April 10th last of W. L. S. Loat. Loat made his first acquaintance with Egypt when he took part, as Boulanger's assistant, in the great fishery survey of the Nile. His first experience of excavation was gained, we believe, under Sir Flinders Petrie, and it was here that he met Ayrton and formed a friendship which only ended with the latter's untimely death in Ceylon. In the season 1908–9 the two excavated for the Society at and near Abydos; the main work of the season was the clearing of a pre-dynastic cemetery at El-Maḥasnaḥ. Ayrton's appointment to Ceylon broke up the combination, and Loat was not in Egypt again until the season 1912–13, when he again worked at Abydos, taking entire charge of the excavation and publication of an ibis cemetery which was found early in the season. This was his last visit to Egypt, for the War put an end to his plans for the next season. He married and retired to the West Country, to devote himself to the hybridizing of certain species of garden flowers on which he was already a recognized authority. The War had found him well beyond the age for service, yet he managed to get himself accepted by the Garrison Artillery. In 1918 he was again able to return to his beloved flowers and to retire to a quiet home at Mevagissey in Cornwall, which he barely left except for a long journey in the Andes about five years ago. He died after a long illness, probably a delayed effect of blackwater fever, from which he had suffered severely years previously on the Upper Nile.

He was an able excavator, patient, and clever with his hands, and firm and just in handling the native workman. As a man he was fearless, indifferent to pain, generous in the extreme, and without a thought of self. Strong when occasion needed it, he could be as gentle as a child when dealing with weakness or suffering in others. Those of us who were privileged to work with him will always remember him as a cheerful and loyal colleague, who never went back on his word, and who always demanded a higher standard of conduct and work from himself than from his neighbour.

It is with deep regret that we learn, as we go to press, of the sudden death on October 8th of Miss Winifred M. Crompton, for twenty years past Keeper of the Egyptian Section of the Manchester University Museum. Miss Crompton was in charge of one of the most important Egyptological collections in the Kingdom and devoted her life to its improvement and arrangement. She will be sadly missed both by her colleagues in the Museum and by the many Egyptologists to whom she always gave so warm a welcome on their visits to Manchester.

Dr. Alan Gardiner appears in a somewhat new rôle in his book called *The Theory of Speech and Language*, which has recently been issued by the Clarendon Press. It has been written during the last few years in the intervals of other work, and forms a notable contribution to the literature of Linguistics.

The Keeper of Egyptian and Assyrian Antiquities in the British Museum asks us to publish the following:

In consequence of structural alterations the Trustees of the British Museum have ordered that the Fourth, Fifth and Sixth Egyptian Rooms and the Babylonian Room be closed for a period. The objects from these rooms are now for the most part packed away and are not available for inspection until further notice. An exhibition of Egyptian papyri, paintings, cloth stuffs and painted wooden objects is being arranged in the Third Egyptian Room and will shortly be open to the public. To prevent disappointment, scholars are asked to take note of these arrangements, and are warned that they should enquire whether any object or class of objects described in the guide to these galleries is available before visiting the British Museum to prosecute special studies.

NOTICES OF RECENT PUBLICATIONS

Grammatik der Texte aus El Amarna. By Dr. FRIDA BEHNK. Paris: Geuthner, 1930.

In this book Dr. Behnk attempts to supply a much-needed want, namely the bridging of the gap between the classic idiom of the inscriptions of the Middle and Early New Kingdom on the one hand and the pure Late Egyptian of the Nineteenth and Twentieth Dynasties on the other. While, however, the present work gives an excellent summary of the principal outward peculiarities of the written language of the Amarna period, it is impossible in the small space allowed (72 pages of autographed text) to do real justice to the subject. The morphology is treated fairly fully, but the discussion of syntax is utterly inadequate, and the reader is left with the impression that the author has not probed far below the surface of her subject. To take a case in point: in instances of apposition of nouns where one member is in the possessive, there is a rule in Late Egyptian that when the possessive is the first member of the apposition the suffix-pronoun is used, while when it is in the second place the possessive article is required; compare *mwt·i . . . Wrnr*, "my mother . . . Werel," *Mes*, N 3 with *Nb-nfrt tꜣy·i mwt*, "Nubnofret my mother," *ibid.*, N 5. This rule is clearly shown in two examples quoted on p. 4 of the present book, namely *tf·i pꜣ ꜥꜣtn*, "my father the Aten," beside *pꜣ ꜥꜣtn pꜣy·i itf*, "the Aten my father," but no comment on the difference between these constructions is to be found; actually they are quoted only in connexion with the writing of the word for "father."

The neglect of syntax is nowhere more manifest than in the sections on the verb. It is impossible to deal with each case in detail, but it will be sufficient to point out that no account whatever is given of the uses of the Old Perfective, the written forms alone being recorded, while the construction *iw·f ḥr šḏm* is simply mentioned in the section on simple prepositions as being very common; a few examples of the Pseudo-verbal Construction are found in the section on "adverbiale Nominalsätze." In the account of the negatives *bw* and *bn* it should have been stated clearly how far these correspond to older *n* and *nn*, with special reference to the effect of the later negative words on the temporal significance (past, present, or future) of the forms of the suffix-conjugation, but the author is content with saying that *bw šḏm·f* is used in "gewöhnlichen Aussagesatz," *bn šḏm·f* in "emphatischen Aussage" in oaths and with future meaning, and that *bw šḏm·n·f* occurs beside *n šḏm·n·f*; so far as can be judged from the instances quoted, the equations *bw šḏm·f* = *n šḏm·f*, *bn šḏm·f* = *nn šḏm·f*, and *bw šḏm·n·f* = *n šḏm·n·f* are exact. In dealing with non-verbal sentences Dr. Behnk adheres to the old dichotomy of "adverbiale Nominalsätze" and "nominale Nominalsätze," whereas Gardiner's triple division into sentences with "adverbial," "nominal" and "adjectival" predicates is clearly far superior; the final example in § 99 with *n-sy*, "belongs to," comes under this last heading. This adherence to the older terminology and classifications is characteristic of the book.

There are also a few points in the text where the reviewer ventures to offer a different opinion:

§ 44 d. *Ḫr* is not required after *mtw*, see Gardiner's article in *Journal*, XIV, 86 ff.; this should therefore be deleted from "omissions" of prepositions.

§ 53. *Ḫꜣꜥ*, *wsf*, *wdf* and *rwi* are not "characteristically Late Egyptian verb-stems"; *ḫꜣꜥ* occurs in the Pyramid Texts (§§ 400 b; 2202 a); so too does *wdf* in the construction *ir wdf* (§ 1223 a, see also Gardiner, *Eg. Gramm.*, § 352); *wsf* occurs in *Peasant*, B 1. 257, B 2. 107; and *rwi* is found in *Sinuhe*, B 62, 277.

§ 59 b (β). *Ḫni* in *nn ḫni . . .* is certainly an infinitive, not *šḏm·f*, *cf.* Gardiner, *op. cit.*, § 307.

§ 67 b. *ꜣbb·k* and *dd·f* are not imperfective relative forms "after the relative *n*" but *šḏm·f* forms dependent upon genitival *n*; *cf.* Gardiner, *op. cit.*, § 191, where the first example shows clearly by the use of the feminine *nt* that this *n* is really the genitival adjective.

It is to be regretted that Dr. Behnk has treated the subject of her study so summarily and has not made fuller use of the recent discoveries in the realm of Egyptian grammar, so that it cannot be said that this book is a satisfactory presentment of the matter, but the fact remains that it is so far the only attempt at dealing with the grammar of the Amarna Texts as a whole, and as such it is a necessary tool in the hands of the philologist.

R. O. FAULKNER.

An Introduction to Egyptian Religion. An Account of Religion in Egypt during the Eighteenth Dynasty. By A. W. SHORTER. Pp. xv + 139.

The author of this handbook has set himself a very difficult task, but at the end the reader cannot but feel that he has been exceedingly successful within his self-imposed limits. If the student finds in it little that is original he will nevertheless find it valuable in codifying his thoughts to some extent, while on the other hand

it can be put into the hands of the layman without those irritating warnings with which so many books of this type require to be hedged.

Perhaps its best characteristic from the purely technical point of view is the clear revelation that we know so little of a period so brilliantly illuminated as the Eighteenth Dynasty; how much more true this is of the earlier periods! The book contains on pp. 33 ff. an excellent little account of a temple and its use at this period, but it only goes to show that the whole matter has escaped us. We have, it is true, the ritual, but this would better be described as a "prayer book" than a "service book," and is of as little use in explaining the temple's purpose as the Book of Common Prayer would be in explaining a Gothic cathedral, which grew up in response to needs that have little or no trace in the ordinary service of the day.

We are apt to say glibly that the cultus was Solar in origin and to point to facts which seem to prove this, but the implications of this have been ignored. How did the cult develop in historic times? The Sun-temples of which we have Old Kingdom traces were of a radically different type from those of the Eighteenth Dynasty and quite unsuited for the later form of service, in that they appear to have had no cult-statue. The question cannot be solved by referring to "influence" from other cults, since the whole basis was different. The fact of the matter seems to be that the king's daily washing was taken over bodily into the temple cult at the time when the statue made its appearance, but how or why this appearance took place is quite unknown. The difficulty lies, I think, in our complete ignorance of Heliopolis. When Akhenaten essayed a return to absolute Sun-worship it is probable that he based his ritual on "the Heliopolitan Use" rather than on a cut-up version of the Amūn-cult, as Blackman seems to imply (*Hastings Encyc. Rel. Eth.*, art. *Worship*). It is to be noted that while the Old Kingdom Sun-temples had altars these diminished enormously in importance in later times, if they did not disappear entirely, until their re-emergence as important in Atenism; this would seem to indicate that the cult was going back to earlier times for its inspiration.

The other uses of the temple are unknown to us apart from fragmentary scenes of special festivals, yet these other uses must have determined the form of the temple, since the cult as we know it took place in one room. The layman appears to have been excluded from the daily toilet of the god, and possibly, to judge from Berlin Stele 23077, he was confined to the outer courtyard. The author states this definitely but the evidence is very slight one way or the other, and his further point that the cult-image was always concealed from the laymen even when the boat-shrine was carried in procession seems a little unlikely. The people must surely have occasionally been allowed to see the god they were worshipping.

The development of the temple building is another point on which we are surprisingly ignorant. The great Eighteenth Dynasty temples, closely connected as they are with the Sun-cult, have apparently more connexion with the shrines of the less important gods of early times than with the great Sun-temples referred to above. Petrie points out in *Ehnasya*, pp. 5 ff., that Twelfth Dynasty temples bear a strong resemblance to the very earliest temples of which we have any information. If this were not so it would be difficult to account for the development of the Holy of Holies from complete openness to complete darkness, which latter hardly suggests Sun-worship. The explanation of the darkness would seem more likely to be that conservatism forbade any alteration in a chamber that was probably dark and windowless for convenience in building. The author speaks of the sanctuary as completely dark at this period, but surely the Abydos chapels contradict this.

This is only one of the many points which give rise to speculation in this book, and it is to be regretted that the plan of the work precludes the author from developing them, since his handling of the subject shows a knowledge and ability refreshing to discover in a book on a theme too often mauled by the incompetent and ignorant "mystic."

From the popular point of view this is a wholly admirable little introduction to the subject, and it is to be hoped that it will be widely known to counteract the volume of nonsense which has been, and is still, current on Egyptian religion. In particular Chapter IV may be recommended to all those affected by the "Pseudo-Christian" view of Atenism. For the traveller afflicted by a surplus of incomprehensible temples and reliefs it will be an invaluable guide.

T. J. Colin Baly.

The Coptic Version of The Acts of the Apostles and the Pauline Epistles, in the Sahidic Dialect. Edited by Sir Herbert Thompson. Cambridge, 1932.

The importance ascribed to the Saʿidic version of the Acts may be judged from the consideration paid it in Prof. Ropes's book (in *The Beginnings of Christianity*, 1926), where it is described as deriving probably from a text of the B-type, retaining slight vestiges of "western" influence, and thus illustrating the current from the latter towards a B-type in Egypt. It is, however, one of the books which hitherto was notably incomplete, several long gaps towards the end being conspicuous, despite Horner's diligence. Now, in this new MS. of Mr. Chester Beatty's, we have the entire text, from the beginning to end. The valuable lists of readings,

besides much other technical information in Prof. Ropes's book, were contributed by Sir Herbert Thompson, who had already printed a collation of the ancient papyrus text in the British Museum; thus he was the predestined editor for the new MS. Besides Acts this and also another of the Beatty MSS. contain the Fourth Gospel, with which the editor's previous work had made him especially conversant, while one of them includes moreover a complete text of "the Apostle." Of the St. John, already adequately available, only a collation is here given; but the Pauline Epistles are printed in full, with a collation of the only other complete MS., that in the Pierpont Morgan collection. Needless to say, the editing of all is of the minutest accuracy. The apparatus in Acts contains a mass of valuable information, testifying to a rare familiarity with Coptic idiom and grammar. The whole is preceded by critical estimates of the texts, with lists of selected readings and so on. Incidentally many corrections are made to Horner's texts, which it will not in future be safe to use without consulting this edition.

The Beatty MSS. came from the Monastery of Jeremias, at Sakkârah—very probably the home too of the Chicago *Proverbs*—and are ascribed by the editor to the first half of the seventh century or thereabouts. The hand of one of them is certainly very like that of Brit. Mus. Catal. No. 971, datable about 650, though coins found with the MSS. suggest a date somewhat earlier than that. The sparing decoration of the two principal volumes is so similar as to preclude any great interval of time between them; nor are the different types of script—one angular, the other rounded—an argument against this, as witness, for instance, their combination or alternation in the Freer Psalter. A curious feature, common to the two main MSS., is the formula Εἷς ὁ Θεός at the head of the first page. This I cannot remember to have seen in any other Coptic manuscript. And the formula itself, with the definite article, seems to be extremely rare, only two instances (both epigraphic) being recorded by Peterson (ΕΙΣ ΘΕΟΣ, in *Forschungen z. Relig. u. Lit. d. A. u. N. Test.*, 1926, pp. 30, 51).

Among the many interesting features to which the notes draw attention a few may be remarked on here.

Acts v. 42. This use of ⲕⲓⲙ πανεῖν can be paralleled from Job vi. 7 *B* (*cf. Coptic Dict.*, 108 b *supra*).

xiii. 27. ⲥⲟⲩⲱⲛ- as construct, though rare and presumably archaic, is found in *S*, *e.g.*, in Berlin Gnostic Pap. 8502; oftener in A^2 and *F*.

xiii. 33 n. ⲉⲧⲟ ⲛϩⲟⲧ, a misunderstood form, occurring elsewhere (*cf. loc. cit.*, 246 b).

xvi. 12. The spelling ⲕⲁⲗⲟⲛⲓⲁ recalls a curious echo of this verse in a homily of Pseudo-Severus (Budge, *St. Michael*, 66 = Budge, *Miscel. Texts*, 161 = Amélineau, *Contes*, I, 86).

xxi. 38. ϩⲱϭⲥ is found, with ⲉϩⲟⲗ, *e.g.*, in Eccli. xxxvi. 34 (varying with ϥⲱϭⲉ), but alone thus it seems to be unknown.

xxvii. 39. May not we translate (despite the Greek) "took counsel *to see* whether, etc."?

Phil. ii. 20. Can ⲉϩⲛ- be the construct of ⲉϩⲟⲩⲛ? They so often occur together (ⲛⲓϥⲉ ⲉϩⲟⲩⲛ ⲉϩⲛ-ϭⲱⲙ ⲉϩⲟⲩⲛ ⲉϩⲛ-, ⲛⲉⲭⲉ ⲉϩⲟⲩⲛ ⲉϩⲛ-) that Sethe's derivation (from ϩⲟ) seems preferable.

Col. ii. 19. ⲧⲣⲁ and ϭⲣⲁ may well be but one word; *cf.* ⲧⲗⲟⲟϭⲉ-ϭⲗⲟⲟϭⲉ, ⲧⲟⲧⲥ-ⲧⲟϭⲥ, ϣⲗⲓⲧ-ϣⲗⲓϭ, ⲛⲁⲧⲥⲉ-ⲛⲁϭⲥⲉ etc. There is a suspicious likeness moreover between ⲧⲣⲁ and ⲧⲁⲣ.

Particularly instructive notes will be found on Acts xvii. 19, xxi. 28, xxviii. 15, Rom. v. 12, I Cor. vii. 36–38, Heb. xii. 27, Col. ii. 2, *ibid.* 18.

W. E. Crum.

Papyri der Universität München. Herausgegeben von Walter Otto, Wilhelm Spiegelberg†, Leopold Wenger. Erstes Heft: *Die demotischen Papyri Loeb*, von Wilhelm Spiegelberg, mit Zusätzen von Walter Otto; mit 38 Lichtdrucktafeln. München: C. H. Beck'sche Verlagsbuchhandlung, 1931.

Throughout this posthumous work of the great demotist we are made fully acquainted with one of the most important collections of demotic papyri that exists. Among the seventy papyri of the James Loeb collection at Munich, there is no single one to compare in extent and importance with the Petition of Petêsi in the John Rylands collection at Manchester; but the periods represented by them, and the variety of their subjects, are sufficient to bring them into rivalry with the older collection.

Chronologically the Loeb papyri commence with a fragmentary contract from the thirty-fifth year of the reign of Amasis II (the founder of Naucratis); then follow two papyri of the time of Psammetichus III, dated, as usual, in his second year although he was overthrown after six months of reign by Cambyses, and then seven or perhaps nine of Darius I between his second and thirty-sixth year. All of these come from Gebelên, just south of Thebes and Erment, and none of them is in "abnormal" hieratic, which had become obsolete before the end of the reign of Amasis II. But the most interesting in the whole collection is one of Darius from Elephantine, dated in the thirty-sixth year, and belonging to a group of three papyri which formed part of the correspondence between the priests of Chnum at Elephantine and a satrap of Egypt, previously unknown, named Pherendates, appointed towards the end of Darius' reign. These three papyri,

two of which are in the Berlin collection, were published together by Spiegelberg in the *Sitzungsberichte* of the Berlin Academy for 29 November, 1928, and the Loeb papyrus, as the flower of the demotic collection, was again edited by the same scholar in 1929 as part of a *Festschrift* in honour of Herr James Loeb. The Berlin papyri concern the appointment of a *lesonis*, *i.e.*, chief priest, of the great temple, an appointment from which all disaffected persons were to be excluded, even if the names of such were submitted by the priests. The changes made in the present edition of the Loeb papyrus are considerable and important, but do not appear to the reviewer in all cases as improvements.

Next to the Persian series comes a surprisingly big group of about thirty papyri from Tehnah (Acoris) of the time of Alexander Aegus, an age of comparative scarcity in papyri. A few early and late Ptolemaic papyri from Tehnah and from Aphroditopolis in the Fayyûm complete the collection.

The usual tale of contracts and legal documents is here pleasantly broken, for most of the papyri are letters on business and introduce us to new formulae and expressions. As the latest work of that ripe scholar Wilhelm Spiegelberg, this volume, although it never received the final touches of the master's hand, will always have a special interest and value. The collection was a formidable one for a man in failing health to catalogue, and we are not surprised to find acknowledgments by the regretted author to helpers, pupils and colleagues, including Professor Sethe himself.

In an appendix Professor Otto, who has seen the work through the press, has printed some critical notes from the standpoint of a Grecian "Papyrologist," who, however, has taken a keen interest in demotic studies for many years past.

The edition of each papyrus consists of a photographic facsimile, brief description, complete transliteration, brief comments and foot-notes, all very concise. The method of transliteration is founded on that of Sethe, in which the consonants represented by the ancestors of the demotic signs are reproduced in full, almost as if it were the classical language that was being represented, *e.g.*, *'iw* instead of *e*. In spite of its extreme clumsiness, this method has the advantage of uniformity, and carries the student back at once to the palaeographic origins, which are now well determined. Since many of the alphabetic signs are of compound origin, it is not surprising that different ligatures were used for different varieties of a principal sound. Spiegelberg has introduced two new and very useful alphabetic symbols, representing the ligature for [illegible] by *ṭ* and that for [illegible] by *ḥ*; thus, amongst other advantages, the soundless fem. ending *t* can always be distinguished from the strongly sounded *ṭ* of the qualitative, and the mixed-sounding *ḥ* from the definite *ḫ* and *ḥ*. Spiegelberg still writes *d* for the representative of the ancient *d*, although it is very difficult to carry it through consistently. I confess that I still prefer my own rather haphazard method of transliteration which pays more attention to Coptic than to Ancient Egyptian forms, but I shall adopt *ṭ* and *ḥ* with gratitude.

It is needless to say that this volume with its wealth of learning has been a mine of instruction to the present reviewer. But, mounting on the shoulders of Spiegelberg, I seem to discern a few points more clearly than they appeared even to his eyes. In Papyrus I there is a fine instance of a curious inversion in which the subject follows the predicate in order to gain a certain emphasis. This emphasis hardly appears in the translation of Spiegelberg (recto ll. 13, 14): "Möge man an Artabanos schreiben, dass man es nicht auf die Tenne bringt (14) und dass es geschehe, dass das Korn, das man in den Hafen von Syene wird hinabbringen können, hinabgebracht wird (15) auf das Schiff." These papyri have many unusual words and idioms, of which the meaning is difficult to fix even if their reading can be recognized. I would suggest the following translation: "Let word be sent to Artabanus that it (the corn in the ship) be not unloaded on to the ground (or exhaustively?) and that *only so much* corn as can be unloaded in *one* Syene boat? shall be put out on the bank," in transcription, *my hb-w n 'Trpn a tm ty 'n-w st a p ytn mte-f ḫp n pr-t-w nt e-w a rḫ 'n-t-w a ḫry n w' Swn? n nt e-w a 'n-t-w a ḫry ḫr p qr*, continuing "and that the men guard the remainder, staying on the bank (or on the ship)." The difference between Spiegelberg's translation and mine involves only one essential change in the reading of a single word—the rest is simply a slightly different use of identical materials accurately provided by the editor of the papyrus.

Although there is a considerable list of errata, a certain number of slight mistakes or printers' errors remain. In papyrus No. 41 (pp. 70 ff.) there is no transliteration of the four obscure witnesses' names on the verso, although the translation on p. 71 supplies all that is really needful. On p. 72 the reference to *Ä.Z.* in the second foot-note can be made intelligible and correct by omitting the first S.

It may be a wholesome incitement to young demotists, as it is a comfort to old ones, to observe that even Spiegelberg had to leave a good deal unread or uninterpreted in the rather fragmentary documents of this collection.

F. Ll. Griffith.

Ten Coptic Legal Texts. Edited with translations, etc., by A. Arthur Schiller, Assistant Professor of Law, Columbia University. New York (The Metropolitan Museum of Art), 1932.

At the recent Papyrus Congress at Brussels a resolution was adopted as to the desirability of a systematic publication of the innumerable (though mostly fragmentary) Coptic legal documents still lying unnoticed in museums and libraries. The present book was of course far advanced toward publication when that pious wish took shape; but it is the first on the subject to appear since and it is well calculated to encourage further work. Not that future scholars can often expect Professor Schiller's good fortune: he has been able to collect ten documents, several of them in intact condition and of unusual interest, even in that large *corpus* to which they, one and all, belong; for they form yet another instalment of the apparently still unexhausted hoard from Jêmé (Medinet Habu). How much of all this—they began to appear in Europe not far short of a century ago—came from the charter-room of St. Phoebammon's monastery it is not easy now to decide; a certain number of deeds make no mention of it or its officials and in the present book its name appears in one text only. Perhaps the municipal archives were, for greater safety, deposited in the monastery, beside its own deeds. The papyrus here included, which belongs to the British Museum (No. 5), arrived there with several others, all in one coarse linen bag, its mouth tied with a cord. Whether those now in New York (Nos. 1–4) were found with these I am not sure, though it seems probable.

The contents of the book are varied: deeds of release, of discharge, of guaranty, of sale, a communal undertaking (respecting *ἀγγαρεία*) and an acknowledgement of debt. Nos. 1 and 5 are the longest, the most interesting and the most difficult. There are passages in both of them which it would try the oldest hands among us satisfactorily to translate, and it is not astonishing if the rambling statements, the involved and ambiguous syntax, have now and then defeated their editor. Indeed these two long texts, if not the others by the same excellent but verbose scribe, incline one to accuse him of an excessive distaste for clear expression.

Professor Schiller's reputation as a legal historian, interested especially in later Egyptian law, is guarantee enough for the value of his juristic commentary—he had already treated at length of these same texts in an article in the *Juridical Review*, Sept. 1931—and it is only unfortunate that the frequent obscurities of the texts should have sometimes left the precise purport of a perhaps crucial passage still doubtful.

The texts are, on the whole, very well transcribed, not excepting that of No. 3, in the peculiar, ligatured hand of Aristophanes, so easily liable to misreading. No. 4 is in unusually ligatureless, almost semi-uncial, which the editor gives reasons for bringing into relation with the neighbouring Epiphanian community, thus apparently shown to have prolonged its existence beyond the conquest of 641.

A few notes on details may be useful.

No. 1. 24, etc., ϩⲟⲗⲟⲕⲟⲧⲥⲉ is what this scribe writes.
25, etc., ⲧⲩⲭⲏ is surely a misprint, for *soul* is the translation each time given.
32, etc., *σχῆμα*, the monastic *habit*.
65, ⲛⲧⲣⲓⲡⲗⲟⲩⲛ, "they have given (repaid) them *threefold*."
79, *τύπος*, not *τόπος*. Its translation in this oft-recurring phrase is not easy.

No. 2. 5, ⲡⲉⲧⲉⲟⲩⲛⲧⲏⲓϥ ⲛⲁⲩ (*cf.* 17).
25, ϩⲙⲡⲉⲕⲁⲥⲧⲣⲟⲛ, *ib.* ⲁⲩⲉⲧⲉ (*αἰτεῖν*) ⲙⲙⲟⲓ.

No. 3. 12 ff., ⲟⲩ looks more like ϣ γ (ϣ has so often the form ϑ). Was 3 *nomismata* the sum guaranteed for each man?
13, *μελ⁻* = ? *μελίχρους*, *στριβλοφ*ᵝ = *στρεβλόφθαλμος* (an unrecorded word). *μαρ*ᵒ *κον*ᵈ remain to be explained.

No. 4. 28, ⲁϩϩⲁ ⲕⲟⲥⲙⲁ.

No. 5. 35, ⲁⲫⲟⲣⲓϩⲉ is probably to be connected with the ⲁⲫⲟⲣⲓⲥⲙⲟⲥ *excommunication* in 59.
44, ϣⲛⲧⲁⲓⲟⲩ. So I too read it, but ? ϣⲛⲧ(ⲧ)ⲁⲓⲟⲩ.
60, *the new Petronius*. What does this mean? It recalls "the new Moses," "the new Judas" and the like. Petronius, the short-lived successor to Pachomius, seems an inadequate prototype.
76, ⲉⲓⲥ ⲇⲓⲁⲣⲣⲏϫⲓⲛ (*διάρρηξιν*), *for tearing up*.
99, ⲁ⁻ⲧ-ⲁⲡⲁⲗⲗⲁⲥⲏ ϣⲱⲡⲉ. The privative ⲁⲧ- is not there.
105, ⲡⲉⲧⲛⲧⲱⲱϭⲉ, *your plantation* (*sc.* of monks as successors; *cf.* ⲧ. ⲛϩⲣⲣⲉ *νεόφυτος*).
159, a witness here from Justinianopolis *τῆς κάτω χώρας*, is curious. If this is Koptos (*v.* Pauly-Wissowa), then "lower country" could not have its normal meaning. But another Justinianopolis seems to have been near Alexandria (*v.* Preisigke, *Wbuch.*, III, 302).

No. 6. 15, ϭⲟ is for ϭⲱ, "that we should *continue* to assist one another."

No. 7. 20, ⲡⲁϩⲁⲙ ⲥ̅ⲱ̅ϫ̅, probably = ⲥⲱϩ, *deaf man* (*cf. CO.*, 40).

No. 10. 12, сутωне (σινδόνιον), *linen sheets*, I should think (and so Prof. Schiller thought, in his preliminary article), rather than the tax on weaving.

The book concludes with really exhaustive and most welcome indexes and its appearance, with its beautiful plates, does great credit both to the Metropolitan Museum and the Cambridge Press.

W. E. Crum.

Le "cœur" dans les textes égyptiens. Par Alexandre Piankoff. Paris: Geuthner, 1930. Pp. 128.

This book is primarily a collection of facts rather than an examination of certain very real problems connected with the heart in these texts. Where the author attempts to explain the facts he is not very convincing, and it is therefore the more regrettable that the facts themselves are not arranged in a form more convenient for reference.

The chief argument of the book, that *ḥꜣti* and *ib* are the physical and "moral" heart respectively, is hardly maintainable in any period from which we have texts. The passage from Sinuhe (quoted on p. 19) which the author uses to support his case seems to me flatly to contradict it. I must confess complete inability to recognize the subtle distinction between the meaning of the two words, and the passage is almost certainly a purely poetic one, in which the separate words are used to avoid repetition. Further, a careful examination (which I made a few years ago with somewhat the same idea in mind) of the relevant passages in the Pyramid Texts entirely fails to support his view.

As a work of reference, on the other hand, the book fails by reason of the system adopted. It is divided into extremely comprehensive chapters, and no index of subjects is to be found. Further, the references to texts are all too frequently almost unusable. Gardiner's *Sinuhe*, for instance, is so conveniently arranged that if reference were given to the original any commentary would *ipso facto* be available, while a mere direct reference to Gardiner enables no one who has not the commentary by him to verify the quotation. Surely all references to papyri should be by page and line. Sethe's *Lesestücke*, again, is compiled for the learner and is hardly a major collection of texts to which reference can fairly be made. A final criticism in this direction is that the transcriptions from hieratic are by no means above reproach and in at least one case a quotation contains two erroneous hieroglyphic signs. There follows a list of comments on one or two points. It does not pretend to be an exhaustive list of matters upon which remark might be made.

P. 11. The quotation from the Pyramid Texts begins at 956.

P. 23. The quotation from the Peasant is BI, 275–80. The last sentence should be "There issued forth from my belly on account of the condition thereof." (See Gardiner, in *Journal*, IX, 18.)

P. 55. Lacau, *Textes relig.*, 85. 25, is an important passage for the relation of the *bꜣ* and the heart, and might have been quoted here.

P. 61. The translation should end "...de (leurs) cœurs et leur force magique." (*Cf.* Sethe, *Dram. Texte*, I, 52.)

P. 62. *nḥḥ* can hardly mean "to grow old" here; more probably "to flourish" or similar. *Wb. d. aeg. Spr.* quotes *nḥḥ*, "to grow old," only from later times.

P. 63. Why should the idea of the heart revivifying the dead man and his fear that his heart might be taken from him be Osirian and his capture of the hearts of others not? Surely they are the same idea, and definitely pre-Osirian. In any case, what is the evidence that the heart *was* purified and revivified?

P. 65. First quotation. For [illegible] read [illegible] and for [illegible] read [illegible]. Also the *f* refers to Atum, not the deceased, who is in the first person.

ꜣb·k ntr m pt, "Thou unitest with the god in heaven," not "Thy *ꜣb* is a god in heaven."

T. J. Colin Baly.

Wörterbuch der Aegyptischen Sprache, im Auftrage der deutschen Akademien. Herausgegeben von Adolf Erman und Hermann Grapow. Fünfter Band. Leipzig: J. C. Hinrichs'sche Buchhandlung, 1930–1931. 4to. Pp. 639.

It is now more than half a century since Erman recognized unerringly the two leading stages of the Egyptian language that were observable in the hieroglyphic and hieratic records, *viz.*, Middle Egyptian and Late Egyptian, and by studying closely the grammar of leading examples of each stage laid the foundations of an historical treatment of Egyptian grammar and inaugurated a new era in linguistic Egyptology. The philological branch of Egyptology had stagnated for many decades, while grammar succeeding grammar only left students with the feeling that Egyptian was a hopeless morass of formless and contradictory composition without change in 3000 years and that translation must be in the main by arbitrary guesswork. The older scholars wished to continue in the old paths and attacked Erman fiercely for some thirty years. But meanwhile he was forming a strong body of young and eager students in Berlin to whom he communi-

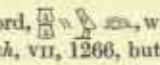
cated his almost daily discoveries; they themselves contributing much to the perfecting of his system. Erman quickly rose to be the leader of German Egyptology, and his pupils taught in its leading universities.

By 1894, though opposition was still fierce in various countries, Erman's views were powerfully represented in Denmark, Austria, England and America, and now no one contests them except in unessential detail. Erman, Sethe, Steindorff and other scholars attached to the Berlin school having worked out the grammar, and connected up all the stages of the language from the oldest Pyramid Texts to the latest Coptic, the need of a reliable dictionary was universally felt. Brugsch's *Wörterbuch*, the work of a giant scholar, gigantic in reading, memory, and understanding, published in 1867–8 with a supplement in 1880–2, had been compiled and published before Erman's work had been well begun. The values of many hieroglyphic signs, and the meanings and uses of multitudes of words and particles, were established subsequently, an advance due in part to the discovery of masses of new and illuminating texts, but chiefly to the fresh treatment by Erman's school. Of hieroglyphic signs in regular use there are only two of which the phonetic value is still so uncertain that they have to be excluded from the alphabetic arrangement of the new *Wörterbuch* and relegated to the end.

To complete his work in Egyptian philology and fill a great need, a scheme for compiling a complete dictionary of Egyptian was prepared by Prof. Erman in 1896. At that time it was hoped that in twelve years the work would be so far advanced that the printing would commence in 1908. It was to be an international undertaking, centred in Berlin, with an editorial committee of four German scholars, representing respectively the Academies of Berlin, Göttingen, Leipzig and Munich, to which the carrying out of the work was entrusted by the Imperial Government itself. Of the four representative professors Pietschmann and Ebers are long since dead, and Professors Sethe and Junker have been elected to fill the vacant places. The Great War intervened, and the mass of material collected (on the exhaustive plan adopted for the Latin Thesaurus) grew almost beyond the measure of human capacity to deal with it. Gradually, however, the materials were arranged and with the help of a substantial grant from America a mode of publication was decided on, which has proceeded with perfect regularity since 1926. First a vocabulary was to be prepared and issued in autograph in yearly volumes, secondly the references for the vocabulary were to be printed, thirdly the most instructive examples of the employment of words in their clearest contexts were to be autographed and issued in volumes at convenient intervals. In this way a complete Thesaurus was to be built up. The present volume ends the first part of the plan, and Professor Erman, the initiator of the whole scheme, may be warmly congratulated on having seen the vocabulary finished.

Many of those who have watched the proceeding from afar, and still more those who have spent years in collecting and classifying the material, may perhaps feel disappointed at the somewhat meagre outcome; but one must realize the vastness of the task and the necessity of working it out bit by bit. It was indeed disappointing to find the references with which the first part began withdrawn from the second and subsequent parts, so that the original scheme of a veritable Thesaurus seemed reduced to the barest possible vocabulary. But now that this vocabulary is recognized as a single item in a complete scheme we can steel ourselves to wait for the remainder, even if it should be for our successors and not for ourselves to see the great *Wörterbuch* accomplished.

Now that we have the vocabulary of the Thesaurus we may fairly enquire how nearly it corresponds to our ideal. The hieroglyphic group chosen as the standard for each word is beautifully written, and its transliteration is clear. The words succeed each other in strict alphabetical order according to the transliteration; the meanings follow in a separate column in a logical order with indications of period and a letter which will lead us to a textual reference when the key is provided in the next section of the work. In a final column, variant spellings and writings are given, again with indication of period. This is all very satisfying and useful for a mere vocabulary. The vocabulary is long and derived from a very wide field. The Pyramid Texts as well as the endless writings upon the Ptolemaic and Roman temples are drawn upon and many a new or rare word is included. And yet it is not exhaustive. Many rare words and ἅπαξ λεγόμενα whose significance has not been established are omitted, apparently with intention; although it is for these that the advanced student would most naturally look, and any day a pellucid passage may be discovered containing one of them and establishing its meaning with the help of the rare examples which should surely have been enumerated in the *Wörterbuch*.

I remember lately hunting for a scarce word,  , which seemed adequately explained and illustrated by examples in Brugsch's ancient *Wörterbuch*, VII, 1266, but does not appear at all in the vocabulary of the new *Wörterbuch*; and it is certain that the meanings attributed to words in the latter are not entirely up to date. It must be difficult indeed for the hard-worked editors to keep abreast of all the brilliant ideas contained in modern editions of texts. Undoubtedly the *Wörterbuch* is already very useful and the complete series should be vastly more so, but we face the uncomfortable prospect of having in future to consult three separate volumes for each word that we investigate, and in references to quote not only the page number

but also the volume in each of the series. Much of this could have been easily avoided by continuous paging throughout the volumes in each series, and it would surely be a great gain to reduce the three volumes to two. This might be done without much inconvenience to the editors if they would combine the second and the third series in one, giving not only references to publications but also revised copies of the crucial texts in hieroglyphic on the same page. May we hope then that the editors will see fit to have continuous pagination throughout each series, and that the third series will be absorbed into the second? If these two changes in the scheme are possible, changes suggested by two distinguished and well-practised scholars among the reviewer's friends, they will be counted as great additional blessings by all who are to use this monumental work.

If not, we must console ourselves by the consideration that at the present time we are accustomed to consulting six or seven separate volumes of dictionaries by different authors, as well as special indices to particular texts. We have therefore much cause for rejoicing in the completion of the vocabulary and golden expectations of the remainder of the great undertaking.

F. Ll. Griffith.

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