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1999

ILLA HUN,
KAHUN AND GUROB.

1889-90.

BY
W: M. ^{Matthews} FLINDERS PETRIE,

WITH CHAPTERS BY

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AND F. C. J. SPURRELL, F.G.S.

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INTRODUCTION.

1. THE work of the season 1889-90 has completed the exploration of the towns of Gurob and Kahun, which was begun in the previous year. During my absence Mr. Fraser took charge of the place, and succeeded in opening the pyramid of Illahun: and on my return I continued the clearing of the XIIth dynasty town at Kahun, while soon after Mr. W. O. Hughes-Hughes joined me, and took up the excavations at Gurob, to which I could not attend along with the other work. The planning of the town of Kahun required close attention, as over two thousand chambers were cleared; and each required to be measured, and entered in the working plan which was kept, before it was refilled with the earth from other rooms. The most interesting piece of work was the clearing of the Maket tomb. It so seldom happens that a large tomb is found quite undisturbed, and can be entirely cleared in a careful manner, that the details are worth a full record; moreover, the series of added burials in these chambers, the heaping on one side of all the small objects from time to time, and the Phoenician and Aegean pottery found here, are remarkable details. The entrance to the tomb was found late one afternoon; anticipating a long affair, we blocked it with earth, and then opened it next morning. The outer chamber we first cleared, as it only contained broken pottery and some earth: and in this and the rest of the clearance I only allowed the lad Mekowi to be below with me. He was the lucky head of the party who cleared Horuta's tomb; excitable and restless, he always preferred speculative work, and I gave him the business of opening up the foundation deposit of Usertesens temple. On this tomb being found by two lads who were half afraid of it, Mekowi eagerly offered to share it with them if he might; and as he was very well in hand, and could be quite trusted, I was glad of the change. The outer chamber being clear I began to open the coffins which blocked the door of the main chamber; and as each object was found I recorded it and handed it to Mekowi to lay

in the outer chamber. Hour after hour I went on gradually clearing the coffins, until there was hardly any space left in the outer chamber to place the finds. The work was heavy, for not only the weighty coffins needed to be shifted, but a large beam of roofing had broken, and a block of stone lay on the top of the coffins, almost crushing them. This needed to be shifted off, and yet there was no foothold from which to reach it except on the treacherously rotten coffins, so that it made a troublesome delay. Towards evening I finished, and came out, streaming with perspiration, and covered with the black dust of the mummies and wrappings. All the things found were then carefully packed in baskets, and carried over to our house. In these plates will be seen drawings of every object found (excepting duplicates)—even every variety of beads; and it is much to be wished that whenever a tomb or group of objects is discovered undisturbed, a similar index of the whole should be published for reference and study, quite apart from any artistic picture of special pieces.

2. My work at Kahun was finished in January, and Mr. Hughes-Hughes had given up Gurob about the same time. After a brief trip in the Fayum, and packing up all the collections, I left Egypt in March to undertake excavations for the Palestine Exploration Fund. The delays were considerable, owing to an immaterial error in the firman; and at last I only succeeded in getting fairly to work a few days before the miserable month of Ramadan. As the workers came to the work at Tell Hesy from a village six miles off, it was all the more difficult; and only after making a difference in the pay did I force the men to stay all night at the Tell: the women never would stop, but walked each way every day. To drive such a gang,—all of them utterly unaccustomed to steady continuous work,—during Ramadan, was not a happy task. But by repeated weeding out of the laziest I got together at last a tolerable body, which dispersed however like a puff

of smoke when the harvest came on, and not a man could I get to do anything. The six weeks' work however sufficed to clear up the history of Tell Hesi, and—still better—to form a series of dated pottery of the various periods, so laying a foundation for future explorations on a scientific basis. The results of this work having been published by the Palestine Exploration Fund, I need not enter on them here. After thus obtaining a chronological scale I spent a fortnight in visiting various ancient sites, and identifying the periods of the remains from the pottery strewn over them.

3. The costs of the excavations described in this volume have been defrayed by my friends Mr. Jesse Haworth and Mr. Martyn Kennard, in continuation of their liberal assistance of the work which I carried on during two previous years in the Fayum; and the greater part of the objects found have been presented by them or myself to various public museums. While I was absent in England the inspectorship of the Fayum had been transferred to Major Brown, R.E.; but he very kindly permitted me to continue to use the inspection house at Illahun, as Mr. Hewat had done; when so much was being discovered it was most needful to have a lodgement for the antiquities, and but for the use of such a house the work would have been much hindered. After I had worked during October at Kahun,

Mr. W. O. Hughes-Hughes came out in November to take up the excavation of Gurob; I could not possibly have attended to this in the time available before I went to Palestine, and it was therefore very fortunate that some regular work could be carried on before the natives finally plundered the place. Of course no sort of guardianship or protection was given by the Government, and it was only by paying guards myself that I could preserve the site until Mr. Hughes-Hughes came. So soon as he left the rest of the town and tombs utterly perished at the hands of the plunderers. We are therefore indebted to his attention for rescuing most of the information on this site which is in the present volume.

Again I am fortunate in having the collaboration of several friends on special chapters here. Prof. Sayce renews his attention to Greek papyri, and Prof. Mahaffy has joined on the subject. Mr. Griffith has begun a study of the series of hieratic papyri: and the demotic will I hope be worked out by Dr. Hess. Canon Hicks has given his special knowledge to the Ptolemais inscription, and Mr. Spurrell has elucidated much about the use of flint implements, with his wide information on the subject. To all these friends my sincerest thanks are due for attending to what neither my own time or studies permitted me to take up.

CHAPTER I.

THE PYRAMIDS OF ILLAHUN.

4. IN the first season at Illahun I had done some months of work toward finding the entrance to the pyramid, but without success. The external construction of the pyramid is peculiar, and unlike any other. It is partly composed of a natural rock, dressed into form up to a height of about 40 feet,—which is misattributed in Baedeker to the pyramid of Hawara. Upon this rock is the built portion of the pyramid core. And this is also unlike any other pyramid in being built with a framing of cross walls. These walls run right through the diagonals, up to the top of the building; and have offset walls at right angles to the sides. The walls are of stone in the lower part, and of bricks above. The whole of the filling in of the pyramid bulk between the walls is of mud-brick.

Much ancient tunnelling has been done in search of the chambers, between the rock and the brick structure; this part is honeycombed with forced passages from the N. side. Much of these I cleared out in search of the chambers, but in vain. Seeing that there was certainly no entrance in the brickwork, I then supposed that the stone lining of the chambers had probably been built in an open cutting in the rock as in every other pyramid that we know of. If so there would be a gap in the rock base, where the passage was built in; and I therefore set about clearing all around the pyramid at the edge of the top of the rock. This was easy enough around most of the circuit, being only a few feet deep. But at the S.E. corner it was very difficult, the rock being there defective, and the bulk being filled up with layers of rubble chips, thrown in and rammed down. Not being able to reach the edge of the rock therefore, I tested it in another way. Clearing a trench in the fragments as low as the rock bed of the pavement,

sometimes 15 or 20 feet deep down, and having seen solid rock, we then cut away the stuff above and tracked up the rock, or over the surface of the rubble beds of construction where I could be certain of their being undisturbed. Thus the whole surface of the pyramid core was searched here for the entrance: but yet in vain.

5. The case seemed almost hopeless; after some months of clearances we could not reach the chamber hollow either in the tunnels, on the top of the rock base, nor could we find any sign of an entrance on the outside. I had however made a clearing near the S.E. corner on the ground level, to find the position of the pavement; and having found an edge of rock, part of the pavement bed, I made the men track it along, greatly against their wills. We came on a pit on the S. side, but it was so far out from the pyramid that it hardly seemed likely to be more than one of the many rock shafts of tombs, which abound near the pyramid. As I was just leaving I did not therefore push on with it; but I commended it to Mr. Fraser, when he took charge of the place in my absence, as a possible entrance; or, if not that, a tomb which had better be examined. He opened it, and at about 40 feet down found a doorway on the north side which led up to the pyramid. The mouth of this shaft is very wide and sloping, having been much broken away by use, probably when the place was plundered for stone. We know, from graffiti on the blocks, that RAMESSU II destroyed the temple and the casing of this pyramid for stone; doubtless to build at Ahnas, where I have seen the name of USERTESEN II on a column of Ramessu. Probably therefore the masons removed the pavement of the pyramid; and, so doing, they would find this entrance. To their plundering therefore may be attributed the breaking up of the limestone chamber in the pyramid, and the removal of much of the stone. The well entrance is so dangerous that a Bedawi boy, who was looking about there after it was opened,

fell down the shaft, and was killed on the spot. The survey of the pyramid is unfortunately incomplete. The sepulchre and adjoining chambers, and the sarcophagus are completely measured; the passages are tolerably done by Mr. Fraser's measures, but the south end of the passage and details of the water well are doubtful. The connection with the pyramid above is vague; nothing remains at the pyramid base to define it, and a general survey of the pyramid all over is needed before an estimate of the original position can be made. This incompleteness of the plan arose from some weeks of illness at the close of the diggings, which prevented my doing active work.

6. On referring to the plan of the passages (PL. II) it is seen that the shaft now opened is not at all the main one. Another shaft must exist at the end of the south passage, as the granite sarcophagus is 50 inches wide; the south passage is 54 at the doorway, and the long passage not less than 63 wide, and the entrance to the chambers is 54 wide. So the sarcophagus would pass all these; whereas the doorway at the bottom of the used shaft is but 31 inches. The now-used shaft must therefore have been only a back way, to enable the workmen to pass in and out while the main shaft was blocked with lowering the stonework. At the end of the S. passage is a brick wall broken through; beyond that is a mass of blocks of stone and chips, which seem to turn to the west and to rise upward. Here then is probably the main shaft; but though I cleared much of the ground on the surface, which is encumbered with several feet thick of original banked-up chips, I could not find the top entrance. If it had not been for the second shaft under the pavement, it is probable that this pyramid would never have been opened.

7. The south passage is 734 ins. long; and about 7 feet wide and 4 feet high, but much encumbered with stone, so that it is difficult to crawl along it. The entrance chamber is 132 N. to S., and about 208 to the recess with the water well. This recess is 82 by 102 ins. and the well about 4 feet by 5; it is difficult to reach it owing to a long slope of earth which is above the well. The well itself is full of very salt water up to about the level of the chamber floor. Why such a well should have been made we cannot see. Probably the water level has risen with the rise of Nile deposits, and may have been 15 feet lower when the pyramid was built. The well was therefore perhaps a dry shaft. It may have been either to catch any rain-water running down the shaft above, like the safety wells in the tombs of the kings;

or it may have been a water well; or it may lead to some other passages below. It is doubtful even whether all the pyramid passages known may not be a blind, as there is neither a trace of a lid to the sarcophagus, nor of any wooden coffin or mummy in the chamber. On the other hand there are no elaborate precautions for barring the intruder, as at Hawara, and everything was trusted to the secrecy of the entrances. It is unlikely that there is anything of importance beneath this water well, as there seems to have been no care to cover over its upper part.

The passage into the pyramid slopes upward, as will be seen in the section, PL. II. The whole length slopes $6^{\circ} 46'$ from end to end, but the lower part appears to slope rather less, and the upper part more. The axis of this passage is $6^{\circ} 40'$ E. of magnetic N., which shews that it is probably very nearly true north. The limestone chamber was observed as $10\frac{1}{2}^{\circ}$ N. of magnetic W., and if so is 4° askew to the passage, and is so drawn here. The first part of the passage is 648 long on the slope: it is 64 wide, and 74 high on the wall, or 80 in the middle of the curved roof. It is cut in the soft rock fairly well, but the rock is so crumbly and poor that it is merely hard marl, and no smooth face can be made.

The passage chamber is 276 on S., 267 on N., 124 on E., 127 on W. It is heaped up with broken marl from the rock; though where such a quantity has come from it is hard to tell. The upper part of the passage is 894 long, 76 wide, 69 high on the wall, and 79 in the middle. At the top end it is roughly smeared with a thin coat of white plaster, filling up all the roughnesses. It contracts to a doorway 54 wide and 70 high on entering the limestone chamber. Throughout these passages therefore there is no need of stooping, but they are made of full height, like those of the Hawara pyramid.

8. The limestone chamber is cut in the soft marly rock, and lined with blocks of fine limestone. The roof-blocks, and part of the top of the walls, have been broken up, and lie strewn the floor; a damage probably due to the Ramesside masons. The chamber is 123.7 E., 122.8 W., 196.7 N., 195.3 E.; the wall height is 136.2, and the pointed roof rose 37.3 more, according to the piece of the gable end wall which remains, making 173.5 inches in all. The doorway is 5.6 to 59.6 from the E. On the west is a contracted part 81.2 wide; leaving 20.7 on N., and 20.9 on S. side. This is 41.8 N., 41.3 S. length: and contracts to a passage, leaving 5.8 on N., 5.6 on S. This passage is 159.9 long to the granite, and 19.0 of

granite, making 178·9 inches. The width is 69·6 at E., to 69·3. On the south side at 34·5 is a passage 41·3 wide: this is 16·0 long, and then widens to 52 for 413·4 inches. This passage is cut in the marly rock, with a curved top, and is 70 high at sides, 79 in middle. It then turns to the west for 698·6 inches, being 62 high or 72 in middle. Then turns to the north for 783 inches: then to the east for 331, and then to the south for 293, opening into the sepulchre, by a regularly permanent doorway in the granite with bevelled edges. This passage is most puzzling, as it has no branches, and merely leads round to within a few yards of where it starts. There is no sign of either end having been blocked up; nor is there any sign of a door or closing of the sepulchre doorway. The sepulchre is all of light-red granite, smoothly dressed but not ground or polished. The sides are 123·1 E., 123·7 W., 206·2 N., 206·9 S. On the east is the entrance 61·1 wide, with 31·0 wall on each side. On the north is the doorway of the passage just named, at 10·1 from the west, and 41·6 wide. On the south is a doorway at 32·3 from the east wall, and 41·1 wide. This is 20·5 long through the granite, and then widens to 45·2 for a length of 89·0, cut in the marly rock. It is 62·8 at side and 72·8 high in middle. It then enters a chamber 126·4 on E., 129·7 on W., 105·4 on N., 104·2 on S. This chamber is 70 high at the E. and W., and rises to 109·6 in the curved roof. In the west wall is a recess 40 by 21 inches, and 20 high. This has been cut later, probably by the Ramesside workmen, as it is not smeared with plaster like the chamber, and is hewn with a pick or chisel 1·1 wide, whereas the pyramid hewer's pick was ·55 inch wide and much rounder.

To return to the granite sepulchre. The floor is of granite; and, where the door sill has been broken away, a bed of clean sand between the granite and the rock can be seen. The ceiling is of granite; sloping blocks butt one against the other, and are cut out beneath into a circular curve, which rises 40·8 with a width of 123·3. The upper sides of the blocks are left rough hewn and straight. This construction is exactly like that of the sepulchre of Menkara at Gizeh. The height of the doorway is 81·9; the wall is 72·0 high on N., 72·8 N.W., 71·7 S.: the middle is 110·9 high at E., 111·9 in middle, 112·0 at W. The north door is 51·9 high at the sides, and 59·6 in middle. The south door is 51·0 high at sides. All the doorways have bevelled edges. The sarcophagus stands 10·36 at S., 10·66 at N., from W. wall; and 6·38 at E., 6·58 at W., from S. wall.

9. The sarcophagus is perhaps the finest piece of mechanical work ever executed in such a hard and difficult material. The form is quite unlike that of any other coffin known, having a wide lip all around the top. (See the end view on PL. II.) Another strange peculiarity is that the bottom is of varying thickness; or the inside depth being equal all over, the outside depth slopes down nearly 4 inches from end to end. As the sides are cut square with the top, and the floor is level, the ends all lean over, and the top slants; in short the whole thing is tilted by standing on a sloping bottom. I carefully measured it by stretched threads and plumb lines, with offsets read to a thousandth of an inch. The surface, though not polished, is smooth-ground to an impalpable fineness, and most exquisitely flat. For instance along the top length of 106 inches the errors from a straight line are - 7, + 5, + 17, - 7, - 7 thousandths on E. side; and + 7, 0, - 13, - 3, + 7 on W., or an average of 7 thousandths of an inch of error. On the ends 50 inches long, the errors are - 1, - 3, - 1, + 5, 0; and - 6, + 8, + 5, - 7, average error 4 thousandths of an inch.

The errors of parallelism are also very small; the N. end is 50·053, and S. end 50·073, or a 50th of an inch of difference on 106 inches length. The E. side is 106·100, and the W. 106·116, or a 60th of an inch different. In the lower part of the outside there was not such excessive care, and the average error is 37 thousandths on the distance from side to side, including the errors of forming the planes, and of their parallelism. But even this is fine work on such a scale. The inside is also very parallel; the width at the N. being 26·542 and at the S. 26·552, or only a 100th of an inch slant. The curvature of the planes is almost nothing, over the length of 82 inches; the E. side hollowing 5, and the W. side bulging 2 thousandths, a difference which is probably covered by the errors of measurement, owing to a slight tilt of the sarcophagus sideways. The ends cannot be accurately measured by plumb line owing to the great tilt endways. The skew of the planes of the inside is 5 thousandths on the W., and 7 thousandths on the E., which again may be confounded by the slight tilt of the whole sideways; but it is almost inappreciable in any case.

Lastly, after straightness, flatness, and parallelism, there is the question of ratio between the dimensions, or accuracy of proportions. This is far more difficult, as it requires all the previous accuracies, and in addition a truly divided scale, and an irremediable

truth of work, since nothing can be corrected by removing more material. Taking the mean dimensions we see that they are all in even numbers of palms of the usual Egyptian cubit, as follows:—

	inches		palm	cubit	mean scale	error
Length top out	106·116	+36	2·9477	20·634	106·056	+·060
below	97·165	+33	2·9444	20·611	97·218	-·053
Width top	50·046	+17	2·9439	20·607	50·082	-·036
below	41·24	+14	2·9457	20·620	41·244	·00
Length inside	82·495	+28	2·9463	20·624	82·488	+·007
Width	26·549	+9	2·9499	20·649	26·514	+·035
Depth	23·56	+8	2·945	20·615	23·568	-·008

The outside height is 36·4 at N. end, 32·6 at S. end; or the bottom varies from 12·84 to 9·04 in thickness.

These variations in scale between the parts are very small. Lumping together all the measures, and taking the average palm, it comes out 2·9460, or cubit 20·622. Then we can find what each dimension should have been on a mean scale, shewn in the last column but one, and the errors of the sarcophagus sides are given in the last column. Thus the mean error from a true scale averages only 28 thousandths of an inch on one dimension; or less than one 2000th of the lengths; that is to say, the scale by which the dimensions were laid out, and the errors of workmanship of size, together do not exceed a hundredth of an inch on the cubit length. This is indeed a brilliant piece of skill in such an untractable material. It would be desirable to level up the sarcophagus, and then measure it more accurately when the planes are as nearly vertical as may be; for doubtless some errors have come in the course of measuring it in its present slanting position.

A few additional measurements may be noted here. The depth of the lip around is 5·977 with a mean error of 22 thousandths. The edges are all bevelled off to a width of ·27 to ·30 of an inch. This bevelling is very neatly done, and the planes of bevel all meet truly in a three-sided pyramid at the corners.

10. In front of the red granite sarcophagus lay the white alabaster table of offerings for Usertesen II (PL. III). This is of the usual style of the XIIth dynasty altars, and not like the elaborate array on the altar of Ptahnefru ("Kahun," PL. V); nor are the legs of the animals missing here, as they are on the altar, and on the funeral vases of Ptahnefru and Amenemhat III. The inscription is simple, and of the usual formula. It is beautifully sharply cut, and quite perfect and fresh. Of course it is now in the Ghizeh museum, along with the finest of the other things that I found. It was standing turned up on

its end, when Mr. Fraser went into the pyramid; disturbed, but quite uninjured. He had heavy work to get it up from the well, as it weighs four cwt., and is of course a delicate stone to handle.

Beside this some broken pottery was found strewn about in the limestone chamber (PL. IV, 7, 8, 11) all apparently of the XIIth dynasty, and therefore belonging to offerings made in the pyramid, and not to the Ramesside workmen. Also one fragment of alabaster, apparently the flat brim of a large circular vessel, was found in the passage leading from the limestone chamber round to the sepulchre. This passage was choked by falls of the roof in the N.W. angle of it; but though we moved all that stuff and cleaned the place, no more of this alabaster vessel could be found. Doubtless the Ramesside workmen had carried off the alabaster vessels, though the table of offerings was too bulky for them to pilfer it.

11. Outside of the pyramid a shrine adjoined it on the east. This had been all destroyed by Ramessu II; and the ground was covered with some feet depth of chips. On turning over all this stuff we recovered many pieces of sculpture; some giving the names of Usertesen II, and others shewing the various offerings with which the walls of this chapel has been adorned. The work was beautifully delicate; and the colours are as bright as when first laid on. The largest slab from here with a cartouche of Usertesen, is now at Ghizeh.

On the north and west sides the hill rose up, from the knoll on which the pyramid was built. Here it had been cut away, so as to leave a clear space around the pyramid. The face of this rock scarp is covered with a thick wall of mud brick, which still rises to twenty feet high at the N.W. corner; originally it was probably much more, and retained a bank of chips behind it. Besides this scarp wall there was a built wall along the east side of the pyramid, of which the rock trench of the foundation remains; and also a wall along the south, which served as a retaining wall, being banked up along the inside with chips, so as to form a level platform around the pyramid.

12. These walls were interrupted at the N.E. corner of the area, and extended outward, to include a small pyramid which stood there. This pyramid was of rock in the lower part, like the large pyramid; and — also like that — the chamber is within the rock, without any open cutting above it. The brick part of the pyramid has all disappeared; and when I went to Illahun there was no trace of the pyramid to be seen. But during excavations we hit on the side of

its rock base, and cleared it all round. A shrine had existed on the north side of it, and we found fragments of the painted walls like those of the shrine and of the temple of Usertesén. Also a fragment of an altar of offerings of black granite, but unfortunately no name remaining on it. (PL. XII, 8.) Among the fragments of the shrine was one which gives apparently part of the name (XII, 6), mentioning a "princess of both lands, Atmu"; as other princesses of this dynasty have the names of gods compounded with *neferu*, *Sebeknefru*, *Ptahnefru*, &c., this princess may be provisionally named *Atmunefru*. I tried hard to find the entrance to the pyramid; not only was all the top and edge of the rock core examined, but I also cleared the rock bed of the pavement all around the whole pyramid, for about twenty feet out from the core, but without hitting on the passage. Probably there is a well at some distance away from the pyramid, as in the pyramid of Usertesén. The rock base is about eighty feet square; and the cutting which marks the extent of the casing, is distant from the rock from 75 to 86 inches. The rock core is distant from the north wall 296, from the wall on the west 246; and from the edge of the pavement hollow on the west 186 to 199. All of this breadth was examined. The only result of the clearance was to find several pits cut in the rock beneath the casing, containing foundation deposits. The most important was at the N.E. corner. Here was a square hole whose corner was 4 ins. N. of N. side and 13 E. of E. side of the rock core. The hole was 36 square at top to receive a slab of stone 7 inches thick; below that it was 28 square, for a depth of 60 inches. This was filled with clean sand, and near the bottom lay fragments of many vases and saucers (PL. IV, 1 to 6, 9, 10, 14), with a model brick of mud (13), a few green glazed beads (12), and bones of a calf sacrificed. Of course our hopes were high that we had at last found the entrance to the pyramid, on removing this slab and finding sand filling below it; but the bottom of the hole was all solid rock. At the N.W. corner another hole was found, very similar to this: the inner corner is 16 W. of W. side, and 9 S. of N. side, thus not lying in the diagonal. The depth is 7 inches and 53 below that; and it is 35 square above and 30 below. Another rock pit was found at 100 to 130 E. of the W. side, and 160 to 190 N. of the N. side. This contained nothing but sand. And a fourth pit was found opposite the middle of the west side, which contained only one rough vase and saucer. These last two were covered over with mortar, and not with stone. Another pit on the east side had been

emptied anciently, and forced at the side toward the pyramid. Though these deposits are rude, and of no value beyond the forms of the vases; yet they are very interesting in principle, as we did not know before of any foundation deposits being associated with pyramids.

CHAPTER II.

THE TOWN OF KAHUN.

13. Last year only a small part of the plan of Kahun was published, merely five streets of the workmen's quarter. But now we have before us a complete plan of the whole present extent of the town, comprising more than three quarters of all the rooms that ever existed there, so far as we can judge. As this is the first time that the complete plan of an Egyptian town has ever been disclosed, we shall examine it in some detail; and it is of special interest, not only from the early date and the entireness of it, but from its having been laid out evidently by a single architect on a regular plan.

On first looking at the plan (PL. XIV) it is seen that the town is of two parts; the eastern part nearly as long as it is wide, and the western part which is built outside the thick wall, and which is a strip of closely packed workmen's houses. The west part is however of nearly the same date as the other, as such a barrack would never have been wanted here except for the pyramid builders: and its boundary wall is laid out to fit the line of the temple front. The geography of the place explains its outline; the Nile valley edge runs from S.W. to N.E. along the bottom edge of the town. The buildings are all in a slight hollow, bounded by a rise on the west, running from the temple across to the acropolis, and a rise on the north on which the north wall is built. The highest part of all the ground around is the acropolis, and the town is placed with this as the leading point.

The general divisions of the town are,

The acropolis and the guard house.

The five great northern houses on one plan, and one other, along the north wall.

The three great southern houses on one plan.

The dwelling houses joining the west wall.

The store rooms behind the great south houses.

The workmen's streets " " " "

The five workmen's streets on the east.

The eleven workmen's streets in the separate western region.

14. The acropolis has most unfortunately been far more destroyed by denudation than any other region, as a natural consequence of its elevation. On the west the ground falls gently away; on the north it falls irregularly; and on the east and south sides it has been scarpd away, and faced with a massive retaining wall, which formed the side of a banked-up platform on which the buildings stood. Thus the grand quarters were well above the roofs of all the other houses of the town. The access to this acropolis was by one entrance at the S.E.; here the doorkeeper's room is first seen on the right hand; then a square entry, out of which three stairways arose. The wider stairway on the east (PL. XVI, fig. 1), had a separate door to it, and was the front entrance, leading probably to rooms overlooking the town eastwards; while the two lesser stairways (PL. XVI, fig. 2) probably led to the back rooms. The whole acropolis was occupied with one great house, as its space is exactly the same as that of the other great houses in the same line. Many pieces of brightly painted dado were found here, in the rooms with stone bases of columns. Though the lower part of the scarping is hewn in the solid rock, yet it is all faced with brickwork, plastered over; and even the steps are of brick, and so very little worn away that they shew the place not to have been occupied for long. These stairways were all filled up with fallen walls, and were quite indistinguishably smoothed over in the slope of the hill, until we excavated them: about ten feet of rubbish had to be removed from the deeper parts.

On the south of the acropolis was an open space of ground at the foot of its great retaining wall. In this ground is an isolated building, which from its place before the entrance, was probably a guard house. Doubtless the king would occasionally visit the town, when inspecting the progress of his pyramid and temple; and he would rest in the acropolis, while his guard would have quarters before the door. This building was deserted early in the history of the place, as it was filled up with the broken pottery of the XIIth dynasty, thrown away by those who dwelt in the rest of the town. This agrees to its being an official dwelling, not needed after the pyramid was built.

The five great houses along the north wall are all on one plan, with such very slight modifications that we may ignore them. Four of these houses join in a row; then there is a narrower house of different plan, and lastly one more like the four others. The entrance is from the street on the south; a moderate sized doorway, which had a half round lintel of stone,

of which I found a piece lying in one entrance. The doorkeeper's room faced the door. On the left hand we pass along a passage leading to offices, guest chambers, and to the business rooms of the master apparently. Behind these, in the centre of the house is group of private rooms opening on a hall with four pillars. Behind this again is a large space which was probably open to the sky along the northern part with a colonnade along the south side, to give a broad shady place for sitting in the summer time; what is now known as the *mandara* or reception-hall for strangers. There was also a direct access to this *mandara* by a long passage straight from the entrance. Besides this long passage there is another side by side with it: such a duplication would not have been made for nothing, and as the second passage opens on several small rooms, with a separate hall with columns, it is pretty evident that this was the women's side of the house. It had ready access to the front door, a private passage of its own, a hall, and direct access to the *mandara*. The rooms on the other side of the house seem to have been also private, as they open only from the *mandara*. They may have been the private chambers of the master and his family; and containing the best hall, with a tank surrounded by columns, this is not unlikely. In the fourth house these private rooms were cut off, and joined to the women's apartments of the third house. The rooms along the north wall were probably long store rooms and granaries.

Thus there were three ways on entering; to the left to the men-servants' rooms, offices, and business rooms; or straight through to the *mandara*; or thirdly, to the right, to the women's rooms.

The large rooms all required columns to support the roof, as 8 or 9 feet seems to have been the longest roofing beam. These columns were usually of wood, to judge by the large diameter of the marks on the bases: and the lower part of one column, which stood *in situ* in the fifth house on its stone base, was an octagonal one of wood (see PL. VI, fig. 12). The stone bases were very wide and flat, like those carved in the rock at Beni Hasan, or like the model column found here (PL. VI, fig. 13). Some of the columns were of stone, octagonal (PL. VI, fig. 1), eight ribbed (fig. 11) or sixteen fluted (fig. 6). The capitals were either plain abaci (6) or brackets (1) or palm leaf form (7, 8); that the latter was known in the XIIth dynasty is shewn by the ape seated on a palm leaf capital (8), carved in ivory, now at Ghizeh, and dated to Amenemhat II by a cylinder found with it. The

best room in each house, the master's private court, had a tank of stone in the middle of the floor; this tank was about 14 inches square, and about as deep, in the middle of a square block, 5 ft. 3 ins. on each side (3 cubits), the tank and its pavement being all one stone. Similar places are found in poorer rooms, with the tank a separate box of stone, and slabs placed around it, sloping towards it. These places seem curiously like Muslim arrangements for feet-washing and ablutions before prayers; possibly the custom is ancient, and the Egyptians may have used these tanks for ceremonial ablution, and stood on the stone slabs. Around the tank-stone were twelve columns supporting the roof; and it seems very likely therefore, as there would be a wide space across the tank, that the middle of the hall was open: thus the arrangement would be somewhat like an *atrium* supported by columns. (PL. XVI, fig. 3.)

The whole size of the block of each house is 138 feet by 198 feet: and this area contained about 70 rooms and passages. The best hall is 29 feet square, and the *mandara* is 63 feet long. Thus these great mansions were by no means scanty homes for the high officials and nobles who had charge of the royal works.

15. We next turn to the three great southern houses. These are of exactly the same size as the northern row, but quite differently arranged. The entrance opens into a vestibule with a column. Thence a short passage leads immediately into the rooms of the house; while a long passage leads away to the back premises. Another long passage led along the opposite side of the house, from the middle of the house to the store-rooms at either end. And against the street wall was a compact mass of nine store-rooms forming a square block, three each way. The plans of these houses have been so much altered by being divided into tenements, and new doorways knocked through, that it is difficult to trace the full details in their present deficient state. We will next notice the dwellings or stores to the south of the acropolis, backing against the thick wall. These blocks are on one repeated plan. The set of copper chisels and hatchets, found in a basket, in the first season, lay in the second block from the south, in a room marked C. A copper dish with a central cup riveted into it, was found in the northernmost chamber next the wall; this is now at Ghizeh. In the same block are two or three rock-cut cellars, the mouths of which are marked by squares on the plan; between three of them is a rock-cut passage, which had been walled across by brickwork. These cellar-mouths were closed

by flap doors of stout wood, one of which was still lying in place. The largest of these cellars, with two chambers, was used in the late XIXth or XXth dynasty as a family tomb. The only name found in it was that of the lady Maket; and hence this is called the Maket tomb, and the contents are described as such in Chap. V. The large circles in this district are granaries of thin brickwork. Some of the best papyri of the XIIth and XIIIth dynasties were found in the middle block of these buildings.

Other sets of chambers, to the south of the first southern mansion, were probably store-rooms. They are on a repeated plan, but joined together so that one door suffices for twenty-three rooms.

Behind the other south mansions are some workmen's streets. The separate houses have about seven small rooms each. But in two of these houses some curious wall paintings remain. In the block behind the middle mansion, on a wall marked "paint" on the plan, is a curious subject painted in red, yellow, and white, with some amount of black filling in, on the smooth mud plaster. (PL. XVI, fig. 6.) It shews a large house, with a view of the inside on a level above the outside, a convention known in other Egyptian paintings. The form of the building is interesting. It appears to have been a series of arched chambers; much like some in this town, which were covered by a wide vaulting of brick. The ends of these chambers were walled up in the lower part, and closed with a lattice of wooden bars above. The larger space may perhaps represent the end of a longer gallery, which approached the spectator nearer than the others. In the view of the interior there is the usual group of a servant offering to his master, and various jars placed upon wooden stands. The piles of round objects may really represent a row of cakes on a table, here drawn one above another like the piles of objects on a table of offerings. The white space on the left is indistinct in the painting; but it probably is another building, with an arched doorway next behind the master. In another room in the block of building south of the east mansion is marked "Paint cols," where a columnar building is painted which is here drawn (PL. XVI, fig. 4). This painting is remarkable for the flat curve of the arched roof of the building, the short pillars filling in the tympanum, and the columnar front. This represents a structure more like a later Greek, than an Egyptian, temple; and the forms of the columns (given on a larger scale above) are not like any Egyptian columns so far as we know.

To the east of the southern mansions are several streets of workmen's houses. These were very small and poor, containing only four rooms each. In the second block at "XVIII" on the plan (PL. XIV), were found two bodies buried with three small but brilliant scarabs of the XVIIIth dynasty. The southern ends of all these streets have been washed away entirely by denudation; and half of the part that is planned here is only a few inches deep, just enough to trace the plan by. At the east wall is a gateway, with a porter's room by it. It seems strange that they should have troubled to make a gate here, if the town lay open to the south. And it would also seem strange if such a stout enclosure wall should have been built for no purpose. I am therefore inclined to suppose that although there is no trace now of a wall on the south side, that nevertheless the town was originally walled all around, and that the south wall and half of the east have been denuded away as completely as the south ends of the streets.

All the streets appear to have had a channel of stone down the middle; such was found in the long E.-W. street, and in several of the small eastern streets, and was therefore probably general. This channel is not deep, but rather a slight curved hollowing of the upper sides of the line of stone, which is about 22 inches wide. Probably therefore the street sloped down to the middle, like an old English street to the kennel; and thus occasional rain, and waste water from the houses, would be led off without making the street muddy. This is far the earliest example of street drainage known; and the system must have been general in Egypt at that age for it to have been used in a labourers' town such as this.

16. Lastly there is the large mass of streets forming the western division. These were evidently workmen's dwellings, at least in the northern part. The houses have four or five rooms each, with steps leading up to the roof. Each house therefore probably had an enclosed court on the roof, like a modern Egyptian dwelling, where fuel and straw could be stacked. Many of these houses contain granaries. The southern part of this region was excavated in the first season, and this part of the plan was published in "Kahun," PL. XV.

The roofing of the houses was usually made with beams of wood, on which poles were placed, and to these were lashed down bundles of straw or reeds. The mud plastering was then applied both inside and outside, and many fragments of this roofing were found in the rooms. Occasionally a barrel vault of

brickwork was thrown across the whole room. The upper part is so generally destroyed that we cannot often find any of the roof; but one large room in the western part of the town, and some of the rooms of the first north mansion (where the wall was preserved against the acropolis), shew us the brick vaulting. There is no evidence about centering being used to build the vault on; and probably where wood was so scarce as in Egypt, it would be a better and simpler plan to fill the chamber with sand, and lay the bricks on the sand until the arch was completed, emptying the chamber by the doorway. All of the doorways, so far as they are preserved, are arched over with semicircular arches, two courses deep of brick on edge. The spacing of the bricks on the outer edge, to give the voussoir form, is done by chips of limestone wedged in.

Rats were as great a plague in the XIIth dynasty as they are at present in Egypt. Nearly every room has its corners tunnelled by the rats; and the holes are stuffed up with stones and rubbish to keep them back.

CHAPTER III.

THE ANTIQUITIES OF KAHUN.

17. In the account of the objects found during the first season's work here, the principal classes of things have already been described, ("Kahun," chap. III). The present account therefore is supplementary to that; and we shall notice the various fresh objects found, without recounting those of the previous collection.

Many more of the incised pottery dishes have been found (see PL. V), and with fresh designs. The fish with lotus border (3), the lions (5) and other types are noticeable. But the object of these dishes is not at all determined. Their very rough surface seems to make it unlikely that any wet or juicy food should have been put in them. Another curious object is the coop (8) which is made of pottery, pierced with air holes, and fitted with a sliding door. It was not intended merely for a trap, as the number of air holes show: it must have been for retaining animals alive; and it seems very possible that it was for holding eggs in the hatching oven, so that, when the chicks came out they might not stray about, and could be carried away in the warm pottery cage without chilling. Though the modern fowl does not appear

to have been known in early times in Egypt, yet artificial hatching was followed in Roman times, and may perhaps have been the custom for duck and goose eggs from a much earlier period. This coop was found broken in the rubbish heap of the XIIth dynasty, north of the town. It had been partly broken while yet used, as a handle is missing from the top, and one hole has been choked with plaster in some repairs to it.

Several pottery stands were found, both of the form for holding dry food on a raised dish (IV, 18), and also for holding the porous water jars. Probably the jars oozed more quickly than the surface evaporated, as jars do now in Egypt; and a pan was needed to catch the filtered water which came through. These stands (IV, 15, 19) with rings set in them would serve this purpose. One piece of pottery has a fine smooth face applied to it, and clouded with black intentionally to imitate marble or serpentine.

The pottery trays of offerings have been again found (IV, 20, 23); and the latter one is unusually complete. The bull's head at the top, the bird, the haunch, and the two jars for wine, are distinct; while below are various flat and conical cakes, and the large radishes so well known still in Egypt. The spaces in front are for pouring out the drink offerings.

Of glazed pottery there is a fine vase (XIII, 19), with a network pattern in purple on a rich blue ground. This was found in one of the long passages of the south mansions. There is also part of a blue glazed doll like those found before (XIII, 20). The fancy beads are also curious (VIII, 14, 15, 18, 19).

18. The most important pottery is that on PL. I. This is called Aegean in general, without meaning that every piece is necessarily from the Aegean; but the majority are so, to judge by their material and decoration. The term Aegean is used to imply the Greek islands, and the coasts of Peloponnessos and Asia Minor, without the limitations of place and age implied in the name Greek.

We will begin with those pieces which are distinctly foreign. (1) is a black ware throughout, with a smooth surface; on that are bright yellow, red, and white patterns. At the top is the circle of dots and lines in white; * then yellow lines with red across them; then discs surrounded with dots, the regular Aegean design, in yellow; and below that yellow lines with red across. The colouring is very bright, without much binding, and easily rubbed off. It is quite

* Where in details the description differs from the colouring on the plate, the latter is in error.

different from any known on Egyptian pottery; and the characteristic disc and dots, and the rest of the pattern, are also quite un-Egyptian. In (3) we see the well-known wave pattern of the Aegean, which is unknown on Egyptian pottery. (4) is a fragment of regular Aegean paste, fine smooth hard brown, with a black iron glaze, and applied lines of red brown and white. (5) is decorated with white on smooth red pottery, like (3); it also appears to be foreign. (6) has the regular iron glaze of the Aegean, with a spiral blocked out by a white ground, and a line of soft bright red applied. (7) is a short spout from a dish, painted with white on an iron glaze. (8) is red pottery stamped in relief, and painted white and red. (10) is another piece of Aegean paste with black iron glaze and applied white. (12) is a similar pottery, part of a peculiar vase without any neck or lip, a round hole being cut for the mouth without even a thickening of the material at the edge. All of these pieces are non-Egyptian; and all were found in the rubbish heaps of the XIIth dynasty. So far we shall be all agreed.

19. But when we come to consider the age of these there is great difficulty. The external evidence seems clear enough, and some very strong proofs will be needed to contradict it. The rubbish heaps where this pottery was found are entirely of the XIIth dynasty. Not only every piece of pottery which I saw there is clearly of that age, but from their position no later people would have accumulated the heaps. The town of Kahun was built by the architect for the pyramid workmen; and when the pyramid and temple were finished the town was mostly deserted, and the people of the XIIth and XIIIth dynasties heaped up their rubbish in the deserted rooms. A large part of the rooms which we cleared were filled up with broken potsherds and rubbish. When therefore rubbish could be shot inside of the town so readily, who would have taken the trouble to carry it outside? The external rubbish heaps must belong to a time when the town was full. And their contents agree to that early age. But this Aegean pottery is found in and under these rubbish heaps, and therefore the evidence unmistakably shews that it must be of the time of Useratesen II. That foreigners were living here at that time is implied by the fact that the greater part of the weights, and two of the three measures, found here are foreign weights and measures of Phoenicia and Asia Minor. And historically we know that the Ha-nebu or "lords of the north," who certainly mean Greeks in the later monuments, were

already known to the Egyptians. The question then rests thus: the external evidence is clear for the dating of this pottery to the XIIth dynasty; the foreigners of the Mediterranean were already known to the Egyptians, and were actually living in this town: and this pottery is distinctly foreign or Aegean. The only difficulty lies in Greek archaeologists objecting to any such early age for such pottery. We will return to the question of age after considering the other varieties.

No. (2) is probably Egyptian, but is of very curious decoration. The dark bands are blackish blue, and are thick body colours like all the others, laid on a massive coarse red pottery. Part of the same vessel was found in the XIIth rubbish heap. The pattern reminds us most of that on the early tomb ceilings, in imitation of woven stuffs. No such pottery is known in any later age. (9) is a bit of an Egyptian cup of XIIth dynasty, with barbaric markings in black and white. (11) is the shoulder of a vase like (16). (13) is a smooth brown pot, lipless, with a black circle joining a black base and black side lines, on either side, and two red lines down by the handle. It is quite un-Egyptian. All of the above were found in the XIIth dynasty rubbish heaps, and have therefore a strong certificate of age.

20. Turning now to other pottery found in the town we notice the curious vessel (14, 15). It is lipless, with merely a round hole for a mouth, like (12 & 13). The handle is like that of (12); and the pattern is evidently derived from that of basket-work. It was found in a chamber alongside of pottery of the XIIth dynasty. (16) is a type of vase which is not uncommon here; (19) belonging to the same, and shewing the pinched spout better; (11) shews the double handle of these vessels; (18) is similarly formed; and (17) though different material has the same handle. This type of (11, 16, 19) is wholly unknown in any later age in Egypt. (18) was found alongside of pottery of the XIIth dynasty in a deep chamber. Lastly there is the black pottery (17, 20, 21) the latter piece being whitened by concretions. This pottery is common at Kahun, many pieces having been found last year (Kahun, XXVII, 199 to 202). It was found also by M. Naville along with scarabs of the XIIth & XIIIth dynasty at Khataneh, deep down in burials which could not have been later disturbed. Its age therefore seems well assured; and it closely resembles in colour, form, and decoration the earliest Italian black pottery.

We summarise therefore that (1) Aegean pottery

is found in rubbish of the XIIth dynasty. (2) Black Italian pottery is found in the town of the XII-XIII dynasty, as in graves at Khataneh. (3) Other foreign pottery is found in the town of the XIIth dynasty.

21. Negative evidence in this matter is important. The pottery of the XVIIIth & XIXth dynasty is well known now at Gurob in this same district. Pottery of the XXIInd to XXVth is known in the Illahun graves. Pottery of the XXVIth is exhaustively known at Defenneh. And that of the Greek and Roman periods at Naukratis and Tanis. All these successive periods are well known to us in their manufactures. *But not one piece of these peculiar varieties has ever been found yet in any later period;* nor conversely has any pottery of the later ages been found in the rubbish heaps of the XIIth dynasty.

The main argument for a later date for this Aegean pottery is the fineness of the paste, and the high polish of the surface. No doubt these details appear like those of later times. But there is internal evidence contradicting a late date for these pieces. None are finer or thinner than (12 & 14). Now these belong to a class of vessel which is wholly unknown to myself, or to other students to whom I have referred, as ever having been found in historic pottery. The mouth is a simple hole without a lip, like a hole cut in a gourd. If such a type is unknown in Greek pottery, where can we match it? only so far as I know in the vase found in the Illahun pyramid (IV, 11) and in the earliest Amorite pottery of Syria. There I have found it in the lowest levels of Lachish about the beginning of the XVIIIth dynasty. Doubtless it may have existed before that, only Lachish was not yet built; but it is a type unknown to later ages. This evidence therefore shews that it must be earlier than the Mykenae pottery of Gurob, and not later than that.

22. Another line of evidence may be taken. We know now at Gurob that the style of the earliest Mykenae pottery, the false-necked vase (*bugel-kanne*) with plain bands, belongs to about 1400 B.C. (Amenhotep III). That pottery is highly finished, with a bright polish and fine iron glaze of red or orange. Such was already the development of pottery in the Aegean at that age. Who knows what went before that? No one as yet has found anything to date before that in Greece. What state the Aegean civilization was in at an earlier date we do not know. It has nothing to do with the historic civilization of Greece; it is a branch of the bronze age of Europe, as much so as Hallstadt or Etruria. That this pottery

of Kahun could succeed the Mykenae pottery is in most cases apparently impossible in its very nature. Such pieces as (1, 8, 12 & 14) are all of styles which do not fall into any place in the historic development of pottery from Mykenae downwards, and yet which most certainly came from Greece or Italy.

Finally, on the one hand we have a prepossession to deal with as to what is likely in a period as yet totally unknown, the pre-Mykenae age. Prepossessions are often valuable, but very risky when dealing with the wholly unknown. On the other hand we have the external evidence of the early age of this pottery in the XII-XIII dynasties; and the internal evidence of extremely early features in it, and of such never being found in later ages, and its not falling into any part of the historic series of known pottery. For the present I feel compelled to conclude that we have here the products of the earliest Libyo-Greek civilization of the Aegean and Italy at about 2500 B.C. Many more of the strange signs scratched on pottery have been found; but as I have not time to prepare copies of them all, I give a hand list of the forms (PL. XV) for purposes of study.

23. Of stonework some curious figures have been found. The dwarf supporting a dish (VI, 9) is remarkable, as we have no clue to the meaning of such figures in Egypt. This is one of the dish-stands, which are generally simple columns; and which, whenever they are found charged, have a cake of dough stuck in the dish. It seems reasonable to suppose that they are stands for household offerings of daily bread. Another such stand (10) is of ruder type, but carefully cut out in pierced work. The two figures back to back recall another rude stand with two figures found last year. Another unusual figure is a torso of a girl carved in a rough and gross style but solely naturalistic, and without any trace of the Egyptian canon; it is painted red, and bears marks of a black wreath around the waist. Another figure of a little girl playing a harp, small and coloured, was also found, and is now at Ghizeh. A rough large figure of Taurt was found, as also a small one last year, shewing that her form was already fixed at this period. And a good statue of a man seated cross-legged, carved in limestone, but without any inscription. The inscribed statues will be noticed under inscriptions.

24. In wood there are some good little carvings. The lion (VIII, 1) and the crocodile (VIII, 2) are each about as fine as they can be. And a most exquisitely carved ivory ape seated on a palm capital may be

mentioned here: it is dated to Amenemhat II by a cylinder found with it in a burial: it is of the finest naturalistic work, shewing all the curious puckers of the face, and the half human intelligence of the animal. Of course it is now at Ghizeh. Another bowl with rams' heads was found, like that in "Kahun" (VIII, 3) but rather smaller, and not quite so well worked. The hawk's head in wood (VIII, 7) has garnet eyes inserted; what the use of this was is uncertain. The similar hawk's head in bronze (VIII, 8) has a rectangular hole through from breast to back, as if to fit on to some object. The bases of both these pieces are quite flat and smooth. They might possibly be some pieces for a game. Among glazed objects we notice the star (VIII, 14) the dragon fly (15), the cowry (18) and the cone shell (19) all of blue or green glaze.

25. We now pass on to the tools and fittings. The wooden blocks in which the door-bolts slid have been found and identified: they were let into the door near the edge by a tenon, and fixed with a pin in the edge of the door: the bolt slid through one such block and into the wall, if a single door, or through the two blocks on the edges of a double door. This double door, with a bolt shot, is often seen on representations of a door (see "A Season in Egypt," XX, 13, 20, 21); and a bolt shot through two blocks is the regular hieroglyph *s*. A set of tent pegs was found, cut with heads, and with the ends of palm rope still around them. The fire sticks for drilling fire have been again found, both the lower pieces (VII, 25, 26) and also the upper rotating piece (24). One block (26) is not burnt in the holes, but is very deeply drilled; it suggests that it was a trial block for a learner, who had not yet attained the skill of fire-making. The other (27) is well used, all the holes being charred to a glossy charcoal face; two places have been notched, but not yet drilled. The upper stick (24) is quite charred at the lower end, and ground down with a characteristic shoulder produced by the friction. It is of the XVIIIth dynasty, found with a scarab of Amenhotep III. How these fire drills were rotated we can guess on seeing the common figures of drill bows on the sculptures: such a tool could not be familiar without being used for the fire-drilling. Three examples of drill bows were found, one of which is figured here (22), and also an unfinished drill stock (23). The unsymmetrical form of the bow is to adapt it to hold in the hand by the near end, and the length of it is just suited to the swing of the elbow from the shoulder.

Some more hoes were found of the compound form usual ; and also some of the natural hoes, formed of a forked branch trimmed into form (28). These I have not seen in Egypt before, nor on the sculptures ; they are the evident prototypes of both the hoe and the adze. The large pointed implement (29) seems to be a plough coulter.

26. Another flint sickle has been found (27) later in development than that of last season ("Kahun," IX, 22), and dated to the XVIIIth dynasty by a piece of pottery with it. This retains three of the four flint saws in position, set in a groove in the wood by black cement, probably of Nile mud and some sticky substance. The tip of this sickle is broken off ; and the handle instead of being carved in one piece, as before, is attached with pegs. We now see how much these sickles explain of the use of the toothed flints both of Egypt and Syria ; the majority of such flints are just suited to these implements, and shew signs of the wear not extending beyond the edge, i.e. only where the flint was not embedded in the cement setting (5). Several flint tools were found ; but as these will be described by Mr. Spurrell (Chap. XI) I need only here notice the classes. (VII, 1) is an adze ; (2) a scraper ; (3) a hornstone axe, and (4) a flint axe ; (5, 5 a) are the corner flints of large sickles ; (6) a saw flint ; (7, 8) knives ; (9) is half of a sharp-edged flint, of a type not seen in others of the XIIth dynasty, and of a different quality ; it is therefore probably of the age of some scarabs found with it—the XVIIIth dynasty. (10, 12, 15, 16) are scrapers ; (11 and 14) probably knives. A remarkable flint knife is that in a large find of the XIIth dynasty (XIII, 6), having remains of binding with fibre and cord on the handle : flint flakes (4, 5) were also found with it.

27. The copper tools have again been found here ; and the recent analyses by Dr. Gladstone, F.R.S., of those found last year have established that the tools of the XIIth dynasty are copper, and those of the XVIII–XIXth are bronze. His analyses are as follow (see Soc. Bib. Arch. 1890) :—

	Copper	Tin	Arsenic	Antimony	Iron	Total
XII Hatchet	93·26	·52	3·90	·16	·21	98·05
Chisel	96·35	2·16	·36	..	..	98·87
Mirror	95	some	some	..	little	..
Knife	..	about ·5	..	..	..	..
XVIII Hatchet	89·59	6·67	·95	trace	·54	97·75
„	90·09	7·29	·22	trace	..	97·60

These shew that although small impurities existed in the copper of the earlier times, and were probably valued for hardening the metal, yet these were rather

the accidental results of particular ores, than a deliberate mixture, such as the 7 per cent. of tin in the XVIIIth dynasty. The metal tin had been separated, and was known at that later time, as I found a pure tin ring with glass beads of the end of the XVIIIth dynasty at Gurob. In short, copper and flint ran their course side by side, equally in use, down to the close of the middle kingdom ; and when the Empire arose in the XVIIIth dynasty flint had almost ceased to be worked, and bronze had replaced copper.

The copper hatchet (VII, 19) and adze (18) were found together. The hatchet is bound around with thread, and sealed twice with a private scarab, impressed on Nile mud : what the reason for this sealing may have been, we do not know ; it was not a maker's mark, as the hatchet is worn ; but it may have been sealed as a matter of a legacy, or disputed property, or to prevent any person using it. The copper knife (20) is of an unusual shape. Other small knives were found, like those in "Kahun" (XVII, 18–20) ; and some with the shank rolled up (17), a rude form of handling it. Two round chisels (21) and many fishhooks, tweezers (VIII, 6), needles, and a netting needle (VIII, 3), were also found ; beside more of the puzzling knives (VIII, 4, 5) with a hinging back piece, which though previously only known in the XVIIIth dynasty ("Kahun," XVII, 43) are now found to belong to the XIIth dynasty, having been found in the rubbish heaps. Among other tools may be named several plummets of the type found last year ("Kahun," VIII, 19) ; another shell scoop (K. VIII, 10) ; and two small shells (PL. VIII, 16), set in reed handles, the purpose of which is quite unknown.

28. The group No. 9 was the most numerous found in Kahun (see PL. XIII, 1–18). It was in a house on the south side of the second street from the top, in the workmen's western quarter. The date of the group is not well fixed ; but the flint and copper implements, and the forms of the alabaster vases, shew that it belongs to the XIIth or XIIIth dynasty. The mirror (8) is of fine yellow metal, and still bright and clean enough to reflect from the greater part of it ; the handle is of hard brown wood, carved with a head of Hathor on either side. The torque (18) is of copper ; I do not remember another instance of a torque in ancient Egypt. The spoon (7) is of wood, and has had a little figure at the end of it, of which only the feet remain. Three alabaster vases are of one type (1), one thrice the size here drawn, and two about double of the drawing. Another alabaster vase is of the form (3). A vase of green paste (2) is of the

same form as the alabaster; I have seen also green paste flies on a necklace of the XIIth dynasty. Of tools, there is the flint knife with binding remaining on the handle, made of fibre lashed round with a cord: when first found this was very tender, but by wrapping it in paper I took it home safely, and then toasting it over a stove I dropped melted wax on until it was saturated: thus the binding is now unalterable. This suggests that the other flint knives may have been similarly handled when in use: such a handling would leave no traces on the flint after it had dropped away. Seven flint flakes (4, 5) were found in a leather bag, along with some nuts and some roots, the piece of wood (9) of unknown purpose, one copper piercer (15), and the spoon already described. There was also a broken piece of a flint knife, and a small whetstone (10). The copper tools are the large knife (17); two small chisels or borers set in wooden handles (14, 16); a tapering piercer (12) set in a nut handle; two other piercers (11, 13) without handles; and the small piercer (15) found in the bag. There was also a small wooden box. All of these, except the metal of the mirror and the large knife, were in one chamber; but the mirror handle shewed so plainly the mark of the mirror tang that I had a search for the remainder, and the mirror itself and large knife were in the next chamber.

29. Turning now to inscriptions there is the large stela (PL. XI), of which the upper part was broken away anciently. It had been reused for construction in a deep tomb shaft of the XIIth dynasty, which was re-occupied in the XXIInd; probably it came from the chapel over that tomb. The story of the theft and recovery of this stela has been already given ("Kahun," page 11). It is now at the Ghizeh museum, of course. It recorded the offerings made for a high priest Usertes-en-ankh-tef-pen. The dedication to Tahuti and Sokar-asar is not very usual; and the group of festivals of Sokar, Sothis and Khem (or Ames) is interesting. The next largest inscription is on a beautiful seated statue of black basalt, representing a royal relation Se-sebek, born of the lady of the house That (XII, 14). It is quite perfect, and still retains the little original patchings of black clay where the basalt was defective. It was found standing in the corner of a room in the second of the large northern mansions. Unfortunately for me, there were no such statues of the XIIth dynasty in the Ghizeh museum, so this example is now there. The inscription covers the sides, back, and front of the throne seat; it is here given from a hand copy which

I made at the time of finding it, checked on the left side by a photograph, from which Herr Spiegelberg kindly suggested some emendations. The identification of the abbreviation for *suten rekh* on the right side is of interest.

The inscription for Antef-aker (XII, 1) is on the lap of a cross-legged figure in hard black serpentine; unfortunately, the upper part of the figure is lost. It adds another to our list of royal officials; but it is curious that a blank is left at the beginning of the last line, as if it had been intended to fill in the father's name; as it is, the mother's name Nebt-tef, "lady of the father," and the grandmother's name Pepi, are given. A small round-topped limestone tablet bears the name of Mera-ankh (2); it seems as if it had been put in a wall as a boundary mark. The stela (3) is very rudely cut, and the names are of curious simplicity; As, son of Hotep, being the person concerned. A seated figure in hard brown limestone has been much knocked about; the upper part is missing, and the throne seat has been broken in three pieces. The inscription is roughly cut (4), and the names are hardly legible; Heshneb is scarcely intelligible for the man's name; and his mother's is even worse, possibly Sebektes - - anf. A small painted stela (5) records Hekekuta. A part of the base of a small green basalt statue (10) gives the name of Apser; and another of a woman (13) has lost part of the name, which ends . . . menft, born of Henat; with the addition that it was made by her beloved son, the overseer of her house, Khonsu. The stela (12) is painted, with figures roughly cut in relief; it has the usual inscriptions for a priest Amēnisenb, and a lady of the house Mentu. The part of a stela of Anpi (11) is another piece of the side of a stela found last year ("Kahun," XI, 10). The pieces of the shrine and altar of Atmu-neferu (6, 7, 8) have been already mentioned in describing her pyramid. The piece (9) is a part of the list of offerings in the temple of Usertes-en; removed, and left in the town, at an early time. The stamp of limestone (15) is very rudely cut, and illegible at present. The wooden stamp (16) is remarkable, as it seems probably to belong to the Hyksos period by the name, if indeed it is not intended for the Hyksos king Apepi himself. The name occurs however as early as the XIth or XIIth dynasty at Assuan ("Season in Egypt," inscr. 219). Some fragments of writing tablets were found; they are beautifully made of wood, faced with a polished surface of stucco, so fine that ink will not soak into it or stain it, but may be washed off quite clean.

30. The scarabs and clay seals found do not call for any particular notice. They shew well the style of such things in the XIIth dynasty. In one case is an enigmatical name (VIII, 36), which is not yet known in the royal lists. The clay sealings (PLS. IX, X) belong almost entirely to the sealings of boxes, vases, and bags: they bear the mark of the vessel, and of the cord which bound it, on their under sides; some grains of resin found with them make it likely that some of the packages contained resin. Nearly all of these sealings were picked up in two or three rooms of the town, by the small boys of the village who used to hunt over the dust and earth, after the workmen had cleared a room; they sometimes thus found little things which were not noticed in the larger work of digging. A most curious article among the small objects (PL. VIII, 17) is a counting stick. It is not intended for doing operations on like an abacus, but apparently for teaching children. It is made from an old piece of furniture; the holes on the left hand being for fastening pegs. It begins with *nefer*, and then dots for 1 to 9; then 10, and dots for 11 to 19; then 20, 25, and 30 to 90; and lastly the sign for 100.

31. Another measure was found at Kahun this year, of the same standard of the double foot of Asia Minor, divided into 7 palms after the fashion of the Egyptian cubit. It is worn away in pointed form at both ends. The divisions are, butt end 0, 2.96, 6.66, 10.53, 12.41, 14.30, 18.22, 22.12, 25.67 inches butt. The palms therefore, excluding the shortened ends, are 3.70, 3.87, 3.77, 3.92, 3.90 inches; the mean is 3.84, and therefore 7 would be 26.88 inches. The measure found last year which was divided in exactly the same way is 26.43 long; but it is more roughly divided than the present example. The various examples of the Asiatic foot would give a double varying between 26.2 and 26.9; and it is of importance to find it with the foreign inhabitants of Kahun, to the exclusion of the regular Egyptian cubit. As being the origin of all our English land measures, the early history of it is particularly interesting.

32. The weights of Kahun are here all stated together, including those of last year (numbered from 4913 to 4920).

No.	Material	Egyptian Kat (7)		Ch.	Ancient	X	Unit
		Form	Present				
4921	Limestone	15	276.2	..	..	2	138.1
4922	Limestone	65	2878.1	..	..	20	143.9
4923	Limestone	79	1439.4	..	1448	10	144.8
4913	Sandstone, br.	44	17675	..	..	120	147.4

No.	Material	Form	Present	Ch.	Ancient	X	Unit
4914	Alabaster	63-166	2951.3	..	..	20	147.6
4915	Alabaster	15	151.8	..	..	1	151.8
4916	Limestone	166-171	22235.	625	22860	150	152.4
Assyrian shekel (3)							
4917	Limestone	62	3708	52	3760	30	125.3
4924	Alabaster	163	3798.6	..	3799.5	30	126.6
4925	Syenite, gy.	10-54	3946.0	..	..	30	131.5
Attic drachma (7)							
4926	Limestone	cone	1283	..	..	20	64.2
4927	Limestone	cone	133.3	..	..	2	66.6
4928	Limestone	66	3321.5	..	3340	50	66.8
4929	Limestone	cone	263.6	4.4	268	4	67.0
4930	Limestone	cone	540.1	..	..	8	67.5
4918	Syenite, gy.	9	6878	..	..	100	68.8
4931	Limestone	cone	580.4	..	..	8	72.5
Aeginetan stater (8)							
4932	Limestone	171	19100	..	19180	100	191.8
4919	Limestone	54-66	9625	..	9670	50	193.4
4933	Basalt, br.	64	4869	91	4960	25	199.2
4920	Limestone	171	12040	..	..	60	200.7
4934	Syenite, gy.	9-10	6157	..	..	30	205.2
4935	Syenite, gy.	9-10	6167	..	..	30	205.6
4936	Syenite, gy.	9-10	10340	..	..	30	206.8
4937	Syenite, gy.	9-10	6240	..	..	30	208.0
Phoenician shekel (19)							
4938	Limestone	57	8302	..	8310	40	207.8
4939	Limestone	cone	837.8	..	..	4	209.5
4940	Limestone	63	25120	..	25220	120	210.2
4941	Limestone	58	8323	100	8420	40	210.5
4924	Alabaster	163	3798.6	..	3799.5	9	211.8
4942	Limestone	171	8536	..	8550	40	213.7
4943	Limestone	82	1960.5	190	2150	10	215.0
4944	Syenite, gy.	9	8609	..	..	40	215.2
4945	Basalt, bk.	169	4489	..	..	20	224.4
4946	Limestone	66	25360	1640	27000	120	225.0
4947	Limestone	cone	902.0	..	..	4	225.5
4948	Limestone	171	8735	300	9030	40	225.7
4949	Syenite, gy.	2	4580	..	..	20	229.0
4950	Limestone	57	56890	1110	58000	250	232.0
4951	Granite, red	44 tall	11650	..	..	50	233.0
4952	Syenite, gy.	9	4685	..	..	20	234.2
4953	Granite, red	65	47290	..	47400	200	237.0
4954	Alabaster	63	480.6	..	..	2	240.3
4955	Alabaster	63	2418.0	..	2426	10	242.6
Eighty grain (1)							
4956	Limestone	171	3142	..	314.3	4	78.6

Some of these weights bear marks, beside those noticed last year. No. 4924 is entered twice; it is marked IIIIIIIIII, shewing that it is 9 units, or 9 Phoenician shekels; but 9 is such an unlikely multiple that I think this is an after attribution, and that it was probably an Assyrian half mina, under which I have also entered it. 4942 and 4948 are both marked NN, and divided by 20 they yield double of the Phoenician shekel, which must have been the unit reckoned. The limestone cones 4926 to 4931 are very roughly chipped, and I was doubtful if they could be weights; but the manner in which they are multiples of one another is far too unlikely to be mere chance, and so

most of them appear as of the Attic drachm. Some attributions may be rather beyond the range of the standards here, but are vouched for by similar weights; 4931 cannot be separated from 4930, nor 4939 from 4947. 4954 has 11 on the top of it, shewing it to be 2 shekels. The one example of the 80-grain unit, 4956, was said to come from Kahun, and the form is like other Kahun weights, and unlike those of Gurob; but it is the only instance of this unit before the XVIIIth dynasty. The preponderance of foreign standards is very marked; not a sixth are Egyptian, and even those are all of soft materials unlike Egyptian weights.

33. Lastly we will notice the groups of objects found at Kahun, but belonging to the sparse occupation of the place under Amenhotep III. Only some rooms in the western workmen's quarter appear to have been inhabited then; as only one object of the XVIIIth dynasty has been found elsewhere, except with some few burials in the east part of the town. Everything dated has been of Amenhotep III, except one scarab of Amenhotep II; but there is scarcely any pottery of the XVIIIth dynasty, and the place seems to have only been re-occupied very slightly at this period.

The group of tools on PL. XIII (21-31) was found in a house at the east end of the fourth street of the western quarter, marked 7 in the plan. It is dated by a papyrus of Amenhotep III, which was wrapped up in cloth, and placed in the pottery cone (XIII, 30). This cone was struck by the pick, and broken across, severing also the cloth and papyrus, which was moreover in a very brittle state. By careful handling I succeeded in getting it home and unrolling it, with only the loss of one or two small chips. The bronze tools are remarkable for being broken intentionally; the hatchet (22) is only half here; the knives (24, 25) are both broken, and the handle of one bent over; the lance head (26) is broken, and several pieces of cut up bronze were found also. The only complete bronze is the chisel in a wooden handle (27). Of wood there were three hoe blades (21), a *nen* handle, a mallet (23), a bent piece, and a strip ribbed ornamentally on each side. A large stone ring-stand, for a jar, was not brought away. Two Egyptian pots were found of coarse brown ware, a pilgrim bottle of smooth polished drab (29), and a Phoenician vase (31) of dark brown with white strips. This last is very valuable as giving us a dated example. The little amulet (28) found with these, is, from its colour and work, doubtless of the same age.

Another such Phoenician vase was found with several large balls of thread and some hanks, wrapped up in cloth, accompanied by a scarab of Amenhotep III; so the age of this pottery is well confirmed.

A third find of this age was in the second north mansion. There one of the rooms of the XIIth dynasty had been refloored at a higher level, on the top of 4 or 5 feet of rubbish; and the wooden tripod cup and scarab of Amenhotep III (VIII, 21, 22) were there found.

The fourth group of this age was in the third street of the western quarter. Here were found together a large lion-hunt scarab of Amenhotep III, of the usual inscription, and fine blue glaze; a lion in wood gilt (VIII, 20) which has been broken from a group in which it stood resting the fore-paws on some object, exactly in the attitude of the celebrated lions over the gate at Mykenae; a glass heart blue, yellow, and white, of the regular style of the middle XVIIIth dynasty; a fire stick with burnt end (VII, 24); a wooden drill head, reel, a piece of unknown use (wider than XIII, 9), and a sickle handle; also a pilgrim bottle of polished drab, and pieces, two flints, and an old alabaster kohl vase of XII dyn.

Three other deposits which are probably of this age were three small fine green scarabs found with a burial in the S.E. streets; a burial in the sixth north mansion with beads, Bes pendants, &c., of the mid XVIIIth dynasty; and a basket with beads and a bronze ring, "Ptah beloved of Ma," found in the 1st (northmost) line of houses in the western quarter. Another burial of the XVIIIth dynasty was described in "Kahun," page 44.

CHAPTER IV.

MEDINET GUROB.

34. In the previous season only a part of this site had been touched; but this season's work has nearly exhausted it. As I was fully occupied with Kahun, I handed Gurob over to Mr. Hughes-Hughes, who was out in Egypt with me. This work then was under his care; and beyond shewing him the ground, and making a plan of the remains after the work was over, I had no responsibility about it. While at work he found the long walls of the southern inner enclosure; but unfortunately the walls of the northern—or temple—enclosure were not traced throughout

during the work, and the western end of it is very uncertain. The columns are marked here in outline by analogy from six bases, found in my first season's work, which are marked solid black. The outer square wall was also traced and surveyed in the first season.

The design of the plan (PL. XXV) evidently was a temple in an enclosing wall; surrounded by a great square enclosure, which also comprised another space similar to the temple area, side by side with that. The only dimensions which appear to be laid out in round numbers are the breadth of the temple area, which is 100 cubits of 20·7 inches, and the length of the forecourt of the temple, which was the same as the breadth. Probably other rows of columns stood in this temple, beside those marked here; but this ground was not exhaustively turned over; and as those lines marked are dependent on only two bases of each row being found, it is very likely that no trace would be left of other lines. The axis is marked by the middle between the walls; but it coincides exactly with the doorway. The southern enclosure may have had other doorways, but only those marked were observed. Nearly all the dwellings of the town are restricted to these two inner enclosures; and most of the square outside of them is bare sand, with only occasional buildings. It will be noticed how the dyke, which protects the Fayum, joins the desert edge almost in a line with the axis of the temple, and the entrance. Doubtless the temple was placed facing the end of the dyke; and a slight displacement of the bank, by re-lining it, accounts for the difference. The end of it has been further diverted to the south in later times.

35. So far as the history of the place can be traced, it is very nearly what I had supposed last season; but we can now be rather more definite. The temple was founded by Tahutmes III; and nothing whatever of earlier kings has been found here. So far as we can judge, all the three enclosures belong to his time. Within forty or fifty years of this, at most, there is evidence of the foreigners being here, Aegean pottery being found under Amenhotep III. Khuenaten cut out the name of Amen in the temple. Probably Tutankhamen was the king who reinserted the name of the Theban deity. Still the temple stood, and the foreigners were here. Then we find the temple nearly all carried bodily away; hardly any of the stones are left, and no chips to speak of; it was not therefore cut to pieces by small workers for miscellaneous stone, or there would be strata of fragments as at the

Labyrinth. As we know that Ramessu II carried away the pyramid casing and temples of Illahun to Ahnas for materials, it is pretty certain that this arch-plunderer swept away the temple of Tahutmes III in the same shameless manner. Probably before his time dwellings had invaded the temple enclosure; and so soon as the temple was removed the people soon filled the space with a mass of houses. As we have before noticed, the town was ruined and deserted under Merenptah, the range of kings' names on amulets coming suddenly to an end, doubtless by the expulsion of the foreign inhabitants in the Libyan war. But some slight occupation existed under Ramessu III, as his name has been found in two or three instances.

36. A very remarkable custom existed in this town, which I believe is unknown as yet elsewhere in ancient Egypt. In many instances the floor of a room has been taken up; a hole about two feet across and a foot deep was dug in the ground. A large quantity of distinctly personal property, such as clothing, a stool, a mirror, necklaces, kohl tubes, and toilet vases of stone and pottery, were thrown in, and then all burnt in the hole. The fire was smothered by potsherds laid flat over it; and lastly the floor was relaid. Such was the arrangement of one instance which I examined in detail; and such is indicated by the state of the things in other finds, and the accounts given by Mr. Hughes-Hughes and by the native diggers. It is evident that the objects buried are such as belong to an individual personally, and not to a household. No bones were ever found with the burnt deposits. These were not therefore funereal pyres. Yet we cannot imagine a general custom of burning and burying valuable property, except on the death of the owner. I conclude therefore that there was a custom among the foreign residents of burying the body in the Egyptian fashion, especially as I found light-haired bodies in the cemetery; and that the personal property which would have been piled on the funereal pyre in the Mediterranean home of the Akhaisians, was here sacrificed in the house, and so put out of sight. In most instances Aegean pottery was found in these deposits, an evidence of their belonging to the foreigners.

37. We will now notice such groups of these burnt remains as bear a date. On the upper part of PL. XVII is a group of the time of Amenhotep III; it is dated by a kohl tube (20) with part of his cartouch, . . *ma neb*, and that of a daughter of his Hent-tai-neb, who is otherwise unknown. The signs are

inlaid in the violet glaze, in the fashion peculiar to this reign; and from the colour and manufacture, as well as part of the king's name, it would be impossible to assign it to the daughter of Ramessu II, or any later princess of the name. Of pottery there are several types of Egyptian make (1, 2, 5); and one both in form and duplication evidently influenced from Syria (4). There were five examples of the false-necked vases of Aegean ware (3) with iron glaze bands; all of them of this tall globular type. The blue glazed ware has often the pattern but faintly marked (7, 8, 11, 22); but sometimes it is very clear, and thin-lined, as in the pilgrim bottle with a winged Bes (9), and the tubular vases (13, 21). The tube (14) is quite plain. The ring (16) has an eye for the bezel. Of alabaster there were fragments of some dishes like (41); and the complete vase and saucer (6, 10); also ear-studs (17, 18). The two bronze tools (15, 19) are constantly found in these buried groups; almost always the two, and never any duplicates. Dots are here put around the cutting edges. Whether they were used for feeding, for attending to the person, or possibly in the process of embalming, we cannot yet determine. In one case (XVIII, 3) they were tied together, with a needle, by thread bound round them. The gradual change in the form of the lower end of the knife (19) should be noted. Here it is only widened out. Later, under Ramessu II, it became spread into two flanges (XVIII, 3, 38). Lastly, under Seti II, the flanges recurve backward into hooks (XIX, 18). A whetstone (12) is found in each group. A mirror was found with this, as with most other groups; but as no distinction could be traced between the forms during the XVIII-XIX dynasties, they are not drawn here. All these mirrors were of the usual oblate outline, with a tang all in one, to fit into a wooden handle. The beads are all of carnelian or jasper, now burnt (23, 24); the original order is uncertain as the thread was burnt, but as the grass-hoppers are pierced with two holes, a double threading is suggested. This set is now in the Ashmolean, at Oxford.

The next group is dated to Tut-ankh-amen by the delicate little blue pendants (29) found with it. The pottery is foreign; a pilgrim bottle, probably Cypriote (40), and several pieces of false-necked vases of Aegean pottery (28). The blue glazed ware (30, 43, 44) is painted with broader, coarser, lines than before. Three glass vessels were found; one flat bottle (35) with yellow veins on a purple ground; part of one conical bottle with yellow veins on a blue-

black ground; and part of a conical bottle (37) with yellow and white veins on a light green ground. The skill of this glass-making is surprising. The veins are completely imbedded, and the surface is as bright and smooth as if polished, entirely by semi-fusion, without confounding any of the finest filaments of colour. Ear-studs (34) and earrings of shell (32), and jasper (33) were here; as well as several stone finger-rings, of white felspar (36, 39) carnelian and haematite (38). The alabaster dish (41) of a fish form was burnt to lime; there was also a bottle (42), and a small cup (31). The beads were in great numbers, of which all the types are shewn here; the little figure pendants (25) in blue, the flat ribbed cone beads (26) of red glaze, and the amulet beads of blue glaze (27). This set is now in the glass department of the British Museum.

The next group is of Ramessu II (PL. XVIII), dated by a kohl tube with his cartouches (6). From the similarity of the glass to that of Tutankhamen, it is probable that this belongs to the earlier part of the reign of Ramessu. The pottery is mostly open saucers (1, 9, 11), of which there were several. The blue glazed ware is coarser than before (2, 4, 5, 6, 8, 10, 12), and inferior in colour; the imitation shell (12) is however of violet glaze, and looks as if it was an old heirloom from Amenhotep III. The sphinx bowl (PL. XX, 4) is very curious in its style, as female sphinxes are very rare, the more so with wings. The bowl (2) with the monkey is an interesting bit of caricature; the idea seems to be that the captives were so low that they had to dance to the monkeys of Egypt, instead of the monkey amusing the man. Several blue glazed rings were found, one with a bezel of Bes (14), the other with the cartouche of Ramessu II (20). The glass is of fine quality; the flat bottle and bowl (13, 18) are of almost transparent amethyst glass inlaid with yellow and white; the flat bottle (19) is of blue-black, with yellow veins; the two little bottles are of green inlaid with yellow, white, and black. There is also a heart of violet glass (26). The alabaster is of the types seen earlier (22, 23, 25). The beads are all of stone, jasper or carnelian, but clumsy in form.

The next group is also of Ramessu II, but probably of the end of his long reign, dated by his cartouche and that of queen Nefertari (31). The pottery is coarser and poorer; many of the cups (55) are found, and the coarse jars (57); the three-handled vase (51) appears for the first time, it recurs under Seti II with a shorter neck (XIX, 11), and still taller

in the body, under Ramessu VI (Tell el Yehudiyeh XV, 11) : the wide jugs of earlier times (XVII, 1, 6) have become narrow and pointed in form (62) as at Tell el Yehudiyeh ; the other pottery (45, 54) now appears for the first time. The foreign pottery is of the false-necked vase (52), large, coarse, of Egyptian ware, and evidently an imitation of the real Aegean pottery. The pilgrim bottles (58, 59) have developed ; and one is in dark greenish blue glaze (61). A remarkable bronze dish (53) and bucket (60) were found here ; both are hammered to a marvellous thinness, with a thickened brim, but both sadly contorted by the fire and pressure. There are also many needles (36, 37), tweezers (34, 35), prickers (33) and two razors (44) of bronze. The alabaster follows the forms of the pottery (43), and is also made into clumsy figure vessels ; a girl with a dish (28), and a duck with wooden wings painted (27). Of wood there is a statuette of a queen (42), two polished trays (49), a kohl reed (41), and pin (40), besides a bronze kohl pin (39) and two combs (one nearly burnt away) with a horse drinking (46), carved on the back. The usual jasper earrings occur (29), and alabaster ear-studs (47) ; the beads are mostly of glass (30), the eye beads of black, white, and yellow being the commonest. The rude pendants of Bes and Taurt (31), cut in stone and blue glazed, first appear here ; and that style lasted down to the XXIInd dynasty. The carnelian is cut also into coarse pendants such as the Horus (48). The eye with the cartouches of Ramessu II and Nefertari (31) is broken and worn, so it cannot have been new when buried, but the long reign of Ramessu II would give quite time enough for its deterioration. The large black glass bead, with white and blue pattern (32) is remarkable. The whetstone (50) was probably used for the bronze knife (38).

The last dated group is under Seti II (PL. XIX), dated by a little tray of black steatite with his name. The pottery is more debased, and most of it like that of the latter Ramessides at Tell el Yehudiyeh. This close connection of the pottery of the Fayum and Delta is of value, as shewing that the same styles, in every detail, were prevalent over large areas, and probably over the whole country, at one period. The pottery is coarse brown (1, 3, 5, 6, 8, 11, 12, 13), and polished red faced (2, 4, 7, 9, 10, 15). Some is of foreign form, such as the false-necked vase (12) but of native ware, and evidently made by a potter who had lost the feeling of the original type. The same may be said of the pilgrim bottle (17). Blue

glazed ware occurs, as the pilgrim bottle (14), and the very coarsely painted bowl, (26). Alabaster is of very clumsy forms, (20, 25) ; and if better (as 19, 27) the type is a mere degradation. Blue finger rings abound, (21, 22) ; and beads are very coarse, in glass and pottery ; or apparently old descended necklaces of jasper (24). The little dish is curious ; the sides are roughly engraved with Ptah, the king slaying an enemy before a god, the names of Seti II, and a scarab beetle (23).

38. We will now briefly recapitulate the consecutive changes in various objects, that may be learned from these dated deposits. And though it might reasonably be objected that one dated object might easily last in use for a long time, and be buried with subsequent remains ; yet the sequence that can be traced in these deposits shews good reason for assuming that small things lasted in use for not more than a generation, as is naturally the case. The absence of scarabs here before Tahutmes III, shews the same. In the necklaces we may trace sometimes the patched-up sets of two or three earlier periods all put together ; but this is not commonly the case. We have noticed the changes in the form of the bronze knives, gradually widening and turning up at the butt. The beads here are entirely carnelian under Amenhotep III, though probably violet and black glass beads were already made ; they are of pottery under Tutankhamen ; of clumsy stone early in Ramessu II ; of glass, and coarse glazed stone, late in Ramessu II ; and of very coarse glass, and pottery glazed, under Seti II. The blue glazed vases also deteriorate : the lines are fine and thin under Amenhotep III ; coarse but good colour under Tutankhamen ; coarse, and poor colour, much green, under Ramessu II ; and very rude under Seti II. Glass bottles are as old as Tahutmes III we know from other sources : here they appear under Tutankhamen and Ramessu II. The pottery becomes coarser, poorer, and of exaggerated forms as time goes on. The false-necked vases can now be well traced ; beginning in a globular form, of fine Aegean ware, with iron-glaze bands, under Amenhotep III ; next flatter in form during the end of that dynasty, with discs surrounded by dots ; tolerably imitated on a large scale under Ramessu II ; roughly copied in native pottery under Seti II ; and of very rude style in native clay, under the later Ramessides (Tell el Yehud.). To displace this dating by a century, every stage of this history would need to be altered ; the sequence is quite regular so far as Egypt is concerned ; and if the type came down to later times in other

countries, it must be similarly proved by dated examples in those localities.

39. Turning now to the objects found without dates, the blue bowls are shewn in PL. XX. Nos. 1 and 2 were found together. No. 3 was found with some pottery, Egyptian, and Aegean of the globular form with red bands; a blue glass bottle; two pottery models of trussed fowls, &c. The design is the best drawn of all these glazed objects; the spring of the girl as she poles the boat along to market, with the calf in it, is well rendered, and the dainty turn of the face. The bowl is now brown and black, but was probably violet originally. Another bowl (6) also represents a girl poling the market boat, laden with a bird-cage, and a number of birds on the top; this is of bright clear blue, with dark blue lines, rather faint. The gazelle (5) is drawn with a dry, almost black, line, and great sharpness; the style looks to be the earliest of all those here. The group PL. XX, 7-15, was found together, and is of the end of the XVIIIth dynasty by the style. Two fine Aegean vases (7, 9) occur: pottery (13, 14): alabaster (8, 15): a small flat glass bottle (11) of blue, green, yellow, and white, with three handles, and originally joined to another at the side: a conical glass bottle (12) with yellow veins on bright blue: a bronze conical vase (broken), and a pair of hinges of bronze, which interlock when closed, by a part of one fitting into the other half, so that the door could not be prised upward; this is just the principle of the blocks on the doors of modern safes. The pottery with this find was of the types "Kahun" XX, 15, 32; XXI, 59; and here PL. XIX, 2, 4, 6, 7.

Among miscellaneous objects (PL. XIX) there are of bronze, an adze (28); a spoon (29) said to be found at Gurob, and by its patination apparently of the time of the town, it is not broken, but flat ended; a small knife (30), beside other large ones of the types "Kahun" XVII, 29, 33, 50; a knife with swivel back (33) bound round with thread; two lance heads (31, 32); a supposed razor (40), which it has been suggested is for skinning or flaying, to judge by the place of the edge (dotted around here) and the curve of the handle; also an outline of a goose in bronze (34) with two tags at the back twisted together, perhaps for a brand. A pair of alabaster vessels were found together (41, 42) one with a curiously rough design of dancing goats, which recalls the style of Greek island gems. Another alabaster vase is very clumsy (36). The name of Thii occurs on a knob for a box lid (38), inlaid in light blue on a dark blue ground. The little panel

of wood (35) from a box has a lotus pattern, which strongly suggests an original for the so-called "palmetto" of Greek design. The part of a wooden wand (39) is inscribed with the name of "Hu (the god of taste) son of the *kas* of Urthekau," a rather enigmatical phrase; but as Urthekau was connected with magic, it is possible that these wands were for ceremonial use. The strange figure (43) is from Abusir, in the middle of the Delta; I bought it in Cairo. It is of light drab pottery, hard, and well baked; the lower part is identical with the Greek island figures of marble, and its line divisions are evidently copied from such a figure; but the head bears the Libyan lock of hair. It appears therefore to be a Libyo-Greek product, from the time of the invasions of Egypt by those races jointly, and therefore probably of the age of Gurob, or a little later.

On PL. XXII are three curious pieces (1, 2, 3) like those found in one class of Cypriote tombs. It has been proposed that they were used by being tied on to one edge of a garment by the middle hole, and then slipped through a small hole in the opposite edge, and drawn back like the swivel of a watch guard; this seems the most likely explanation. The date of them may be put between 1200 and 1400 B.C., being found at Gurob. The rings of blue glazed pottery (4) or of alabaster (6) were sometimes inlaid with small bits of jasper. The charming head (5) is carved alike on both sides of a flat slip; it probably was the handle of a tray. The rings (9, 10) are interesting as shewing that lead and tin were separated as metals thus early; the tin ring was found with glass beads which are probably not later than the end of the XVIIIth dynasty; it has been analyzed by Dr. Gladstone who reports it to be pure tin, without perceptible alloy. The group of jewellery (11, 12, 13, 14) was found together: the little porcelain frog (13) dates it to about Amenhotep III; so the triple ring of electrum (11) set with haematite (?), the haematite (?) scarab in gold setting (14), and the gold eye with Ra on it (12) all probably belong to this age. Of bronze there is a small chisel (7), a pin (8), earring (15), fish-hook (16), weight (17), nail (18), and rivet with two washers (30). The draught men (19, 20) are of glazed pottery, as also the blue plaque of Isis (23). The slip of ivory carved with a vineyard on a wall (21) is probably part of a larger scene, cut down to a netting bone. The ivory slip (22) has been painted in the rosettes. The stud (26) is formed of limestone, faced over with a disc of ostrich egg; such was not uncommon at this period. The bead (27)

with the name of Tahutmes III is of opaque blue glass. A spirited rough outline (25) has been scratched on a piece of pottery before baking. The inscriptions (24, 28) are cut on slips of wood, from some inlaying of boxes; (31) is on a separate piece of wood; and (32, 33) were on slips found together, referring to the eastern and western house of Ramessu III in the Fayum, an expression that might refer to Illahun and Gurob as being on the opposite banks of this branch of the Nile.

Of the scarabs and rings (PL. XXIII) there is no need to say much. It is strange that a scarab of Pepi should turn up at Gurob; it is the only one there earlier than the founder of the town Tahutmes III, and this absence of the earlier kings of the XVIIIth dynasty incidentally shews how soon scarabs dropped out of use after they were made. No. 21 is a new variety "beloved of all the gods of the palace." No. 45 is a curious ring with young Ramessu seated on the *nub*, in relief on the bezel. The unnamed scarabs are arranged, as nearly as can be judged, in their order of date.

40. The inscriptions from Gurob (PL. XXIV) are all of the XVIIIth dynasty. They are drawn here on a uniform size of sign; while the actual dimensions of each piece are stated in inches. The large lintel slab of Tahutmes III is from the temple which he built; and which, to judge by this, must have been well decorated. The left hand side of it, bearing hieroglyphs reading in the more usual direction, was done by a skilled sculptor, while the other half was copied by a pupil who shews very inferior ability in both outline and details. This is now in the Adelaide museum. The black granite altar is of special interest. Though roughly cut it seems to have belonged to a class of funerary offerings made for Amenhotep III by his celebrated queen Thii. It follows the usual formulæ to Osiris, for the royal *ka* of Amenhotep III, down each side; and then along the base is a line stating that "The great royal wife Thii made her monuments of her brother, her beloved, the good god Ra-ma-neb." The question of the parentage of Thii is one of the most important genealogies in Egyptian history. In every other case that we can prove, the queen through whom the royal descent entailed was herself of royal family. But Thii is stated to have been the daughter of Iuaa and Tuaa. Here however she is the sister of Amenhotep III. Her parents therefore would have been Tahutmes IV and Arat. And she has the title of inheritance, "princess of both lands," on a colossus

at Thebes. Either then Iuaa and Tuaa were the familiar names of Tahutmes IV and Arat (as every Egyptian had a great and little name), and Thii was thus sister to her royal husband, as were most of the other queens; or else these titles of sister, and "princess of both lands" were purely formal. It has been claimed as being formal in other cases, but that is very doubtful; unless it can be shewn that a queen was not of the royal stock, her possession of them is no proof of the formality of these titles. So strong does the principle of female inheritance of the throne seem to be in many crucial cases, to the exclusion of male inheritance, that the presumption is that Thii was really the sister of Amenhotep as here stated. The slab from Gurob (9) with the *ka* name of Amenhotep IV is a variant on the known forms; it seems to shew that some large buildings or repairs to the temple were made in his time. Some building also went on in this district under Khuenaten; as in a tomb at Illahun a block of sculpture (10) was found reused, which represented Khuenaten (tattooed with the names of Aten) holding his daughter Ankh-sen-pa-aten; while an offerer in front worships the disc, which is figured as an Asiatic rosette with pendant streamers, and would seem more in place on a Babylonian monument than in Egypt. This block is now in the University of Pennsylvania. The little tablet (11) representing a royal scribe Ra-mes-m-pa-amen adoring Tahutmes III, is probably of the XVIIIth dynasty, in spite of the Ra-mes name.

41. The cubit (12) is of wood, inscribed all along; one end has been broken away about 1.3 inch, at a knot in the wood. The inscription contains the titles of Tut-ankh-amen and his queen Ankhsamen. The dimensions of the cubit are .94 × .63 inch, with bevelled edge as usual; in the remaining end is a round hole, .32 across and .36 deep, with flat bottom; it seems as if intended to hold a stud to give an accurate terminal to the cubit. The divisions are roughly cut, being at (end) 0, 2.80, 4.16, 5.75, 8.63, 10.08, 10.97, 11.70, 14.70, and 17.77 inches. The palms therefore between the cuts (excluding the butt end) are 2.95, 2.88, 3.07, 3.00, 3.07 inches, which would indicate a cubit of 20.96; or if the butt end lost were of the same length as that remaining the total would be 20.57 which is nearer the probability. No accurate value can be deduced from this therefore.

42. The weights found at Gurob are here stated along with those found last year (numbered 4899 to 4912) so as to give a complete view of the metrology of the place. The arrangement of the table is similar

to that of the previous publication of weights in "Naukratis," "A Season in Egypt," &c.

CHAPTER V.

THE TOMB OF MAKET.

No.	Material	Form	Present	Ch.	Ancient	×	Unit
Kat standard (12)							
4958	Syenite, gy.	11	5623	..	..	40	140·6
4899	Syenite, gy.	117·174	1412·0	..	..	10	141·2
4900	Basalt, br.	38-43	1416·6	..	..	10	141·7
4959	Alabaster	86	5682	..	..	40	142·0
4901	Alabaster	79-110	284·6	..	..	2	142·3
4960	Lead	64	142·9	2?	..	1	142·9
4902	Syenite, gy.	2-10	3592·8	..	..	25	143·7
4903	Syenite, gy.	54	5748	..	..	40	143·7
4961	Haematite	2-4	720·1	..	..	5	144·0
4904	Basalt, br.	48-49	1472·3	..	..	10	147·2
4962	Syenite, gy.	2-4	5890	..	..	40	147·2
4963	Haematite	49-52	149·3	..	..	1	149·3
Assyrian Shekel (7)							
4905	Haematite, bk.	49	363·9	..	..	3	121·3
4964	Basalt, br.	62	2487·1	..	..	20	124·4
4906	Haematite, bk.	52-82	62·7	..	..	$\frac{1}{2}$	125·4
4907	Lead	63	2523·2	30	2530	20	126·5
4908	Haematite, bk.	49	127·3	..	..	1	127·3
4965	Calcite	48	63·9	..	..	$\frac{1}{2}$	127·8
4966	Syenite, gy.	2-38	2556·1	..	..	20	127·8
Attic Drachma (5)							
4909	Syenite, gy.	54	2625·8	..	2626	40	65·6
4967	Sandstone	84	2635·6	..	..	40	65·9
4968	Bronze, Pl. xxii, 17	133·1	1·5	132	..	2	66·0
4910	Alabaster	16	3305·8	..	..	50	66·1
4911	Lead	52-108	415·6	12	408	6	68·0
Aeginetan Stater (4)							
4912	Lead	108	179·0	16	192	1	192·0
4969	Limestone	56	12180·	..	12181	60	203·0
4970	Syenite, gy.	11	8190	..	8230	40	205·7
4971	Sandstone	84	2081·7	..	..	10	208·2
Phoenician Shekel (2)							
4972	Syenite, gy.	2	5294	..	..	25	211·8
4973	Basalt, br.	62	1380·2	..	1381	6	230·2
Eighty grains (2)							
4974	Syenite, gy.	117	1568·8	..	..	20	78·4
4975	Haematite	49	157·0	..	157·3	2	78·6

The foreign character of the weights here is then well maintained by the larger number we have now got. Only $\frac{2}{3}$ of all the weights are on the Egyptian standard; and of those nearly half are of the foreign materials, alabaster, lead, and haematite. Thus only a fifth of all the weights are regular Egyptian: and there is not a single example of the typical domed form. The Phoenician weight No. 4973 might at first seem to be a low variety of the uten; but it is marked O IIIII, 6 units, proving it to belong to the Phoenician system. This is similar to two weights from Gebelen, which are of the same rectangular form, one of 1473·3 marked IIIII, the other of 14700 marked OOOOOO; giving units of 245·5 and 245· grains, or the same Phoenician standard.

43. This tomb is in the town of Kahun. Many of the houses of the XIIth dynasty there have rock cut cellars, which were closed by massive trap-doors of wood, recessed into a seat and hinging in the stone. One of these cellars became known to people of the XIXth dynasty, and they cleared it, and probably enlarged it, to form a family tomb (see plan in corner of Pl. XIV). The first and last chamber is cut in the rock alone; the middle chamber is roofed and lined with blocks of fine white limestone. One of these roof blocks broke across, and fell on the coffins, somewhat crushing them; this entailed a very difficult matter, of shifting the block weighing many hundred-weights off from the coffins, without any firm foothold to stand on so high up (as it lay on two coffins one on the other), and a risk of its falling over on one by the whole mass of half rotted coffins giving way with the weight in shifting it.

The tomb chambers contained in all twelve coffins, beside two boxes for babies. These coffins were mostly stacked two deep, and nearly filled the two inner chambers. When we first opened this tomb I was on the spot watching it; and the entrance to the middle chamber was so blocked by two coffins one on the other that it was impossible for any one to pass. I only allowed the principal lad of the party to come below; and then—half stripped—I set to work on the clearance. Nothing was moved in the whole place, except by my own hands; everything as moved was noted as to its position, and handed into the outer chamber to the lad, who was a trusty fellow, the same who worked Horuta's tomb. Thus there was no confusion, and I worked on steadily nearly all day, opening the coffins and recording all the things as they lay. The burials had evidently been successive, and things had been shifted to make way for the later comers. Each of the box coffins contained several bodies, some holding five or six, piled one on the other. The coffins were in tolerably firm condition; but the bodies and wrappings were all reduced to black powder which crushed up with a touch. The work was hardly cleaner than a chimney-sweep's. I was streaming with perspiration, and coated with black sooty dust of the mummies and cloth. Most of the small objects were found in oval baskets of the Nubian type, with woven patterns on the sides, and a ridge lid. These baskets were all too much rotted to

remove : but they sufficed to keep the beads together while I picked them out.

From the positions of the coffins we can trace with tolerable clearness in what order they had been placed here. As they contained in all about 40 or 50 bodies, and as this tomb probably belonged to one family, it must have been added to for a considerable time, perhaps a century. Hence the earlier burials may contain things of a different period to the later. The coffins therefore are here numbered and described in the order of their age, beginning with the oldest.

44. The first must almost necessarily be that at the back of the innermost chamber, and the lowest of the two there. This coffin 1 contained the scarabs XXVI, 1 to 5, and the pottery figure on a couch, XXVII, 12 ; the group of sample beads, 3, is part of a larger number. The general style of these is of the end of the XVIIIth dynasty, and the scarabs 2 and 4 are of the XVIIIth. No. 5 is evidently an old one of the XIIth rediscovered. The black and green beads at the ends of the string are however later, belonging to Ramessu II or after, so that the other things must have been old when buried. This is very probable as the XVIIIth dynasty pendants are rather an odd lot, and not like an original and complete necklace. The back of scarab 2 is formed as the vulture crouched down, and not as a scarabaeus. This coffin on the whole may be of the reign of Ramessu II.

The next is probably that placed in front of it ; for though some objects lay on that coffin so that the upper one, 3, could not have been pushed over it, it is likely that they had been replaced there after putting 3 in position, as they were roughly set about. Coffin 2 contained nothing besides the bodies. On the lid of it was standing a basket which had contained a small alabaster jar, (XXVII, 3), which had fallen out and broken ; also the very curious model of a stopped horn, (XXVI, 50) made of green paste ; a flat dish (XXVII, 8), also of green paste ; a quadruple kohl pot of wood too rotted to keep ; and a large round bead of yellow glass.

Coffin 3 was placed on the top of No. 1. It contained nothing besides the bodies. In the N.W. and S.W. corners of this room, and along the S. side, there was Egyptian pottery lying about, of the general character of XXVII, 40, 42, 49, &c. The chair (XXVII, 45,) was lying turned up on its side in the S.W. corner with both of the front legs wholly removed, and not to be found in the tomb ; it had evidently been "killed" before burying it. As it was not strong enough to move in one mass, I took it to

pieces (about 40 parts) for transport. Every piece I afterwards soaked in melted wax to preserve it ; this of course darkened it, but prevented further decay.

Coming now to the main chamber, the order of the coffins must have been either No. 4 or No. 5 first ; then the other ; then the figure coffin put in at the back ; then 4 and 5 set to the sides and room made for 6, the coffin of Maket, which must have been last introduced as there is no room to turn a coffin from the door to the side. Then later 8 and 9 ; and probably 10 last of all as it lies on the most important coffin,—Maket's. No. 11 was then put in the passage as there was no room further in ; and lastly 12 was set upon it.

Coffin 4 was roughly painted with Isis and Nebhat at the head and foot of it. It contained a brown serpentine vase, (XXVII, 2) ; and in a basket the kohl pot of brown steatite (XXVI, 48,) with a figure at the side.

Coffin 5 contained five or six bodies, with them was a long walking stick ; a throw stick, (XXVII, 43) ; a folding head rest, (46), which probably had a band of linen to retain the two ends and to serve as a support for the head : a basket containing two pottery vases and an alabaster vase of the early form, (XIII, 1), but coarse and clumsy ; and the black limestone kohl pot on legs (XXVII, 10). On the second body were two hollow gold earrings, (XXVI, 11) ; unfortunately I did not see their exact position, whether on the ears or the hair, as they fell out of the crumbling wrappings as soon as the body was shifted.

Coffin 6 was a figure coffin, roughly cut to the outline, and with a face carved on it, but not coloured. It contained nothing but one body. Behind it lay a small box with slips of ivory on it, rather rotted. And in front of it were two boxes, with double sloping lids, like a roof ridge ; these contained babies, but were much rotted, and could not be preserved.

Coffin 7 was the most important of all. It contained the body of Maket ; with a gold scarab of hollow work (XXVI, 9) ; a silver scarab set in a gold ring, (7) ; and a silver ring, (8) ; all inscribed with name of "the lady of the house, Maket" ; also a scarab set in a ring, (10) ; and a pair of moulded paste earrings with rope edge, (6) ; a bronze mirror, (46), and kohl stick, (49) ; a large reed containing two small musical reed pipes (XXVII, 22, 23, 24) ; a head rest inlaid with ivory studs ; a Phoenician vase (XXVII, 19) ; and the foreign vase, (27), in a basket. There were several other bodies in this coffin also.

The heaps of objects in the S.W. corner must be

of about this period. They probably belonged to the preceding interments, and were shuffled off the coffins when fresh coffins were placed upon the lower ones. The scarabs, &c, in this heap are in PL. XXVI, 12 to 23. A small wooden box contained 12, 13, 14, a green glass plain cowroid set in gold, and some of the smallest beads (15) that I have yet seen; as many as 93 go to a grain weight. Of green paste there are the lions' heads, (18), for forming the ends of a collar; a large number of flat beads, (17), of green and of blue paste, some of which were stuck together in rows, as here drawn. A large number of green ribbed beads, (16), were found, some loose, some in a jar. There were alabaster vases (XXVII 4, 5); brown serpentine vases, (6, 7, 13); a green paste vase, (1); three Cypriote pilgrim bottles, (32, 41); two long smooth red vases, (18); brown Phoenician vase, (17); smooth black Phoenician vases (14, 15, 16, 20); and various small vases, (such as 25 to 38, and XXVI, 45). Also a bronze knife, (XXVI, 43); two whetstones; and two lumps of pumice. All these things were mingled together pell-mell, mixed with rotten and broken basket-work which had held the smaller things, and rotted clothes. It was impracticable to secure everything by hand from such confusion; and the smaller objects (XXVI, 19 to 23), with a plain blue scarab, were found afterwards by sifting the dust. The dark green jasper prism, (19), is of very fine work. In the S.E. corner of the room was also some pottery lying about, but mostly large, (such as XXVII, 40 to 51).

Coffin 8 contained at the north end a small basket with lid inverted, holding a wooden kohl stick, a plaque (XXVI, 24), and scarabs (25, 26). At the south end a basket with fruit, and a broken Phoenician vase, (XXVII 16 type). In the coffin was the Phoenician vase 21.

Coffin 9 had a solid wooden headrest on the top of the coffin. Six bodies were in it, and a small basket with beads (XXVI 30), and a cowroid (33); and the Aegean vase (XXVI, 44) at the south end. At the north end a larger basket with wooden kohl pot (type XXVII, 11), wooden kohl stick; stone kohl pot same type; two dūm nuts; and scarabs (27). The scarabs 28, 29, 31, 32 are also from this coffin.

Coffin 10 was figure shaped, and contained one body with a scarab (XXVI, 34).

Coffin 11, in the doorway, was of the pattern of that of Anentursha ("Kahun" XIX) with the four genii and addresses on the sides; but it was coarsely done and the places for the names were left blank on

both lid and sides; all yellow on black ground. There was nothing in it but bodies.

Coffin 12 also contained nothing beside the bodies.

In the outer chamber was a good deal of coarse pottery lying about, much of it broken. In the later sifting and searching of the dust, which was all brought up and examined in sunshine, some more beads and scarabs were found, (XXVI, 35 to 42), the places of which are not known. Also the bronze fishing lance (47), and the cubit, (XXVII, 44) which is the short Egyptian cubit of 17·3 inches, corresponding to 6 true palms, and not to 6 sevenths of the regular cubit of 20·7.

45. We now see how a tomb was continuously used, and how the offerings left for one interment were not taken away, but were pushed on one side to make room for later coffins. The question of the age of this tomb is important, as the Greek and Phoenician pottery was found in it. The broad limits of age are (1) the scarabs which prove the earliest coffin to be after Tahutmes III. (2) The blue glass frog, which is probably of Amenhotep III or IV. (3) The green and black glazed beads, particularly the ribbed ones XXVI, 16, which were not made before Ramessu II, and the ribbing of which shews the first stage of the deep ribbing prevalent in the XXIIInd dynasty (XXIX, 57). These belong to the time of coffins 4 to 7; and by the large quantity of them, appear to have been made at the time of those. (4) There is no pottery here like that of the XVIIIth and early XIXth dynasty; no trace of blue paint, no hard white faced ware, no elegant forms; but on the contrary the pottery here is mostly unknown in Gurob, that is, down to the time of Merenptah. These successive evidences bring down the age of the burials here to at least after the reign of Ramessu II, after 1200 B.C. for the earliest limit of possible age.

Now let us take the evidence for the later limit, which is necessarily negative. (1) There are no examples of the well known pottery of the XXVIth dynasty. (2) There are no figures of Bast and other deities which are so common in the adjacent tombs of Illahun in the XXIIInd dynasty (PL. XXIX). (3) There are no examples of the light green glazes so characteristic of the XXIInd dyn. (4) There are no stone or shell beads so common in the XXIInd dynasty, nor any scarabs of that age. (5) The coffin 11 is of the style of that assigned to the beginning of the XIXth dynasty at Gurob; and is quite different in motive and colour to those of the XXIInd dynasty. Hence this tomb would be nearer to the XIXth than

the XXIIInd. (6) The same is shown by the bronze knife, XXVI, 43.

Thus on the one hand we are brought later than 1200 B.C. ; at least for interments 4 to 7. While on the other hand we cannot come down to the XXIIInd dynasty, 975 B.C. And various things indicate a closer connection with the earlier than with the later limit. As we should probably allow fifty years or a century for the gradual accumulation of these many burials, it seems most reasonable to date them between 1150 and 1050 B.C. ; that is during the XXth dynasty. In any case it is a curious feature that the scarabs must have been nearly all old ones when buried. The latest is of Tahutmes III, or 1450 B.C., and probably contemporary with him, by the style of it : whereas the character of the beads, of the pottery, and of the coffin all shew that two or three centuries had elapsed since the scarabs were made. Either then they were heirlooms, though if so it is strange that none of the common ones of Ramessu II should be mixed with them ; or else they had been dug up in plundering tombs, and reused. The latter is more likely ; and this would agree again to the date of the XXth dynasty, as scarabs were seldom made then, and so no contemporary ones would be likely to be mixed with these.

If then we take 1100 B.C. as a middle date for the Phoenician pottery, and the Aegean vase, it will be reasonable. This consorts well with the dating for other Aegean pottery. The earliest geometrical false-necked vases are about 1400 B.C. ; that early style appears to die out about 1200 B.C. (though no doubt coarser imitations may have been made later in the home of such products) ; and therefore the earliest figure pattern, such as this ivy, may well belong to a century later. This vase is of the same manufacture as two others that were found in Egypt with cuttle-fish ornamentation : they are larger than this but of the same outline (less the handle), and have similar bands and loopy pattern at the top line ; one is in the Abbott collection at New York, the other from Erment is in the British Museum.

The value of the objects from the tomb depends entirely on the complete record of its contents, and the evidence which can be obtained as to their relative positions and ages. Unhappily, such records do not exist for more than a very few of the innumerable tombs that have been ransacked in Egypt. A flood of light on the history of the Deir el Bahri deposit would have been obtained, if we knew what were the positions of all the coffins and the minor objects. At

what time that hiding place was first arranged ; whether the priest-kings had already used it, before bringing in the earlier monarchs ; who was originally buried here, and who was imported from elsewhere ;— all these questions might have been solved if a record of the arrangement of the tomb had been made.

CHAPTER VI.

ILLAHUN IN THE TWENTY-SECOND DYNASTY.

46. After the fall of the town at Gurob, and the desolation of that site in the XIXth dynasty, a town appears to have risen into importance somewhere in the cultivated land. Kahun had been the town of the great dyke in the XIIth dynasty ; after that fell Gurob rose, and was the principal place by the dyke, but at the south of it, instead of the north end ; after that fell another town succeeded to the position of the town of the Fayum dyke. Probably this was at the present village of Illahun, or El Lahun, often called simply Lahun by the people. If it had been further off the burial place would have been on the gezireh or sandy rise of Abusir, and not on the western desert. The rise of desert from the north end of the dyke along to the pyramid of Illahun was then riddled with tombs ; and the older tomb shafts, sunk deep in the rock around the pyramid, were cleared out and reused for burials of this degenerate time. Not many distinct points fix the age of this cemetery. It certainly comes after the XXth dynasty. It as certainly comes before the XXVIth. But few details help to fix it more precisely. The names which indicate a date are Neter-kheper-ra ("Kahun" XXV, 7) recalling Se-amen of the XXIst : Pima (K. XXV 13) recalling Pimai of the XXIIInd : Nekht-bast-ru (K. XXV, 14) probably of the XXIIInd : and Amenardus (K. XXVI) which is probably of the XXVth dynasty. The frequent figures of Bast point to the XXII-IIIrd dynasty, when her worship was prevalent ; and the only scarab with a royal name is Ra-kheper, (XXIX, 33) which is of Sheshenk IV, XXIInd dynasty. The reinstatement of Crocodilopolis by Usarkon I, points to an attention to this district at that time ; and it seems probably that he regulated the water works, and founded the town of Illahun on the dyke to attend to the locks. In any case we may well take the Illahun tombs as being of the XXIIInd to XXVth dynasty ; not a single object of the XXVIth dynasty has been found in the district. In connection with this period

a large wooden door was found in Kahun ; it is 86 inches high, and 43 wide, and $1\frac{1}{2}$ inch thick ; the planks are all tongued together. Along the top and bottom a strap of bronze has passed round the hinge, as if to bind the cross bars on to the back-post ; this was punched with the cartouches and titles of Usarkon I, and the wood was thus so impressed that it can be read though the bronze was removed. On the middle of the side was a large carved scene 20 inches square of Usarkon offering to Neit and Horus ; this has been all scraped and cut away, so as to be hardly traceable. The door was covered with linen, and found lying flat in a chamber of the fourth north mansion at Kahun (see plan, "wooden door"). It must therefore have been removed from some building of Usarkon, and probably sold as old material, having the royal scene erased. Hence some large building of Usarkon I probably stood somewhere in this district. This door was kept for the Ghizeh Museum.

47. The objects from these tombs on PL. XXIX are of about the XXIIInd dynasty ; and represent well the characteristics of that age. The prevalent colour is pale yellowish green or light blue ; the rich blues of the XVIIIth and XIXth dynasties, and the yellows, reds, and violets of the end of the XVIIIth are nowhere seen. But the compensatory quality of the Bubastite school was in modelling rather than in colour. The glazing, though tame and flat in tone, is very skilfully applied ; the surface is just sufficiently coated, but not at all disguised, and the most minute details are not choked. The skill of modelling is seen in the delicate smooth figures (XXIX, 12, 14, 20), and the pierced work (21, 22), which is sometimes astonishingly fine (24). Similar open-work rings are found in a cemetery of the XXIIInd dynasty at Zu welein, near Tanis.

Amulets we also see here appearing for the first time. On the burials of the XIXth dynasty but little is on the body, perhaps a ring, or a single figure which was valued ; and around the body may be a wooden headrest, used in life, a ka-figure, two or three food vessels, and some ushabtis. But in the XXIIInd dynasty the placing of funereal amulets on the body seems to have arisen to the exclusion of all else but ushabtis. In a burial which I should assign to the XXIst dynasty (see further on, sect. 49) there are scarabs but no amulets. But on later bodies are found some large coarse amulets ; on one was a large plain beryl scarab on the chest, and a large lazuli bead on the neck ; and an inscribed scarab of lazuli (*suten du hotep*, &c.) and two headrests of haematite (XXIX,

48) were found in the dust. These early amulets seem to be always coarse and clumsy ; and it is not till the XXVIth to the XXXth dynasties that the love of funeral amulets reached such a pitch of development. The grand series of about 120 on Horuta (now arranged in the original order in the Ghizeh Museum) mark perhaps the highest range of the practice.

The scarabs of this period are different from all earlier ones. The designs are poor and rude, kings' names are scarce, and the colours are all of the poor light greens of this age, the glaze generally perishes. The most marked point in them is the use of long straight lines (see XXIX, 7, 35, 44, 46, 47, 50, 55) ; and the border line, which graces all the early scarabs, is sometimes omitted (as in XXIX, 46, 47, 49). Several classes which are well known in general collections can now be dated from the Illahun examples of the XXIIInd dynasty. Such are the rude square plaques (XXIX, 1, 2, 44) ; the only examples known of kings are of the XXIst and XXIIInd dynasties. The solar bark scarabs, (XXIX, 51, 55) ; the flat pottery ovals with a plain back (49, which has been broken and ground down on the edge) ; the rude deep-cut figures, (2, 28) ; and the groups of circles (1, 29), all appear to characterise the Bubastite time. Another peculiarity is in the use of stone beads (XXIX, 17, 26) of alabaster or calcite. The harder stones, carnelian, jasper, &c., seem to have disappeared altogether from use ; and only these soft bulky, unsuitable beads are found, in harmony with the poor style of the other work. Strange beads of iron pyrites, and of antimony (XXX, 56), also occur. When made of pottery the larger beads are commonly ribbed, or cut into knobs all over, (57). The smaller glazed beads are very poor in colour ; but they tried to make up for that by incongruous uses of them for decoration, threading them into patterns. The mummies of this age are sometimes covered, not only with a diagonal network of beads, but with designs done in coloured beads threaded closely together. The labour of thus producing an ungainly face or scarab must have been immense, and the taste of it is as defective as the colouring. When opening tombs of this age I always cut or drew the pegs, which fastened the coffin lids, as gently as possible. Then, looking in, I saw if there was any pattern beadwork on the body. If there were, the coffin was moved without the slightest shake, as all the threads were rotted out, and the beads lay loose. I then fetched a petroleum stove, and pot of wax ; melting the wax down in the tomb I then slopped out spoonfuls of it over all the beads.

If too hot it sinks in too deep, and sticks to all the bandages below ; it should be just on the point of chilling. If poured on to the beadwork it runs away in a narrow stream ; it needs to be dashed on, sufficiently sharply to spread it, but not hard enough to move the beads. When the coat is laid, and has hardened, it may be lifted up with all the beads sticking together, and then transferred to a tray and fixed in with more wax. This is the only way to preserve these bead patterns when the thread has decayed ; only those with firm thread—found in Upper Egypt—have hitherto been brought to museums. The most usual ornament in beadwork is a winged scarab on the breast, joined in—as such work always is—to the diagonal network which covers the mummy. The most elaborate example that I have seen had a diagonal net on the head, a beadwork face on the face joining to a beadwork collar which again joined to a scarab with wings : then a line of diagonal net and a *ba* bird with outspread wings ; then three lines of diagonal and a *Ma* with outspread wings ; then more diagonal work, and the row of four genii of Amenti, and some unintelligible patterning below that. The glass beads of plain colours have quite vanished ; and the eye beads of Ramesside time (XVIII, 30) have turned into a rather scarce class of blue eye beads, with fine veins of brown and white around the eyes (XXIX, 52, 53).

48. We note also the first appearance of several classes which became very prominent in later times. The Ptah-sokar on the crocodiles (XXIX, 43, backed by Bast, with outspread wings) descended into the large class of Horus on the crocodiles. The head with a wide collar (commonly mis-named an aegis) (XXIX, 16) is very common down to Ptolemaic work. The large *uta* eyes (XXIX, 11, 18, 19), continue to the Roman age. The *menat* counterpoises (22) were often made in the Saite and Sebennyte dynasties. The small glazed figures of deities are very scarce before this time, but abundant in the later ages. Amulets first are found on the mummies now, and hence developed into such a great system in the Saite times. In short, we may go so far as to say that there is a wider gap between the manufactures of the XIXth and XXIInd dynasties—in that space of two centuries—than in any other period of Egyptian art. It is often hard to distinguish between things of the old and middle kingdom, or between the middle kingdom and the Empire ; or between the Saïtes and Ptolemies. But between the XXIInd dynasty and all that went before it there is a profound separation. Whatever

was common in that age continued in some form down to the end of Egyptian art, it was the beginning of the end. But all the striking manufactures of the Empire which had descended from earliest ages seem to come to an end with the Ramessides. Why this great separation should have taken place we cannot yet understand. The old schools must have become extinct in the poverty of the breaking up of the Empire. And the new men of the Delta must have obtained their habits from a fresh source.

49. We will now notice two or three special tombs in detail. In one tomb on the hill at the end of the dyke there was a short well leading to a small chamber, and beyond that another chamber. In this lay four coffins. The earliest naturally was that at the back, a lightly made coffin outlined to the figure, but with upright sides ; a lid on the top with a coloured head and hands : this contained another similar, and inside that a good cartonnage case covering the whole mummy, and with a slit down the back where it was put in. The inscriptions on these were all real, (and not shams as are most of this age) and are given in "Kahun" XXV, 9, 10, 12. This coffin was banked around by chips of rock which cover the floor of the tomb to some depth. Upon this coffin lay a similar one, containing a cartonnage, also inscribed ("Kahun" XXV, 12). In front of these stood a false sarcophagus.

This style of burial was common in that age ; a frame and panelling looking like a sarcophagus stood over the mummy ; but it had no bottom, and stood on legs, and the top was all in one with the sides. It was simply set down over the mummy, which rested on the ground below it. This false sarcophagus was inscribed down the middle of the lid for Horuta, son of Au (K. XXV, 16) in blue on yellow ; the ends had the old curve top sarcophagus design ; the sides were painted in false door panels containing figures ; and the edges and corner posts were all painted with inscriptions like that on the lid. Beneath this there lay a white cartonnage covering inscribed around the feet, and with a very deep necklace painted on it covering the body. In front of this was the last burial, a plain white lightly made figure coffin. There were no beads or amulets of any kind with the burials. The bodies and bandages fell to mere black dust when disturbed.

In another tomb which I did not clear out myself, were two sarcophagi ; within them two large mummy cases with pink and yellow faces, and inscriptions painted in blue on the raw wood ("Kahun" XXV, 1, 3). They contained two singers of Amen, Ta-rat

and Ta-bakem. On one sarcophagus were placed two hawks at the ends, cut in wood and painted; within were three coffins, one in the other; the innermost being stuccoed and gilt all over; but the gilding had all been tarred, and it fell to pieces on exposure. The eyes of all were inlaid with limestone and bronze lids and brows. The inscription (3) was around the feet of the outer coffin. All of these coffins peeled, and were destroyed by exposure to the air. On the mummy was a diagonal bead network, and the scarabs of PL. XXIX, 1 to 10. They were all shifted by moving the mummy case before I opened it. No. 1 is like plaques of Se-amen, XXIst dynasty; and as there is nothing characteristic of later times here, I should assign this burial to that age. No. 3 is peculiar, the design is pretty certainly Ramesside, yet the colour is exactly like that of No. 6. It suggests that there may have been a revival of copying old work for lack of a new style; and No. 6, early as it looks, may be an imitation made in the XXIst dynasty. The great gross Bes scarab, 4, may well be of this age also. Nos. 2, 5, 7, 9, 10, are all of the XXth or XXIst; 5 being an imitation of the Seti I and Tahutmes III scarabs. While 9, though of early style, shews by its colour that it is probably an imitation. Nos. 3 and 6 are set in copper bands.

The other mummy was in similar cases, but with the inscription 1 down the second case. On the body lay a gilt stucco band inscribed, (K. XXV, 2) and two genii, Amset and Kebhsenuf, of the same material. There were many small silver cowries mixed with the shifted beads of the network. The hair had been cut off, and lay in a truss beneath the head; a similar case I noted on a Roman mummy at Hawara, where a long mass of hair had been cut off, and laid down the front of the body under the bandages. At the feet of this burial was a large lot of very rude tiny ushabti, made of rough pressed pottery dipped into a blue wash: others lay by the middle, and a jar at the feet.

50. Another tomb, the finest of all at Illahun, is that of Amenardus; the whole contents of which were taken at the Bulak Museum. The innermost coffin of all had a nonsense inscription. Next to that was a splendid false sarcophagus, with all the inscriptions carved in the wood ("Kahun," XXVI); as it could not be safely moved entire, I took it to pieces, marked the parts, and transported it in perfect condition to Bulak ready to be set up. Beneath it stood a bier, framed of wood, with four lions' feet for legs to it. On that was the wooden sarcophagus, stuccoed white, and

finely ribbed all over to imitate drapery. On the mummy was a network of beads, arranged thus; 5½ rows down to the beadwork scarab, 4 lines on each side of that, 1 row to the *ba* bird, 3 rows to the genii of Amenti, 3 rows down to a band, and 15 rows onward to the feet. Outside of this coffin were a jackal and hawk carved in wood and painted, fixed on the head and foot of the false sarcophagus. On another similar burial were the jackal and hawk; and inside a coffin of a woman with the same style of ribbed drapery modelled in stucco. At the head of each of these burials was a square box with a short obelisk standing up on the lid, painted white and red; in the box a quantity of very small clay ushabtis of the roughest kind. By the coffins were two small model false sarcophagi, duly inscribed with white paint along the edges and corners; and containing a large quantity of the same very rude ushabtis. At the sides of Amenardus were two carved and painted wooden Osiris figures. The Osiris Khent-amenti is about two feet high, well executed, and fixed on a tray or hand-barrow, for carrying it, with four handles at the corners. The Osiris Sokar is fixed on a block stand. The last interment was one of Pafui (K. XXV, 17), which was a square coffin, containing a stuccoed figure-case with polished red face. This tomb is perhaps the finest of that age on record; and I hope that in the Ghizeh Museum we may see the various objects placed together, and in their original arrangement, as a complete instance of an interment. The use of giving this detailed description is to illustrate the custom of the time, and to enable curators to understand the age and original purpose of the various stray things without a history which crowd our European collections.

51. To conclude, I will describe the typical details of the burials of the XXIInd dynasty. The coffin thin, straight sloping sides with a slight shoulder, and round head; sides upright. Lid flat board with an edge to it, inscription down the middle, usually nonsense, or the personal name omitted at the end. Head and shoulders in relief, and sometimes the hands; the face a carved block of wood, the head-dress formed of stucco, or more usually of Nile mud; brilliantly painted with red, blue, yellow, black and white; the decoration a wig and vulture head-dress. Inside lies a cartonnage of linen and plaster, modelled to the body form, split down the back, where the mummy was slipped into it. The surface generally white with a band of inscription down the middle: a spread vulture at the top of it sometimes with a ram's head: the face carved in wood

and inserted (hence come the multitude of such faces, as the cartonnages are often rotten or broken up) and the head painted with a wig. Sometimes the cartonnage is painted with scenes of offerings to gods all over it. The body inside seldom has any amulets and is usually mere black dust and bones.

Another type of burial is in the figure coffins carved out of a block; these are generally painted white; with an inscription sometimes down the front, sometimes around the feet. The face is white, or red, or green with a green and black wig. These cases do not contain a cartonnage; but only the body, black dust and bones.

CHAPTER VII.

PTOLEMAIC CEMETERY, GUROB.

52. In a rise of the desert to the north of the town of Gurob an extensive cemetery was formed in Ptolemaic times; and the style of it is so different to that of any other period, that it is worth notice. The usual form of the tombs was a pit about eight feet deep widening on the west side into a hollow scooped out in the sandy soil, in which sometimes as many as a dozen coffins were placed. The coffins were all unpainted; of rough brown wood, and thin. The outline was widening to the shoulders and tapering to the feet, like some bassoon cases inverted. The lids had very deep sides, and the coffins were mere shallow trays, with edges not over an inch high; thus just reversing the proportions of the coffins of the XXIInd dynasty. The only decoration of the coffin was a carved wooden head. These heads are of the most marvellous rudeness; a few are good enough to be grotesque, but others are things of which a Pacific islander would be ashamed. The noses are long triangular ridges, the eyes marked with two scores in the board, and the mouth with a third line. In some the nose is pegged on; and in others a ghastly attempt at improvement is made by painting black and white eyes. Within these grossly rough cases were comparatively fine cartonnages. The separate pieces of cartonnage at this time were the headpiece coming down with a spread on the chest; the pectoral or collar plate, semicircular; the open-work frame with figures of gods; the flat rectangular plate upon the legs, about 4 x 18 inches, with the four genii, and sometimes Isis and Nebhat; and the footcase, with sandals painted on the bottom or two slippers separate on the soles of the feet. Some-

times only the head and sandals were used. The earlier heads were tolerably well made, of folds of linen pasted together, and moulded on a block. These blocks were in two parts; the back half, quite smooth behind, which could be withdrawn after moulding; and the front half, with the face in relief, which could be lifted out after the back half was gone. The cloth was pressed on wet, and retains the marks of the junction and carving of the mould. Over the cloth was a coat of stucco, painted dark blue, and often the face was gilt and burnished very skilfully. In later time, about Philadelphos, papyrus was substituted for cloth, and several layers of Demotic or Greek papyri were glued together, covered with stucco and painted; sometimes the face was gilt, sometimes yellow, or else white: the back of the head sometimes has scenes of offering painted on it; and this class of head cartonnage developed into the massive plaster head-pieces of the Ist and IIInd century found at Hawara, which lead up to the time of painted portraits (see "Hawara," PL. IX). The later stage of this papyrus cartonnage was under Philadelphos and Euergetes, when they no longer glued together the papyri; but merely soaked them and plastered them one on the other; trusting to crossing them, and a good coat of plaster and glue on the outside, to hold them together.

The papyri recovered from the glued cases are mostly in a bad state; the gluing, the soaking, and separating, and washing, all injure the writing; and the glue has attracted insects, who in most cases have eaten the papyrus entirely away, and left nothing but a hollow double film of stucco. The later cases made with plain wetting are far the best source of papyri; and where a document has been used whole, and put on a flat part (as down the back, or in the pectoral), it may be taken out none the worse for its burial of over two thousand years.

53. Most of the mummies are bandaged, and then covered with a cross bandaging of narrow strips of linen, with edges folded in so as to make a neat band about half an inch wide. These bands overlie the cartonnage; and retain it on the mummy. Exactly the same system of bands is seen on the Roman mummies of Hawara; and there it developed into a regular ornamentation of recessed squares (Hawara, IX, 4) which afterwards had plaster knobs, gilt or coloured, set in the bottom of the hollows. Every stage which leads up to this complicated decoration can be traced.

Some burials were in a different style. Often rush-

cases were used instead of wood ; they were made with a framework of sticks skilfully covered with rushes to form the sides, and with a hinging lid. Also rush canopies, or baldacchinos, were set up over these coffins, gaudily painted in pink and white : but they were too frail to last.

The only substantial coffin in this cemetery was one made of hard wood, well finished ; with figures of Isis and Nebhat, at head and feet, cut in, and filled with green wax ; the whole surface was varnished. Inside was a gilt face headpiece, pectoral, Ma, open-work frame, legpiece and sandals. Two other bodies had been thrust into this coffin.

I may note here that the Roman glass (PL. XXXIII) was found together in one tomb at Gurob, excepting Nos. 9, 10, 12, 13, 14, which are later. The main group I suppose to be about the time of Constantine. It is now in the glass department, British Museum. The blue glass vase (13) with white thread on it is probably about the VIIIth cent. A.D. judging by the clothing found with it.

The wood carvings at the foot of PL. XXXII are of about the VIIth cent. A.D. from the cemetery at Illahun. Now at South Kensington.

CHAPTER VIII.

PTOLEMAIS AND OTHER SITES.

54. It has long been a difficulty in the Geography of Ptolemy, that the city of Ptolemais was placed in the Arsinoite nome, some miles south of Arsinoe : and yet it was called a port. The most usual settlement has been by ignoring the connection with Arsinoe and the nome, and placing it on the Nile. It is indeed very possible that such was the original mistake of Ptolemy himself, from supposing that a port must be on the main river, and misunderstanding his materials. Some years ago I pointed out, in "Naukratis," how we must use Ptolemy by extracting from him the original groups of materials, as far as we can ; and that we must ignore the cross-references from one line of measurements to another, between which his errors accumulated. Here it is evident that he had a fact of two cities in the Arsinoite nome, the capital and the port of Ptolemais ; and he treats in an entirely different part of the two other towns of the Fayum, Bakthis and Dionysias, naming them along with Lake Moiris, and apparently on the line from Mareotis down to the oases. The position of

Arsinoe is beyond question ; and therefore the fact which Ptolemy gives is that Ptolemais was 10' south of Arsinoe, and in the Fayum.

This would lead us to look for it along the canal which skirts the south-east of the Fayum basin. I have walked along all that line ; it is impossible for the canal to have followed any other course anciently : the hills rise on the one hand, and the Fayum basin falls on the other. To get water along to the ruined towns and villages about Gharak this present line of canal is the only possible course. It is even now a large canal, which might take boats ; and it must have been much larger in Roman times, as a far greater quantity of land was then irrigated than is now under cultivation in this district. It is therefore certain that a navigable canal ran along here in Roman times, and so there is no difficulty in the port of Ptolemais having been on this line. I searched every mound of ruin, but found nothing of any importance,—mostly being Arab sites,—until reaching Talit, the present end of the wide canal, marked as "Ptolemais" on PL. XXX. This position is 12' from Arsinoe, instead of 10' ; which is as near as Ptolemy's precision allows, since he only states the nearest 5'. And it is S.S.W. instead of S., which is tolerably close to the position. The port or end of the navigable canal cannot have been further on, as the ground falls away, and necessitates dividing the water into separate courses. Hence taking only Ptolemy's geography and the configuration of the country we should be led to this site.

55. But a totally separate means of identification exists in the inscription (PL. XXXII), recording a dedication to Nero by the Ptolemaians. This slab was found in the fort which protected the town from the desert. The exact translation of it is not quite settled ; and for this point the paper of Canon Hicks, at the close of this chapter, should be considered. This much is clear that the external argument as to the site, is clinched by the internal proof afforded by the inscription.

The ruins of Ptolemais adjoin the side of the canal (PL. XXXI) and cover a space about 1000 feet wide from north to south, and 1300 feet long. This area for a town would contain two to four thousand inhabitants, according to the population of modern Egyptian towns. But the inscription appears to mention 6470 taxpayers, which would imply a population of about thirty thousand. So the persons referred to must have belonged to a much larger area than this town. As the present population of the

Fayum is 150,000, when it was much more widely cultivated in Roman times it may have held 250,000. So that this decree would concern about an eighth of the province, which was probably the size of the district of which Ptolemais was the principal town.

56. At present the ruins have been much dug away for the sake of the earth to spread on the fields; but nothing before the Roman period is exposed, and there is no height of accumulation, so that the city had evidently but a brief history. Some of the streets can be traced, and are shewn on the plan (PL. XXXI); also a raised square area of an important building—now swept away—near the end of the canal. Part of a massive building of red baked Roman brick remains at the south-east; much of it has been destroyed lately, and more waits to be uncovered. At the west side a group of pillars and bases shew where a large building existed, which was probably a Christian church, judging by the capitals with wreaths and crosses of the IVth cent. I carefully enquired for inscriptions or sculptures, but only saw one fragment, which is given here on PL. XXXI. The only other portable antiquity was a bronze steel-yard. It had two scales on it, whereby we can recover the unit which it was intended to weigh, although the scalepan, chains, hook, and counterpoise are lost. The unit of it is 7000 ± 200 grains; this is evidently the Attic mina, which was the "common mina" in Greco-Roman Egypt.

The line drawn on the S.E. of Ptolemais is a trench cut in the rock, about 200 yards from the town; it was an ancient work to enable surplus water in the canal to be run off into the low Gharak basin to the south, so as to lower the canal in case of need. It has been lately turned up in some part for the sake of the lining; and other parts could be traced by a dry line on the ground after rain.

57. The fort, a little over a mile to the S.W. of the town, is the place where the inscription was found, so far as I could learn. When the new sluice gates were being built at the end of the canal, the contractor excavated at this fort for materials. Indeed it is a stipulation in some contracts that only ancient bricks are to be used, as they are so superior to the modern native produce. While excavating the ruins, the fragments of this inscription were found built into a wall. The contractor sent them to Mr. Marshall Hewat, the district inspector, who very kindly passed them on to me. From a rough copy which he sent I saw that Ptolemais was referred to, and I took the first leisure time I could to go over and see the place.

The position of the fort is excellent. It stands on the rise of desert nearest to the town, and at the same time it commands a desert horizon at least five or six miles away all along the south. Thus any raid of Bedawin could be noticed in time to repel it. There is a square mass of ruined building and rubbish about 125 feet E. to W., and 150 ft. N. to S. An outer wall enclosed a space 67 feet wide on the east; a rubbish mound is banked against the west face for about 150 feet out; and another lower heap stands about 120 feet away on the north. It is about half a mile from cultivated land; and the magnetic bearings are to canal end 31° , to Hawara pyramid $47\frac{1}{4}^\circ$, to Tutun 65° , to Gharak 338° . But the position of Tutun on the map must be altered to make this possible.

The three patches of ruins between Ptolemais and Medinet Madi are small villages of Roman age; in the furthest I found an Alexandrian coin of the first century. The mound of Medinet Madi I had not time to visit.

58. Before proceeding to describe other sites I should say that the map PL. XXX does not profess accuracy in details of canals, &c. The faultiness of all existing maps is scandalous. Any person with a compass might make a better map than any yet existing of the Fayum. On all the older maps the Birket Kurun is entirely wrong in form and place; the present outline is taken from a government "map of the basins of the Fayum and Wady Rayan"; but the canals are I believe better laid out on the war office map. That is tolerably good in general; but quite wrong on the Birket, and in error as to the positions of villages. It is seldom that a group of cross bearings can be taken that will plot on the existing map without discrepancies being shewn. My present business is merely to fix the ancient sites as well as I can, and I disclaim any responsibility for the errors of this map.

A great feature of the ancient Fayum is the canal all along the eastern side. This originally branched near Hawara, but since Roman times it has been allowed to be breached, and has been dried up for probably all the Arabic period. In consequence a broad band of country has been thrown out of cultivation; and it only needs the reopening of this canal to bring into use again over thirty square miles, or twenty thousand acres, of good land. Probably now the bed of the Bahr Yusuf has been so much eroded by flushes of water that it would be needful to make a new branch canal from the great dyke to feed this

old line ; but even that would be a trifling work compared to the cultivation which would ensue.

All along the line of this canal are Roman towns which shew what the populousness of this district must have been. I shall here give notes on this side of the country from Illahun northwards.

On the highest point of the hills N.E. of Illahun, about a couple of hundred feet over the Nile, the ground is composed of rolled blocks (up to three feet long) and washed stuff, which slopes down to the west. And similarly the top of the highest ridge, where the "Mastaba" is marked, on the culmination between the Fayum and the Nile, (some four hundred feet up, I suppose) is all composed of rough pebble beds. These shew that the whole Nile valley has been full of a mass of river gravels up to some hundreds of feet above the present bed ; and that all the depth has been cut away by denudation.

59. On the north of the railway the ground is scattered with Roman pottery up to the Kom, No. 1 (PL. XXX), which is a village of Roman age. About $\frac{1}{4}$ mile N.E. of this is a massive foundation 8 feet thick of stone and cement, which has lately been mined into. About here are patches of sand deposit six feet thick, lying on the general ground of Nile alluvium. How this accumulated is not clear. The Nile mud doubtless accumulated down to Ptolemaic times, when the Fayum began to be dried up below Nile level. It is possible that shallow water lay here landlocked for two or three centuries during the drying, and that thus the blown sand of the desert accumulated here. When once sand falls into still waters it cannot escape either by wind or currents, but it raises the bottom level. A very striking evidence of the old high level of the Fayum lake is seen at the inside of the province, west of Gurob. There a great shingle bank has been formed by a current about 20 feet above the level of the canal there, which would be about the old high lake and Nile level. Between Kom 1 and Kom 2 the old edge of the lake is very distinct, about 30 feet above the present ground there. Kom 2 is all late Roman, a village of some extent. The Mastaba is a landmark of all this part of the country ; and can be seen from Hawara, as a white heap on the hill top. It is formed of rough stone blocks laid with desert clay. It was built cumulatively, with successive finished faces, but not finely coated with casing on each. It is about 90 feet square and 25 feet high. A great gash has been cut into it in a murderous fashion on the North side ; in the same way that the pyramids of Dahshur

Kula, and others have been barbarously mangled of late years. Nothing appears to have been found here, the middle being cleared down to three feet below the pavement level. This is probably a building of the XIIth dynasty ; but who lay beneath it we shall hardly find until it is properly explored. The wild hill on which this stands has been trenched in all directions by rainfall, and rises into sharp crests too narrow to stand on, along the top ; sloping down to Medum on one hand, and falling in cliffs down into the Fayum on the other. At the west foot of it is a village, perhaps of Cufic date.

60. The Kom 3 is a large town of Roman age ; to this belongs the cemetery just behind it in the hill, from whence the collection of portraits was brought which was taken to Vienna a few years ago. This is known as Rubaiyat from the name of the nearest village in the Fayum. The cemetery is about quarter of a mile across. Many chambers are cut in the rock, some with loculi. One square chamber has two ridge roof loculi at each side and the end. Fragments of blue glazed pottery of the IIIrd-IVth cent. A.D. lie about. Another chamber is circular, with eight loculi around it. The road to Kafr Amar in the Nile valley runs through the cemetery. I met here with an enthusiastic agriculturist, Mr. Hugh Main, who is trying to utilise this land by a small canal which waters enough for a farm. He very kindly escorted me up to the cemetery, as some bad thieves were in the neighbourhood ; afterwards however I went about this desert for two days alone, without meeting anything worse than two needlessly inquisitive men, and a hyaena.

61. About Kom 4 is a chamber near the canal, of baked brick ; and thence the ground is covered with pottery up to the Kom. This town is half a mile across, of Roman age. Much pottery of the IVth and Vth cent. A.D., much green glass, and columns of grey marble, and red granite, lie about here.

The canal then bends round the foot of a slight rise, at Kom 5 ; the hills being about two miles back here. Just west of this Kom are the stumps of nine old palm trees which shew very plainly in the distance ; and further west is a brick wall. About this bend of the canal are some long square blocks of stone upright in the ground. They hardly look ancient, and might be the remains of an allotment of the ground some time when a canal was projected here. But I do not know of any such modern project.

Kom el Akl, No. 6, is a large town, about half a

mile across with high mounds. The surface pottery is of the IIIrd and IVth cent. A.D. and it must have been founded some centuries before that to allow of such accumulation. As it is by the road into the Fayum this might well be an older town of the time before the lake was dried up. I noticed a mass of deep foundation of stone. The tombs east of it are visible for some distance; they are cut in a low cliff facing south; about six or eight chambers; no ornaments or inscriptions.

62. Kom Wezim, No. 7, has been a great town, the most important of all the district. It is about half a mile across, and the top of the mound is about a hundred feet above the plain below, some of which height is artificial accumulation of ruins, about fifteen feet in parts. The most remarkable matter is the number of great weights lying about in the ruins. They are of the round dome-top type of late Egyptian weights. One is 19·8 inches across base, 22·3 across top, sides average 11·9 high, and dome 4·8 high. This will be therefore 5146· cubic inches. The stone is a local shelly limestone; and assuming its specific gravity at 2·3, it would weigh about 2,990,000 grains. It has a mark \aleph on the side, which may be \aleph inverted.

A piece of another such weight, now broken up, lies near this. A third weight has the top broken off; 12 across base, and still $9\frac{1}{4}$ high. If in similar proportion to the other it would weigh $\cdot 223$ of the larger; so it might be either a quarter or a fifth of it. A fourth great weight is about 19 across base, and 22 across top, 12·2 high on side, and dome 4·0 high, or evidently the same as the first one. The standard of this weight can hardly be settled from one example. If the mark is \aleph it would mean 40 if Greek, or 1000 if Roman: 40 leads to no known standard; but divided by 1000 it yields 2990 grains or the unit of the Nusa, or double uten, which was common at Memphis. (See "Season in Egypt" and "Hawara"). Besides these weights I noted the bases of stone columns, 30 inches across; and a curious slab of stone with a rudely-cut figure of a man in relief on it, arms crossed on breast, but legs not developed. It is quite un-Egyptian, and probably Roman.

Behind Kom Wezim, on the hill to the north, are many tomb chambers and graves, several of which had just been looted before I went there. The meaning of such an important town at this side of the lake seems intelligible on seeing that the present road from the Natron Lakes runs close to this. Before the lake was lowered this would be the port of the road to Nitria, from which boats would sail across the lake

and out through the canal into the Nile. Whatever traffic in grain or heavy goods went either way the large weights would be needed for it. In short, Kom Wezim was the port of Nitria in the pre-Roman times.

In the hills, to the N.E. of this, the ground is most curiously weathered into domes, several feet diameter, which stand crowded together all over the surface; at a little distance they appear almost like the dome roofs of a village. The white spot marked is a distinguishing point on the range of low hills in the desert. All this side of the country is utter desert; the eye wanders over miles of undulating sand and rock, gradually rising in steps higher and higher to the north.

The restoration of this district of the Fayum to its former fertility would be a very easy and inexpensive matter; a few miles of new canal, and a clearing of the old bed, is all that is required in order to provide for many thousands of people.

APPENDIX TO CHAPTER VIII.

INSCRIPTION OF PTOLEMAIS.

By the Rev. Canon HICKS.

63. (See the facsimile of the original stone, and the restored transcription on PL. XXXII.) This inscription is a dedication in honour of the Emperor Nero, dated A.D. 60, from the town of Ptolemais in Middle Egypt. The dedication is made by the town at large 'in the person of' or 'by the hands of (dia) the 6470,' and 'by the whole body of men who came to the age of 18 in the 2nd year of the Emperor Claudius' (A.D. 42).

The phrasing of the dedication is very brief, and the meaning of the allusions obscure. Who were 'the 6470'? Why are the epebeukotes of A.D. 42 so prominently mentioned? And why is that year brought so closely into connection with the seventh year of Nero's reign?

To these questions we may hazard a conjectural answer. In the first place Egypt was one of the chief granaries of Rome. One-third of the annual corn-supply came to Rome in Alexandrian vessels, Mr. Petrie also discovered, from the large number of corn-mills and other indications, that Ptolemais, standing as it did at the end of the Canal, must have been an important lading-place for the corn-produce of Middle Egypt. But moreover, Egypt had to bear under the Romans, as indeed she has always done

before and since, a heavy burthen of taxation: her conquerors have always claimed a full share of those fruits which are 'the boon of the Nile.' Every five years, it would seem, the Præfect revised the Egyptian census for the purpose of taxation (Marquardt, *Röm. Staatsverwaltung*, ii. p. 244; Franz, *C. I. G.* iii. p. 319), while the precise strain that the country could bear was nicely calculated every season by help of the Nilometer (Marquardt, *ibid.*; Franz, *ibid.* p. 318). No wonder therefore if we find that some of the most important Egyptian inscriptions deal with the remission of burthens. The Rosetta stone (B.C. 198) is full of this subject. It is the occasion of the important decree of Ti. Julius Alexander, Præfect of Egypt under Galba (Sept. 28, A.D. 68: *C. I. G.* 4957). Accordingly it is not an improbable conjecture that the Emperor Claudius, in whose reign there was a scarcity felt in Rome on more than one occasion, may have granted the inhabitants of Ptolemais some remission of taxation: possibly some poll-tax (Franz, *C. I. G.* iii. p. 318) payable by every adult male of Ptolemais, was either lightened or removed, in return for an increase in the amount of corn shipped from Ptolemais. If so, 'the 6470' will be the adult male population of the town in A.D. 42; and not only were these relieved, but also the young men who attained their *ἐφηβεία*, i.e. the age of eighteen, in that year, were by anticipation brought within the scope of the decree; although they would not be of full age, and therefore (I suppose) not liable to taxation, before the age of twenty. These 6470 plus the ephēbi of the year A.D. 42 seem to have retained their privilege until the reign of Nero, and therefore are specified thus exactly in this dedication of the year A.D. 60; we may infer that Nero confirmed the privileges granted by Claudius.

The words *πόλις* (line five), *ἐφηβευκότες* and (perhaps) *πανδημεί* (line 12) need not imply that Ptolemais (though its name would imply the præ-Roman foundation) enjoyed any municipal constitution after the Greek pattern. Indeed there is a significant absence of the words *βουλή* or *δῆμος*, or of a civic eponymos: with which contrast the dedication to Alexander Severus from the *boulē* of Antinoe (*C. I. G.* 4705). Strabo mentions it as a remarkable exception in Egypt that Ptolemais in the Thebaid had a communal government (xvii, p. 813). Only three other towns, Naukratis, Alexandria, and Antinoe are known to have been similarly organised on Greek lines; and, of these, Alexandria had no *boulē*. Augustus and his suc-

cessors looked upon the Egyptians as a seditious rabble, unfit for any measure of home-rule; the unit of civic organization was the Nome or district, and we may suppose the population of Ptolemais to have been simply merged—for all political purposes—in the population of the Nome. The word *polis* (line 5) does not tell the other way: Sais is likewise termed a *polis* (*C. I. G.* 4697 *e*). Nor need *ἐφηβείων* (line 12) involve the gymnasium and the education of the young Greek citizen, and those other interesting associations which the word suggests to the readers of Attic literature: it merely seems here to express a particular age.

The second year of Claudius (line 9) was, to speak exactly, from Jan. 25 A.D. 42 to Jan. 25, A.D. 43. It is noted by Dio Cassius (lx, 11) that in A.D. 42 there was a severe scarcity at Rome, and that this even suggested to Claudius the idea of building the harbour at Ostia. This statement prepares us to believe, what has already been suggested above, that Claudius this year may have given some special encouragement to the exporters of corn from Ptolemais.

The date in Nero's reign (line 14) is noteworthy for a different reason. Mommsen shows (*Staatsv.* ii. 798, note) that in the second year of Nero's reign a new method of reckoning his years was adopted, so that his 'seventh year' does not mean Oct. 13, A.D. 60—Oct. 13, A.D. 61, but rather December 10, A.D. 59—Dec. 10, A.D. 60. If this be the year of our dedication, it is dated a few months after Nero had outraged human nature by the murder of his mother, and had shocked Roman prudery scarcely less by his appearance on the stage. But neither event affected the fortunes or the feelings of these far-off dwellers on the Nile, and when they style Nero the 'saviour and benefactor of the world' (lines 3–5) they are using the commonplaces of provincial compliment. In *C. I. G.* 4699 (from Memphis) he is called *ὁ ἀγαθὸς δαίμων τῆς οἰκουμένης*.

Next to the name of the site, the most interesting information yielded by the inscription is the name of the Præfect Lucius Julius—us. Unfortunately his cognomen is lost, but this name is new. He must have succeeded Tib. Cl. Balbillus, who was appointed Præfect of Egypt A.D. 56 (see Franz, in *C. I. G.* iii. p. 311).

CHAPTER IX.

THE GREEK PAPYRI.

By Prof. SAYCE.

64. Mr. Petrie's excavations at Gurob have revived for us the era of the Renaissance. In that exciting period the scholars of western Europe found a new world of ancient Greek literature outspread before their view; manuscript upon manuscript containing the treasures of early Greek thought passed into their hands, and invited them to fresh discoveries and an ever-widening revelation of the past.

But the oldest manuscript at their disposal was of comparatively late date. It was as a general rule separated from the age of the author of the work inscribed upon it by an interval of several centuries. Moreover a time came when the supply of fresh manuscripts was exhausted. The age of discovery seemed past and the age of criticism and collation began.

From time to time, however, more especially since the opening up of the East to European travel and exploration, fragments of classical literature have been discovered, a few of which have contained new texts. Most of them have been derived from Egypt. It was from Egypt, for instance, that the lost oration of Hypereides was brought as well as the hymn of Alkman to the Dioskouroi, and it has been Egypt which has provided us with the oldest manuscripts as yet known of the Homeric poems.

But all that Egypt has hitherto yielded to us is far surpassed by the latest discoveries of Mr. Petrie. That fortunate excavator has disinterred classical Greek papyri of an age of which the most sanguine scholar had not ventured to dream; he has found private correspondence which throws light on the social history of the Greek settlers in Egypt in the early days of the Ptolemaic dynasty, records of wills which will cast a most important light on Greek law, private accounts which inform us of prices and taxation in the Fayoum in the third century B.C., a portion of a lost play of Euripides, and last, but not least, fragments of a precious copy of the *Phædo* of Plato, which must have been written not long after the lifetime of the philosopher himself. When we consider that the earliest manuscript of Plato's writings hitherto known is as late as the ninth century after the Christian era, the value of this copy of the *Phædo* cannot be overestimated. It enables us to test the

accuracy of the received text and to determine the extent to which the editors of Alexandria and their successors allowed themselves to correct or modify the texts which they published.

The papyri have been discovered in a way which makes it possible that other early Greek texts may be similarly brought to light, even in the Museums of Europe. At Gurob Mr. Petrie discovered a small cemetery of the Ptolemaic age, where the dead had been embalmed in the Egyptian style and buried in mummy-cases and coffins. These he dug up, and on examining the cartonnage of which the head-pieces and breasts of the cases were composed, came to the conclusion that it was—in many instances at all events—made up of pieces of inscribed papyrus. Practical experiment proved that his conjecture was right, and further showed that the papyri were mostly inscribed with Greek texts, though a large part of them contains demotic texts. An examination of their contents has made it clear that the Egyptian undertaker, before making a mummy case, bought the waste-paper basket of one of his neighbours, and turned the papers that were in it into *papier-mâché* for the particular mummy-case he had on hand. Hence it happens that the papyri coming from a particular mummy all belong to the same collection, the cartonnage of one mummy-case, for example, being composed of letters and documents relating to a certain Kleôn, that of another of the papers belonging to Diophanês, and so on. Of course in some instances the same collection served to produce *papier-mâché* for more than one mummy-case.

The importance of the circumstances under which the papyri have been found will be apparent when we come to discuss the date of the fragments of the *Phædo*. Many of the fragments are dated, and in all the various collections the dates belong to the same period. This is the latter part of the reign of Ptolemy Philadelphus, and the first few years of the reign of his successor. Roughly speaking most of the documents belong to about B.C. 250; none (so far as I know) are later than B.C. 225.

The dated documents are either private letters, or accounts, or the rough copies of wills. They are all of an ephemeral character; there is nothing among them which the owner would have cared to keep for more than a year or two. Their destination was the waste-paper basket as soon as the immediate purpose was served for which they were written.

We may therefore conclude that they passed into the undertaker's hands shortly after the time to which

the dates upon them refer. In many cases this would be about B.C. 250, in no case after B.C. 220.

The importance of Mr. Petrie's discovery now becomes evident. Here we have a body of Greek documents considerably older than the oldest hitherto known, older even than the age of the great grammarians and critics of Alexandria and their editions of the earlier classical texts. With the exception of some *graffiti* which I copied on the walls of the temple of Seti at Abydos in 1883 they present us with the first examples of Greek cursive writing as yet met with, and raise the question whether the cursive Greek ostraka from Karnak, which have been assigned by Dr. Wilcken and myself to the reign of Ptolemy Physkôn, do not really belong to that of Ptolemy Philadelphus. These were the only two Ptolemies whose reigns were long enough to allow of certain of the dates met with on the ostraka.

65. If Mr. Petrie's papyri consisted merely of private letters and wills their antiquity would make them sufficiently interesting. But the interest is increased tenfold when we find among them fragments of the works of Plato and Euripides. The Platonic fragments belong to the *Phædo*. They number ten in all, some of them being of considerable size. They form part of a papyrus which must have been of great length since the whole of the *Phædo* seems to have been written upon it, and probably some other philosophical work as well. The average width of the papyrus was $8\frac{1}{2}$ inches, and it was of a fine and carefully-prepared quality. The text was inscribed upon it in parallel columns, each from $5\frac{1}{2}$ to $5\frac{3}{4}$ inches in length, and averaging from $2\frac{1}{2}$ to 3 inches in breadth. The lines, however, are of very unequal length, as the scribe always ends the line with a word. Between each column a space is left which averages half an inch, though sometimes it is as much as an inch and sometimes as little as a quarter of an inch. At the foot of the papyrus a margin is left a little over $1\frac{1}{2}$ inches in length (4 centimeters); the margin at the top of the page does not measure more than an inch. The text is written in capitals, and the divisions of the dialogue are denoted by a horizontal line drawn between the last word of one speaker and the first word of the next, or else over the first letter (or first two letters) of the following line. Other diacritical marks there are none.

The fragments begin in the middle of chapter xii (67 E of Reiske's edition), and include the first half of chapter xiii. Then there is a break, and they recommence with the last few words of chapter xxvi.

They further comprise the greater part of chapters xxix and xxx, about a quarter of ch. xxxi, and half of ch. xxxii, the whole of chapter xxxiii and the first three-fourths of ch. xxxiv.

The text differs in many important respects from the received one, and is distinguished by a consistent neglect of the hiatus and by the use of *äv* with the future indicative. The neglect of the hiatus shows that the received text has undergone a complete recension at the hands of critics who objected to it, and so overthrows the theories that have been based on the supposed observance of the hiatus by Plato. The consistent use of *äv* with the future in so carefully-written a manuscript may be commended to the notice of the authorities on Greek grammar.

More serious are the numerous and important variations of the papyrus from the received text of the *Phædo* which rests on the evidence of one of our oldest and best Greek MSS. (now in the Bodleian Library, and dated A.D. 896). The variations will somewhat shake the confidence of scholars in the purity of the tradition embodied in the texts of the Greek writers which have been handed down to us, at all events so far as regards the texts which go back to a pre-Alexandrine period.

The papyrus must have been a very precious one. Its size and splendour, the extreme care which has been bestowed upon the preparation of the text, and the accuracy with which it has been written, all show that it was of exceptional value. Before any portions of it could have found their way to a waste-paper basket and been handed over to an undertaker to be turned into cartonnage, it is clear that it must already have been some time in use. But if this were the case about B.C. 250 it could not well have been written later than B.C. 300, and is probably of much earlier date. It is thus not only the oldest manuscript we possess of a Greek author, but it is even possible that it may have been written in the lifetime of Plato himself.

66. By the side of the fragments of Plato the two pages of papyrus which contain portions of a lost play of Euripides somewhat pale in interest. But the play was one which was famous in antiquity, and though a few passages from it have been preserved, only one of these is to be found in the portions which have now come to life. The play was that known as the *Antiopé*, and the fragments discovered by Mr. Petrie belong to the concluding part of it. They consist of two pages which may have formed part of a single roll, each page containing two columns of

text. The page was $8\frac{1}{2}$ inches in length, with a margin at the top 1 inch wide and at the bottom $1\frac{1}{4}$ inches wide. The space between the columns averages $\frac{3}{8}$ of an inch. Each column contains 37 lines of text written in capitals. The dialogue is distinguished by horizontal lines drawn over the first letter or two of the line which introduces a new speaker. Unfortunately the fragments are in a bad condition. The majority of the lines are imperfect partly through injury to the papyrus, partly through the obliteration of the letters by the plaster with which they have been smeared.

The first fragment seems to contain a dialogue between Dirکہ and Lykos, in which reference is made to the exposure and supposed death of the two sons of Antiopê, Zêthos and Amphiôn. This is followed by a dialogue between the sons and their mother which leads on to the death of Dirکہ. In the next fragment the chorus is introduced, and Lykos then appears upon the scene, exclaiming: "Ah me! I am to die, unaided, at the hands of two." To this Zêthos replies: "But do you not lament your wife who is now among the dead?" "How so?" is the answer, "is she dead? 'tis of a new evil that thou speakest." "Yes," says Zêthos, "she is dead, torn in pieces with thongs of bull-hide." "By whom?" asks Lykos; "by you? for I must needs learn this." Lykos, however, is saved at the critical moment by the appearance of Hermês, who orders him to bury his wife, and after burning her bones on the funeral pyre to throw them into the "Spring of Arês," which henceforth should bear the name of Dirکہ, and flow through the city, watering the land and saving it from bane. Hermês then turns to the two brothers, who are to provide "the city of Kadmos" with seven gates "in order that it may be holy," while at the same time a lyre made from the shell of a tortoise is given to Amphiôn. Amphiôn is appointed King of Thebes in place of Lykos, he and his brother receiving "the highest honours in the city of Kadmos," and preparations are made for the marriage of Amphiôn with Niobê "the daughter of Tantalos," from among the "distant Phrygians," and to send for her at once,* and Lykos concludes the play with a sort of paternal blessing. He yields the throne to his two sons, telling them from henceforth to govern the land instead of himself, "taking the sceptres of Kadmos." He goes on to state that he will fling the ashes of his wife into the spring as had been ordered by Hermês, and concludes

* Hermes also declares that Amphiôn and Zêthos shall be "called the white twin-foals of Zeus."

with the words, "I put an end to strife and to all that is past."

Among the lines preserved in the papyrus are two, belonging to a chorus, which have been quoted by Stobaios (Ecl. i. 3, 25, p. 118), a writer who flourished in the fifth century A.D. The variations between the text as given by the papyrus and by Stobaios are very considerable, and confirm the inferences derived from the fragments of the *Phædo* that the text of the Greek writers of the pre-Alexandrine period has come to us in a much modified condition. It is needless to insist upon the importance of this conclusion to the scholar.

Another fragment of a classical character is a page which contains two imperfect columns of writing and the ends of lines belonging to a third. It was found along with documents dated in the 39th year of Ptolemy Philadelphus (B.C. 247). The text is written in large capitals but in a schoolboy's hand, and is probably the rhetorical exercise of a pupil to whom it was given to learn by heart. It is a passage in the form of a dialogue from some rhetorical or philosophical work, now lost, which describes the duty of being true to one's friends and draws an illustration from Akhillês, who "tho' deprived even of his armour ran the greatest risks and alone of any who have ever yet been born encountered death on behalf of his dead companion."

67. The classical fragments, however, form but a small part of the collection. This consists mainly of private letters, rough copies of wills, receipts and tax-gatherers' accounts. They throw a vivid light on the social history of the Greek inhabitants of Egypt at the time they were written, on the manners and customs of the Ptolemaic period, and the economical condition of the country. They bear out the conclusion recently arrived at by Prof. Mahaffy in his work on *Greek Life and Thought from Alexander to the Roman Conquest*, that the Greeks were much more widely scattered through Egypt in the age of the Ptolemies than has hitherto been supposed. They were to be found not only in the great centres of political life, Alexandria, Arsinoê Krokodilopolis, Ptolemais and Diospolis or Thebes, but also in the country, Mr. Petrie's papyri showing that the country villages of the Fayoum were full of them. They represented, in fact, not only the modern Greek traders, but also the Turks of more recent days, and constituted the main bulk of the higher official and landed classes. Greek soldiers occupied country-seats where the native peasants worked for them, and

Greek traders carried on a large part of the commerce of the Nile.

That the copies of the wills Mr. Petric has discovered were merely rough draughts is evident from the numerous corrections which have been introduced into them. The same is the case as regards a good many of the letters. These, too, have been corrected freely, the corrections being written in smaller letters over the line. Like the accounts, therefore, they possessed only an ephemeral value, and hence soon found their way to the waste-paper basket. It is fortunate for us that they did so.

68. The tax-gatherers' accounts throw considerable light on the geography of the Fayoum, and indicate the extent to which the district had been colonised by the Greeks after Alexander's conquest of Egypt. Many of the villages that surrounded the capital Krokodilopolis, now marked by the mounds of Medinet el-Fayoum, received Greek names, from which we may infer that they had in many cases grown up around the farm or country-house of some Greek proprietor. Thus we hear of the villages of Ptolemais, Lagis, Bakkhias, Berenikis, Thesmophoros, Theogonis, Autodikê, Philadelphieia and Theadelphia, Philôteris, Koitôi ("the beds"), Philagris, Arsinoê Kastammônia, Hêphaistias, Dionysias, Lysimakhis, and Euêmeria, as well as of the village of Arsinoê, "the village of the cowherds," "the village of Athêna," "the town of the ovens" (probably a part of Krokodilopolis), "the harbour of Ptolemais," "the island of Dikaios," "the island of Hêra," "the sacred island of the city" (of Krokodilopolis), and the "island of Alexander." Besides these we meet with Hellenised Egyptian names: Boubastos (to be distinguished from Bubastis in the Delta), Petesoukha, Moukhis, Talithis, Thphôis, Kerkesoukha (a name which helps to explain that of Kerkasôros or Kerkesoura in the Delta, Hdt. ii. 15), Karanis, Malsoutos, Anoubias, Sempathyteus, Tegotys, Tebetria, Psinteôs, Paious and Ibiôn. The most curious name among them is Samareia, which must have been so called by settlers from the northern part of Palestine. The accounts further contain the names of Oxyrinkha (never written Oxyrinkhos), now Behnesa, and Aphroditopolis, now Atfih, which were included in the province of the Fayoum, as well as those of Lêtopolis, Memphis, Tanis, Sebennytos, Pharbaitos and Pêlousion. But this only means that certain persons who paid taxes in the Fayoum belonged to places in the north. The taxes were paid upon bronze, bricks and castor-oil, and for permission to

sell linen, the amount in the latter case depending on the size of the business. It was generally a multiple of 21 silver drachmæ, the most common sums levied being 42, 84, 168 and 336 drachmæ. But we also find 16, 28, and 56 drachmæ paid, and in one case we read: "Of Koitôi, Sokhôtês the son of Phanês 25 drachmæ 4½ obols." The whole amount collected in one instance was 879 silver drachmæ; in another instance it was 780 drachmæ.

The period to which the papyri belong is fixed by the names of the Ptolemies and their sisters which occur more especially in the wills. Thus we read: "In the reign of the deified Ptolemy and Arsinoê in the priesthood of Tlêpolemos the son of [Altibios to the deified] Alexander * and to the deified [brothers, . . . being canephoros] of Arsinoê Philadelphia." In the letters and receipts it is usual to give the year only of the reigning sovereign without specifying his name. The dates of the documents I have examined range from the 20th to the 37th years of one king and from the 1st to the 13th year of another, and since the only Ptolemies who reigned more than 36 years were Philadelphus and Physkôn, it is evident that we must see Philadelphus in the one monarch and his son and successor Euergetês in the other.

69. A prominent character in the papyri is a certain Kleôn, who seems to have been the chief architect of the Fayoum in the middle of the third century B.C. One of the letters to him runs as follows (G. 111.)

"Apollônios sends greeting to Kleôn. I wrote to you on the 17th about my position as regards the tithe-collectors before Diotimos concerning the number of slaves and the arranging of the stones, and in what way acknowledgment had been made before Diotimos, and that the slaves who were needed for the placing and arranging of the stones would finish all the work by the time of the new moon if iron were furnished to them; and I wrote to you what holiday ought to be allowed to each, and the amount of work. And now you would do well to order that wedges be provided for each, as enumerated below, in order that we may disregard their excuses (for idleness). For Tekhestheus (we have reckoned) an equal number of slaves and lads, 18 in all, (and) 4 wedges; for Berotheus 15 slaves and lads (and) 3 wedges; for Anamneus 18 slaves and lads (and) 4 wedges; for Paous 16 slaves and lads (and) 3 wedges; for Pepsa

* Tlêpolemos son of Altibios was also priest of Alexander and the deified brothers in the 2nd year of the successor of Ptolemy Philadelphus, according to the Louvre papyrus 2438; see E. Révillout, *Rev. Egyptologique*, I. 1, p. 18.

17 slaves and lads (and) 4 wedges; for Phamouneus 12 slaves and lads (and) 3 wedges; for Spsint”

It is plain that reference is here made to the working of certain quarries in the neighbourhood of the Fayoum, the wedges being required to split the rock. Each gang of quarrymen was under an overseer who was responsible for their work, and kept them employed at it, no doubt with the aid of the lash.

From the same mummy-case has come another fragment of a letter to Kleôn (G. 108). This is addressed to him by a certain Dêmétrios, who begins by saying that “on the 22nd when I was going down to the works . . . Theokleidês came down again to the doors.”

Another letter is addressed to Kleôn by the quarrymen themselves (M. 163). The handwriting of it is very bad, the spelling is defective, and various corrections have been scribbled here and there above the lines. The injuries the papyrus has received add still further to the difficulty of deciphering it. I read it thus: “Greeting is sent to [Kle]ôn by the quarrymen working in Pastôntis, who have received [from] you (the order for) the stones. Choose what has been already hewn in the gypsum (quarries). But now we do no work, because we have no slaves to clear away the sand above the rock [from] the city of Aphi[s] to Eiê. To-day * [from] the day on which they began to work [is an interval?] of two months, and you know that the place is desert; and we have no food, though we want to finish the [work in order that] we may go away. Grant indeed our request quickly in order that we may not desert. Farewell. The 1st year, † the 9th day of Thoth.”

A few years previously Kleôn had received another letter from the quarrymen in his employment. It was as follows (B. 31);—“To Kleôn the architect, greeting. We who belong to the original quarrymen from the place of embarkation are being wronged by Apollônios the ganger. He having set us to work at the hard rock and having selected us as against the rest, has shown (us only) the soft rock that he has (in the quarry), and now we are ruined, spoiling (our) iron (to no purpose); therefore we pray you that we may obtain justice; having cut the hard rock . . . that we be not injured. Farewell.” On the back is a note by Kleôn to the effect that the letter was received on the 24th of Phaôphi in the 30th year of Ptolemy (B.C. 255).

It is evident that “Apollônios the ganger” mentioned in the letter is the same as the Apollônios who asked that wedges might be provided for the work-

* Above is written “on the 10th.”

† B.C. 247.

men. Dêmétrios seems to have been his assistant. A curious letter of the latter has been preserved, which may be translated thus (B. 27):—“To Kleôn Dêmétrios sends greeting. On a previous occasion also did I write to you about the arrest which I have now undergone. You know also how in former years we have been injured, and how I am at present being injured by being carried off to the prison . . . you who brought me as your own son out of the prison, not wishing me to suffer harm, [help me] for I am in the prison. Farewell.”

In another fragment Kleôn is appealed to for the repair of a “fortress” the exact position of which is not stated. This is in a letter from Polykratês which begins: “Polykratês to Kleôn sends greeting. As for the southern wall of the fortress, a part of it has fallen, and now that it has fallen the part which looks south is in danger of becoming exposed: about 29 slaves have been farmed out on account of it by Dionysios . . .”

Dionysios is the writer of a letter of which unfortunately only the beginnings of the lines are preserved (G. 115). “Dionysios to Dôros sends greeting. I have sent . . . the copies (of the letters). Keep in good health. The 30th year, the 4th day of Athyr . . . We want an assistant-architect to build the dykes [from] . . . to Hêphaistis in order that they may patrol the nets . . . and to finish the rest of the design of Kleôn . . . in order that [we may irrigate] the saltish land called . . .”

Polykratês also appears among the correspondents. One of his letters is dated in the 20th year of Ptolemy (B.C. 265). In a second letter addressed to his father he says (A. 2): “Polykratês sends greeting to his father. You do well if you are well and all things else are according to your mind. We also are well. I have often written to you begging you to come and introduce me so that I may be released from my present leisure; and now, if it is possible and nothing hinders you, try to come to the Arsinoite nome. For if you are here, I am persuaded that I shall easily be introduced to the king. And know that I have received from Philônidês 70 silver drachmæ, half of which I have kept for necessary expenses and the rest I have lent out on loan. I have done this in order that we may not have it all at once, but receive it little by little. Write to us on your side in order that we may know how you are, and may not be anxious (about you). Take care of yourself in order that you may be in good health and come to us strong and well. Farewell.”

Of the third letter only the first part is left. This reads (A. 1):—"Polykratês to his father sends greeting. [If you are well] and all things else are to your mind, it would be well. We ourselves are well. Know that I have held the office of inspecting the victims for sacrifice and that I go to the land-surveyor's office. And I have been registered at the custom-house for an estate producing 17 silver drachmæ. In order that we may receive the twentieth of this amount, and not . . . 70 drachmæ. And they tell us to give way to Herôdês . . ."

70. The "land-surveyor" is mentioned in another letter (H. 131) dated the 27th of Epeiphi, of which only a portion is left. It was sent from "Athenodôros the land-surveyor," and contains a petition. The writer speaks of himself as "falling down with tears" on behalf of one "who is an old man and of the children," and he goes on to say that "I have acted as steward," "[have gone] to Aphroditopolis with the village-scribes and fellahin," have there visited "the sanctuary" of the goddess, where I was "told that I was in danger," and was "threatened" while "in the priest's chamber in the pylon," out of which I "was able to peep." The person to whom the letter is addressed is told that he had "pitied" the author of it "either because of . . . or because" he "had served" him; and mention is then made of "Euêreitos the captain of the guard."

The letter was probably sent to "Diophanês the general," to whom other petitions found in the cartonnage of the same mummy-case were addressed. Here is one of them (H. 123):—"Moskhiôn sends greeting to Diophanês. Dôrimakhos has brought me a petition, filed against Dionysios, in which it is declared that he considers he should obtain justice. Having therefore summoned Dionysios I made known to him the petition and ordered him to satisfy Dôrimakhos. As Dionysios maintained that there is nothing in the charges brought forward in the petition, I have sent him to you on the 6th of Pharmouthi. Farewell. The 25th year [B.C. 260], the 5th of Pharmouthi." This is addressed on the back in capitals: "To Diophanês," and the date and names of Moskhiôn and Dôrimakhos are written in cursive characters below.

Moskhiôn appears to have been a deputy of Diophanês. The latter is personally addressed in a mutilated petition (H. 125) from "Onêtôr and Asklêpiadês and Mousaios," who inform Diophanês "the general" that they had already "given a petition to the name of the King." The petition relates to a lease of 107 [acres] from a certain Lysander "in the

26th year." The ground they occupied is called a *Klêros* or "allotment," so that they must be regarded as Greek settlers, or (as appears from other documents) retired soldiers, to whom certain lands had been allotted by the government at Alexandria. In another document (M. 172) *Klêrukhs* are referred to, who received 537 drachmæ from the fellahin on their estates upon the produce of the 2nd year (B.C. 246). Onêtôr and his two companions had apparently suffered from bad weather, their "corn had perished on the threshing-floor," some of it had been "taken by the guardians" or police, they had been slandered by "malicious persons," and accordingly they "wanted clean corn" and some alteration in the terms of their lease.

Two more fragments of letters to Diophanês exist. One (H. 124) is from his son Dioskouridês, who remarks that "Asklêpiadês who has given you the letter is sailing up (the river)," the date of the 25th year being written on the back, and the other (H. 129) from "his daughter and [her] children," hoping that "yourself and your son Dioskouridês [are well]," and asking that "he should go to you after being thanked by me."

71. Several letters relate to agriculture. Thus (S. 251) "Diôn the son of Asklêpiadês acknowledged that the vineyard [let] to me has been valued for the 23rd year, including the farmstead of Hêrakteidês, [the value] of the fruit-trees and flowers for garlands [being put] at 12 drachmæ." Another fragment speaks of "the spelt and barley" having been "smitten," and refers to the "place of embarkation," as well as to "the half of the cutting (or trench) at the place of embarkation."

An interesting document on the mode in which retired soldiers were provided for is an I.O.U. from a Thracian cavalry-soldier (D. 62). "Theotimos the son of Euphrôn, a Thracian, of those who are under the commander of the cavalry, acknowledges that he engages to pay in full Philip who has received the share for the 2nd year of the district around Philadelphêia, consisting of vineyards and gardens (*paradeisôn*), to the extent of 1 talent and 3000 drachmæ, and to receive from the same (Philip) the vineyards and gardens about Boubastos for 3000 drachmæ, so that the whole shall amount to [two] talents; in addition to which I mortgage the rights belonging to me and the benefactions I receive (?), and I swear the royal oath which is subscribed according to this bond." The oath is written above, and runs as follows: Theotimos the son of Euphrôn [a Thracian, swears by the

life] of Arsinoë, by the divine Philomêtôr . . . and the saviour gods and Sarapis and [Isis who preside over] the contract."

In a mutilated letter written by Hermogenês to Theodôros (G. 117) the writer, after stating that "the copy is not good," goes on to say that he "had hopes up to the 30th of the month Pakhons" (about 23 July) "on account of the waterless part of the district;" as it is, he would "wait until the 10th of Payni" (about 2 Aug.), evidently anxiously watching the rising Nile.

Another mutilated document (S. 251) from Meleagros the son of Meleagros, who bears the curious title of the "champion of peace," declares that he had "valued the crops . . . for the 23rd year, 200 metrêtes; 33½ not having been paid (into the treasury) [on account of] excess."

In one year the tax on the gardens and vineyards produced 3 talents 626 copper drachmæ or 104 silver drachmæ and 2 obols, (giving a ratio of 1:351 for silver and copper value) the tax on vineyards alone amounting to one talent 617 copper drachmæ, while there was an additional tax on their produce. The fellahin who worked on the estates are called sometimes "agriculturists," sometimes "serfs." Thus (G. 117a) on the 3rd of Epeiphi of the 7th year (B.C. 240) Theodôros received a memorandum of Teôs thro' his agent Hermophilos on the back of which he has written the words: "[Let] the work [be] valued equally per serf that it may not trouble us."

Theodôros is called "the steward" in a fragment (G. 116) which reads as follows: "You will do well if it seem good to you to write to Theodôros the steward that he should allow us to draw 100 fathoms as far as the inn." Above are the words: "Memorandum for Theodôros from Petoubastês and Petekhôn," while on the back is written: "The 8th year, the 26th day of Pharmouthi: memorandum from Petoubastês and Petekhôn; mortgage of land to Theodôros."

Another "steward" named Phaiês, who seems to have looked after the royal household, is mentioned in some other letters. One of them (E. 74) is as follows:—"To Phaiês the steward from Ammônios the secretary of Phlyês (know) that when I was present the fellow from the neighbourhood of Oxyrinkha handed in an account to the office; and on the 27th day at the first hour when I was in the office a servant came from Kallôn summoning me. Having put down the books I went out, and when I was at the door of the war-office* the servant ordered (them) to take me away, and now I am in the police-station.†

* Or "general's quarters." † Literally "the day-watch-house."

Farewell." The missive is a mysterious one; all we learn from it is that the writer had been arrested and confined, not in a regular prison, but in a sort of "lock-up." The second letter is more explicit, and informs us of the existence of "royal gooseherds," who, however, it would appear, sometimes failed in their duty (E. 75). "To Phaiês the steward from Paôs the son of Petesoukhos and Inarôs the son of Toustotoêtis the royal gooseherds from Pharbaithos, and Paôs the son of Armaios and Amoleês the son of Petosiris the royal gooseherds from Persea Iskhyria. The steward comes to us, ordering us to furnish for the table 12 geese; as we are not able (to do so) we request you, since he further levies upon us the [number] of geese levied for the table upon the gooseherds of the nome, on account of their being half the contribution, to send our account to the office to be inspected; and if it should be correct as we write (it is), that it be done to us accordingly in order that we may be able to deal justly by the king. Farewell."

72. The Fayoum perhaps provided copper as well as stone and the produce of its gardens and farms. Reference is made to the "copper-mines" (G. 113), tho' unfortunately the mutilated state of the papyrus prevents us from knowing where they were situated. Then, as now, moreover, a revenue seems to have been derived from the fish caught in the great canal. At all events this is the most probable interpretation of a document, the key-word to which is half destroyed. I translate it thus:

"The 32nd year, from Theodotos, the account of the [revenue on the fish-pots] in the canal of the harbour of Ptolemais, in the month Thoth, the 3rd day; from the collection* made by Kalatyti 5½ silver drachmæ [less one], i.e. 4;

the 4th day, from Hôros the son of Nektheneibis the half of 7½ drachmæ, 3¾;

from the collection made by Komoapis the half of 10 dr., 7 (*sic*);

from the slaves of Sokeus the half of 8 dr. 2 obols, 4 dr. 1 obol;

[the 5th day], from the collection made by Paleuis the half of 6 dr. 2 ob., 3 dr. 1 ob.;

from the slaves of Orsenouphis the half of 2 dr. 2 ob., 1 dr. 1 ob.;

the 6th day, from the collection made by Kalatyti the half of 19½ dr., 14½ (*sic*);

from the collection made by Hôros son of Inarôs the half of 7 dr., 3½;

* The word is that which is used in the New Testament in the sense of a "collection for the poor."

- from Hôros the son of Nekhtheneibis the half of 5 dr., $2\frac{1}{2}$;
 from the collection made by Solois the half of 4 dr., 2 ;
 the 7th day, from the collection made by Orsenouphis the half of 15 dr., $7\frac{1}{2}$;
 from the collection made by Sokeus the half of 12 dr., 6 ;
 from Hôros the son of Khestôytês the half of 11 dr., $5\frac{1}{2}$;
 from the collection made by Pacis the half of 16 dr., 8 ;
 from Tekhesyeus the half of 14 dr., 7 ;
 the 8th day, from Hôros the son of Nekhtheneibis the half of 14 dr., 7 ;
 from the collection made by Kalatytiis the half of 18 dr., 13 dr. 5 ob. (*sic*) ;
 from the collection made by Paleuis the half of 10 dr., 5 ;
 from Petoseiris, the half of 10 dr., $5\frac{1}{2}$ (?) ;
 from the collection made by Solois the half of 16 dr., 8 ;
 from Hôros the son of Inarôs the half of 8 dr., 4 ;
 the 9th day, from Hôros the son of Nekhtheneibis the half of 11 dr., $5\frac{1}{2}$;
 from the collection made by Kômoapis the half of 12 dr., 9 (*sic*) ;
 from the collection made by Kalatytiis the half of 9 dr. 5 obols, 7 dr. 2 obols (*sic*) ;
 from Orsenouphis the half of 5 dr., $2\frac{1}{2}$;
 the 10th day, from Hôros the son of Nekhtheneibis the half of 2 dr. 2 obols, 1 dr. 1 ob."
73. Among the most curious of the papyri are three receipts from a certain Kephâlôn a charioteer, written in a somewhat illegible cursive hand. They run thus (F. 81): "The 21st year, the 24th day of Tybi, Kephâlôn the charioteer acknowledges the receipt from Kharmas the son of Asklepîadês [and . . .]los the son of Ar[mai]os at the harbour in Ptolemais, according to the order of Arteutês the overseer of the district, for 5 chariots that have followed him 5 *minæ* (?)¹ and for 3 horses to run together 3 *minæ* (?)¹; for himself and 7 charioteers, to each of pure bread a quarter of a *khœnix*,² in all 2 *khœnikes*; of oil to each $\frac{1}{4}$ of a *kotylê*, in all 2 *kotylæ*, of wine to each 4 *kotylæ*, in all 2 *khœnikes* 8 *kotylæ*; and for 13 grooms, of salted bread to each 2 *khœnikes*, in all 26 *khœnikes*, of oil to each $\frac{1}{8}$ of a *kotylê*, in all 1 *kotylê* and $\frac{7}{8}$; and for a . . . porker, and for a lame (?) horse handed over (to be cured), for the oil 3 *kotylæ*, (and) the wine 3 *kotylæ*; and for singeing, for the candles of castor oil 9 *kotylæ*." The second receipt (F. 82) is injured at the commencement. "The 21st year, the 3rd of Mekhir until the 24th of Tybi or the 3rd of Epeiphi, Kephâlôn the charioteer for two chariots and for horses and for 10 grooms. The 21st year the 3rd of [Mekhir, Kephâlôn] the charioteer [acknowledges] the receipt from Kharmas the [son of Asklepîadês and . . . los the son of Armai]os in [Ptolemais at the harbour, for chariots and] two [charioteers] that were left to . . . from the 26th of Tybi to the 3rd of Mekhir, to each (charioteer) per diem of loaves of fine wheat flour $1\frac{1}{2}$ *khœnix*, in all 3 *khœnikes*; of wine 4 *kotylæ*, in all 8 *kotylæ*; of oil a quarter of a *kotylê*, in all $\frac{1}{2}$ of a *kotylê*; and on the 9th day, of bread 7 *khœnikes*, of wine 3 *khœnes*, of oil $4\frac{1}{2}$ *kotylæ*; and for four grooms, to each of salted bread 2 *khœnikes*, in all 8 *khœnikes*; of oil, to each $\frac{1}{8}$ of a *kotylê*, in all half a *kotylê*; and on the 9th day of bread $1\frac{3}{4}$ *khœnikes*, of oil $4\frac{1}{2}$ *kotylæ*; and for a lame (?) horse handed over (to be cured) and phlebotomised, from the 26th to the 30th of Tybi, per diem of wine $1\frac{1}{2}$ *kotylæ*, of oil $1\frac{1}{2}$ *kotylæ*; and on the 5th day of oil $7\frac{1}{2}$ *kotylæ*, of wine $7\frac{1}{2}$ *kotylæ*; and for singeing, per diem of castor-oil $7\frac{1}{2}$ (?) *kotylæ*, (and if) he should give any trouble, from the 30th of Mekhir to the 3rd (of Phamenoth) per diem of oil 1 *kotylê*, in all 3 *kotylæ*, of wine 1 *kotylê*, in all 3 *kotylæ*, and for [the horses] that are present . . ."
- Only the last lines of the 3rd receipt remain (F. 81): ". . . a porker and . . . to the 5 chariots 3 *minæ* (?) and an extra horse 1 silver drachma. Sixteen horses: to each for fodder 8 bundles of grass, in all 128 bundles per diem; and from the 1st of Mekhir to the 3rd 384 bundles, and for the 5 chariots that were present on the 3rd 2 *minæ* (?) (and) the 3 horses to run together 3 *minæ* (?); for all the horses, 19 in number, for each, of fodder 152 bundles of grass, and on the 4th day . . . for fodder 280 bundles of grass."
- To this is attached the following receipt: "Kephâlôn the charioteer acknowledges the receipt from Kharmas the steward of the fodder and what is necessary for the carriages in the house and for the grooms, as well as of what has been stated in the contract."
- We have another receipt given to the same Kharmas (G. 112) which reads: "Hôros acknowledges the receipt from Kharmas of necessaries according to the

¹ The interpretation of the symbol is purely conjectural. It looks like a compound of π and ι .

² The symbol for "quarter" has been written in the wrong place.

bond; Ptaxas has made the copy by order of Hôros as he himself cannot write."

We gather from a fragment (E 68) that the public deeds and bonds were kept, not in the Fayoum, but at Alabastropolis, a city supposed to be now represented by the Kôm-el-Ahhmar on the eastern bank of the Nile a little above Minieh. The fragment is as follows:—" [The deed] has been registered in the public records by Histiaios. [They] wrote this in Krokodilopolis the 13th year, on the 15th [day] of Payni on account of this keeper of the bonds . . . in Alabastropolis."

A minute examination of all the fragments when they have been extracted from the mummy-cases will doubtless reveal many more interesting facts. At present, however, a large number of the fragments are of so small a size as to make it impossible even to guess at their contents. Here and there, indeed, a phrase is met with which throws light on the general character of the document in which it occurs. Thus we have a fragment of a letter (J 132) dated the 4th day of Khoiak and the 25th year, in which we find the words: "but as I have no friends, request Hôros . . ." As a little above we read: "write to Xanthippos that he pay great attention to me," it is evident that the writer wanted a letter of introduction.

Among all this mass of fragmentary correspondence there is one small square piece of papyrus which contains a complete text, written in a neat cursive hand. It is a memorandum, not about business, but of the appearance of a ghost. This curious relic of a distant past runs as follows (F 88): "A boy appeared to be on the columns in the country-house of Métrodôros."

74. The collection of papyri which I have been describing does not by any means include all that have been rescued by Mr. Petrie from the coffins of the Egyptian dead. There is still a considerable quantity which has not yet been arranged for examination, and about which I hope to report next year. A large number of draughts of Greek wills also exist which have been placed in the hands of Professor Mahaffy. They belong for the most part to the military veterans who had received lands in the Fayoum. The veterans were divided into two classes, the older of whom had each a hundred *aruræ* of land allotted to them.

The text of all the papyri will be published as soon as possible in *Hermathena* with a philological commentary.

By way of Supplement I would add to this account of the Greek papyri of Gurob, translations of two papyri found by Mr. Petrie at Howâra. The papyri are of great size and quite perfect. They were discovered in an earthen jar, neatly wrapped round with rags, small sticks being inserted to prevent the rags from injuring the brittle papyrus within. They prove to be contracts relating to the sale of two monasteries by a certain Eulogios son of Joseph, who describes himself as having been formerly a Melitian monk, but "now orthodox." The Melitians or Melêtians, it may be observed, derived their name from Melêtios bishop of Lykopolis (Siût), the rival and antagonist of Peter the patriarch of Alexandria. The deeds are dated in the years 512 and 513 A.D., and throw much light upon the geography of the Fayoum at the time as well as upon legal procedure. I have published the texts in the *Revue des Études grecques* 1890, pp. 131 *sq.*, and M. Th. Reinach has added a translation of them.

No. I. "In the consulate of Flavius Paulus and Moskhianos, the most illustrious, the 10th day of Thoth, at the end (?) of the 6th indiction, in the district (of Arsinoê), in the province of Arkadia. It is agreed by Eulogios the son of Joseph, formerly a Melitian monk, but now orthodox, formerly living in the mountain called Labla in the Arsinoite district, but now dwelling in the monastery called Mikron [Phyôn] in the suburbs of the same city of the Arsinoites, that he has willingly and spontaneously and irrevocably sold and handed over in full possession, from the present for all future time, to Pousis the son of Harpæsis, a Melitian priest (dwelling) in the aforesaid mountain of Labla, a property belonging to and devolving upon the vendor Eulogios, as he has guaranteed and stated in writing, the sale being made at the risk and charge of the vendor, for just and honourable reasons, conformably to his rights and undisturbed use and possession. (This property) in the aforesaid mountain of Labla (consists of) a monastery in its entirety with all its cells, facing east, together with the ground in front of the cells and all rights over it from the foundation to the whole of the roof, without the reservation of anything to the vendor Eulogios.¹ The (monastery) is bounded on the south by the mountain and the monastery of Saint Andrew the Priest, on the north by the monastery of Naharaos the priest, on the east by the mountain, (and) on the south-west by the public road

¹ Literally "so that nothing whatever throughout (the building) should remain unsold there to the vendor."

on which is the monastery of Peter the deacon. And the vendor Eulogios (acknowledges) that he has received from the purchaser Pousis the full price agreed upon between them and satisfactory to both for the same monastery in its entirety sold by Eulogios to Pousis, viz. 8 pieces of imperial gold¹ current and of good weight and 11200 large pieces of silver,² given by the purchaser to the vendor from hand to hand in the presence of the undersigned witnesses. Wherefore, (he acknowledges) that the purchaser Pousis is from henceforth lord and master of the aforesaid monastery [which] has been sold, in its entirety, with all its cells and the ground in front of the cells, with all rights over it from the foundation to the whole of the roof, and that he has power to manage, administer, complete, improve, pull down, rebuild (and) alter in whatever way and fashion he desires, to transmit (the property) to his heirs and successors, to alienate (it) (or) give (it) to others as he wishes, without hindrance. And (it is agreed) that the vendor Eulogios and his heirs and successors shall immediately take action against whosoever shall oppose or lay claim to the whole or a part of the property at their own expense and charges, (in order) to secure the peaceable possession of it to the purchaser Pousis and his heirs and successors; and if they do not do so, they shall pay double the price received by the vendor Eulogios as well as all expenses and charges which shall appear to have been incurred through the improvement or rebuilding of the property, and also any losses judicial or extrajudicial occasioned by it, all these (being paid) double. The deed of sale has been duly drawn up in a single copy, and the vendor Eulogios has guaranteed to the purchaser Pousis by this sale a certain and secure title to his goods present and future, severally and generally, in the matter of security and in regard to mortgage, as by the decision of a court. As to which being questioned by the purchaser face to face +³Eulogios the monk, the son of Joseph, aforesaid, has declared: I have voluntarily sold to you, Pousis, a Melitian priest, my property, for just and honourable reasons, in the aforesaid mountain called Labla in the Arsinoite district, viz. a monastery in its entirety, facing east, with all its cells, along with the ground in front of it, and all rights over it from the foundation to the whole of the roof, and I have received from

you by hand its price, 8 pieces of imperial gold of good weight and 11200 large pieces of silver, given to me in the presence of the undersigned witnesses; and I agree to all the terms herein contained and I have given a quittance. (Subscribed:) Aurelios Phoibammôn the son of Kyrillos from the city of the Arsinoites, having been requested (to come) have signed on behalf of the vendor who is present but does not know how to write; Aurélios Paulas the son of Dôteinos a wine-merchant from the city of the Arsinoites, I witness this sale and the payment of the price 8 pieces of gold and 11200 pieces of small coin as aforesaid; Aurélios Eulogios the son of Euphrôn, from the city of the Arsinoites, I witness the same sale and payment of the price 8 pieces of gold and 11200 pieces of small coin, as aforesaid; Aurélios Neilios the son of Phoibammôn a land-surveyor from the city of the Arsinoites, I witness this sale and the payment of the price, 8 pieces (of gold) and 11200 pieces of small coin as aforesaid; + Orneiôs Apollônios the son of Eulogios (?) from the city of the Arsinoites, I witness this sale and the payment of the price 8 pieces of gold and 11200 pieces of small coin as aforesaid; Aurélios Eulogios the son of Neilammôn, a wine-merchant from the city of the Arsinoites, I witness this sale and the payment of the price 8 pieces of gold and 11200 pieces of small coin as aforesaid. (*Monogram of Christ.*) Folded and sealed by me Eulogios."¹

No. II. "The year after the consulate of Flavius Paulus and Moskhianos, the most illustrious, the 15th day of Epeiphi, at the beginning of the 7th Indiction in the district (of Arsinoê) in the province of Arkadia.

It is agreed by Eulogios, an orthodox monk, of the monastery of Makron Phyôn in the suburbs of the city of the Arsinoites, the son of Joseph and Tlesis, that he has willingly and spontaneously and irrevocably sold and handed over in full possession, from the present for all future time, to Papnouthios the son of Isak and Julius the son of Aranthius, both Melitian monks of the monastery called Labla in the suburbs of the aforesaid city of the Arsinoites, a property belonging to the vendor Eulogios and devolving upon him, as he has guaranteed and stated in writing, at his own risk and charge, with proper and lawful titles, conformably to the rights accruing to the purchase and his undisturbed use and possession. (This property) in the aforesaid monastery of Labla (consists) of a monastery in its entirety, facing east, with all its chambers, together with all rights

¹ The *solidi dominici*.

² M. Reinach thinks that the *miliarensia* are meant, the *miliarense* being the 1000th part of a gold *libra*, so that 11200 *miliarensia* would have been equivalent to 800 *solidi*.

³ Eulogios affixed his "cross" as he was not able to write.

¹ This is written first in Latin and then in Greek letters.

appertaining to it from the foundations to the whole of the roofs, without the reservation of any thing to the vendor Eulogios. (The monastery) is bounded, as is agreed on both sides, on the south by a deserted monastery, on the north by the monastery of Naharaos the priest, on the east by the mountain and the approach and exit of the aforesaid monastery, on the south-west by the public road on which (is) the monastery of Peter the deacon. And the aforesaid vendor the monk Eulogios further acknowledges that he has received and taken in full from the purchasers Papnouthios and Julius what had already been settled, the full price namely that had been agreed upon between them and had appeared satisfactory to both (parties) in return for the aforesaid property which had been sold to them by the vendor in two equal shares, to wit the aforesaid monastery in its entirety, and in return for all rights over it from the foundation to the whole of the roof, (the sum being) ten pieces of imperial gold current and of good weight, given by the purchasers to the vendor from hand to hand, in the presence of the undersigned witnesses. Wherefore (he acknowledges) that the purchasers Papnouthios and Julius are from henceforth lords and masters in two equal shares of the aforesaid monastery which has been sold in its entirety, with all its chambers and with all rights over it from the foundations to the whole of the roof, as is aforesaid, and that they have power to manage, administer, complete, improve, pull down, rebuild (and) alter (it) in whatever way and fashion they desire, to transmit (it) to heirs and successors, to alienate and give (it) to others as they wish, without hindrance. And (it is agreed) that both the vendor Eulogios and his heirs and successors shall immediately take action against whosoever shall oppose or lay claim to the whole or a part of the property at their own expense and charges, (in order) to secure the peaceable possession of it to the purchasers Papnouthios and Julius and his heirs and successors; and if they do not do so they shall pay double the price received by the vendor Eulogios as well as all expenses and charges which shall appear to have been incurred through the improvement or rebuilding of the property, and also any losses judicial or extra-judicial occasioned by it, all these (being paid) double. The deed of sale has been duly drawn up in a single copy, and the vendor Eulogios has guaranteed to the purchasers Papnouthios and Julius by this re-emption a certain and secure title to all his goods present and future, severally and generally, in the matter of security and in regard to mortgage, as

by a decision of the court. As to which being questioned by the purchasers face to face, + Eulogios, the orthodox monk, the son of Joseph and Tlesis, aforesaid, has declared to them: I have voluntarily sold to you, Papnouthios son of Isak and Julius son of Aranthios, Melitian monks, my property with proper and legal titles (which is) in the aforesaid monastery of Labla, viz. a monastery in its entirety facing east, with all its chambers, together with all rights over it from the foundations to the whole of the roof, without the reservation of anything whatever to myself, and I have received in full from you by hand its price, 10 pieces of imperial gold of good weight, given to me in the presence of the undersigned witnesses, and I agree to all the terms herein contained; and on being questioned I have made (this) declaration and given a quittance. (Subscribed :) I Phletimotheus the son of Abraham, councillor, . . . of the city of the Arsinoites, have written by request for the vendor who is present but not able to write; Aurelius Julius the son of Phoibammôn, head of the guild of brickmakers, from the city of the Arsinoites, I witness this sale and payment of the price, 10 pieces of gold as aforesaid; Aurélios Andreôs the son of Apa Ol-trôtêx from the city of the Arsinoites, I witness this sale and payment of the price 10 pieces of gold as aforesaid; Aurélios Pêktinos from the city of the Arsinoites, I witness this sale and payment of the price 10 pieces of gold as aforesaid; Aurélios Pousis the son of Joseph, a wine-merchant from the city of the Arsinoites, I witness this sale and payment of the price [10 pieces] of gold. (*Monogram of Christ.*) Folded and sealed by me Eulogios."

75. Rough List of Greek Papyri.

(Numbers omitted are unimportant fragments. *Broken*, signifies that some lines are lost; *fragment*, that the lines are incomplete. The letters shew the individual cartonnages in which the papyri were grouped contemporaneously. *L* shews the number of lines.)

A 1 Letter 5½ l. broken. Polykratês to his father on business. Found along with 20 and 21.

2 Letter 9 l. perfect. Same to same, asking his father to come to him.

3, 3a Accounts 14 l. perfect. "Wine at 4¼ obols the *khous*, altogether 2¼ silver drachmæ; figs one obol" . . . "fruit 1 silver drachma."

4 Letter 7 l. frag. dated Athyr 26th (?) year.

5 Letter 18 l. frag. "To be ambassador" . . . "fond of money" . . . "to Krokodilopolis."

- 6 Letter 6 l. frag.
- 7 Account 37 l. broken. Taxes on eel traps (?) in the canal of the harbour of Ptolemais: yr. 32 = 254 B.C.
- 8 Letter 4 l. fragment. "Write ordering the money and iron to be given."
- Aa 9 Letter 14 l. frag. Stone for house building.
- 10 Letter 5 l. frag. same.
- 10a Letter 1 l. frag. "Agênôr to Theodôros."
- 11 Letter 20 l. frag. and No. 23 part of same.
- 12 Letter 3 l. frag. yr. 33 Pamenoth 9.
- 13 Part of a text (?) 8 l. in three broken columns.
- 17 Letter frag. to Theodôros.
- 21 Letter frag. to Kleôn.
- 22 Letter 16 l. frag. "I have written to you on matters relating to the country," "we are ourselves coming to the place of embarcation."
- 26 Accounts 13 l.
- B 27 Letter 7 l. perfect. Dêmétrios to Kleôn.
- 28 Letter 6 l. frag. Apollônios about furnishing "the iron."
- 31 Letter 7 l. part frag. To Kleôn the architect about stone cutting, yr. 30 Paophi 24.
- 33 Letter 3 l. frag. yr. 30 Athyr 16.
- 35 Letter 3 l. frag. Theodôros to Kleôn.
- 36 Letter 12 l. frag. Copies of two letters from Philotimos.
- 39 Letter 13 l. frag. yr. 30, Athyr 4.
- 40 Accounts 35 l. broken.
- C 42-59 Accounts Taxes on bricks, bronze, and lincensellers, from various persons living in different towns of the district.
- 60 Accounts 12 l.
- D 62 Deeds 5 l. frag. & 7 l. perfect. From Theotimos a Thracian of the cavalry, debtor to Philip for vineyards, in all 1 talent 3000 drachmæ.
- 64 Letter 8 l. frag. from Alexander.
- 65 Accounts 19 l. frag.
- 67 Letter 3 l. perfect. Heraklides to Androthenês, naming the house of Hôros.
- E 68 Letters 34 & 5 l. frag. yr. 13 Payni 15, naming Alabastropolis.
- 69 Letters 53 l.
- 70 Account 18 l. perfect.
- 71 Letter 9 l. perfect.
- 72 Letter 16 l. frag., and 3 l. on back, to Héliodôros.
- 74 Letter 13 l. perfect. Ammônios, scribe; to Phaiês, steward.
- 75 Letter 28 l. perfect. Four royal gooseherds to Phaiês, about 12 geese for the table.
- 76 Letter 8 l. to Phaiês.
- 78 Accounts 8 l. & 13 l. frag. and letter 2 l. frag. to Nikôn.
- 79 Accounts 30 l. smudged.
- F 80 Receipt 3 l. perfect. To Kharmas from Kephalon a groom, for fodder and horse expences.
- 81 Receipt 9 l. and 2 l. broken. Horse expences, and receipt to Kephalon.
- 82 Letter 2 l. and 18 l. broken. Horse expences. yr. 21 Mechir 3.
- 86 Letter 2 l. frag. and 12 l. perfect. Horse expences. yr. 21 Tybi 24.
- 87 Letter 16 l. frag.
- 88 Memo. 4 l. perfect. Appearance of a ghost in the house of Mêtrodôros.
- 92 Letter 10 l. and 6 l. frag. Horse expences and acknowledgment of receipt of Hôros from Kephalon.
- G 93 Account 20 l. frag.
- 95 Account 11 l. broken. yr. 21 Athyr 2.
- 96 Account 11 l. frag. Taxpayers' list, and No. 107 24 l. frag.
- 100 Letter 12 l. frag. Horse expences and receipt.
- 101 Letter 9 l. frag. Charges for wine &c. for grooms.
- 102 Letter 3 l. frag. Charges for wine &c. for grooms.
- 103 Letter 11 l. frag. Charges for wine &c. for grooms.
108. Letter 19 l. nearly perfect. Dêmétrios to Kleôn, about bread for workmen, &c.; yr. 30 (or 1) Khoiak 1. (Writing of No. 185.)
- 109 Letter 6 l. frag. Horse expences. yr. 21 Athyr 9.
- 110 Letter 6 l. frag. Fodder expences.
- 111 Letter 18 l. broken. Apollônios to Kleôn, quarrying expences.
- 112 Letter and receipt 2 l. broken 4 l. perfect. Horse expences and receipt of Horos to Kharmas.
- 113 Letter 10 l. frag. naming Harmakheros.
- 115 Letter 7 l. frag. To Dionysios from Dôros about embankments, naming Kleôn. yr. 30 Athyr 4.
- 116 Letter 7 l. To Theodôros steward, mentioning 100 orgyæ. yr. 8 Pharmouthi 26.
- 117 Letter 10 l. frag. Hermogenês to Theodôros.
- 117A. Letter 3 l. frag. Hermophilos to Theodôros. yr. 7 Epiphi 3.
- 118 Receipt 3 l. broken. Kharmas to Hôros.
- 119 Letter 18 l. frag. from a steward.
- 121 Letter 7 l. frag. yr. 21 Tybi 24

- 122 Account 50 l. frag. List of taxpayers.
 H. 123 Letter 6 l. perfect. Moskhiôn, written by a scribe, signed by Moskhiôn, endorsed by receiver. yr. 25 Pharmouthi 5.
 124 Letter 6 l. frag. Dioskouridês to Diophanês his father, yr. 25 Phamenoth 11.
 125 Petition 22 l. frag. (fine) to Diophanês the general, yr. 26.
 128 Accounts 10 l. frag. and back. List of taxpayers.
 129 Letter 9 l. frag. from a lady, daughter of Diophanês.
 131 Petition 25 l. frag. (fine) sent from Athênodôros a land surveyor.
 J 132 Letter 9 + 7 l. frag. yr. 25 Khoiak 4.
 K 135 Letter 14 l. frag.
 136 Letter 24 l. frag. Mention of feast of Poseidon.
 L 138-40 Accounts 30 l. frag. Private accounts.
 142 Memos. and accounts 12 + 12 l. frag. with letter on back naming Amolpos.
 K 143 Accounts 17 l. frag.
 144-6 Accounts 34 l. frag. Travelling expences?
 153 Accounts List of taxpayers.
 M 163 Letter 12 l. perfect. to Kleôn. yr. 30 Thoth 9.
 179 Letter 6 l. frag. "In Ptolemais."
 185 Letter 9 l. broken. In hand of No. 108.
 187 Letter 10 l. frag.
 188 Letter 21 l. frag.
 O 189-200 Probate copies of wills. yr. 12.
 P 201-220 Same.
 Q 222 Letter 8 l. frag. (In hand of Dêmétrios to Kleôn, No. 108.)
 224 Letter 4 l. frag. Polyphrôn to Diogenês.
 225-9 Probate copies of wills. yr. 37.
 236 Letter 15 l. long.
 R. 237-8 Same, yr. 23.
 S. 239-49 Frags. of tax-lists with heading.
 250 Receipts 14 l. frag. from Isidôros son of Asklêpiadês.
 251 Receipt 7 l. frag. Meleagros son of Meleagros.
 256 Fragments of the Antiope of Euripides.
 257 Receipts of successive tax payments, 19 l. frag.
 258 Letter 10 l. frag.
 259 Letter 12 l. frag. Dôrotheos. yr. 3. Epi-phi 5.
 260 Letter frag. yr. 31.

SUMMARY OF DATES.

Ptolemy II Philadelphos.

Year 21	F F G G G	265
23	R	263
25	H H J	261
26	H	260
30	B B B G G M	256
31	S	255
32	A	254
33	Aa	253
37	Q	249

Ptolemy III Euergetes.

3	S	244
7	G	240
8	G	239
12	O	235
13	E	234
15	O	232
22	O	225

76. [I have been favoured with the following translation of one of the wills, by Prof. Mahaffy.

W. M. F. P.]

"In the reign of Ptolemy, son of Ptolemy and Arsinoe the brother gods, the 22nd year [225 B.C.] . . . rates (? Eukrates or Sokrates) the son of Theogenes being priest of Alexander and the gods adelphi and the gods euergetæ, the Kanephoros of Arsinoe Philadelphos being Berenike the daughter of Kallianax, on the new moon of the month Xandikos, in the city of the crocodiles of the Arsinoite nome, the following testament was made, in his sound mind and right understanding by Aphrodisias of Heraklea, a sojourner about 80 years old, short in stature [word lost] with aquiline nose and bright eyes, curly hair, but rather bald, with long ears.

May it be my lot to keep in health and manage mine own affairs; but should any mortal chance befall me—I bequeath all my goods to Axiothea daughter of Dizoulos the Thracian woman, and I leave nothing to anybody else. But I choose as executors king Ptolemy son of Ptolemy and Arsinoe the brother gods, and queen Berenike sister and wife of king Ptolemy, and their children. Witnesses. Paris the Thessalian, son of Theophilos, of the 2nd settlement, about 30 years old, of middle height, olive complexion, with high forehead and straight hair, with a scar on the middle of his forehead, and a mole beside his right eye. Getas son of [lost] the Koan, of the 2nd settlement, aged about 30, of middle height, olive

complexion, and round forehead [word lost] with eyebrows joined, and a scar on each [cheek?]. Neilon the Libyan, son of Sotairos, of the 2nd settlement, short, olive complexion, with a round forehead and straight hair, with a scar between his eyebrows. Demetrios the Isthmian, son of Demetrios, about 50 years old, tall, olive complexion, rather bald with aquiline nose."

CHAPTER X.

THE HIERATIC PAPYRI.

By F. LL. GRIFFITH.

77. It seems that some time must still elapse before even a beginning can be made in publishing facsimiles of the hieratic papyri which Mr. Petrie has collected at Kahun and Gurob. The wonderfully varied and novel character of their contents combine with their fragmentary condition to make the task of decipherment a slow and laborious one. Seldom are the strokes of the scribe so firm and clear that the would-be copyist can imitate them with certainty until he has ascertained the meaning of the whole context and identified the signs: nor can the meaning be learnt until the fragments have been sorted over and over and those that belong together united. Gradually during months of effort the handwriting, the state of the papyrus, the arrangement of the fibres have all been made to tell their tale, and assisted by a growing familiarity with the script the student, whose enthusiasm is more than ever aroused, restores one document after another to a definite, though still, alas! incomplete entity. A vast number of the fragments are not larger than an inch square, many are less than half an inch, but thanks to Mr. Petrie's careful packing in "lots" as they were obtained, and to the means of characterisation that I have just mentioned, there is no cause to despair of discovering how pieces join if they *will* join (although one lot may contain 50 or 60 documents of which other parts are sometimes to be found in a different lot); and if they will not join, yet a skeleton-papyrus can sometimes be made up by analogy from more complete examples and prove very instructive. It must be mentioned, however, that to all appearance, quite one half of the papyri of which Mr. Petrie obtained the remains are represented by a single small or even minute fragment. The sources of injury have been various, but here I need only point to the extreme antiquity of those from Kahun, which, though sometimes as fragile

as tinder, are far more numerous than the stouter and later papyri of Gurob. Before issuing facsimiles one would wish to make every possible "fit," and to ascertain whatever significance each fragment may possess. A systematic catalogue on which I am now engaged has proved to me the importance and hopefulness of this aim: as one number after another is added to the list, the obscurity that still hangs over this wonderful collection becomes less and less dense, and I hope that a second year will not have passed before some of the papyri of 1889 appear in facsimile.

78. This catalogue is only begun, and it is consequently impossible to give more than an incomplete summary of the classes of documents that will find a place in it.

The first line of demarcation should be drawn between (I) the writings that may be supposed to have emanated directly from the scribe's brain—such as letters, accounts, legal documents and memoranda: these may in some instances be copies; but, if so, they are copies made with the writer's attention alive—and, (II) those that were presumably composed by an earlier scribe, such as literary, scientific, and religious works, school exercises, etc. It is difficult to explain the fact that ridiculous errors exist in such writings, even when the calligraphy shows the skill of a practised scribe and the corrupt passages cannot have presented any difficulty. The cause must be sought in the climate of Egypt inducing extreme carelessness and languor when a more or less dilettante occupation was engaged in by the scribe for his own individual pleasure and profit; while as to matters of business the fear in some cases of substantial loss, in others of an overseer's stick, kept the brain at work. Amuletic writings and papyri deposited with the dead were very faulty for a similar reason, namely that, not having to be read, their correctness would never be put to the test by a second person. Thoroughness, accuracy and orderliness were virtues that met with special praise and recognition in ancient Egypt because of their evident rarity except when brought out by compulsion.

The following remarks on Mr. Petrie's collection as well as the translations are given with all reserve. Further study will doubtless put many things in a new light.

79. I. ORIGINAL WRITINGS.

The legal and official documents may be classed according to their titles: the *amt-per* or deed recording the transfer of property from one person to another either prospectively or immediately, and

either with or without benefit to the granter, or as it is technically expressed, with or without *consideration*. A species of will and of marriage settlement would appear to have been commonly committed to writing under this name. Two examples of it exist in the collection and are translated in KAHUN p. 45. A third fragmentary papyrus contained the evidence given that the witness' father had made an *amt-per* exchanging his priesthood of Sepdu for some other benefit which the son might claim.

The *sumu*, apparently the appointment of a government officer, or the engagement of a servant: of the former kind there would seem to be an instance from Kahun: of the latter, one from Gurob (temp. Amen-hotep III).

The *aput*, or official list of a man's household, enumerating not only members of his family, but also, if he possessed any, the serfs and slaves in batches as they were acquired. The household might include father, mother, female relations, and young children of either sex. Adult males were probably employed as soldiers, clerks, labourers, etc., and would appear as such in other lists. These documents are drawn up in double columns, red and black, for it appears that generally speaking each Egyptian bore two names, and if he had only one name, in the second column instead of the surname is a kind of "ditto." Two examples, Kahun.

The *am ren f* lists, e.g. of superintendents and workmen engaged in dragging stone. Accounts kept journal-fashion; a fine and hitherto unique example from Thebes of the XIIth dynasty is at the Gizeh Museum, and was published long ago by Mariette: its decipherment, begun by the great De Rougé, was this year (curiously enough) recommenced by Borchardt in the Berlin Zeitschrift für Aegyptische Sprache, where I shall soon give a résumé of it: it was kept by a scribe of the royal treasury at some period during the XIIIth dynasty, and contains for each day concise and formal notes of the occasions for which several drafts or payments were made, together with names of persons and lists of things paid out or received. At the end of the day the clerk drew up his balance sheet. Small fragments are numerous from Kahun, and good pieces can be restored so as to be intelligible. I may especially note an account of oxen (largely kept in fractions as if several persons might have an interest in an ox, or it may be that it was a butcher's account): also lists of articles in great variety either *stolen* or *withdrawn* from a store.

80. To these may be added memoranda either

private or to be sent with letters, and written on small detached squares of papyrus. The letters form a numerous class. They are generally written on one side of a small sheet with the name of the writer and recipient on the back. The communication often exceeded the limits of one side and was continued on the back, but the most perfect specimens in the collection are nearly all of a very formal kind with hardly a grain of information, and this may explain the fact that they were still rolled up and sealed when Mr. Petrie discovered them. The earliest papyrus known is a fragment of a letter from Saqqâreh now at Gizeh. It dates from the Vth or VIth dynasty and was commented on by Borchardt last year: letters of the XVIIIth-XXth dynasties are comparatively common, but none were hitherto known of the intervening periods. A specimen of a formal letter is translated in KAHUN p. 46. Some quaint notes are scribbled on small squares of papyrus: one contains both the note and the reply, the latter in red ink.

81. II. COPIES.

Scientific works: A medical papyrus in three closely-written pages containing prescriptions for the use of midwives: some of these resemble in style the prescriptions contained in the Ebers (XVIIIth dynasty) and Berlin (XIXth dynasty) medical papyri, but there is nowhere any considerable verbal agreement. The prescriptions are very short, and there is only one incantation amongst them.

Fragments of a narrow strip with veterinary prescriptions in linear hieroglyphics, the lines in retrograde order. This is an absolute novelty.

Fragments of two mathematical works with text, I have not yet tried to identify their subjects; one I fear is beyond hope: it was beautifully written in columns, and still contains the most tantalising phrase "multiply by $\frac{1}{2}$ to infinity." Was it the famous problem that "took in" Hercules?

List of the fractions resulting from the division of 2 by the odd numbers from 3 to 21. The Egyptians could express any fraction that had 1 for the numerator, but no others, excepting only $\frac{2}{3}$. Thus $2 \div 19$ is expressed by $\frac{1}{12} + \frac{1}{76} + \frac{1}{114}$. The great mathematical "Rhind" Papyrus published and explained with great acuteness by Professor Eisenlohr in 1887 contains exactly the same table with some words of direction that are omitted from this example. (See Eisenlohr Mathematisches Handbuch, Text p. 36.)

Calculation of the contents of a circular granary resembling and yet differing considerably from that in Math. Handb. No. 43—numerals only without text.

Professor Erman, to whom I communicated this discovery informs me that he has since put together some small fragments of middle-kingdom writing from Thebes, likewise making up a calculation which exists in the Rhind Papyrus. The great Mathematical Papyrus, hitherto quite unique, was copied under a Hyksos king from writings of the time of Amenemhat III, the very period to which the Kahun papyri belong. It is noteworthy that all the known mathematical documents of ancient Egypt date from or can be traced to about the end of the XIIth dynasty.

82. Religious works: I have observed a few fragments from Kahun in linear hieratic. No other early papyri of this class are known, though linear hieroglyphic and hieratic texts have been found painted on coffins and on the sides of stone cists and grave-chambers of the XIth and XIIth dynasties. From Gurob there are fragments of a copy of the Book of the Dead written for Bakenamen. It evidently had good vignettes, but the text is atrocious beyond belief.

Literary works. Several pages of a papyrus containing a remarkable hymn to Usertesen III written on both sides of it. The beginning and end remain, but the intervening portion is of uncertain extent.

Small sheet recording apparently a bricklayer's *bon mot*; but mutilated.

Parts of two pages with a few lines of writing—portion of a strange episode in the mythical contest between Horus and Set, written in the popular dialect.

There are already lodged in museums nearly 1500 lines of literary texts written during the middle kingdom, besides a number of later copies of works produced in that period. The following is a list of the middle-kingdom literary papyri.

Five at Berlin, viz.: the story of Sanehat; the story of the Sekhti; a dialogue between a man and his soul together with a fragment of a fairy tale; portion of a second copy of the story of the Sekhti; the Westcar papyrus relating a series of wonderful stories that were told to amuse Khufu, and some marvels that happened hereafter.

At St. Petersburg is a fairy tale about a shipwrecked sailor (unpublished): at Paris the Prisse papyrus of proverbs. Lastly, at the British Museum are two series of fragments. 1. of the story of the Sekhti, with an unidentified text on the reverse. 2. of the proverbs of Ptahhotep in a different version from that contained in the Prisse papyrus. The latter I

had the pleasure of noting for the first time on the day on which I write this list. On the back of it are some remains of accounts.

The general nature of the stories can be gathered from Maspero's deeply interesting volume entitled *Contes populaires de l'Égypte Ancienne* (Maissonneuve 1889). The Prisse papyrus was discussed by myself in the Proceedings of the Society of Biblical Archaeology vol. xiii. p. 65. And I shall probably write a further account for the same society *à propos* of the new text. Next summer I hope to publish in a separate work the British Museum text of the story of the Sekhti (*Histoire d'un paysan*) together with a résumé of the other texts.

It is very curious that at the moment when Mr. Petrie was discovering ancient papyri at Kahun Professor Erman of Berlin had in the press his "Language of the Westcar Papyrus" (*Sprache des Papyrus Westcar*), a grammatical work of the highest importance, as revealing in a really scientific manner one stage in the development of Egyptian speech, and that an entirely new one, being almost, if not quite, the very stage represented so largely at Kahun. From a philological point of view the Westcar Papyrus, which will soon appear in facsimile, has the advantage of being a long clear narrative interspersed with conversations, and thus, as far as its twelve imperfect pages can, it exhibits fully the character of the language: the corresponding Kahun papyri are with a few exceptions terse business documents or letters full of obscure references, and by themselves would give a very scanty idea of its capabilities.

There is still one class of documents to mention and that is *school-literature*: unfortunately Kahun has added nothing to our knowledge of the methods by which children were trained to be scribes. There is no trace of spelling-books, nor lists of signs. The Roman Sign papyrus of Tanis, discovered by Mr. Petrie and published by the Egypt Exploration Fund ("Two Papyri from Tanis") remains absolutely unique.

The only school book or exercise from Kahun is a collection of model letters of the simplest kind, containing little more than repetitions of formulae.

83. Royal names in the papyri. Neferkara, probably the king of the VIth dynasty, favourably mentioned in the "praises of Usertesen III" which forms a section of the hymn above mentioned.

XIIth dynasty. Amenemhat I. He appears as the presiding deity of some locality in the "model letters." Oxen given by him to the temple of

Sebek of the Fayoum are referred to in a papyrus of accounts.

The cartouche of Usertesen II is the commonest of all. The pyramid cities Hotep Usertesen, Kherp? Usertesen, and if I recollect rightly Kha Usertesen (as in the colossus tomb at El Bersheh) are mentioned and are perhaps all to be attributed to this king, whose name often occurs in the letters as that of a presiding deity.

The hymn to Usertesen III may have been composed after his death: a reservoir or garden of this king is mentioned.

Amenemhat III is the first king of whom we may say that papyri certainly written in his reign were found at Kahun.

Amenemhat IV. One letter dated in his reign.

XIIIth dynasty. Sekhem khu tau ra (Sebek-hotep I?) the founder of the dynasty: a long *aput* list.

His successor Sekhem ka ra: another *aput*.

(The evidence for the identification of these two names is complicated, but I think will leave little to be desired when published.)

All the above cartouches are from Kahun: the great documentary age there, which can be proved to extend from Amenemhat III to Ra sekhem khu tau ra, was precisely the period during which the Pharaohs paid especial attention to irrigation: at that time the height of the Nile was frequently gauged as far south as Semneh above the second cataract. The prosperity of Kahun was due not only to the pyramid and temple of Usertesen II but also to the innumerable works involved in building and irrigation schemes thereabouts. Hotep Usertesen, as it was called, was an important entrepôt during the building of the pyramid of Amenemhat III at Hawara, and a scrawled letter speaks of works at three places viz. at Hotep Usertesen, at the tomb-site (hat) of the deceased princess Ptah neferu? and in the city of Aphroditopolis (Atfiyeh).

The transition from the XIIth to the XIIIth dynasty, though marked by Manetho and the Turin papyrus, cannot have been a great revolution.

Sebek nefru (who probably reigned jointly with Amenemhat IV) dying childless like her brother, may have left the kingdom to the representative of another branch of the "sons of Ra;" but this is only hypothesis. Kahun continued to flourish for a time, and the kings of the XIIIth dynasty treated their predecessors' monuments with respect.

Letters came to Kahun from Thebes, Heliopolis,

Heracleopolis (Ahnâs), Crocodilopolis (Medinet el Fayoum) as well as from places in the immediate neighbourhood connected with the worship of Usertesen. One of the most puzzling things is to find that Sepdu "Lord of the Eastern desert" is a local God: either we must suppose that the settlers at Hotep Usertesen came from the East of the Delta (or from the Eastern desert), and introduced his worship, or else we must seek an explanation in the original meaning of the word which we translate "East," namely "left." The Egyptians ascending the Nile from the sea had our "east" on their "left." Likewise if they ascended the Fayûm branch from the great lake or sea of the Fayûm, our North would be on their "left." The canal and lake of the Fayûm were of great mythological as well as commercial importance, and I really venture to suggest that they saw so much analogy in them to the main stream and the sea that they considered it most appropriate to place the desert north of the canal under the guardianship of Sepdu "Lord of the left hand desert." The Lake of the Fayûm was sometimes called *uat ur* like the Mediterranean and other seas: and the Fayûm in one of the sacred books is divided up into 24 little nomes as if it were a third land added to the "two lands" of Upper and Lower Egypt.

Kahun furnished also a letter of the XVIIth dynasty: it was written in duplicate and addressed to "Pharaoh L. W. H. the Lord" Amenhotep IV. Its date of the 5th year is valuable. In the 6th year the king having changed his name to Khuenaten dedicated his new capital city to the Sun's disk or Aten. The letter was written from Memphis and contains no reference to the disk worship: the writer Apîi is probably identical with an individual already known by a stela dedicated to Ptah in the museum at Florence.

From Gurob the most important papyri are—

Two small legal documents, *sunu*, found together, and both referring to the same transaction: dated in the 33rd year of Amenhotep III.

One page from a long letter or report presented to a son of Rameses II after the death of that king.

CHAPTER XI.

THE STONE IMPLEMENTS OF KAHUN.

By F. C. J. SPURRELL, F.G.S.

84. The stone implements brought by Mr. Petrie from Kahun and proved to be of the date of the XIIth dynasty are an unique collection, and form the first standpoint for a definite knowledge of the subject, in Egyptian history. All are domestic or trade implements. There are amongst them no ceremonial objects specially formed to take a part in religious rites during life or for sepulture merely; and no doubt is experienced when examining them that the style of chipping is of one and the same period. They form a reliable means for establishing a knowledge of the height at which the art then stood when it is considered how numerous are the individual objects from which a conclusion can be drawn, for in this matter any portion of a knife or tool stands for a whole one. [In making the drawings care has been taken to map out the flaking as accurately as possible with a view to displaying the style, but it must be remembered that the equal thickness of the lines is not intended to indicate that the delicacy of working was alike in all, for some are much finer and smoother than others.] Of course these implements do not represent work of the stone age properly considered. Some of their forms have influenced, as might be expected, similar tools in copper, but so have the metallic forms influenced those in stone; and while at the date 2600 B.C. some stone implements may not yet have been superseded, on the other hand others had entirely given place to those of copper.

The flint employed in the fashioning of the implements is truly flint; it is as much flint as that found in the cliffs of England and France, although geologically it is not of the same age. It is as well perhaps to state that there is no reason for giving the flint commonly used in Egypt in ancient times any special or distinctive name, such as pyromachous silex or cherty flint, as has been the custom hitherto; nor are the irregularly coloured stones known as Egyptian Jasper anything more than old river pebbles of flint, rolled and subsequently infiltrated with oxides of iron. As the flint is commonly found in tabular masses from which could be selected pieces more than a foot across and an inch or less in thickness much labour was saved thereby in the process of blocking out, preliminary to the fashioning of long

thin blades; while very large and thick masses abound either in the rock or as rolled pebbles, suitable for coarse work and for procuring cores from which flakes of great length could be struck at any moment as required. The flint usually employed was more or less opaque but was apparently more obedient to the operator's will than the translucent and clearer varieties. It was apparently less given to rippling and abrupt change in the direction of the line of separation than in the horny varieties. The edges of the flakes also are tougher and do not splinter so easily. The perfect ability to strike off long, thin, flat flakes extended from the prehistoric ages to Roman times. From deposits of all these ages cores and flakes having an exact similarity of form are gathered. At Kahun most of the carefully formed flakes have been struck off a core by repeated blows, which under a lens are seen to have crushed the end which came in contact with the hammer, rarely however leaving a clear portion of the upper or striking surface attached to the flake by which one can measure the angle it made with the flake intended to be separated. The angles which have been measured reached from 28° to 48° , the latter in one case only. The amount of wind in the flakes was usually very slight.

85. The implements under consideration consist chiefly of the blades of axes, adzes and knives; there are also minor tools and flakes trimmed and serrated.

In the flint axes, the flaking is mostly very bold, and although not neat, is of the kind which comes of that perfect mastery of the material which enables the operator, in roughing out an implement to perfect it at once, leaving it suitable to the work the tool is intended to perform. It should be noted that the time expended is commensurate with the life of the blade; for it is clear, from the portions of hatchets found in the diggings, and miscellaneous gatherings, that the axes very quickly broke up. Some were comparatively slowly consumed until nothing but that which lay within the socket was left, when the cords could be cut and another fitted to the handle. On the other hand large detached portions shew that the whole cutting edge, consisting perhaps of half the blade was sometimes knocked off at the first blow delivered by the workman. In experimenting on the amount and kind of fastening which these blades required, it appeared that although tightness of fit was an advantage, a cord two or three feet in length held the blade in the socket firmly enough for

work, without cement. See figs. in Kahun PL. XVI. and Illahun VII. 4. An example of this form of axe blade and its handle is depicted amongst the objects required in a future life, in the interior of a coffin of *Mentu-hotep* in the British Museum, No. 6655; its date is previous to the XIIth dynasty. The axe blades are coloured pale red, but saws and halbert-shaped axes, all evidently of metal, are coloured lemon yellow; and Mr. Petrie tells me that the axe in the tomb sculptures of *Ra hotep* [early IVth dynasty] has also a circular curve and is coloured a bluish-grey, different from the greenish-blue used to express copper. Whether these axes are representations of stone, copper, or bronze is of course uncertain, as colour is rarely to be relied on for the definite expression of a kind of material, though it may be for mere differences between materials; but the circular outline of the blades agrees with no form of copper or bronze implement known to have been found in Egypt hitherto; while the shape is in accordance with the forms of the flint and hornstone axes of Kahun. If these representations and others like them are in any way related to forms of bronze they are of such shapes as are least removed from those of chipped or polished stone, and must represent in the former case a transition type or in the latter an actual survival of an archaic outline.

As to the special use of the hornstone axe, Illahun, PL. VII. 3, with very blunt edges, it is difficult to assign a use other than that of squaring blocks of stone, for which however the use of a coarse adze would be more suitable as admitting of more accurate aim.

An axe blade of the same shape, but much smaller was found; as it was fashioned out of white chalky limestone, it could not have been used for working and must have been a model or toy.

86. The blades of adzes are comparatively rare. When new the cutting edge is carefully trimmed and well rounded. After use the retrimming was in a straight line, see plates Kahun XVI. right and left corners. In both these figures the tang becomes narrow, each however had a little knot at the apex in close resemblance to similarly shaped copper blades also found at Kahun of contemporary age. These knobs were perhaps found necessary in smooth bronze tools to prevent the falling out of the blade when the thongs for attachment had become loose by use. There is another form having a straight edge and broad tang, Illahun VII. 1. The handle suitable for these is figured in Kahun PL. IX. 15. It was a new

handle and applicable either to a bronze or stone blade. The shape of the instrument is well known from coloured figures and examples extending from the earliest to Roman times. But it is noticeable that the implement, which is the simplest next to the axe, is very far removed from the neolithic tool of Europe, for no actual examples or hieroglyphs of Nun or Sotep, or pictures, have been found in which the blade is inserted in a wooden socket.

Among the objects of the XIIth dynasty was something intended for an adze blade, six inches long, the clumsiness of whose workmanship, and the failure to produce on it a serviceable edge, suggests the work of a beginner rather than a preparatory blocking out by a skilled workman. A portion of an adze blade is shown in Illahun PL. VII. 9, whose form and workmanship however is not like that of any certainly known to be of the XIIth dynasty. As it was found in a burial with some scarabs of the beginning of the XVIIIth dynasty it is probably of that age.

87. The marked types of knife-like blades are five in number. That figured in Kahun, XVI. [top line last but one on right], is a common variety, the chipping is always rough, it has no good cutting edge and the convex edge is rudely bevelled on one side only. The blade is blunted at the tip. The figure next to the last is another type, and its workmanship is about equal to the former; both these have their free ends downwards. A type not far removed from the last as to shape and style is represented next to the adze blade on the left of the same plate, and a fine example in Illahun PL. VII. 11. By far the most characteristic knife blade however is that represented in Kahun PL. XVI. to the left of the cap of the column and in Illahun PL. VII. 7 and 8. All these examples, and they are numerous, either whole or in portions, are very well chipped in broad flaking, having no attempt at regularity of pattern; but the smoothness of surface and suitability for purposes of cutting are as perfect as in those, with the narrowest ripple flaking so pleasing to the eye, seen on some implements of other periods. In Illahun PL. VII. the fine knives have transverse sections appended. These knives have one edge either perfectly straight or very slightly and gracefully concave. The straight edge was apparently finished off on a stone to get the line even. No signs of hard usage ever occur on this edge in perfect specimens, but on the other edge there is much evidence of rather rough employment, and though generally the splintering is from one side

only it occasionally occurs from both sides. It appears that when these knives got a little blunted they were not retrimmed, but simply used up carelessly. They are smoothed on both edges at the smaller end or tang so as not to cut through a wisp of palm leaf or cloth, which was placed there and bound round with a piece of cord to give a hold for the fingers. One such is figured in Illahun PL. XIII. 6. It is equal in workmanship to the best of these knives. It is notable that of the unbroken blades found in Kahun, this last has suffered more than any from use, it having lost nearly half an inch of breadth from the widest part of the convex edge. None of the knives have evidence of any other mode of hafting. This slight hafting appears to be no mere carelessness. From the nature of flint and the thinness of the blades it is evident that (for instruments not used for thrusting) a handle giving too great a grip might cause the operator to employ too much force in the act of cutting and hacking, if however the blade was delicately held by but two fingers and the thumb, the limited amount of force which the blade could bear was involuntarily secured. There is another form of knife, Illahun PL. VII. 16, of which a whole blade was not found at Kahun. The type of handle is like that found at Arsinoe, Hawara PL. XXVII. 5, though the Kahun example must have had a shorter blade. The very fine Arsinoe example is apparently of the same style of workmanship as those of Kahun and is perhaps of the same date, as it came from disturbed soil excavated from a XIIth dynasty site. The hollowed part of the handle was probably for the reception of two fingers, the thumb being placed above, as before mentioned; and it is noticeable that the larger the blade the more the grasp is limited.

There is yet another form of knife which deserves mention, although no specimen complete enough to figure has been discovered. The workmanship is of the best. One edge is straight and thin. The two flat surfaces do not meet at the outer and slightly convex edge, but are connected by a regular bevelled slope making a right angle in section with one of the sides. The examples found appear to have been used exclusively on the straight edge, which looks as if it had been employed to cut soft material on a board, the thick edge is unworn. The instrument is sharply pointed and has the appearance of a thick-backed knife, the tang is little marked, so that perhaps the knife was held by the middle of the back.

There are four tools figured in Kahun XVI. [to

the left of column shaft] which have been adapted from other broken tools. They seem to have been employed as chisels or gouges, though there is no signs of bruising.

One little instrument above the axe in Kahun PL. XVI. is flat and bevelled all round the edge; it must have been mounted as axes were, but may have been employed with others in combination and not used for striking blows.

In Illahun PL. VII. 15 and Kahun XVI. are represented broad flakes with secondary chipping for use as straight edge and scrapers. A small instrument is figured in Kahun PL. XVI., it is U shaped with a straight line at the top (broken at the corners). Its average thickness is $\frac{1}{8}$ of an inch; it is very fairly chipped on the convex surface (the other being flat) of one side only, and very delicate. It will cut with facility pith, wet or dry papyrus—perhaps this was its use.

The employment of mere flakes for use apparently without preparation was of course very common. The art of flaking, if not shared by every member of the community, cannot have been a rare one. But the lack of cores at Kahun is remarkable, none having been found in the houses, nor any special chipping ground. However plenty of well-formed flakes, long, straight and thin were available for cutting, scraping, or boring holes, in short for all the purposes a pocket knife is carried. In one instance, Find No. 9 Kahun, 1890 (Illahun PL. XIII. 1-18) a leather bag was found containing a copper tool or two with other odds and ends, also portions of flint knives and some straight cutting flakes. Many flakes were smoothly blunted along one or both edges. No implements were found in the town suitable for stone facing nor for saws. In the latter case it is impossible to imagine that serrated flakes could be serviceably set as such. Nor were such clumsy saws wanted, bronze or copper having long been in use for the purpose. Some flakes with roughened edges seem to have been used for wood work after the manner we could use the edge of a rasp.

There is little doubt that many knives were made at favourable places and hawked about the country.

88. Besides the numerous flakes which have been slightly modified by secondary chipping or by use, are some which have been found in the town and many more in the miscellaneous gatherings of the neighbourhood. They have long been known to collectors and described as saws. The finding however of a wooden sickle with one of these flints

mounted in it has changed the name hitherto borne to the right one of sickle teeth. Examples of these teeth are given in PL. VII. 5, 5A and 6, and in Kahun PL. XVI. Commonly these teeth are the middle parts of long flakes, either end having been removed in consequence of irregularities. They are more or less regularly toothed or serrated. Occasionally some are found which can scarcely be said to be more than jagged. They vary in length from half an inch to four inches. The average is $1\frac{1}{2}$ inch. Some of the serrations are close without an interval, others with long intervals even as much as a quarter of an inch, and a few have been found apparently unnotched. In experiments made to try the value of notched and unnotched edges, it was found that the plain ones cut at first like an iron blade, but the edge became smooth very quickly, while notched flakes had an incomparably longer life. The sickle found in 1889 is figured in Kahun PL. IX. 22. It must have consisted originally of one piece of wood, for although a fresh tip had been added, probably from breakage, I cannot think that the wood was cut off needlessly in order to put on a weaker tip, as an examination of the grain clearly shows that the wood must have extended much further in the required direction. The broad part was curved during growth, perhaps intentionally with a view to the manufacture of the instrument. Its form irresistibly recalls the form of (half) a lower jaw perhaps of the ox or horse. Were such a jaw actually employed for reaping, certain modifications would be required to adapt it to efficient use, thus as the hand would have a difficulty in grasping the rather short and knobby condyle and coronoid process, they would be smoothed down and a handy piece of wood lashed on; then as the distal end of the body would be occupied by a row of incisors, they would be supplanted by a long stick placed in one of the sockets; and lastly, as the teeth are not very suitable for cutting corn they would have to be knocked out and replaced by a row of serrated flint flakes. In the first found sickle of the XIIth dynasty all these improvements were united, and the bone itself replaced by a single piece of wood, of course a great advance on the crude idea. A groove is cut to hold the notched flints or teeth, which were fine and thin, one remaining in its original position. The groove is filled with a grey brown cement to hold the teeth, formed of clay or mud and gum or glue; a quantity of this cement is smeared over the junction of the wood and the teeth, and resembles and apparently does some of the duty

of the gums in an animal. The teeth are partly buried in the groove which in the Kahun examples was cut by metal chisels, and so far as can be seen, the groove did not exceed a half inch in depth. A quarter of an inch of the flake was overlapped by the "gum" and about the same quantity projected. These measures are for the centre of the groove. Towards the point of the sickle the proportions are reduced, at the near end slightly increased. At the latter a special modification of the shape of the end tooth was necessary, of which an ordinary example is given in PL. VII. 5A, on which the parts covered by the socket, by the gum, and free, are indicated by lines. The flakes or teeth at the further end diminished almost to a point and faded into the general contour of the jaw. Taken as a whole the implement has reached perfection, but it is unlikely that sickles were often made as this one, from the difficulty of getting single pieces of wood capable of being worked into the required curves. They were usually made in three pieces, the body, the handle and the point. These compound ones, of which the several parts were separately found in Kahun, always have the "angle" of the jaw very sharp. The handles of all the sickles perfect, or in part, fit the right hand and cannot be employed by the left.

89. That part of the flint teeth left free to cut with is usually brightly polished with the lower margin of polish distinctly marked. Experiments were made with flint (from Egypt) to see whether the sawing of wood, bone, horn, or other such materials would produce it, but without success. The rubbing of flint with sand did not do so; in fact the polish of sand-smoothed flints is very subdued and of a coarser nature, never reaching that obtained by the friction of the fine, organic silica of the stems of cereal grasses. It is often found that the high polish of flakes is in part removed by sand wear, if exposed. The sickle teeth naturally fell out, and were ground down and blunted in the act of reaping. When this happened they were renewed, frequently by the reversal of the same tooth in the groove after the serration of the new edge. Indeed, in anticipation of such an event some teeth were inserted already serrated on the lower edge. On PL. VII. 27 of this volume a compound sickle with three teeth still attached is shewn, its parts differ in no important particular from the parts of compound sickles found in 1889 at Kahun, which belong to the XIIth dynasty; to which date I would have assigned it. But Mr. Petrie on the strength of a piece of XVIIIth

dynasty pot found near it, thinks that the pot and the sickle belong to the same age, and it is also true that the serration of the flakes resembles rather some that were found at Gurob than those from Kahun of the XIIth dynasty.

The use of these sickles I have practically tried in England on various kinds of corn, with a carefully constructed model, which worked well. It works best when the heads of corn have been gathered in the hand and bent backwards, then swept just below the hand with the length of the armature by a rotary twist of the wrist to finish, a saw-like motion being thus imparted. It also cuts well, low down near the ground; but in either case the motion must be *to* the person and slightly upwards. All attempts to cut downwards and away from the reaper proved complete failures, for various obvious reasons; these last were tried in consequence of the attitudes seen depicted in ancient paintings—apparently, too, the requirements of symmetry in the design was the sole cause why a large proportion of the reapers are represented working with the left hand.

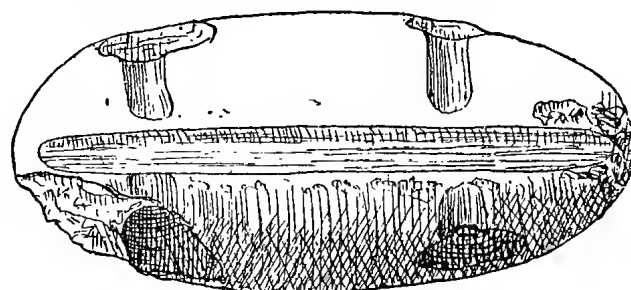
90. The forms of sickles as represented in harvest scenes in tombs of the early dynasties are various; some of the variations are obviously mere careless drawing, and some are apparently an attempt to represent sickles like those of Kahun in such a manner as would give a full view of the broadside of the sickle, at the same time exhibiting the implement in action. In reality when the corn stands before the spectator, the reaper would show his back, and the sickle be obscured; or if seen, its horizontal position be represented by a mere line. But such natural views were never drawn, for it was necessary to show the orthodox side views of the man and his tool. In early empire tombs, as at Gizeh and Sakkarah, the forms of some sickles are drawn as nearly like that of Kahun as the style of art permitted. Although sometimes the end of the handle projects some way beyond the hand, in well-executed examples a knob is clearly shewn. The ridge of teeth extended almost to the point, giving the blade a blunt termination; except in instances where a tip is present, when the termination of the row of teeth is marked by an abrupt decrease in the breadth of the blade; the tip is rarely long.

The form of a sickle was taken for the symbol *ma*. This, in the early empire, was represented like the Kahun specimens (without however a very long tip), but always having a sharp "angle." In the tombs of Gizeh of the IVth dynasty the symbol

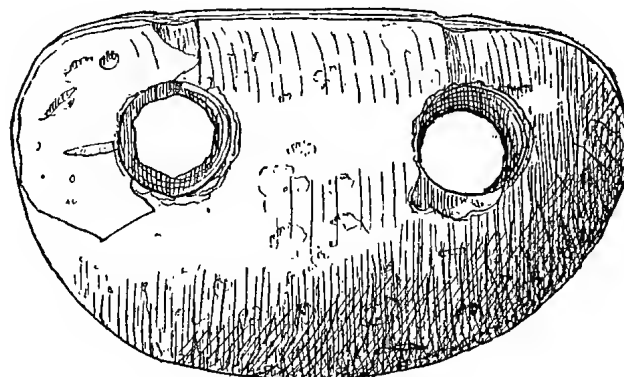
sometimes shews the termination of the row of teeth by the sudden change in the width of the blade, as in the case of the teeth of an ox in the jaw. And in the tomb of Rahotep (early IVth dynasty) the wider part of the *ma* is painted with notch teeth in black, on the shallower edge which represents the projection of the flints. But Mr. F. L. Griffith has pointed out to me that *arti* in the Pyramid texts, which often have very realistic forms of hieroglyphs, is determined with a sign which is a simple rude picture of an animal's jaw, differing materially from that of *ma*. Therefore it is probable that the symbol *ma* in its earlier known form is really taken from a primitive sickle, in which the end of the row of teeth protruded clumsily.

The picture of the sickle and of *ma* are nearest alike in the earliest times, the great vertical compression which the symbol suffers in late times with the absence of the signs of teeth weakens its resemblance to a jaw. The determinative of *arti* in late examples, though like *ma*, is provided with decided separate teeth.

91. A stone implement not coming under any of the above headings was found in the early town of



Back view.



Side view.

Kahun. Its form is ovoid with a straight back. The dimensions are $4\frac{1}{4} \times 2\frac{1}{2} \times 2$ inches. Along the back is a groove $\frac{1}{4}$ inch in width. Two holes are pierced from side to side of the body. They were clumsily

drilled, evidently after the implement had received its form. The smaller end of the holes is a little over $\frac{1}{2}$ inch in width, the larger a little over $\frac{3}{4}$ inch. Shallow grooves are ground across the back connecting the two ends of the holes. It consists of white crystalline nummulitic limestone, and is very hard. It weighs a little under one pound avoirdupois, but must have weighed a little over before it was dismounted, bruised and knocked about in the XIIth dynasty period. The handle must have fitted the back groove well, and been but a quarter of an inch or very little more in diameter at that part. It was fastened on by thongs passed through the holes. A handle to be strong enough with this weight could scarcely have been of wood, but must have been of some tough elastic material to make this weapon

serviceable, perhaps it was of rhinoceros horn, or cut from the hide of rhinoceros or hippopotamus. I have not been able to discover the precise form of this club or weapon in any ancient scenes, though one like it apparently of bronze usually with a carved handle and looking as if it had a cutting edge is common. It appears likely to have been a weapon of extremely early date, or one captured from a foreign race, perhaps Ethiopian.

There was also found in the older part of Kahun a white polished limestone mace head of the usual form of mace heads on monuments. The hole through the middle of it was too small to have admitted a wooden stick strong enough to have wielded it by, but as in the case of the club before mentioned it may have been handled with horn or hide.

CORRECTION.

p. 20. The *ka* name is one of those of Tahutmes III and not of Amenhotep IV: hence there is no reason to suppose any building to have been made here later than Tahutmes III.

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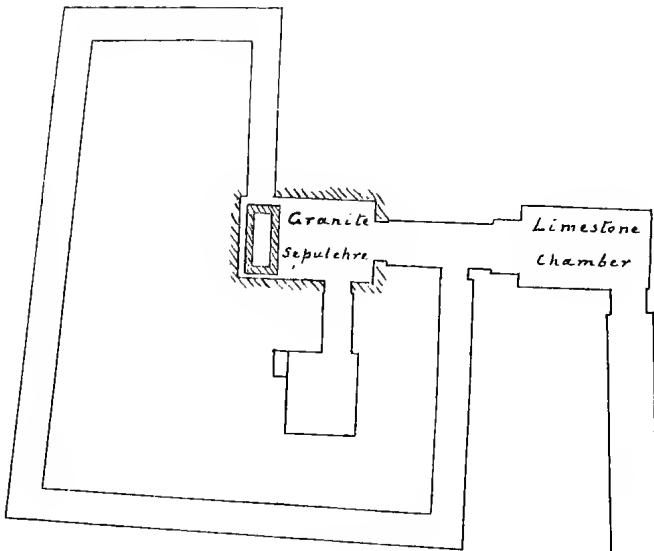
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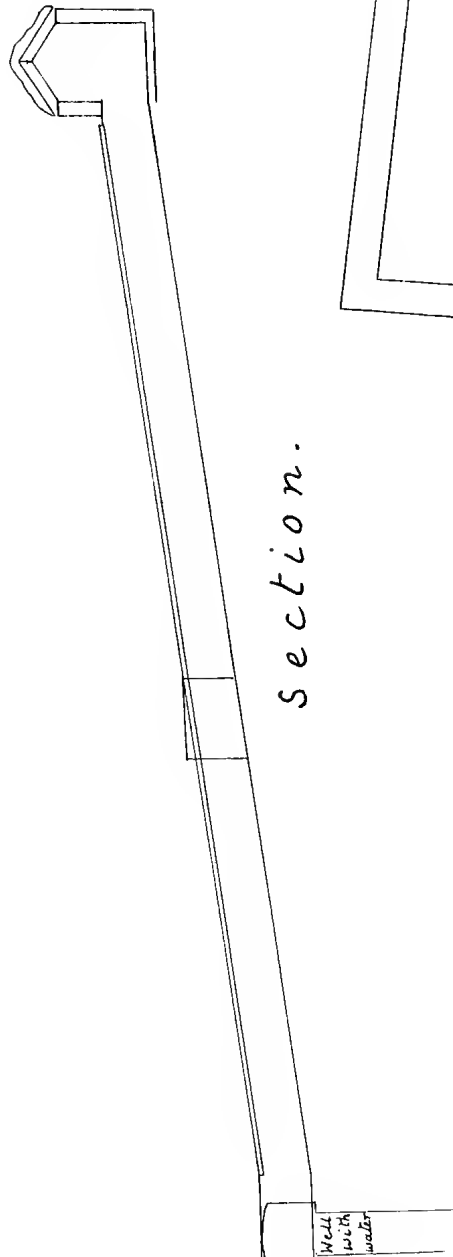




End view of Sarcophagus 1:60



Plan.



Section.

Passage Chamber

Entrance Chamber

Shaft now used

South Passage

Builders main shaft?

W.M.F.P.

Rock

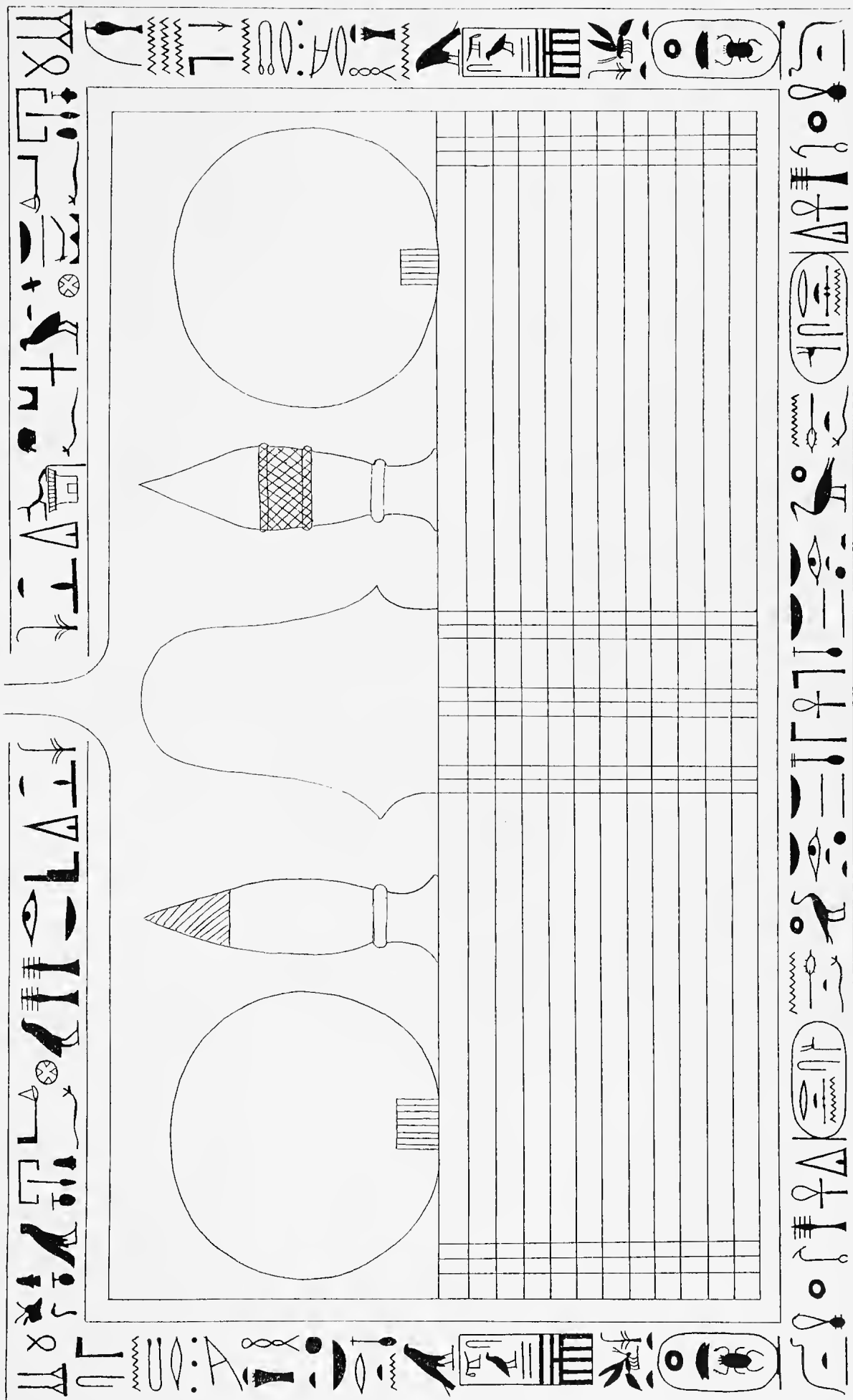
Beds of Rubble

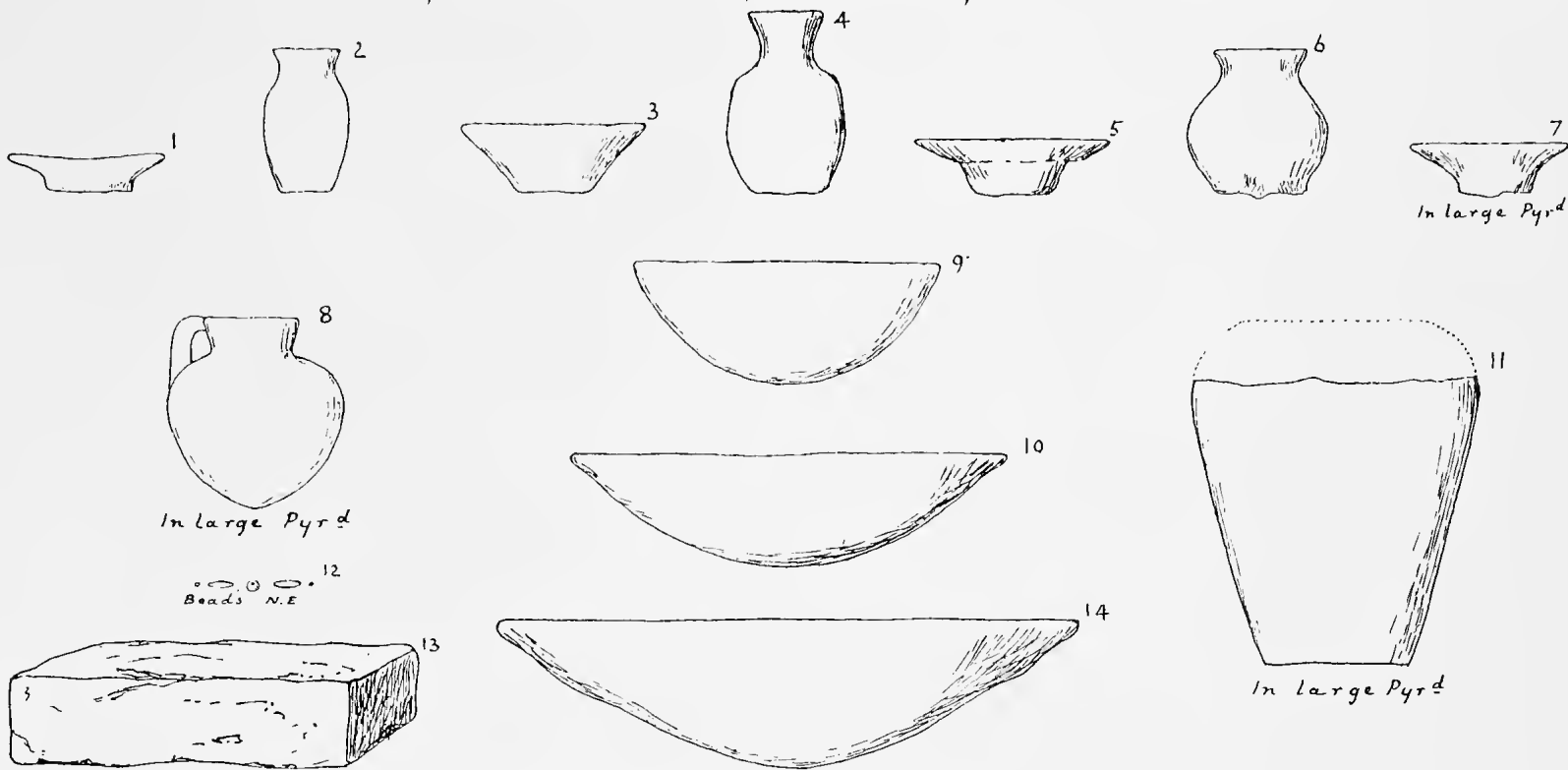
Casing

Approximate Base level

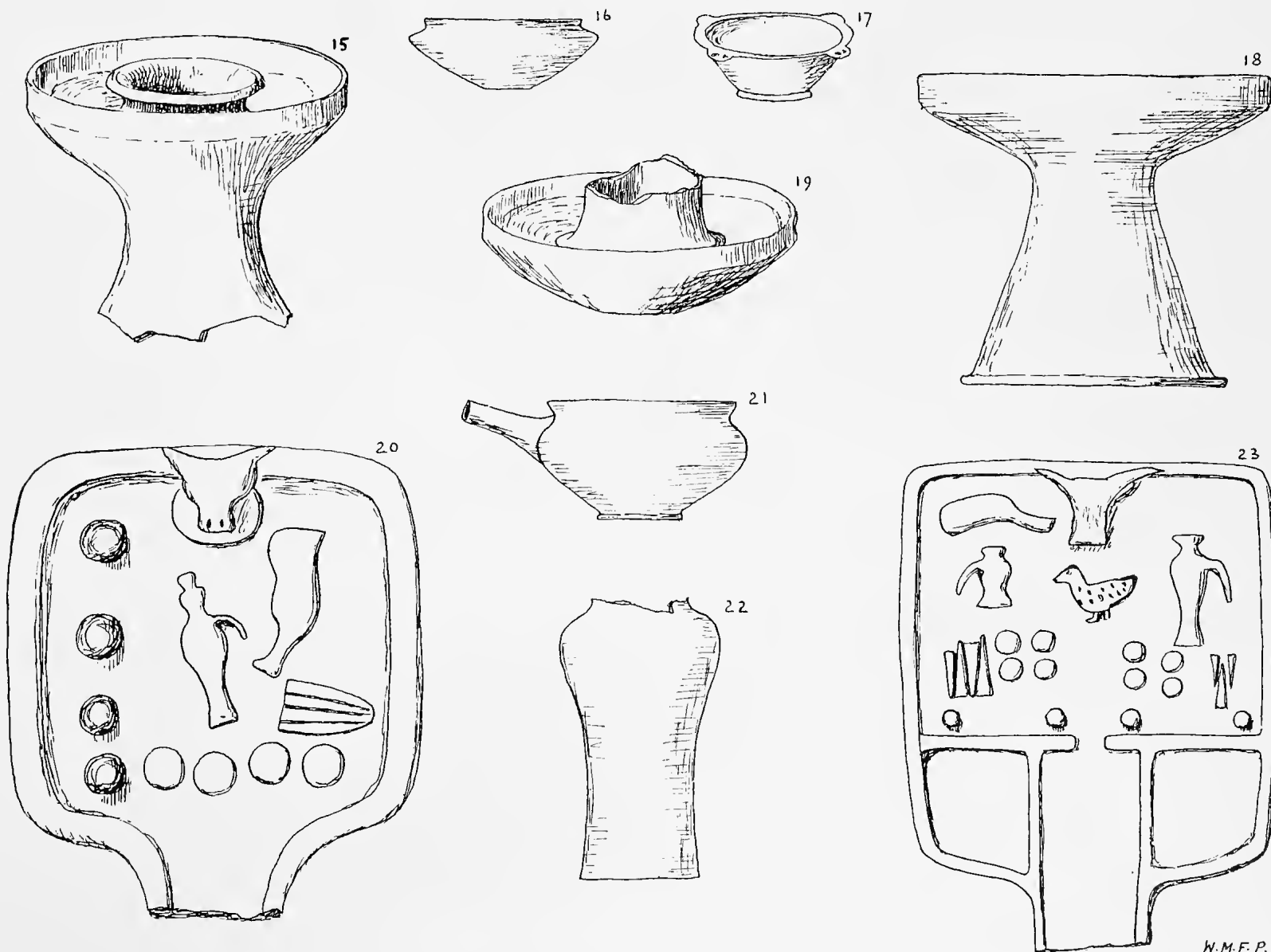
Shaft now used.

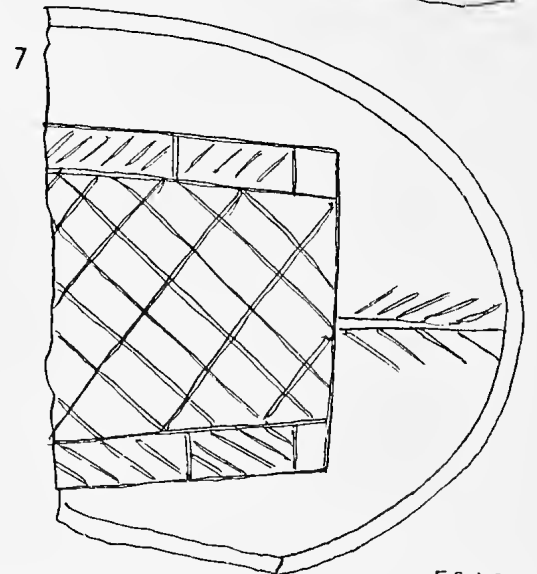
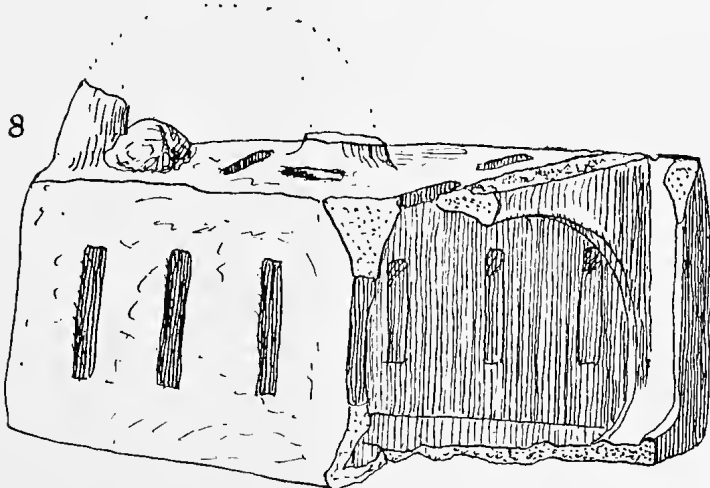
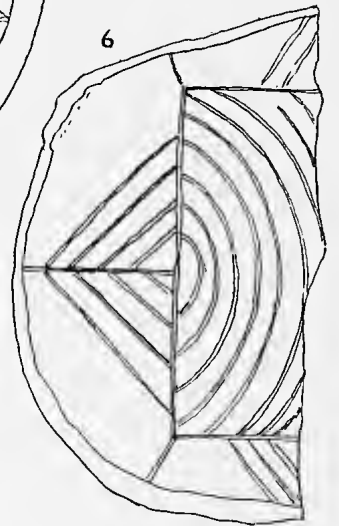
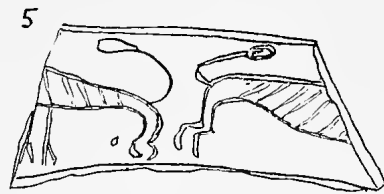
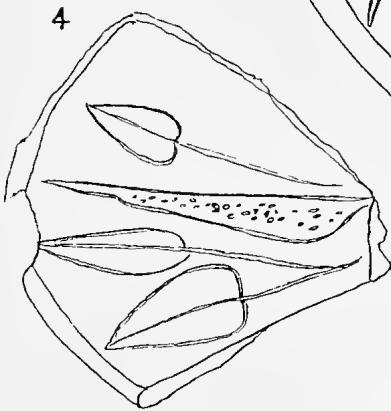
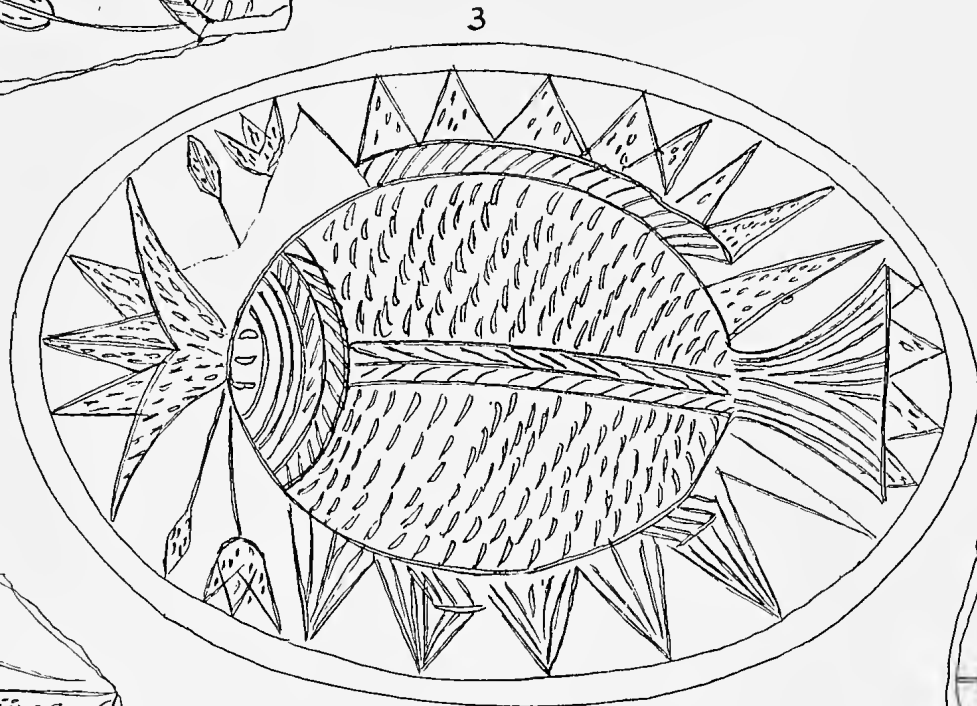
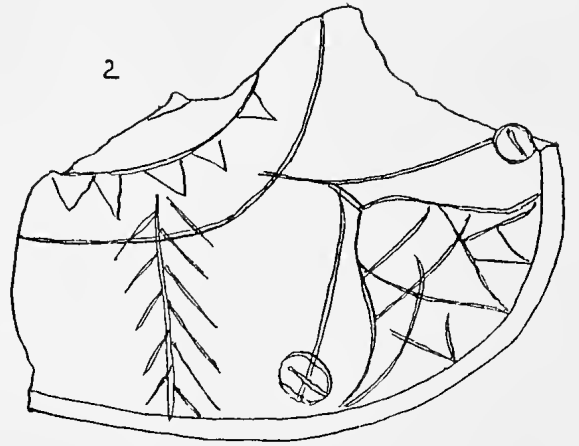
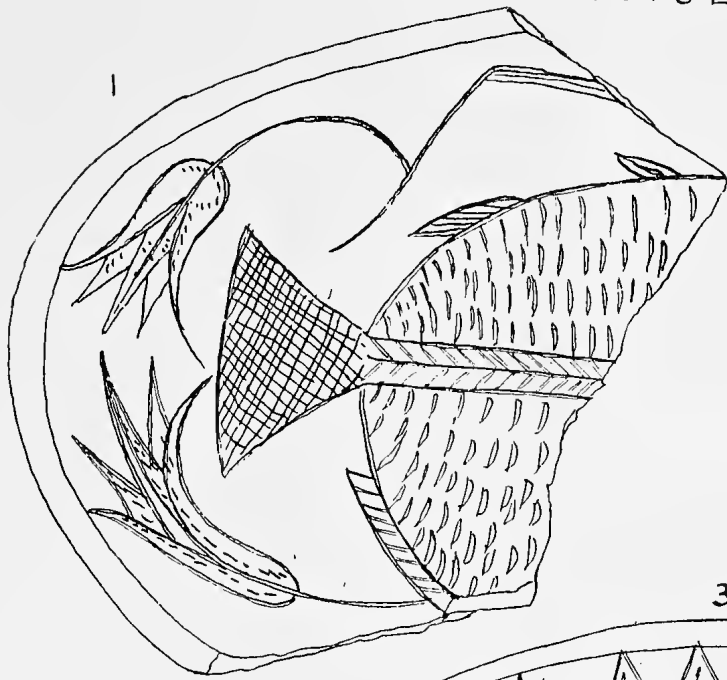
Builders main shaft?

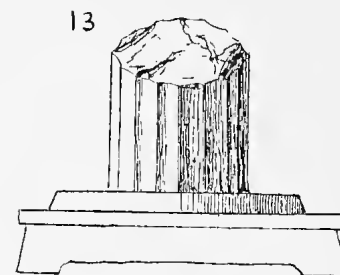
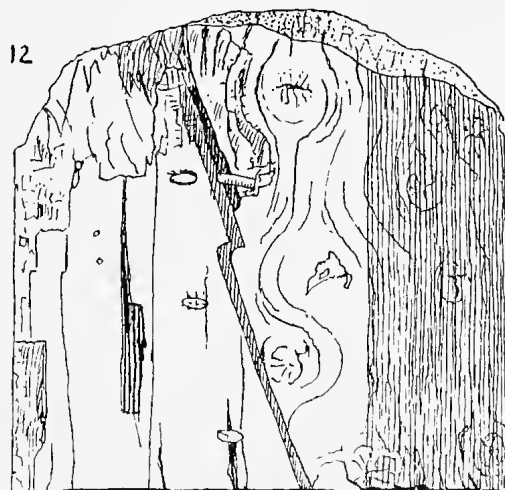
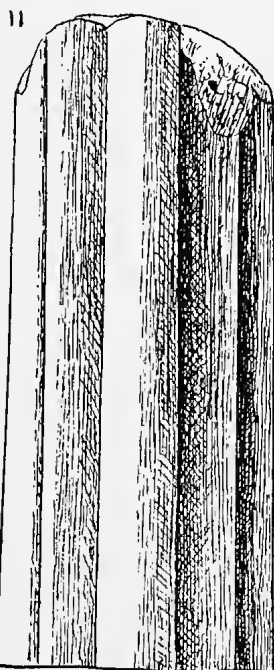
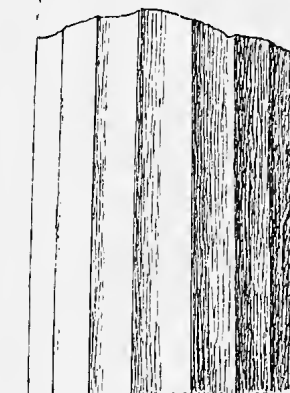
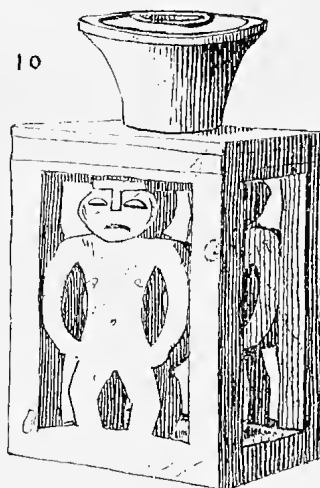
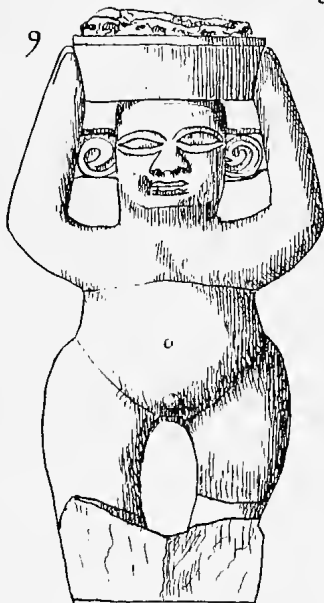
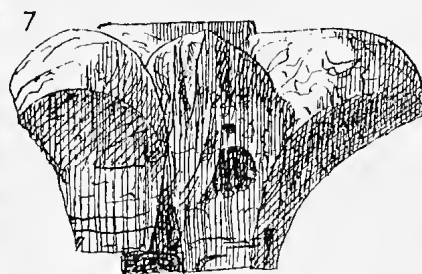
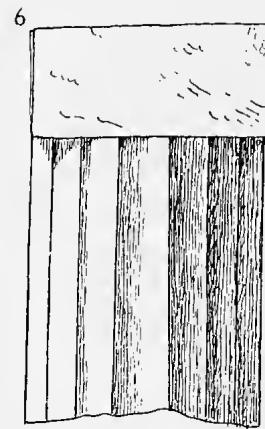
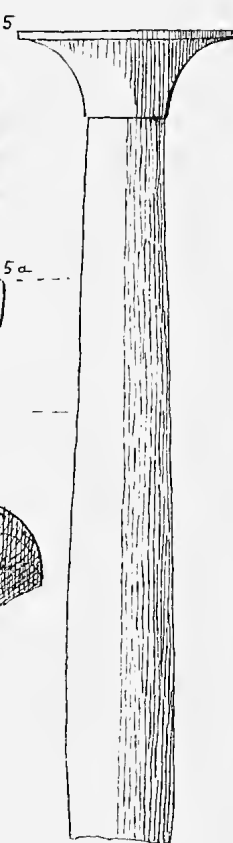
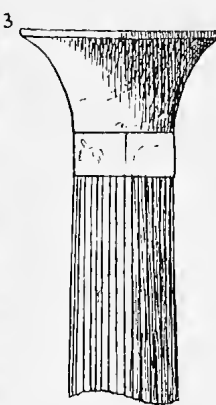
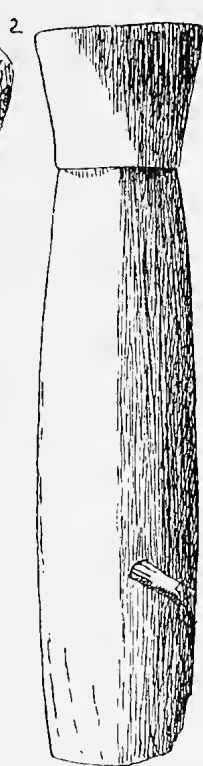
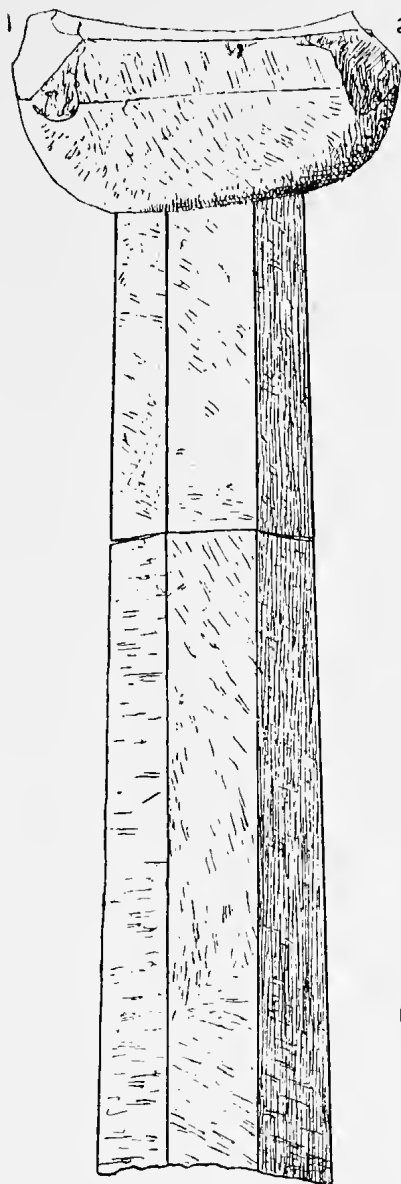




KAHUN POTTERY.



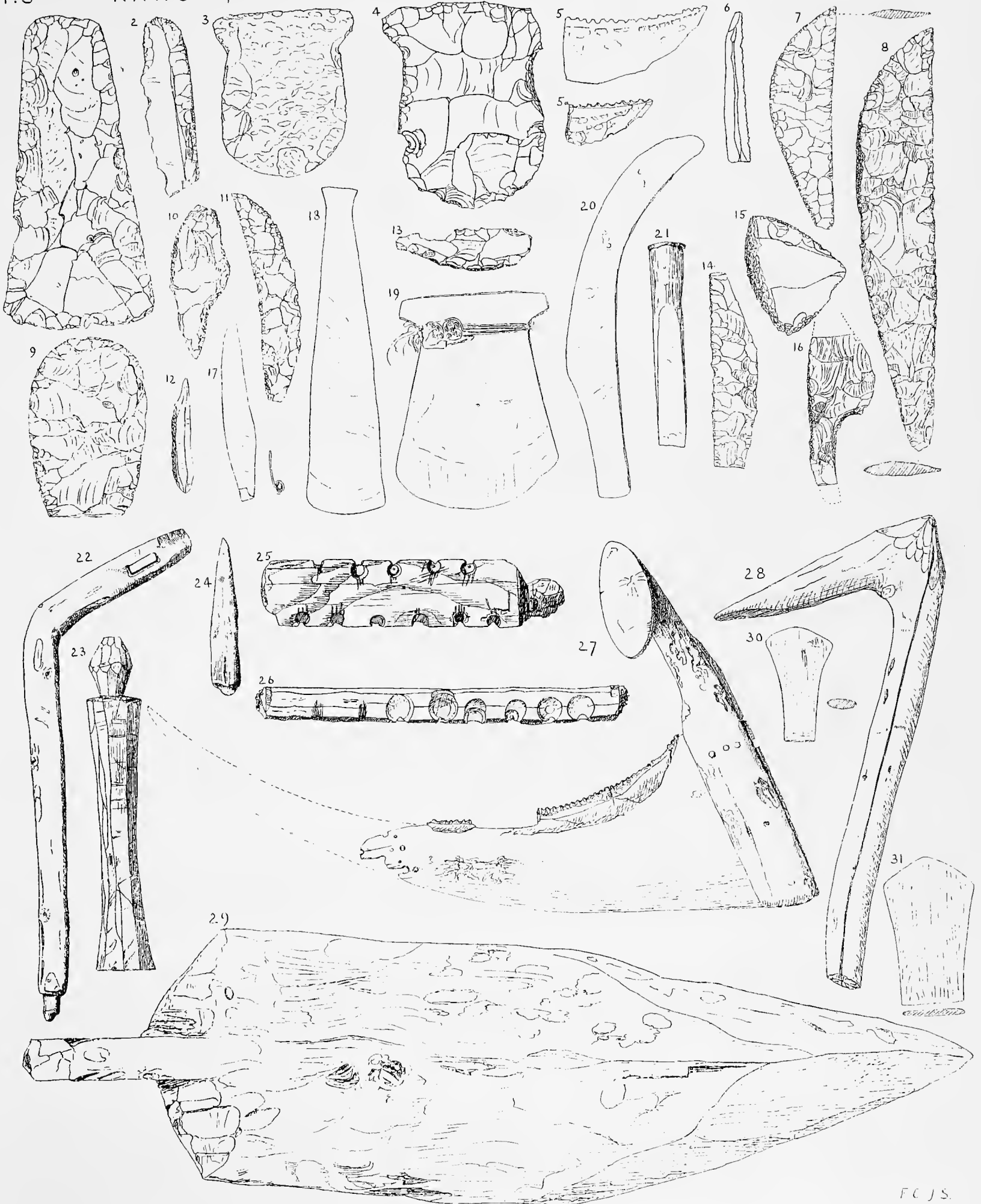


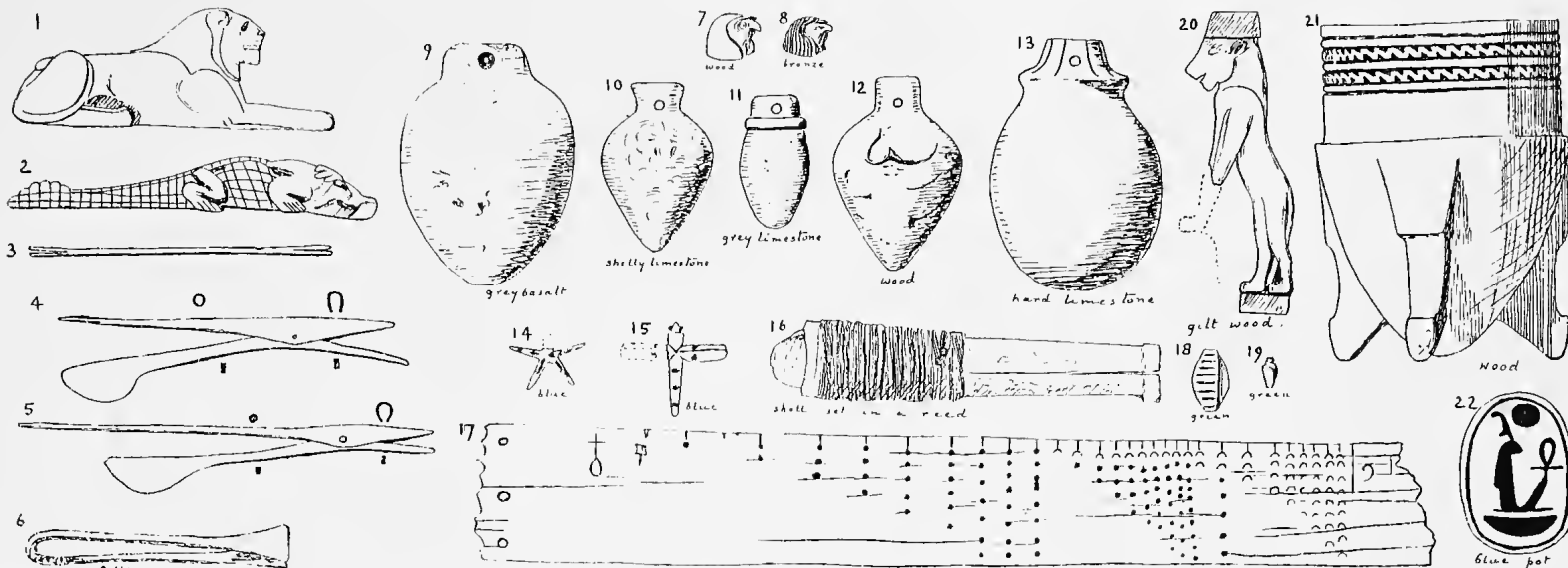


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KAHUN, FLINT, COPPER, AND WOODEN TOOLS

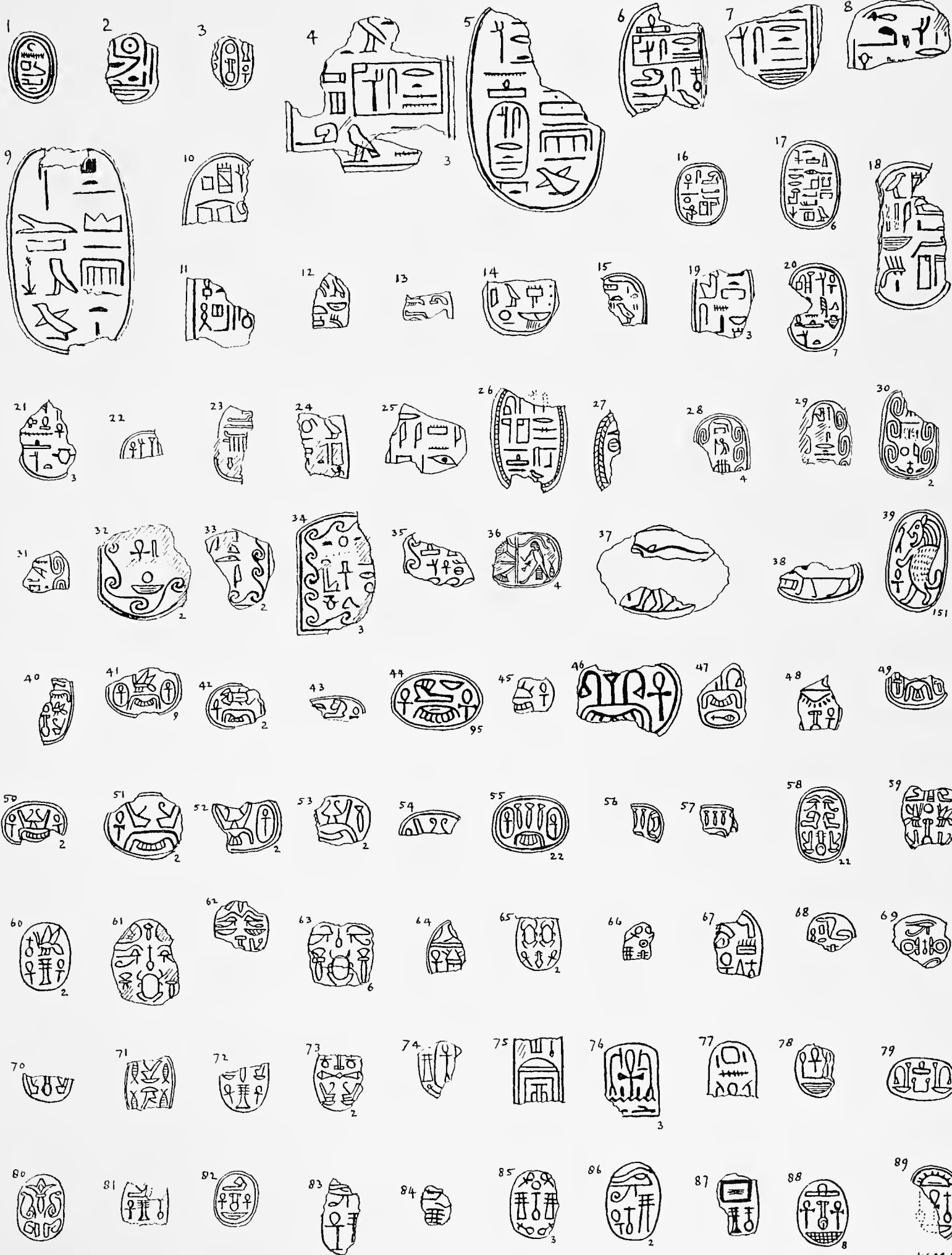
VII

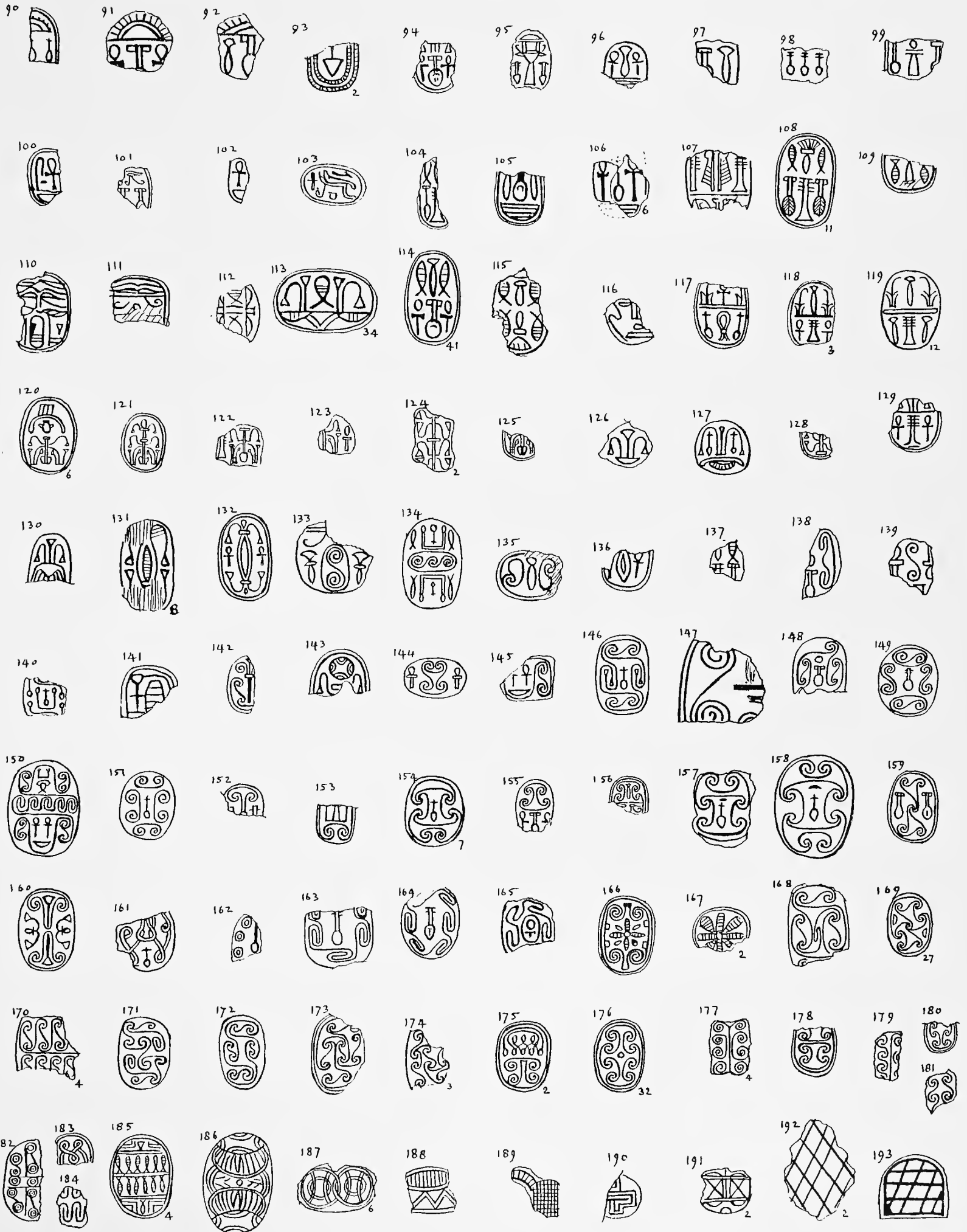




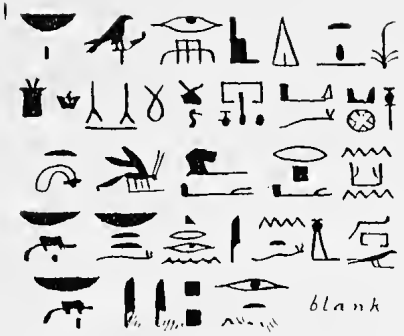
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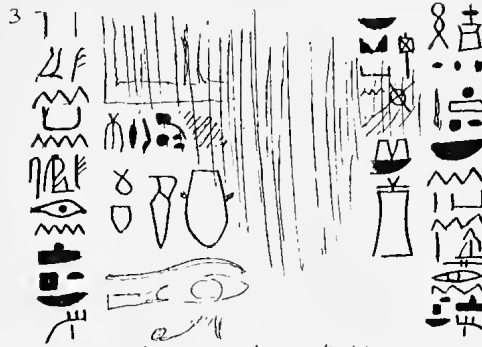
KAHUN, INSCRIPTIONS.



Seated figure; black serpentine.



Limestone tablet



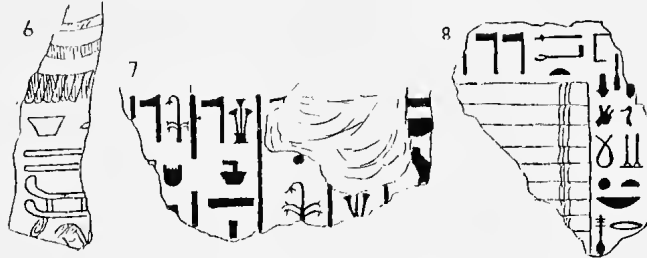
Limestone tablet.



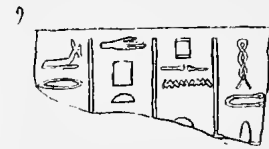
Base of seated figure, limestone.



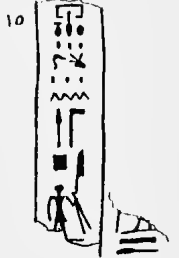
Painted stela



Name, -Atmu(nefru?), -offerings & altar.



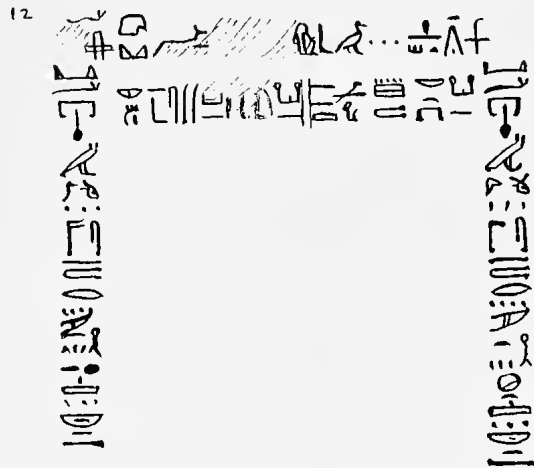
Temple List



Base of statue



Stela of Anpi.



Stela of Amerisenb, painted



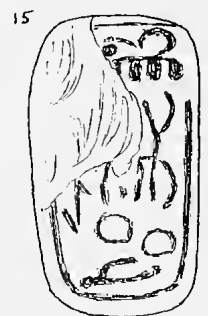
Base of basalt statue.



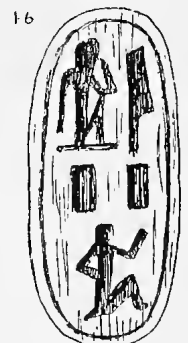
Back.



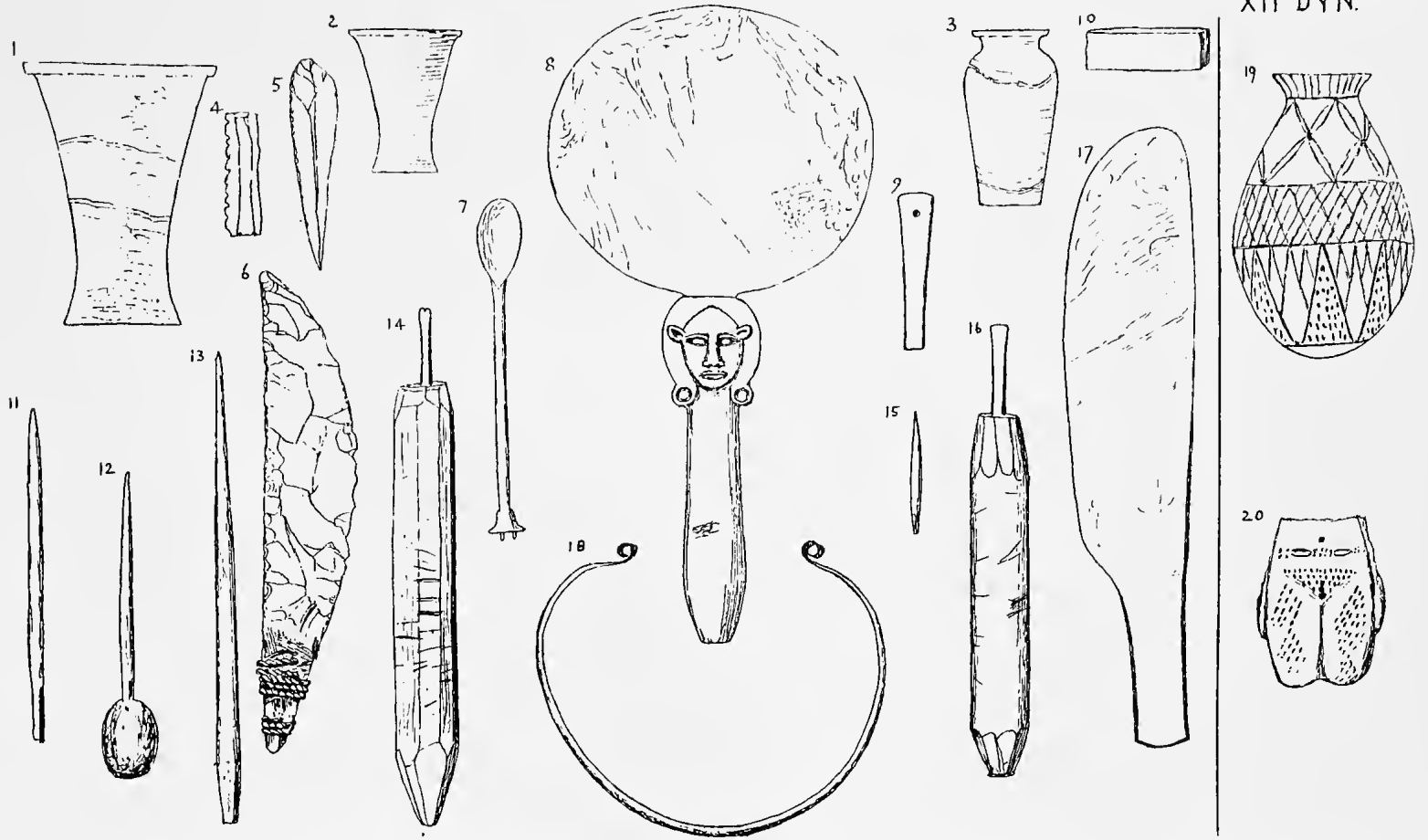
Basalt statue of Si-sebek.



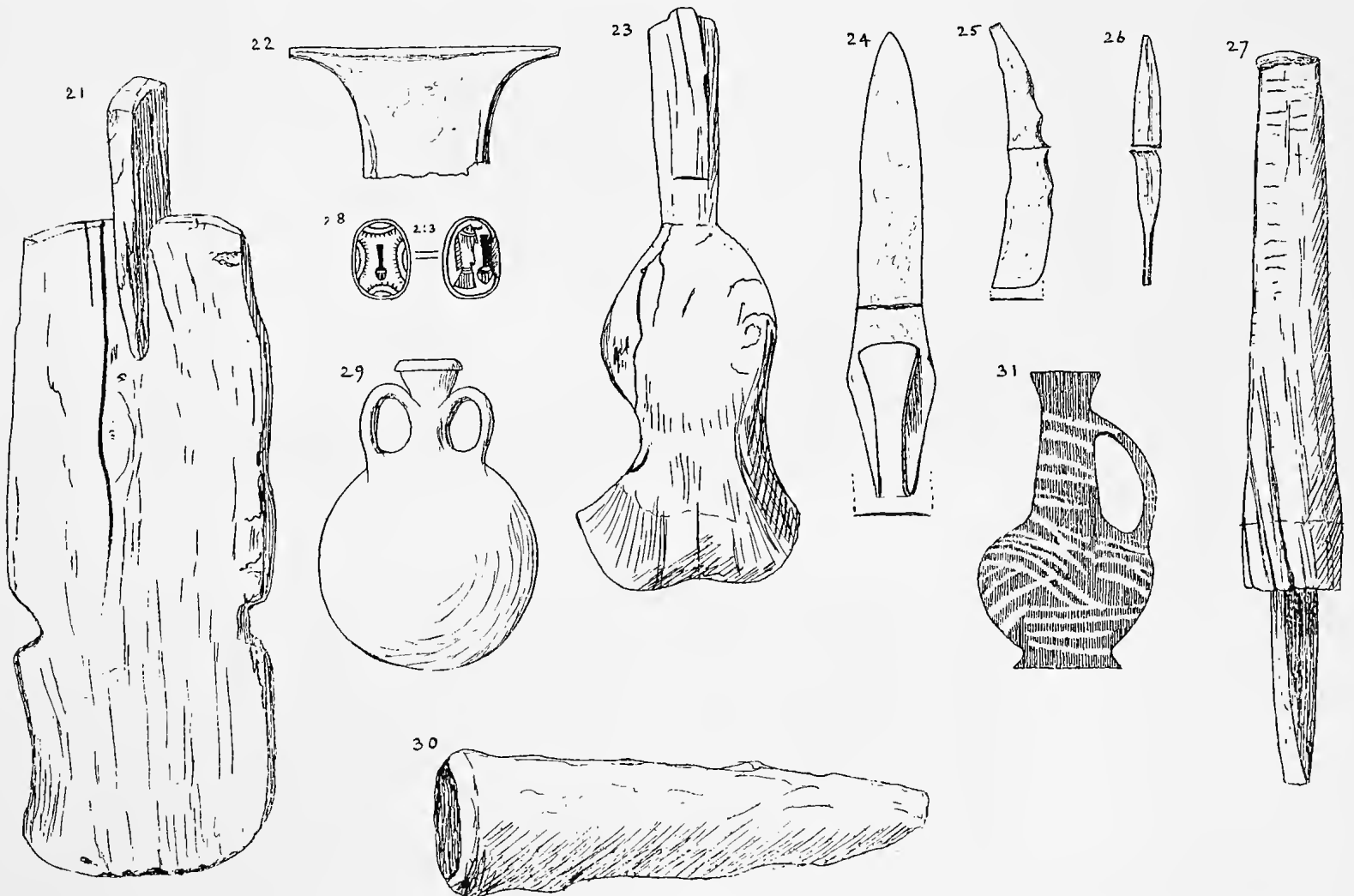
Limestone stamp

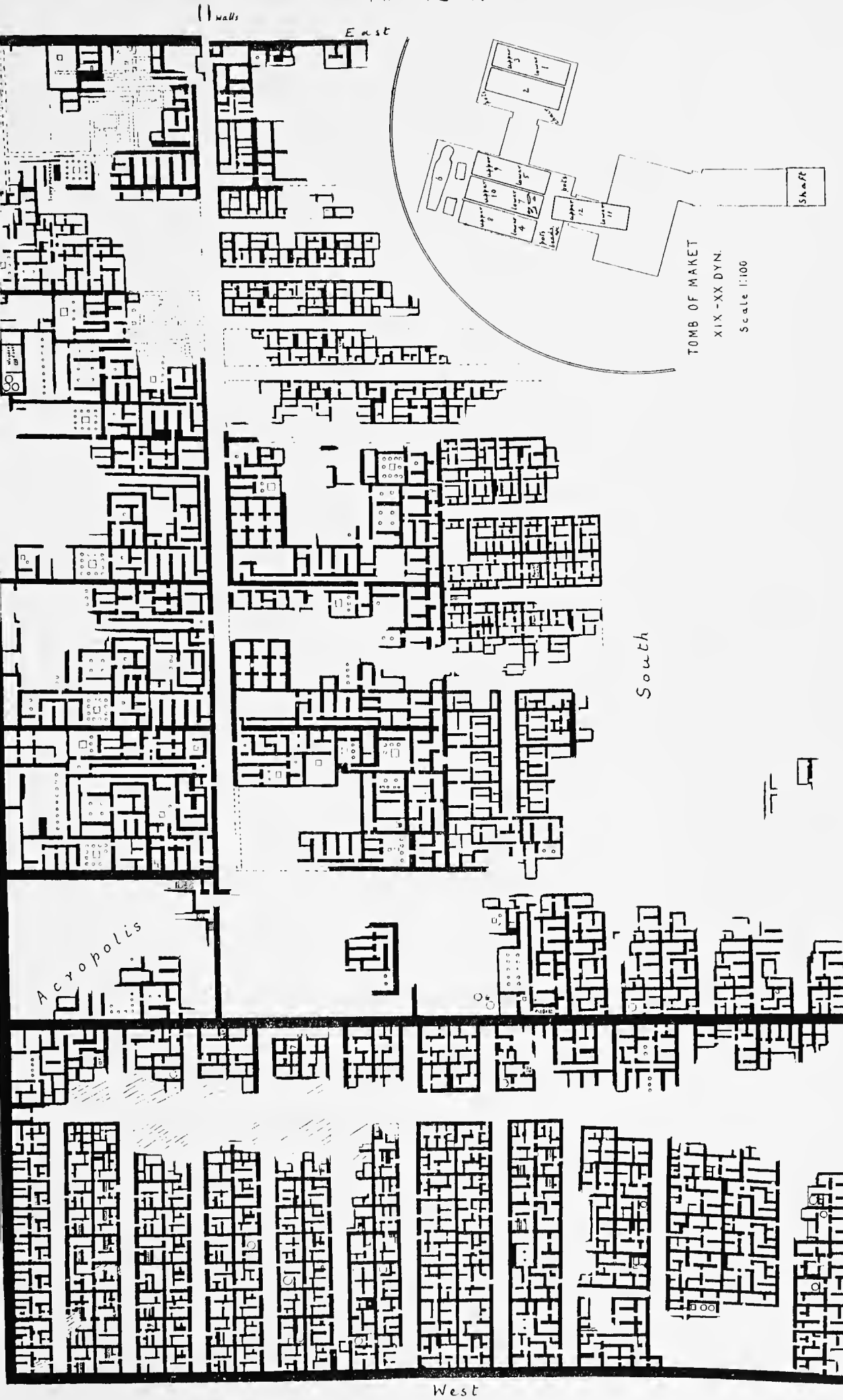


Wooden stamp.



KAHUN, GROUP N° 7, AMENHOTEP III





(1) walls

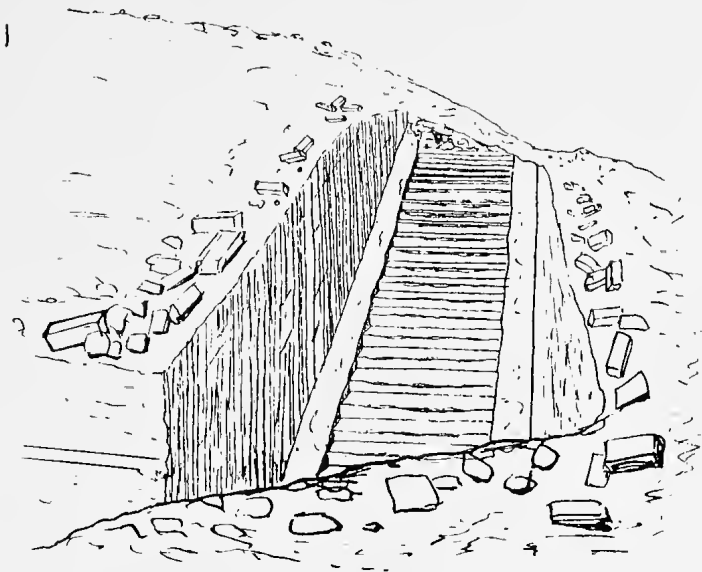
East

South

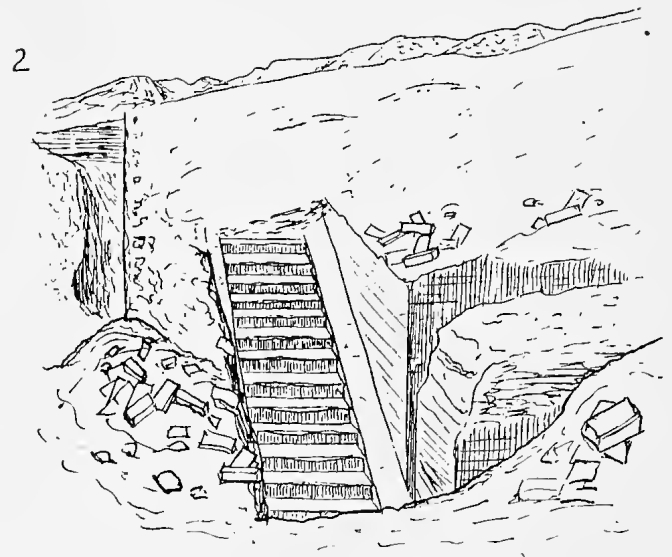
Acropolis

TOMB OF MAKET
XIX-XX DYN.
Scale 1:100

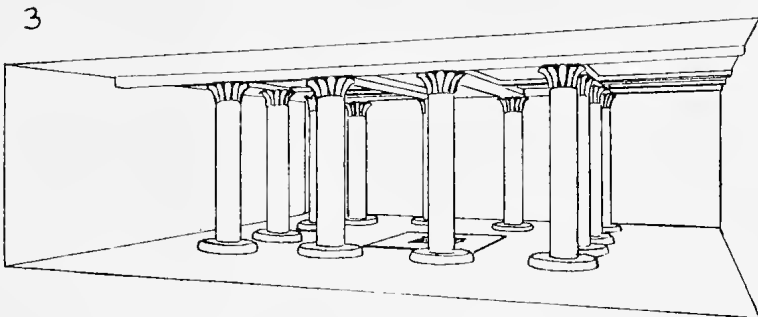
West



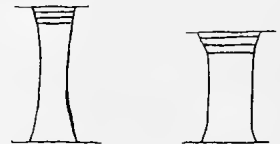
Great Stairway up the Acropolis.



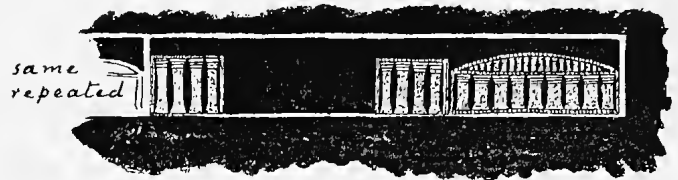
Small Stairway up the Acropolis.



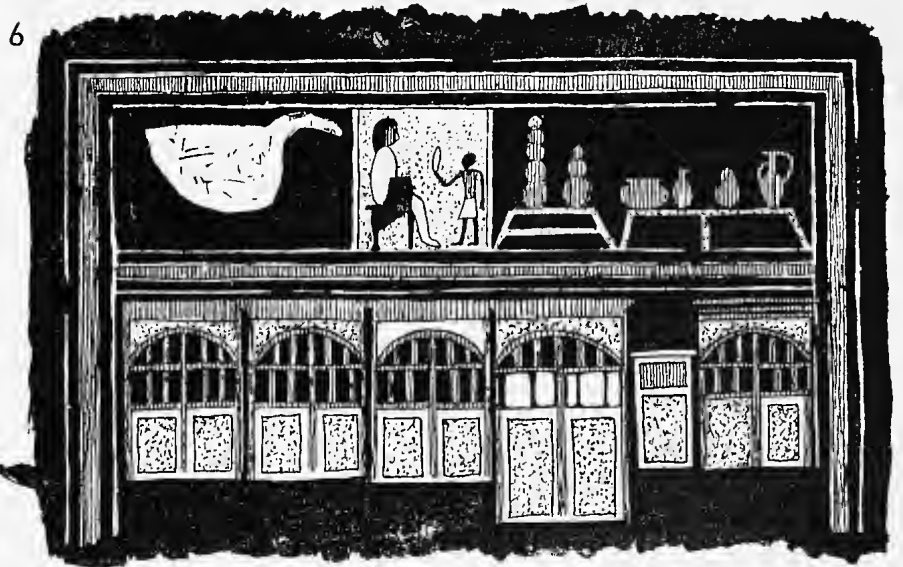
Restoration of a Hall.



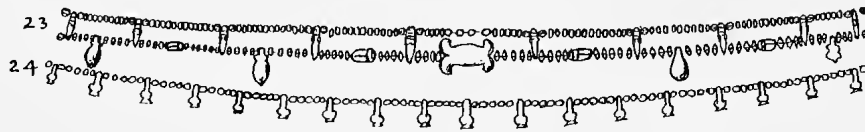
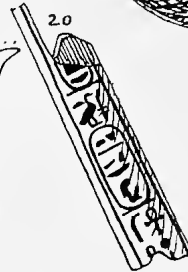
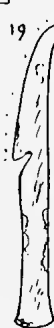
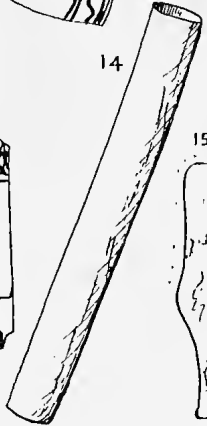
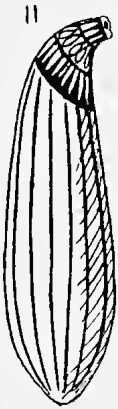
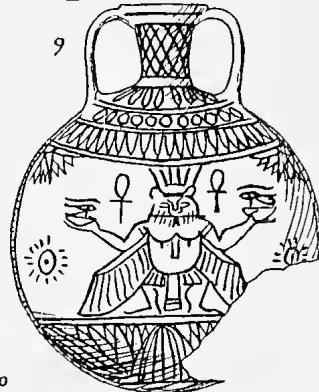
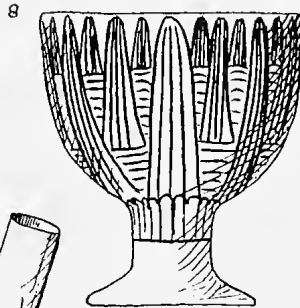
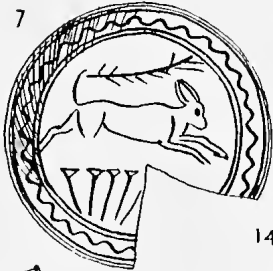
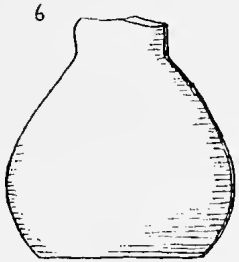
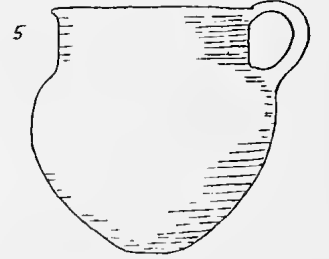
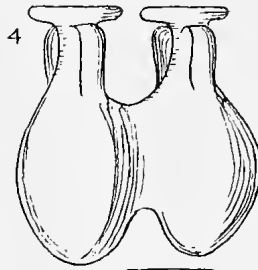
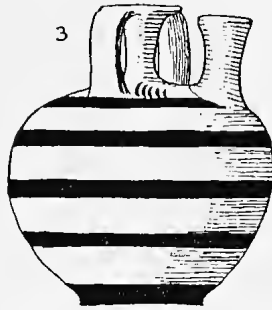
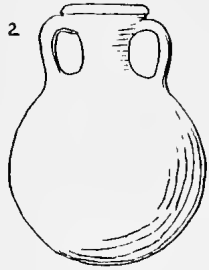
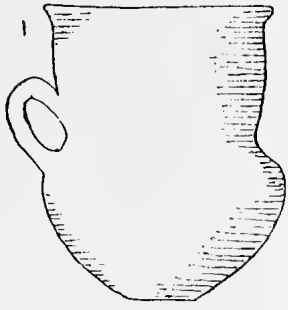
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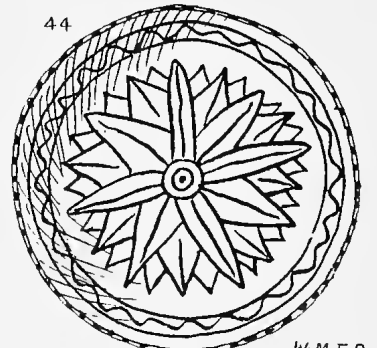
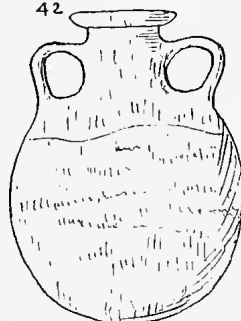
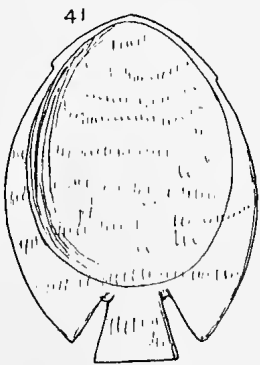
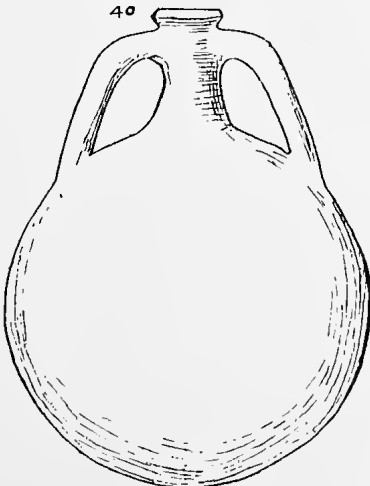
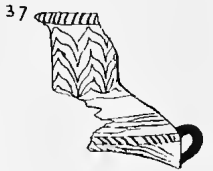
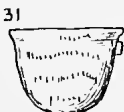
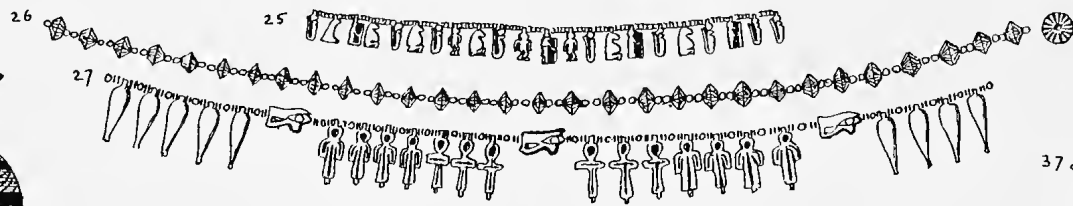
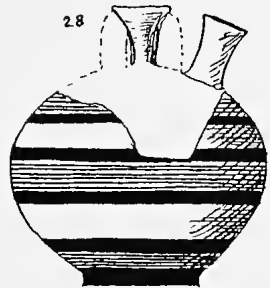
Wall painting 1:10

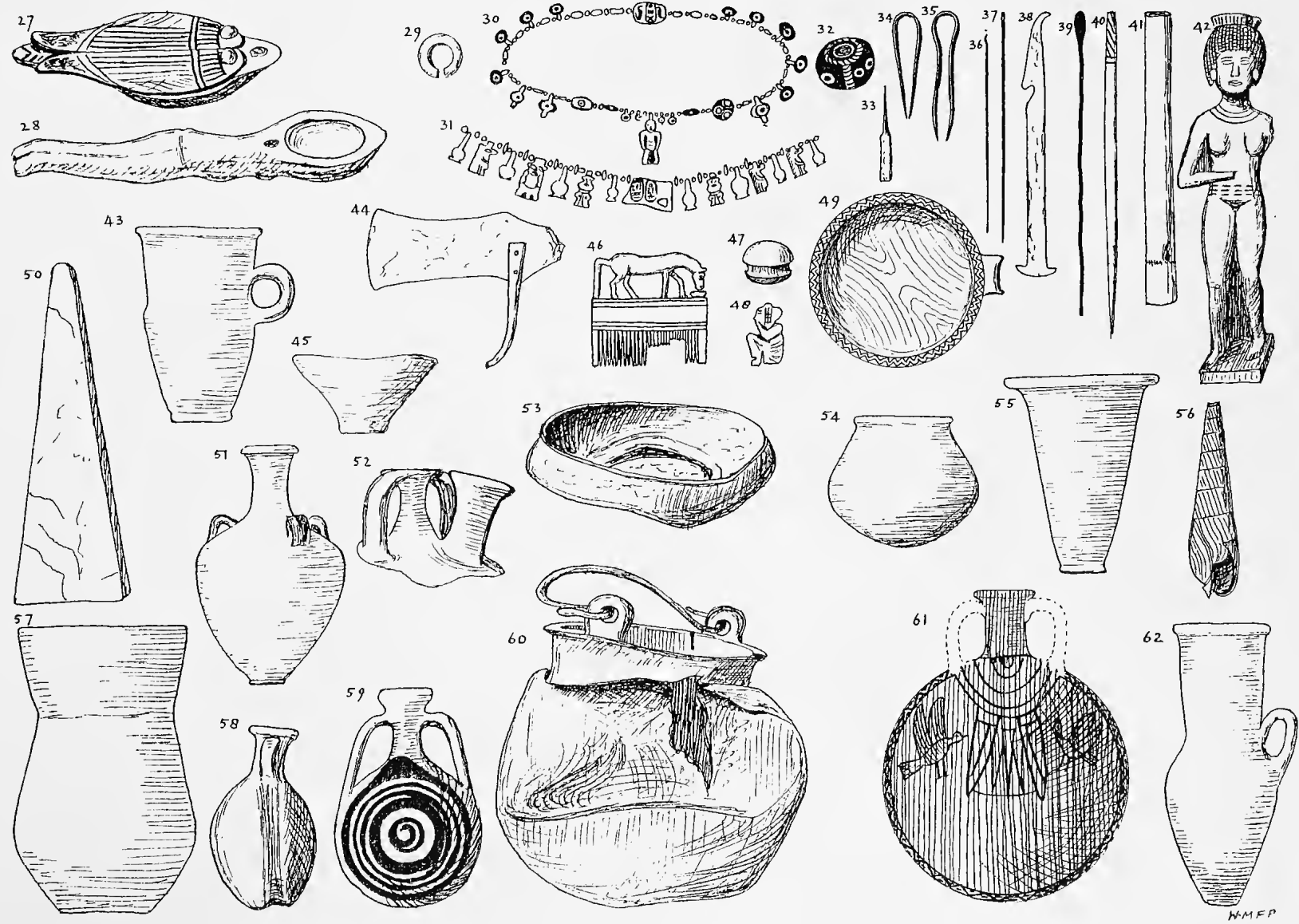
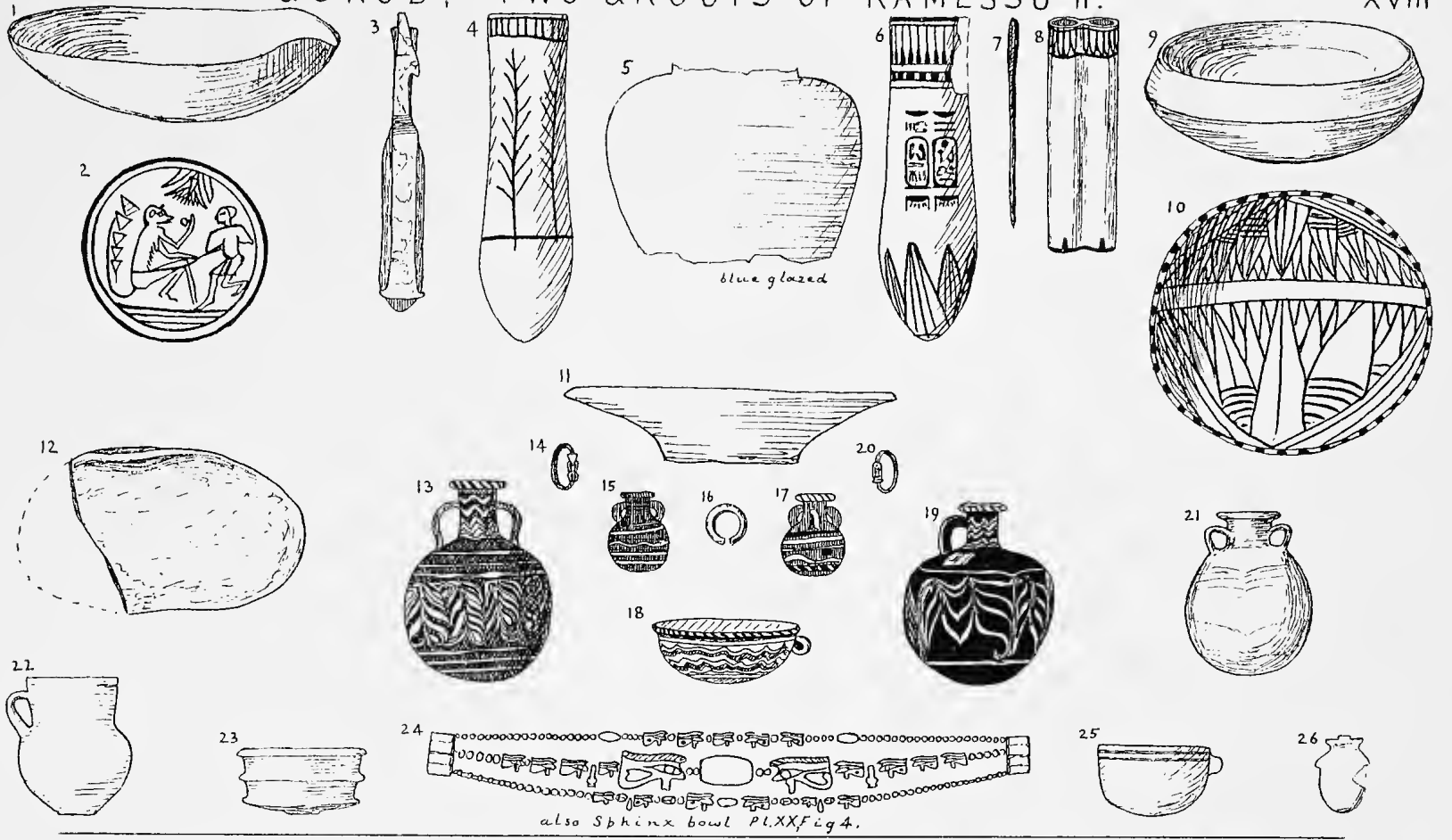


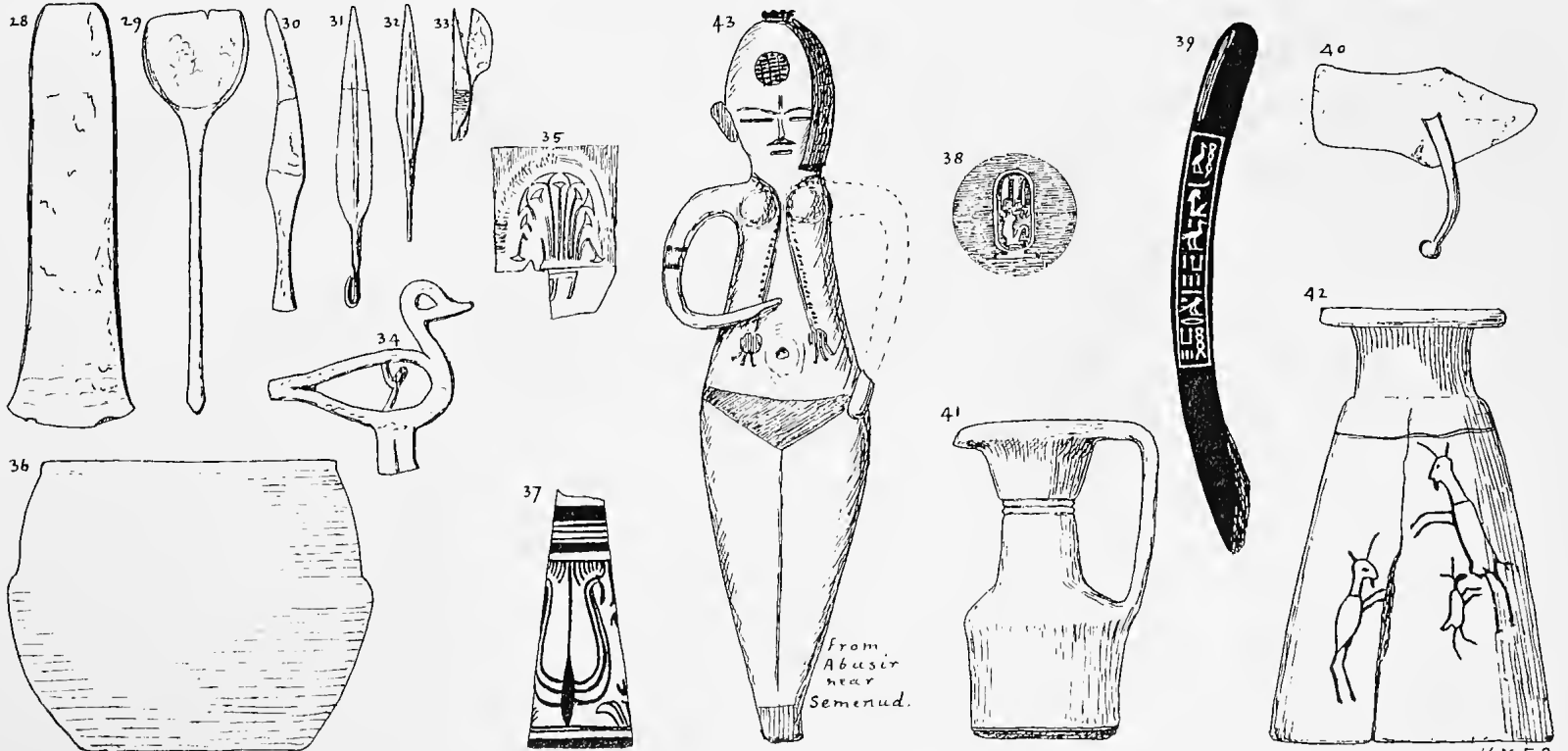
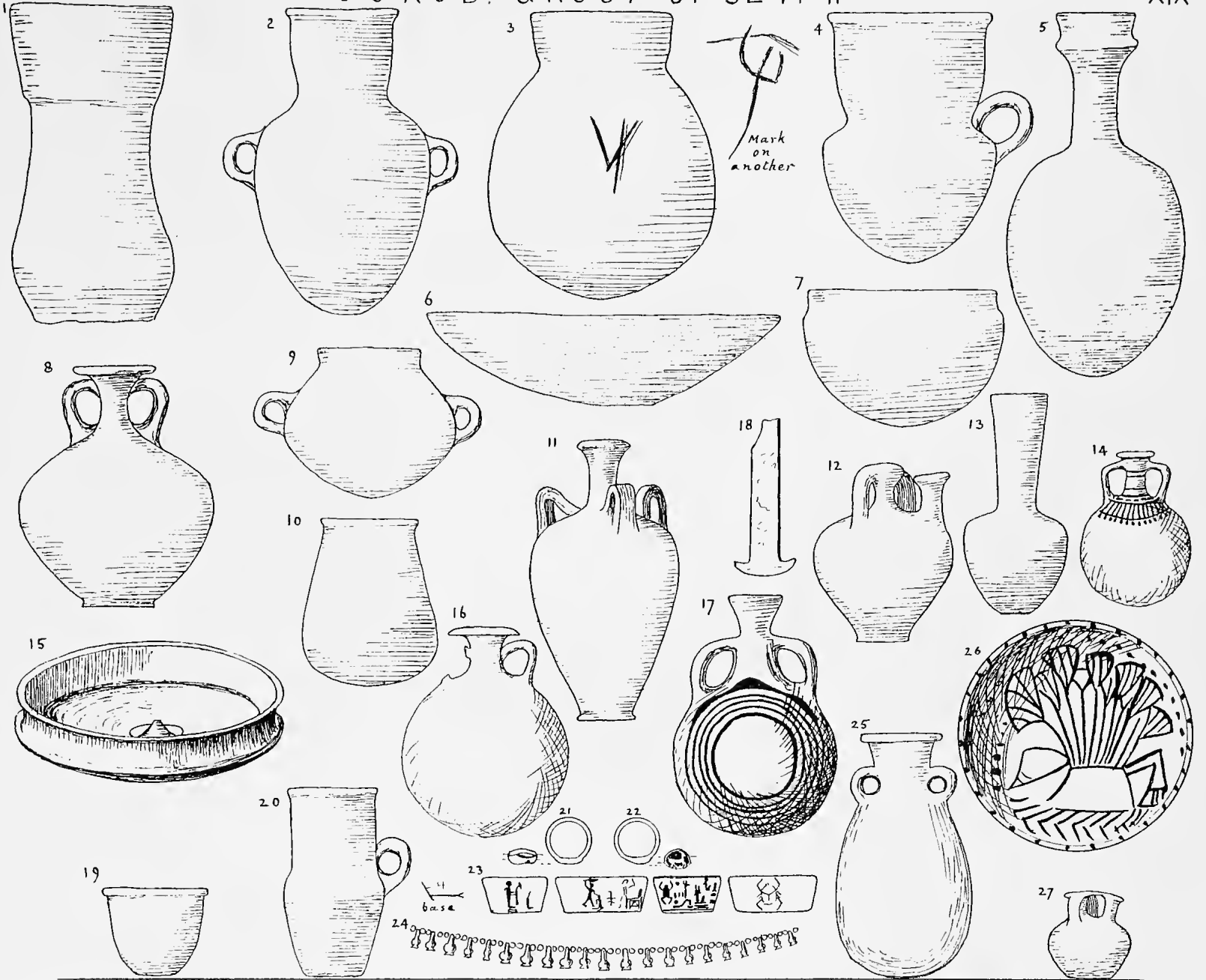
Wall Paintings 1:10

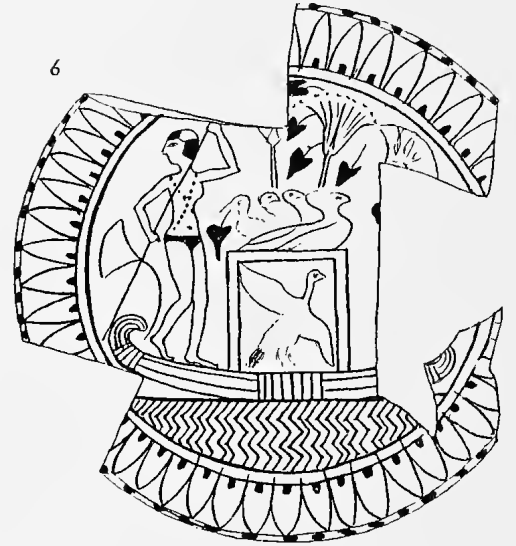
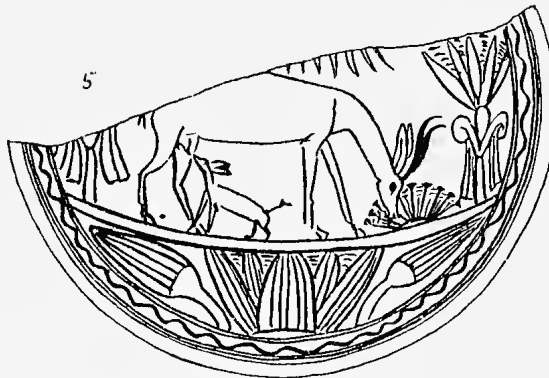
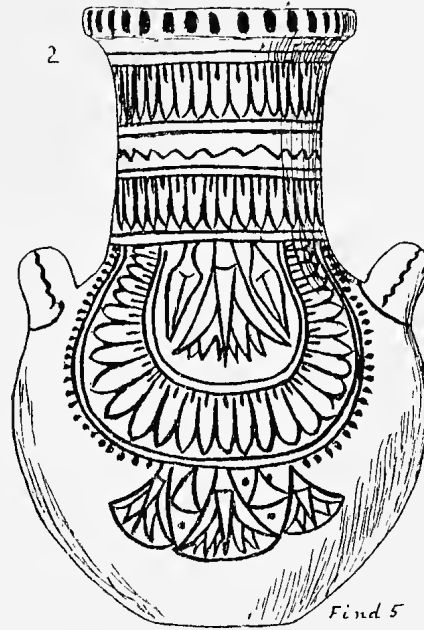
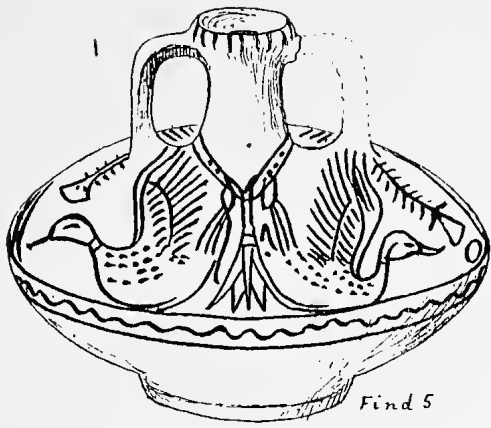


GROUP OF TUTANKHAMEN

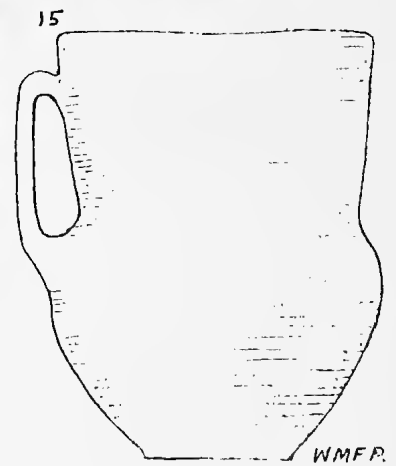
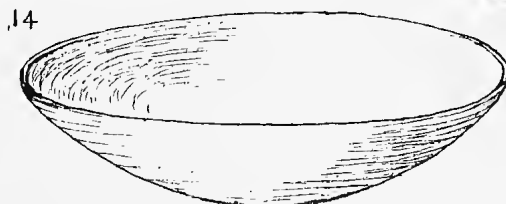
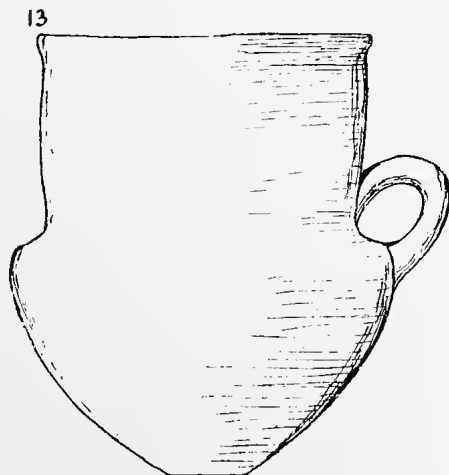
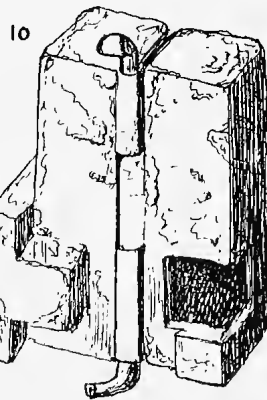
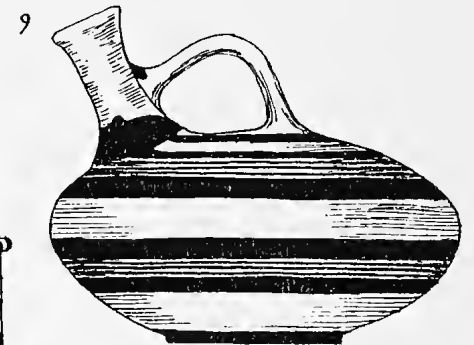
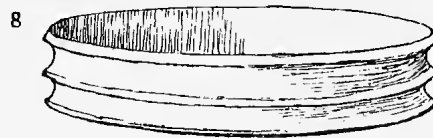
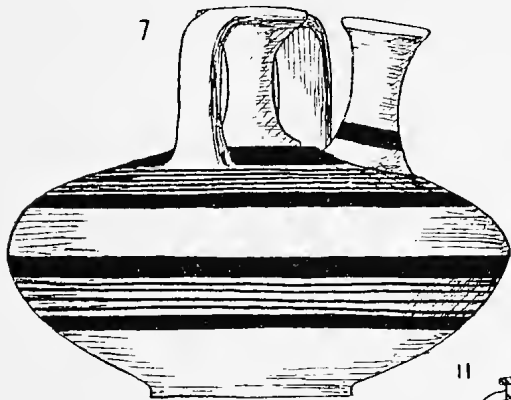








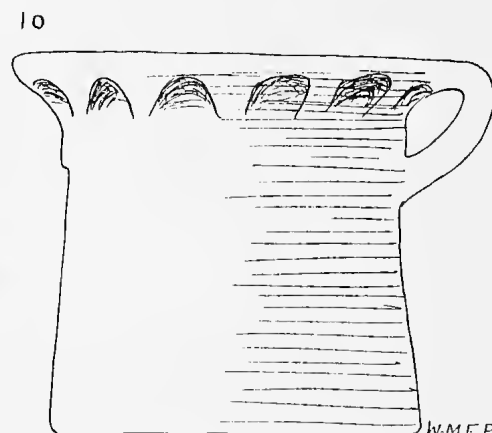
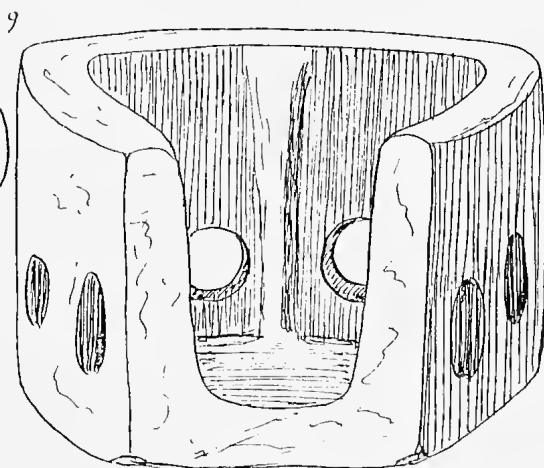
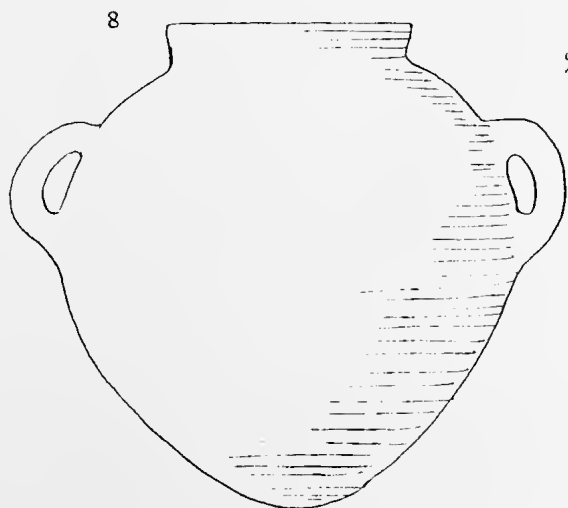
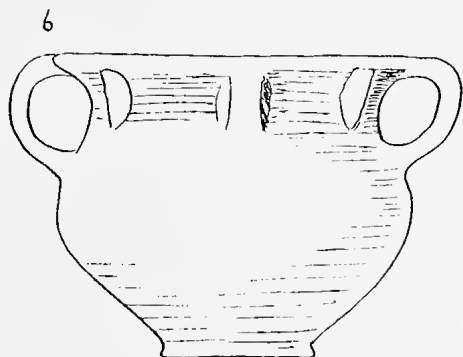
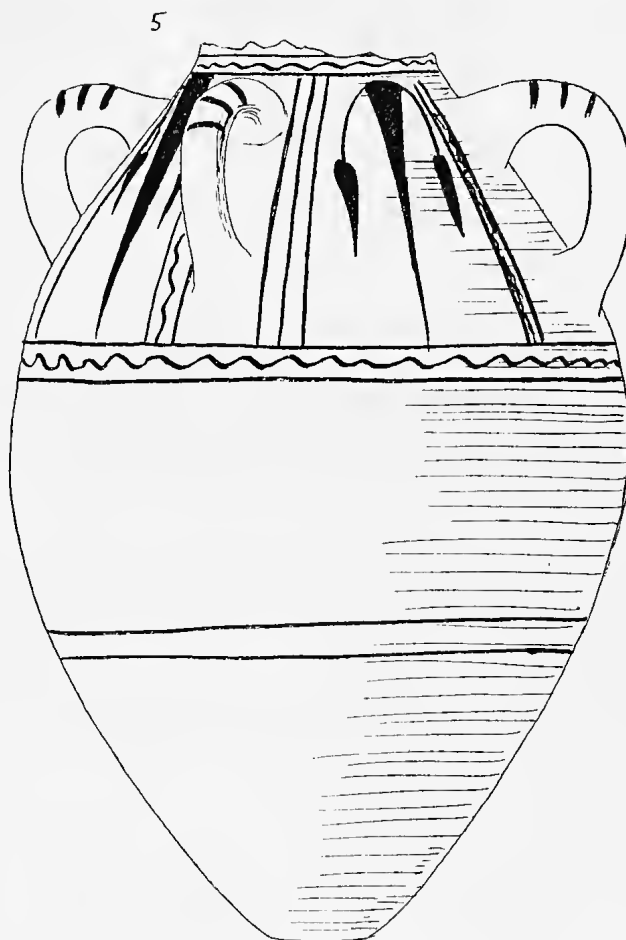
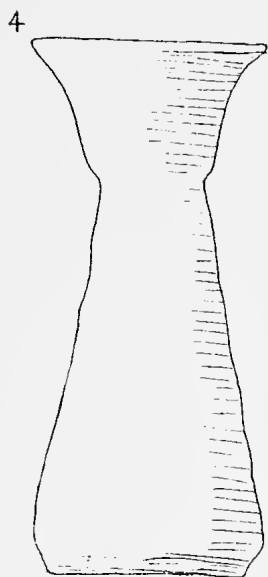
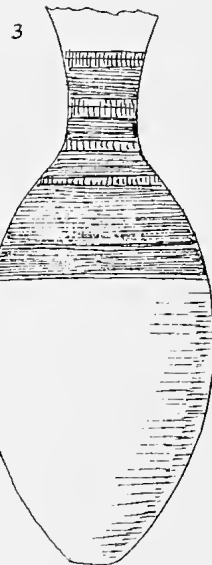
GROUP 7. END OF XVIII DYNASTY.



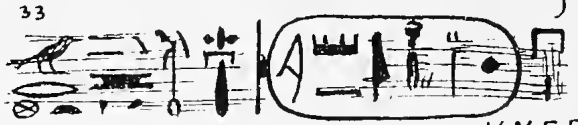
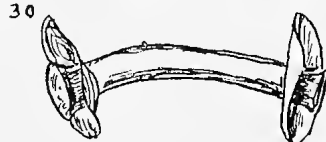
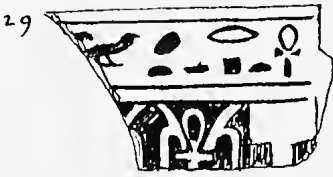
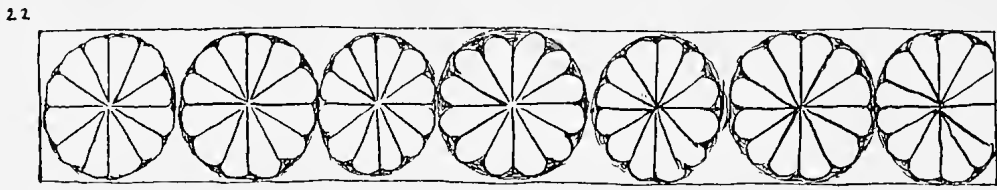
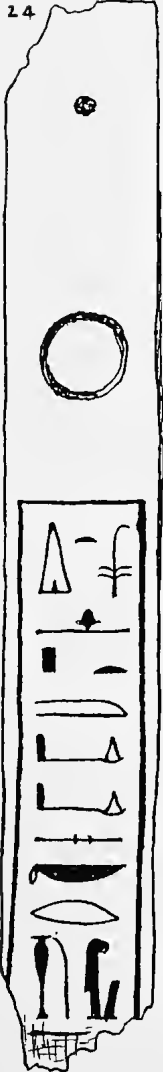
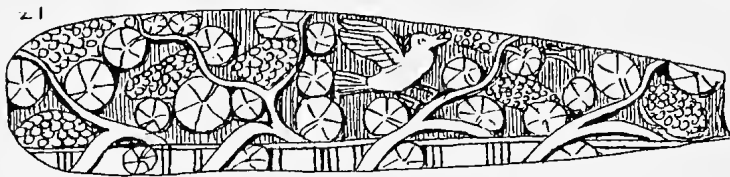
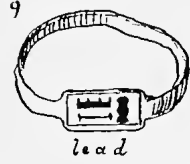
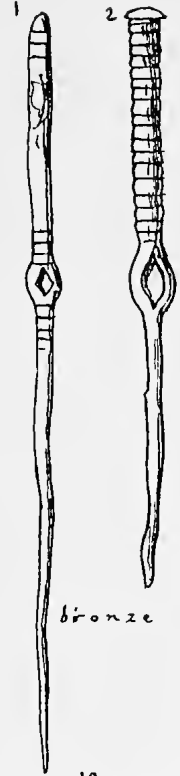
1:5

C U R O B . P O T T E R Y .

XXI



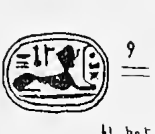
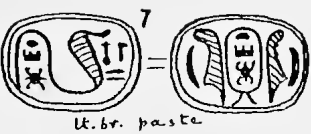
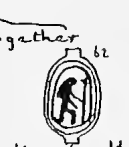
1:1



PEPI

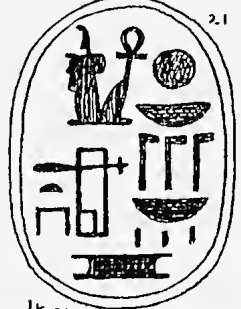
TAHUTMES III

Found together



AMENHOTEP II

AMENHOTEP III



NEFERTARI MERMUT. TUTANKHAMEN

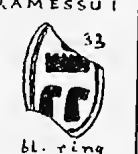
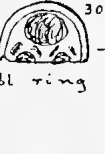
ANKHESAMEN



AI

HOREMHEB

RAMESSU I



SETI I

RAMESSU II

clay seal



gn. on wt.

bl. pot.

gn. on wt.

bl.

faded bl.

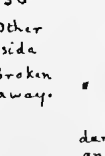
bl. ring.

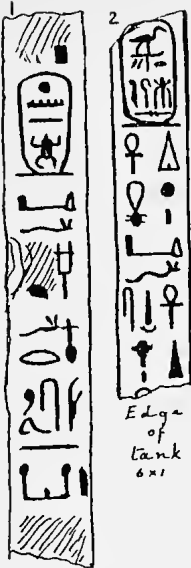
bl. pot.

gn.

gn. in gold.

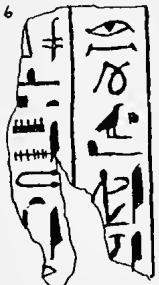
rough lt. bl. pot.





Edge of tank 6x1

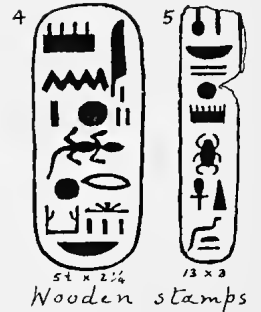
Back of statuette 7x1



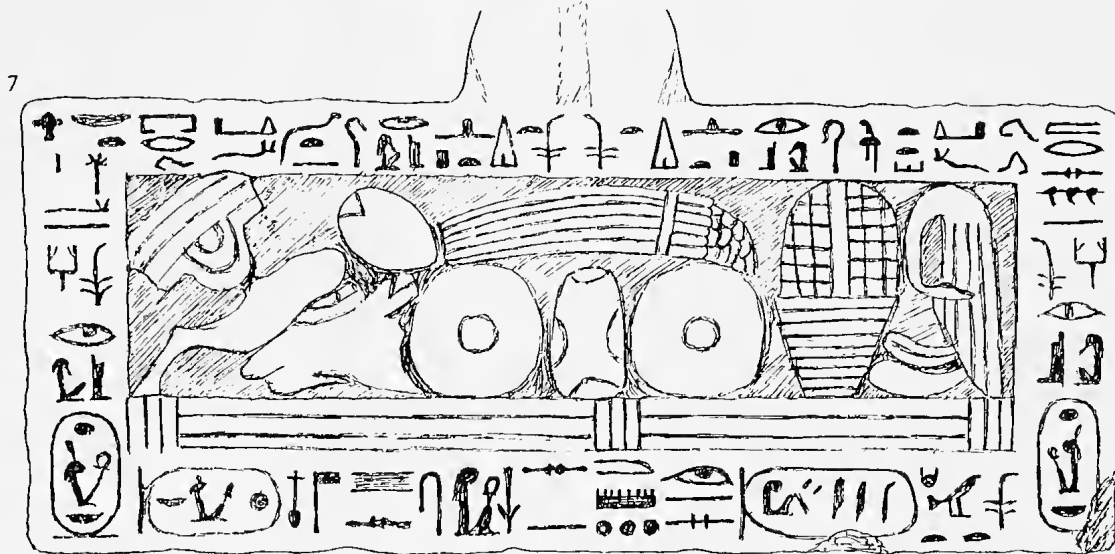
on statue 3x4+



Lintel of Temple. 62x31



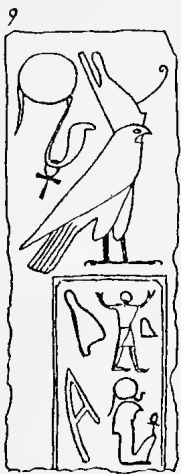
54 x 2 1/4
13 x 3
Wooden stamps



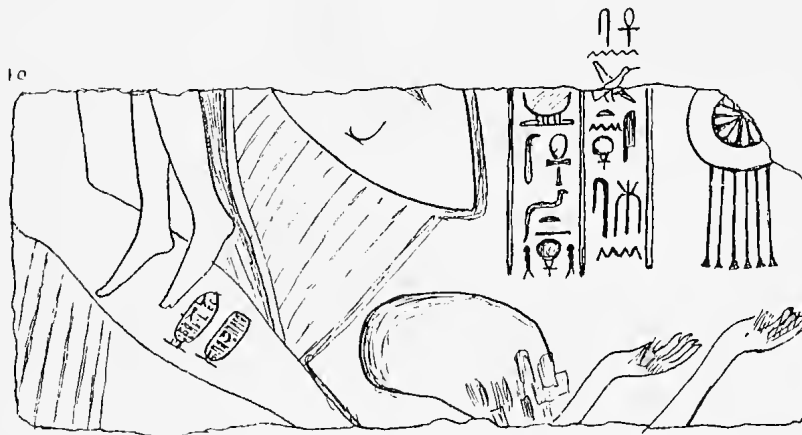
Black Granite Altar 10x4+



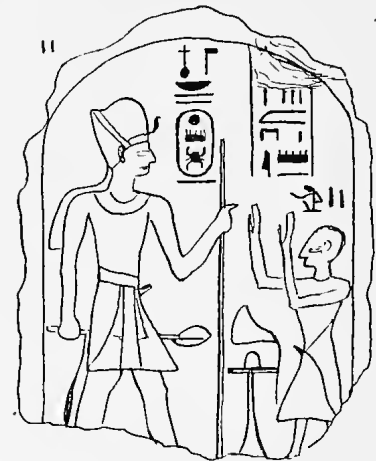
Wooden Box-lid 8x1



Limestone. 21x8



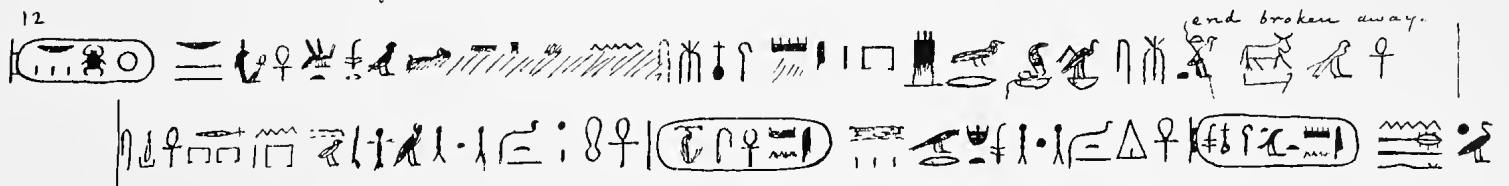
Fragment of Khuenaten, re-used in tomb Illahun. 22x9



Stela of Ramesempa-amen. 5x7

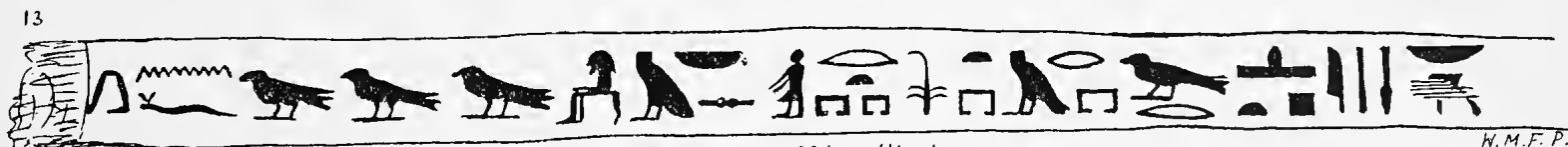


side

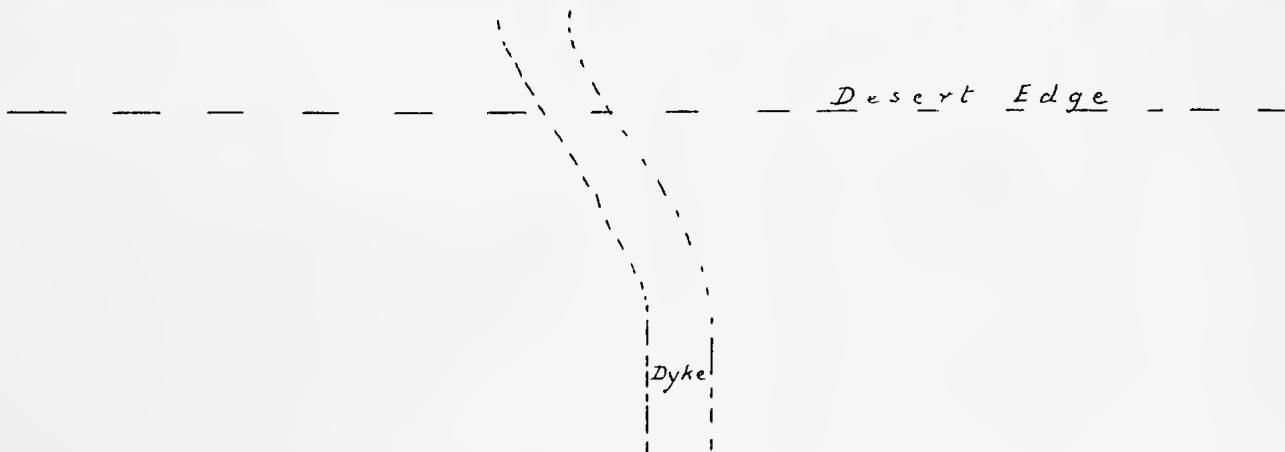
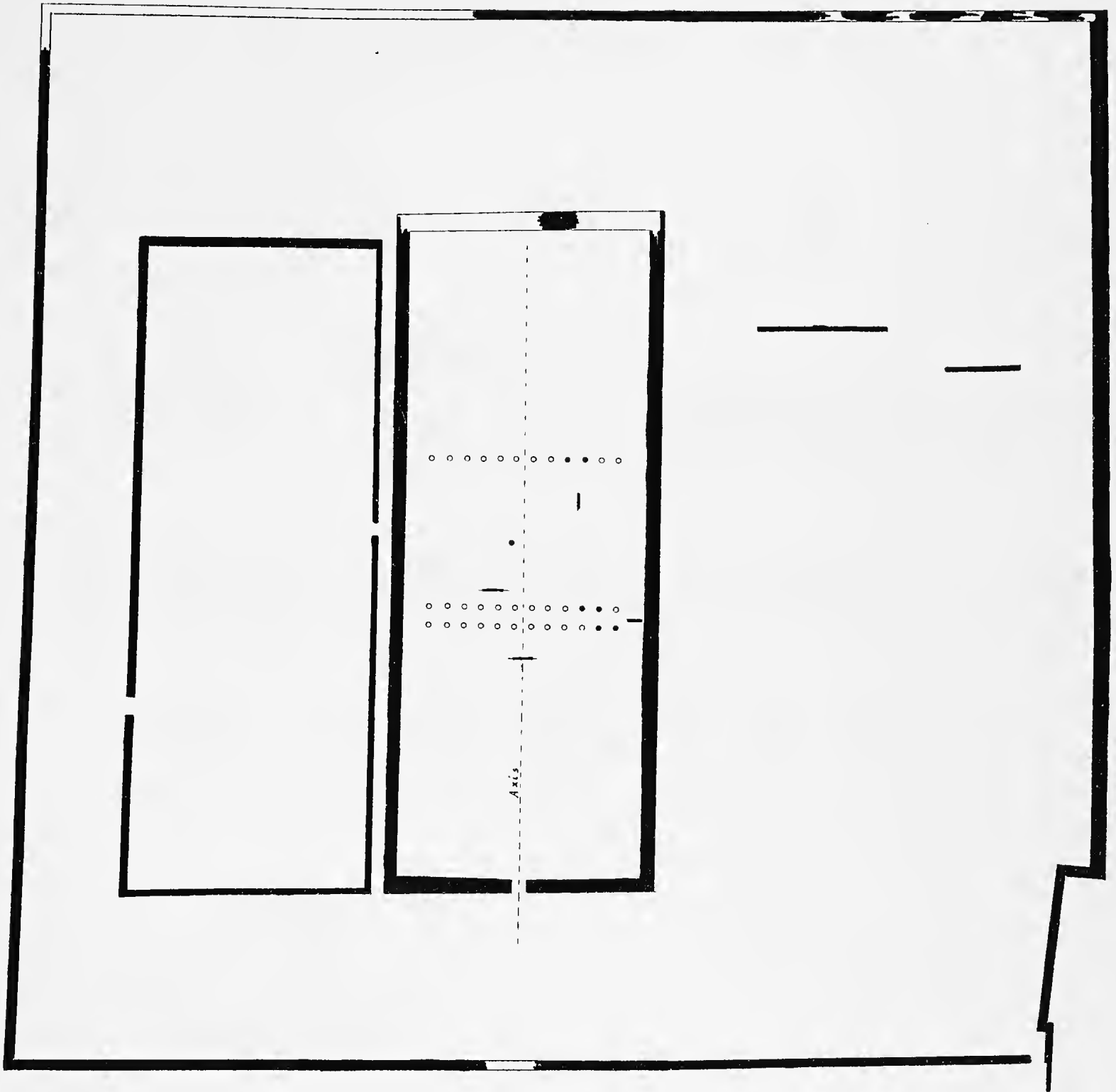


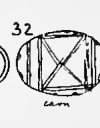
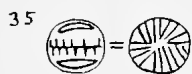
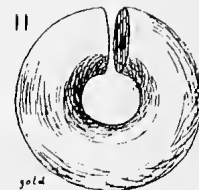
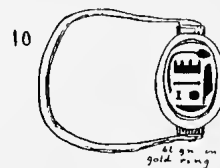
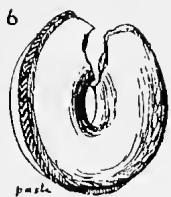
end broken away.

Wooden Cubit 207 x 1/2

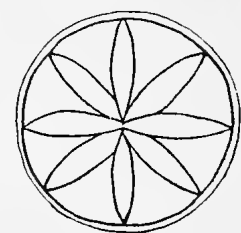
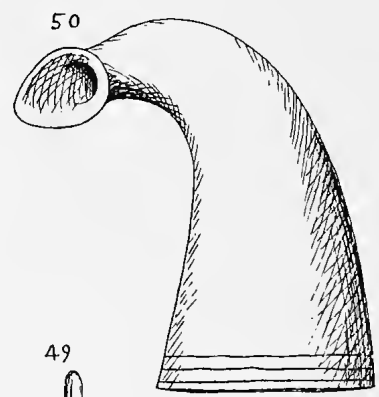
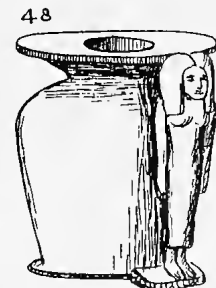
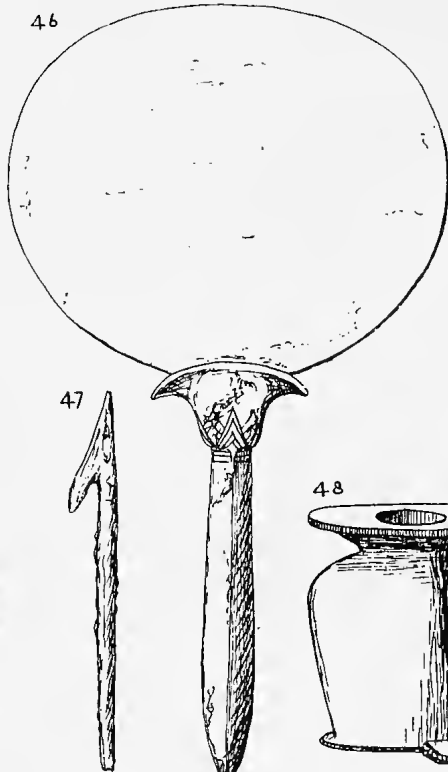
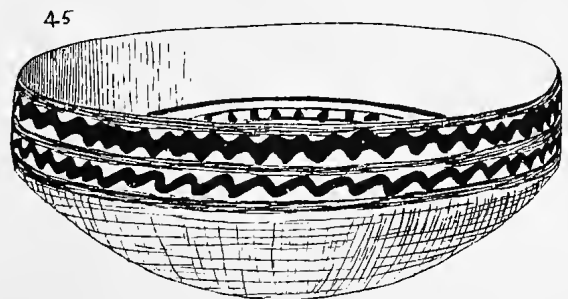


side of Coffin. Illahun 43x3





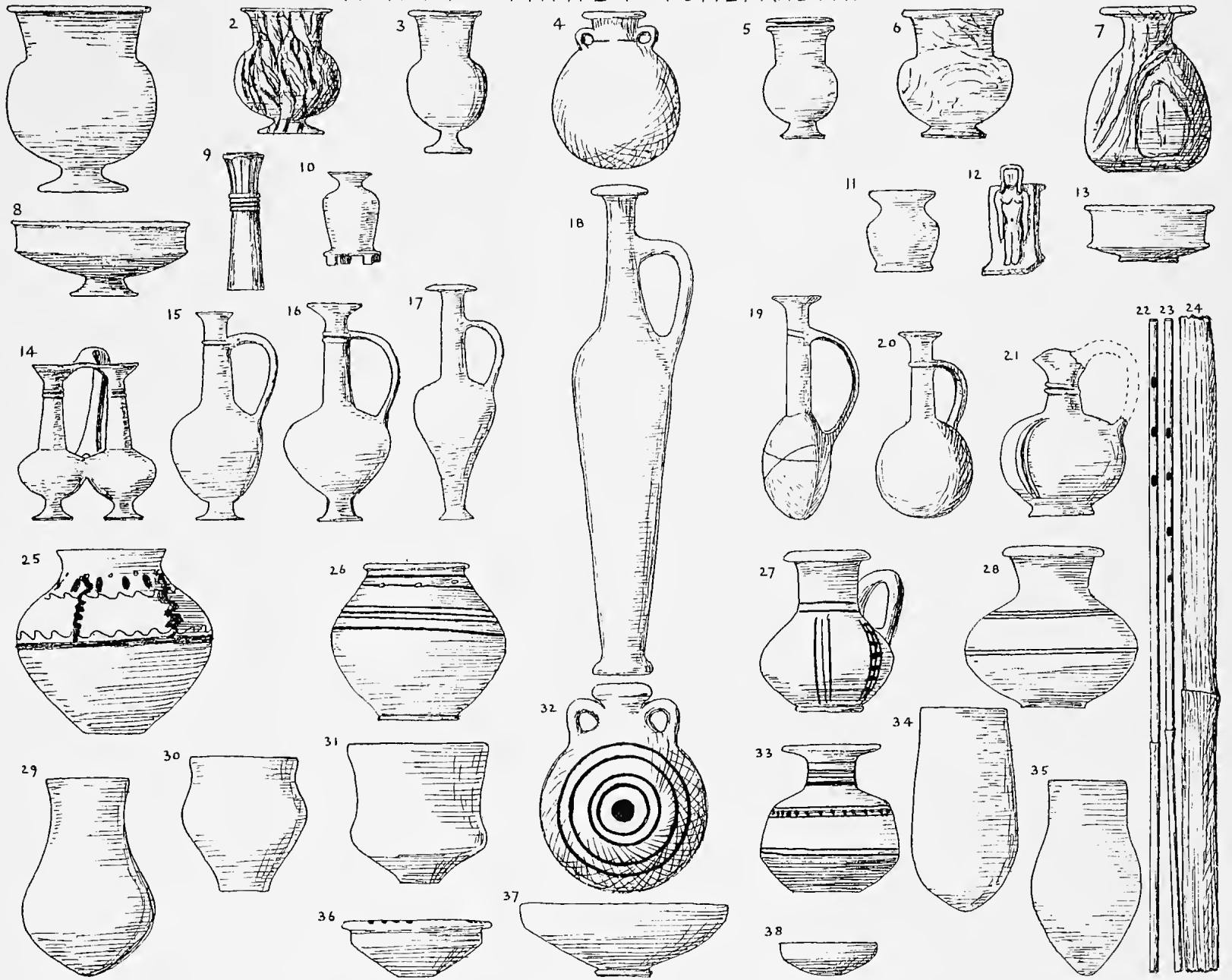
1:2



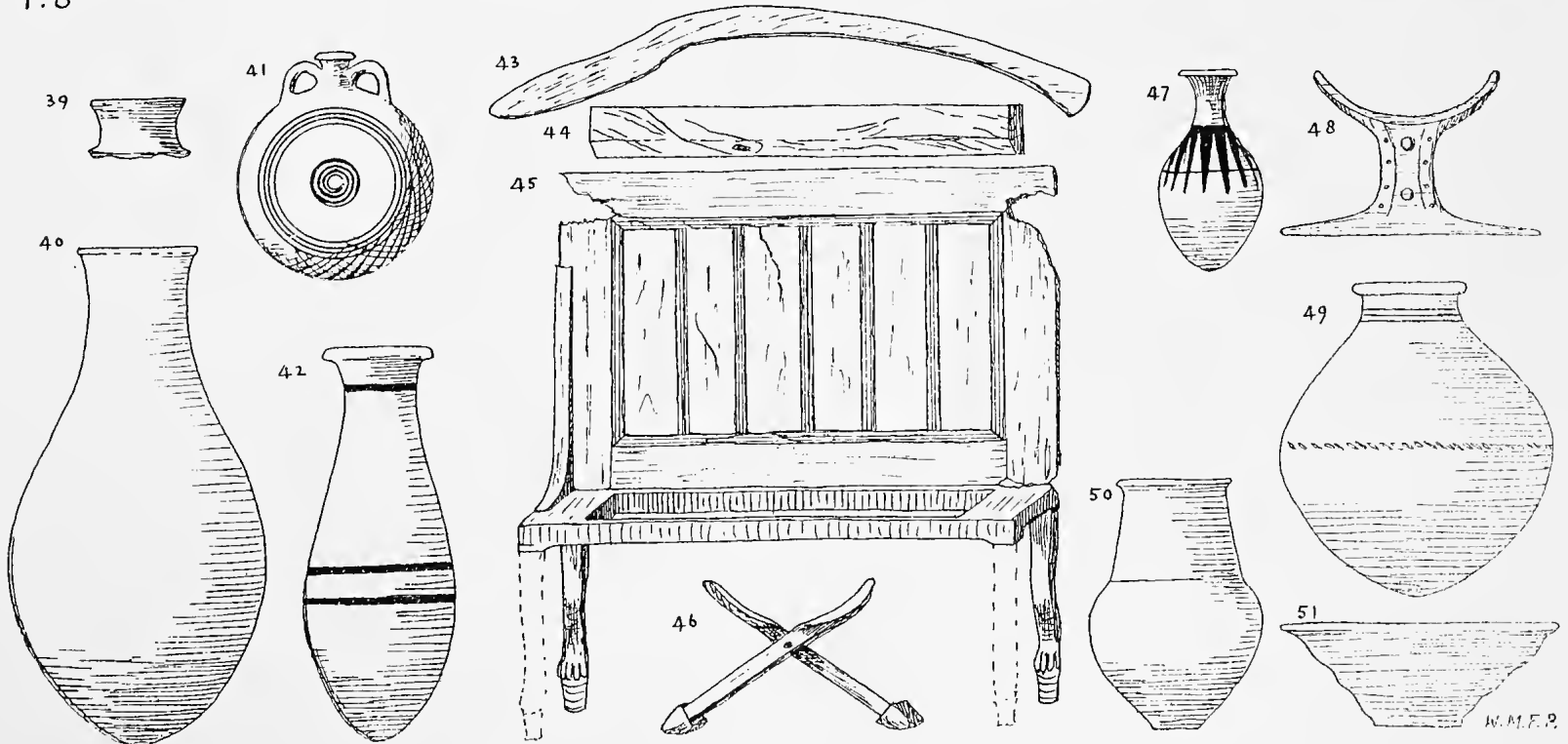
1:4

KAHUN MAKET TOMB. XX DYN.

XXVII



1:8



COFFIN INSCRIPTIONS.

XXVIII

N E K H T - A S A R

Address

Abuser xxx?
M i d d l e

Address

Side

Tathet
Abuser xxx?

Nesuben
Illahun
xii

Pa'ue
Illahun
xii

Side

cont'd

Vertical column of hieroglyphs on the far left.

around the feet similar, except the name

Vertical column of hieroglyphs, second from left.

sic

Vertical column of hieroglyphs, third from left.

cont'd

Vertical column of hieroglyphs, fourth from left.

Vertical column of hieroglyphs, fifth from left.

Vertical column of hieroglyphs, sixth from left.

Vertical column of hieroglyphs, seventh from left.

Vertical column of hieroglyphs, eighth from left.

Vertical column of hieroglyphs, ninth from left.

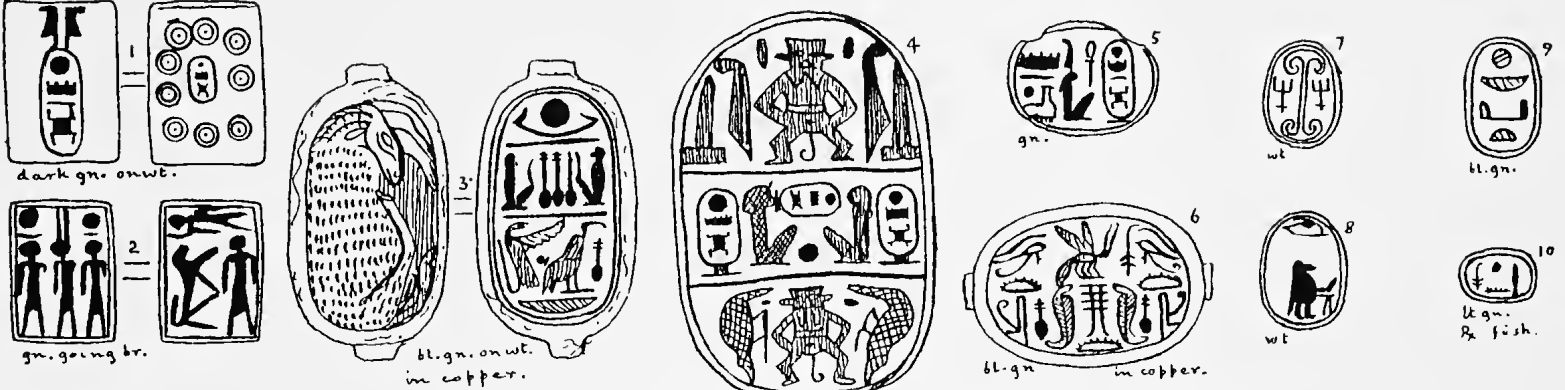
Vertical column of hieroglyphs, tenth from left.

Vertical column of hieroglyphs, eleventh from left.

Vertical column of hieroglyphs, twelfth from left.

Vertical column of hieroglyphs, thirteenth from left.

Vertical column of hieroglyphs, fourteenth from left.



ALL above from coffin of Ma'amen "Kahun" XXV.3.



dark gn. on wt.

gn. going br.

bl. gn. on wt. in copper.

dark gn.

gn.

wt.

bl. gn.

bl. gn. in copper.

wt.

bl. gn. & fish.

17 inlaid green glaze

18 blue glaze

19 alabaster

27 bl. paste

28 br.

29 br.

30 red glass

31 bl.

32 gn. pot

36 bl. pot

37 gn.

38 dark gn.

dark blue paste

dark gn.

39

40

41 bl.

42 gn. pot

43

44 bl. pot

45 gn.

46 dark gn.

45

46 wt.

48

49 br. gn. pot.

52

50 yell. gn. on wt.

51

54

55

56

57

Alabaster yell. gn. on wt.

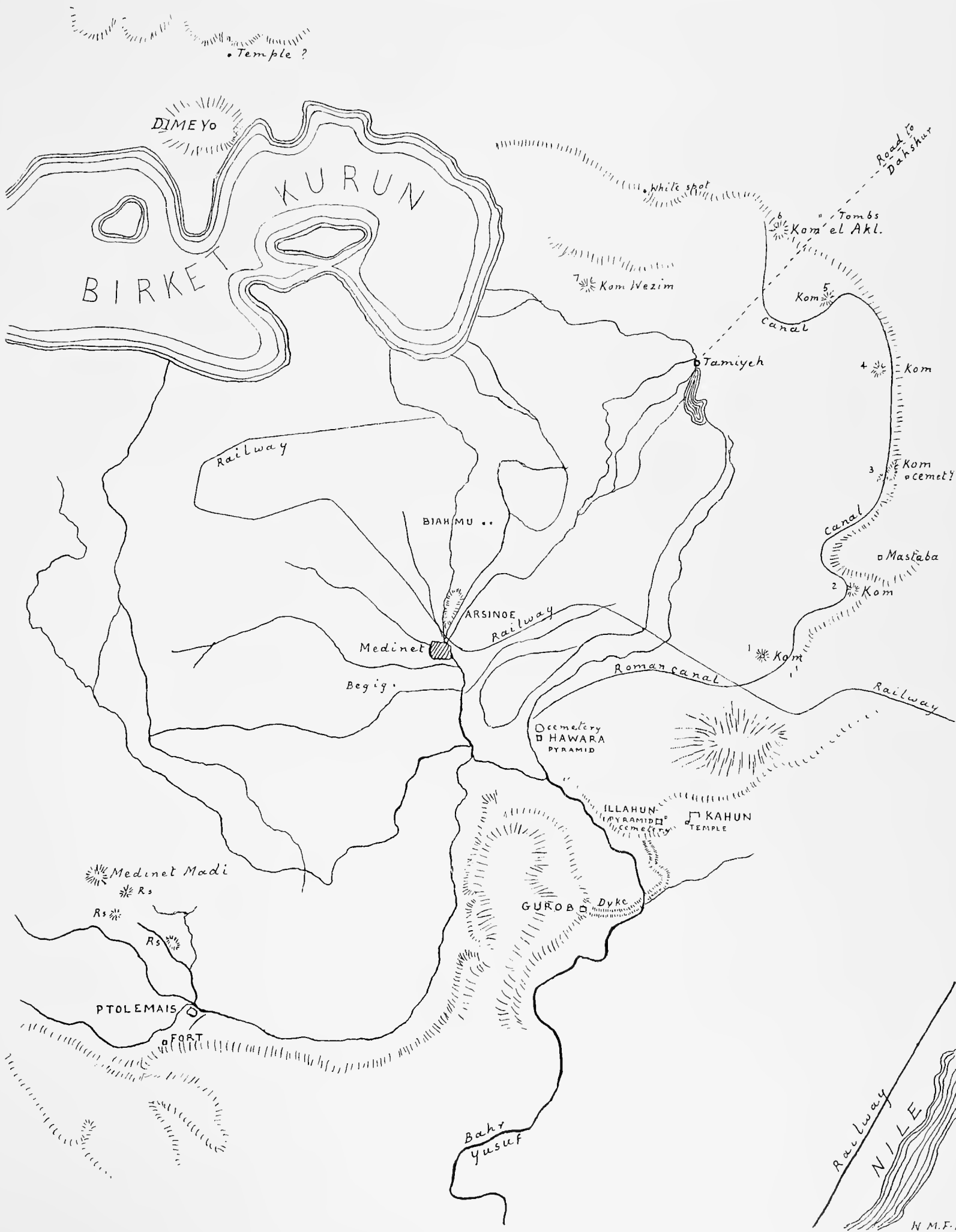
Haematite.

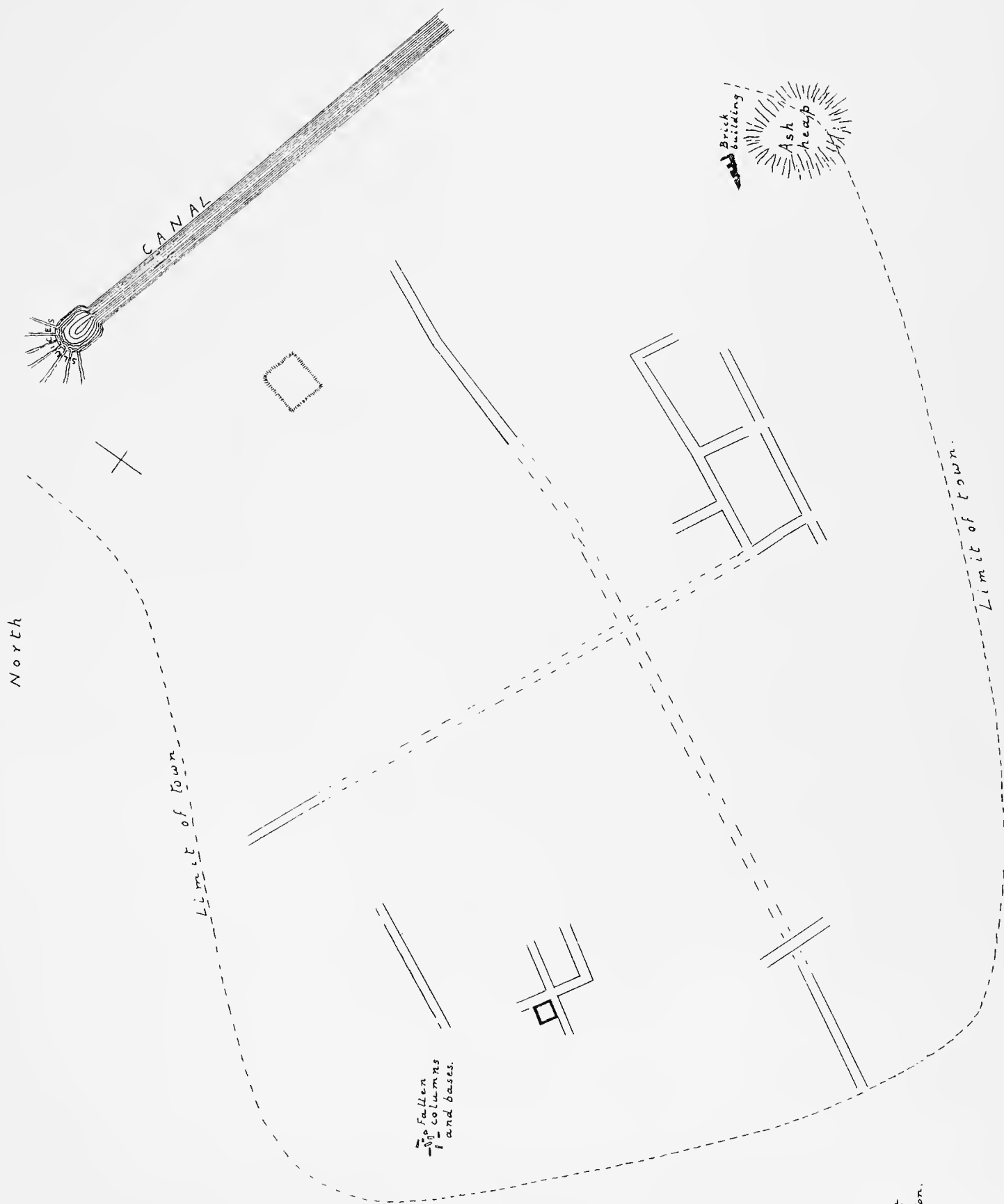
green.

Wood.

Calcite

Antimony.





Fragment
of inscription.
ΠΕΤΗΓ
ΚΕΦΟΙΒΑ
ΣΑΝΔΥΚΑ

W.M.F.P.

ΝΕΡΩΝΙΚΛΑΥΔΙΟΥΚΑΙΣΑΡ
 ΣΕΒΑΣΤΩΓΕΡΜΑΝΙΚΩ
 ΑΥΤΟΚΡΑΤΟΡΙΤΩΙΣΩ
 ΤΗΡΙΚΑΙΕΥΕΡΓΕΤΗΙΤΗ
 ΟΙΚΟΥΜΕΝΗΣΗΠΟΛΙΣ
 ΗΠΤΟΛΕΜΑΙΕΩΝΔΙΑΤΩ
 ΕΞΑΚΙΣΧΙΛΙΩΝΤΕΤΡ
 ΣΙΩΝΕΒΔΟΜΗΚ
 ΟΙΤΩΙΒΛΘΕΟΥΤ
 ΚΛΑΥΔΙΟΥΚΑΙΣΑ
 ΓΕΡΜΑΝΙΚΟΥΑΥΤΟΚΡΑ
 ΕΦΗΒΕΥΚΟΤΕΣΠΑΝ
 ΛΕΥΚΙΟΥΙΟΥΛΙΟΥ
 ΟΥΗΓΕΜΟΝΟΣΛΙ
 ΑΥΔΙΟΥΚΑΙΣΑΡΟΣ
 ΓΕΡΜΑΝΙΚΟΥΑΥΤΟ

ΑΙΣ

ΟΡΟΥ
 -ΙΝΚΑ
 ΙΑΝΟΥΣΕ

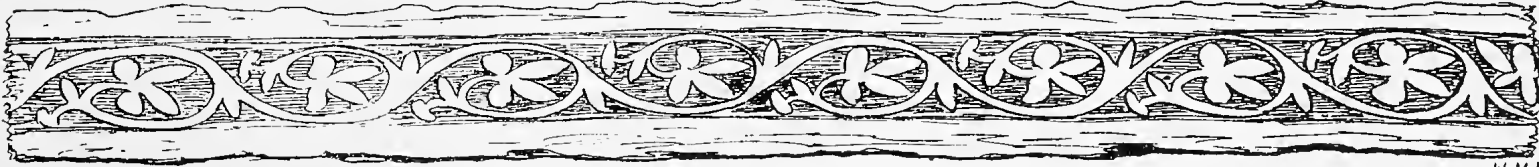
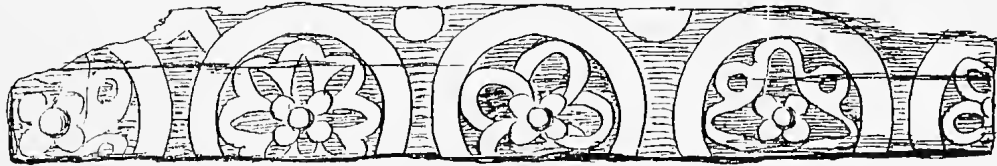
ΚΑΡ

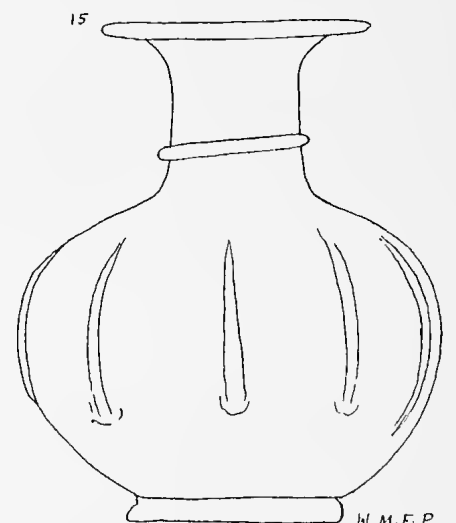
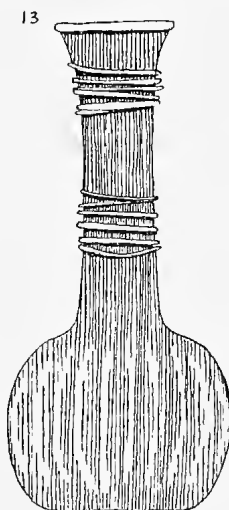
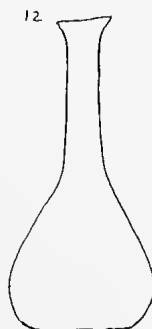
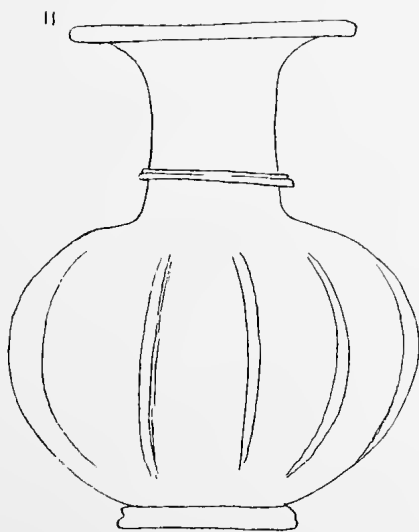
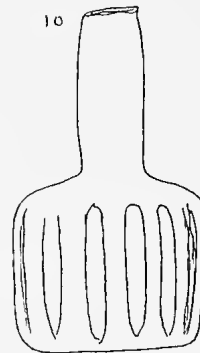
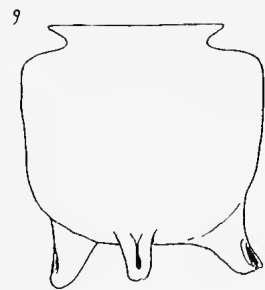
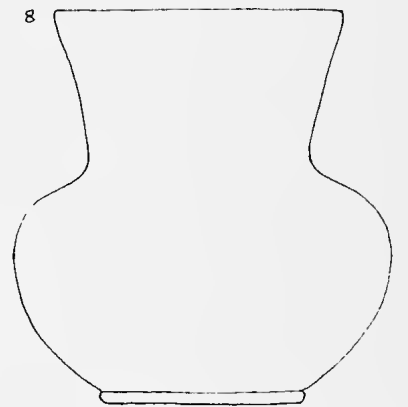
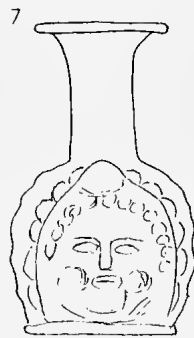
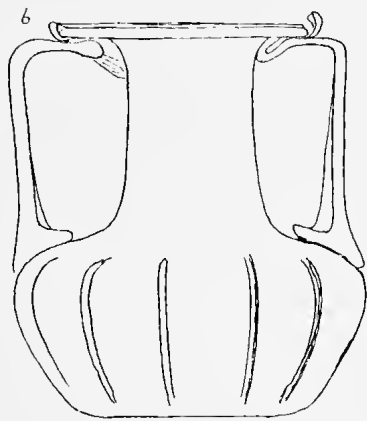
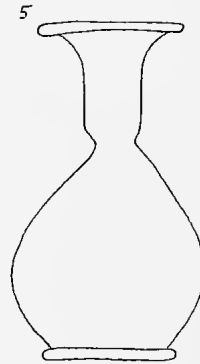
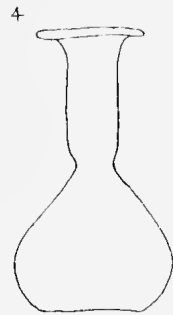
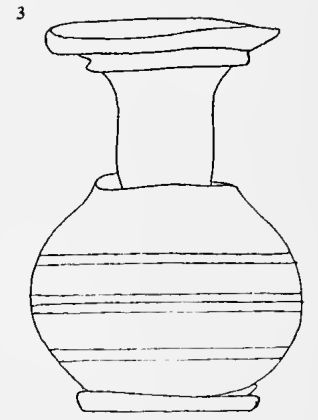
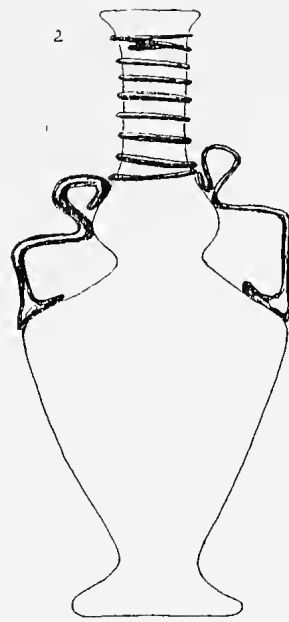
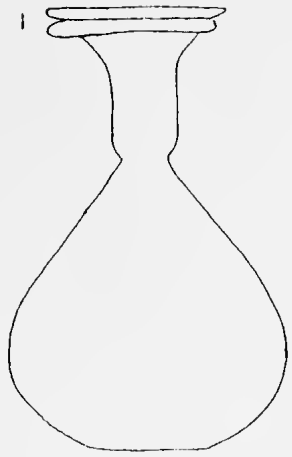
ΑΤ

ΚΑΙΣΑ
 ΧΗΣΚΑ
 ΙΕΠΩΤ

ΟΥ

Restoration by Canon Hicks.
 Νέρωνι Κλαυδίω Καίσαρι
 Σεβαστῶ Γερμανικῶι
 Αὐτοκράτορι τῶ σω-
 τῆρι καὶ εὐεργέτῃ τῆς
 5 οἰκουμένης - ἡ πόλις
 ἡ Πτολεμαίεων διὰ τῶν
 ἑξακισχιλίων τετρακο-
 σίων ἑβδομήκοντα καὶ
 οὐ τῶ β (ἔτει) Θεου Τιβερίου
 10 Κλαυδίου Καίσαρος Σεβαστοῦ
 Γερμανικοῦ Αὐτοκράτορος
 ἑφηβευκότες πανδημεί
 ἐπὶ Λευκίου Ἰουλίου ...
 ου ἡγεμόνος, (ἔτει) Ἰ [Νέρωνος
 15 Κλαυδίου Καίσαρος Σεβαστοῦ
 Γερμανικοῦ Αὐτοκράτορος





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