

PRELIMINARY REPORT ON THE WORK  
OF THE  
HARVARD — BOSTON EXPEDITION  
IN 1911-13

BY

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I. PROGRESS OF THE WORK.

After the excavation of the Valley Temple of Mycerinus, the work on the cemetery west of the Cheop's Pyramid was resumed. At the end of December 1911, the clearing of the mastabas eastward of Lepsius 24 (the Mer-ib mastaba) was continued. For our purposes, in order to include the intervening mastabas all were renumbered as in the western part. Lepsius 23 was numbered G. 2000 and all the mastabas between that and the Mer-ib tomb were numbered from 2001 up. The Mer-ib mastaba was numbered 2100, and the other mastabas north and east of it which belonged to the original plan of the cemetery were numbered even tens. 2110, 2120, 2130, etc. (see pl. I, Ill. n° 1). The later mastabas occupying secondary sites were numbered with the intervening numbers. Thus later mastabas in front and on the sides of 2130 became 2131, 2132, etc. The burial pits were lettered A, B, C, etc., while the intrusive burial pits were lettered Z, Y, X, W, V, U, T, S, etc., and called X-pits.

The work of clearing proceeded eastwards during January to April 1912, October to December 1912 and January 1913. Early in January, the edge of the cemetery was reached nearly in a line with the western face of the Cheop's Pyramid (see pl. VIII, Ill. n° 12). Work was also begun in April 1912 on the southern part of the field among the rows of mastabas towards the Second Pyramid; and five tombs have been excavated.

The greater part of the strip originally assigned to our expedition has now been cleared. Along the northern edge lies a series of extremely

poor, very small rubble mastabas. The extreme north-western part still contains a number of unexcavated mastabas, badly plundered and in some cases nearly destroyed. The part of the royal cemetery which lies in the northern strip is however entirely clear, and our chief duty is to clear that part which lies in our southern strip, near the Second Pyramid <sup>(1)</sup>. Until this is clear, all conclusions as to the history of the whole royal cemetery must be tentative and subject to revision. But it may not be out of place to outline the present results.

## II. EVIDENCES OF UNIFIED PLAN.

The mastabas of the royal cemetery are remarkably long in relation to their width, the proportion being about 100 : 235 ± 10. The following list gives a review of the approximate proportions of the Old Empire mastabas known to me :

SITE	NUMBER	MATERIAL	DATE	RELATION OF WIDTH TO LENGTH		
				LOWEST	HIGHEST	AVERAGE
Giza, R. Cem. . . . .	17	limestone	IV	100 : 230	100 : 270	100 : 235
Naga-ed-Dér . . . . .	4	mud-brick	III	100 : 171	100 : 280	— . —
Ballás (N. and B.).	3	"	III	100 : 194	100 : 205	100 : 209
Bet-Khalláf. . . . .	5	"	III	100 : 186	100 : 274	100 : 196 <sup>(1)</sup>
Medum . . . . .	7	various	IV	100 : 173	100 : 200	100 : 186
Denderah. . . . .	5	mud-brick	IV	100 : 172	100 : 217	100 : 196
Giza, O. Cem . . . . .	23	limestone	V <sup>(2)</sup>	100 : 153	100 : 227	100 : 187
Abusir . . . . .	3	"	V	100 : 139	100 : 187	100 : 157
Saqqarah. . . . .	14	various	IV-V	100 : 153	100 : 206	100 : 190
M. M. C. 5. . . . .	1	mixed	IV	— : —	— : —	100 : 269
Quibell's Mastaba..	1	limestone	V	— : —	— : —	100 : 189
Saqqarah. . . . .	8	"	VI	100 : 98	100 : 196	100 : 143

<sup>(1)</sup> Omitting the two exceptional mastabas K. 2 and N. 518.  
<sup>(2)</sup> Mainly V<sup>th</sup>, a few late IV<sup>th</sup>, a few early VI<sup>th</sup>.

<sup>(1)</sup> The middle strip was assigned to Prof. Steindorff and was resigned by him to Prof. Junker. The southern strip was

originally assigned to Prof. Schiaparelli and when he resigned it, it was given to our expedition.

The only mastabas known to me which equal or exceed the proportions of the Giza royal mastabas are as follows :

Bet-Khallâf, K. 3, mud-brick, III dynasty . . . . .	100 : 274
Naga-ed-Dér, N. 518, " " " . . . . .	100 : 280
Saqqarah, C. 5, " IV " . . . . .	100 : 269

The variations in the size and the proportions of the mastabas exclude at once any idea of a *normal form* of the mastaba. The form of each tomb is dependant on the functions it serves and the means (technical and material) at the disposal of the builder. The general similarity arises from identity of function; the variations in size and in the proportions are determined in part by the ground available, in part by the wealth and importance of the builder; the development in the form and the structure follows the growth of technical skill.

The uniformity in size and proportions in the royal cemetery at Giza is due therefore solely to the fact that they were laid out according to a unified plan drawn up by the royal architects, and assigned to the owners by royal command. This Giza cemetery and that at Abu-Roash are the only two known to me in which this procedure has been followed.

### III. DIFFERENT DIVISIONS OF THE ROYAL CEMETERY.

The Giza cemetery, west of the First Pyramid, does not however appear to be a unit (see pl. II-III, Ill. n<sup>o</sup> 2 and 3). The great mastaba (Lepsius 23) with those west and east of it are orientated 1°30' W. of N. while Prof. Junker's *Hemiwn* mastaba and the rows near the Second Pyramid (called by me the Southern Cemetery) are orientated due north. Nor do the lines of the southern section correspond with those of the northern. For example the line of the face of the sixth line (counting from *Hemiwn*) of the Southern Cemetery strikes the southern face of G. 2120 (Northern Cemetery) at about one third of the width from the south-eastern corner. It is clear that these two sections represent two different plans. The northern section of the cemetery is divided by the great mastaba n<sup>o</sup> G. 2000 (Lepsius 23) into two parts, called by me for convenience, the Western Cemetery and the North-Eastern Cemetery. The Western Cemetery is a unit, judging by spacing and structure. The North-Eastern Cemetery, however, is not a unit,

but falls into three parts. The westernmost line, G. 2100 (Mer-ib) and G. 2110, lie northwards of the following lines. The following lines are in parallel rows, but G. 2120 is longer than those east of it (G. 2130, 2140, 2150, 2160, and 2170). The easternmost line, G. 2160 and 2170, is continued across the field to meet the later 8<sup>th</sup> line of the Southern Cemetery (see below); but is not exactly in line with it. All this part of the North-eastern Cemetery, I call the Northern Cemetery. In front of the Northern Cemetery, lie three more lines of mastabas (G. 2180; G. 2190 and 2200; G. 2300 and 2310), each of which shifts northwards so that the east-west lines are broken. The northward shift of each of these lines in turn exposes the southern end of each mastaba to an opening in the line on the east. Thus a field of mastabas placed *en échelon* is formed, called by me the Eastern Cemetery. The Eastern Cemetery appears to be continued across the field to the south; for the mastabas east of our Southern Cemetery are clearly placed *en échelon*; but we have not yet excavated this part of our concession. Eastward of the cemetery *en échelon*, there are several lines of later mastabas of distinctly different construction, spaced with a cumulative irregularity.

Thus there are three and perhaps four general plans followed in the cemetery. Using the word *line* to mean the north and south rows of mastabas and the word *row* to mark the east and west rows, the cemetery may be divided as follows. The designations of the plans is however without prejudice to the ultimate conclusions as to relative date.

PLAN A. — Western Cemetery, five lines of three rows (G. 1201-G. 1233). To this plan, Lepsius 23 (G. 2000), and one line of two mastabas (G. 2100, 2110) of the Northern Cemetery ~~to~~ seem to be later additions.

PLAN B. — Southern Cemetery, eight lines of five rows each, and the *Hemiwn* mastaba.

PLAN C. — Northern Cemetery, three lines.

PLAN D. — Eastern Cemetery, three lines of mastabas placed *en échelon* running across the front of the field.

In this survey, I have been obliged, owing to insufficient excavation, to ignore the mastabas south of the First Pyramid and those east of it. Nevertheless it is manifest that they also were laid out according to a formal plan.

#### IV. TYPES OF FORMS AND STRUCTURE.

Before proceeding to discuss the relative dates of these various groups of mastabas, it is necessary to clear the ground by a review of the different types of mastabas.

In regard to the forms of the stone mastabas, there is clearly a transition from an exterior chapel of mud-brick or stone in the earlier part of the Fourth Dynasty to an interior chapel of stone, in the later part of the same dynasty. These chapels are normally on the southern end of the side facing the valley, approximately opposite the burial chamber. The earlier tombs contain only one shaft, the later two or three.

During the Fifth and Sixth Dynasties, the interior chapel becomes a long corridor with a niche (or false door) for each burial chamber, and, in the larger mastabas, develops into a series of interior rooms which occupy the greater part of the mastaba. All these mastabas contain a number of burial pits.

The statues were placed in the offering room in the exterior mud-brick chapels. The *serdab*, which originated as a walled up offering niche (see *Medum*, pl. VII), does not occur in the stone mastabas with *exterior* chambers; but it occurs frequently in the mastabas with *interior* chamber, of the later part of the Fourth Dynasty, and becomes usual in the Fifth and Sixth Dynasty mastabas. Even in the latter mastabas, statues were occasionally placed in the offering room (see pl. VII, Ill. n° 11).

The tombs with exterior mud-brick chapels have only a single slab-stela with beautiful low relief, placed in the offering niche. The exterior stone chapels begin to show wall reliefs, usually low fine reliefs, like the slab-stela. The extent of the wall reliefs grows with time and the reliefs become higher and more sharply marked.

The following explanations of the material should be noted :

1. Soft, yellow limestone, comes at present from the quarry south of the Sphinx. Apparently this stone was found all over the southeastern part of the Pyramid Area. Disintegrates on exposure to the weather. Called *Yellow Limestone*.

2. Hard grey nummelitic limestone. The platform of the pyramids, the

quarry beside the Third Pyramid, the quarries of the western part of the area. Weathers purplish. Called *Grey Limestone*.

3. A medium fine white limestone, probably from the eastern bank. Weathers grey. Called *White Limestone*.

4. A very fine hard white limestone, probably from Turah. Weathers yellow. Called *Fine White Limestone*.

The dressing of the exterior surfaces of the walls present two predominant types, (1) vertical faced, stepped dressing (see pl. IV, Ill. n° 4) and (2) sloping faced dressing (see pl. V-VI, Ill. n° 6, 9). The sloping faces are either joint dressed leaving the body of the stone rough and slightly bulging, or flat dressed. The yellow limestone occurs only with vertical-faced stepped surfaces but none of it was well preserved. The grey limestone occurs with both vertical-faced stepped dressing and sloping-faced dressing. The white limestone occurs only with flat sloping-faced dressing but some of the examples are unfinished (G. 4240, pl. VI, Ill. n° 9). The fine white limestone occurs only with flat sloping-faced dressing and the finish is of an excellence seldom attained in the masonry of any period. All these are of the Fourth Dynasty. The vertical-faced stepped dressing of grey limestone and the sloping faced dressing of grey limestone persist throughout the Fifth and Sixth Dynasties; but in the former the stepping becomes less pronounced and in the latter the tendency is towards lower courses of smaller stones.

There are two chief structural types : (1) the filled mastaba and (2) the cased core mastaba. The latter is subdivided into : (a) massive core mastabas, and (b) rubble core mastabas.

### 1. THE FILLED MASTABA.

The list of Fourth Dynasty filled mastabas is as follows :

Western Cemetery, G. 1201, 1203, 1205, 1207, 1209, 1223, 1225, 1227, 1233, 1235.

Northern Cemetery, G. 2100, 2110, 2120, 2140, 2150, 2160, 2170.

Eastern Cemetery, G. 2180, 2190 and the rest of the mastabas *en échelon*.

In general the two groups are, in spite of the general similarity, widely

separated in details. The distinctive features of the Northern and Eastern groups, are the bad stone, the relative positions, the absence of slab stelae and the small size of the burial pits. I will first describe the filled mastabas of the Western Cemetery.

The filled mastaba has a retaining wall of low stepped courses built of *small* blocks of yellow or grey stone (see pl. IV, Ill. n° 4 and fig. n° 1). The courses have vertical faces and each is set back 5-7 centimeters behind the face of the course below. The courses are 30 to 50 centimeters high. The interior is filled with boulders, gravel and rubbish. In some cases, rubble compartment walls divide the interior into filled compartments. Occasional horizontal surfaces in the filling material show that the filling took place *pari passu* with the building of the retaining wall.

The chapel was an exterior structure of mud-brick built against the retaining wall, on the southern end of the valley side of the mastaba<sup>(1)</sup>. It was approximately opposite the burial chamber. The chapel is of mud-brick and shows usually three types of rooms not arranged according to a normal plan. The three types are : (1) court with a stone basin, (2) magazine, and (3) offering room. The entrance is on the east, north or south as may be convenient to the approach. The rooms were roofed with barrel-vaults with leaning courses and had slit windows in one end (see pl. IV, Ill. n° 4). The only inscription was on a slab-stela set in the retaining wall where it was exposed to view in the mud-brick niche of the offering room (see pl. IV, Ill. n° 5). In front of the niche was a low offering platform on which in several cases we found offering pots in place. In one room, there was a low basis, as if for a statue, against the southern end of the offering room (cf. MARIETTE, *Mastabas*, C 5 and 68).

There was only one burial pit, a big shaft about 210 centimeters square lined above with masonry, cut in the rock below. The total depth varied from 12 to 16 meters. At the bottom, a short passage led southwards to a large rock-cut chamber varying from 3 × 4 to 5 × 6 meters in size. The chamber was lined with fine white limestone beautifully dressed. A limestone or wooden coffin stood on the west; and there was a covered cubical

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<sup>(1)</sup> On the east bank, the chapels are usually on the western face; while on the west bank, they are on the eastern face.

hole in the south-eastern corner the purpose of which was not clear. The hole may have contained the entrails. It was not too small to hold the «reserve head» of white limestone of which we found several examples; but in two cases heads were found in chambers in which the cubicle was wanting.

In general, the filled structure, the small course masonry, the exterior chapel and the single burial place are all strongly reminiscent of the earlier mud-brick mastabas.

All of these mastabas had been completed in the form described above and seven of them had been used for burial and offering ceremonies. The later (Fifth Dynasty) mastabas built among them always left the chapels accessible. *None of the mastabas had been cased with a casing over the retaining wall; but three of them had been enlarged.* Nos G. 1201, 1223, 1225 had been increased in width by a cased structure. This structure is the

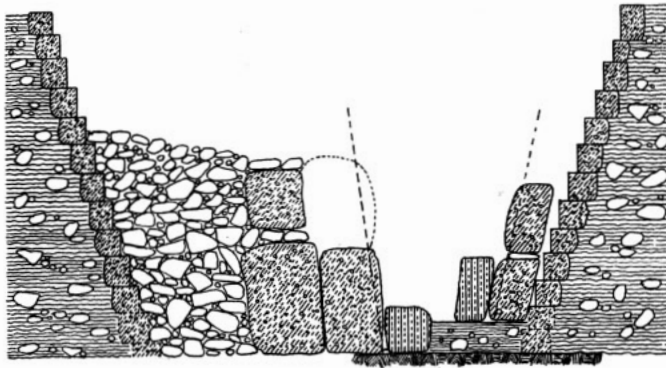


Fig. n° 1. — G. 1223 and 1225, E-W section. Scale 1 : 100.

same massive core structure as in the Southern Cemetery (see below), in G. 1223 and 1225 cased as there with white limestone. N° G. 1201 is extended 560 centimeters on the east (core only); n° G. 1223, 640 centimeters (including casing); n° G. 1223, 360 centimeters (including casing). The massive core and the casing were carried around the older filled structure but with a much less width owing to the lack of space (see pl. VII, Ill. n° 10 and fig. n° 1). The additions to nos G. 1223 and 1225 had interior chapels built of fine white stone but unscrubbed. The remains of the mud-brick chapel were found underneath and the slab-stelae were still in place behind



the west wall of the new chapel. It was intended to finish n° G. 1201 in the same manner but the addition was never completed. After the west wall of the new interior chapel was in place, the stone work was abandoned and a mud-brick chapel was built before the new west wall. The stela and traces of the old mud-brick chapel were found behind the later chapel wall.

These reconstructions were not foreseen at the time the Western Cemetery was laid out for the following reasons :

1. They are reconstructions and not mere casings.
2. They are of varying widths and break the lines of the streets irregularly.

3. The spaces between the mastabas are too small for the reconstructions. The reconstruction of n° 1201 closed the old eastern doorway of the chapel of G. 1203 and necessitated the opening of a door to the north. The reconstruction of G. 1223 clashed on the rear with that of G. 1225 so that neither could be finished (see pl. VII, Ill. n° 10). One can imagine the furious dispute.

4. The additions alter the proportions of the mastabas from 100 : 235 ± 10 the general proportion of the royal cemetery to

G. 1201 — 100 : 197


G. 1223 — 100 : 201

G. 1225 — 100 : 144.

Thus the symmetry of the plan was entirely destroyed.

Now in the Southern Cemetery where the casing was foreseen from the beginning, the lines of both the core structures and the casings run straight through. The addition of the casing broke no lines. Moreover the casings in the Southern Cemetery are very uniform ca. 80 to 90 centimeters thick and do not alter materially the proportions of the core structures.

From the ten mastabas in the Western cemetery, seven stelae were found by me and one by M. Ballard (in 1902, I think). These give the following names and titles :


G. 1201 : A long list of early titles, then .

G. 1203 : .

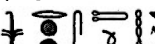
G. 1205 :  (man).

G. 1207 :  (woman).




G. 1209 : (No stela was ever set in place).


G. 1223 : .

G. 1225 : (a princesse, M. Ballard's stela).

G. 1227 :  (woman).

G. 1233 : (not found).

G. 1235 :  (variant on limestone basin   


The name Khufu-nekht on G. 1205 shows that these mastabas cannot be earlier than Cheops. In the filling of the pit of G. 1207, a lining stone was found with  in red paint.

In addition to these ten mastabas of the Western Cemetery, other filled mastabas of similar type occur in the Northern and Eastern Cemeteries. In the Northern Cemetery, G. 2100 and G. 2110 are exactly like the

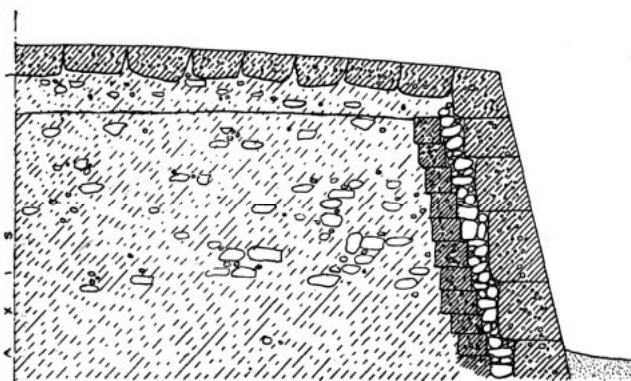


Fig. n° 2. — G. 2100, section of eastern half. Scale 1 : 100.

filled mastabas of the Western Cemetery. Both have been reconstructed. G. 2100 is the Mer-ib mastaba (see pl. V, Ill. n° 6 and fig. n° 2). The place for the slab-stela was empty and a large addition of massive grey masonry has been built on and around the southern end. This addition contained the interior chapel now in Berlin. There are two pits. G. 2110 has been reconstructed with beautifully dressed, fine white casing of the best type

with an *exterior* chapel (see pl. V, Ill. n° 7). The chapel was decorated internally with reliefs but the walls were not finished. There was no slab-stela.

The only mastaba in the North-Eastern Cemetery which had had a slab stela was the Mer-ib mastaba. The niche however was empty. The rest of the mastabas in the group appear to take their *alignement from the Mer-ib reconstruction* and to be slightly later in date than that reconstruction.

The mastabas of the Eastern Cemetery, the Cemetery *en échelon*, are filled mastabas of a similar type, but apparently of much poorer construction. The stone is the poorest of local yellow limestone disintegrating quickly when exposed to the weather, and had already suffered from the weather before the later mastabas were built in the streets between them. In some cases, especially in the south-eastern quarter (4910, 4920, 5010, etc.), the courses are low and the stepping is narrow. In no case in the North-Eastern Cemetery (except 2100), did we find any trace of a slab-stela. In almost all cases where the mastaba had not been reconstructed, the space in front was built up with late mastabas containing rows of burial pits, which left no room for any chapel. Nor were there in these cases any remains of chapels. It seemed as if many of them had never been used; but nevertheless G. 2300 B had contained a burial dated by a mud seal impression to the reign of Mycerinus. Two of these mastabas have interior chapels (G. 4920 and G. 2140). The pits in the western part, G. 2100, 2120, 2110, are large pits with well lined chambers. But further east the pits are usually two in number and grow smaller; and the chambers are also small and unlined. Thus it seems to me clear that in our northern strip, the earliest mastabas are on the west and the latest on the east. That is, the *échelon* cemetery is later than the Northern Cemetery while the later is in turn later than the Western Cemetery.

## 2. THE CASED-CORE MASTABAS.

### a. THE MASSIVE CORE MASTABAS.

The most distinctive of the cased-core mastabas is the massive core mastaba (see pl. VI, Ill. n° 8 and fig. n° 3). The core consists of a retaining wall of massive stones loosely set together, filled in with rubble irregularly packed in gravel. In some few cases, the core may possibly be solid, but

all those examined appear to have been filled. As a result of the strength of the retaining wall, these cores are preserved almost to their original height. Each of the high vertical courses of the retaining wall is set back 10-12 centimeters from the course below so that the cores present a rough stepped appearance.

The following mastabas have massive cores :

Southern Cemetery (see pl. II-III, Ill. n<sup>o</sup> 2 and 3; N.-S. lines are counted from the West and E.-W. rows are counted from the south)<sup>(1)</sup> :

- Line 1, mastabas in row 4, G. 4140<sup>(2)</sup>.  
 " 2, mastabas in rows 2 and 4, G. 4220 and 4240<sup>(3)</sup>  
 " 3, " " " 1 to 6, G. 4310-4360  
 " 4, " " " 2 to 6, G. 4420-4460<sup>(4)</sup>  
 " 5, " " " 1 to 6, G. 4510-4560  
 " 6, " " " 1 to 6, G. 4610-4660  
 " 7, " " " 1 to 6, G. 4710-4760<sup>(5)</sup>  
 " 8, " " " 2 to 4, G. 4820-4840

(Line 8, built of bad stone and separated by a wider space from line 7 than that between the other lines).

Lepsius 23 = G. 2000, lying between Western and Northern Cemeteries.

Lepsius 44 lying near the S.-W. corner of the First Pyramid.

The Great Wall north of the Second Pyramid, which, whatever its original purpose, was utilized as part of the enclosing wall of the Second Pyramid, is of the same general type of structure as these massive cores but seems to be solid not filled<sup>(6)</sup>. The great bank of rubbish on the south of it appears to have been thrown down from the top of the wall. The ends of five dumps can be plainly seen projecting at nearly regular intervals from the mass (see pl. II, Ill. n<sup>o</sup> 2). On account of the similarity of structure, the great wall and the massive cores ought not to be far separated in time. The great wall is, of course, of the Chephren Period.

<sup>(1)</sup> The numbers ending in 50 and 60 are in the Austrian concession.

<sup>(2)</sup> G. 4110-4130 are not visible, perhaps never built.

<sup>(3)</sup> G. 4210-4230 are not visible, perhaps never built.

<sup>(4)</sup> G. 4410 missing, site occupied by

sloping grey mastaba, joint dressed.

<sup>(5)</sup> G. 4710 has a sloping grey casing and an interior chamber while G. 4760 is built of bad stone.

<sup>(6)</sup> I am unable to find any trace of a narrow wall on top of this massive wall.

The massive cores are cased (1) with mud-brick (4330 and perhaps 4630), (2) with sloping white masonry (4240, 4340), and (3) with joint dressed sloping grey masonry (4710). The site of n° G. 4410 is now occupied by a filled mastaba with a retaining wall of joint dressed sloping grey masonry which is built around the southern end of G. 4420.

The mud-brick casing (G. 4330 and perhaps G. 4630) may be merely an exception due to poverty or lack of piety on the part of the descendants. Curiously, the east wall of G. 4340, the only one of those excavated by us in which the core wall behind the stone casing is exposed, had had at one time a slab-stela set in the core wall and traces of mud-brick are noticeable behind the casing. It may well be that some of these cores were completed as they stand with mud-brick chapels on the front. According to Prof. Junker's *Bericht*, p. 5, other cores in lines 4 and 5 had slab-stelae still in place in the core wall.

Examples of massive cores cased with small stepped courses G. 4140, G. 2000 (Lepsius 23), are rare. The exterior of these examples resembles that of the filled mastabas of the Western Cemetery. No. G. 4140 had an exterior stone chapel with a mud-brick addition. There were apparently two slab-stelae in the wall, in niches of the stone chapel. Lepsius 23 has however two big niches in the small stepped casing. The casing walls of the niches are continuous with the small stepped casing outside. The niches are filled with massive core work cased with fine white stone. The southern one contained an interior chapel, entered from the mud-brick exterior chapel; and the northern one, an offering niche possibly with a serdab behind.

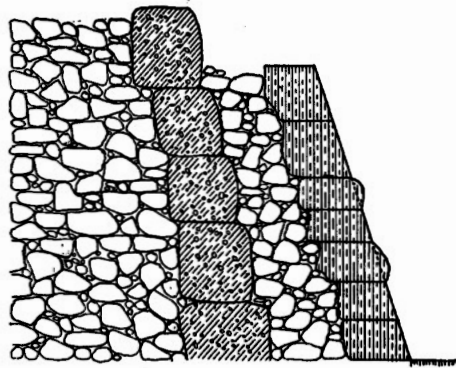


Fig. n° 3. — G. 4240, section of western wall.  
Scale 1 : 100.

The most of the massive core mastabas appear however to be cased with white limestone blocks, irregularly but well bonded, in medium sized courses (see pl. VI, Ill. n° 9 and fig. n° 3). The surfaces where finished are well-dressed

to a sloping face. The chapels in the three mastabas which I have been able to examine (G. 4240, 4340, 4440), are exterior chapels bonded with the casing. In front of G. 4340, a later mastaba has been built in the angle between the exterior chapel and the eastern face of the mastaba (see pl. VI, Ill. n° 8).

The joint-dressed grey casing on 4710 has an interior chapel. A hole was broken in the massive core and the filling walled back with a rough rubble wall to permit the construction of the chapel. The intrusive grey mastaba 4410 has an interior chapel on the north. Other examples of both these types are dated to the Fifth Dynasty.

All these massive cores have only one pit and even the pits are in line. The pit mouth, situated just north of the center of the core is usually about 200 centimeters (or 4 ells) square. We have cleared five of the pits (G. 4340 A). The shaft is lined above with massive grey masonry badly joined, but with flat vertical faces. The chamber is entered by a passage blocked outside by a huge flat stone and inside by masonry. The chamber (except in G. 4240) is lined with well dressed limestone walls. The contents, stone vessels, pottery, flint chips, reserve head of limestone, did not differ from those of the Western mastabas. There were only two points of difference between the burial pits of the two cemeteries. 1. The masonry, lining the chambers in the Western mastabas, is better laid and has a far finer finish than that of the Southern mastabas. 2. The lining of the upper part of the shaft, above the rock, corresponds in each case to the exterior wall of the mastaba. That is, the pits of the Western mastabas have a flat-faced lining of small course masonry (good yellow or grey) while those of the Southern mastabas are lined with flat-dressed massive grey masonry.

Apparently two persons were buried in each of the massive core mastabas, G. 4140 and G. 4440, — man and wife.

#### b. SMALL STONE CORE.

A few mastabas have the interior packed with *layers* of small stones laid in a red (mud) mortar. The retaining wall is of small stepped courses and it is difficult to say whether the type ought to be regarded as a better kind of filled mastaba or as a core (including the retaining wall). G. 2130

(see pl. V, Ill. n° 7 and fig. n° 4) has a beautifully dressed fine white casing outside the retaining wall and an *interior* chapel with a serdab.

According to Prof. Junker's *Bericht*, Tafel II, the fifth and sixth mastabas of the first and second lines (G. 4150, 4160, 4250, 4260) appear to be of this type of small stone core mastaba. Two of them had been cased in white limestone and a third had an unfinished white limestone casing. G. 4250 has an addition of massive core cased with white limestone like the filled mastabas of the Western Cemetery. These four mastabas are only approximately lined up with the faces of the massive cores and appear to me, to be earlier than the rest of the Southern Cemetery. For example, the massive core of the mastaba G. 4140 (which has a stepped casing) is in a line with the stepped fronts of G. 4150, 4160; and the massive core of the mastaba G. 4240 (which has a sloping white casing) is in a line with the stepped fronts of G. 4250, 4260. The chapels were of mud-brick except possibly in the case of 4150. Each had a slab-stela in the stepped face.

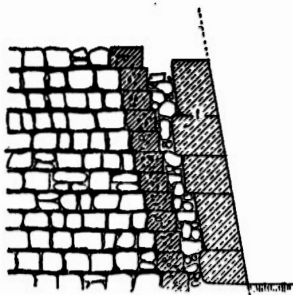






Fig. n° 4. — G. 2130, section of western wall. Scale 1 : 100.

## V. RELATIVE DATES.

It is quite clear that the Cemetery *en échelon* is later than the rest of the Royal Cemetery. Many of the mastabas in it were apparently not utilized until after the Fourth Dynasty and were then practically rebuilt. The Northern Cemetery (excepting 2100 and 2110) is not much earlier, G. 2150 being of the Mycerinus period. These are lined up approximately with the addition to the Mer-ib mastaba. The great question concerns the relative dates of the Western Cemetery and the Southern Cemetery.

Now in the Southern Cemetery while the sites are for the greater part laid out according to a unified plan, the mastabas are not of uniform structure. The northwestern part consists of small stone cores, the central part consists of massive cores and the eastern line (8<sup>th</sup> line) of massive core

mastabas of bad yellow stone. In general the structure deteriorates towards the south. The name of the owner of G. 4240, a , is  , an indication of little value for exact determination. In the pit of G. 4340, however, we found a mud seal-impression with the Horus name of Chephren ; and it is quite clear that this burial took place in the reign of Chephren.

It is, I think, reasonably certain that the Western mastabas are of the Cheops period. The earliest part (the N.-W. corner) of the Southern Cemetery may be practically contemporaneous. It seems to me, probable, so far as the present evidence goes, that the two cemeteries were laid out by Cheops or at his direction, that the two groups belonged to two different lines of the royal family and were used simultaneously during the reign of Cheops. It is probable that the *massive core mastabas* in the Southern Cemetery were laid out and built by Chephren as a continuation of the north-western part of that cemetery, which belonged to the Cheops plan. The Northern Cemetery was continued eastward during the Chephren reign, in continuation of the family division. Finally, the Eastern Cemetery was laid out probably by Mycerinus, and the mastabas erected as cores. Few of them were however finished or utilized; and many of the rest were reconstructed by officials of the Fifth Dynasty.

## VI. THE LATER CEMETERY OF OFFICIALS.

### 1. TYPES OF MASTABAS.

The tombs of the funerary priests and of the officials of the Fifth and Sixth Dynasties were built in the open spaces of the royal cemetery. Some of them stand free of the older mastabas, on independent sites. These are, in general, earlier in date, built while the spaces were still open. Others have been made by the reconstruction of older mastabas, especially in the Eastern Cemetery (*en échelon*). Still others have been built against or attached to the older mastabas or to those on independent sites. The latest have been built over earlier mastabas of the cemetery of officials.

The cemetery of officials covers our whole northern strip extending



north, east, and west beyond the limits of the royal cemetery. The Southern Cemetery also contains a few later mastabas, but appears not to be filled with them as on the north.

These later mastabas show a great range in size and proportions. Many of them are small family mastabas consisting of a rubble core containing four to ten square burial pits. Such mastabas are cased in mud-brick or small stepped masonry. Along the eastern side of each is a series of offering niches; and a narrow space along the front is enclosed with a mud-brick wall often not roofed over. These can only be compared with the earlier family groups of small single burial mastabas, and have little bearing on the questions under discussion. The chief points of interest are : (1) the change they show, from the deep niche of mud-brick origin to the shallow niching of the stone stela, and (2) the change from the single burial form to the multiple or family burial form. When they contain a serdab, it is almost always a very small cubicle constructed in the wall of the offering niche (G. 1021, G. 1402, G. 1104) without any opening. Cases occur, however, in which the serdab is constructed like that of the larger Fifth Dynasty mastabas but on a smaller scale.

The larger mastabas give, as everywhere else, the best material for the study of the course of development. None of these, in our excavation, have an *exterior* stone chapel. The earliest mastabas, those on independent sites, invariably show the type with the single *interior* stone chapel in the southern end of the valley face (eastern at Giza). These have two or more burial pits, a serdab usually behind the offering niche of the chapel, and often an exterior mud-brick chapel containing store-room and court with basin. Thus the interior chapel is the offering room proper and bears reliefs on the walls.

The series of mastabas, next in date, have the offering room enlarged to an interior corridor running the length of the mastaba and showing in general a niche for every burial pit (not always strictly carried out). Mud-brick rooms outside do not occur in any of our mastabas of this type. There are seldom less than four burial pits. The serdab is a usual feature, being more often at one end of the corridor, apparently to leave room for the maximum number of burial pits.

In every case where corridor mastabas are contiguous to mastabas with

a single interior chamber, the corridor mastaba has been built against the other and is therefore later in date. For example :

G. 1026,	corridor type	was built against	G. 1008	with single interior chamber
G. 1016,	" " " " "	"	G. 1020	" " " "
G. 1011,	" " " " "	"	G. 1024	" " " "
G. 2336,	" " " " "	"	G. 2337	" " " "
G. 1151,	" " " " "	"	Steindorff's	" " " "

Mastaba

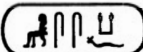
In general, as mentioned above, the mastabas with single interior chamber are on independent sites, that is, they are not built against other mastabas. Or if they are against other mastabas, the latter are of the IV<sup>th</sup> Dynasty types, as, for example, G. 1206 with interior chamber is built against G. 1207, a IV<sup>th</sup> Dynasty filled mastaba with exterior mud-brick chapel. The mastabas which have been most seriously denuded for their stone in antiquity are those with interior chambers (G. 1027, 2337, 1024, 2186). The antiquity of the theft is shown by the construction of later mastabas over the broken walls. The stone was no doubt utilized in the later mastabas<sup>(1)</sup>; and the fact that the corridor mastabas are mainly intact indicated that their builders utilized the stone of the older mastabas.

The mastabas with multiple chambers are rare, but the few examples found were built over or against other types (mainly V Dynasty types).

G. 1048 with two chambers is built against G. 1029 a corridor mastaba.




G. 1070 with four chambers is built over G. 2372 a corridor mastaba.

Both of these are dated, G. 1048 is that of a priest of Men-kaw-Hor and G. 2370 is that of Senzem-ib-Yenty who lived under Isesy.

The relative chronological order is clear : (1) mastabas with single interior chamber; (2) mastabas with corridor chamber; (3) mastabas with more than one interior chamber. G. 1008, with interior chamber, is the tomb of a certain . G. 2150, an older mastaba reconstructed in the same type, has names of estates compounded with the name of Myce-

<sup>(1)</sup> Other thefts of stone are comparatively modern, as for example 2130, 2200 where, in order to remove the stone,

holes had been excavated and lined with rubble to keep back the sand.

rinus. G. 1151 a corridor mastaba, belongs to a  who bears among other titles that of  (var. : ); and is thus certainly not earlier than the middle of the Fifth Dynasty. The corridor tomb G. 1011 contained in one pit the broken scribe's palette with the list of five kings, the last of whom was Nefer-ir-ka-ra. The two mastabas with multiple chambers mentioned above are not earlier than the end of the Fifth. Thus it may be concluded that at Giza the mastabas with interior chambers are generally late Fourth or early Fifth Dynasty; those with corridors, of the Fifth Dynasty; and those with a number of chambers, of the Late Fifth and the Sixth Dynasties. Of course, the periods of the types overlap.

The later mastabas show two main structural types, no doubt descended from the two great types of the Fourth Dynasty :

1. Mastabas with faced rubble-core, plastered with mud :
  - a. With stepped grey casing (see fig. n° 5).
  - b. " sloping grey casing, joint dressed (see fig. n° 6).
  - c. " mud-brick casing (see fig. n° 7);

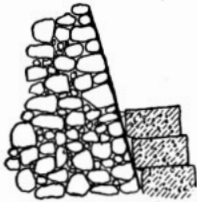


Fig. n° 5. — G. 2320,  
section of eastern wall.  
Scale 1 : 100.

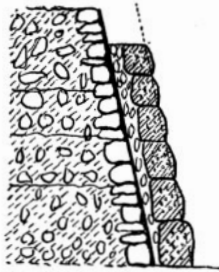


Fig. n° 6. — G. 2330,  
section of eastern wall.  
Scale 1 : 100.

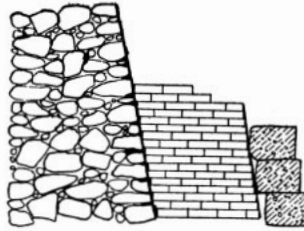


Fig. n° 7. — G. 1350,  
section of eastern wall.  
Scale 1 : 100.

2. Filled mastaba with sloping grey casing, either joint dressed or flat dressed (see fig. n° 8).

- a. In one case (2360), the upper half of the retaining wall is lined on

the inside with a faced rubble wall (mud plastered), made before the upper part was filled (see fig. n° 9).

The filled mastabas with sloping grey casing, especially those with joint

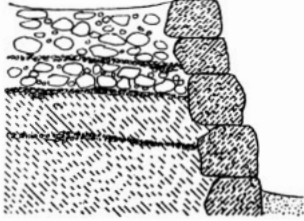


Fig. n° 8. — G. 4310,  
section of eastern wall.  
Scale 1 : 100.

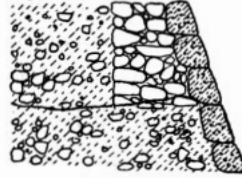





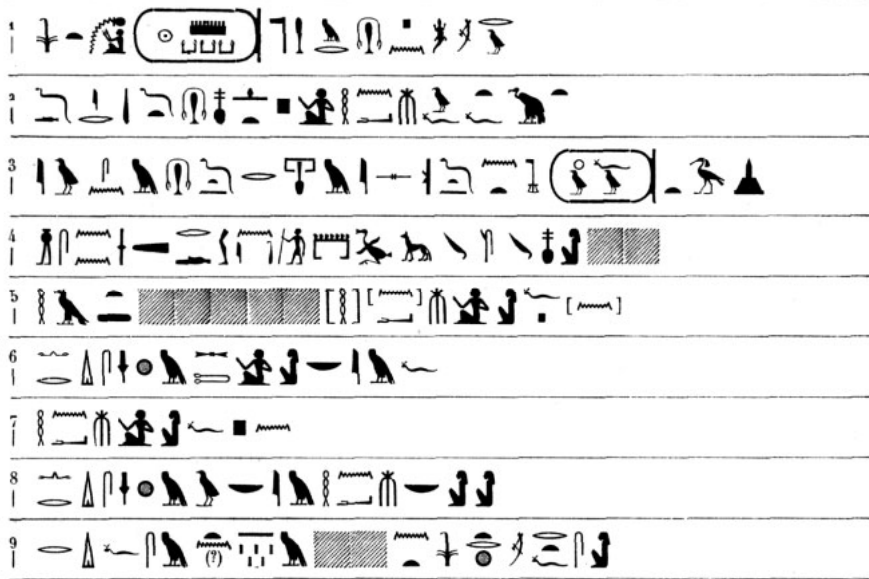
Fig. n° 9. — G. 2360,  
section of eastern wall.  
Scale 1 : 100.

dressed masonry, very seldom have wall reliefs except where later, additional, rooms have been built on. They usually have two offering niches, stone stelae built in the wall, and a serdab in the filling in the south-eastern corner (sometimes a second serdab with female statuettes in the north-eastern corner). That is, they were complete as they stand, utilizing the long space between them and the mastabas east of them as a corridor (usually roofed in). The same function is sometimes served by a mud-brick corridor. A number of them however have had an elaborate system of offering rooms built on, see especially Lepsius n° 16 and 17. It seems as if the most necessary part of the tomb was built and finished, leaving the addition of the offering chambers with reliefs to the future. In the case of Lepsius n° 16, 17, and 18, the whole group is of the Fifth Dynasty, and in all probability the fine offering chambers were added by the owner of n° 15, . The mastabas constructed in this manner appear to be all of the Fifth Dynasty.

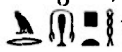
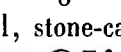
## 2. RELATED GROUPS OF MASTABAS.

An interesting point in the later cemetery is the existence of related groups. The group Lepsius n° 15, 16 and 17 just mentioned is a case in point. Another group is that of Seshem-nofer (G. 2000). Part of this group

lies in the German concession, having been excavated partly by Prof. Steindorff and partly by Prof. Junker; but in our work, the owner of G. 2320 bears the name , the name of a son of Seshem-nofer while the stela of  a name borne by another son was found nearby. To this is probably to be added the mastaba of Pen-meruw (n° 2197) on the side of whose offering chamber occurs the following inscription (see pl. XI, III. n° 17).



The Meryt-itf-s of the codicil in line 9 is the wife of Pen-meruw. Penmeruw is a priest of Mycerinus and here transfers (or bequeathes) his funerary priesthood in the cemetery «Khery-neter-Yakht-Khufuw» to Nefer-Hotep and his heirs, with certain obligations to the funerary worship of Seshem-nofer and according to the codicil a fifth(?) to Meryt-itf-s. Pen-meruw is not named among the funerary priests on the reliefs of Seshem-nofer, but he may have inherited or acquired the office after the funerary priests named in the reliefs.

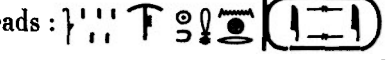

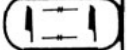
Again, the reliefs in the mastaba G. 2150, show twice the figure of a . Adjoining this mastaba on the north is a small, stone-cased mastaba with a mud-brick offering room belonging to a . So also the reliefs in G. 2110 show a scribe Sennuw-ka, and a small later


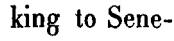
mastaba just behind belongs to a  of the same name.

The latest dated group of mastabas consists of a family group at the north-western corner of the First Pyramid and contained the well-known tombs of Senezem-ib = Yenty and Senezem-ib = Mehy (see pl. VIII, III. n° 12). The founder of the family was Senezem-ib = Yenty. His sons were Mehy and Khnum-enty, see the plan. The tomb of the latter was not excavated by Lepsius or Mariette. The tombs of these three opened on a common court paved with limestone slabs. Two other large mastabas also opened on this court but both had been destroyed to their foundations. One of these was the tomb of Nechebuw; the other was not identified. There were also at least five smaller offering rooms connected with the group, bearing the names of the following persons, Impy (son of Nechebuw), Ikuw, Theneny and Kha-kaw. All these are built over older mastabas of the types of those of the priestly or official cemetery as distinguished from those of the royal cemetery. The selection of this site for these fine large mastabas is probably due to the fact that this was the traditional burial place of the family.



### 3. DURATION OF THE OFFICIAL CEMETERY.

Senezem-ib = Yenty, as we know from the published inscriptions, lived in the reign of Isesy. We have found some additions to the inscriptions outside the door of the tomb, which give several dates as follows :

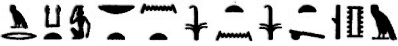
1. A stone fitting on the top of the wall, Lepsius II, 76<sup>d</sup> (= SETHE, *Urkunden*, I, 59 A). There are three lines giving titles of Senezem-ib, then a fourth line reads :  « year 5 month 4 day 3 today under Isesy ». The first vertical line then begins :   « when I was honored before Isesy » etc.

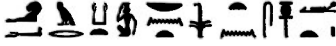

2. An additional vertical line on the left of Lepsius II, 76 f.   This is the end of the second letter from the king to Senezem-ib = Yenty.

Khnum-enty is dated approximately by the list of estates bringing offerings. Most of the names of the estates are compounded with the name of *Unas*. A

loose stone found in the inner room and apparently belonging to Khnum-enty bore the inscription . The burial shaft G. 2385 A, which belonged to the complex and seemed to belong to the Khnum-enty tomb contained a small diorite bowl with the inscription .



An autobiography of Nechebuw was pieced together (now in the Cairo Museum) which recorded among other things the fact that he worked for six years on the monuments of Pepy I (Mery-Ra) in Heliopolis. Nechebuw's other name was Ptah-mery-ankh-Meryra and he had a son of the same name. As his titles are identical with those of the Ptah-mery-ankh-Meryra (with a son of the same name) who left the inscription Lepsius II, 115 g. at Wady Maghara, the two are no doubt identical. That is, Nechebuw conducted an expedition to Sinai in the 19<sup>th</sup> year of Pepy I. His son, Impy, was found in shaft G. 2381 A. On a mud-stopper in the intact chamber of Impy, was a seal impression of Pepy II.



All the chief men of the family bear important titles. The most noticeable fact is that the titles  are claimed by Yenty, Meh-y, Khnum-enty, Nechebuw and Impy. Thus we seem to have four generations of royal master builders, extending from the reign of Isesy to that of Pepy II.

The main burial chambers of this groups of mastabas are approached by sloping passages, stopped up with long rectangular blocks of stone. The only other mastaba excavated by us in the cemetery which shows this type of approach to the burial chamber was G. 1047, the tomb of a priest of the pyramid of *Men-kaw-Hor*. It was shown by its position and structural relations to be the last large mastaba built in the field excavated west of G. 2000 (Lepsius 23). The scribes palette found in G. 1011 has the name of Nefer-ir-ka-ra as the last name in its short list of kings, and G. 1011 again is the latest of the mastabas in that neighbourhood. In the debris of an intrusive pit (G. 2330) not far from the Senezem-ib group, *part of a broken stone* was found with the line   . . . . which corresponds in titles to the inscriptions of Nechebuw and Impy. No reference has been found to any king later than Pepy II.

I am inclined to think then that the Senezem-ib group contains the last important mastabas in the part of the cemetery excavated by us, that the smaller mastabas in that group together with those of the funerary priests beside it may well be nearly the last in the cemetery previous to the intrusive burials. In other words, the royal cemetery came to an end with the end of the Fourth Dynasty and the priestly or official cemetery gradually fell into disuse during the time of Pepy II, through the dissipation of the endowments of the Fourth Dynasty or their diversion to other uses.


#### 4. THE ROCK-CUT TOMB OF YASEN AND OTHER FINDS.

Aside from the Senezem-ib and Seshem-nofer groups of mastabas, the most interesting tomb cleared was G. 2196, that of . This mastaba was built against the back of the Pen-meruw mastaba (n° G. 2197) and was therefore later, but of nearly the same period. The offering chamber was approached by a corridor running north along the back of G. 2197 and opening to the west through a door built against the northern side of G. 2197. Under the southern part of the mastaba the rock rises abruptly forming a low cliff about 3 meters high which runs in a S. E.-N. W. direction. Where the corridor reaches this low cliff, a cut has been made into its face and the offering chamber hollowed out of the solid limestone with reliefs on all four sides. In an offering niche on the west was a life-size statue of  cut in the rock. In the S. E. corner was a serdab (empty) also cut in the rock, and apparently originally walled up with masonry. In the N. W. corner was the main burial pit but the northern part of the body of the mastaba contained seven other pits. The reliefs are well done, but not of the best work. The colors are fresh on the eastern and southern walls.

In 1912, a statue of  was found in the offering room cemented into the floor in the offering niche (see pl. VII, Ill. n° 11). During the past season as usual a few statues were found, the largest of which was the limestone statue of  (son of Seshem-nofer, see pl. X, Ill. n° 15). In the Senezem-ib group, parts of five or six small seated limestone statuettes



were found, from which two nearly complete figures were fitted together (see pl. X, Ill. n° 16).

The greatest interest however, was in the copper tools and vessels found in the burial chambers with sloping passages which belonged to the Senezem-ib group. The tools include knife blades, adzes, broad-edged chisels, narrow-edged chisels, large and small drills (see pl. XI, Ill. n° 18). The same blades are represented in light models together with a square axe or adze blade of which no practical example was found. The dishes and models of offering tables were unusual (see pl. IX, Ill. n° 13, 14). From one of them found nearly intact, they appear to have been set out with small model dishes. Four of them also had tops in the form of the  sign (see BORCHARDT, *Neuser-Re*, p. 130, similar tables of wood from the tomb of the princesses).

##### 5. THE CEMETERY IN THE MYCERINUS QUARRY.

On January 3<sup>rd</sup>, 1913, the gangs were transferred to the Mycerinus cemetery lying in the quarry south of the Temple of the Third Pyramid. In 1906, while making a clearing here with a view to using the quarry as a dumping ground, we had found that the terraces of the quarry were occupied by mastabas of priests of the Third Pyramid, and had been obliged to abandon the idea of running our debris into the quarry. The sand lay deep, especially in the N. W. corner which appeared the most important part. The labor of clearing was great but the view of the terraces when once clear was perhaps the most striking sight I have ever seen in our excavations (see pl. XII, Ill. n° 19). The tombs had all been desperately plundered. Every chamber was empty. Only one large tomb was found, that of a Prince Khu-en-Ra. The offering chamber, of great size, was cut in the solid rock. The rock face was dressed to a flat sloping surface and crowned above by a low sloping faced mastaba of fair masonry. The burial pits were in the offering chamber as is the rule in rockcut tombs. The serdab was empty; but one small squatting statuette was found in the sand in the offering chamber. The reliefs on the east wall show scenes of boat building and statue making. The rest of the season of 1912-13 was occupied with

an effort to finish the Middle Empire Cemetery at Naga-ed-Dér and with an expedition to Kerma in the Dongola Province of the Sudan.

### ERRATA.

Pl. VIII, *au lieu de* : Neckebuw, *lire* : Nechebuw, *et au lieu de* : Im-thepy, *lire* : Impy.

Pl. IX, *a et b*, *au lieu de* : Im-thepy, *lire* : Impy, *et au lieu de* : Scale I, *lire* : Scale 1 : 5.

Pl. X, *a*, *au lieu de* : Peh en Ptah, *lire* : Peh-en-Ptah.

Pl. X, *b*, *au lieu de* : Nekhebuw, *lire* : Nechebuw.

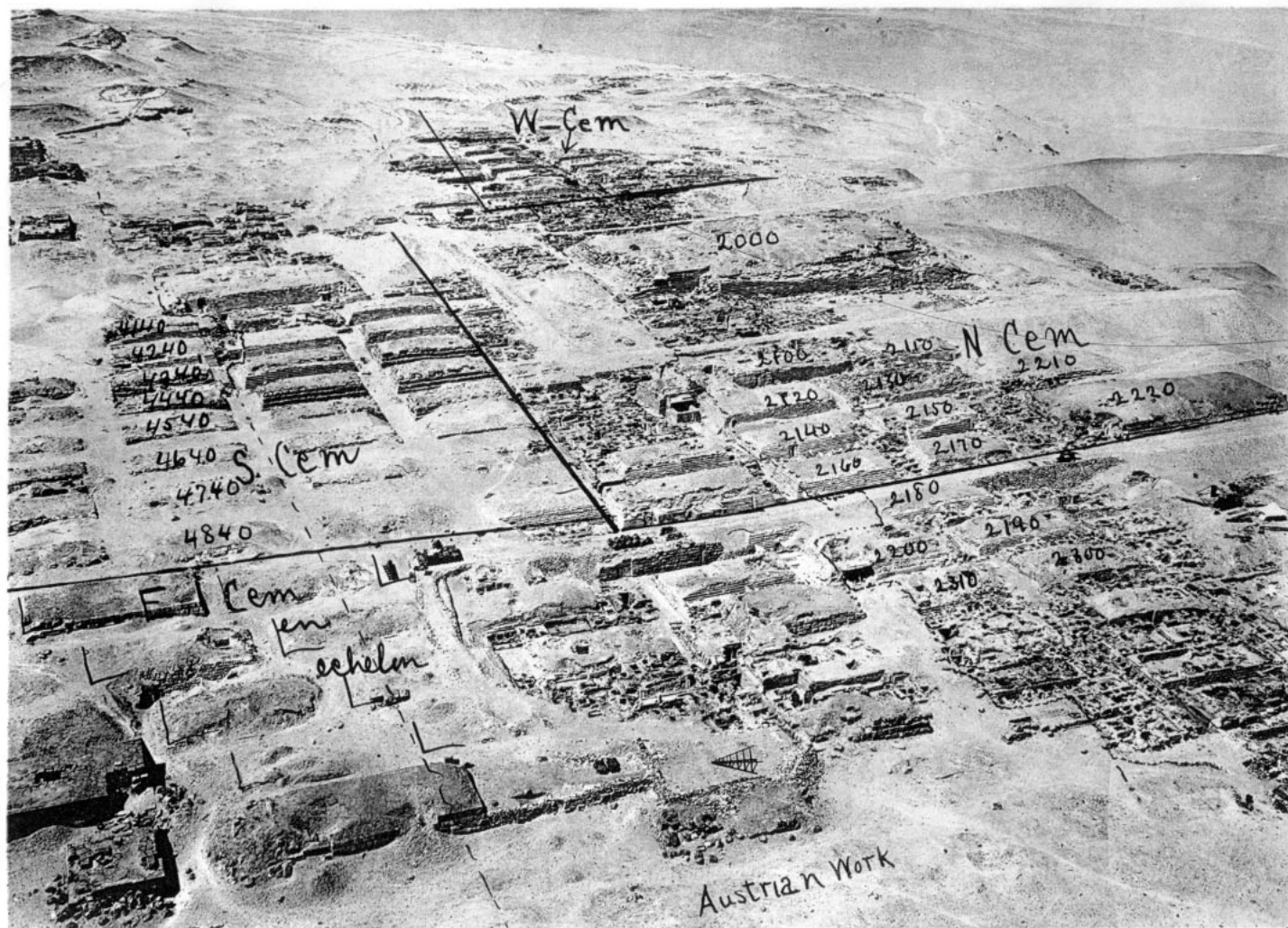
Pl. XI, *b*, *au lieu de* : Cooper, *lire* : Copper.



ILL. n° 1. View of excavations of 1912-13, seen from NW corner of First Pyramid, looking WNW.



ILL. n° 2. View of royal cemetery from the Second Pyramid, looking N.



ILL. n° 3. View of royal cemetery from First Pyramid, looking WNW.





*a*

ILL. n° 4. Mud-brick chapel of G. 1203, looking S. + niche with slab stela. ↑ slit windows.



*b*

ILL. n° 5. Niche of chapel, G. 1207 with slab stela in place, looking W.



*a*

ILL. n° 6. G. 2100 (Mer-ib), looking SSW. ↓ place of slab stela.



*b*

ILL. n° 7. G. 2130, rubble core, looking NNE. Note fine white casing.



*a*

ILL. n° 8. G. 4340, massive core, looking NNW.



*b*

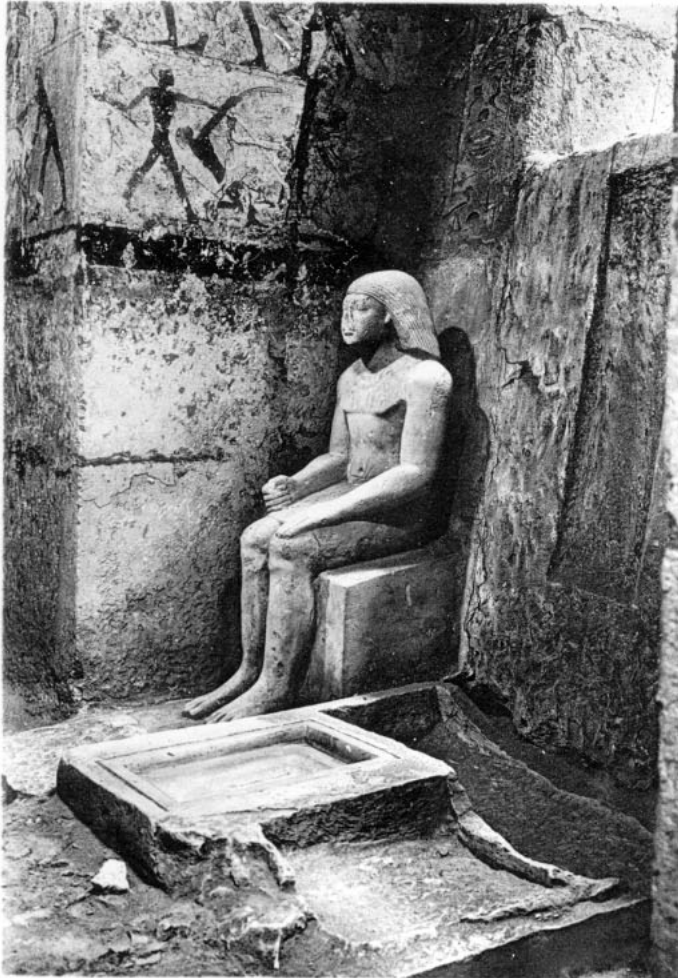
ILL. n° 9. G. 4240, massive core, with unfinished white casing, exterior chapel, looking SSW.





a

ILL. n° 10. Space between G. 1223 and 1225, showing reconstructions.

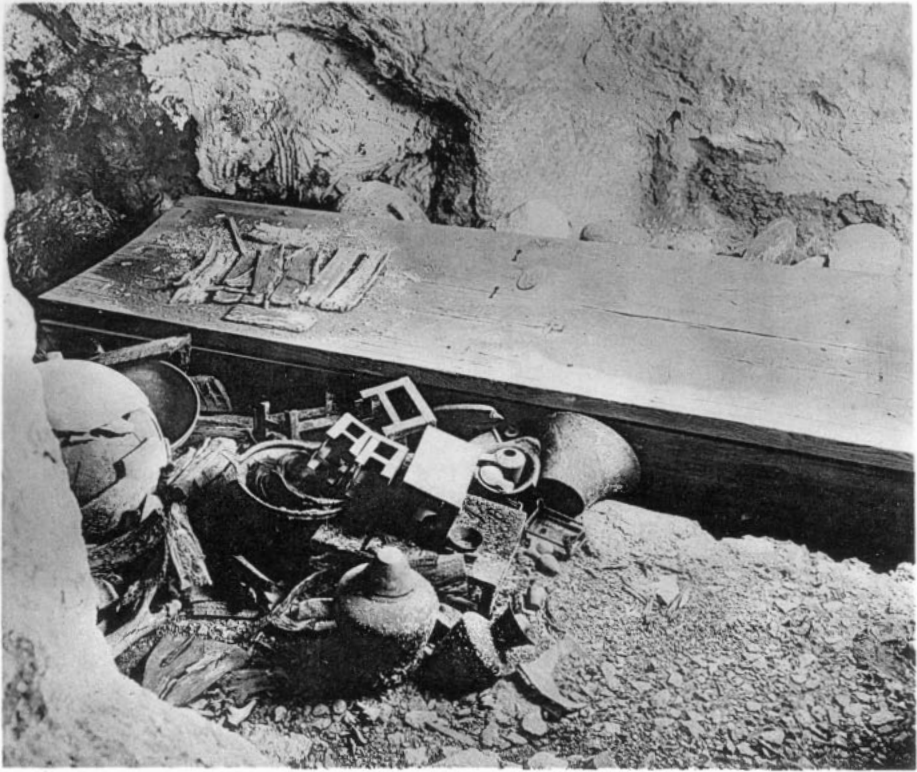


b

ILL. n° 11. Statue in offering niche of G. 2184 looking SSW.

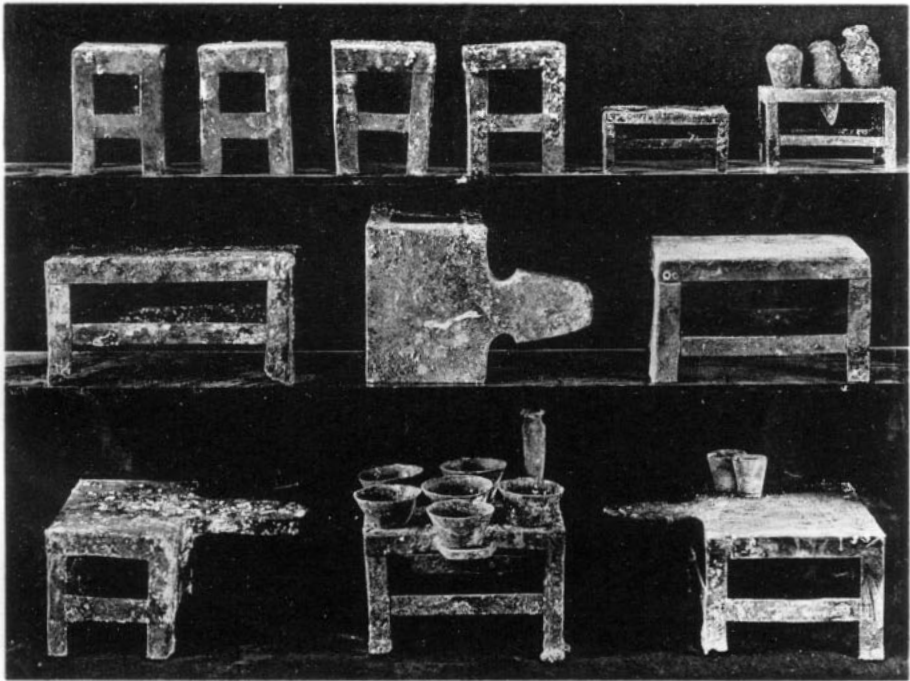


ILL. n° 12. Senezem-ib group, seen from NW corner of First Pyramid, looking NW.  
1. Yenty; 2. Khnum-enty; 3. Mehy; 4. Ruined mastaba; 5. Neckebuw (?); 6. Entrance to shaft of Im-thepy.



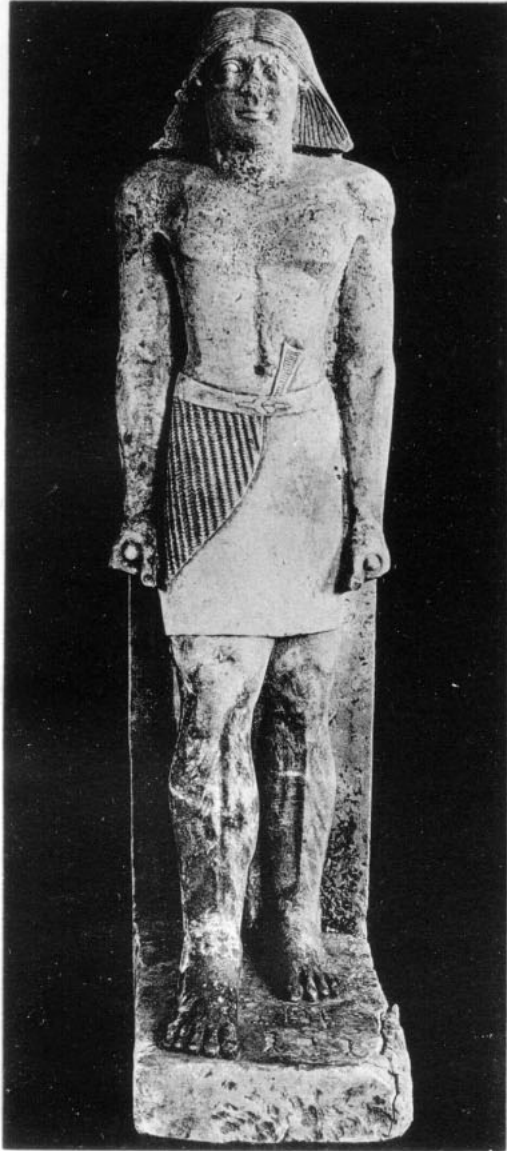
*a*

ILL. n° 13. Interior, burial chamber of Im-thepy, looking SW.



*b*

ILL. n° 14. Copper models of offering tables from tomb of Im-thepy. Scale I.



*a*

ILL. n° 15. Limestone statue of Peh en Ptah  
from G. 2320.



*b*

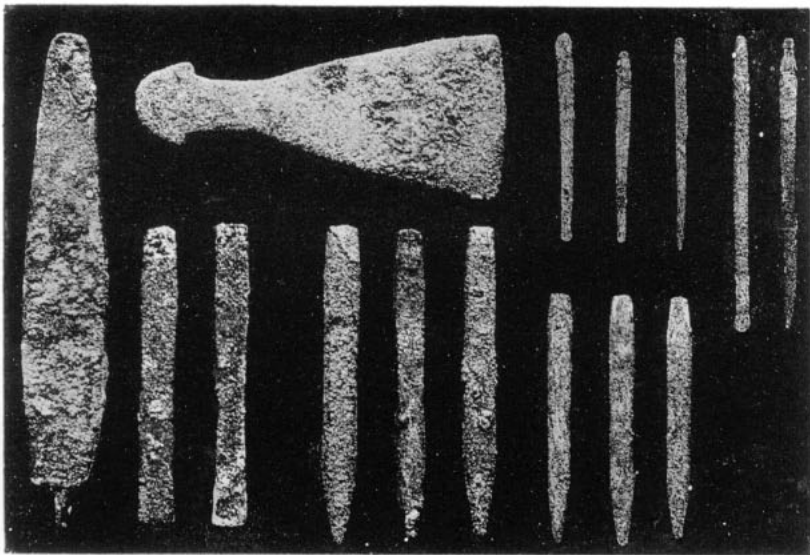
ILL. n° 16. Limestone statue of Nekhebuw  
from G. 2370.





*a*

ILL. n° 17. Inscription southern side of door of offering chamber of G. 2197.



*b*

ILL. n° 18. Copper implements from Senzem-ib group.



ILL. n° 19. Extreme northwestern corner of Mycerinus quarry, looking NW.