

It is perfectly obvious that the early mastabas of the nucleus cemeteries of the Western Field are dominated by shafts of types 1 and 2 with lined chambers (5 exceptions). The cemetery of the Eastern Field consisted of mastabas with a great preponderance of type 3, which included all the large chambers.

4. DISTRIBUTION OF SHAFT TYPES IN THE CEM. EN ÉCHELON

The Cem. en Échelon contains twenty-five mastabas originally cores of type II a, but a number were altered by later construction or reconstruction. Most of these are two-shaft mastabas. Ten of these mastabas were excavated by Professor Junker, and the descriptions of the shafts are at present available for only one of these mastabas. The present exposition is therefore confined to the fifteen mastabas excavated by the Harvard-Boston Expedition and the one published mastaba excavated by Junker.

(a) The Western Line: Nos. 4910-4990:

	Core	Mastaba	Shaft	sq. m.	cu. m.	
(1) G 4910 A	II a	X	6 a (2)	0.6	0.48	
B	II a	X	3 cr	4.62	7.85	
(2) G 4920 A	II a	VI a	6 c (1) (W)	1.06	0.74	2-m. shaft
B	II a	VI a	4 b (2)	4.49	6.73	small r.c. shaft in 2-m. shaft
(3) G 4930 A	II a	VII e (2)	6 b	1.32	1.12	small r.c. shaft
B	II a	VII e (2)	4 b (1)	6.72	9.07	small r.c. shaft
(4) G 4940 A (1)	II a	VII a	3 ar	6.82	11.95	2 chambers in 2-m. shaft
A (2)	II a	VII a	3 bf	7.5	12.75	lower chamber
			(unfin.)			
B	II a	VII a	3 crx	17.22	40.46	chief shaft

(5)-(8) G 4950-4980: excavated by Professor Junker: G 4950, shafts A, B; G 4960, shafts A, B; G 4970, shaft A; G 4980, shafts A, B.

(9) G 4990 A II a uncased 6 b (1) 2.36 2.95 sole shaft

(b) Middle Line:

(10) G 5010 A	II a	VI a (2)	6 b (2)	3.13	5.63	small r.c. shaft
B	II a	VI a (2)	6 a (2)	2.36	3.06	small r.c. shaft
(11) G 5020 A	II a	uncased	6 a (2)	2.86	3.41	contracted r.c. shaft
B	II a	uncased	6 b (1)	1.67	1.88	contracted r.c. shaft
(12) G 5030 A	II a	VII c	6 b (2)	1.85	1.85	contracted r.c. shaft
B	II a	VII c	4 b (2)	4.48	7.39	contracted r.c. shaft
(13) G 5040 A	II a	uncased	6 c (1)	1.0	1.0	contracted r.c. shaft
B	II a	uncased	5 c (2)	1.21	1.02	small r.c. shaft
(14)-(16) G 5050-5070:	excavated by Professor Junker: G 5050, shafts A, B; G 5060, shaft A; B 5070, shafts A, B.					
(17) G 5080 A	II a	VI x	4 b (2)	13.11	24.9	N: small r.c. shaft
B	II a	VI x	3 af	22.0	45.1	S: 2 sarc.
C	II a	VI x	5 a (2)	3.12	3.9	intrusive shaft 1.0 × 1.05 m.
(18) G 5090 A	II a	unfin.	6 a (2)	1.17	1.17	small r.c. shaft
B	II a	unfin.	6 a (2)	2.66	2.92	small r.c. shaft at 1.5 m. in shaft

	Core	Mastaba	Shaft	sq. m.	cu. m.	
(c) Eastern Line:						
(19) G 5130 A	II a	uncased	3 ar	6.37	10.19	contracted 2-m. shaft
B	II a	uncased	7 x	..	..	1.75 m. in r.
(20) G 5140 A	II a	X	6 b (2)	2.63	3.28	small r.c. shaft
B	II a	X	4 b (2)	7.32	15.14	contracted 2-m. shaft
(21) G 5150 A	II a	VII a	3 ar	8.87	18.18	contracted shaft
B	II a	VII a	?	?	?	record lost
C	II a	VII a	6 c (1)	1.47	1.47	empty; 1.4 × 1.4 m.
D	II a	VII a	6 b (1)	3.3	4.29	1.4 × 1.4 m.
(22)–(23) G 5160–5170:	excavated by Professor Junker: both apparently with one shaft.					
(24) G 5180 A	II a	uncased	7 x	..	..	1.05 m. in rock
B	II a	uncased	4 b (2)	4.82	7.23	contracts
(25) G 5190 A	II a	uncased	5 a (2)	3.68	5.88	small shaft in large
B	II a	uncased	4 b (2)	5.62	6.74	contract; Myc. sealing

The following types occur:

Type 3: 7 examples: G 4910 A (2); 4940 A (1); 4940 A (2); 4940 B; 5080 B; 5130 A; and 5150 A, in 5 mastabas.

Type 4: 7 examples: G 4920 B; 4930 B; 5030 B; 5080 A; 5140 B; 5180 B; 5190 B; in 7 mastabas: all are chief shafts except that in G 5080 A, which is secondary to type 3.

Type 5: 3 examples: G 5040 B (chief); 5080 C (third shaft); 5190 A (secondary to type 4): 3 shafts in 3 mastabas: only one (G 5040 B) is a chief shaft.

Type 6: 14 examples: G 4910 A (secondary to type 3); 4930 A (secondary to type 4); 4990 A (sole shaft); 5010 A (chief shaft); 5010 B (secondary to type 6); 5020 A (chief shaft); 5020 B (secondary to type 6); 5030 A (secondary to type 4); 5040 A (secondary to type 5); 5090 A (secondary to type 6); 5090 B (chief shaft); 5140 A (secondary to type 4); 5150 C (secondary to type 3); 5150 D (secondary to type 3): 14 shafts in 10 mastabas: 4 chief shafts and 10 secondary: 3 secondary to type 3; 3 secondary to type 4; 1 secondary to type 5; 3 secondary to type 6.

Type 7 x: 2 examples: G 5130 B (secondary to type 3); 5180 A (secondary to type 4).

Total number of shafts, 33 in sixteen mastabas.

Arranged according to cubic capacity these chambers fall into the following order:

	Core	Mastaba	Shaft	sq. m.	cu. m.	
(17) G 5080 B	II a	VI x	3 af	22.0	45.1	2 stone coffins; seal of Shepseskaf
(4) G 4940 B	II a	VII a	3 crx	17.22	40.46	
(17) G 5080 A (1)	II a	VI x	4 b (2)	13.11	24.9	secondary to type 3
(21) G 5150 A	II a	VII a	3 ar	8.87	18.18	chief shaft unreported
(20) G 5140 B	II a	..	4 b (A)	7.32	15.14	
(4) G 4940 A (2)	II a	VII a	3 bf	7.5	12.75	chief shaft
(4) G 4940 A (1)	II a	..	3 ar	6.82	11.59	
(19) G 5130 A	II a	..	3 ar	6.37	10.19	
(3) G 4930 B	II a	..	4 b (1)	6.72	9.07	

	Core	Mastaba	Shaft	sq. m.	cu. m.	
(1) G 4910 B	II a	..	3 cr	4.62	7.85	
(12) G 5030 B	II a	..	4 b (2)	4.48	7.39	
(24) G 5180 B	II a	..	4 b (2)	4.82	7.23	
(25) G 5190 B	II a	..	4 b (2)	5.62	6.74	sealing Mycerinus
(2) G 4920 B	II a	VIII a	4 b (2)	4.49	6.73	
(25) G 5190 A	II a	..	5 a (2)	3.68	5.88	
(10) G 5010 A	II a	..	6 b (2)	3.13	5.63	
(21) G 5150 D	II a	..	6 b (1)	3.3	4.29	secondary to type 3
(17) G 5080 C	II a	VI x	5 a (2)	3.12	3.9	
(20) G 5140 A	II a	..	6 b (2)	2.63	3.28	
(11) G 5020 A	II a	..	6 a (2)	2.87	3.14	
(10) G 5010 B	II a	..	6 a (2)	2.63	3.06	
(9) G 4990 A	II a	..	6 b (1)	2.36	2.95	
(18) G 5090 B	II a	..	6 a (2)	2.66	2.92	
(11) G 5020 B	II a	..	6 b (1)	1.67	1.88	
(12) G 5030 A	II a	..	6 b (2)	1.85	1.85	
(21) G 5150 C	II a	..	6 c (1)	1.47	1.47	secondary to type 3
(18) G 5090 A	II a	..	6 a (2)	1.17	1.17	
(3) G 4930 A	II a	..	6 b	1.32	1.12	
(13) G 5040 B	II a	..	5 c (2)	1.21	1.02	
(13) G 5040 A	II a	..	6 c (1)	1.0	1.0	
(1) G 4910 A	II a	..	6 a (2?)	0.6	0.48	

Only three of these have a cubic capacity of between 20 and 50 cu. m., but these are comparable in size with the more expensive chambers of type 1 in the nucleus cemeteries farther west. The two largest are of type 3 and are the chief chambers in the mastabas in which they occur. The third is of type 4, but is secondary to the largest chamber in this list.

There are five chambers with areas between 10 and 20 cu. m., four of type 3, and one of type 4. Two of those of type 3 are chief shafts and the two others were secondary to a shaft of type 3. The single chamber of type 4 was also a chief shaft (G 5140 B).

Eight chambers presented a cubic capacity of between 5.0 and 10 cu. m. One was of type 3, five of type 4, one of type 5, and one of type 6.

1 of type 3: chief shaft (G 4910 B).

5 of type 4: all chief shafts: G 4930 B, 5030 B, 5180 B, 5190 B, 4920 B.

1 of type 5: G 5190 A, secondary to shaft of type 4.

1 of type 6: G 5010 A, secondary to shaft of type 6.

Fifteen chambers had capacities of less than 5 cu. m.:

2 of type 5: G 5040 B (chief shaft), G 5080 C (secondary to types 3 and 4).

13 of type 6: 4 chief shafts: G 4990 A, 5010 B, 5020 B, 5090 B.

3 secondary to type 3 (G 4910 A, 5150 D, 5150 C).

3 secondary to type 4 (G 4930 A, 5030 A, 5140 A).

1 secondary to type 5 (G 5040 A).

2 secondary to type 6 (G 5020 A, 5090 A).

The mastabas in this cemetery are mostly two-shaft mastabas, a form which came into use in the reign of Chephren. The type 3 was introduced in the end of the reign of Cheops and ranged down to Dyn. V, but no definite conclusions can be drawn from the occurrences of types 4-6, which range through all reigns from Chephren to the end of Dyn. V. The occurrence of these types in Cem. en Échelon is shown by the following tables:

(a) Chief shafts only:

	Cubic capacities (cu. m.) of				Total
	20-49	10-19	5-9	0-5	
Type 3	2	2	1	..	5 chambers
Type 4 . . . . .	..	1	5	..	6 chambers
Type 5 . . . . .	..	..	..	1	1 chamber
Type 6 . . . . .	..	..	..	4	4 chambers
Total chief shafts	2	3	6	5	16 chambers

(b) Secondary shafts:

Type 3 (secondary to type 3) . . . . .	..	2	..	..	2 chambers
Type 4 (secondary to type 3)	1	..	..	..	1 chamber
Type 5 (secondary to types 3 and 4) . . . . .	..	..	1	1	2 chambers
Type 6 (secondary to types 3 and 6) . . . . .	..	..	1	9	10 chambers
(2 secondary to type 3; 3 secondary to type 4; 1 secondary to type 5; 3 secondary to type 6)					
Total secondary shafts	1	2	2	10	15 chambers
Sum total of chambers	3	5	8	15	31 chambers
Add 2 of type 7 x . . . . .	..	..	..	..	2 chambers
Total . . . . .	..	..	..	..	33 shafts

The secondary shafts are of less importance for the dating of the mastaba, as they were often made either before or long after the chief burial. The chief shafts are five of type 3, six of type 4, one of type 5, and four of type 6. There are five chief chambers of a capacity greater than 10 cu. m. and four of these are of type 3, while one is of type 4. These are in the most expensive finished mastabas in this cemetery.

5. DISTRIBUTION OF SHAFT TYPES IN LARGE OUTLYING MASTABAS IN THE WESTERN FIELD

Around the nucleus cemeteries of the Western Field lie two groups of mastabas which contain burial-chambers of interest for the dating of the types of shafts. North of Cem. G 2100 stands a mastaba, G 2220, east of G 2210 and north of G 2150 and G 2170.

(1) G 2220: mastaba type VI a; area, 1264.8 sq. m.

A: no shaft found.

B: type 4 b (2); area, 15.12 sq. m.; 21.16 cu. m.; wooden coffin.

C: type 4 a (2) (unfin.); area, 7.37 sq. m.; 10.31 cu. m.; unfinished.

It appears to me probable that the mastaba G 2220 was built especially for a person of more than usual importance who was not satisfied with the normal size of the unassigned cores in this cemetery. I assume that he was related to the owners of G 2210 and G 2130. The mastaba is of type VI with an interior chapel of white limestone of type 3. The shaft may have been prepared at any time, but probably in Dyn. IV.

The other group of mastabas lies east of the Cem. en Échelon on the south and appears to be built up around the mastaba of Prince Duwanera, a son of Chephren and Meresankh III (G 5110). The mastaba was probably built in the reign of Mycerinus. It occupies the place of the first two mastabas in the eastern row of the Cem. en Échelon, perhaps destroyed to provide a site for this mastaba. To the north of it and later in date than the Cem. en Échelon stands G 5230, belonging to 'Prince' Khnumbaf, whom I believe to have been a son of Prince Duwanera. In front of Duwanera stands G 5210, belonging to Khemten, the steward of Prince Ka-wab, his wife, Hetep-heres II, Queen Meresankh III, and another prince (probably Duwanera).

- (2) G 5110: mastaba core type IV iii, mastaba type VII x; area, 1080 sq. m.
 A: type 3 af; area, 10·27 sq. m.; 30·81 cu. m.; empty.
 Granite coffin: found by Schiaparelli; now in Turin.
- (3) G 5230: mastaba of type IX a with two exterior chapels; area, 651·07 sq. m.
 A: type 3 bfx; area, 38·81 sq. m.; 112·54 cu. m.; empty.
 B: type 7 x.
- (4) G 5210: type IX a with exterior chapel of u-masonry; area, 214·23 sq. m.
 A: type 4 b (1); area, 9·36 sq. m.; capacity, 35·57 cu. m.; empty.

6. DISTRIBUTION OF SHAFT TYPES IN CEM. G I S

My information in regard to the types of burial-places in Cem. G I S is confined to that given by Professor Junker in his preliminary report, and the following list is therefore incomplete:

- G I S 1 B: type 4 b (1) x; low chamber; granite sarcophagus; 1·5 m.
 G I S 1 A: unfinished or destroyed; no shaft.
 G I S 2 A: 2-m. shaft, 9 m. deep; no chamber; type 7 x.
 G I S 2 B: type 3; high chamber; granite sarcophagus; type 3 bf.
 G I S 3 A: type 3; high chamber; granite sarcophagus; 1·8 m. shaft.
 G I S 3 B: (?).
 G I S 6 : granite coffin; type 3 or 4.
 G I S 7 A: 'used for wife'.
 G I S 7 B: type (?); limestone sarcophagus.
 G I S 8 A: 'as usual'; limestone sarcophagus.
 G I S 8 B: 2-m. shaft; granite and limestone sarcophagus; type 3 or 4.
 G I S 9 A: unreported.
 G I S 9 B: type 3; with high chamber and window; unused.
 G I S 10: unexcavated.

The size of the cores in this cemetery (the larger eastern norm) and the large proportion of stone coffins prove that the persons for whom they were made were of more than ordinary importance. The burial-chambers are all of large size and all of type 3 or 4. As far as recorded the 2-m. shafts predominate in the eastern group and the lesser shafts in the western group. In general the burial-chambers are of older type in the eastern group than in the western group.

7. CHRONOLOGICAL ORDER OF THE SHAFT TYPES

In the above exposition of the distribution of the shaft types through the six nucleus cemeteries at Giza it has become clear that these shaft types were introduced in the following chronological order:

- (a) Type 1: used in 14 of the 15 initial mastabas in Cems. G 4000, G 2100, and G 1200.
 Used in 7 of the succeeding 8 mastabas in Cem. G 4000.
 Used in 1 of 6 succeeding mastabas in Cem. G 2100.
 Used in the succeeding 5 mastabas of Cem. G 1200.
- (b) Type 2: used in Cem. G 4000 in the 9 mastabas of the second addition, G 4140-4740, 4750, 4760.
 Used in the isolated mastaba G 2000 (unlined).
 Used in one mastaba in the Eastern Field, G 7510 (lined): compare the burial-chambers of G I-a, b, c.
- (c) Type 3 (unlined):
 Used in 7 of the 10 chambers in the 5 finished twin-mastabas of Cem. G 7000; also in 5 of the 6 shafts in the 3 western mastabas of the southern row of 4.
 Used in 6 shafts of the 13 in the next 7 mastabas of the reign of Chephren.
 Used in 11 shafts of the following nummulitic mastabas of type VI a.
 Used in Cem. G 4000 in the last mastaba (4650) of the 8 mastabas following the initial 5: used in the 2 mastabas of row 3.
 Used in 1 shaft in Cem. G 2100, in mastaba (2140) (Chephren?).
 Used in the 2 earlier annexes of Cem. G 1200.
 Used in the Cem. en Échelon in 7 shafts in 5 mastabas out of 33 shafts in 16 mastabas. Examples also in Cem. G I S.
 Extremely rare in mastabas dated to Dyn. V.
- Type 4: examples:
 1 in G 7310 B (wife).
 1 in G 7130 B (man).
 1 lined in G 7430 B (wife).
 2 examples in the 6 massive mastabas of the reign of Chephren in Cem. G 7000 (all secondary shafts).
 2 examples in chief shaft in G 7060 and 7070; Prince Neferma'at and his son Sneferuw-khaf.
 9 examples in Cem. G 4000; in rows 1-3 and line 8.
 4 examples in Cem. G 2100; chief shafts in G 2110, G 2150, G 2155, and G 2160.
 7 examples in Cem. en Échelon; 6 chief shafts and 1 secondary to a shaft of type 3; total of 33 shafts in 16 mastabas.
 2 in G 2220.
 Examples occur in Cem. G I S.
 Examples occur in the later mastabas surrounding the nucleus cemeteries and dated to the latter part of Dyn. IV and the beginning of Dyn. V.
 Examples occur in a few large mastabas of Dyn. V, latter part; but the favoured form in this time is type 5.
- Type 5: examples:
 3 examples in Cem. G 4000, 1 in row 3, and 2 in rows 1-2, of which one contained a sealing of Chephren.

1 in the annex mastaba G 1228.

3 in the Cem. en Échelon, of which only 1 (G 5040 B) was a chief shaft.

Examples of type 5 prevail in the mastabas dated to Dyn. V, and while a few examples may be of the end of Dyn. IV, the majority are of Dyns. V and VI.

Type 6: examples:

1 example in Cem. G 1200; annex of G 1233; perhaps the earliest example.

1 chief shaft in G 4830; and 1 secondary shaft in G 4860.

3 chambers in G 4320 and G 4520 (contained sealing of Weserkaf).

2 in later part of Cem. G 2100; a secondary shaft in G 2150 and a chief shaft in G 2170.

1 secondary chamber in G 7130 A.

1 secondary chamber in G 7350 C.

1 in G 7550 A.

14 in Cem. en Échelon; 4 chief shafts; 3 secondary to type 3, 3 secondary to type 4, 1 secondary to type 5, and 3 secondary to type 6.

Type 6 as a cheap type is a favourite form for secondary shafts during the end of Dyn. IV and later; as a chief shaft it is rare before Dyn. V, but comes into greater and greater use for small mastabas during late Dyn. V and Dyn. VI in chief shafts.

The shafts of type 1 stand apart in the Western Field, and type 1 is the foundation of the other types. The great majority of the chambers are in one-shaft mastabas of the earlier normal size and range around a mean size which is in effect a normal size for persons to whom mastaba-cores were assigned by Cheops. The normal size of both cores and burial-chambers was due to the fact that both were made by the public works department of Cheops. The chambers of type 1 are certainly the earliest made in the nucleus cemeteries of the Giza Necropolis.

Type 2 was obviously derived from type 1 by the use of a ramp or stair connecting the floor of the passage with the floor of the chamber, in order to facilitate the descent of the coffin into the chamber. This device first appears in the first of the seven small pyramids of queens at Giza, that for a queen of Cheops (G I-a), and it is plausible that the ramp of type 2 was derived directly from that in G I-a. Probably this, the first of the small pyramids made by Cheops, was finished after the year 15 of his reign and the mastaba-chamber of type 2 was introduced before the end of the reign. The fact that four of the chambers of type 2 in Cem. G 4000, and that the casings of most of the mastabas containing these chambers were also unfinished, indicates that the work was interrupted by the death of Cheops. By this conclusion the examples of type 2 were finished during a short period beginning late in the reign of Cheops. Nine of the shafts of type 2 are in a continuous row in Cem. G 4000 (the whole of row 4 and two mastabas in line 7, rows 5 and 6). Two other examples were in the great mastabas G 2000 in the Western Field and G 7510 in the Eastern Field, the two largest mastabas in the nucleus cemeteries. G 2000 was of the unusual core-type III ii and had both the chamber lining and the casing unfinished, as if the work had been interrupted by the death of Cheops. Its core type is the same as that of the eastern of the four twin-mastabas (G 7410+20: Queen Meresankh II and her husband). The other large mastaba, G 7510, the tomb of Prince Ankh-haf, is a cased mastaba with a core of type IV iii, and is clearly later than the mastaba of Queen Meresankh and her husband. The finishing of this mastaba took place in the reign of Chephren, probably in the first five years. The facts show that the examples of type 2 range from the last few years of Cheops to the early part of the reign of Chephren.

In the Eastern Field the burial-chambers of the three small pyramids of queens are connected by their sizes and lining with the chambers of both types 1 and 2. They are later than the majority of

the chambers of type 1 and probably earlier than the chambers of type 2, of which so many were used unfinished. These three chambers are connected by the sizes of their rock-cut cavities with the unlined chambers of type 3 found in the four north twin-mastabas which lie east of G I-a. It seems to me certain that type 3 in the Eastern Field is in fact only an unfinished type 1. The intention was to line and pave them with white limestone. The chambers were cut in the rock to a size of about the same range as the rock-cut chambers of the small pyramids, but were unfinished at the death of Cheops. One chamber, that of Ka-wab, was, I assume, used in its unfinished state about the end of the reign of Cheops. Thereafter the lining of the chambers was discontinued except for isolated cases, and type 3 became a recognized type for members of the family of Cheops. After the burial of Ka-wab, some of the chambers in the four north twin-mastabas were enlarged from the private means of the owners. As part of the enlargement, one (G 7410 B: Queen Meresankh II) received a second room, a sarcophagus-room, and another, G 7220 A (Prince Hordedef), had a second chamber begun but left unfinished. After the death of Cheops type 3 became the prevailing type for all large tombs. The chambers of the reign of Chephren prepared for members of the royal family show the diversities of size which generally occur in family cemeteries in which the separate tombs are prepared according to the wishes and the means of the individual owners. Some of these later large tombs of the Cem. G 7000 have very large chambers, and the largest of all is that of G 7350 (Queen Hetep-heres II?). The distribution of type 3 shows that it was generally used for the important shafts of Dyn. IV and gradually goes out of use at Giza in the first part of Dyn. V.

Shaft type 4 is obviously a cheapened form of type 3. Its distribution in the nucleus cemeteries (see above) proves that it was later in its introduction than type 3, but was used alongside type 3 even in the same mastabas during Dyn. IV. The occurrence of shafts of type 4 secondary to a shaft of type 3 does not prove that type 4 is later, but only cheaper than type 3. Type 4 certainly continued in use at Giza after type 3 had disappeared.

The types 1-4 include all the long-passage chambers, passages of over 0.5 m. in length. Type 5 is derived from the two unlined types 3 and 4, and the greater part of the examples have the opening of the passage at the roof-level of the chamber (as type 4). In the variations 5 a (1) and 5 b (1) the form established by the chambers of type 1 is still visible. The number of examples in the nucleus cemeteries of type 5 is comparatively small, and the greatest development of its use for large and small chambers lies in Dyn. V. The earliest example appears to be in G 4430 with a sealing of Chephren. When types 4 and 5 or 3 and 5 occur in the same mastaba, the shaft of type 5 is secondary to that of type 3 or 4.

Type 6 is a simplification of type 5 which omits all trace of the connecting passage between shaft and chamber. Nevertheless, it still shows the same variations as far as they were permitted by the omission of the passage or door-jambs. In the early nucleus cemeteries it never appears as a chief shaft, and it is not until Dyn. V that chief shafts of type 6 occur, and then only in small mastabas.

Each of these six types has a longer or shorter range in time.

Type 1: range from the beginning of Cheops' work at Giza to the end of his reign: possibly one example (G 2210) was a little later.

Type 2: was used for a very short period embracing the end of the reign of Cheops and the first few years of the reign of Chephren.

Type 3: ranges from about year 20 of Cheops to the end of Dyn. IV; contemporaneous with the later examples of type 1 and with the examples of type 2.

Type 4: ranges from the reign of Chephren to that of Shepseskaf and the early part of Dyn. V.

Type 5: ranges from the reign of Chephren to the end of Dyn. VI.

Type 6: ranges from the reign of Chephren to the end of Dyn. VI.

The overlapping in time of the different types of shafts renders difficult the dating of individual shafts by their types. Nevertheless, it may be laid down that:

- (a) Shafts of type 1 in one-shaft mastabas are not later than the end of the reign of Cheops.
- (b) Shafts of type 2 are not earlier than the last few years of Cheops, nor later than the first few years of Chephren.
- (c) Large examples of type 3 in one-shaft mastabas are probably of the latter part of the reign of Cheops if the location of the mastaba permits this date; chambers in two-shaft mastabas, whatever the size, are not earlier than the reign of Chephren and may be as late as the early part of Dyn. V.
- (d) Chief shafts of types 4, 5, and 6 which occur in two-shaft and multiple-shaft mastabas are not earlier than the reign of Chephren, and the presumption is that shafts of type 4 are earlier than shafts of the other two types.

All the types from 2 to 6 are developed directly from type 1 at Giza. The succession of types presents a continual cheapening of the form from type 1 to type 6. The distribution of the types proves that this cheapening also corresponds to the lapse of time in the use of the necropolis and therefore amounts approximately and roughly to a chronological scale. The history of the cemetery is bound up with the fortunes of the royal family of Dyn. IV, and the lessening of the means available for funerary monuments in the nucleus cemeteries is part of that history. In Dyn. V the old cemeteries were given over to the descendants of the kings of Dyn. IV, to funerary priests, and to minor officials. Apparently certain unused cores in the Western Field were granted by royal gift to favourites of the kings of Dyn. V. A few medium-sized mastabas were constructed on independent sites, but the vacant spaces of the six nucleus cemeteries were taken by a large number of small and very small mastabas, in which the shafts of types 5 and 6 predominate.

8. BURIAL-PLACES OF TYPE 9

In the Giza cemeteries a number of burial-places have been found which were entered by a sloping passage, not by a square shaft. This later form of the sloping-passage tomb occurs most frequently in the latter part of Dyn. V and in Dyn. VI. The burial-chamber is almost always a large N-S room with the opening of the passage in the north end of the east wall, or in the east end of the north wall. The chambers vary in height, being in some cases very high (as type 3) and in others comparatively low (between 1 and 2 m.). In the high chambers the opening of the passage is usually at floor-level, but in the low and medium-high chambers it is more often at roof-level. The chambers contain a stone sarcophagus of some sort in the great majority of cases. At Giza the passage and the chamber are cut in the rock and the passage is lined and roofed with stone slabs to form a smaller sloping passage inside the rock-cut passage. The lining of the passage was constructed after the introduction of the stone sarcophagus when such a sarcophagus has been found. After the burial the lined passage was plugged with long blocks of stone after the manner of the sloping passages in pyramids of Dyns. IV and V.

Type 9 is not to be confused with the old sloping-passage tomb of Medum. The Medum type with both chamber and sloping passage built in an open rock-cut trench was later entirely covered by the mastaba, and the sloping passage descending from north to south was entered from the top of the mastaba. Type 9 had its sloping passage descending not from the north covered by the mastaba, but from

outside the body of the mastaba, that is, from the floor of the offering-chapel or from the outside face of the mastaba or from the floor of the street outside the mastaba. Moreover, in most examples and in all the earlier examples the passage descended from east to west, not from north to south. The examples with descent from north to south usually present a form necessitated by their location which made the construction of the shaft passage on the north more practicable.

I am of the opinion that the sloping-passage tombs of Medum hardly range beyond the end of the reign of Sneferuw, and were a special development at Medum of the substructure types devised for royal tombs of Dyn. III. They were followed at Medum by the shaft type with built chamber. This was the burial-place from which the Giza lined chambers were directly derived. It is clear that the Giza craftsmen had knowledge of the sloping-passage and shaft types of Medum. It may even be presumed that some of the royal craftsmen employed at Medum were still active at Giza in the reign of Cheops. After the creation of the special Giza type 1, early in the reign of Cheops, the development of the shaft types ran on steadily through types 2-6. The form and structure of the great core-mastabas were unsuitable to the use of a sloping passage and only one case was found:

- (1) G 7120 A: Prince Ka-wab; of type 3 with sloping passage added later, descending from the floor of the street outside the mastaba downwards to the WSW.

The sloping passage was made after the introduction of the granite sarcophagus into the chamber and entered through the eastern side of the connecting passage of the original chamber of type 3. This passage was lined and roofed with slabs and was probably used to introduce the body and the funerary equipment into the chamber. At that time the doorway to the chamber may have been already blocked and the great shaft filled with limestone debris. After the burial the sloping passage was plugged with long blocks of stone, as is usual in pyramid passages. I conclude that this sloping passage was made at the end of the reign of Cheops. It must be remembered that the sloping passage was an afterthought and that the tomb was actually of the same type (type 3) as most of the shafts in this group of twin-mastabas.

It is possible that Ka-wab was hastily buried in the chamber as it was originally constructed and that later in the reign of Chephren it was desired to increase to a suitable degree the funerary equipment and offerings, and for this purpose the sloping passage was excavated to obtain access to the mastaba burial-chamber.

Whatever the date of the cutting of the added sloping passage to the tomb of Ka-wab, the sloping-passage tomb as presented by the examples of Dyns. V-VI is certainly rare during Dyn. IV. In the rock-cut tombs of the Cheops-Chephren quarry, made in the reign of Mycerinus and Shepseskaf for members of the family of Chephren, a number of examples occur, and I am able to give two examples (Nos. 2 and 3 below). In the same quarry a number of other examples occur ranging at least to the end of Dyn. V (see the sloping-passage tomb of Queen Khent-kauws, excavated by Professor Selim Bey Hassan). In the Mycerinus quarry is the tomb of Prince Khuwnera, son of Mycerinus. The earlier of these examples present a form in which the sloping passage opens in the bottom of a shallow shaft, and this form recalls the sloping-passage connecting shaft and chamber in the shafts of types 1-3. The cutting of sloping passages in the substructures of the Giza pyramids had made the methods used in the cutting of such passages a familiar operation and probably facilitated the development of type 9. The type was peculiarly adapted to use in the rock-cut tombs.

It was after the middle of Dyn. V that type 9 became more common at Giza. The first certainly dated example is that of Senezem-ib-Yenti (G 2370 A), which was made in the first year of Unis, and there are seven other sloping-passage burial-places made in succession for descendants of Yenti

extending in time to the reign of Pepy II. These are along the eastern edge of the Western Field where the topography favoured the use of sloping passages from the east. Southwards of these a number of other shafts of type 9 were made about the same time as those of the Senezem-ib complex. Farther west, among the secondary mastabas intruded in the streets and spaces of the Western Field, a small number of shafts of type 9 occur, widely scattered. I give a comprehensive but not exhaustive list of the sloping-passage shafts:

(a) Shafts in the Cheops-Chephren quarry:

- (2) LD 87: Prince Nekauwra; LD, Textband I, p. 105; passage descends from south; limestone sarcophagus.
- (3) LD 88: Queen Per(sent); LD, Textband I, p. 107; passage from south; empty chamber.
- (4) Galarza Tomb: *Annales*, X, p. 42: Queen Kha-merer-nebty I; one of the burial-places descends by a sloping passage to a large chamber with coffin-recess in the west wall; found empty.
- (5) LD 94: Rawer; chamber excavated by Baraize; sloping passage from outside mastaba, descending to west to large N-S room containing a panelled limestone sarcophagus; late Dyn. IV or Dyn. V.
- (6) Selim Bey Hassan, *Giza*, I, p. 89; type 9 a; sloping passage descends from the east; granite sarcophagus; lid ledge; canopic pit in SE corner.
- (7) Queen Khent-kauws: excavated by Professor Selim Bey Hassan; type 9 a; with coffin-pit; sloping passage descends from floor of corridor chapel westwards.

(b) The sloping-passage tomb in the Mycerinus quarry:

In the rock-cut tomb of Khuwnera in the Mycerinus quarry, one of the two burial-places is approached by a shaft and a sloping passage from the east:

- (8) MQ No. 1: Prince Khuwnera, son of Mycerinus and Kha-merer-nebty II; passage descends from the east opening in the floor of the offering chamber; red granite sarcophagus.

(c) Sloping-passage tombs in Cem. G 7000:

- (9) G 7211 A: type 9 b; passage descends southwards from shallow shaft; lined passage, 2.4 m. long (horizontally); room, 4.45 × 2.3 m.; area, 10.23 sq. m.; capacity, 17.9 cu. m.; limestone coffin; passage closed with plug-stones.
- (10) G 7215 D: type 9 b (4); sloping passage descends southwards from shaft (4.7 m.) long (horizontally); lined passage; blocking removed; room, 4.0 × 3.0 m.; area, 12.0 sq. m.; 16.8 cu. m.; attached stone coffin.
- (11) G 7215 E: type 9 a; sloping passage descends southwards from shaft; horizontal length, 4.3 m.; room, 2.8 × 3.0 m.; area, 8.4 sq. m.; 8.82 cu. m.; no coffin; perhaps unused.

These three belong to a complex attached to the funerary chapel of G 7210, which appears to begin in Dyn. V and ends with the tomb of Yeduw (early Dyn. VI).

(d) The sloping-passage tombs of the Senezem-ib complex:

- (12) G 2370 A: type 9 a; passage descends westwards from the front of the platform; passage lined and plugged; limestone sarcophagus. Dated to the first year of Unis; chamber area, 5.68 sq. m.; capacity, 6.53 cu. m.
- (13) G 2378 A: type 9 a; tomb of Senezem-ib-Mehi; sloping passage from shallow shaft descends westwards; lined and plugged; granite sarcophagus. Date: Mehi was the brother of Yenti; probably reign of Unis; chamber area, 22.6 sq. m.; capacity, 54.24 cu. m.

- (14) G 2385 A: probably the tomb of Khnumenti; type 9 a; sloping passage descends from east; large chamber with burial-chamber below it; coffin-pit in lower chamber; upper chamber: area, 19.6 sq. m., and capacity, 39.2 cu. m.; lower chamber: area, 6.6 sq. m., and capacity, 8.25 cu. m.; total floor area, 26.2 sq. m.; total capacity, 47.45 cu. m.; diorite cup inscribed with the name of King Tety.
- (15) G 2387 A: tomb of Ptahmerankh-Pepy; type 9 a (1); sloping passage from east opening in well; 2 rooms, large upper room and burial-room below it; burial-pit in lower chamber; upper chamber: area, 18.15 sq. m., and capacity, 32.57 cu. m.; lower room: area, 15.08 sq. m., and capacity, 22.62 cu. m.; total floor area, 33.23 sq. m.; total capacity, 55.19 cu. m.
- (16) G 2382 A: tomb of Nekhebuw (?); type 9 a (1); passage from east; burial-pit; chamber area, 9.69 sq. m.; capacity, 9.69 cu. m.
- (17) G 2381 A: type 9 a (1); tomb of Impy; sloping passage from east; wooden coffin in coffin-pit; found intact with passage plugged with five long blocks; sealing of Pepy II; chamber area, 6.24 sq. m.; capacity, 8.42 cu. m.
- (18) G 2381 C: type 9 a (1); tomb ascribed to Ptah-sabuw, brother of Impy; sloping passage from east; coffin-pit; chamber area, 11.13 sq. m.; capacity, 20.03 cu. m.

This group of burial-places ranges from the first year of Unis to the reign of Pepy II.

(e) Sloping-passage tombs south of the Senezem-ib complex excavated by Professor Junker:

- (19) Ka-kher-Ptah: Junker, *Vorbericht*, 1914, p. 23; passage descends from east (p. 14); burial-chamber decorated with table scene and compartment list of offerings; N-S chamber; rough stone coffin.
- (20) Yeduw: Junker, *Vorbericht*, 1914, p. 16; sloping-passage from the east; limestone sarcophagus with ink inscriptions.
- (21) No name: Junker, *Vorbericht*, 1914, p. 16; sloping passage tomb, descending from the east; large 2-room apartment.

(f) Sloping-passage tombs still farther south, east of G 5230 and on a knoll in the SE corner of the Western Field:

- (22) G 5234 A: type 9 a; passage descends from east from forecourt; lined and plugged.
- (23) G 5235 A: type 9 a; passage descends from the east; lined but not plugged; unfinished attached stone coffin; coffin-lid found in the lower end of the sloping passage; a square shaft breaks into roof of chamber in north-west corner; chamber probably unused.
- (24) G 5411 A: type 9 b; passage descends from the north; lined and plugged.
- (25) G 5412: unfinished sloping passage.
- (26) Schiaparelli.

(g) Sloping-passage shafts in secondary mastabas of the Western Field.

Farther west in the Western Field, in the part excavated by our expedition, four sloping-passage tombs were recorded, one in the Cem. en Échelon, two in Cem. G 4000, and one in Cem. G 1000 (west of G 2000). None of these is earlier than the later part of Dyn. V:

- (27) G 5040 D: subsidiary to the rock-cut chapel of Khnum-shepses; type 9 b (1); sloping passage from north; burial-pit; chamber area, 8.98 sq. m.; capacity, 13.81 cu. m.
- (28) G 4733 A: type 9 a (1); passage from east from floor of chapel.
- (29) G 4811 E: type 9 a (1); sloping passage descends from east from floor of court (lettered i).

- (30) G 1047 A: Min-ankh; priest of the pyramid of Menkauwhor; type 9 b (2); sloping passage descends from north from opening in the north wall of mastaba; attached stone coffin; chamber area, 7·87 sq. m.; capacity, 11·8 cu. m.

(h) Sloping-passage tombs in the secondary mastabas of G I S:

One of the old cores of Cem. G I S (Junker) had been reconstructed later for Sekhemka and contained a sloping passage added later under unexplained circumstances. Three other sloping-passage tombs were used in the outlying mastaba of Seshem-nofer IV, and a fifth in a secondary mastaba near G I S, No. 1. None of these is certainly dated, but they appear to have been made in the latter part of Dyn. V or in Dyn. VI:

- (32) G I S, No. 8: Sekhemka; Junker, *Vorbericht*, 1929, p. 96; large shaft and chamber of type 3 (?); sloping passage from east, added later as in G 7120 A (Ka-wab); granite sarcophagus and inner limestone box.
- (32) G I S, No. 11 or 12: Junker, *Vorbericht*, 1929, p. 125; passage from east; N-S chamber; coffin-recess in west wall; limestone *qrst*-coffin; canopic recess in south end of west wall above floor; compartment list of offerings on east wall.
- (33) Second sloping passage in same mastabas as No. 11; for Hetep-heres; sloping passage from north; rough limestone sarcophagus.
- (34) Third passage in same mastaba as Nos. 32 and 33: for Theti, son of Seshem-nofer; descends from north; N-S chamber with coffin-recess; limestone *qrst*-coffin; ramp from end of passage to floor of chamber.
- (35) G I S, SE of No. 1: Junker, *Vorbericht*, 1928, p. 183; sloping passage from east; burial-pit.

At Abusir, in the cemetery attached to the pyramid of Neweserra (see Borchardt, *Das Grabdenkmal des Königs Ne-user-rê*), appears a series of burial-places which seem to have been developed for this cemetery. The chief characteristic is that the chambers are again lined and roofed somewhat after the manner of the Medum shafts. The form arose no doubt as usual from the poor quality of the rock. The roof consisted of horizontal slabs relieved above by a corbelled arch. The burial-places of the four great princesses resemble the Giza type 3 except that they are lined. They are distinctly not of Giza type 1, but lined imitations of type 3. Near these stand three mastabas which contain burial-places of type 9, also lined, paved, and roofed. It is interesting to see a similarity in form between two of the Abusir versions of type 9 and some of the old sloping-passage tombs of Medum, but it is not to be concluded that the similarity of form, which arose in both cases out of bad rock stratum, indicates any similarity in date.

- (36) Weserkaf-ankh: Borchardt, *Ne-user-rê*, Pl. 20; man's burial-place; passage sloping down from east; enters N-S corridor or hall on the west of which opens a burial-chamber with pillar supporting the eastern side; lined and paved chambers; wife's shaft of type 3 also lined and paved.
- (38) Zaza-m-ankh: Borchardt, l.c., Pls. 22, 23; man's and wife's burial-places, both of type 9, with sloping passage descending from east from floor of chapel; man's chamber with 2 rooms; both burial-places lined and paved, roofed with horizontal slabs with relieving corbel above the roof.
- (39) 'Unbekannt': Borchardt, l.c., Pl. 2; type 9 with passage descending from east; at lower end passage opening south to hall and burial-recess; lined, paved, and roofed.

It is from the time of Neweserra, in the latter part of Dyn. V and the first half of Dyn. VI, that the

shaft type 9 appears in a number of the Memphite cemeteries. At Saqqarah, where only a small proportion of the shafts have been excavated, two examples are known of type 9:

- (40) Thiy: Saqqarah, MM, D 22; chamber lined but not roofed.
- (41) Nima'atra: Saqqarah, MM, D 17; sloping passage descends from east from floor of corridor chapel: granite sarcophagus.

At Abu Roash, M. Bisson de la Rocque (*Rapport sur les fouilles d'Abou-Roasch* (1924)) has reported three mastabas of Dyns. V–VI which have burial-places of type 9:

- (42) Abu Roash, F 9: l.c., p. 13; sloping passage (lined) descends from east from face of mastaba; limestone sarcophagus.
- (43) Abu Roash, F 10: l.c., p. 18; sloping passage lined and plugged; descends from east; limestone sarcophagus.
- (44) Abu Roash, F 21: l.c., pp. 60–61; 2 sloping passages descending from east, both lined; (1) on south from floor of chapel, with east wall of chamber on each side of opening lined with masonry; (2) descends from face of mastaba, with east face of chamber lined with masonry.

In Upper Egypt at Dendera Sir Flinders Petrie recorded two c.b. mastabas with roofed sloping tunnels descending from the north, but these are not of type 9 but a special form obviously a degeneration of the old stairway type. Petrie dates these two to Dyn. VI (Petrie, *Denderah*, Pl. XXIX).

Taking all the material at present available, type 9 is a well-defined and characteristic form used for larger burial-places. The range of its chief employment is from the middle of Dyn. V to the end of Dyn. VI. It presents special facilities for the introduction of a stone sarcophagus, and a majority of the examples contained such a sarcophagus. Probably the type with its plugged passage implies the belief that such passages were more secure than rubbish-filled shafts, and this may have contributed to their use for the period mentioned above. But however secure theoretically, all but one of those found by us were completely or nearly completely plundered. The one intact tomb of type 9 (G 2381 A) contained nothing which would have rewarded the plunderers for a tenth of their labour in cutting out the plug-stone.

9. MINOR FEATURES OF THE SHAFT TYPES

In addition to the chief features on which the classification of the shaft types of substructure were based, the burial-places presented certain minor features as follows:

- (a) Canopic pits or recesses for containing the canopic packages.
- (b) The 'window' between shaft and upper part of chamber.
- (c) The recess in the north wall of the shaft.
- (d) Coffin-pits.
- (e) Masonry blocking and portcullis slabs.
- (f) The filling of the shaft after burial.

a. Canopic Pits and Recesses for containing the Canopic Packages

The removal of the viscera and brain was an essential part of the process of true mummification. The first dated evidence is that given by the canopic chest of Queen Hetep-heres I found in the secret tomb at Giza. The internal organs had been made into four packages wrapped in linen, and these packages had been placed each in one of the four compartments of the alabaster chest and covered with a solution of natron in water. The tightly fitting lid had been tied on with a thin cord which had been sealed with a lump of mud bearing impressions of the seal of the *wrbt* of Cheops. The chest was

walled up in a rough recess in the western wall of the burial-chamber. The process of mummification in its more primitive form was probably introduced for royal persons early in Dyn. I, and soon spread to members of the royal family and other important people. The exact time when the removal of the internal organs was added to the simpler process is obscure. It may be assumed that it was introduced first for royal persons and spread downwards in the population. Unfortunately we have no definite evidence for royal persons before the canopic chest of Queen Hetep-heres I, but it is to be noted that the length of her coffin indicated a body half-extended on the side with the knees bent, or even fully extended on the back. I have concluded elsewhere that the half-extended and extended position of the body displaced the old contracted position as a result of the introduction of the improved process of mummification (removal of the internal organs, wrapping of the limbs separately in bandages). Therefore the use of burial receptacles adapted to the longer position of the body may be taken as evidence of mummification of the better sort. The burial-chamber of King Zoser under the Step Pyramid and the two alabaster coffins found in the subsidiary eastern passages prove, I think, that true mummification was employed by that king and his immediate family, probably not for the first time by royal persons. It may be assumed that mummification was practised by all succeeding kings and their immediate relations and it is certain that such was the case from the beginning of Dyn. IV and onwards. The evidence is given not only by the length of the coffin, but more particularly by the canopic pit or recess made to take the canopic packages or, alternatively, a small wooden box containing those packages.

The canopic pit in the SE corner of the burial-chamber and the canopic recess in the south wall are seen definitely developed in the sloping-passage tombs of Medum (reign of Sneferuw): see *Tomb Development*, Ch. IX. It is to be assumed that both these types of canopic receptacle were closed with a limestone lid or slab as was the case at Giza. Earlier than this, in the stairway tombs of Dyn. III, the occurrence has been noted of two niches (occasionally one) in the hall or anteroom opposite the burial-chamber, and on the valley side. I have not taken these niches as canopic recesses because they occur in the tombs with contracted burials, they are in a wall which was never used later for canopic recesses, and were not blocked or closed in any way. I interpret them as *ka*-doors giving exit from the sub-structure, a form of *ka*-door which can be definitely traced from Dyn. I (see *Tomb Development*, pp. 33, 184). It is further to be noted that canopic niches or pits do not occur in any of the burial-chambers of kings down to the end of the Old Kingdom. It is to be presumed that in the royal chambers of Dyns. III–VI the canopic packages were contained in stone boxes set on the floor of the chamber.

At Giza the canopic packages were disposed in several different ways:

- (a) The most frequent container for the canopic packages was the 'canopic pit': placed in the SE corner of the burial-chamber; the orifice was closed with a rectangular limestone slab which was fitted in a rebate, or wedged in the orifice, but sometimes lay on the floor over the pit.
- (b) Less frequent and later in date was the 'canopic recess': excavated in the southern rock wall of the chamber, near the SE or the SW corner, or in the south end of the east wall; closed by a rectangular slab which was fitted in a rebate in the orifice or wedged in the opening, perhaps sometimes set against the wall outside and bound with plaster.
- (c) There are a few cases in which the canopic receptacle consisted of a stone chest built on the floor of the burial-chamber or of a recess, and closed like the canopic pit; these are called hereafter 'built canopic chests'.
- (d) The canopic chest, similar to that of Hetep-heres I, which is of frequent occurrence in Dyn. V, and later may also be presumed at least for the more important tombs without canopic pit or recess; it is also possible that wooden chests were placed in some of the canopic pits and recesses.

The canopic pits are distributed as follows:

(a) The fifteen initial mastabas of the Western Field.

- (1) G 1201: shaft type 1 al; pavement removed; rock-cut pit: 0.65×0.56 cm.; depth, 0.35 cm.
- (2) G 1203: type 1 cl: 0.72×0.53 cm.; depth, 0.49 cm.; reserve head.
- (3) G 1205: type 1 cl: 0.65×0.55 m.; depth, 0.6 m.; no rebate.
- (4) G 1223: shaft type 1 brx; pavement removed; rock-cut pit: 54×38 cm.; depth, 52 cm. in rock; total depth, 77 cm.; rebate in rock on north and west.
- (5) G 1225: shaft type 1 bl; pavement removed; rock-cut pit: 100×63 cm.; depth, 54 cm. in rock.
- (6) G 2100: shaft type 1 cf: 60×60 cm.; depth, 50 cm.; no rebate.
- (7) G 2120: shaft type 1 al: 65×50 cm.; depth, 0.35 cm.
- (8) G 4000: north pit, shaft type 1 b(ell)x: 58×58 cm.; depth, 50 cm.; with rebate on all four sides.
- (9) G 4150: shaft type 1 ar: 58×58 cm.; depth, 40 cm.; with rebate on all four sides.
- (10) G 4160: shaft type 1 br: 58×57 cm.; depth, 54 cm.; lid set in rebate.
- (11) G 4250: shaft type 1 ar: pavement removed; rock-cut pit: 67×64 cm.; depth, 70 cm.; rebate on north and west.
- (12) G 4260: shaft type 1 ar; 65×63 cm.; depth, 57 cm.; rebate on all four sides.

Thus of the fifteen initial mastabas, twelve presented definite evidence of measurable canopic pits in the SE corner. The ordinary size appears to be about $50\text{--}60 \times 50\text{--}60$ cm. with a depth of 50–55 cm. but with variations. Where there is a wide rebate in the orifice of the rock-cut part, it is to be presumed that this was filled with white pavement stones, as was probably the case in G 1225.

The next succeeding mastabas, presumed to have been finished in the reign of Cheops, consist of five in Cem. G 1200, one in Cem. G 2100, and seventeen in Cem. G 4000.

(b) The twenty-three succeeding chambers of types 1 and 2 of the Western Field.

- (13) G 1207: shaft type 1 al; pavement removed; rock-cut pit: 65×50 cm.; depth, 36 cm.; in rock.
- (14) G 1209: shaft type 1 cl; pavement removed; rock-cut pit: 56×47 cm.; depth, 20 cm.; in rock.
- (15) G 2135: shaft type 1 cm.; unpaved; rock-cut pit: 65×68 cm.; depth, 45 cm.; in rock; rebate for lid.
- (16) G 4350: shaft type 1 cm.: 55×48 cm.; depth, 55 cm.; no rebate.
- (17) G 4360: shaft type 1 ar: 60×50 cm.; depth, 67 cm.; rebate (?).
- (18) G 4450: shaft type 1 cm.: 55×55 cm.; depth, 45 cm.; rebate.
- (19) G 4460: shaft type 1 am; unpaved: 66×60 cm.; depth, 49 cm.; rebate.
- (20) G 4560: shaft type 1 al; unpaved: 60×55 cm.; depth, 43 cm.; rebate cut in rock.
- (21) G 4650: shaft type 3 cm: 65×68 cm.; depth, 45 cm.; rebate cut in rock.
- (22) G 4660: shaft type 1 cl; unpaved: size of canopic pit not reported.
- (23) G 4240: shaft type 2 bm (stair); unlined chamber: 57×70 cm.; depth, 46 cm.; cut in rock.
- (24) G 4440: shaft type 2 brx (ramp); lined chamber: 67×55 cm.; depth, 50 cm.
- (25) G 4540: shaft type 2 ar (stair); unpaved: 53×47 cm.; depth, 45 cm.
- (26) G 4640: shaft type 2 br (stair); unpaved: 54×46 cm.; depth, 57 cm.

Thus of the twenty-three chambers of types 1 and 2, including one of type 3, finished after the fifteen initial mastabas, fourteen had canopic pits. Some of the nine remaining chambers had been used in an unfinished state.

We turn now, as usual, to the Eastern Cemetery.

- (c) The five finished twin-mastabas in the Eastern Field:
- (27) G 7210 B: type 3 af: 46×48 cm.; depth, 58 cm.; rebate on all four sides.
 (28) G 7420 A: shaft type 3 cmx: 62×64 cm.; depth, 32 cm.; no rebate.
- (d) The two unfinished twin-mastabas of the southern row:
- (29) G 7330 B: shaft type 3 bf: 65×65 cm.; depth, 55 cm.; no rebate.
- (e) Mastabas finished in first half of the reign of Chephren:
- (30) G 7430 A: shaft type 4 a (1); canopic pit in second chamber: 71×69 cm.; depth, 67 cm.; no rebate.
 (31) G 7650 C: shaft type 3 afx: 60×64 cm.; depth, 68 cm.; with rebate.
- (f) Mastabas finished in the second half of the reign of Chephren:
- (32) G 7550 B: shaft type 3 amx; 55×50 cm.; depth, 72 cm.
 (33) G 7660 B: shaft type 3 afx; 2 chambers, canopic pit in second chamber: 63×63 cm.; depth, 50 cm.; no rebate.
 (34) G 7760 B: shaft type 3 bfx; canopic pit in second chamber; canopic pit in *south-west* corner; 53×53 cm.; depth, 50 cm.; with rebate.
 (35) G 7810 A: shaft type 3 afx; 65×65 cm.; depth, 55 cm.; with rebate.
 (36) G 7810 B: shaft type 3 bf; 80×70 cm.; depth, 55 cm.; no rebate.
 (37) G 7820 B: shaft type 3 af; 60×60 cm.; depth, 55 cm.; no rebate.
- (g) Finished mastabas of the reigns of Mycerinus and Shepseskaf and the early part of Dyn. V in both Eastern and Western Fields.

In the Eastern Field, nucleus cemetery, first and second additions:

- (38) G 7350 A: shaft type 3 am; 79×82 cm.; depth, 47 cm.; with rebate on north and west.
 (39) G 7560 B: shaft type 4 b (1) x, with low ramp inside chamber; 67.5×57.5 cm.; depth, 50 cm.; without rebate.
 (40) G 7670 B: shaft type 3 bf; 50×47.5 cm.; depth, 45 cm.; without rebate.

In the Western Field in reconstructed nucleus mastabas or in large outlying mastabas:

- (41) G 5110 A: outlying mastaba of Prince Duwanera; shaft type 3 af; 62×56 cm.; depth, 62 cm.; no rebate.
 (42) G 2150: reconstructed nucleus core: shaft type 4 b (1); 93×63 cm.; depth, 55 cm.; rough limestone lid over hole.
 (43) G 2155 A: reconstructed nucleus core (Junker); shaft type 4 a (4); 80×60 cm.; depth, 60 cm.
 (44) G 5080 A: reconstructed nucleus core: shaft type 4 b (2); 65×54 cm.; depth, 55 cm.; no rebate.

In addition to these certain canopic pits in G 5230 (outlying mastaba north of G 5110), a chamber of type 3 bfx had an unfinished canopic pit or an emplacement for a canopic chest in the NE corner (measuring 110×100 cm. and 20 cm. deep).

In Cem. G I S, nucleus core:

- (45) G I S, 1 B: reconstructed massive core: shaft type 3; canopic pit in SE corner, measurements not available.

The occurrence of canopic pits will be summarized below with the other forms of canopic receptacle.

The canopic recess does not appear at Giza until late in the reign of Cheops. It is usually cut in the walls around the SE corner either in the east end of the south wall or in the south end of the east wall. In four, however, the recess is in the south wall near the SW corner. The distribution of the recesses is as follows (the recess is in the east end of the south wall unless otherwise stated):

- (1) G 7120 A: shaft type 3 cf; with sloping passage from east added; 68×60 cm. (width and height of opening); depth, 68 cm.; rebate on sides and top of orifice.
- (2) G 7310 B: shaft type 4 a (1): 70×77 cm.; depth, 69 cm.; no rebate.
- (3) G 7410 B: shaft type 3 af; 2 chambers; canopic recess in second chamber; canopic recess in east wall near south end; 65×40 cm.; depth, 80 cm.; rebate on 2 sides and top.
- (4) G 7130 B: shaft type 4 a (1) with second room with granite sarcophagus and canopic recess; recess in west end of south wall of room between 2 blocks of white lining, 0.5 m. wide (E-W), 0.3 m. high, and 1.05 m. deep with back part cut in rock (0.4 m.); no rebate.
- (5) G 7430 B: shaft type 4 a (1); lined chamber; second chamber begun but unfinished; coffin-pit in first chamber; canopic recess in south wall at east end, 160 cm. above floor and behind casing if completed; 60×70 cm.; depth, 50 cm.; no rebate.
- (6) G 4860 A: shaft type 4 a (2); chamber on west; height of chamber and passage, 182 cm.; canopic recess in south wall flush with east wall; 66×70 cm.; depth, 60 cm.
- (7) G 4940 B: shaft type 3 crx; 1.1×0.9 cm.; depth, 90 cm.; no rebate; in south end of east wall.
- (8) G 7050 B: shaft type 3 bm; in west end of south wall; 75×73 cm.; depth, 78 cm.; no rebate.
- (9) G 7060 B: shaft type 4 b (4) x; 75×75 cm.; depth, 80 cm.; no rebate; in west end of south wall.
- (10) G 7070 B: shaft type 4 b (4) x; 74×70 cm.; depth, 68 cm.; no rebate; in west end of south wall.
- (11) G 7340 X: shaft type 4 a (2) (abnormal); in east end of south wall; 63×82 cm.; depth, 50 cm.; no rebate.

The canopic recess in the south wall was recorded in the sloping-passage tombs of the reign of Sneferuw at Medum. Here at Giza the earliest examples were clearly those in the twin-mastabas of the Eastern Field, where it occurred as often as the canopic pit; but all the earlier mastabas had a canopic pit.

A third form of canopic receptacle was the 'built canopic chest', of which the following examples occur:

- (1) G 7320 A: shaft type 3 af; a second chamber had been begun and in the excavated cavity on the floor a chest of 4 slabs had been built; 55×55 cm.; depth, 60 cm.; rebate on all four sides.
- (2) G 4710 A: shaft type 4 a (2) x; modified; box built of stone on three sides against south wall, east of middle; 90×70 cm.; depth, 60 cm.
- (3) G 7530 A: shaft type 4 a (1); built of stone partly in rock against middle of south wall; 4 canopic jars with lids; 70×68 cm.; depth, 52 cm. (17 cm. in rock).

This last chamber was constructed in the first or second year of Shepseskaf, and establishes the use of the limestone jar with disk lid as a canopic receptacle as early as the reign of Shepseskaf. Other examples of such jars were found in G I S 7 B and G I S 2 B. Such jars, usually without trace of contents, were found in the burial-chambers of Dyn. V.

As said above, the evidence for the occurrence of the canopic chest at Giza in Dyn. IV is limited to the canopic chest of Queen Hetep-heres I. I doubt whether any of the canopic pits in the Western Field were of a size compatible with the use of a wooden chest which contained the packages. The larger pits, particularly in the Eastern Field, may, however, have contained wooden canopic chests, and the same is true for the large recesses without rebate which are generally of later date. In G I S 8 B,

a burial-chamber of late Dyn. V, in a SW recess, Professor Junker found fragments of a limestone canopic chest.

The following table permits an oversight of the distribution of the different types of canopic receptacle in the Cheops cemetery:

SUMMARY TABLE: distribution of canopic receptacles in cemeteries:

Cemetery	Shafts	Types of canopic receptacles			Total receptacles	Without receptacles
		Floor pit	Recess SE	Recess SW			Built chest
G 1200, initial	5	5	..	..	5	..
G 2100, initial	5	2	..	..	2	3
G 4000, initial	5	5	..	..	5	..
Total initial	15	12	..	..	12	3
G 1200, succeeding	5	2	..	..	2	3
G 2100, succeeding	1	1	..	..	1	..
G 4000, succeeding	17	11	..	..	11	6
Total succeeding	23	14	..	..	14	9
G 7000, 5 twin-mastabas	10	2	3	1	7	3
G 7000, 2 unfin. twin-mastabas	4	1	..	..	1	3
G 7000, 1st addition and 8th twin-mastabas	9	2	..	1	3	6
G 7000, later Chephren to Mycerinus	17	6	2	2	10	7
Total G 7000, to Mycerinus	40	11	5	4	21	19
Canopic receptacles in mastabas end of Dyn. IV and early Dyn. V:						
G 7000, added to lines 3, 5-6	7	3	..	..	4	3
Western Field: large outlying mastabas, 5110, 5230, 2220	5	1	..	..	1	4
G 4000, later mastabas	20	..	1	..	2	18
G 2100, last 5 mastabas	6	2	..	..	2	4
Cem. en Échelon	25	1	1	..	2	23
Cem. G I S	6	1	..	..	1	5
Total late mastabas	69	8	2	..	12	57
Sum total Dyn. IV and early Dyn. V	147	45	7	4	59	88

The canopic pit in the SE corner was used with three exceptions in all the fifteen initial mastabas of the Western Field, the cores of which certainly dated to the reign of Cheops. This form of canopic receptacle continued generally in use in all the remaining mastabas of the Western Field dated to the reign of Cheops, but five examples of the later twenty-three chambers certainly had no canopic receptacle. Perhaps these five had wooden chests set on the floor of the chamber in the SE corner. In the Eastern Field, beginning about the years 17-20 of Cheops, both types of receptacle, the pit and the recess, are found in use. During the period from Chephren onwards the use of a canopic pit or recess became less frequent, and in these chambers I would again assume the use of a wooden canopic chest as proved for later times. Of the three built stone receptacles, one is from the end of the reign of Cheops or soon