

Spinning-Bowls*

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IN this paper we shall deal with the type of pottery vessels generally known as spinning-bowls. Characteristic of such bowls are interior handles grooved on the undersides. Bowls of this type have been found in excavations in Palestine and Egypt. We shall study their distribution, classify the several sub-types, and clarify their exact uses. For comparative material, valuable in ascertaining their function, we shall draw upon the tomb-paintings and models found in Egypt.

SPINNING-BOWLS FOUND IN PALESTINE

Spinning-bowls have been found in several Late Bronze Age II levels in Palestine. The oldest example whose context is definite¹ comes from the excavations at Tell el-'Ajjul² (see Fig. 1:1), from a stratum dated to the fourteenth and thirteenth centuries B.C.³ At Beth-Shean many spinning-bowls came to light⁴ (see below, p. 99), the oldest (Fig. 1:2)⁵ being from level IX (dated to the first half of the fourteenth century B.C.).⁶ In level VIII⁷ too (end of the four-

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¹ During his excavations at Gezer, Macalister found spinning-bowls, which he described as 'jar stoppers', dating to the Early Semitic period—cf. R. A. S. Macalister: *The Excavation of Gezer*, London, 1912, II, pp. 145-146; III, Pl. cxlvi:18; to the 'Middle Semitic' period—*ibid.*, II, p. 169, Fig. 329 (see also our Fig. 1:6); and to the 'Late Semitic' period—*ibid.*, II, p. 146.

² W. M. F. Petrie: *Ancient Gaza*, II, London, 1932, Pl. xxvii, 15w3; MG1055.

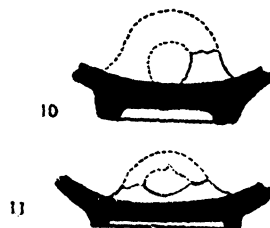
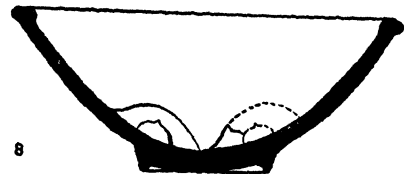
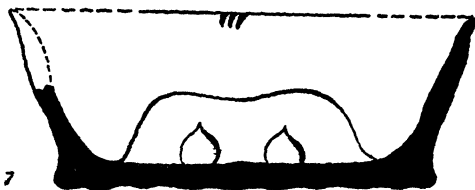
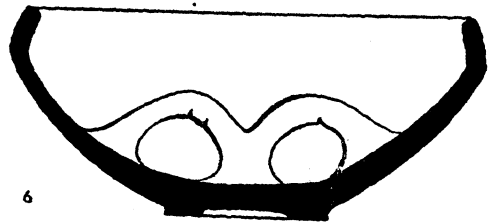
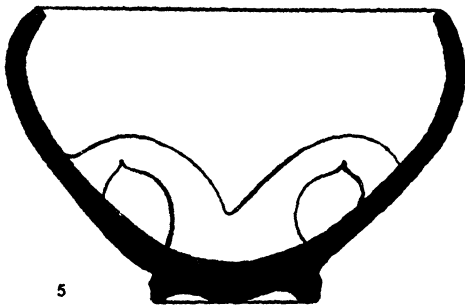
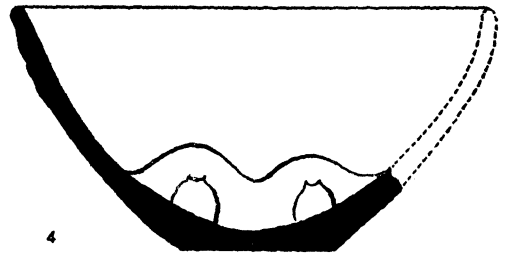
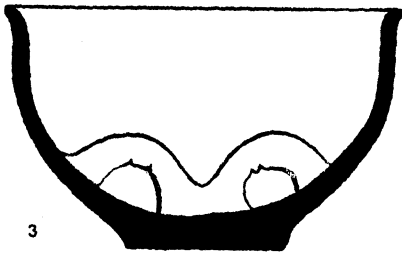
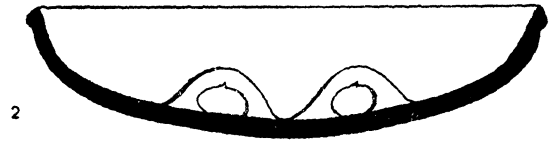
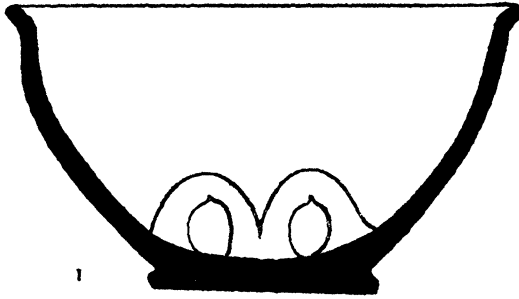
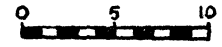
³ MG 1055 is from the building-complex of 'Palace' IV, which Petrie dated to the 15th dynasty. Albright attributes it to the fourteenth-thirteenth centuries B.C. See *American Journal of Semitic Languages* 55 (1938), pp. 358-359.

⁴ I had the opportunity of seeing the pottery from Beth-Shean at the Pennsylvania Museum in Philadelphia, and to examine the field-catalogue of the excavations. I should like to thank Prof. J. B. Pritchard for his help in this matter, and Prof. G. M. F. Fitzgerald for allowing me to publish here the spinning-bowls from Beth-Shean for the first time.

⁵ This bowl has not previously been published. Cat. No. 28. 9. 63.

⁶ For the chronology of Beth-Shean, see B. Mazar: *BIES* 16 (1951), pp. 16-17, 19 (Hebrew). In the light of recent publications (Y. Yadin *et al.*: *Hazor*, I-II, Jerusalem, 1958-1960; Olga Tufnell: *Lachish* IV, London, 1958), it would seem that the dates given for levels VIII-IX are somewhat too low, and we must return, in general, to the higher chronology of Albright (*op. cit.* [above, n. 3], p. 15).

⁷ G. M. F. Fitzgerald: *The Four Canaanite Temples of Beth Shean*, Part II: *The Pottery*, Philadelphia, 1930, pp. 5, 20 and Pl. XLI:29.



teenth—beginning of the thirteenth century B.C.)⁸ a spinning-bowl fragment was found. In the excavations at Tell Jerishe⁹ a large number of such bowls was discovered (see below, p. 100), one of which is datable to the Late Bronze Age II¹⁰ (see Fig. 1:8). This bowl is quite similar in appearance to the ordinary bowls of the same period.¹¹ Most of the spinning-bowls from Palestine belong to the Early Iron Age; the most extensive group is from the excavations at Beth-Shean, from level VI,¹² dated to the time of Ramses III.¹³ This group includes eight spinning-bowls (see Fig. 1:3, 4, 12),¹⁴ all well-fired with flat or disk bases. All except one have two joined, interior handles, grooved on their undersides. One with two parallel pairs of joined handles is unique¹⁵ (Fig. 1:12 and Pl. 14B); in each of the four handles there is a single deep groove and several shallower ones. At Megiddo,¹⁶ in level VIIA (c. 1175/63-1120 B.C.),¹⁷ the lower part of a spinning-bowl was found (Fig. 1:9). From Tell Qasile¹⁸ come ten spinning-bowls; two (Fig. 2:1, 2) were found in levels XII and XI, dated to the Philistine period (1175-1050 B.C.);¹⁹ three are from level X (1050-985 B.C.)²⁰ (Fig. 2:3), and two others from level VII (eighth century, to 733/2 B.C.)²¹ (Fig. 2:4). Three more were found in unstratified contexts.²² All the Tell Qasile spinning-bowls are of the same type, and no development or change of form is apparent. They all have ring-bases and two joined handles. The

⁸ See above, n. 6.

⁹ The late Prof. E. L. Sukenik gave me permission to publish the bowls, referred to here from the field-catalogue.

¹⁰ This bowl was found in the 1936 season—Cat. No. 182. Most of the vessels found together with this are typical of the Late Bronze Age II. Another spinning-bowl from the same location is recorded in the catalogue, but no drawing is given.

¹¹ Cf., for instance, bowls typical of levels VII B-VIII at Megiddo—G. Loud: *Megiddo*, II, Chicago, 1948, Pl. 61:12, 13.

¹² See above, n. 4.

¹³ See Mazar, *op. cit.* (above, n. 6), pp. 17, 19.

¹⁴ From level VI, only one bowl was published; Fitzgerald, *op. cit.* (above, n. 7), p. 26 and Pl. XLIV:11. The unpublished bowls from VI are—Cat. No. 27.109 (see Fig. 1:4), Cat. No. 30.10.3 (see Fig. 1:3), and Cat. Nos. 29.10.901, 27.10.474, 28.9.159, and 31.10.453.

¹⁵ Now in the Palestine Archaeological (Rockefeller) Museum in Jerusalem (Jordan); Museum No. PAM 32.34—unpublished.

¹⁶ Loud, *op. cit.* (above, n. 11), Pl. 70:3.

¹⁷ For the chronology of level VIIA, see *ibid.*, p. 16.

¹⁸ I have to thank Prof. B. Mazar for allowing me to use the material from Tell Qasile. The spinning-bowls from this site have not, as yet, been published. See B. Mazar: *The Excavations at Tell Qasile*, Preliminary Report, *IEJ* 1 (1950-51), pp. 128, 135.

¹⁹ Fig. 2:1—level XII, Cat. No. 6269 II Q; Fig. 2:2—level XI, Cat. No. 680 II Q.

²⁰ Cat. Nos. 1931 II Q and 7442 III Q; Fig. 2:3—Cat. No. 5643 III Q.

²¹ Fig. 2:4—Cat. Nos. 603 II Q and 3050 III Q.

²² The three bowls, from uncertain contexts, are 26 Q, 435 Q, and 5876 II Q.

Fig. 1. Spinning-bowls from excavations in Palestine.

1. Tell el-'Ajjul; 2, 3, 4, 12: Beth-Shean; 5, 8, 10, 11: Tell Jerishe; 6: Gezer; 7: Tell Jemmeh; 9: Megiddo.

grooves on the undersides of the handles are often quite deep, and, on one bowl (Fig. 2:1), they seem to have been made before firing. These bowls are heavier than the ordinary bowls found in the same levels at this site, and their

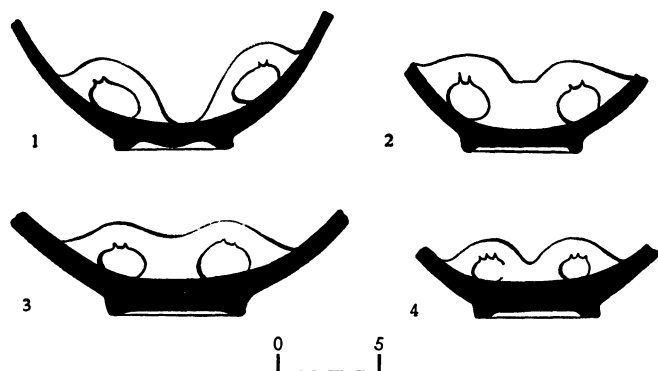


Fig. 2. Spinning-bowls from Tell Qasile.

firing is superior. At Tell Jerishe (Fig. 1:5) a complete spinning-bowl came to light in a context parallel to level X at Tell Qasile.²³ Two fragmentary bowls (Fig. 1:10, 11) are unique, with single interior handles.²⁴ No comparable examples from Palestine are known. A spinning-bowl found at Beth Shemesh, from level II A (c. 1000-950 B.C.), belongs to the Early Iron Age.²⁵

A spinning-bowl of a type differing from that ordinarily found in Palestine came to light during the excavations at Tell Jemmeh²⁶ (Fig. 1:7, Pl. 14C) in level 198, to be dated to the seventh century B.C.²⁷ The ware is brown, with a binder of chopped straw and grits. The vessel is well fired and hand-shaped;

²³ See above, n. 9. Fig. 1:5 (1934 season)—Cat. No. 287.

²⁴ Fig. 1:10 (1934 season)—Cat. No. 104; the context in which this bowl was found is parallel to level X at Tell Qasile. Fig. 1:11 (1934 season)—Cat. No. 84. The second bowl comes from a context parallel to Tell Qasile levels X to XII. See also below, n. 39, last reference.

²⁵ Cf. E. Grant: *Ain Shems Excavations*, II, Haverford, 1932, p. 27 and Pl. XXXI:28. The level designated III in the above report is later referred to as level IIa in the final report, and is assigned to 1000-950 B.C. Cf. also *ibid.*, V, pp. 15, 134.

²⁶ This bowl is now at the Archaeological Institute in London; I have to thank Prof. Kathleen Kenyon for her kind permission to draw and photograph it. The bowl was published as a lid in W. M. F. Petrie: *Gerar*, London, 1928, p. 22 and Pl. LXI:98M, BO 198; see also J. G. Duncan: *Corpus of Palestinian Pottery*, London, 1930, 98M; BO 198.

²⁷ For the dating of locus BO in level 197-198, see Petrie, *op. cit.* (above, n. 26), Pl. LX:87d; this jug is from a group of 'White Painted Ware V' vessels, from the Cypro-Achaic I period (c. 700-600 B.C.). For a detailed discussion on this jug and the problems of its dating, see E. Gjerstad: *The Swedish Cyprus Expedition*, IV, 2, Stockholm, 1948, p. 425.

the base is flat and uneven on its underside. The two interior handles are crudely made, and each bears a single deep and several shallow grooves. The group of three grooves on the rim is of importance in that it throws light on the use of these vessels (see below, p. 107). This bowl resembles most closely a spinning-bowl from Kahun (see below, p. 106) and the stone bowls from Lisht (Pl. 15A, B).

SPINNING-BOWLS FOUND IN EGYPT

The oldest examples of spinning-bowls from Egypt were found in the excavations at Abu Ghalib (in the northern Delta, some 80 km. from Cairo) and at Kahun (in the Fayyum), both contexts dating from the 12th dynasty.

At Abu Ghalib²⁸ one complete vessel (Fig. 3:1) and fragments of another, of the same type, were found.²⁹ The workmanship of the interior handles is crude and the grooves on the undersides are deep. Of the many found at Kahun, the only spinning-bowl³⁰ published to date has almost straight sides and a wide, flat base. The interior handles stretch from the walls of the vessel to the bottom, without being joined. Petrie emphasizes the similarity of these bowls to the large group of stone bowls also found at Kahun. According to him, the stone bowls are very crudely cut; they have two interior handles, or occasionally only one, like the spinning-bowls from Tell Jerisheh (Fig. 1:10, 11). The spinning-bowl from Kahun is, without doubt, an imitation of these straight-sided, wide, flat-based, stone bowls (Pl. 15A, B) and, as noted above, is quite similar in shape to the bowl from Tell Jemneh.

The most extensive group of spinning-bowls from Egypt was found at el-Amarna.³¹ The entire group dates from the time of Akhnaton (Fig. 3:2-4, 6).³² Spinning-bowls of both pottery and stone were found within the city itself,³³ and in the workers' village to the east. Here, in the workers' quarters, only

²⁸ Hjalmar Larsen: Vorbericht über die Schwedischen Grabungen in Abu Ghalib 1936/37, *Mitteilungen des Deutschen Instituts für Ägyptische Altertumskunde in Kairo* (henceforth referred to as *MDIK*) 10 (1941), pp. 30, 31.

²⁹ *MDIK* 6, Pl. 21 b.

³⁰ W. M. F. Petrie: *Kahun, Gurob, and Hawara*, London, 1890, p. 25 and Pl. XIII:58.

³¹ T. E. Peet and C. L. Woolley: *The City of Akhenaton*, I, London, 1923, pp. 61, 137, and Pl. XLVIII, pottery type XIII. The bowls in Fig. 3 are: No. 2-XIII/20, No. 3-XIII/1001, No. 4-XIII/79, and No. 6-XIII/46.

³² *Ibid.*, p. 136.

³³ In the description of the pottery from the houses within the town (*ibid.*, pp. 21, 137), three spinning-bowls are mentioned. Stone spinning-bowls from these same houses, mentioned in the text, are not illustrated. See also below, n. 34.

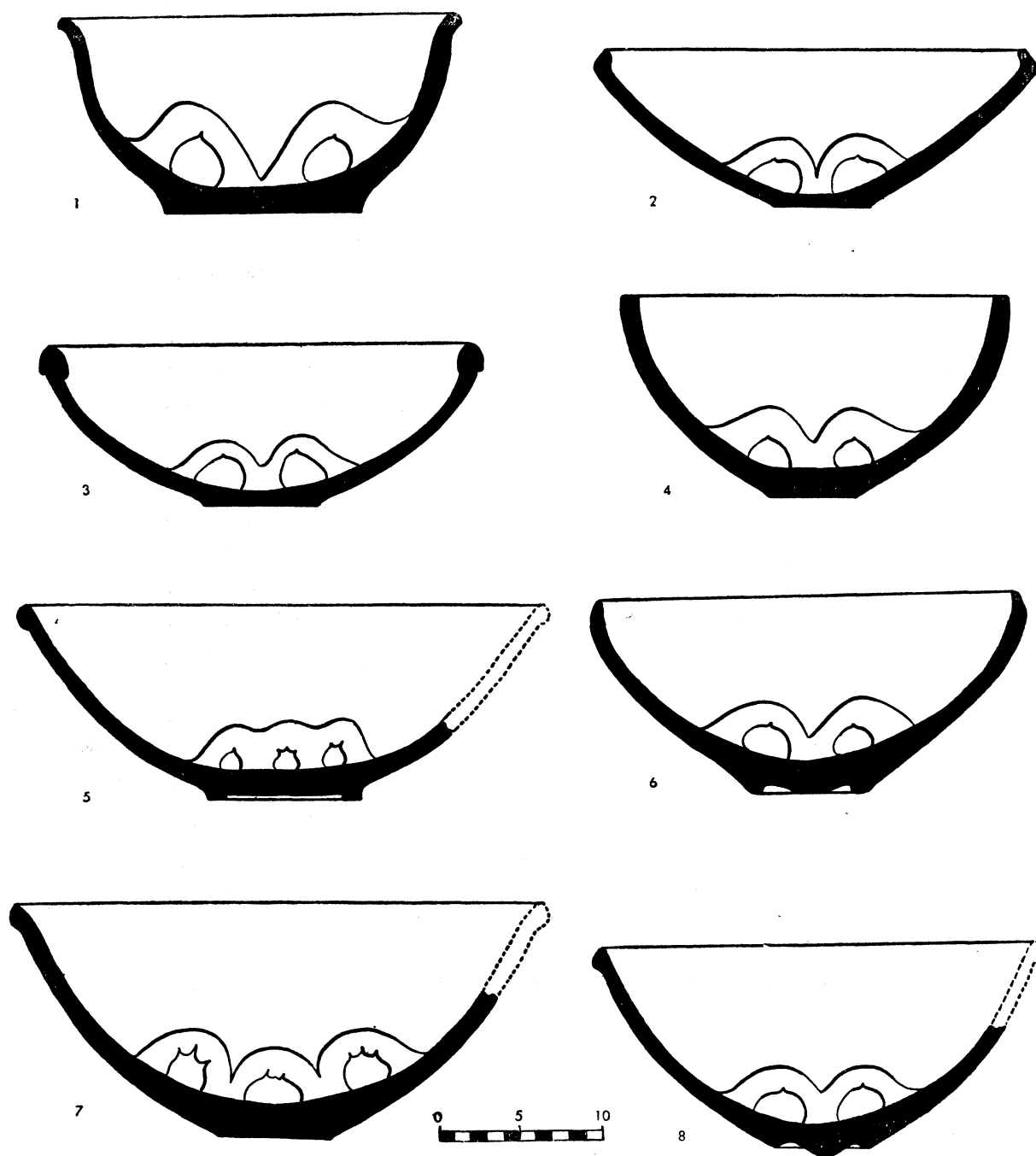


Fig. 3. Spinning-bowls from excavations in Egypt.
 1: Abu Ghalib; 2, 3, 4, 6: Tell el-Amarna; 5, 7, 8: Deir el-Medineh.

pottery bowls were found.³⁴ They are well fired and often have a red or yellowish slip. The walls are rounded, and the rims vary—flat (4), carinated (2), sharp (6), and thickened (3). The bases are generally flat (2-4), although there is one ring-base (6). The workers' village at Deir el-Medineh³⁵ (dating from the 19th-20th dynasties) yielded a large group of spinning-bowls (Fig. 3:5, 7, 8), none of which is complete (the restoration of the rims in the drawings is based on examples from el-Amarna). Nagel states that the firing of these bowls is superior to that of the other bowls of the same context. Their bases are of three types: flat (Fig. 3:1, 2, 3, 4, 7), ring (Fig. 3:5), and ring with a thickening in the centre (Fig. 3:6, 8). The dominant type of bowl has a pair of interior handles grooved on their undersides (e. g. Fig. 3:1). An additional type within the group has three interior handles (Fig. 3:5, 7). A spinning-bowl of gypsum is to be included in this group. Its base is flat, the workmanship crude. The three interior handles, however, are quite finely wrought (only the middle handle of the three is completely preserved).³⁶ It is difficult to outline the original shape of the bowl, though it is probably to be restored on the pattern of the two spinning-bowls of gypsum found at Lisht,³⁷ dating from the 20th-21st dynasties. One of the two (Pl. 15 B) was found complete, its finish fine and quite even. The two interior handles stretch from the walls to the bottom, without being joined. The other bowl (Pl. 15 A), which was not preserved complete, is less finely wrought. The handles, quite crudely formed, are attached to the walls and joined in the middle. The grooves on the undersides of the handles of both these vessels are deeper than is usual on such ceramic bowls. This is due to use, for gypsum is much softer than pottery and wears more easily.

Upon surveying the various types of spinning-bowls from Palestine and Egypt, it becomes evident that:—

³⁴ *Ibid.*, p. 61. In the workers' village, only pottery spinning-bowls were found. In discussing the use of these bowls, the excavators mention identical bowls in stone from the town (see above, n. 33), which, according to them, were used in spinning. In the houses of the workers' village, many traces of weaving were found.

³⁵ G. Nagel: *La Céramique du Nouvel Empire à Deir el-Medineh*, I, Le Caire, 1938, pp. 183-188, Figs. 152-155, and Pl. XI, Type XVI. For our Fig. 3, Nos 5, 7, and 8, see *ibid.*, Pl. XI, Type XVI—1922 M8, 1922 M7, and 1922 M9, respectively.

³⁶ *Ibid.*, p. 185, Fig. 154.

³⁷ Photographs of these two stone bowls, from the Metropolitan Museum of Art excavations at Lisht, are published here with the kind permission of the Museum Trustees.

(a) these bowls were in use in Palestine from the Late Bronze Age to the seventh century B.C. However, in Egypt, spinning-bowls are found from the 12th dynasty (Abu Ghalib and Kahun), but they disappear during the 21st dynasty (Deir el-Medineh). The fact of their use in Egypt before their appearance in Palestine indicates an Egyptian origin; only relatively late in their history did they reach Palestine, to become part of the local ceramic ware;

(b) typologically, the spinning-bowls found in Palestine are closely related to those from Egypt. In the whole period in which they were in use, no basic changes or refinements were made; this is the result of the very specific use to which they were put. The minor variations were generally determined by the current style (for a specific period) as found at each site. The bowls from Tell Jemmeh and Kahun are not usual, being merely imitations in pottery of stone spinning-bowls; such bowls do appear side-by-side with ceramic examples, as at Kahun and el-Amarna.

The number of interior handles, which determines the use of the bowls, is not constant; the dominant type has two. The handles lie on one axis and are usually joined, giving them added strength (see e.g. Figs. 1:3-7; 2:2-4; 3:2-4). Occasionally, the handles are not joined or there is an actual gap between them; this occurs both in stone and in pottery (e.g. Fig. 2:1). The single-handled type is quite rare (in pottery, at Tell Jerishe, and in stone, at Kahun). Bowls with three interior handles, joined and on a single axis, both in stone and in pottery, have been found so far only at Deir el-Medineh. A spinning-bowl, with four interior handles, arranged in two parallel pairs, found at Beth-Shean, is unique (Fig. 1:12).

USE OF THE SPINNING-BOWLS

Many theories have been proposed as to the use of these bowls; it has been suggested that they are lamps,³⁸ lids,³⁹ and spinning-bowls.⁴⁰ The first two

³⁸ Peet and Woolley consider the possibility that these bowls were used as lamps; see *op. cit.* (above, n. 31), p. 137.

³⁹ Macalister defined such bowls from Gezer as lids (see above, n. 1); Fitzgerald (see above, n. 7) disputes this, pointing out that their diameter and depth are not suitable for lids. For a much later (seventh century B.C. ?) single-handle bowl, which may truly be a lid, see W. M. F. Petrie: *Ebnasya*, London, 1905, Pl. XXXIII:124.

⁴⁰ Peet and Woolley (see above, n. 31) note the possibility that these bowls were used in spinning. Mrs. Crowfoot points out that the bowls with interior handles found in Egypt were intended for use as spinning-bowls, though, according to her, 'clinching evidence' for this is lacking. (See Grace M. Crowfoot: *Methods of Hand Spinning in Egypt and Sudan*, Halifax, 1931, p. 27.) Nagel

suggestions do not explain the interior handles, or the grooves on their undersides. The grooves were brought about by the continuous friction of the threads strung through the handles. This detail, as well as others peculiar to this type of bowl, can be explained only by the theory that the vessels are spinning-bowls. To ascertain the precise use of these bowls within the spinning process, we must turn to certain Egyptian wooden models and tomb-paintings, which are the main source for any study of spinning and weaving in Egypt and, indirectly, in Palestine in ancient times.

The relevant wall-paintings are found in the tombs of Beket, Kheti, and Khnum-hetep at Beni Hasan, in the tomb of Thuti-hetep at el-Bersheh, and in that of Daga at Thebes. All these tombs date from the 12th Egyptian dynasty. From the 18th dynasty, we have only one spinning scene, in a wall-painting from the tomb of Thuti-nefer at Thebes. Equally interesting are three wooden models of spinning and weaving workshops. The largest and best-preserved comes from the tomb of Meket-Rē' at Thebes, dating from the 11th dynasty. A second smaller model was found near Gergeh (upper Egypt) and stylistically is to be dated to the 12th dynasty. The third model, the smallest of the three, comes from the tombs at Beni Hasan and dates from the 11th-12th dynasties.

We shall now proceed to reconstruct the spinning process, and the particular uses and types of spinning-bowls through their depiction in wall-paintings and models.

The wall-painting in the tomb of Kheti⁴¹ (Fig. 4) shows the three main spinning techniques used in ancient Egypt;⁴² these, with variations, appear in all the spinning scenes with which we shall deal. The three main techniques are those making use of:—

(1) the suspended spindle (Fig. 4, left): the spinner draws the thread from the coil before him;

(2) the supported spindle (Fig. 4, middle): the spinner draws the thread from a bowl standing before him and rolls the spindle on his thigh;

deals extensively with these bowls and their identification as spinning-bowls (see above, n. 35). He calls them 'mouilloirs'—moistening bowls, after the bowls used today for wetting threads being spun (see also below, n. 42). Larsen follows him (see above, n. 28), mentioning, in addition, several examples from Palestinian excavations.

⁴¹ P. E. Newberry: *Beni Hasan*, II, London, 1893, Pl. XIII. For an accurate description, see Crowfoot, *op. cit.* (above, n. 40), pp. 15, 24, and Fig. 3.

⁴² For ancient spinning techniques, see Grace M. Crowfoot, apud C. Singer, edit.: *A History of Technology*, I, Oxford, 1954, pp. 424-425.

(3) the grasped spindle (Fig. 4, right): the spinner draws the thread, which issues from a bowl before him, through a forked stick and down to a spindle which is revolved with both hands. This technique generally shows the doubling of several threads into one.⁴³

The following points are of special interest to us:—

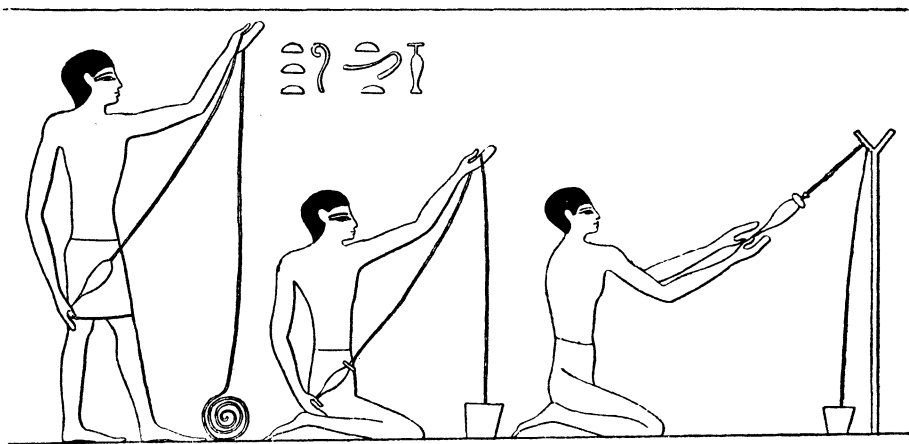


Fig. 4. Wall-painting in the tomb of Kheti at Beni Hasan showing different spinning techniques.

(a) The depiction of the bowls is schematic, and it is therefore extremely difficult to identify the types intended by the artist. The straight walls and the flat bases are reminiscent of the bowls from Kahun (see above, p. 101), though the proportions differ.

(b) In the supported spindle technique, only one strand is being drawn from the bowl in this scene. It is possible that this is the case of a bowl with a single interior handle.

In the tomb of Thūti-ḥetep at el-Bersheh, three spinners are depicted (Fig. 5),⁴⁴ each drawing a thread from a bowl behind her.⁴⁵ The left-hand spinner is standing on a raised platform, enabling her to spin as long a thread as possible. Behind each spinner sits another woman who prepares the threads

⁴³ See Crowfoot, *op. cit.* (above, n. 40), p. 19: 'The doubling is sometimes done from two balls of single thread, sometimes from one ball of two threads wound loosely together; the wooden yarn is usually moistened before doubling. See also Larsen, *op. cit.* (above, n. 28), p. 31 and Nagel, *op. cit.* (above, n. 35), p. 188.

⁴⁴ Drawing according to Crowfoot, *op. cit.* (above, n. 40), p. 23, Fig. 6. See also P. E. Newberry: *El Bersheh*, I, London, 1894-95, p. 35, Pl. XXVI.

⁴⁵ In the portion of the wall-painting given in Fig. 5, only two spinners are shown.

from a ball of stuff before her. The upper of the two 'preparers' on the left holds the end of the thread which issues from the bundle, and the thread appears to run from the ball into the bowl and thence up to the spinner and her spindle.⁴⁶ The second spinner is pulling on a thread evidently issuing from a ball within her bowl. The following points are to be noted:—

(a) The bowls in this scene are relatively deep and have rounded walls. They are similar to the usual pottery spinning-bowls.

(b) The threads are drawn from the bowls at an angle, so that they rub the rims, seemingly forming oblique grooves similar to those on the bowl from Tell Jemmeh (Fig. 1:7).

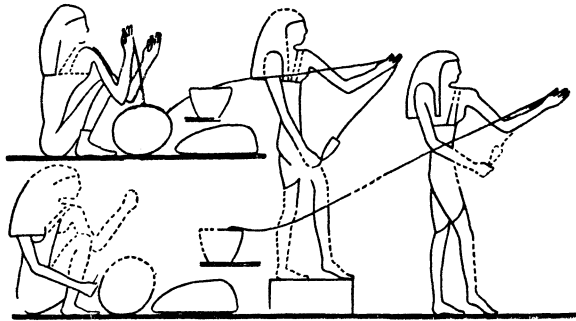


Fig. 5. Wall-painting in the tomb of Thuti-ḥetep at el-Bersheh showing 'preparers' and spinners.

(c) The two techniques here involved are: 1. the normal method; 2. a variation, in which the ball or rove is left outside the bowl and only the thread being spun runs into and again out of the bowl.

One of the most pleasing spinning-scenes is in the tomb of Khnum-ḥetep at Beni Hasan (Pl. 15C).⁴⁷ In this scene, a young woman is spinning with two spindles. The two threads are drawn from two bowls standing before her. Again, we see two modes of use of the spinning-bowl—as a container for the ball or rove, and as a means of providing tension on the thread as it passes from the ball or rove outside the bowl. Three points here are important:—

(1) The two bowls differ in shape and colour. The left-hand one has concave walls and a wide, flat base and is coloured white; in this it closely resembles the

⁴⁶ See Crowfoot, *op. cit.* (above, n. 40), p. 24, who states that the 'preparer' passes the thread through her mouth to moisten it; this, however, does not appear in the scene; it seems that she is merely checking the thread before it passes on to the rove and thence on through the bowl containing water.

⁴⁷ The photograph is published with the kind permission of the Trustees of the Metropolitan Museum of Art, New York. See Crowfoot, *op. cit.* (above, n. 40), pp. 26, 30.

bowls of stone (Pl. 15A, B). The other bowl has rounded walls and is painted red. The shape and colouring are reminiscent of the pottery spinning-bowls. Above (at Kahun, el-Amarna, and Deir el-Medineh), we have seen pottery spinning-bowls found alongside stone ones. From the scene in the tomb of Khnum-ḥetep, we see that both types were used at one and the same time.

(2) The use here of the spinning-bowls corresponds to the two methods distinguished above in the tomb of Thūti-ḥetep. The pottery bowls contained the ball or rove, while the stone bowls were used for tension, the ball or rove being placed outside.

(3) In the Khnum-ḥetep scene, doubling is quite apparent.

The wall-painting in the tomb of Daga⁴⁸ is mostly effaced, though still of great value to our discussion (Fig. 6). The spinner is working with two spindles; the one is hanging from her left hand, while she turns the second on her thigh. Both threads are drawn from a single bowl behind her. The following points are noteworthy:—



Fig. 6. Wall-painting in the tomb of Daga at Thebes showing spinner using a two-handed spinning-bowl.

⁴⁸ N. de Garis Davies: *Five Theban Tombs*, 1913, p. 34 and Pl. XXXVII; Crowfoot, *op. cit.* (above, n. 40), pp. 22-23.

(a) The two threads, definitely distinguishable, are being drawn from one bowl. From this we may surmise that the spinning-bowl is of the two-handled type, each thread passing through a separate handle.

(b) The form of the bowl is closest to that of the stone bowl depicted in the tomb of Khnum-ḥetep.

A relatively complex spinning technique is shown in the tomb of Thūti-nefer⁴⁹ (18th dynasty). Depicted here is an entire spinning and weaving establishment, located in the cellar of Thūti-nefer's house (Fig. 7). To the left of the pillar sits a spinner with a spinning-bowl before her. Two (or three?) threads are being drawn upwards from it, through two rings above. These rings make possible a longer spin, like the split stick shown in the scene in the tomb of Kheti (Fig. 4, right). The threads descend from the rings to the two spindles. The woman is spinning one spindle with both hands—a method that indicates doubling (see above, p. 106, n. 43); this is also evident from the two threads descending to the other spindle, which hangs in mid-air. This scene shows us that:—

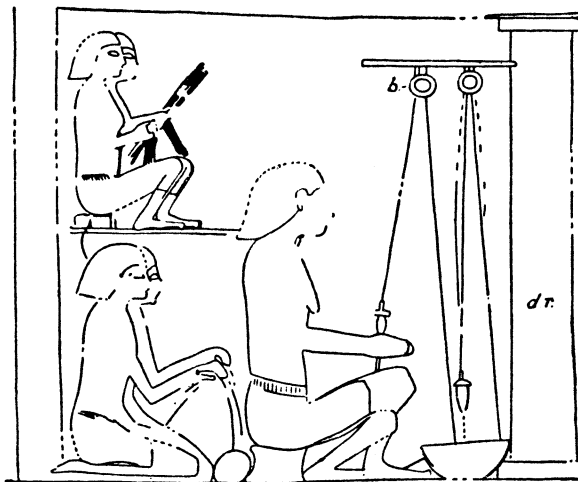


Fig. 7. Wall-painting in the tomb of Thūti-nefer showing spinning and weaving establishment.

(a) the bowl, which is not deep and has curved walls, is very much like pottery spinning-bowls (e.g. Fig. 3:3);

⁴⁹ N. de Garis Davies: *The Town House in Ancient Egypt, Metropolitan Museum Studies*, I, Pt. 2, New York, 1929, p. 234 and Fig. 1a; Crowfoot, *op. cit.* (above, n. 40), pp. 14-16.

(b) the bowl has two interior handles, as is indicated by the two double threads being drawn from it; without two such handles, the threads would become hopelessly entangled, being strung so close together.

The wooden model from the tomb of Meket-Rē' at Thebes (Pl. 16A)⁵⁰ was found quite intact, despite the delicacy of the threads. The model shows, in amazing detail, each stage of the process: preparing the threads, spinning, and finally weaving. Three women, sitting along the wall, are engaged in preparing the threads for spinning. Before each is a pile of raw fibres which they form into roves, later rolled into balls. The next stage is the actual spinning and twining of three roves into one thread. Evidently three balls have been placed in each spinning-bowl, which stands to the side of its spinner. These bowls taper downwards, their walls being very gently curved (Fig. 8). They are painted red



Fig. 8. Drawing of spinning-bowl from the wooden model found in the tomb of Meket-Rē' at Thebes (see Pl. 16A).

⁵⁰ H. E. Winlock: *Models of Daily Life in Ancient Egypt from the Tomb of Meket-Re' at Thebes*, Harvard, 1955, p. 30, Figs. 25-27, 66, and 67. The photograph is published with the kind permission of the Trustees of the Metropolitan Museum of Art, New York.

outside and white on top. Three threads issue from each through a small hole on top to a set of two spindles held by the spinner, each in a different hand. Important to our discussion are the following points:—

(a) In form and colour these bowls most closely resemble the pottery bowls shown in the tomb of Khnum-ḥetep (Pl. 15C).

(b) From the three threads issuing from each bowl, it may be inferred that a three-handled bowl is intended here (cf. Deir el-Medineh—Fig. 3:5, 7).

In a restored model found at Gergeh⁵¹ (12th dynasty—see Pl. 16B), a small weaving shop is shown. The spinner is working with one spindle, drawing a single thread from a cylindrical bowl. Two other bowls of the same type were found together with this model.

In a smaller model from Tomb 575 at Beni Hasan⁵² (11th-12th dynasties), the spinner is working with two spindles. The spinning-bowl, from which the thread issues, stands behind her.

The bowls in these last two models are extremely crude, and little is to be learned as to the types intended by their makers. They are somewhat similar to those depicted in the tomb of Kheti.

CONCLUSION

Upon examining the spinning-bowls found in excavations, in wall-paintings, and in wooden models, we observe that:—

(1) the two major types of spinning-bowls (rounded and straight walls) found in the wall-paintings correspond to actual examples found in excavations in Palestine and Egypt;

(2) pottery and stone spinning-bowls were used side by side, at one and the same time;

(3) the varying number of threads (one, two, or three) drawn from the bowls in the wall-paintings and models indicates the number of handles within the bowls.

⁵¹ This model is on display at the Metropolitan Museum of Art, New York. It is restored in part—the threads are modern. The photograph is published with the kind permission of the Museum Trustees.

⁵² J. Garstang: *Burial Customs of Ancient Egypt*, London, 1907, pp. 132-133 and Fig. 131; Crowfoot, *op. cit.* (above, n. 40), p. 26, Fig. 17. In the photograph appearing in Garstang's publication, a spinning-bowl is to be seen behind the spinner; Mrs. Crowfoot points out that this bowl was subsequently lost and, therefore, does not appear in the illustration given in her booklet.

The bowls were used as:—

- (a) containers for the balls or roves being spun or the threads being twined;
- (b) containers where the threads were wetted or, more generally, twined.

The excellent firing of these bowls made them waterproof.

The interior handles, through which passed the threads (or roves) being spun, served:—

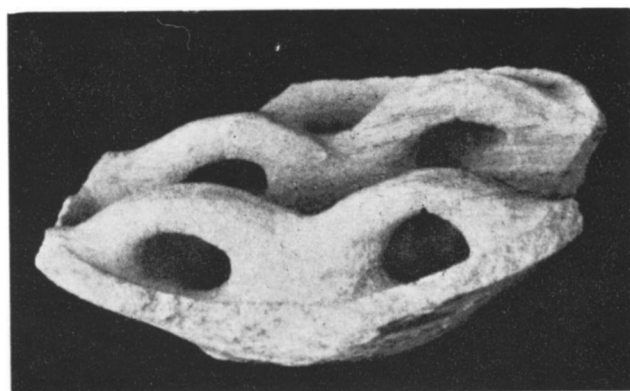
- (a) to secure the ball when placed within the bowl;
- (b) to prevent entanglement of the threads of more than one ball placed in the same bowl;
- (c) to place tension upon the threads being spun (whether the ball of thread was inside or outside the bowl).

In the light of the close connection between the bowls depicted in the Egyptian models and wall-paintings and the bowls themselves found in the excavations, the detailed examination of this material yields much useful information on the spinning processes used in Palestine from the Late Bronze Age to the seventh century B. C. Direct illustrative material on these processes is wholly lacking so far.

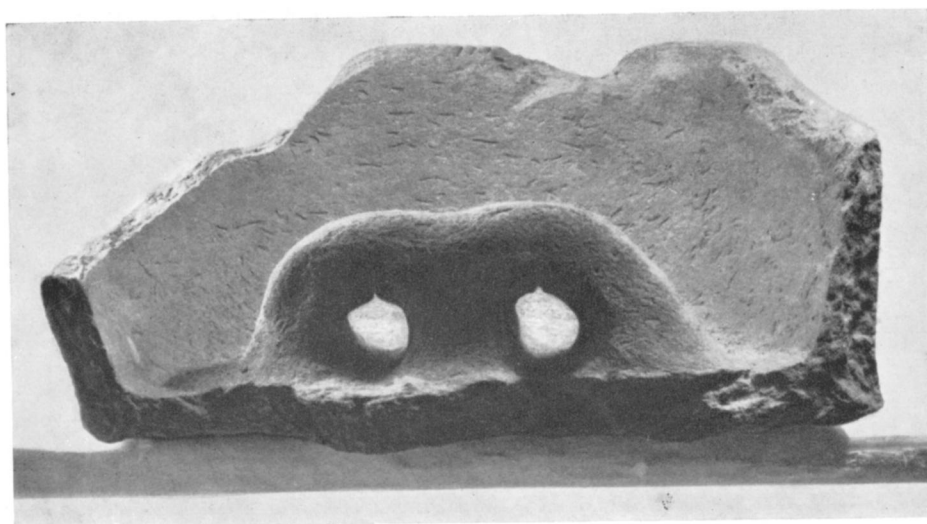
PLATE 14



A: Tell Qasile.



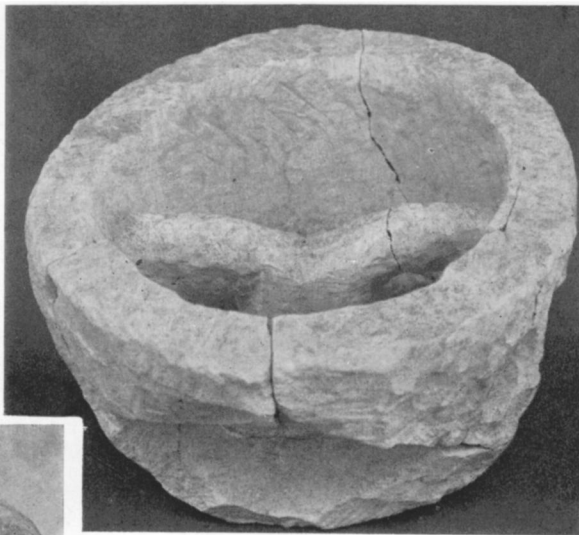
B: Beth-Shean.



C: Tell Jemmeh.

SPINNING-BOWLS

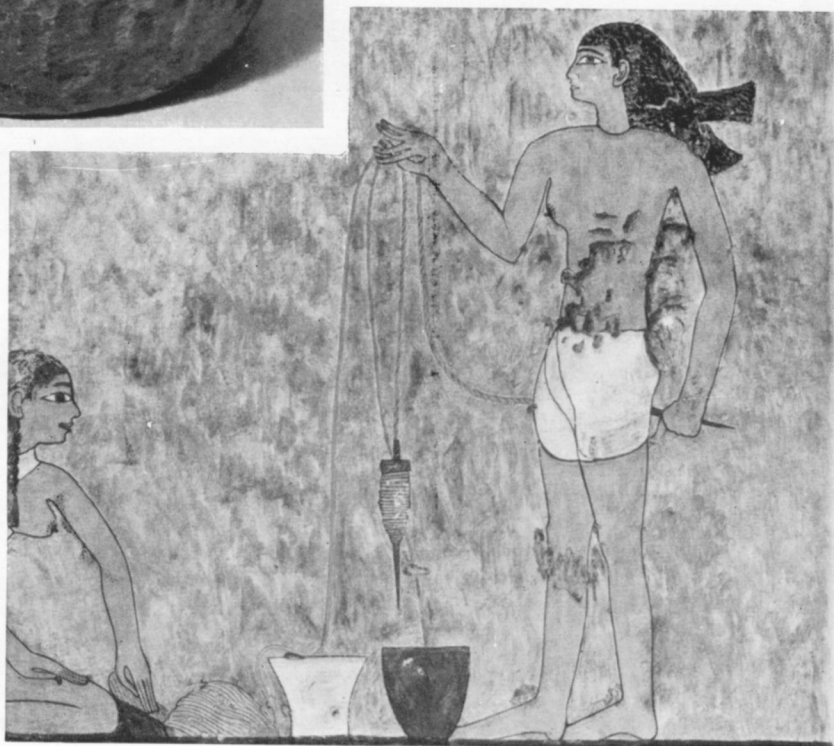
A



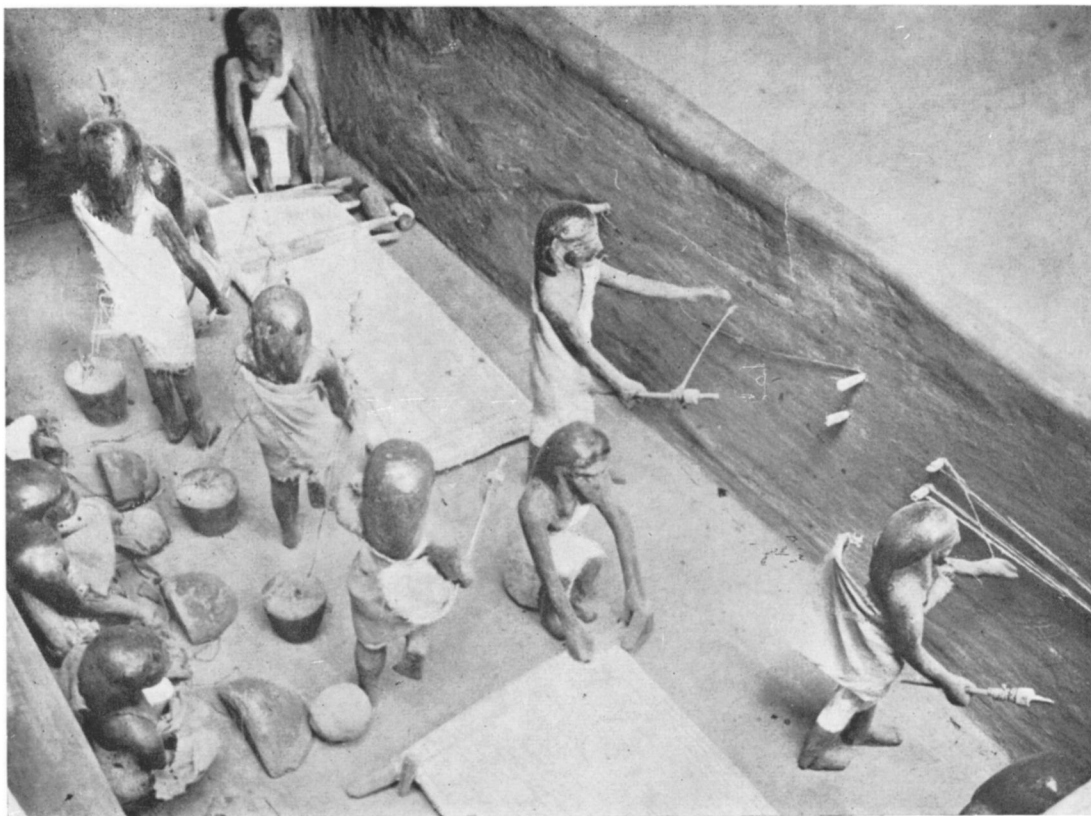
A, B: Stone bowls from Lisht, Egypt.



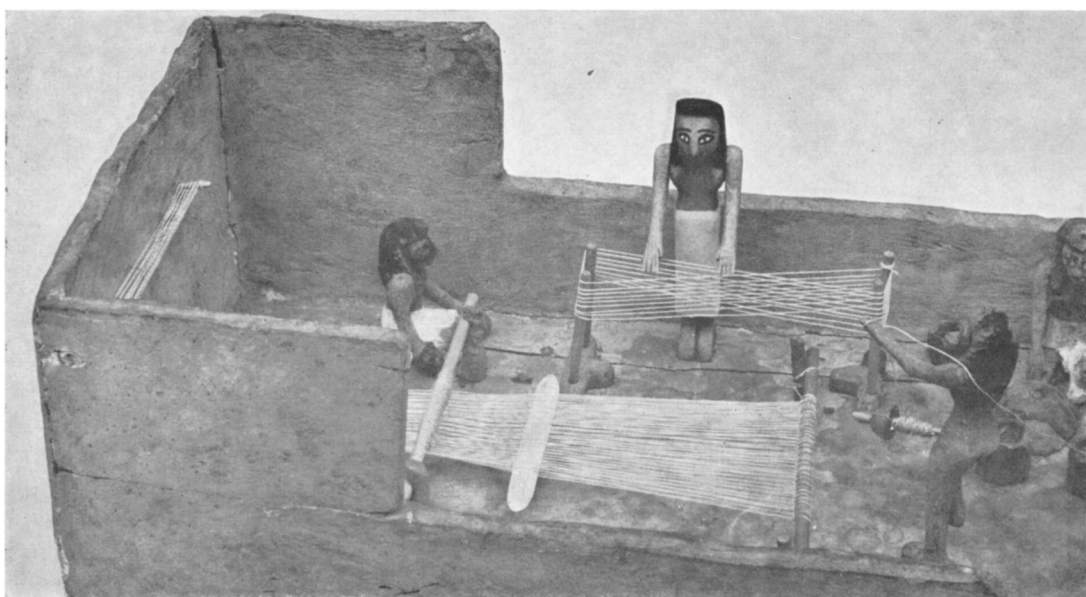
B



C: Detail from wall-painting, tomb of Khnum-hotep, Beni Hasan.



A: Model from the tomb of Meket-Rē', Thebes.



B: Model from a tomb at Gergeh, Upper Egypt.