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Salima Ikram, María J. Lopez-Grande

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Three Embalming Caches from Dra Abu el-Naga

SALIMA IKRAM, MARÍA J. LÓPEZ-GRANDE

EMBALMING caches provide significant information concerning the mummification process. Although several embalming deposits have been found in the past, many have been incompletely documented, save for some notable examples, such as those excavated and/or recorded by H. E. Winlock.¹ It is only recently that such deposits have been given their due.² Proper recording of the caches, their locations, and contents will prove an invaluable aid

M.-J. López-Grande was responsible for the analysis of the ceramics, while S. Ikram's focus was on the phenomenon of embalming deposits and their contents. The translations in the article were provided graciously by Andrés D. Espinel. The authors are grateful to J.M. Galán, for inviting them to participate in the mission, and to the SCA for their cooperation.

¹ H.E. WINLOCK, "Excavations at Thebes", *BMMA* 17, 12/2, dec. 1922, p. 19-48; *id.*, "The Museum's Excavations at Thebes", *BMMA* 19, 2, dec. 1924, p. 3-33; *id.*, "The Egyptian Expedition 1927-1928, the Museum's Excavations at Thebes", *BMMA* 23, 2/2, feb. 1928, p. 3-8; *id.*, "A Late Dynastic Embalmer's Table", *ASAE* 30, 1930, p. 102-104; *id.*, "The Museum's Excavations at Thebes 1930-1931", *BMMA* 27, 3/2, march 1932, p. 4-37; *id.*, *Materials used at the Embalming of King Tut-Ankh-Amun*, *Papers*, *MMA* 10, 1941.

² C. BEN AMAR, *Balsemingscaches in het Oude Egypte: Catalogus van alle caches, analyse van hun inhoud en hun rol in het mummificatieproces*, unpublished dissertation, Katholieke Universiteit, Leuven, 2006-2007; D. BICKERSTAFFE, "Embalming Caches in the Valley of the Kings", *KMT* 18, 2, 2007, p. 46-53; M. EATON-KRAUSS, "Embalming Caches", *JEA* 94, 2008, p. 288-292; K. MYŚLIWIEC, *Keramik und Kleinfunde aus der Grabung im Tempel Sethos' I. in Gurna*, *ArchVer* 57, 1987, p. 54-63; D.A. ASTON, B.G. ASTON, *Late Period Pottery from the New Kingdom Necropolis at Saqqara*, *ExcMem* 92, 2010; Kv. SMOLÁRIKOVÁ, "Some Remarks on Embalmers' Caches from the Saite-Persian Cemetery at Abusir," in H. Györy (ed.), *Aegyptus et Pannonia III*, Budapest, 2006, p. 261-270; *ead.*, "Embalmer's Deposits of the Saite Tombs at Abusir", *GM* 223, 2009, p. 79-88; J. BUDKA, "Deponierungen von

Balsamierungsmaterial und Topfnester im spätzeitlichen Theben (Ägypten). Befund, Kontext und Versuch einer Deutung," in J. Mylonopoulos, H. Roeder (eds.), *Archäologie und Ritual. Auf der Suche nach der rituellen Handlung in den antiken Kulturen Ägyptens und Griechenlands*, Vienna, 2006, p. 85-103; O.J. SCHADEN, "Mystery Tomb Found in the Valley of the Kings: A Preliminary Account of KV 63's Surprising Discovery," *KMT* 17, 2, 2006, p. 28-32; E. ERTMAN *et al.*, "Unraveling the Mysteries of KV 63," *KMT* 17, 3, 2006, p. 18-27; O.J. SCHADEN, "KV 63: An Update. The Final Stages of Clearances," *KMT* 18, 1, 2007, p. 16-25; M. GABOLDE, "Some Remarks on the Embalming Caches in the Royal Necropolis at Thebes and Amarna," in T. el-Awady (ed.), *Proceedings of the Valley of the Kings Conference*, Cairo, in press. I am most grateful to Dr Gabolde for providing me with a copy of his paper prior to its publication.

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in understanding the evolution of the mummification process over time, and also elucidate religious beliefs concerning the preservation of the detritus from the activity itself.

The Spanish-Egyptian Mission at Dra Abu el-Naga, directed by José M. Galán, excavated three embalming deposits in their concession, an area consisting of the two Eighteenth Dynasty tombs TT 11 and TT 12 and their environs.³ Deposits 1 and 2 were found during the 2003 and 2004 seasons, in the debris above the tomb of Hery (TT 12), which is dated to the reign of Amenhotep I.⁴ Deposit 3 was found during the 2006 season in the courtyard of TT 11, the tomb of Djehuty, dating to the reign of Hatshepsut. The courtyard area had been reused several times, as is attested by the many chronologically varied artefacts, burials, and funerary deposits, both complete and fragmentary, that were found here during its clearance.⁵ The three embalming deposits discussed here are of a much later date than the rock-cut tombs themselves, as it is attested by the associated pottery, and are part of the history of the re-use of these sepulchres and their surroundings.

Deposit 1

A little to the west, above the entrance to the tomb of Hery, excavators unearthed an almost rectangular pit (fig. 1), measuring one meter and twenty centimetres north-south, one meter east-west, and one metre deep. This pit was partially excavated at the end of 2003 season and completely cleared during the following year. It contained an assemblage of three jars, associated fragments of linen cloth, and funerary garlands. The jars contained natron, stained bandages, and a few fragments of plant material. Clearly, these were the remains of an embalming deposit.

The Jars

[TABLE 1]

The jar 1.a (registration number 15G UE 1014-1, fig. 2a) was found in a fragmentary state over the course of two seasons, and was restored from sherds. Restorations showed that it was an ovoid-bodied storage jar with a rounded base, rolled rim, short neck, sloping shoulders, with a marked carination between shoulders and body (L 47.5 cm; maximum W 33 cm; D 10 cm). It was made of Nile B2 clay, with a smooth outer surface coated with a whitish slip or wash. A small part of the base remained uncoated, indicating that the jar had been placed on the

³ J.M. GALÁN, "The Tombs of Djehuty and Hery (TT 11-12) at Dra Abu el-Naga," in J.-Cl. Goyon, Chr. Cardin (eds.), *Proceedings of the Ninth International Congress of Egyptologists*, OLA 150, 2007, p. 777-787; J. M. GALÁN, "Early Investigations in the Tomb-Chapel of Djehuty (TT 11)," in D. Magee, J. Bourriau, St. Quirke (eds.), *Sitting beside Lepsius: Studies in Honour of Jaromír Malek at the Griffith Institute*, OLA 185, 2009, p. 155-181; J.M. GALÁN, "Excavations at the Courtyard of the Tomb of Djehuty

(TT 11)," in P. Kousoulis (ed.), *Tenth International Congress of Egyptologists*, OLA, in press.

⁴ J.M. GALÁN, *op. cit.*, OLA 150, 2007, p. 777-778.

⁵ J. M. GALÁN, Fr. L. BORREGO, "Funerary Cones from Dra Abu el-Naga (TT 11-12)," *Memnonia* 17, 2006, p. 195-208, pl. 33-39. M.-J. LÓPEZ-GRANDE, E. DE GREGORIO, "Two Funerary Pottery Deposits at Dra Abu el-Naga," *Memnonia* 18, 2007, p. 145-156, pl. 31-35; *id.*, "Pottery vases from a deposit with flower

bouquets found at Dra Abu el-Naga", in P. Kousoulis (ed.), *op. cit.*; A. FAHMY, J.M. GALÁN, R. HAMDY, "A Deposit of Floral and Vegetative Bouquets at Dra Abu el-Naga (TT 11)," *BIFAO* 110, 2010, p. 73-89; G. MENÉNDEZ, "Figured Ostraca from Dra Abu el-Naga (TT 11-12)," *SAK* 37, 2008, p. 259-275; J.M. GALÁN, "Seal Impressions from the area of TT 11-12 in Dra Abu el-Naga", *Memnonia* 19, 2008, p. 163-178, pl. 25-31; *id.*, *op. cit.*, OLA 150, 2007, p. 777-778.

ground and painted hastily. The jar's body is marked by rope impressions around its main part, intended not as a decorative effect, but to give support whilst drying. This kind of jar, together with a more elongated type (see below), is relatively common in embalming deposits of the Late Third Intermediate and Saite Periods in Thebes.⁶ According to its shape and fabric this ovoid-bodied storage jar corresponds to Aston's phase III S, Group 28, Type d, datable to the 8th - 7th centuries BC,⁷ Seiler's Type A, with the same date,⁸ and Budka's Type B,⁹ dated slightly later, to the 7th - 6th centuries BC. Such jars have also been documented from non-embalming contexts in the area of Dra Abu el-Naga, at el-Birabe.¹⁰

Vessel 1.b was also found broken into pieces and could not be completely reassembled, although a sufficient number of sherds were present for a reconstruction of its profile (registration number 15G UE 1014-2). It was similar in shape and fabric to jar 1.a, although its dimensions are different (L 36 cm, maximum W 26 cm, mouth D 9.7 cm).¹¹ It was an ovoid-bodied storage jar made of Nile B2 with a short modulated neck with indicated lip (fig. 2b); the base is lost. Its mouth was stopped with a silt beaker (1.b.i) with a direct rim and ledge base that fitted into the jar mouth. This was covered with a sealing round domed mud seal (fig. 3).¹² The outer surface of jar 1.b, like that of jar 1.a, had string/rope impression, and was covered with a whitish slip/wash (as there was no base, it was not possible to judge if that had been left unpainted, as was the case with jar 1.a). A crude thick white spiral decoration was painted vertically coiled around the jar. The jar has been dated, as was the first one, to the 8th - 7th centuries BC. The same date should also be given to the silt beaker used to seal the jar (1.b.i), as parallels are found that date from the later Third Intermediate Period into the Late Period.¹³ Although jar 1.b was found empty, pieces of linen cloth and garlands that probably were its original contents were found scattered nearby.

6 D. POLZ, "Bericht über die 2. und 3. Grabungskampagne in der Nekropole von Dra' Abu el-Naga/Theben-West," *MDAIK* 49, 1993, 229, fig. 2; H. GUKSCH, *Die Gräber des Nacht-Min und Men-cheper-Ra-Seneb, Theben Nr. 87 und 79, ArchVer* 34, 1995, p. 108-110, fig. 50, e; D.A. ASTON, *Egyptian Pottery of the Late New Kingdom and Third Intermediate Period (Twelfth–Seventh Centuries B.C.). Tentative Footsteps in a Forbidding Terrain*, *SAGA* 13, 1996, p. 50-52, fig. 16I, 16A, p. 60-61; Fr. JANOT, *Les instruments d'embaumement de l'Égypte ancienne*, *BdE* 125, 2000, p. 118, fig. 31 A; D.A. ASTON, "The Theban West Bank from the Twenty-fifth Dynasty to the Ptolemaic Period," in N. Strudwick, J.H. Taylor (eds.), *The Theban Necropolis. Past, Present and Future*, London, 2003, p. 153-154, fig. 10, nos 78I, 792, 793, 807-808, 810-811; P.J. ROSE, "Ceramics from New Kingdom Tombs: Recording and Beyond," in N. Strudwick, J.H. Taylor

(eds.), *op. cit.*, p. 203-204; K. MYŚLIWIEC, *op. cit.*, 1987, p. 25-26, 54-56, nos 352-357; J. BUDKA, *op. cit.*, p. 85-101; M. LÓPEZ-GRANDE, E. DE GREGORIO, *op. cit.*, 2007, p. 145-149.

7 D.A. ASTON, *Egyptian Pottery*, *op. cit.*, 1996, p. 76, fig. 220 d; *id.*, *The Theban Necropolis*, *op. cit.*, 2003, p. 155; *id.*, *The Pottery, Untersuchungen im Totentempel des Merenptah in Theben IV*, Mainz am Rhein, 2008, p. 357, 360, nos 2955-2958.

8 A. SEILER, "Die spätzeitliche Keramik," in D. Polz *et al.*, "Bericht über die 9. bis 12. Grabungskampagne in der Nekropole von Dra Abu el-Naga/Theben-West", *MDAIK* 59, 2003, p. 364, fig. 19, 1.

9 J. BUDKA, *op. cit.*, p. 92, fig. 6 c.

10 W. G. S. S. COMPTON, W. SPIEGELBERG, P. E. NEWBERRY, *Report on Some Excavations in the Theban Necropolis during the Winter of 1898-9*, London, 1908, p. 40, pl. XXXI, third row.

11 D.A. ASTON, *Egyptian Pottery*, *op. cit.*, 1996, p. 76, 220 c; J. BUDKA, *op. cit.*, fig. 6, b.

12 C. HOPE, *Jar Sealings and Amphorae of the 18th Dynasty. A Technological Study*, *Egyptology Today*, 2, *Malkata and the Birket Habu 1971-1974*, 5, Warminster, 1978, p. 26, fig. 6.

13 K. MYŚLIWIEC, *op. cit.*, 1987, p. 59, no 377; H. GUKSCH, *Die Gräber des Nacht-Min und Men-cheper-Ra-Seneb*, 1995, p. 108-110, fig. 51, a; D.A. ASTON, *Egyptian Pottery*, *op. cit.*, 1996, p. 37-38, figs. 81, 13P, 13S; G. LECUYOT, "La céramique de la Vallée des reines. Bilan préliminaire," *CCE* 4, 1996, p. 153, fig. 2; D. A. ASTON, *Elephantine XIX. Pottery from the Late New Kingdom to the Early Ptolemaic Period*, *ArchVer* 34, 1999, p. 168, p. 50, n. 1573; A. SEILER, *op. cit.*, p. 363-364, fig. 18 (ZN 99/35); P. ROSE, *op. cit.*, p. 203-204.

Jar I.c is a tall, elongated vessel with rounded base; it flares outward below its middle (registration number 15G UE 1014-3, fig. 2c) (L 55.7 cm; maximum W 25 cm; mouth D 10 cm). It is made of marl A4/1b ware with a whitish pink surface, showing a careful finish. The vase was also found broken into pieces but as all the fragments were present, it could be totally restored. It has a modelled rim which exhibits its marked bend into a series of ridges and furrows, and two small handles (6.54 cm maximum length) crudely attached to the upper part of its body. Both handles had a thick piece of rope made of palm fibre (*Phoenix/Hyphaene*),¹⁴ tied through them. The vessel's outer surface shows thin exterior ribbed lines from its upper part to the end of its base, with a smooth area in the middle of the body. A hieratic graffito in faded black ink was painted here; thus far it has not been deciphered. Other embalming caches have yielded inscribed jars, some bearing names, presumably of their owners, or labels indicating their contents.¹⁵ According to its shape and fabric this jar corresponds to Budka's Type D,¹⁶ and Seiler's Type C,¹⁷ and can be dated to the middle of the 7th century – 6th century B. C.¹⁸ As with jars I.a and I.b of this deposit, this vessel type has also been found in tombs.¹⁹ The jar was empty save for a handful of chaff of grain of barley (*Hordeum vulgare*) and wheat (*Triticum aestivum sub. Hybernum Tellez var. Iustecens Alef*) adhering to one of its interior walls.

Taking all the ceramics into consideration, the deposit can be dated to the late 7th century BC.

Jar	Clay	Shape	Decoration	Slip/wash	Height	Mouth D
I.a	Nile B2	Ovoid	Rope impression	√	47.5	10
I.b	Nile B2	Ovoid	Spiral, rope impression	√	36	9.7
I.b.i	Silt	Bowl as lid	None	X	0	
I.c	A4/1b	Long; handle L. 6.54	Inscription	X	55.7	10
2.a	Nile B2	Ovoid	Spiral, rope impression	X	41.6	10.7
2.b	A4/1b	Long; handle L. 3.53	None	X	50.5	8
2.c	A4/1b	Long; handle L. 2.94	Inscription	X	57	11
3.a	Nile B2	Sausage	Diagonal lines in white slip	white slip	42.2	10
3.b	Nile B2	Long	None	√	49.6	12
3.c	Nile B2	Ovoid	None	√	28	10

Table 1. List of all the jars (measurements in centimetres).

¹⁴ Identifications of all archaeobotanical materials by Dr Ahmed Fahmy.

¹⁵ There are many such finds; examples can be found in W. G. S. S. COMPTON, W. SPIEGELBERG, P.E. NEWBERRY, *op. cit.*, p. 25; Kv. SMOLÁRIKOVÁ, *op. cit.*, p. 79-88; *ead.*, "Embalmer's Caches in the Shaft Tombs at Abu Sir," *EgArch* 36, 2010, p. 33-35.

¹⁶ J. BUDKA, *op. cit.*, p. 92, fig. 6, f.

¹⁷ A. SEILER, *op. cit.*, p. 366, fig. 19, 3.

¹⁸ D.A. ASTON, *The Pottery*, 2008, p. 358, 361, n. 2976-2978; K. MYŚLIWIEC, *op. cit.*, 1987, p. 60, nos 397, 399; H. GUKSCH, *op. cit.*, p. 108-110, fig. 50, f; A. SEILER, *op. cit.*, p. 365-366, fig. 19, 3; G. SCHREIBER, *The Mortuary Monument of Djehutymes II, Finds from the New Kingdom to the Twenty-sixth Dynasty, StudAeg Series Maior* 2, 2008, p. 72-74, pl. LXXI, 71, suggests a slightly earlier date.

¹⁹ L. HABACHI, "Clearance of the Tomb of Kheruef at Thebes (1957-1958)", *ASAE* 55, 1958, p. 333, pl. V a, 13; H. GUICHARD, V. ASENSI AMORÓS, "Nécropole de la Troisième Période Intermédiaire sur l'allée processionnelle nord: deux nouvelles concessions funéraires," *Memnonia* 18, 2007, p. 93-98, fig. 7, APN 13/44.

The Jar Contents

The only jar that still contained anything was jar I.a. Its base, recovered complete, was filled with a large amount of heavy, moist linen cloth measuring 55 × 70 cm and weighing 2005 g had been pushed down into the vessel (fig. 4). It is possible that the moisture was derived from the soil and the periodic rains that occur in Thebes. However, the jar itself did not seem particularly wet. It should be noted that this is not the first time that fluids have been attested in jars excavated from funerary contexts, both from the Theban area and the North. Liquid natron has been found both in canopic and other vessels in tombs and embalming caches.²⁰

Within the linen bundle we discovered a fragment of an acacia pod, bits of (persea?) leaf (maybe from a funerary garland), some palm fibres, a few small chunks of natron, and three broken pieces of insects (unidentifiable securely, but one piece looked like the leg of a dermestid beetle).

The linen bundle was carefully opened. It consisted of a series of bandages and rolled pieces of linen, often quite large, that had been used in the mummification process, and had natron associated with them.²¹ Different qualities of linen were identified, some far finer than others. In total, at least fifty-three different strips of bandage were identified (see Table 2). Most of these were unravelled and measured, with only about seven being left intact. One bandage (G) with a fringe had a brief inscription in black ink on its edge; unfortunately it was illegible.

Bandage	L	W	Remarks
A	75	15	
B	237	7	
C	240	6	
D	200	8	
E	80	7	edge of cloth
F	220	7	edge of cloth
G	65	8	fringe; inscription
H	70	6	
I	68	9	fringe
J	40	9	broken
K	36	8	
L	20	8	broken; edge
M	20	7	broken; edge

Bandage	L	W	Remarks
N	47	3	
O	210	10	edge of cloth
P	81	34	soft
Q	57	8	fringe; broken edge
R	58	7.5	
S	169	8	broken; edge
T	149	7.5	edge of cloth; nice
U	67	10	natron inside
V	148	5	edge of cloth
W	90	6.3	edge of cloth
X	170	7	
Y	74	7	
Z	86	5.5	edge of cloth

Table 2. List of bandages from Deposit I (measurements in centimetres) (to be continued).

²⁰ FR. JANOT, *op. cit.*, p. 108-109, n. 123-125; G. A. REISNER, W. S. SMITH, "The Household Furniture of Queen Hetep-Heres I," *BMFA* 27, no. 164, Dec. 1928, p. 80-81; G. A. REISNER, *A History of the Giza Necropolis II. The Tomb of Hetep-Heres, the Mother of Cheops: a*

Study of the Egyptian Civilization in the Old Kingdom, Cambridge, 1955, p. 21-22; M. LEHNER, *The Pyramid Tomb of Hetep-Heres and the Satellite Pyramid of Khufu*, *SDAIK* 19, 1985, p. 30-31; Tomb 8, as mentioned in G. BRUNTON, *Labun I. The Treasure*, *BSAE* 27, 1920, p. 20;

A. LUCAS, "The Use of Natron in Mummification", *JEA* 18, 1932, p. 125-140; *id.*, *Ancient Egyptian Materials and Industries* (4th edition, revised by J.R. Harris), 1962, p. 271, 278-303.

²¹ This is a tentative analysis based on a visual and gustatory test.

Bandage	L	W	Remarks
AA	70	7	
BB	136	4.5	fringe; nice edge
CC	78	9	broken
DD	39	11	broken?
EE	33	10	
FF	235	8	
GG	220	7	
HH	240	7	we unrolled this one; fringe
II	133	10	
JJ	137	9	
KK	89	7	edge of cloth; part of LL?
LL	69	7	edge of cloth; part of KK?
MM	73	8	
NN	60	10	
OO	74	7	
PP	73	10	

Bandage	L	W	Remarks
QQ	86	5.5	fringe; cut
RR	99	11	fringe
SS	70	7.5	edge of cloth
TT	57	5	
UU	199	8	edge of cloth
VV	21	41	lump
WW	51	4	
XX	20	33	
YY	32	41	inside XX
ZZ	66	48	inside YY
AAA	147	5	
1	not done		natron/resin
2	unclear	7	wadded up
3	not done		hard and brittle
4	not done		tiny lump
5	not done		lump of bandage

Table 2. List of bandages from Deposit 1 (measurements in centimetres) (*end*).

Deposit 2

The second deposit (Deposit 2) was also located above the entrance of Hery's tomb (TT 12), about two metres to the south of the pit where Deposit 1 was found (fig. 1). It is unclear as to whether this was a separate deposit totally unrelated to Deposit 1, or if it was part of it. It might have occurred as a second depositional event not greatly separated in time from the first, but reflective of different phases of mummification; certainly texts from embalming cache vessels would suggest a sequence of events that might require a series of deposits.²² It was uncovered in the course of the excavation seasons of 2003 and 2004. The deposit was not buried in a proper pit, but in a conglomerate of dust, fragmentary limestone chips, yellowish sand, and occasional pebbles. It consisted of three jars whose shapes are similar to the vessels of Deposit 1. These broken jars were also associated with fragments of linen, garlands, and small linen bags filled with natron.

The Jars

[TABLE 1]

Jar 2.a is an ovoid-bodied handle-less storage jar with a short neck with indicated lip and a rounded base that is partially lost (L 41.6 cm; W 32.4 cm; mouth D 10.7 cm). It was made of Nile B2 clay, with a smooth outer surface showing impressions of rope, and painted with a thick white spiral decoration (15G UE 1014 Exterior-1 (III), fig. 5a). The jar was still sealed when it was found, its mouth tightly filled with a wad of linen cloth, covered with a thick

²² Kv. SMOLÁRIKOVÁ, in H. Györy (ed.), *Aegyptus et Pannonia* III, 2006, p. 261-270; *ead.*, *GM* 223, 2009, p. 79-88.

irregular layer of mud (fig. 6) that served as a sealing.²³ According to its shape and fabric, it corresponds to Aston's phase III S, Group 28, Type d, datable to the 8th - 7th centuries BC,²⁴ Seiler's Type A, with the same date,²⁵ and Budka's Type B,²⁶ dated to the 7th - 6th centuries BC.

Jar 2.b was broken, but was easily restored, save for the base. It is tall and elongated, and bulges outward below its middle (L 50.5 cm; maximum W 24.7 cm; mouth D 8 cm). It is made of marl A4/1b with whitish pink surface and careful finish (15G 1014 Exterior-2, fig. 5b). The rim is modelled, and segues into the surface that is defined by a series of ridges and furrows. The outer surface of the vessel shows a careful finish with thin exterior ribbed lines clearly defined in the upper and lower parts of its body, but not in the middle where the surface is smooth. It has two small handles, each with a maximum length of 3.53 cm. Both of these are crudely joined to the upper part of the body. A fragment of rope, possibly made of palm (*Phoenix/Hyphaene*) fibre, is still tied through one handle. This vessel is quite similar to jar 1.c (fig. 2c) and is well attested in embalming pottery deposits in the Theban area dated from the late Third Intermediate to Saite Periods, i.e., second half of 7th century to early 6th century BC. The shape and fabric of this jar correspond to Seiler's Type C, Budka's Type D,²⁷ and Aston's phase III S.

Fragments of another quite similar jar of marl A4/1b (jar 2.c) were uncovered in the same area, probably belonging to this deposit (15G 1014 Exterior-3, fig. 5c). Part of the body of this jar is lost but its remains show a careful finish with a greenish outer surface and thin ribbed lines in the exterior of the upper part of its body and in the preserved sherds of its base (L 57 cm; maximum W 25 cm; mouth diameter 11 cm). It has two small handles, each with a maximum length of 2.94 cm. The jar's body is inscribed with a hieratic graffito in faded black ink; apparently the text is the same as the one inscribed on jar 1.c of Deposit 1. Neither text is translatable so far but, keeping in mind their brevity, they probably refer to the jar's contents. The jar's shape and fabric correspond with Seiler's Type C, Budka's Type D,²⁸ and Aston's phase III S, datable to the 7th - 6th centuries BC. A late 7th century date is more probable, as it is the case for Deposit 1.

The Jar Contents

The only vessel with intact contents was jar 2.a. It was filled with fragments of funerary garlands (persea and also perhaps willow leaves), and fifteen small bags of linen (figs. 7, 8), all of which were originally filled with natron – three are now empty as the linen had split and the natron drained away. The bags are made, for the most part in the same manner. A pile of natron was placed in a linen square, its four corners were gathered together, and then each bag was secured with another small narrow strip of linen that was wound around it, at least twice, before being tied in a square knot. All the knots looked the same, which would suggest the same hand. The average weight of each bag was 120 g, and their diameters ranged between 7 and 11 cm. Such bags are commonly used to desiccate the interior of the body during mummification. None of these, however, seem to have been used, as the natron is still

²³ The Cap Shaped Type, according to C. HOPE, *op. cit.*, p. 26, fig. 6.

²⁴ D. A. ASTON, *Egyptian Pottery*, 1996, p. 76, fig. 220 d; *id.*, in N. Strudwick,

J. H. Taylor, (eds.), *The Theban Necropolis*, 2003, p. 155.

²⁵ A. SEILER, *op. cit.*, p. 364, fig. 19, 1.

²⁶ J. BUDKA, *op. cit.*, p. 92, fig. 6 c.

²⁷ *Ibid.*, p. 92, fig. 6f.

²⁸ *Loc. cit.*

loose and shows none of the solidity or staining that are the hallmarks of used natron. It is also possible that these were used right at the end of the desiccation process when the body cavity was already fairly dry.²⁹

Close to jar 2.b excavators found four small linen bags originally filled with natron, similar to those found in 2.a. One was broken and could not be measured, but the remaining ones were 10, 11, and 13 cm in diameter. They too were tied with linen strips, as were the ones in jar 2.a, the knots once again suggesting the same manufacturer.

Deposit 3

The cache was found in 2006 and consisted of two pits only separated from each other by 30 cm; they are dug into the *reddim* near the northeast sidewall of the courtyard of the tomb of Djehuty, TT 11 (fig. 1). In Pit A the excavators found two fragmentary jars broken into pieces, placed upside down on the ground, resting on their mouths (fig. 9a-b), together with their contents: natron, linen, and vegetal fragments. A concentration of fragmentary funerary garlands was located just at the northwest edge of Pit A, and a few natron bags lay along the northeast margin. Pit B contained one jar and a basket, along with detritus similar to that found in Pit A. Despite the separation, it seems as if these were meant as a single deposit rather than embalming deposits from two different burials, although such an interpretation should not be discounted. As there was a significant amount of material, it is probable that it was brought from the embalming house in two shifts or by two different people, and thus these are two parts of the same deposit.

The Jars

[TABLE I]

The two jars unearthed in Pit A are elongated jars made of Nile B2, very hard baked. One of them, jar 3.a (9E UE 72-A1, fig. 9a), corresponds to the so-called “sausage” type: a tall, elongated jar without handles or neck, with a convex rim, wide mouth, and rather prominent shoulders. The lower part of its body and its base were not found. Its outer surface is smooth, uncoated but painted with white slip, applied in a large diagonal cross, perhaps alluding to a linen bandage. Its preserved maximum length is 42.2 cm and the diameter of its mouth is 10 cm. This “sausage” jars type is well known from tombs and embalming caches in western Thebes.³⁰ They correspond with the Phase III S, Group 29 of Aston,³¹ Type B of Seiler,³² and Type A of Budka,³³ and are characteristic of the late 7th – 6th centuries BC. Similar jars were

²⁹ S. IKRAM, “Manufacturing Divinity,” in S. Ikram (ed.), *Divine Creatures: Animal Mummies in Ancient Egypt*, Cairo, 2005, p. 16-43; *ead.*, “Experimental Mummification. From Meadow to Em-baa-lming Table,” in C. Graves-Brown (ed.), *Proceedings of the Conference for Experimental Archaeology, Swansea*, Swansea, in press; Fr. JANOT, *op. cit.*, *passim*.

³⁰ K. MYŚLIWIEC, *Keramik und Kleinfunde ...*, *op. cit.*, 1987, p. 25, 54, nos 352-354; H. GUKSCH, *Die Gräber des Nacht-Min und Men-cheper-Ra-Seneb.*, 1995, p. 108-110, fig. 50, a; D. A. ASTON, in N. Strudwick, J.H. Taylor, (eds.), *The Theban Necropolis*. 2003, p. 151-153, fig. 10, nos 807-808, 810-811; A. SEILER, *op. cit.*, p. 364-365, fig. 19, 2; P. ROSE, *op. cit.*, p. 203-204, fig. 1; J. BUDKA,

op. cit., p. 92; M.-J. LÓPEZ-GRANDE, E. DE GREGORIO, *op. cit.*, p. 146-152, fig. 1, a-d, fig. 2; G. SCHREIBER, *op. cit.*, p. 73, 77-81, pl. LXVII, 23-25; LXXVII, 36-37.

³¹ D. A. ASTON, *Egyptian Pottery*, *op. cit.*, 1996, p. 76, fig. 221, a-b.

³² A. SEILER, *op. cit.*, p. 364, fig. 19, 2.

³³ J. BUDKA, *op. cit.*, p. 92, fig. 6, a.

discovered at el-Birabe, located to the south of Dra Abu el-Naga,³⁴ from a funerary (but not necessarily embalming) context, and have been found in settlement contexts in Lower Egypt and in Thebes.³⁵

Jar 3.b was also fragmentary (9E UE 72-A2, fig. 9b). It is a tall handleless jar of Nile B2, with a convex rim and wide mouth. It has neither prominent shoulders nor neck, and it flares out well below its middle. Its outer surface is smooth, with a whitish-orange slip or wash. Like 3.a, this jar was also found broken into big pieces; part of its lower body and its base are missing (estimated L 49.6 cm; estimated W 24.8 cm; mouth D 12 cm). Its dimensions and shape, with its wide body and fallen shoulder indicate that it is not the typical “sausage” jar. It is closer in shape to a vessel dated by Aston to the second half of the 7th century BC, or a little later,³⁶ which was found in burial pit 9 in the courtyard of the tomb of Ramose (TT 55), during the course of Robert Mond’s excavation. Other examples of tall jars without prominent shoulders and wide lower bodies found in earlier excavations in the Theban area and datable to the last quarter of the 7th century BC are well attested; they seem to have wider mouths than the jars in Pit A.³⁷

Jar 3.c in Pit B associated with the chaff and bits of vegetal material, was an ovoid/globular-bodied jar made of silt, Nile B2, and baked very hard (9E UE 72 B-1; fig. 9c). Its shape and size can be deduced from its remains: it had a complete modulated neck with indicated lip, ovoid body, and a rounded but slightly pointed base (estimated L 28 cm; mouth D 10 cm). These remains correspond to a storage vessel similar to jars 1.a (fig. 2a) and 2.a (fig. 5a), but is rounder, shorter, and with a slightly longer neck. A thick white slip or wash is applied on the smooth outer surface of the neck and lip; a less dense white slip or wash covers the inner surface of these fragments. At its base the outer surface is also smooth, decorated only with a white slip/wash. An interesting parallel was found at Dra Abu el-Naga, also dated to the Saite Period.³⁸ Similar vases with a suggested date ranging from the last quarter of the 7th to the 6th century BC, are known from other excavations in the Theban area.³⁹ This type of slightly smaller round/globular bodied jar, seems to be the Saite version of the Aston’s Group 28 Type d and correlatives Types A and B of Seiler and Budka. The whole deposit, based on the jars, should be dated to the late 7th or early 6th centuries.

The Jar Contents

Pit A contained a variety of objects that are all clearly part of an embalming deposit. Chief among these were 13 bags of natron. The bags were made of square pieces of linen containing a pile of natron with some sand. The edges of the linen were gathered together and then, for most of the bags, tied with another narrow bandage/linen scrap in a square knot. In few bags one of the corners of the linen was wound around the other three and knotted, perhaps

³⁴ W. G. S. S. COMPTON, W. SPIEGELBERG, P.E. NEWBERRY, *op. cit.*, p. 40, pl. XXXI.

³⁵ K. MYŚLIWIEC, *op. cit.*, p. 56, nos 352-354.

³⁶ D.A. ASTON, *op. cit.*, 1996, p. 49, fig. 156, d.

³⁷ D.A. ASTON, in N. Strudwick, J. H. Taylor (eds.), *The Theban Necropolis*, 2003, fig. 10, no 805.

³⁸ A. SEILER, *op. cit.*, p. 366-367, fig. 20, 3.

³⁹ H. GUKSCH, *op. cit.*, p. 109, fig. 50, d, without spiral white decoration;

D.A. ASTON, *Egyptian Pottery*, *op. cit.*, 1996, fig. 159, 10, fig. 161; D.A. ASTON, in N. Strudwick, J. H. Taylor (eds.), *The Theban Necropolis*, 2003, p. 151-153, fig. 10, 786, 790; P. ROSE, *op. cit.*, p. 203-204, fig. 1.

- a. According to *Wb* III 315,1: “hr selten und altertümlich auch von Sachen”.
- b. The t-phonogram is clear. Therefore, it could be *idmit* (a variant for *idmi*, see *Wb*. I 153, 18). It could be also a ideographic writing of a divinity. Unfortunately, the following signs are illegible (a reading of Amon is doubtful even though the signs seem to indicate his name).

The name Padiamennebnesuttawy is attested in *PNI* 122, 6; Amon and his epithet probably have been placed in first place by honorific transposition. The name is common from the Late Third Intermediate Period to the Ptolemaic era, with the majority of instances coming from the Late Period. This is consistent with the dating of the pottery.

This deposit also yielded a reed, 17.5 cm long, four fragments of wood and a twig (none of which were identified), and fragments of funerary wreaths and garlands. These were comprised of willow, possibly persea, and cornflowers, and are a fairly standard part of many embalming deposits.⁴⁰ In addition to the vegetal remains, a chunk of shiny, sweet-smelling, red resin was found amongst the bandages as well as three limestone fragments that seemed to have been deliberately included, rather than being pieces that had fallen into the deposit. They measured 13 cm, 6 cm, and 7.5 cm in length. Chunks of limestone have been found in other embalming deposits, including KV 63 (personal observation).⁴¹

Pit B contained a damaged basket and a large jar that was broken, although most of the sherds needed to complete it were present. A large quantity of chaff and vegetal material from destroyed garlands was scattered about; presumably this had once been contained in the jar. Aside from the chaff, the majority of the deposit consisted of linen cloth that held the shape of the base of a jar, just as was seen in Pit A, as well as a few natron bags. The dimensions of the linen bundle were, roughly, 24 × 17 cm. Chaff, beetle, and fly larvae were found within these bandages. The bandages and bags looked far more used than those in Pit A. Some of the bandages were measured; they varied in quality and size (see Table 4), and some had interesting features. One length of bandage with a width of 7 cm and a fringe at one end was knotted in two places. Another rolled bandage was coloured black and red with resin.

Only four natron bags were recovered from this deposit. All of them had been used and one of them was particularly dense. The diameters of the bags vary between 7 and 8 cm. A limestone fragment (13.5 × 12 cm) and a pebble (Diam. 4 cm) were also found here. Limestone fragments have also been a part of the remains of other embalming deposits, such as KV 63 (personal observation, Ikram).

⁴⁰ A. FAHMY *et al.*, *op. cit.*; H.E. WINLOCK, *Materials Used at the Embalming*, *op. cit.*, 1941.

⁴¹ Fr. JANOT, *op. cit.*, *passim*.

Deposit A	L	W	Comments
A	95	23	
B	20	2.5	
C	29	7	
D	74	6	
E	24	5.4	
F	102	7.5	
G	74	13	
H	25	26	
I	30	30	
J	100	32	Inscribed
K	49	30	Blue decoration

Table 3. Linen from Deposit 3, Pit A (measurements in centimetres).

Deposit B	L	W	Comments
AA	130	33 at least	1 big piece
BB	90	6	Very fragile as salty
CC	40	4	
DD	19	9.5	
EE		8	
FF		6	
GG		50	
HH		16	
II		3	
JJ		7	Knots
KK		6	Rolled and discoloured
LL	100?	90	

Table 4. Linen from Deposit 3, Pit B (measurement in centimetres).

Discussion

Embalming deposits, particularly of Late Period date, seem to be a fairly common phenomenon, especially in Thebes, as is attested by the many examples mentioned in the literature, albeit sometimes only in passing (see Table 5). Unlike some of the similar deposits of the Middle and New Kingdoms, the Late Period variations do not appear in the tombs of those with whom they are affiliated—rather, their location might depend on the embalmers' convenience or the situation of their workshops, or has some other, as yet unknown, reason.

The three embalming deposits found in the environs of TT 11-12 seem to date to the Late Period (7th–6th centuries BC), as in the case with the majority of such deposits found both at Thebes and Saqqara. Embalming deposits are known from the First Intermediate Period onward, when the emphasis in mummification shifted from transforming the body into a facsimile of itself with linen and other agents to preserving the actual body using significant amounts of natron.⁴² Although a few examples of embalming deposits are known from the Middle Kingdom, and more from the New Kingdom, they did not become very common until the Late Period, when an increasing number of people of all ranks and ages were being mummified, with varying degrees of care. This might have been due to an overall increase in prosperity and an accompanying 'democratization' of the mummification process, or might reflect changes in religious beliefs and practices, or even variations in methods of mummification.

The TT 11-12 caches fall into Aston's Type B⁴³ as they consist only of pots with no coffins affiliated with them, a type that seems to be the most common sort of embalming deposit during this period. Quite possibly these are also indicative of a lower socio-economic class than

⁴² H. E. WINLOCK, *BMMA* 17, *op. cit.*, *Mummy in Ancient Egypt: Equipping the Dead for Eternity*, London, 1998, p. 288-292; S. IKRAM, A. DODSON, *The*

⁴³ D. A. ASTON, in N. Strudwick, J. H. Taylor, (eds.), *The Theban Necropolis*, 2003, p. 154-155.

Type A, which consists of a combination of pots and coffins, although this idea is debatable. Using Budka's typology⁴⁴ that refines that of Aston, and is based on find-spots, deposits 2 and 3 can be categorized further as type B1: a group of pots buried loose in sand or debris (deposit 1 was in a rough pit). Of course, as these deposits are in the courtyards of, or above tombs that possibly contained burials of the Late Period, some scholars might argue that these caches fall into Budka's B2 category: associated with architectural remains that might or might not be contemporary with the caches. However, this categorization seems less plausible. The dating of the ceramics also fits better with the B1 group that Budka has identified as antedating B2. This sequence also seems to be applicable to the Memphite area. It should be remembered, however, that with the introduction of each new type of cache the older version was not abandoned. Thus, the earlier types could occur simultaneously with the later ones, and this typology should not be used as the sole means of dating a cache.⁴⁵ This seems to be true for the entire country, particularly in the Theban and Memphite areas from where we have almost all of our information.

The modesty of our embalming deposits suggests that they were associated with specific burials, rather than with an active embalming house⁴⁶ that would have generated many more jars. Of course, the proximity of the Ramesseum area, which contained embalming deposits, might suggest that our deposits are a spill over from it. However, the location of the burials associated with these deposits is unclear. The coffins found near Deposit 3 date to the 21st Dynasty, and although the burials in these might be somewhat later, perhaps reusing the coffins, there is nothing that links them incontrovertibly to the embalming deposits. Deposits 1 and 2 do not seem to be located near any burials of that era. Perhaps the burials associated with the three deposits were inside the reused 18th Dynasty tombs—certainly some of the mummies found within TT 11-12 clearly date to the Late Period. Gabolde has argued, mainly with regard to royal burials of the New Kingdom, that embalming deposits were ritually located in a specific relationship to the burial itself.⁴⁷ This hypothesis does not seem to hold true for the embalming caches of the Late Period, although one might argue that as they were not (obviously) royal, different strictures might have applied to their disposal.

The amount of natron and the bandages might suggest a poorer class of burial that required less natron - note the amounts found in Aston's A types, and compare particularly with the 459 kg of natron found in KV63, as well as the many natron filled jars in other caches from the royal valley (see Table 5). Possibly, the wealthier the person was, and the more painstaking the embalming, the larger the embalming deposit. However, the large deposits of pots in the Deir el-Bahari quarry, as well as elsewhere in Thebes (see Table 5), might argue against this supposition if they are being viewed as mass deposits from embalmers' workshops, rather than deposits tied to specific burials.

⁴⁴ J. BUDKA, *op. cit.*, p. 85-103.

⁴⁵ D.A. ASTON, B.G. ASTON, *Late Period Pottery from the New Kingdom Necropolis at Saqqara*, 2010, p. 58-59.

⁴⁶ D.A. ASTON, *op. cit.*, p. 157-158; D.A. ASTON, B.G. ASTON, *op. cit.*, p. 122;

H.E. WINLOCK, *BMMA* 23, 1928, p. 25;

id., *BMMA* 17, 1922, p. 34; É. NAVILLE, *Temple of Deir el-Bahari II, The Ebony Shrine. Northern Half of the Middle Plat-*

form, ExcMem 29, 1896, p. 6; M. NELSON, A.-M. LOYRETTE, G. LECUYOT, "Les dis-

positions du Ramesseum en bordure des annexes nord, ouest et sud," *ASAE* 68, 1982, p. 9-26.

⁴⁷ M. GABOLDE, in T. el-Awady (ed.), *Proceedings of the Valley of the Kings Conference*, in press.

One question that also should be addressed that might have some bearing on the size of each deposit (although perhaps one that cannot be answered) is the question of what stage of embalming is being preserved. Are all the materials used throughout the mummification process being saved and deposited, or is it only the final stages that are preserved? During the more traditional (but by no means the rule) 40 days of desiccation,⁴⁸ embalmers probably changed the natron several times in order to produce a good quality mummy,⁴⁹ thereby generating a large amount of natron, even if it was being recycled. The deposits consisting of a few jars containing natron packets clearly do not contain all the natron in which the body was immersed: such packets were generally inside the body—what happened to the rest of the natron? Should one interpret these deposits as containing only the last group of packets used to desiccate the corpse prior to its anointment with oils and resins and wrappings? Was the rest of the natron then recycled and used for other corpses? The fluids resulting from or used in the mummification process (bodily, natron and water mixtures, wine, oils, and resins), tools, linens, and associated floral elements (bouquets, garlands, swabs, and so forth), should be more numerous than what is found in these smaller deposits. Was only a fraction of the materials and objects used to prepare the body regarded as sacred and buried? How was the choice made as to which materials or portions thereof deserved burial? Who made these decisions? Possibly the embalmer/priest made the decision, based on a variety of factors, such as the wealth, status, and wishes of the individual. Such questions need to be considered and it is hoped that future evidence will come to light that answers such queries.

Despite the fact that many questions regarding the art of mummification and the practices surrounding it remain unanswered, embalming caches are an enormous source of information. They not only shed light on the technology of mummification, religious practices surrounding embalming and burial, and religious beliefs surrounding the sacredness of the embalmed body, but also document change in the rise of mummification across social classes, as well as the economics of mummification, particularly with regard to the quantity and quality of materials used in embalming.

⁴⁸ S. IKRAM, A. DODSON, *op. cit.*, p. 103-104.

⁴⁹ S. IKRAM, *Divine Creatures, op. cit.*, 2005, p. 16-43.

Location	Type	Date	Source
Abusir deposit 1, near the tomb of Udjahorresne	B; 50-60 jars	Saite	Kv. Smoláriková, "Some Remarks on Embalmers' Caches from the Saite-Persian Cemetery at Abusir", 2006, p. 79-88.
Abusir deposit 2, shaft near the tomb of Iufaa	B	Saite	Kv. Smoláriková, <i>op. cit.</i> , p. 79-88.
Abusir deposit 3, shaft of Menekhibnekau near the tomb of Iufaa	B; 200-230 jars	Saite	Kv. Smoláriková, <i>op. cit.</i> , p. 79-88.
Abusir deposit 4, close to surface	B	Saite	Kv. Smoláriková, <i>op. cit.</i> , p. 79-88.
Amarna Royal Wadi, T. 30	B	18th Dynasty	M. Gabolde, in T. el-Awady (ed.), <i>Proceedings of the Valley of the Kings Conference</i> , in press.
Armant Bucheum (probable)	B	Roman	R. Mond, O. H. Myers, <i>The Bucheum</i> , III, <i>ExcavMem</i> 41, 1934, pl. XCIX.
Buto/Tell el-Farain	B	Saite	P. French, "Late Dynastic Pottery from the Berlin/Hannover Excavations at Saqqara, 1986", <i>MDAIK</i> 44, 2003, p. 79-89.
Buto/Tell el-Farain EO, 4	B	Saite	P. French, <i>op. cit.</i> , p. 79-89.
Giza	B	Unclear	S. Hassan, <i>Excavations at Giza VIII</i> , Cairo, 1953, p. 39.
Giza above the mastaba of Rekhit-ra	B	5th Dynasty	S. Hassan, <i>op. cit.</i> , p. 39.
Giza	B; 30 jars	Persian Period	S. D'Auria, P. Lacovara, C. Roehrig, <i>Mummies and Magic: the Funerary Arts of Ancient Egypt</i> , Boston, 1992, p. 18.
Kafr Ammar T. 34; tomb of Khnumemhat, Merneit's coffin	B; 1 jar	23rd-25th Dynasties	W.M.Fl. Petrie, E.J.H. Mackay, <i>Heliopolis, Kafr Ammar and Shurafa</i> , <i>ERA</i> 24, 1915, p. 35, pl. 29, 33; Fr. Janot, <i>Les instruments d'embaumement de l'Égypte ancienne BdE</i> 125, 2000, p. 109.
Mataria Ard el-Naam sample 1	B	Late Period	Z. Iskander, A. El-M. Shaheen, "Temporary Stuffing Materials Used in the Process of Mummification in Ancient Egypt", <i>ASAE</i> 58, 1964, p. 197-208.
Mataria Ard el-Naam, sample 2	Alabaster jar	Late Period or Ramesside?	Z. Iskander, A. El-M. Shaheen, <i>op. cit.</i> , p. 197-208.
Mataria Ard el-Naam, sample 3	Jar	Late Period or Ramesside?	Z. Iskander, A. El-M. Shaheen, <i>op. cit.</i> , p. 197-208.
Memphis	Jar	Late Period	M. El-Amir, "The Sekos of Apis at Memphis", <i>JEA</i> 34, 1948, p. 51-56.
Saqqara	B	Saite	P. French, H. Ghaly, "Pottery Chiefly of the Late Dynastic Period, from Excavations by the Egyptian Antiquities Organisation at Saqqara, 1987", <i>CCE</i> 2, 1991, p. 95.
Saqqara	B	Saite or later	J. E. Quibell, <i>Excavations at Saqqara (1905-1906)</i> , Cairo, 1907, p. 27, pl. 25,2
Saqqara Aston Cache 1 Paser- I	B	Persian	D.A. Aston, B.G. Aston, <i>Late Period Pottery from the New Kingdom Necropolis at Saqqara</i> , 2010, p. 15-60.
Saqqara Aston Cache 10, Pylon Tia & Tia	B; 4 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.

Table 5. List of embalming caches (not comprehensive) (*to be continued*).

Location	Type	Date	Source
Saqqara Aston Cache 11; near the tomb of Maya	B; 6 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 12, tomb of Ramose	B; 12 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 13; near the tomb of Maya	B; 155 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 14; near the tomb of Maya	B; 9 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 15, near the tomb of Maya	B; 18 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 16, near the tomb of Maya	B, 8 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 17	B; 5 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 18, near the tomb of Tia & Tia	B; 6 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 19, near the tomb of Tia & Tia	B?	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 2, tomb of Paser II	B	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 3, tomb of Paser III	B	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 4, pit in wall	B; 106 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 5, pit in <i>tafl</i>	B; 72 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 6, near the tomb of Horemheb	B; 8 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 7, near the tomb of Horemheb	B; 12 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 8, near the tomb of Tia & Tia	B; 21 jars	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara Aston Cache 9, tomb of Tia & Tia	B; 15 jars (rel. to 8?)	Persian	D.A. Aston, B.G. Aston, <i>op. cit.</i> , p. 15-60.
Saqqara, Berlin/Hannover	B	Saite/Persian	P. French, <i>MDAIK</i> 44, 2003, p. 79-89.
Saqqara, tomb of Horemheb area	B	Ramesside	J. Bourriau <i>et al.</i> , <i>The Memphite Tomb of Horemheb, Commander-in-Chief of Tut'ankhamun, III, the New Kingdom Pottery, ExcavMem</i> 71, 2005, p. 8-10.
Saqqara, near the tomb of Akhetotep	B; 15 jars	25/26th Dynasties	M. Étienne, Fr. Janot, G. Lecuyot, "La mission du musée du Louvre à Saqqâra: un contexte de rejets d'embaumement", <i>BIFAO</i> 103, 2003, p. 191-201, esp. 191.
Saqqara, South of Step Pyramid, Deposit 1	B; 6 jars	Saite - 27th Dynasty	J.-Ph. Lauer, Z. Iskander, "Données nouvelles sur la momification dans l'Égypte ancienne", <i>ASAE</i> 53, 1955, p. 167-194, esp. 174-176.
Saqqara, South of Step Pyramid, Deposit 2	A	Saite - 27th Dynasty	J.-Ph. Lauer, Z. Iskander, <i>op. cit.</i> , p. 167-194.
Saqqara South of Step Pyramid, Deposit 3	B; 5 jars	Saite - 27th Dynasty.	J.-Ph. Lauer, Z. Iskander, <i>op. cit.</i> , p. 167-194.

Table 5. List of embalming caches (not comprehensive) (*following*).

Location	Type	Date	Source
Saqqara, tomb of Neferibresaneith & Wahibremlen	B	Saite or later	C.M. Firth, "Excavations of the Department of Antiquities at Saqqara (October 1928 to March 1929)", <i>ASAE</i> 29, 1929, p. 64-70, esp. 68-70.
Saqqara, South of the Pyramid of Unas	B; 2 jars	Saite	P. French, <i>MDAIK</i> 44, 2003, p. 79-91.
Saqqara, tomb of Tia & Tia, Shaft IV association	B	Ramesside	G.T. Martin, <i>The Tomb of Tia and Tia, ExcMem</i> 58, 1997, p. 14; J. Bourriau <i>et al.</i> , <i>op. cit.</i> , p. 8-10.
Thebes 1, TT414/TT27 area O/29	B; 7 jars	Saite/Persian	J. Budka, in J. Mylonopoulos, H. Roeder (eds.), <i>Archäologie und Ritual</i> , 2006, p. 85-103.
Thebes 2, TT414/TT27 area R/28	B; 4 jars	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 3, TT414/TT27 area L/27	B	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 4, TT414/TT27 area tomb 9	B	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 5, TT414/TT27 area N/27	B	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 6, TT414/TT27 area tomb of Anch-Hor	B	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 7, TT414/TT27 area	B	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 8, TT414/TT27 area	B	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 9, TT414/TT27 area	B	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 10, TT414/TT27 area	B	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 11, (Budka list)	B	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 12, (Budka list)	B	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 13, (Budka list)	B	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 14, (Budka list)	B	Late Period	J. Budka, <i>op. cit.</i> , p. 85-103.
Thebes 3, caches of Late Period 1	B	Late Period	H.E. Winlock, "Excavations at Thebes", <i>BMMA</i> 17, 1922, p. 19-48.
Thebes 3, caches of Late Period 2	B	Late Period	H.E. Winlock, <i>op. cit.</i> , p. 19-48.
Thebes 3, caches of Late Period 3	B	Late Period	H.E. Winlock, <i>op. cit.</i> , p. 19-48.
Thebes Asasif 1, near the tomb of Padamenopet	A	Saite	A. Lansing, "Excavations in the Asasif", <i>BMMA</i> 15, 1920, p. 12.
Thebes Assasif 2, near the tomb of Padamenopet	A	Saite	A. Lansing, <i>op. cit.</i> , p. 12.
Thebes Asasif, near the tomb of Padamenopet	A	Saite	A. Lansing, <i>op. cit.</i> , p. 12.
Thebes Asasif, courtyard of the tomb of Intef	A	late Saite	Di. Arnold, J. Settgast, Do. Arnold, "Zweiter Vorbericht über die vom Deutschen Archäologischen Institut Kairo im Asasif unternommenen Arbeiten", <i>MDAIK</i> 21, 1966, p. 90.
Thebes Assasif, tomb of Psamtek	B; 7 jars	Saite?	Di. Arnold, J. Settgast, Do. Arnold, <i>op. cit.</i> , p. 80-81.
Thebes Deir el-Bahari	A	22 nd Dynasty	É. Naville, <i>Temple of Deir el-Bahari</i> II, 1896, p. 6.
Thebes Deir el-Bahari	A	date unclear	El. Dabrowska-Smekkala, "Coffins Found in the Area of the Temple of Tuthmosis III at Deir el-Bahari", <i>BIFAO</i> 66, 1968, p. 178.
Thebes Deir el-Bahari	A	23 rd /24 th Dynasties	H.E. Winlock, "The Museum's Excavations at Thebes", <i>BMMA</i> 19, 2, Dec. 1924, p. 30.

Table 5. List of embalming caches (not comprehensive) (*following*).

Location	Type	Date	Source
Thebes Deir el-Bahari, quarry	B	Late Period	H.E. Winlock, "The Egyptian Expedition 1927-1928, the Museum's Excavations at Thebes", <i>BMMA</i> 23, 2, 1928, p. 25.
Thebes Deir el-Bahari, tomb of Senenmut quarry a	B; 38 jars?	Late/Persian Period	H.E. Winlock, <i>op. cit.</i> , p. 25-28; PM, I,2, 1964, p. 625.
Thebes Deir el-Bahari, tomb of Senenmut, quarry b	B	Late/Persian Period	H.E. Winlock, <i>op. cit.</i> , p. 25-28; PM, I,2, 1964, p. 625.
Thebes Deir el-Bahari, tomb of Senenmut, quarry c	B; 7/8 jars?	Late/Persian Period	H.E. Winlock, <i>op. cit.</i> , p. 25-28; PM, I,2, 1964, p. 625.
Thebes Deir el-Bahari, tomb of Senenmut, quarry d	B; 1/2 jars?	Late/Persian Period	H.E. Winlock, <i>op. cit.</i> , p. 25-28; PM, I,2, 1964, p. 625..
Thebes Deir el-Bahari, tomb of Senenmut, quarry e	B	Late/Persian Period	H.E. Winlock, <i>op. cit.</i> , p. 25-28; PM, I,2, 1964, p. 625.
Thebes Deir el-Bahari tomb of Senenmut, quarry f	B	Late/Persian Period	H.E. Winlock, <i>op. cit.</i> , p. 25-28; PM, I,2, 1964, p. 625.
Thebes Deir el-Bahari, tomb of Senenmut, quarry g	B	Late/Persian Period	H.E. Winlock, <i>op. cit.</i> , p. 25-28; PM, I,2, 1964, p. 625.
Thebes Deir el-Bahari, temple of Thutmose III (chapel area)	A	Saite	El. Dabrowska-Smektala, <i>op. cit.</i> , p. 171.
Thebes Deir el-Bahari, TT 358 tomb of Meryetamun	B; 4 jars (boxes?)	TIP	Fr. Janot, <i>op. cit.</i> , p. 99; H. E. Winlock, <i>The Tomb of Meryet-Amun at Thebes</i> , 1932, p. 42-45.
Thebes Deir el-Medina, pit 1337	B	19th Dynasty	B. Bruyère, <i>Rapport sur les Fouilles de Deir el Médineh (1933-1934)</i> . <i>FIFAO</i> XIV,1, 1937, p. 80; Fr. Janot, <i>op. cit.</i> , p. 97.
Thebes Deir el-Medina, TT 215 (chapel)	B; 2 jars	19th Dynasty	B. Bruyère, <i>Rapport sur les fouilles de Deir el-Médineh (1931-1932)</i> . <i>FIFAO</i> X,1, 1934, p. 55; Fr. Janot, <i>op. cit.</i> , p. 97.
Thebes Dra Abu el-Naga	B; 6 Jars	25th Dynasty	D. Polz, A. Seiler, "Bericht über die erste Grabungskampagne in der Nekropole von Dra Abu el-Naga/Theben-West", <i>MDAIK</i> 49, 1992, p. 123.
Thebes Dra Abu el-Naga North	B	18th Dynasty?	W. Spiegelberg, "Zu dem Salzfund von Qurna", <i>OLZ</i> 1, 1898, p. 259.
Thebes east of TT 279,a	B	Saite?	A. Lansing, <i>op. cit.</i> , p. 12-14; PM, I,2, 1964, p. 625.
Thebes east of TT 279.b	B	Saite?	A. Lansing, <i>op. cit.</i> , p. 12-14; PM, I,2, 1964, p. 625.
Thebes east of TT 279.c	B	Saite?	A. Lansing, <i>op. cit.</i> , p. 12-14; PM, I,2, 1964, p. 625.
Thebes east of TT 279.d	B	Saite?	A. Lansing, <i>op. cit.</i> , p. 12-14; PM, I,2, 1964, p. 625.
Thebes east of TT 279.e	B	Saite?	A. Lansing, <i>op. cit.</i> , p.12-14; PM, I,2, 1964, p. 625.
Thebes east of TT 279.f	B	Saite?	A. Lansing, <i>op. cit.</i> , p. 12-14; PM, I,2, 1964, p. 625.
Thebes KV C	B	20th Dynasty?	N. Reeves, <i>Valley of the Kings. The Decline of a Royal Necropolis</i> , 1990, p. 172.
Thebes KV 17 tomb of Sethy I	B	19th Dynasty	N. Reeves, R. Wilkinson, <i>The Complete Valley of the Kings</i> , 1996, p. 138.
Thebes KV 21	B	18th Dynasty?	D. Ryan, pers. comm.
Thebes KV 27	B	18th Dynasty?	D. Ryan, pers. comm.
Thebes KV 36 tomb of Maiherpra	B; 10+	18th Dynasty	G. Schweinfurth, "Neue thebanische Gräbfunde", <i>Sphinx</i> 3, 1900, p. 103-07; M. Eaton-Krauss, "Embalming Caches", <i>JEA</i> 94, 2008, p. 288-292; Fr. Janot, <i>op. cit.</i> , p. 99.

Table 5. List of embalming caches (not comprehensive) (*following*).

Location	Type	Date	Source
Thebes KV 46 tomb of Yuya/ Tuya	B	18th Dynasty	J.E. Quibell, <i>The Tomb of Yuaa and Thuiiu</i> , 1908, p. vi.
Thebes KV 48	B	18th Dynasty?	D. Ryan, pers. comm.
Thebes KV 54 tomb of Tutankhamun	B	18th Dynasty	H.E. Winlock, <i>Materials Used at the Embalming of King Tut-Ankh-Amun</i> , 1941.
Thebes KV 63	A	18th Dynasty	Pers. Obs.
Thebes KV 8 tomb of Merenptah	B?	19th Dynasty	N. Reeves, <i>op. cit.</i> , p. 97
Thebes KV 9	B	?	N. Reeves, <i>op. cit.</i> , p. 175
Thebes tomb of Mehenkwtetre	B	unclear	H.E. Winlock, "Excavations at Thebes", <i>BMMA</i> 17, Dec. 1922, p. 34.
Thebes TT 79 tomb of Menkheperreseneb	B	Late Period	H. Guksch, <i>Die Gräber des Nacht-Min und Mencheper-Ra-Seneb, Theben Nr. 87 und 79, ArchVer</i> 34.
Thebes near TT 366 tomb of Djar	B	Near 11th dynasty tomb	H.E. Winlock, "The Museum's Excavations at Thebes", <i>BMMA</i> 27,2, 1932, p. 4-37.
Thebes palace of Hatshepsut?	B	Late Period	W.G.S.S. Compton, W. Spiegelberg, P. E. Newberry, <i>Report on Some Excavations in the Theban Necropolis during the Winter of 1898-9</i> , p. 25
Thebes Qurnah	A	SIP/NK?	G. Schweinfurth, L. Lewin, "Der Salzfund von Qurna", <i>ZÄS</i> 35, 1897, p. 142-143.
Thebes QV 78	B	Saite	Fr. Janot, <i>op. cit.</i> , p. 105.
Thebes QV area	B	Late Period	I. Franco, "Rapport d'activité de l'UA 1064 CNRS", 1985/1986, p. 30; Fr. Janot, <i>op. cit.</i> , p. 102-104.
Thebes Ramesseum (chapel KXIIa)	A	21st Dynasty or later	Fr. Janot, <i>op. cit.</i> , p. 102.
Thebes Ramesseum (court VI)	B	22nd Dynasty or later	M. Nelson, A.-M. Loyrette, G. Lecuyot, "Les dispositions du Ramesseum en bordure des annexes nord, ouest et sud," <i>ASAE</i> 68, 1982, p. 23; Fr. Janot, <i>op. cit.</i> , p. 102-103.
Thebes Ramesseum, tomb of Sehetepibre	B	19th Dynasty or Late Period	J.E. Quibell, R.F.E. Paget, A.A. Pirie, <i>The Ramesseum and The Tomb of Ptah-Hetep</i> , 1898, p. 4, pl. XII,7; Fr. Janot, <i>op. cit.</i> , p. 102.
Thebes Ramesseum (secton J)	B; 1 jar	Late Period	M. Nelson, A.-M. Loyrette, G. Lecuyot, <i>op. cit.</i> , p. 23-26.
Thebes TT 71 tomb of Ramose and Hatnefer area	Basket: used linen	18th Dynasty	A. Lansing, W.C. Hayes, "The Egyptian Expedition, 1935-36: The Museum's Excavations at Thebes", <i>BMMA</i> 32.2, 1937, p. 23-24; Fr. Janot, <i>op. cit.</i> , p. 99.
Thebes Sethy I temple-a	B; 361 jars	Saite or slightly later	K. Myśliwiec, <i>Keramik und Kleinfunde aus der Grabung im Tempel Sethos' I. in Gurna, ArchVer</i> 57, 1987, p. 54.
Thebes Sethy I temple-b	B; 7 jars	Saite or slightly later	K. Myśliwiec, <i>op. cit.</i> , p. 54.
Thebes Sethy I temple-c	B; 183 jars	Saite or slightly later	K. Myśliwiec, <i>op. cit.</i> , p. 54.
Thebes tomb of Horachbit/ Harkhebis	A (or faked mummy?)	Late Period	A. Lansing, <i>op. cit.</i> , p. 13, fig. 5; Fr. Janot, <i>op. cit.</i> , p. 98.
Thebes TT 192 tomb of Kheruef	B; 2	TIP/Late Period	L. Habachi, "Clearance of the Tomb of Kheruef at Thebes (1957-1958)", <i>ASAE</i> 55, 1958, p. 331, 335.
Thebes TT 36 tomb of Ibi	A	Late Period	E. Graefe <i>et al.</i> , "Fouilles de l'Assassif 1970-75", <i>CdE</i> 50, 1975, p. 17; E. Graefe, <i>Das Grab des Ibi, Obervermögenverwalters der Gottesgemahlin des Amun (Thebanisches Grab nr 36)</i> , 1990, p. 29.

Table 5. List of embalming caches (not comprehensive) (*following*).

Location	Type	Date	Source
Thebes TT 87 tomb of Nakhtmin § Hor-m-akhbit (outside)	B; 9 jars	18th Dynasty?	H. Guksch, <i>op. cit.</i> , p. 105-108, pl. 23, fig. 48-51.
Thebes TT 79 tomb of Menkheperreseneb	B	Early Saite	H. Guksch, <i>op. cit.</i> , p. 111.
Thebes tomb of Hor-m-akhbit	B	750-650 BC	H. Guksch, <i>op. cit.</i> , p. 105-108, pl. 23, fig. 48-51.
Thebes TT 93 tomb of Kenamun	B	18th Dynasty	M.R. Mond, "Report on Work Done the Gebel Esh-Sheikh Abd-El-Kurneh at Thebes, January to March 1903", <i>ASAE</i> 5, 1904, p. 98.
Thebes TT 373 tomb of Amenmose	6 linen bundles	Unclear	K. Seyfried, M. Pwalikowski, <i>Das Grab des Amonmose (TT 373)</i> , 1990, p. 222.
Thebes TT 94 tomb of Ramose (courtyard)	B	18th Dynasty	M.R. Mond, <i>op. cit.</i> , p. 100.
Thebes TT 99 (1 or 2?)	B	Saite	P. J. Rose, pers. comm.
Thebes TT 99 tomb of (in front of courtyard)	A	TIP?	R. Mond, <i>op. cit.</i> , p. 101.
Thebes TT 414 tomb of Ankh-Hor, shaft of Wahibre	B	Late Period (30th Dynasty?)	M. Bietak, E. Reiser-Haslauer, <i>Das Grab des 'Ankh-Hor II</i> , 1982, p. 191.
Thebes WV A	B?	Amenhotep III	N. Reeves, R. Wilkinson, <i>op. cit.</i> , p. 113; M. Gabolde, <i>op. cit.</i>
Thebes TT 280 tomb of Meketre	B?	12th Dynasty	H.E. Winlock, "The Egyptian Expedition, 1918-1920, II, Excavations at Thebes, 1919-1920", <i>BMMA</i> , Dec. 1920, II, p. 12-32.
Thebes TT 315 tomb of Ipi/Ipy	B; 67 jars	11/12th Dynasty	H.E. Winlock, "Excavations at Thebes", <i>BMMA</i> 17,2, 1922, p. 34; <i>id.</i> , <i>Excavations at Deir el Bahari: 1911-1931</i> , 1942, p. 55-56.
Thebes Deir el-Bahari tomb 1017	B?	18th Dynasty	H.E. Winlock, <i>op. cit.</i> , 1942, p. 56.
Thebes TT 294	natron bundles	New Kingdom?	N. Strudwick, H. Strudwick, <i>The Tombs of Amenhotep, Khnummose and Amenmose at Thebes (Nos. 294, 253 and 254)</i> , 1996, p. 110
Thebes Middle Kingdom tomb	B	12th Dynasty	G. Daressy, "Trois points inexplorés de la nécropole thébaine", <i>ASAE</i> 2, 1901, p. 135.
Thebes tomb B, vallée des trois puits	B; 1 jar	Unclear, Late Period?	A.-M. Loyrette, "Les tombes de la vallée des trois puits à Thèbes-Ouest", <i>Memnonia</i> 8, 1997, p. 181-82.

Table 5. List of embalming caches (not comprehensive) (*end*).

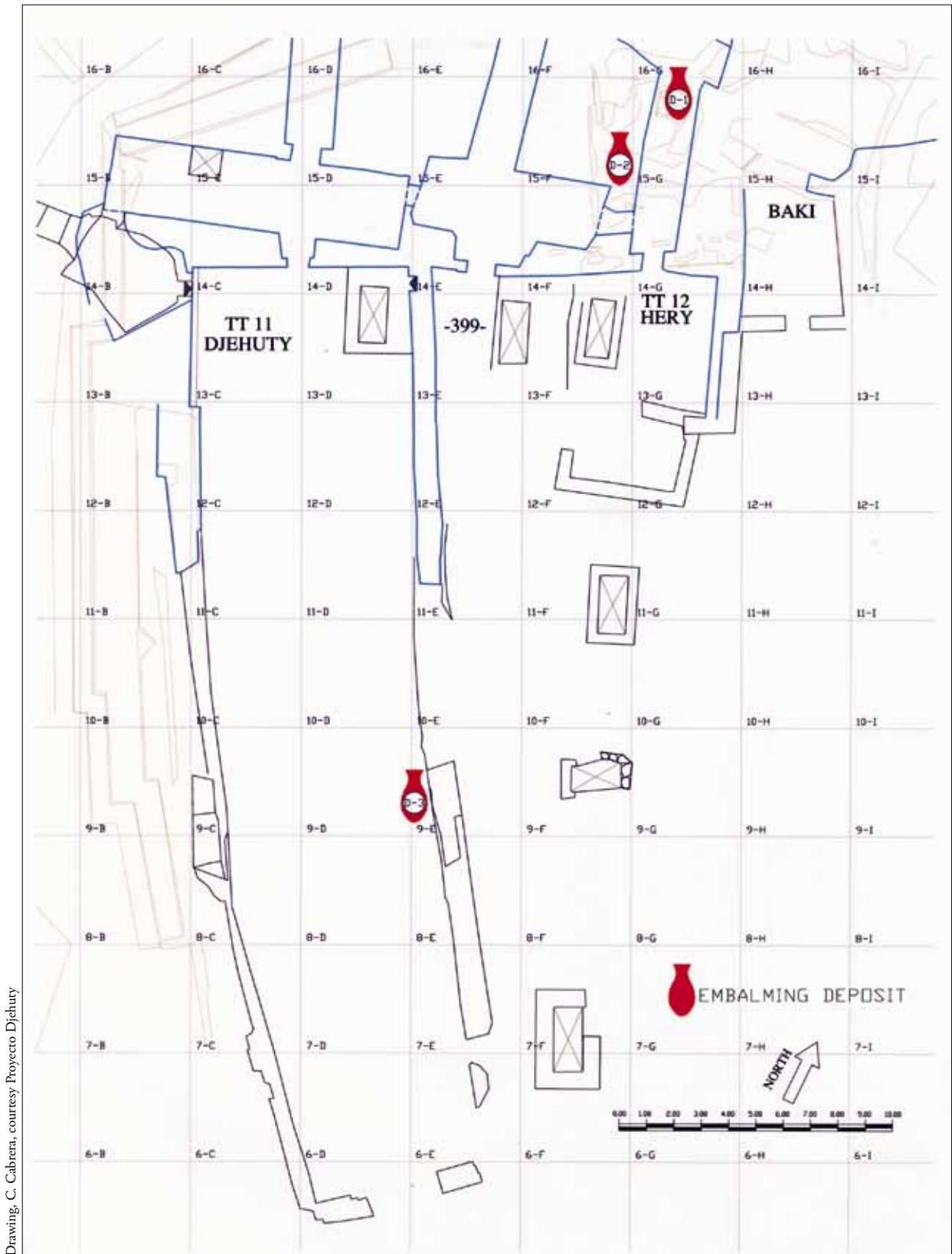


FIG. 1. Plan of the excavation area of the Proyecto Djehuty and the location of the embalmment caches.

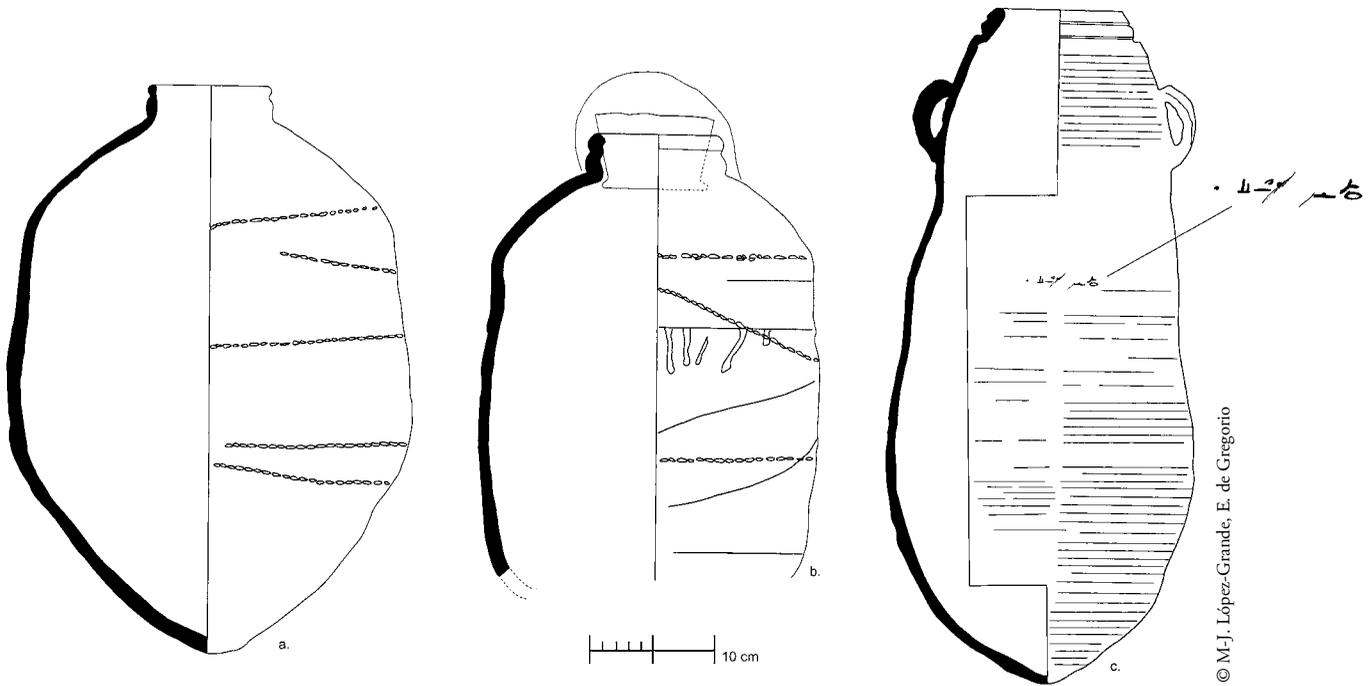


FIG. 2. Line drawing of the jars from Deposit 1.

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FIG. 3. Jar from Deposit 1 with mud stopper *in situ*.

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FIG. 4. Linen cloth found inside jar 1a that still holds the shape of the jar (for drawing of the jar see Fig. 2.a).

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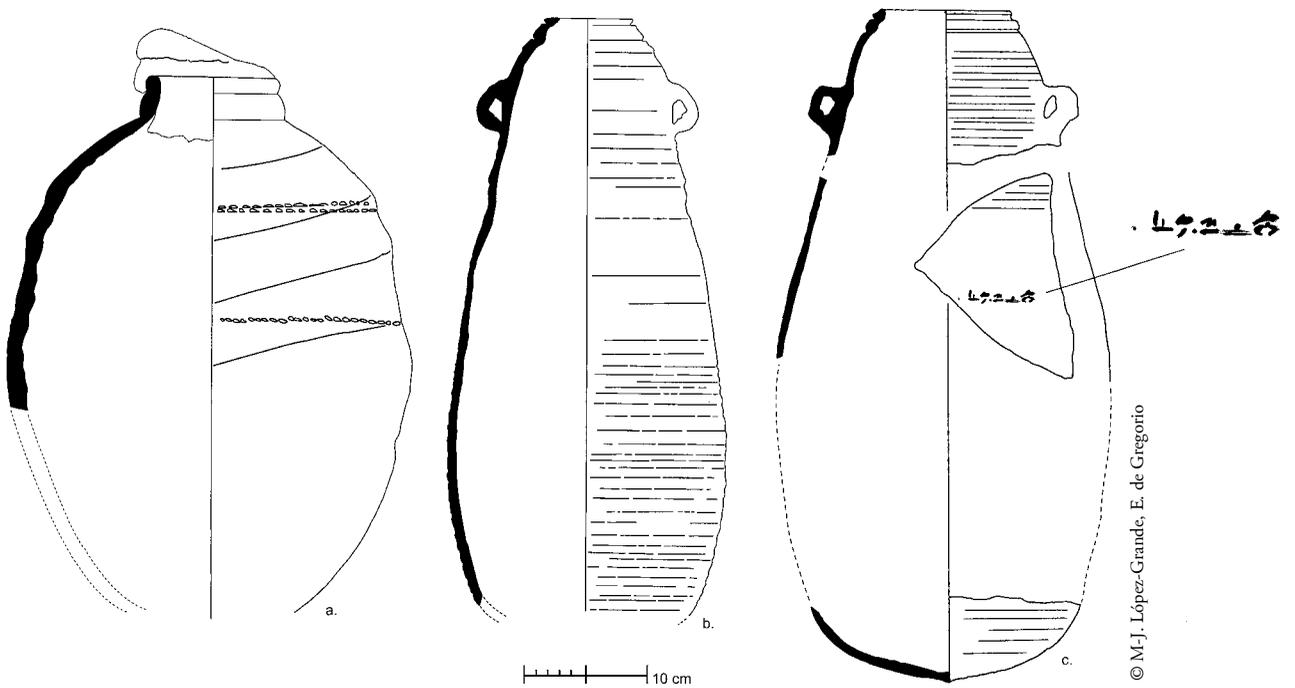


FIG. 5. The jars found in Deposit 2.

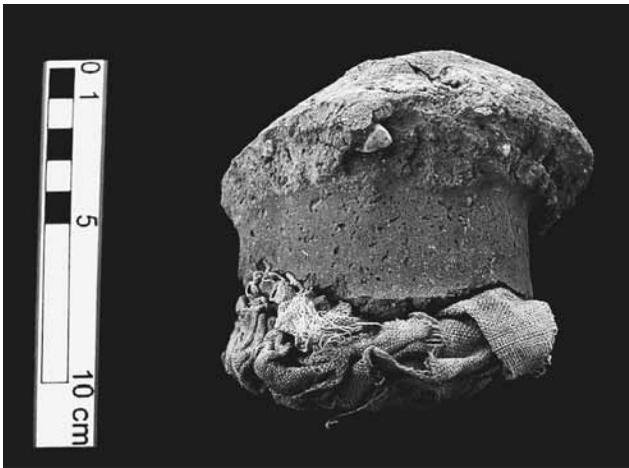


FIG. 6. The mud stopper with linen cloth embedded in it from jar 2.a.

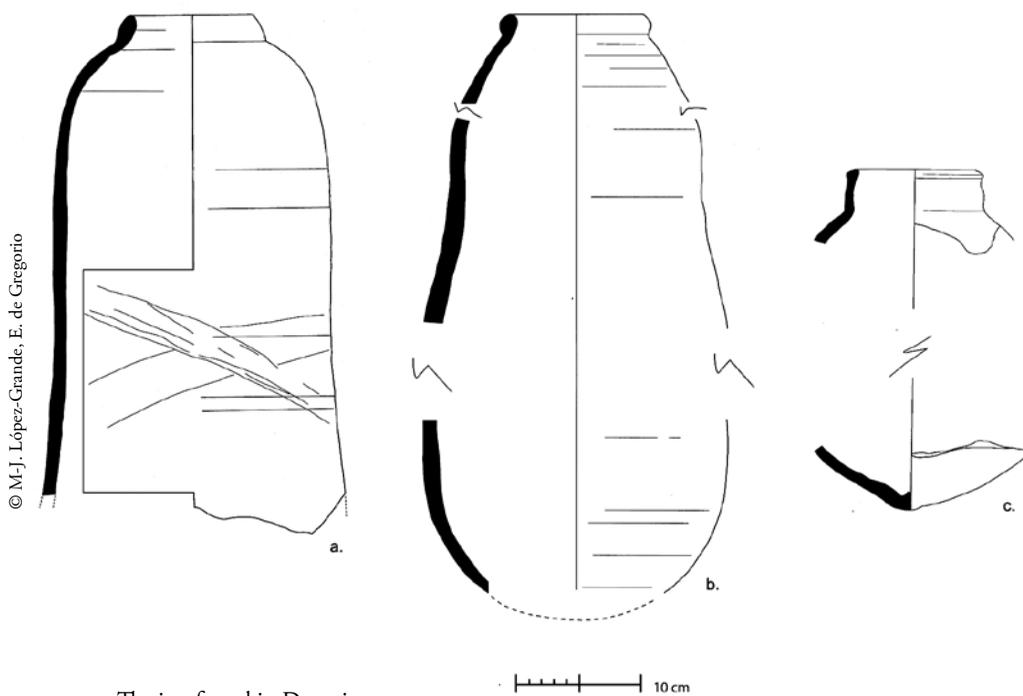


FIG. 7. Jar 2.a and its contents. The natron, mixed with limestone chips, with portions of the linen poking through. Near the mouth of the vessel one can see the mangled fragments of funerary garlands.



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FIG. 8. A selection of natron bags that were found in the embalming deposits.



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FIG. 9. The jars found in Deposit 3.