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Egyptian pit-looms from the late first millennium AD — attempts in reconstruction from the archaeological evidence

Johanna Sigl

Introduction

In discussions on the development of weaving technology, specifically treadle looms in the Mediterranean area, Egypt is often referred to as one of the earliest countries in which people used foot-powered looms for producing cloth. It is thought to have been in regular use in the production of cloth as early as the second half of the 1st millennium AD.¹ This belief is built on results from excavations undertaken during the early 20th century by the Egypt Exploration Fund at the hill of Sheikh Abd el-Qurna in Luxor,² as well as on textile studies.³ Unfortunately, none of the postulated looms has ever been found and no pictorial evidence has survived illustrating the apparatus that the weavers worked on. Texts provide only scant information, none of

which is sufficiently descriptive.⁴ For the reconstruction of the weaving device used in Egypt during the Late Roman and Early Islamic periods one therefore depends on the scarce archaeological and architectural information from excavations. This consists predominantly of pits,⁵ which were identified by Herbert E. Winlock⁶ as substructures of a horizontal treadle loom. However, Winlock's identification was criticised by various researchers,⁷ and subsequently his suggestion was disproved by the experimental reconstruction of a loom within one of the pits of the monastery of Epiphanius, as well as the comparison with more recent archaeological evidence.⁸ Although Winlock was with much certainty correct in proposing that the pits were once loom emplacements,⁹ the type and features of the weaving apparatus are still uncertain.

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1. Zhao 2001, p. 213 following Carroll 1988, p. 37–38.

2. Winlock & Crum 1926, p. 67–69.

3. *E.g.* Carroll 1985, p. 169–171.

4. *E.g.* Crum & Evelyn White 1926, p. 247: no. 352

5. Few other parts of looms have been discovered, and even fewer in context with one of the pits in question. The finds excavated in close proximity to the pits are warp spacers (in the *laura* of Cyriacus, see Bechtold 2007, p. 56–57, or in Deir el-Bakhit, DB 2414+DB 2417 see in J. Sigl in Sigl & Tatz in prep.), and weaving combs (in Deir el-Bakhit, DB 2700? and DB 298 see in J. Sigl in Sigl & Tatz in prep.). However, these tools can be used in several types of weaving apparatus.

6. Winlock & Crum 1926, p. 68.

7. White 1962, p. 173; Wild 1987, p. 459; el-Farag 1983, p. 54; Verhecken-Lammens & de Jonghe 1993, p. 61; Huber 2006, p. 63, note 5.

8. J. Sigl in Sigl & Tatz in prep.

9. Apart from H.E. Winlock's loom emplacement hypothesis, which in its outlines is adopted here to similar longitudinal pits in the floors of the North Tombs of Tell el-Amarna, three other suggestions for the use of these installations were made independently: two by N. de Garis Davies (1903, p. 12–13 and note 1) and one by F. Kampp-Seyfried (1995, p. 214, note 28). All of them can be ruled out because of the triviality of their reasoning (Sigl 2008, p. 355–361; Sigl 2011, p. 19–20).

Loom-pits: the archaeological evidence

The author has thus far been able to compile 53 examples of so-called loom-pits, all situated in Upper Egypt,

mostly in Western Thebes (fig. 1). Eleven further structures (in Table marked with ‘??’ in column ‘no.’) are mentioned in publications, where their existence could not be verified on plans, pictures or on site so far, and as such their

identification in itself is not certain.¹⁰ Otherwise, they have been found during excavations and look overall very similar to the pits in question, but differ in their chronological context and specific details.¹¹ The precise dating of the securely identified features is difficult but can mostly be attributed to the re-use of Pharaonic structures in the late 1st millennium AD.¹² The overwhelming majority of cases suggest a Christian occupation with monastic activity taking place. Additionally, the pits display the following similarities (Table):

- no other part of the weaving instrument apart from the pit has survived to the present day;¹³
- all pits were set parallel to a wall¹⁴ – a fact N. de Garis Davies had already noted for the pits in the North Tombs at Tell el-Amarna;¹⁵
- their shape is longitudinal and their size exceeds 150 cm in length, in most cases;¹⁶

- in the best preserved examples, crossbars of wood were installed near either end and the bottom of the pit. In many of the less well-preserved examples the holes for their installation can still be seen.

There are only four types of loom that can be considered as once having been installed in the pits, primarily because they were either used in Egypt during earlier periods, or proposed to have been in use by the 1st millennium AD: furthermore, because they are suitable for weaving cloth of the size for tunics or shrouds.¹⁷

The treadle loom has been suggested, as mentioned above, which was in use in China by the 2nd century BC.¹⁸ However, it is not clear when it was introduced into the Mediterranean region. The first pictorial evidence of this kind of loom comes from Europe and dates to the 13th century.¹⁹ Contemporary finds of early medieval pit treadle loom emplacements,²⁰ which have been attested to 1st

10. In the publication of the monastery of Epiphanius, Winlock mentions eight pits, but only seven are depicted in his plans (Winlock & Crum 1926, p. 67). In the contribution on the monastic structure of Qurnet Murai five pits are mentioned, but only three are distinguishable in the published plans, while the identification of the other three in the represented structures is uncertain (Castel 1991, p. 2042; J. Sigl in Sigl & Tatz in prep.); in plans of the tombs BH 3 and BH 23 in Beni Hassan, structures might be identified as loom-pits, but an *in situ* verification is still to be done (J. Sigl in Sigl & Tatz in prep.). In TT 84 a pit in the first hall of the tomb, directly left of the entrance, is too badly preserved into an older structure to be called a loom-pit (author's own observations with the kind permission of A. Gnirs-Loprieno and the local inspectors of her excavation project (2017); J. Sigl in Sigl & Tatz in prep.); in the tombs at Kom el-Ahmar/Sharuna depressions were identified as feeding troughs, but could also be seen as crude loom-pits with 'crossbars' made of stone (J. Sigl in Sigl & Tatz in prep.).
11. At the French excavations in Tebtynis several pits have been found that feature the same oblong shape, but the crossbar is inserted in additional depressions near each end and runs parallel to the length of the overall pit. Apart from this instance, these structures date to Ptolemaic times (information kindly provided by G. Hadji-Minaglou (2015 and 2018); J. Sigl in Sigl & Tatz in prep.) and it is therefore uncertain if they are loom-pits at all.
12. For a discussion on the date of installation of the loom-pit in TT 99, see Strudwick 2011, p. 376–379. In Deir el-Bakhit the pits were put in place during the main occupation phase of the monastery during the 7th to 9th centuries AD (Beckh 2013, p. 55).
13. Only tools that could be used on any kind of loom were found. These are remains of warp spacers and weaving combs, spindles, needles, pin beaters, etc. (for example J. Sigl in Sigl & Tatz in prep.; Huber 2006, p. 67; Huber 2007, p. 66–68).
14. There are a small number of exceptional cases: the pit in TT 95 was situated near a column, which in this case could have served the same purpose as a wall (cf. J. Sigl in Sigl & Tatz in prep.); next to some of the pits in the monastery of Cyriacus round depressions in the floor could have served as fixtures for vertical beams, against which the loom could have leant (cf. Bechtold 2007, figs. 1, 4 and 5).
15. De Garis Davies 1903, p. 12.
16. Shorter examples are found at the monastery of Cyriacus (cf. Table; Bechtold 2007, figs. 1 and 4).
17. The use of these looms for *keiriai*, as Winlock suggested (Winlock & Crum 1926, p. 68 and 71), is very unlikely, because it would not make economic sense to use such a wood and space-consuming apparatus for an item that can be woven on a small table loom.
18. Zhao 2001, p. 471–472, fig. 117.
19. Trinity College Museum o.9.34 fol. 32^b, Cambridge, Great Britain (Carroll 1988, p. 34–36, fig. 10).
20. Windler 2008, p. 209–212.

millennium AD contexts in Egypt, differ considerably from the installations discussed here. Today the standard type of pit treadle loom, which is known throughout the whole of North Africa, uses a similarly narrow roundish treadle emplacement to the medieval European one.²¹ There is no connection, either in time or location, to the pit-loom we are searching for. Furthermore, experimental reconstruction following the initial description of H.E. Winlock, and taking into account the construction of the mentioned modern pit-looms, proves that a foot-powered loom could not have been installed within the pits in question.²²

Weaving looms used in ancient Egypt: a typology²³

In Pharaonic Egypt weaving involved two kinds of looms. The older one is the horizontal ground loom, which is shown in both model form and in tomb paintings.²⁴ Evidence for the use of this type of loom was found in Early Christian contexts at Kom el-Ahmar/Sharuna²⁵ and in the hermitages of Kellia.²⁶ Some of these constructions might have been used for mat weaving rather than cloth.²⁷ On the other hand, looms similar to the ancient Egyptian types are still in use for textile weaving in Africa and the Near East,

especially by nomadic groups.²⁸ However, these are never connected with any pit construction. They are therefore not the weaving devices we are searching for.

By the New Kingdom a vertical frame loom is depicted in tomb paintings instead of the ground loom.²⁹ A quite complex reconstruction of this loom is given by Herbert G. Farbrother in Barry J. Kemp and Gillian Vogelsang-Eastwood's publication of the textile industry at Tell el-Amarna.³⁰ Simpler kinds of vertical looms have been in use not only in ancient Greece and the Near East, but continue to be used up until the present day in the same areas as well as in many regions of Africa.³¹ In Syria/Palestine and amongst some African tribes a kind of vertical frame loom installed over an oblong pit is known.³² Thus, this kind of weaving apparatus could be an answer to the question about the Egyptian pit-loom, an issue I will return to below.

After the 21st Dynasty there are no further images of looms known from Egypt, however, at the same time the so called warp-weighted loom was in use in ancient Greece. In some cases the warp length was extended by standing the weaving apparatus over a pit.³³ This type of loom was introduced during the Late Period into Egypt. Warp weights have been found at excavation sites that can

21. Examples from North and East Africa: Schädler 1987, p. 84, fig. 16 and p. 400–401, figs. 614–616; and the author's own observations in Egypt since 2005 (locations cf. fig. 1).

22. J. Sigl in Sigl & Tatz in prep.

23. See also the article by Maria Mossakowska-Gaubert, in this volume (Mossakowska-Gaubert 2020).

24. For example: model from TT 280, Cairo JE 46723, Egypt, 3rd millennium BC (Winlock 1955, p. 31–33, 88–89, pls. 25–27, 66, 67); wall painting in tomb of Khnumhotep II, Beni Hassan No. 3, Egypt, 2nd millennium BC (Roth 1913, p. 3–7), etc.

25. Information kindly provided by B. Huber (2010). See as well Huber 2006, p. 63–64.

26. Long-bones of big mammals inserted in facing walls and building a rectangle: Qusur el Iseila: Hermitage no 14, room 11(?) and 16; Hermitage no 45, room 16 finale phase of 7th century; Hermitage no 156, room 7 (Makowiecka 1986, p. 107–112; Makowiecka 1999, p. 26 and plan 1 fig. 2, plan 3 figs. 10 and 11, plan 4 figs. 19 and 20, plan 13 fig. 156, plan 14 fig. 168, plan 15 fig. 174, plan 24 figs. 422, 424 and 429, plan 25 fig. 439).

27. Makowiecka 1986, p. 107–112; Makowiecka 1999, p. 26.1

28. Schädler 1987, p. 56–65.

29. For example: wall painting in tomb of Thotnefer, TT 104, Egypt, 2nd millennium BC (Shedid 1988, p. 128, pl. 5a, 27); *talatat*-block from Amarna, Malawi Museum, Egypt, 2nd millennium BC (Messiha & Elhitta 1979, p. 24, pl. XXXI: 586); etc.

30. Kemp & Vogelsang-Eastwood 2001, p. 405–426.

31. For example: relief of Nerva, Rome, Italy, 1st century AD (von Blanckenhagen 1940, p. 124, pls. 40–42); wall painting in the hypogeum of Aureli, Rome, Italy, 3rd century AD (Himmelman 1975, p. 22–23, pls. 6, 7); book painting, University of Utrecht 32 fol. 84b, Netherlands, 9th century AD (Walton Rogers 2001, p. 164, fig. 19.5a); book painting from Eadwine or Cantabury, Trinity College Library R. 17.1 fol. 263, Cambridge, Great Britain, 12th century AD (Walton Rogers 2001, p. 164, fig. 19.5b); modern looms: Schädler 1987, p. 65–70.

32. Syria/Palestine: Crowfoot 1941, p. 141–151; Stærmoose Nielsen 1999, fig. 73B (my thanks to M. Mossakowska-Gaubert for pointing out the latter publication to me). Africa: Picton & Mack 1979, figs. 41 and 60.

33. Depiction on an urn from Sopron (Ödenburg), Hungaria, Naturhistoric Museum, Vienna, Austria, 1st century BC (Barber 1991, p. 55, 92, 106, figs. 2.15, 13.3); pits and loom-weights in palace of Tilleda, Germany, 10th century AD (Grimm 1969, p. 97–99, pl. 13).

Figure 2. Pits in floor and ceiling, and tethering points in TA 3B, Tell el-Amarna North Tombs. (Photo © Johanna Sigl, 2009).

be attested to military contexts or to the homes of foreigners living in Egypt.³⁴ Not a single weight for weaving has been found in context with the type of pits under discussion in this article. Apart from this, the warp-weighted loom is usually associated with societies where wool is the dominant weaving fibre. Linen is, on the contrary,

the dominant fibre in ancient Egypt. This material can only be woven on a warp-weighted loom with some difficulty because of its smooth surface.³⁵ Despite the fact that wool was used a great deal in Egypt during the 1st millennium AD, this loom is in my opinion not the one we are searching for.

34. Warp-weights found in Tell el-Herr: Valbelle 1998, p. 809 and fig. 6. Warp-weights from Tell el-Retaba: Rzepka *et al.* 2008, p. 134 and 138–140; Rzepka *et al.* 2010, p. 258 and 265–266; Warp-weights from the excavations in Syene/Aswan: Sigl 2017, p. 48, 129 and 145; information kindly provided by W. Müller (2010, 2013 and 2014); von Pilgrim *et al.* 2011, p. 137–140.

35. Tietzel 1988, p. 14.

Pit-looms: attempts at reconstruction

Therefore, the only loom that is left as a possible solution is the vertical frame loom. Important proof of vertically constructed weaving apparatuses first appeared during the study of two loom-pits located in the North Tombs at Tell el-Amarna,³⁶ TA 3B (fig. 2) and TA 3C, thereafter from information provided by Nigel Strudwick³⁷ on a pit in TT 99 in Western Thebes, and thirdly, from the most recent re-evaluation of installations in TT 84 by Andrea Gnirs-Loprieno.³⁸ These tombs not only contain pits in the floor, but grooves were also cut into the ceiling directly above pits at ground level (fig. 2). The side beams of the loom were most probably locked between the pits in the floor and the ceiling and the whole construction thus kept it from tilting. A tethering point in the rim of the upper pit in TA 3B (fig. 2: a) might have been used to fix the whole apparatus or secure the upper weaving beam further. Additional hoops were found in the walls behind the pits in TA 3B (fig. 2: b–e) and 3C (Table). As these anchor points (fig. 2: b and e) are in line with the ends of the pits carved into the floor and ceiling in both tombs, it is possible that the side beams of the loom had been fixed here as well.³⁹ On the western side of TA 3B, three instead of one of the anchor points were recorded (fig. 2: b–d); could this be an indication that the left beam was moved for some reason, *e.g.* to weave smaller or wider cloth? Inside the pits no further sign was found that the side beam had been altered in its position. The additional hoops may also have had to be cut because the pit itself was extended towards the west when the loom no longer exceeded the requirements of the weaver. Unfortunately, both assumptions cannot be proven due to the poor state of preservation of the pits and no preserved cloth from the same context. Furthermore, in none of the other recorded examples are similar fixtures attested. In most cases no roof or walls of these rooms are preserved:

the pit in the corner of the pillared hall of TT 85 was built underneath a natural hole in the ceiling of the tomb;⁴⁰ the interior of TT 95⁴¹ is too poorly preserved to allow any useful information on any fixtures above ground level; in TA 1 the conservation work in the ceiling looks as if it would cover a groove at the edge of the eastern wall, but due to its filled in state it remains uncertain as to whether it really existed; all other examples are situated outside of former tombs and survive with no roof and only partly preserved walls (Table). On the other hand, in the Abydos pits, corbel blocks for square beams were installed over each of the small ends of the trenches (Table).⁴² The side-beams of a loom inserted into such mounts would have been held very tight, not allowing for any movement. These blocks could therefore be seen as a better version of the tethering points than TA 3B and 3C in Amarna.

Apart from the clues mentioned above, there is further evidence for an argument that a vertical loom was in use. One major characteristic of the pits from Western Thebes (*e.g.* Deir el-Bakhit, Room 25, northern loom-pit: fig. 3) and Abydos were wooden crossbars fixed close to the bottom of the pit near each narrow end. In most cases the bars are not preserved, however, holes used to fix them in the sides of the pits can be attested (Table). In most loom-pits examined by the author, there is evidence that two bars had been installed, never one, and a single example of four bars can be seen in the case of loom-pit A from the monastery of Epiphanius. In some pits the bars were found *in situ*.⁴³ Remains of rope were still wrapped around several of them⁴⁴ and constriction marks led to the suggestion that a part of the loom had been firmly attached to the staffs. But the question remains as to which part? In a vertical frame it could have been the side beams, which were tied to the crossbars. The bars and ropes would have kept the loom frame steady, preventing reduction of the space between the side beams.⁴⁵ The same function can be

36. Sigl 2011, p. 8 and 12.

37. Information kindly provided by N. Strudwick (2010); Strudwick 2011, p. 376–379.

38. Project *Life Histories of Theban Tombs* see <https://lhtt.philhist.unibas.ch/> (last checked: 20/08/2017).

39. See modern fixation of side beams on a loom from Africa: Picton & Mack 1979, fig. 2.

40. Author's own observation and information kindly provided by H. Heye (2005).

41. Information kindly provided by A. Gnirs-Loprieno (2005).

42. el-Farag 1983, figs. 1, 2, 3A and pl. 9: a and c.

43. *E.g.*: Monastery of Epiphanius, loom-pit A (Winlock & Crum 1926, pl. XXI: B); Deir el-Bakhit, storage room, northern loom-pit (own observation); TT 85, forecourt, loom-pit near Coptic house, loom-pit next to tomb entrance (information kindly provided by H. Heye, 2004).

44. Sigl 2008, p. 361, fig. 2.

45. Examples that could disprove this theory are the mud floors of the pits in the monastery of Deir el-Bakhit which neither in the room 25 nor in room 44 show no abrasions, while at the same time such damages should be anticipated if a heavy object like a loom stood on them and even moved slightly during its use. On the other hand in some of the pits at Tell el-Amarna round or square depressions in the curves of the oblong pits seem to have been installed to hold in place a vertical positioned beam (cf. Sigl 2011, p. 16–17).

suggested for tethering points found at the bottom of two pits in Kom el-Ahmar/Sharuna, formerly identified as feeding troughs (Table).⁴⁶ These binding devices not only have nearly the same position in the pits as the crossbars, but would also be used to compensate for a higher amount of drag.⁴⁷ However, since no sign of usage wear of the mud plastering around the crossbars in the pits, which were mud lined, could be observed, this solution remains questionable. Similarly the edges of the pit, where those side beams could have been placed following the example of the modern Syrian/Palestine looms,⁴⁸ *e.g.* in the storage room in Deir el-Bakhit, do not show any signs of wear or destruction. Alternatively, one could suggest that the whole construction worked without side beams, but used a hanging upper weaving bar⁴⁹ and a floating lower bar, between which the tension of the warp was adjusted by roping or releasing the binding of the lower beam down to the crossbars in the pits.⁵⁰ This, however, would render the aforementioned ceiling pits in some of the tombs in Tell el-Amarna and at Sheikh Abd el-Qurna useless.

As mentioned above, a possible solution to the question about the late 1st millennium loom maybe the weaving apparatus from Syria and Palestine described by Grace M. Crowfoot.⁵¹ This vertical two-beam loom was also set up above a longitudinal pit in the floor. From photos in the publication,⁵² it looks like the loom's side beams stood on the floor next to the pit. The frame was leant in an angle against a wall or roof. The upper and lower weaving beams were fixed to the side beams and a third beam was set a certain distance behind the frame to elongate and tighten the warp.⁵³ Could the tethering points in the walls of TA

3B (fig. 2: b–e) and 3C in Amarna have held such a third weaving beam? An argument against this possibility can be seen in the closeness of the installations to the walls, especially when taking into account the slightly angled position of a frame, when it was locked between the pits in floors and ceilings. Beams fastened to the hoops could in this case have been used to tighten the threads, but surely not to elongate them. A further counterargument is the high setting of the tethering points. If one follows the working method of the Syria/Palestine loom, the third beam has to be released at intervals to be able to move the warp around the loom.⁵⁴ However, if the floor level in the tombs of Tell el-Amarna at the time when the weaver used it had been the same as in the Pharaonic period, he would have had to climb onto something to perform this task making the procedure a great deal more difficult. The first interpretation, where the tethering points are used as a means to fix the side beams, therefore, seems more suitable given the present state of knowledge.

The way in which the warp was guided around the weaving beams might furthermore be used as an indicator for the loom. In Crowfoot's Syria/Palestine examples, the warping is tubular with a turning rod.⁵⁵ Thus, when the cloth is finished, the turning rod can be removed and the start and end border of the cloth will show loops where it once fitted. However, such loops could not be identified in the few samples of cloth that had been sufficiently preserved from Deir el-Bakhit. On the contrary, the scarce examples of visible cloth endings showed open fringe threads.⁵⁶ It is therefore more likely that weaving took place on one plane only.⁵⁷

46. Schenkel & Gomaà 2004, pls. 156: a, 157: a, and 158: c.

47. Why three such bails had been installed in one of the troughs (Table) cannot be answered. It may have been used as an extra means to fix the loom, also at its lower weaving beam.

48. Crowfoot 1941, pl. XII, 1 and XIII.

49. *E.g.* see modern looms from Africa: Broudy 1993, figs. 3–25; Schädler 1987, figs. 86–88.

50. Similar to looms from Gabun or Tandjua, Lac Mai-Ndombe, depicted by K.-F. Schädler (1987, p. 67, fig. 12 and p. 69, fig. 80).

51. Crowfoot 1941, p. 141–151; Chr. Verhecken-Lammens and D. de Jonghe also suggested a vertical two-beam loom to be the apparatus on which a child's tunic they studied had been woven: Verhecken-Lammens & de Jonghe 1993, p. 61.

52. Crowfoot 1941, pl. XIII.

53. *Ibid.*, p. 142.

54. *Loc. cit.*

55. *Ibid.*, p. 142–143.

56. S. Tatz in Sigl & Tatz in prep.

57. Of course, the loops could have been cut open as well or the warp was wrapped tubularly without a turning rod (see Kemp & Vogelsang-Eastwood 2001, fig. 9.4a–d). See a parallel for a possible pit-loom with weaving done on one plane only: Picton & Mack 1979, figs. 54–56.

Figure 3. The northern loom-pit of Room 25 in Deir el-Bakhit with a seat for a single person on the northern (left) side and one *in situ* crossbar at the eastern (far) end of the pit. (Photo: Ina Eichner © DAI Cairo / LMU Munich, 2005).

Aside from what has been considered thus far, not every single pit might have held the same type of loom, and the position of the weaver is one of the best indicators for this point. While this loom is definitely close to a wall and could either seat one (fig. 3) or more persons (fig. 4) in the case of the loom-pits at Deir el-Bakhit,⁵⁸ there is not enough space to seat the weaver(s) between wall and trenches in the cases of TA 3B (fig. 2), 3C, and in TT 84, TT 99 (Table). Unfortunately, an installation indicating the seat of the weaver can be reconstructed in only a few cases. Features such as an extension on the side across from the wall in the pit in the forecourt of TT 29 cannot as yet be fully explained.

Figure 4. The eastern loom-pit of Room 25 in Deir el-Bakhit with a seat for more than one person on the eastern (right) side and one *in situ* crossbar at the northern (far) end of the pit. (Photo: Ina Eichner © DAI Cairo / LMU Munich, 2005).

Final remarks

In summary, the actual loom, which had once been set up in the longitudinal pits recorded in Western Thebes, Abydos, Tell el-Amarna, Kom el-Ahmar/Sharuna and possibly in Beni Hassan and Tebtynis, will remain the object of much speculation due to the low state of preservation. The loom from Syria/Palestine described above might not be the exact parallel, but at the moment it seems to be the closest possible solution. As mentioned, various kinds of construction, for example an alteration between floating beams and a strong frame construction might also be possible. Only with the recording of additional examples of these pits and of the surrounding archaeological remains of the late 1st millennium AD, amongst which actual parts of the loom might be found, is there any possibility of answering the riddle of the pit-loom used in Egypt.

58. J. Sigl in Sigl & Tatz in prep.

location	position	Dating	no.	L (cm)	W (cm)	D (cm)	dist. from wall (cm)	wall-pit-seat relation	fixations				
									cb.	cbh.	tp.	cs.	cp.
laura of Cyriacus	?? (=TT65, near Paser-wall?)	6 th -7 th c. AD	1??	?	?	?	?	?	?	?	?	?	?
	TT 65, near Paser-wall	6 th -7 th c. AD	1	187	43	40	?		1	?	0	0	0
	TT 65, forecourt	6 th -7 th c. AD	1	150	45	10	?	no walls in vicinity; no seat discernible	0	0	0	0	0
	TT 65, forecourt	6 th -7 th c. AD	1	140	45	25	?	no walls in vicinity; no seat discernible	1	?	0	0	0
	TT-NN-24, forecourt, S of oven	6 th -7 th c. AD	1	110	30-55	80	?	no walls in vicinity; no seat discernible	0	0	0	0	0
	TT-NN-24, forecourt, near above mentioned one	6 th -7 th c. AD	1	110	30-55	80	?	no walls in vicinity; no seat discernible	0	0	0	0	0
	TT-NN-24, forecourt, near above mentioned one	6 th -7 th c. AD	1	100	35	50	?	no walls in vicinity; no seat discernible	0	0	0	0	0
TT 29 (Frango)	forecourt, middle, near 'Coptic wall'-remains	8 th c. AD	1	176	24	87	0		1	1	0	0	0
TT 84	forecourt, S half	1 st mill. AD: Christian	1	155	32	50	?	no walls in vicinity; no seat discernible	1	2	0	0	0
	first hall, N of entrance to second hall	1 st mill. AD: Christian	1	200	>20	50	40		1	1	0	0	1
	first hall, S of tomb entrance	1 st mill. AD: Christian?	1??	200	?	20	?		0	0	0	0	1?
TT 85	pillar hall, SW edge, S wall	1 st mill. AD: Christian	1	180	20-36	>14	35-40		1	1	0	0	0
	forecourt, outside of 'Coptic building', E wall	1 st mill. AD: Christian	1	190	36	50	0		1	1	0	0	0
	forecourt, W half, near entrance, S wall	1 st mill. AD: Christian	1	228	52-58	40	0		2	2	0	0	0
	forecourt, SW edge, S wall	1 st mill. AD: Christian	1	?	?	30-45	0		1	0	0	0	0
	forecourt, S half of W wall	1 st mill. AD: Christian	1	?	25	?	30		0	0	0	0	0
TT 95	pillar-hall, near wall remains near pillar H	1 st mill. AD: Christian	1	176	26	39	?	no walls in vicinity; no seat discernible	1	1	0	0	0
TT 99	first hall, N of entrance to second hall	?	1	250	60	15	0		0	0	0	0	1

location	position	Dating	no.	L (cm)	W (cm)	D (cm)	dist. from wall (cm)	wall-pit-seat relation	fixations				
									cb.	cbh.	tp.	cs.	cp.
TT 1152 (watch tower)	forecourt, W half, N wall	6 th -7 th c. AD	1	?	<20	?	?		2	2	0	0	0
	?	6 th -7 th c. AD	1	?	?	?	?	?	?	?	?	?	?
	Qurnet Murrai	working room, S wall	1	180	30	?	30		2	2	?	?	?
		working room, W wall	1	140	30	?	30		2	2	?	?	?
		working room, N wall	1	210	40	?	30		1	1	?	?	?
		SE cell, W wall	1	200	45	?	60		1	1	?	?	?
		?(corridor, N wall)	1??	230?	20?	?	30?		?	?	?	?	?
		?	1??	?	?	?	?	?	?	?	?	?	?
	Deir el- Medineh	'Coptic structure' W of temple, E wall	1	220	40	?	0		2	2	?	?	?
Abydos	'weaving-factory'/monastery of Mousa	great pillar room, W half of N wall	1	165	90 incl. ext.	330	0		0	2	0	?	0
		great pillar room, E half of N wall	1	165	90 incl. ext.	330	0		0	2	0	1	0
		great pillar room, N half of E wall	1	165	90 incl. ext.	330	0		0	2	0	2	0
		great pillar room, S half of E wall	1	165	90 incl. ext.	330	0		0	2	0	?	0
		great pillar room, E half of S wall	1	165	90 incl. ext.	330	0		0	2	0	2	0
		great pillar room, W half of S wall	1	165	90 incl. ext.	330	0		0	2	0	2	0
		great pillar room, S half of W wall	1	165	90 incl. ext.	330	0		0	2	0	2	0
		great pillar room, N half of W wall	1	165	90 incl. ext.	330	0		0	2	0	?	0
	TA 1	pillar hall, E wall, N end	1	276- 293	14- 45	36- 48	20		0	0	0	0	?
Tell el- Amarna	TA 2	pillar hall, E wall, N end	1??	300	60	>100	20		0	0	0	0	0

location	position	Dating	no.	L (cm)	W (cm)	D (cm)	dist. from wall (cm)	wall-pit-seat relation	fixations					
									cb.	cbh.	tp.	cs.	cp.	
	TA 3B	longitudinal hall, W wall, S half	1st mill. AD: Christian	1	244	20	5	30	<div><div>wall</div><div>(pit)</div><div>?</div></div>	0	1?	5	0	1
	TA 3C	longitudinal hall, W wall, middle	1st mill. AD: Christian	1	282– 293	22– 30	21– 40	30	<div><div>wall</div><div>(pit)</div><div>?</div></div>	0	1?	2	0	1
	TA 3	forecourt, ‘Coptic structures’ in W half, N wall	1st mill. AD: Christian	1	231– 268	20– 33	23– 30	65	<div><div>wall</div><div>(stoneledge)</div><div>(pit)</div><div>(extension)?</div></div>	0	2?	0	0	0
	TA 4	forecourt, E half, N wall	1st mill. AD: Christian	1	284	20	13	30–40	<div><div>wall</div><div>(pit) (pit)</div><div>?</div></div>	0	0	0	0	0
		first hall, E wall, N end	1st mill. AD: Christian	1	257– 258	7–12	20– 25	80	<div><div>wall</div><div>?</div><div>(pit)</div><div>?</div></div>	0	2	0	0	0
	TA 5	longitudinal hall, S side, E end	1st mill. AD: Christian	1	291– 298	12– 21	30– 38	40	<div><div>wall</div><div>(pit)</div><div>?</div></div>	0	1?	0	0	0
Beni Hassan	BH 3	pillar hall, S wall, middle	1 st mill. AD?	1??	230	40	30	15	<div><div>wall</div><div>(pit)</div><div>?</div></div>	?	?	?	?	?
	BH 23	pillar hall, N wall, middle	1 st mill. AD?	1??	195	38	?	25	<div><div>wall</div><div>(pit)</div><div>?</div></div>	?	?	?	?	?
Kom el-Ahmar/Saruna	Deir el- Qarabin	room 10, E wall	till 7 th –8 th c. AD	1	350	40– 55	45– 50	40	<div><div>wall</div><div>(pit)</div></div>	1	2	0	0	0
	V 23	forecourt, ‘Coptic building’ in NE edge, N wall	till 7 th –8 th c. AD	1??	320	40	30	20	<div><div>(wall pit?? seat)</div></div>	0	0	2	0	0
		forecourt, ‘Coptic building’ in NE edge, W wall	till 7 th –8 th c. AD	1??	360	70– 75	45	0	<div><div>(wall pit?? seat)</div></div>	0	0	3	0	0
Umm el- Breigāt (Tebtynis)	<i>thesauros</i>	storage room?	late Ptolemaic, 2 nd c. BC	1??	295	50	>70	?	<div><div>wall</div><div>([cb.] pit [cb.])</div><div>?</div></div>	2	2	?	?	?
	?	?	late Ptolemaic, 2 nd c. BC	1??	?	?	?	?	<div><div>wall</div><div>([cb.] pit [cb.])</div><div>?</div></div>	?	?	?	?	?

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