Studies of Ancient Egyptian Footwear.[1] Technological Aspects. Part II. Wooden Pattens from Ottoman Qasr Ibrim

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Introduction[2]

Qasr Ibrim is situated in what is now lake Nasr, 237 km south of Aswan. The site actually stood on a hill top, rising 60 m above the Nile but due to the construction of the Aswan High Dam, which was finished in 1960, the Nile rose and inundated the area, turning Qasr Ibrim into an island in the lake. The site has a long occupation history and is exceptional in its extraordinary preservation, even for Egyptian standards, and consequently a wealth of objects made of organic material has been recovered, allowing detailed study, of which the present work is one in a series of studies on footwear.

In 1964 two wooden pattens were unearthed and in 1980 another one was found.[3] The pattens, footwear consisting of a wooden sole which was either flat or with stilts[4] and with a leather foot strap, form a distinctive category and are presented here as one of the first results of the above mentioned research on footwear. The pattens were recovered from the Ottoman layers of the site dating between ca. A.D. 1560–1812 when an Ottoman garrison was located in the fortress.[5] After a siege in 1812 the fortress was abandoned and the remaining garrison families settled in the nearby villages as landowners. The present work describes the three specimens studied first hand, focusing on their technology. Parallels from European sites are discussed in passing; ample attention to shape development as well as other non-technological characters will be dealt with in a later phase of the footwear research.

Description

Specimen cam-201 (QI 80.2.23/80, Figs. 1 and 2) is a complete wooden patten. The total length of the sole is 250 mm; the width over the foot is 83 mm and the width over the heel is 80 mm. The thickness of the sole is 15 mm and the total height is 39–40 mm (different stilts). The wooden sole is symmetrical in shape lengthwise; left and right pattens therefore, cannot be distinguished. The front part, tapering to a small point in the middle, narrows towards the middle of the foot, after which it broadens, more

[1] See also André Veldmeijer. *Ancient Egyptian footwear. Catalogue* (Oxford: BAR, Forthcoming).

[2] I thank the EES for their support. I am grateful to John Alexander and Pamela Rose for showing me their unpublished manuscript on Ottoman Qasr Ibrim. I thank Pamela Rose for the laborious job of upgrading my English text. Alan Clapham and Caroline Cartwright were so kind to identify the wood specimens. Mikko Kriek made the reconstuction drawings and I am grateful to Erno Endenburg for assistance in our fieldwork, including drawing and photographing.

[3] Another patten is stored in the Coptic Museum and in 1986 a fifth specimen was found, consisting of two fragments. This piece is currently stored in the Egyptian Museum Cairo. None of these two have been studied by the author. However, the sketch on the find card suggest the patten to be comparable to cam-1357, except that there is no mention of the inlayed circles.

[4] Olaf Goubitz, "Glossary," in Olaf Goubitz with Carol van Driel-Murray and W. Groenman-van Waateringen, *Stepping through time. Archaeological footwear from prehistoric times until 1800* (Zwolle, 2001), 317–24.

[5] John Alexander with Pamela Rose, *Qasr Ibrim in Ottoman Period* (London, forthcoming).

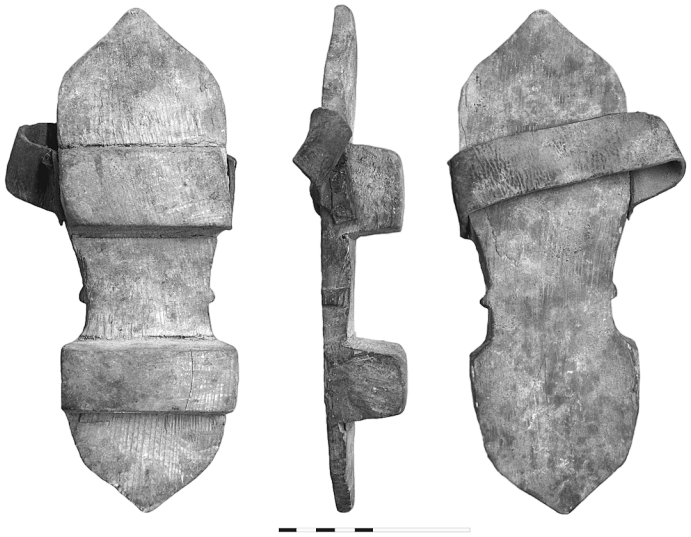


Fig. 1. Wooden (conifer Abies *sp. (Fir)) patten cam-201. Scale bar in cm. Photograph by E. Endenburg. Courtesy of the Egypt Exploration Society.*

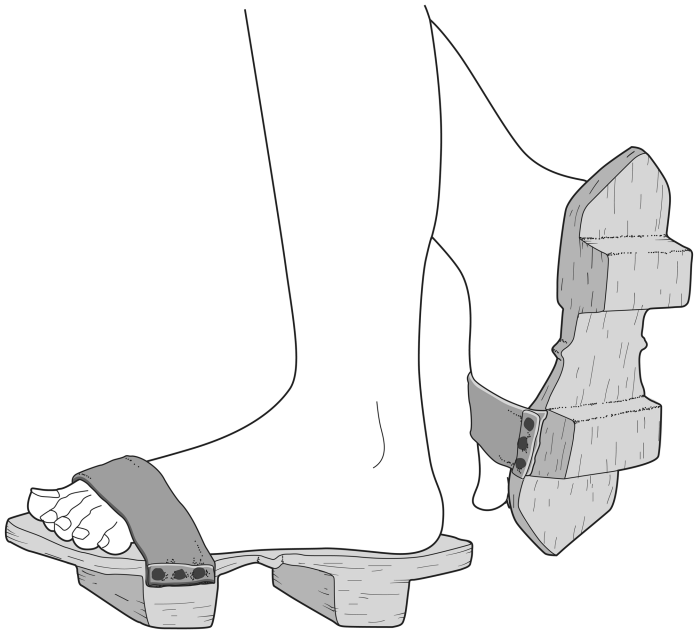


Fig. 2. Reconstruction drawing of patten cam-201, seen in fig. 1. Drawing by M. H. Kriek.

abruptly than the front part, towards the heel. The back of the heel tapers to a small point at the very back. In the middle of the narrowest part, two decorative protrusions have been left; one on each side. The sole is supported by two stilts running under the complete width of the sole; the sole and stilts are carved from one block of wood. At the junction of the stilts and sole, especially at the rear of the front stilt, the incision made by the saw can still be detected. The stilt under the heel is 36 mm thick at the junction with the sole but slightly less thick at the lower edge (28 mm); the height is 39 mm (including the sole). The front stilt, roughly situated at the point of the articulation of the toes to the foot, is 42 mm thick at the junction and 38 mm at the bottom and 40 mm high (including the sole). The stout leather strap, having a width of about 30 mm and a thickness of 3 mm, was fastened at each side of the sole by means of three iron nails the heads of which have a diameter of about 5 mm, reinforced with a small strip of leather of about 10 mm wide and approximately as long as the width of the strap (about 35 mm). The testing of the strap for vegetable tanning as described by Van Driel-Murray[6] indicates that this strap was not vegetably tanned.

Specimen cam-1356 (QI 64/219, Fig. 3) is a heavily worn wooden patten. The strap is not preserved; however, the small holes from the nails that attached the strap to the sole are still vis-

[6] Carol van Driel-Murray, "Practical evaluation of a field test for the identification of ancient vegetable tanned leathers," *JAS* 29 (2002): 17–21. Carol van Driel-Murray, "Ancient skin processing and the impact of Rome on tanning technology," in F. Audoin-Rouzau with S. Beyries, eds., 2002, *Le travail du cuir de la Préhistoire à nos jours. XXIIe rencontres internationales d'archéologie et d'histoire d'Antibes* (Antibes, 2002), 251–65.

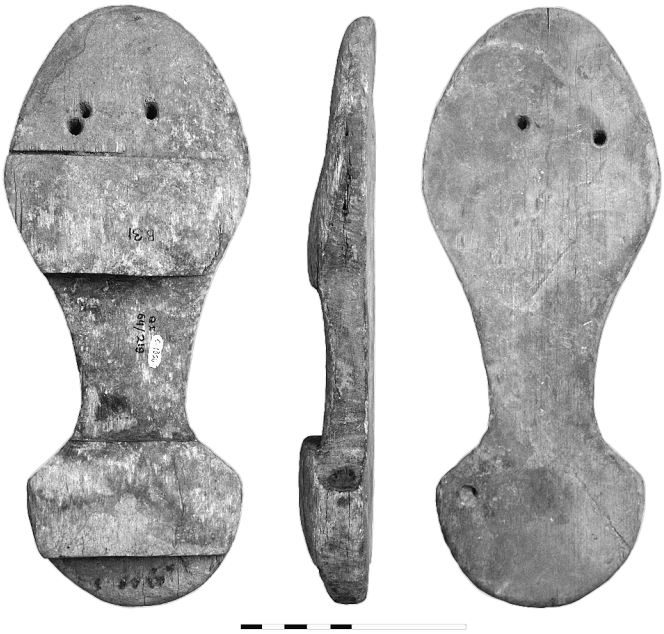


*Fig. 3. Wooden (*Tilia *sp.) patten cam-1356. Scale bar in cm. Photograph by E. Endenburg. Courtesy of the Egypt Exploration Society.*

ible at the sides. In two of the holes at the left side of the sole, remnants of the iron nails can still be seen. The toe end of the sole as far as the heel is pear-shaped with the narrowest point at the start of the heel; the heel strongly widens diagonally after which it terminates in a half round heel. The total length is 253 mm; the width over the foot is 100 mm; the width over the widest part of the heel is 95 mm. The thickness of the sole is 20 mm, measured between the stilts. The toe area is worn at the ventral surface to a thickness of 13 mm. The dorsal surface clearly shows the typical semicircular depression made by the big toe and to a lesser extent the second toe; these toes play a major role in walking and exert great force on the surface. On the basis of this, as well as the wear on the stilts (see below), this piece of footwear must have been worn on the left foot. At the front part of the sole, roughly at the point of articulation of the toes to the foot, two holes are situated slightly off centre, both with a diameter of about 6.5 mm. The internal hourglass-structure of the boreholes suggests that the holes were drilled from both sides. The top of the holes at the dorsal surface shows the abraded edges, characteristic of the head of a nail that has been hit into the surface. The ventral surface of the sole has, next to the exit point of one of the holes visible on the inside, a tapering hole drilled into the wood for about 10 mm. On the heel near the left side of the sole at the point where the diagonal widening joins the rounded heel side, a depression has been made in the wood. The depression is roughly square at the surface, measuring about 7 mm each side. It then tapers towards the upper right hand corner and is approximately 5 mm deep. Another shallow depression is visible at the side of the sole on the left, seated in the corner of the diagonally-extending part. This hole is round in appearance, measuring approximately 7 mm in diameter and approximately 2 mm deep. The inner border of the hole is blackened. Also on the heel a deep diagonal scratch can be seen, running from above the rear end of the heel stilt diagonally across it to the narrower part of the sole. The two stilts, situated at the same spot as described for the previous patten, are worn to the sole at the outer side and to a height of about 35 mm (including the sole of 18 mm) at the inner side of the patten. The front stilt is 50 mm thick; the back stilt 48 mm.

Specimen cam-1357 (QI 64/218, Fig. 4) is a wooden patten without strap, but again with the small holes from the nails visible at the sides. On both sides, part of one of the nails is still *in situ.* This can also be observed at the right side. The shape of the patten compares well with cam-1356. However, in general the shape is smoother because the toe part increases less in width and more smoothly lengthwise; the heel is smaller in width too. This might indicate that this patten was a woman's patten. The total length is 240 mm; the width over the foot about 85 mm (reconstructed as the right side is slightly damaged); the width over the widest part of the heel is about 80 mm (reconstructed, as the left side is slightly damaged). The thickness of the sole is 24 mm, measured between the stilts. The toe



*Fig. 4. Wooden (*Acer *sp.) patten cam-1357. Scale bar in cm. Photograph by E. Endenburg. Courtesy of the Egypt Exploration Society.*

part has been worn on the underside to a thickness of 12 mm. At the front part of the sole, roughly at the point of articulation of the toes with the foot, two holes are situated approximately symmetrically around the midline; both have a diameter of 11 mm. The heel shows three holes, of which the two rearmost have a diameter of 11 mm. The remains of the largest hole (the part carrying about one quarter of the hole has been broken off), situated opposite the others at the left side of the heel, has a diameter of 14 mm. The foot surface was decorated with inlaid circles arranged vertically, following the midline of the patten. Starting from the heel, three circles were placed on the narrowest part of the sole: a single circle with a dot in the centre, a double circle with a dot in the middle and a single circle with a dot in the middle. All of these circles were inlaid with an unidentified black material. Above them, on the place where the sole widens, a larger circle can be seen. This consists of two concentric lines with a dot in the middle, all with the inlaid material, and is surrounded by a larger black circle that was painted on the sole. A similar large circle can be seen above this. From the first large circle, seven circles can be seen at the borders of the sole, three on each side and one at the utmost front part. All consist of double concentric inlaid lines with a dot in the middle. The two lower circles on the left also show traces of a larger black circle painted around them, but for the other circles this cannot be established with certainty. Remains of a single inlaid circle with a dot in the middle can be seen on the heel. The two stilts, situated at the same spot as described for the previous patten, although the heel one is positioned slightly more towards the front, are almost worn to the sole. Clear wear marks as seen with cam-1356 cannot be identified, although the outer side is slightly more worn. The front stilt has a thickness of 54 mm and a height of 34 mm (including the sole); the back stilt has a width of 36 mm and is only 25 mm high (including the sole).

Identification of the Wood (by A. J. Clapham* and C. R. Cartwright**)[7]

Three wooden pattens were sampled using standard techniques[8] and examined under a high-power epi-illuminating microscope (x50–1000) and compared to standard wood reference atlases[9]

[7] * George Pitt-Rivers Laboratory, Department of Archaeology, University of Cambridge, Cambridge, CB2 3ER. ** Department of Scientific Research, The British Museum, Great Russell Street, London. WC1B 3DG. AJC is grateful for the opportunity to use these facilities and wishes to thank Caroline Cartwright for her help and guidance in identifying these samples.

[8] Rowena Gale with David Cutler, *Plant Remains in Archaeology* (London, 1999).

[9] F. H. Schweingruber, *Anatomy of European Woods* (Bern/Stuggart, 1990); Gale and Cutler, *Plant Remains;* K. Neumann with W. Schoch, P. Détienne, and F. H. Schweingruber, *Woods of the Sahara and Sahel: an anatomical atlas* (Bern, 2001).

(Schweingruber 1990, Gale and Cutler 1999, Neumann et al. 2001). The identifications were carried out in the Department of Scientific Research, The British Museum.

The woods were well preserved and allowed identification of all three wooden pattens. The results of the identifications are presented below:

Cam-201 (QI80.2.23/80)—this is a conifer and has been identified as being of *Abies* sp. (Fir).
Cam-1356 (QI64/219)—this has been identified as *Tilia* sp.
Cam-1357 (QI64/218)—this has been identified as *Acer* sp.

Cam-201 was made of *Abies* sp. (Fir) and is not a native to Egypt and therefore must have been imported from abroad, it is not possible to tell whether it was brought in as a ready-made patten or was made from a piece of wood originally used for another purpose. Fir usually grows further north of Egypt and can be seen at high altitudes were the environment is more suitable. It is possible that the wood is of Cilician fir (*Abies cilicica* (Ant and Kotschy) Carr. This is a large tree which can grow up to 30 meters tall, they are usually found on mountains between 1200–2220 meters above sea level in Lebanon, Syria and adjacent parts of Turkey[10]. This wood has been used for boat building (masts), construction, flag-poles and small items.[11]

Cam-1357 was made from *Acer* sp. (Maple) and is again not native to Egypt. There are several species which are found in Europe and southwestern Asia including Filed Maple, *Acer campestre* L. (Europe, the Balkans, across northern Turkey to the Caucasus and the southern coast of the Caspian Sea—up to an altitude of 2000 m above sea level), *A. plantanoides* L., *A. cappadocium* Gled. and *T. monspessulanum* L. can also yield usable timber.[12]

The wood can be used for all kinds of objects including boxes, culinary utensils and other domestic items. A highly decorative wood is produced by burr wood and is used in the production of bowls. The wood has also been used boat- and wagon-building.[13]

Cam-1356 was made from *Tilia* sp. (Lime) and is also not native to Egypt. *Tilia* occurs in Europe and a hybrid (*T. x vulgaris*) is formed from *T. platyphyllos* and *T. cordata*. Other species of *Tilia* include Silver Lime (*Tilia tomentosa* Moench) which is found in southeast Europe and southwest Asia. It is not possible to say from which of the species the patten is made, as the Ottoman Empire covered the distribution of all possible species of lime. The wood is used for carving, statuary, inlay, and small domestic items such as spoons and plates, shields, rakes, boxes, coffins, toys, plough-parts and deck-planks. In Graeco-Roman Egypt, the wood has been used for the mummy portraits and masks.[14]

Discussion

These pattens are examples of wooden footwear from Qasr Ibrim, and among the very few found in Egypt, if we do not take wooden tomb sandals into account. An explanation for this low number is not difficult to find. Useful wood in Egypt has always been scarce whereas other suitable material for making footwear, such as leather and palm, were available in abundance. Furthermore, wooden footwear, if ever popular, would have been worn until nothing was left, and afterwards probably would have been used as fuel.

[10] Rowena Gale with Peter Gasson, Nigel Hepper, and Geoffrey Killen, "Wood," in Paul T. Nicholson and Ian Shaw, eds, *Ancient Egyptian Materials and Technology*. (Cambridge, 2000), 334–71, esp. 348.

[11] Nigel Hepper, *Pharaoh's Flowers The Botanical Treasures of Tutankhamun* (London, 1990); Gale et al., "Wood," esp. 349.

[12] Gale et al., "Wood," esp. 336.

[13] Gale et al., "Wood," esp. 336.

[14] Caroline R. Cartwright, "Egyptian Mummy Portraits: Examining the Woodworkers' Craft," in: M. Bierbrier, ed., *Portraits and Masks. Burial Customs in Roman Egypt* (London, 1997); esp. 106–111.

Two of the pattens were made of wood not native to Egypt and were therefore imported. It is not possible to say whether the patterns were made at Qasr Ibrim from discarded timber or brought to the site ready made by garrision members or as other objects, reused as pattens.

The holes seen in cam-1356 and cam-1357 seem to be drilled for the reception of secondary straps after the normal leather straps, as seen in cam-201 which does not have the holes, were lost due to use.

Footwear such as this is sometime referred to as a 'bathclog' in the Middle East. Comparable clogs are well known, but often much higher and more beautifully decorated.[15] This, however, poses a problem for Qasr Ibrim, because no evidence of bathhouses has been found in the Ottoman phases (or indeed at any other period[16]). Another suggested function for these kind of footwear would be as patten. In Europe,[17] where pattens have been found at various sites,[18] they were used to enable people to walk comfortably on irregular roads, or layers of mud or dirt. According to Goubitz[19] dirt could not accumulate under the patten because of the stilts and therefore it offered a good grip on more steep paths.[20] This seems a very good reason for using this type of footwear in Qasr Ibrim, as the path to the city was rather steep. In this respect it is interesting to note the wear of the sole at the toe and heel, in front and after the stilts respectively, which could be the result of climbing and descending steep hills, even though the leverage would be less compared to the familiar European long-nosed *trips*.[21] Furthermore, as other footwear from Qasr Ibrim suggests, there was a need for heavy footwear, because of the rocky and hard terrain. In Europe, pattens were worn as protection over other footwear. This required a wide strap. The ones presented here, however, have a tight strap, preventing the owner using it over their regular footwear.

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[15] Maria Giuseppina Muzzarelli, "Sumptuous Shoes. Making and wearing in Medieval Italy," in Giogio Riello and Peter McNeil, *Shoes. A History from Sandals to Sneakers* (Oxford, 2006), especially 62, 65, fig. 2.10.

[16] Alexander and Rose, *Qasr Ibrim in Ottoman Period*.

[17] As the focus of the present work is on technology, iconography and comparison with the European pattens will be dealt with in more detail elsewhere. Currently, experiments are ongoing on the use of this footwear.

[18] Especially the ones found at Roman Velsen (Carol van Driel-Murray, "Dead Men's Shoes," in W. Schlüter and R. Wiegels, *Römische Germanien und die Ausgrabungen von Kalkriese*, Osnabrück, 1996, esp. 169–89) and at 13th century Dordrecht (Olaf Goubitz, "Typology," in Olaf Goubitz with Carol van Driel-Murray and Willy Groenman-van Waateringen, *Stepping through time*, Zwolle, 2001, esp. 257) both in The Netherlands,

[19] Goubitz, "Typology," esp. 249–50.

[20] In November 2005, I met with a Japanese man, walking on comparable pattens in Cambridge. Besides the qualities already mentioned, he told me that he had broken his toe and walking on the pattens prevented him bending his toe with every step he took, allowing for a quicker and almost painless recovery.

[21] Marquita and Serge Volken, "Lopen op trippen. Het belang van het experiment," *Westerheem* 46, 5 (1997): 12–18.