

John Peter Wild and Felicity Wild

# Cotton: the New Wool

## Qasr Ibrim Study Season 2008

The site of Qasr Ibrim, now an island on the eastern flank of Lake Nasser in Lower Nubia, Egypt, was occupied from at least the 8th century BC to the early 18th century AD. Its stratigraphy is correspondingly deep and complex. Many thousands of textiles of all periods from the earlier excavations have been recorded by Nettie Adams and Elisabeth Crowfoot (*ATN* 41, 25-29), but study seasons since 2005 (*ATN* 43, 16-19) have offered the first opportunity to examine material from well-dated, sealed contexts in the lower levels on the site excavated since 1999.

The objective for the 2008 season was to extend and complete the analyses and recording of two large and significant groups of textiles, one Napatan in date (broadly 8th to 3rd century BC), the other a Meroitic midden deposit (1st century BC to mid 4th century AD). The study, it was hoped, would lead to fuller characterisation of the very distinctive Napatan and Meroitic textile cultures and to clearer definition of their relationships with the contemporary textile industries of late Dynastic Lower Egypt and Roman-occupied Egypt respectively. Some 350 fragments were recorded in 2008.

### **Napatan textiles**

Napatan textiles were uniformly woven of flax which often still retained a glossy off-white sheen. Yarns were all S-spliced from two slightly Z-twisted strands – there was no trace of continuous spindle-spinning. Some fabrics of sacking quality had a harsh handle, and on close examination it became clear that their yarns had been spliced from ribbons of bast (up to 0.5 mm wide), arguably peeled direct from the flax stem. The traditional fibre processing steps – retting, breaking, scutching, hackling – had apparently been short-circuited or curtailed.

Tabby was the commonest weave, supplemented by some basket weaves and half-basket weaves. Cloth was almost invariably warp-faced, in a proportion of about 2:1. One fragment recorded in 2008 showed a register of blue warp stripes next to the (plain) selvedge [1205]; a second carried blue weft stripes close to a terminal fringe [1204]. An instance of a basket-

weave fabric decorated with rows of knots was noted [1217], and one with simple pile [1173].

The typical Napatan web began with a transverse border in which warp-to-be passed around a bundle of weft threads followed by a succession of shots of paired weft [1254, 1235]. Selvages were plain. Once weaving was complete, the warp ends were formed into a short fringe which was usually (but not invariably) secured at the point of exit from the fell of the cloth with one of a range of knotting, wrapping and plaiting techniques. One simple expedient was to knot a pair of warp threads round an adjacent pair and twist the two units into a single fringe strand [0956]. In other cases the warp groups which were to become the fringe were formed into a simple three-strand plait before being released and neatly knotted off at their ends [1240, 0744, 0748]. In the most complex examples the fringe strands which ultimately emerged were seen to incorporate two distinct elements. The weaver (or weaver's assistant) had first taken a series of groups of four adjacent warp yarns and plaited them in one direction along the cloth edge. Then he/she worked back again in the other direction, picking up groups projecting loose from the first pass which then joined those from the second pass to create the fringe strands [1272, 0705, 0978, 1232]. The exact path followed by the yarn groups was almost impossible to draft satisfactorily.

The only complete or nearly complete textile item was a small neat tassel, *c.* 28 mm long, possibly detached from a parent garment [0972]. The strands were of red-dyed flax yarn and the neck bound with blue and undyed yarn.

### **Meroitic textiles**

The Meroitic textile assemblages are dominated by a new fibre, cotton, represented by finds of complete balls, seeds, unworked fibres (lint), spun yarn and woven fabrics. Flax has disappeared, except for a few examples which might be explained as recycled material. Wool is found occasionally as weft on cotton warp; although it is not hard beaten up or apparently dyed, it might have had a decorative function.

Cotton yarn for warp was strong S-spun, even over-spun, while that for weft was marginally less hard twisted. In contrast with the earlier warp-faced linen fabrics, cotton tabbies, basket weaves and half-basket weaves show a balanced thread-count, with only slightly denser warp than weft cover.

A typical Meroitic cotton web begins with a flat-woven starting border similar to those of northern Europe. Its selvages are reinforced as in wool textiles: weft yarns pass over/under three outer bundles of warp threads and sometimes pass round them again before returning into the web. Occasionally there is an extra pair of wrapping yarns following the passage of the weft over/under the warp bundles. There is one

pyramids' in blue weft. The blue yarn was often faded; but it is evident that the core of the yarn had not been penetrated by the blue dyestuff, a feature which suggests hank-dyeing of the spun cotton yarn. The most striking mode of decoration at Qasr Ibrim was embroidery – a technique comparatively rare in the Roman world to the north. Rows of blue flower heads on stalks were worked across a textile (ATN 43, 17 fig.13). They are understandably more degraded on the face of the cloth than on the back. At the centre of each flower is a raised boss, built as a tight spiral worked in chain stitch. Radiating from the boss are single stitches representing petals, framed in one case by an outer circle in running stitch [1016]. In some of



**Fig. 1. Worn blue tassels on a Meroitic cotton textile [0999] (Photo: P.J. Rose).**

find to date of a cordeline finish in which groups of warp ends were twisted into a three-strand cord against the fell of the cloth. The commonest Meroitic finish, however, is a fringe of greater or lesser complexity (see below).

As to decoration: a number of fragments show pairs of narrow blue weft bands repeated at regular intervals down the length of the cloth, and there is one example with warp stripes close to a selvage [1151]. A more elaborate version of the weft-banded scheme was recorded on two fragments [1015, 1111]: single, wider, tapestry-woven blue bands, repeated down the cloth, incorporated narrow blue and white undulating bands and widened at intervals into opposed 'step-

the examples examined in 2008 the bosses were worked in stem stitch rather than chain stitch, but the visual effect was the same. Where the role of the textiles carrying the embroidery could be ascertained, they seem to have been loin cloths and the aprons worn over them [1000, 1073] – male attire. Decoration based on rows of close-set short loops was recorded on one frustratingly incomplete fragment of cotton tabby [1110, with 0689 from the 2007 season]. A single geometric motif picked out in rows of loops ended on a line oblique to the weave, but was otherwise truncated. Amid the mainly blue loops were small patches of red loops, virtually completely worn away and impossible to interpret.

The technique of weaving, plaiting and wrapping a terminal fringe was brought to a fine art in the Meroitic cotton industry. The striking Meroitic openwork fringes have long been known: Elisabeth Crowfoot published a type series (Crowfoot 1984, 16 fig.1), to which we have added a number of variants. The same basic principles, however, underlie them all. Pairs of warp ends are formed into a three-strand plait along the fell of the cloth. The warp pairs emerging from the plait hang loose and parallel for a short

Where cloth was cut either straight or on the bias, in the making of tailored garments, the hems were emphasised by the addition of two lines of blue piping. Each piping cord consisted of 4 pairs of yarns twisted together. One cord was sewn to the outer edge of the hem (and was soon the worse for wear), the other into the step between the hem and the main fabric. The hem-bearing face of the cloth thus became the 'show side', the opposite of normal practice.

Among the multitude of fragments were three readily



**Fig. 2. Meroitic cotton cod-piece with blue-piped hems [1032], viewed from the front (Photo: P.J. Rose).**

distance before being plaited again. To the (short) ends which emerge from this second plait are attached a close-packed row of heavy tassels. In a separate operation the parallel warp pairs left free between the two lines of plaiting are bound with an extra yarn (sometimes blue) into rows of open diamonds, a scheme with many variants.

Rather less flamboyant fringes finish other cotton fabrics. After the warp pairs have been plaited, first in one direction, then the other, the pairs emerge to be converted into a row of 'bobbles'. Some are (or were) diminutive blue tassels [0999] (fig. 1) or undyed tassels [1017]; other tassels were denser and bushy [1033].

recognisable cotton garments. The first was a one-piece shoulder cape with hood of a size that would fit a baby [1030]. It had tucks to mark the shoulders, blue piping along the hems and a tiny blue bobble at the front of the seam on the hood. The second garment was a cod-piece [1032] (fig. 2), constructed from a T-shaped piece of cloth by sewing two adjacent corners together and providing ties from the corners of the T-arms to fasten round the waist. Again there is blue piping, along the hems. A third item was an enigmatic hemmed object resembling an eye-patch, with ties [0990].

## Conclusion

The season's work has brought into sharper focus the revolution in textile culture that marks the end of the Napatan and the beginning of the Meroitic period.

Archaeological evidence sheds at present frustratingly little light on the duration and character of the interface between the two – if indeed there *was* an interface at Qasr Ibrim and not a gap in occupation. An industry based on spliced flax woven on a two-beam loom gave way – apparently rapidly – to one based on spun cotton and the warp-weighted loom. The only obvious thread of continuity is the penchant in both cultures for elaborate fringes. Indeed, among the Meroites the character of a fringe was a significant marker of the status and identity of its wearer, as contemporary iconography reveals.

Cotton was introduced from the south into Nubia by the Meroites as the first of a suite of new African crop plants such as sorghum which contrasted with the old-established repertoire of Lower Egypt (Wild, Wild, Clapham 2007; 2008). Yet some key features of the Meroitic cotton textiles – especially the reinforced selvages and transverse borders – reflect the contemporary wool weaving techniques of the Hellenistic and Roman world to the North: cotton was manifestly the 'new wool'. The brief presence of a Roman garri-

son at Qasr Ibrim in 25/24 and 22 BC is unlikely to have had much influence at a textile-cultural level. How this apparent contradiction between influences from south and north is to be explained requires further thought and discussion.

## Acknowledgements

We are indebted to Dr. Pamela Rose, Director of the Qasr Ibrim excavations for the Egypt Exploration Society, to Dr. Alan Clapham, the expedition's palaeobotanist, and to the Pasold Research Fund which has twice generously provided travel grants.

## Literature

Crowfoot, E. (1984) Openwork fringes from Qasr Ibrim. *Meroitic Newsletter* 23: 10-17.

Wild, J.P., Wild, F.C., and Clapham, A.J. (2007) Irrigation and the spread of cotton growing in Roman times. *ATN* 44: 16-18.

Wild, J.P., Wild, F.C., and Clapham, A.J. (2008) Roman cotton revisited. In C. Alfaro and L. Karali (eds.), *Purpureae vestes: Il Symposium Internacional sobre Textiles y Tintes del Mediterráneo en el Mundo Antiguo*, 145-149. Valencia.