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Iron Age cemeteries in East Yorkshire

Excavations at Burton Fleming, Rudston, Garton-on-the-Wolds, and Kirkburn

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side link is separate from the core of the rein-ring; it was not constructed like the loop-link from Garton Station. When both side pieces had been made, they would have been linked with the central double-ring in iron.

The overall design of these bits, especially the fixed angle of the rein-rings to the side-links, invites comparison with those from the King's Barrow and Lady's Barrow at Arras, where the angles of rein-rings to side-links were 152° and 145°. The Kirkburn bits lack the stop-studs on the rein-rings at either side of the side-links (such features would have had no function on a bit with a fixed ring, but they nevertheless appear on the Arras bits), and have iron and copper-alloy in the links – the Arras bits employed iron only in the core of the rein-rings. The closest parallel for the construction of the Kirkburn side-links is Wetwang 2, whose central link was also in iron but with a copper-alloy collar; but the rein-rings of the Wetwang 2 bits were free to move within the side-links. Perhaps the fragmentary Ulceby bit (Palk 1984, 38–9) was constructed in the same way; its broken side link is in part hollow and could have lost an iron component. The Garton Slack bits (Stead 1984a, 32; Palk 1984, pls i–iii) also have three links, but are made entirely of iron and had free-moving rein-rings.

5 Mail tunic from K5

The mail tunic had been draped over the corpse, face down and inverted (Figs 45 and 127). The hem of the skirt had crossed its chest and the shoulder-flaps had been draped over its legs. In the ground the mail was longer on the west side (0.92m) than on the east (0.85m) because the east side had sunk between the knees and the chest whereas the west side was fairly level over the hips; its width was about 0.48m.

As it had corroded some areas had fragmented, while others had formed a solid layer over the skeleton, in places delicately bridging voids where the body and clothing had decomposed. The fragility of the remains, and the voids, were hazards enough, but another problem faced the excavators and conservators. In such a rich grave there might well have been other artefacts masked by the mail; the warrior would surely have had a sword, perhaps even a shield, and it was possible that the corpse had been speared (p 33). The gradiometer and metal detectors were regularly used to give forewarning of metal artefacts, but here the response of the mail and tyres rendered them useless. Field radiography was impossible in such a complex situation, even if it had been available. A Malton veterinary practice generously lent and operated a portable Ultrasound Scanner, but the results were negative. Block-lifting was out of the question: there were too many voids, complicated by the underlying skeleton and tyres, and the possibility of other artefacts as yet undiscovered. Instead, it was decided to consolidate and lift the mail, leaving the skeleton and any other artefacts in the ground (for a full account of the conservation and lifting see Dove and Goldstraw forthcoming); the operation was successful and the mail was moved to the museum for further conservation. In the event, the only artefact under it was a small copper-alloy toggle.

Although complete when buried, the mail tunic is now badly corroded and partly fragmented; it can never be restored to its original state, but conservation and radiography have revealed full details of its construction. Each link is a ring 8.2–9.2mm in external diameter, constructed from iron wire 1.5–1.9mm thick; each is butt-jointed and linked with four other rings (Fig 45, d). As found, the tunic comprised two superimposed layers of mail, the front and the back, with a single layer for the shoulder-flaps extending from the back. There was no hint of leather or fabric between the two layers, and no indication of organic binding at the collar, hem, or sleeve. Some mineralised fabric on the underside was all that remained of the covering or clothing of the corpse (p 122).

When worn, the shoulder-flaps were secured by their studs, which engaged the hooks of a breast-fastener attached to the front of the mail (Fig 45, e). Each shoulder-flap had a main stud (Fig 45, a and b): its deep head, 24mm in diameter, was slightly concave on top and the shank was 27–30mm long. There were two circular iron washers on the shank, a larger one (29–30mm in diameter) in the centre and a smaller one (22–25mm in diameter) at the back. The shank passed through the mail, which was secured between the two washers, and the breast-fastener would have been hooked onto the shank between the larger washer and the head. In one of the shoulder-flaps (the left one, as worn) there was a second stud (Fig 45, c) with a very similar dished head but a short shank and only one washer (about 20mm in diameter); the shank went through the mail, with the head on the front and the washer on the back. The function of this second stud is unknown: it could have secured a cloak, or perhaps it was merely decorative (but there was no hint of a corresponding stud on the right shoulder-flap).

The breast-fastener (Fig 45, f, length 197mm) is a length of iron with hooked S-shaped terminals. The central part is recessed, and attached to the mail by a stud like those in the shoulder-flaps with a dished head 23mm in diameter and 8mm deep; its shank passed through the links and was secured on the underside over a large thin washer about 42mm in diameter. The fastener would have been held partly by the rivet and partly by clamping the mail between the strip and the washer.

Mail is known from a mumber of Iron Age and early Roman contexts, and its links were made in three ways: butted, as at Kirkburn; riveted, where the butt ends were overlapped, flattened, and riveted together; and whole, punched from iron sheet (and used in combination with one of the other methods). Usually the rings were linked in a four-in-one arrangement, as at Kirkburn, and indeed that seems to have been the normal practice in other periods (Burgess 1953a; 1953b). The only other Iron Age mail from Yorkshire comes from the Stanwick hoard, deposited about the middle of the first century AD, perhaps just in advance of the Roman conquest (MacGregor 1962, 28 and nos 117–20). Further south, mail has been found in two British cremation buri-

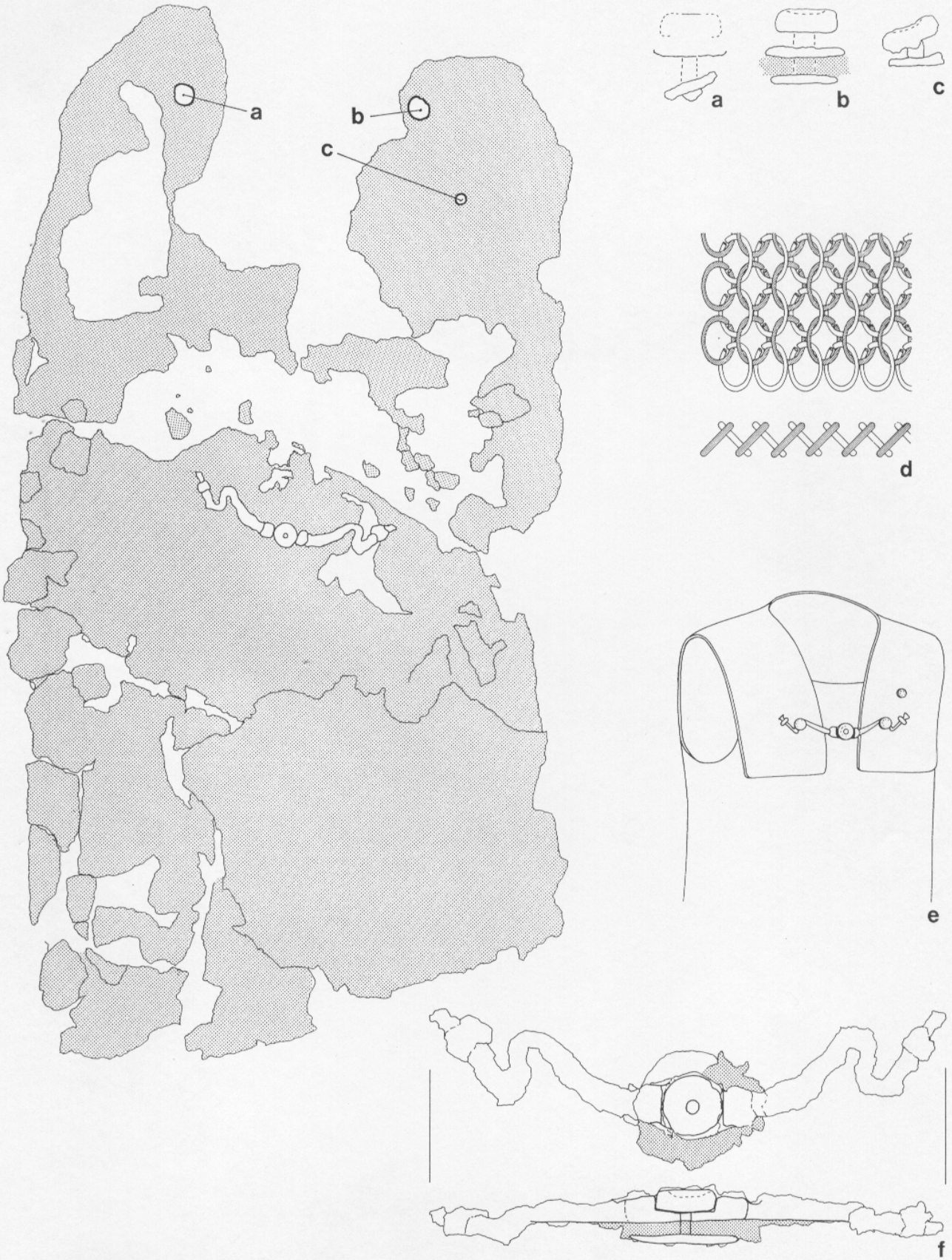

Fig 45 Kirkburn, K5: mail tunic after conservation (the underside as excavated); a and b, studs in the shoulder flaps; c, a smaller stud in the same shoulder flap as b; d, detail to show the construction of the mail; e, sketch showing the fastening of the shoulder flaps; f, breast-fastener from the centre of the mail; on a–c and f the mail in section is represented by tone. Scales: mail tunic (1:5); a–c and f (1:2); d, approximately full size

als, at Lexden (after *c* 17 BC; Foster 1986, 82–8) and Baldock (not yet fully published, but roughly contemporary with Lexden; Selkirk 1983, 72). Other finds that might have been pre-Roman are from the Woodeaton temple site (but unstratified, so possibly Roman; Jope 1957) and Maiden Castle (from a 'Belgo-Roman' level, but perhaps from ceremonial dress rather than mail; Wheeler 1943, 284). Hitherto, then, dated examples of mail in Iron Age Britain have been confined to a late stage in La Tène III; Kirkburn is two centuries earlier. In construction, Kirkburn uses the simplest technique – butted links. The Stanwick mail (examined by Spratling 1981, 14, note 21) was also made of butted links, but the others had rows of riveted links alternating with whole links (at Lexden and Woodeaton, examined by Jope 1957) or butted links (Baldock). Presumably the inclusion of whole or riveted links would offer more resistance to weapons than simple butted links.

On the continent the most interesting comparisons come from the metalwork deposit at Tiefenau, in Switzerland (Müller 1986) and from a cremation grave at Ciumeşti, in Romania (Rusu 1969). Only fragments of these continental mail tunics survive, but they are constructed from butt-ended wire as at Kirkburn. The conserved Tiefenau fragment has larger links (13mm in diameter) made from 1mm thick iron wire, and each is linked with six others to produce a particularly close-knit fabric (for which the larger rings would have been essential). At Ciumeşti most of the links are about the same size as at Kirkburn (8.5–9.2mm in diameter), made from wire 0.8–1.8mm thick (some are finer, 7.2–7.5mm in diameter, from wire 1.2–1.4mm thick), arranged in a four-in-one system exactly the same as at Kirkburn; the comparable studs were elaborately decorated. The Ciumeşti grave has been dated to a late stage in La Tène I, but the Tiefenau find has La Tène II and III artefacts, including Nauheim brooches. Small fragments of mail from a warrior-burial (?late La Tène I) at Horný Jatov - Trnovec nad Váhom, Slovakia, have not been studied in detail (Benadík *et al* 1957, 32 and pl x). The deposit of artefacts at Hjortspring, Denmark (Rosenberg 1937; Jensen 1989), interpreted as the equipment of a defeated army, included between 10 and 20 sets of mail, but they had been reduced to little more than rust-stains. Recent radiocarbon dates suggest that the Hjortspring material was deposited in the second half of the fourth century BC.

The Kirkburn burial joins a select group of finds from Denmark, Czechoslovakia, and Romania that date from the latter part of La Tène I and include the earliest mail from Europe. Although not well preserved, the Kirkburn mail is certainly the most complete survivor of the group.

A fine stone statue of a Celt wearing a mail tunic was found at Vachères and is now in the Musée Calvet at Avignon; it probably dates from the first century BC or AD, and is Roman rather than Celtic in style, but the warrior wears a torque (Benoît 1955, pl lxiii; Robinson 1975, 164, pl 461). The shoulder-flaps seem to have been bound in leather, and the end of a breast-fastener protrudes from under a cloak. Below the breast-fastener each shoulder-flap has a stud with concave head, as at Kirkburn. Some of the Entremont statues may also represent Celts in mail tunics, with prominent breast-fasteners (Benoît 1955, pls xlvi, xlvii, and lv; Robinson 1975, pl 462). It may be that the Celts invented mail; certainly Varro (*De Lingua Latina*, v, 116), writing in the middle of the first century BC about the origin of Latin words, implies that the Romans adopted mail from the Celts.

6 Miscellaneous objects from K5

Copper-alloy toggles (Fig 46)

1 (KR/AR) 24×24mm

A pair of linked rings, with a triangular strap-loop on the back. Both rings and triangle are rounded on the outside and flat on the inside.

2 (KR/AQ) length 29.5mm

A pair of linked spheres, each with a flat disc at the end, and a small curved strap-loop.

3 (KR/DD) length 19mm

A pair of adjoining domes, with a rectilinear strap-loop grooved on the back and sides.

The three toggles were found more or less in a straight line at the foot of the grave. Nos 1 and 2 were about 0.3m apart and no 3 was roughly 0.5m away. The precise position of no 3 is unknown; it was under the south-east shoulder of the mail and was dislodged when the mail was lifted. Although nos 1 and 2 were near the end of the yoke, there is no reason to suppose that they belonged to harness, or to vehicle fittings. Such pieces are usually classified as dress-fasteners (Wild 1970b): no 3 might have been related to the fabric that left its imprint on the mail, and the other two could have been on clothing piled at the feet of the corpse. The only comparable piece from an Arras Culture grave was found nearby at Eastburn (Stead 1979, 86). There was a toggle with horse-bits in the Ringstead hoard (Clarke 1951, 222, pl xix, c).

Copper-alloy fittings, possibly from a lid (Fig 47)

(KR/BU) A copper-alloy binding, forming a D-shaped frame, 156×120mm

Within the frame is a symmetrical arrangement of three semi-tubular rings, six dome-headed studs, and three eyelets. These copper-alloy fittings had been attached to a base about 5mm thick; presumably it was made of wood, although there is little direct trace. The semi-tubular rings (diam *c* 41mm) were attached by copper-alloy nails, four in one and three in the others; within them is a compact blackish filling and there is a very similar deposit in some of the domes. Samples analysed by Fourier transform Infra-reds showed that the filling contained clay and wax; a spectroscopic examination gave a spectrum comparable with a bituminous material. Two of the