

A LATE ANGLO-SAXON SWORD FROM GILLING WEST, N. YORKSHIRE (Figs. 3–5; Pl. ix)

On 9 April, 1976 a late Anglo-Saxon sword with two-edged, fullered iron blade and silver-mounted hilt was found by a nine-year-old boy near the bridge over the Gilling Beck, in the village of Gilling West, N. Yorkshire. The Coroner's Inquisition of Treasure Trove held in September¹ was told that the boy had noticed a piece of metal close to the stream's edge, in four or five inches of water, which he had retrieved and found to be a sword. A police constable stated that the find spot was on the N. side of the Gilling Beck, '33 feet east of the bridge and the point indicated in the water was 2 feet from the water's edge'. This corresponds to N.G.R. NZ 1835 0524. The constable also noted that earlier in the same year a mechanical excavator had been operating in the area where the sword was found, cleaning and widening the beck. Presumably it was this disturbance which exposed the sword.

The Coroner's Inquisition decided that the sword was not Treasure Trove and it became the property of the finder, who in 1977 put it to auction, where it was purchased by the Yorkshire Museum, York. It was cleaned and restored by the Conservation Department of the British Museum.² The sword is now part of the Yorkshire Museum's permanent collection, acc. no. 1979.81. A brief description of it appeared in the catalogue accompanying the 1981 'Vikings in England' exhibition,³ but this note is the first full publication.

The blade. By B. J. GILMOUR

The blade is 700 mm long from the lower guard to the tip. Its main part tapers gradually away from the lower guard where its width is 52 mm. The waterlogged conditions in which it was found have preserved the blade very well, especially on one side where much of the original surface survives as a hard, shiny, black patina. A shallow fuller runs down the centre of the blade on either side and along this fullered zone traces of a pattern-welded design are visible on the surface, best seen in places where corrosion has had a more severe etching effect.

The pattern welding runs the full length of the fuller and consists of three parallel composite rods welded side-by-side, together occupying the width of the fuller. Each composite rod was alternately twisted, then left straight for intervals of about 30 mm, and then welded side-by-side so that the straight and twisted portions alternated across the width of the fuller. An X-radiograph indicates that two triple sets of composite rods occupy the surface, one set on each side of the blade. A close inspection of the more deeply corroded parts of the blade where the pattern welding is visible, especially where a few small bits are missing, appears to show that each composite rod occupied half the thickness of the blade. This indicates that the two triple sets of composite rods were welded back-to-back and not to a separate central core piece, as is often the case.⁴

Figure 4, A shows a schematic impression of how the pattern-welded design would have appeared on the surface along the upper and central part of the blade, and Fig. 4, B gives a three-dimensional view across the blade. The twisted parts of the pattern welding show both as a diagonal 'grain' and as a more distorted 'watery' pattern. The 'watery' pattern occurs mostly nearer the hilt end of the blade and shows that here the fuller was ground away after the final forging. The reconstruction of the design shows a straightforward diagonal grain as the alternative to the 'watery' pattern, and although this appears to be largely the case the diagonal graining does appear to be rather distorted in places, tending to resemble the 'watery' pattern. This indicates that lower down the blade, in the fullered zone, some of the surface was ground away after final forging, but much less than nearer the hilt where the effect is quite pronounced. Towards the tip the diagonal graining appears largely undistorted indicating that little or no surface grinding took place.

These different aspects of the pattern welding are visible in the areas of hard, shiny, black patina which preserves the original surface of the blade. This is a fairly clear indication that the blade was heavily etched after any final surface grinding and polishing, so that the pattern-welded design would have been visible. The etching has left alternate bands in the

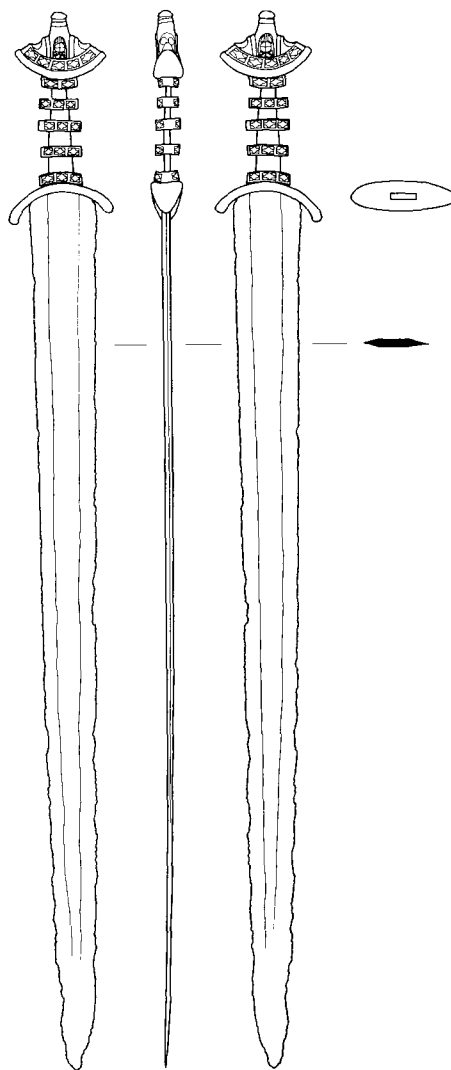


FIG. 3
GILLING WEST, N. YORKSHIRE
Late Anglo-Saxon sword. Scale 1:6

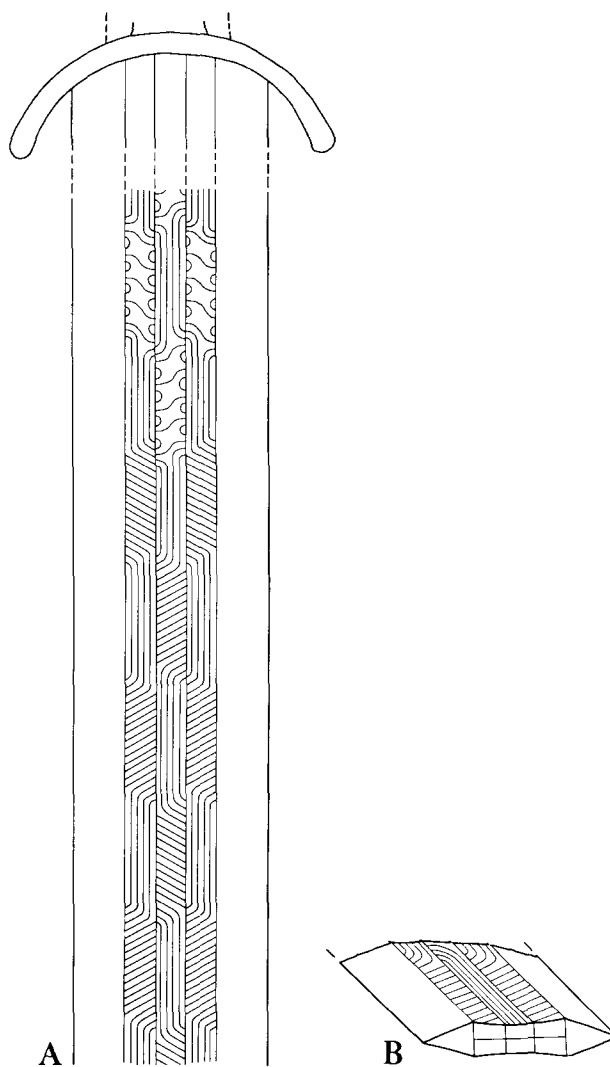


FIG. 4

GILLING WEST, N. YORKSHIRE

Schematic views of the blade to show the probable structure of the pattern welding on the upper and central part of the blade (A) and in section (B). Based on surviving surface detail and X-radiographs

pattern welding as higher and lower ridges, which indicates that the iron of these bands contained differing alloying elements that probably alternated fairly evenly in composition. The black, shiny patina, however, only preserves the shape of the surface and not its original appearance or colour. Along the pattern-welded area this would have shown as alternating paler and darker bands, further accentuating the already alternating nature of the design.

The cutting edges of the sword may have appeared as paler or darker zones after this final etching depending on the etchant used, the alloying elements present in the iron (mainly the proportions of carbon or phosphorus), and any final heat treatments to which the blade may have been subjected. A number of cracks running at right angles across the cutting edge along one side near the hilt may suggest that the blade was heat-treated and that the cutting edges either wholly or partially consist of a steel with a carbon content high enough to become much harder and more brittle on quenching.

The well-preserved nature of the Gilling West sword meant that no sectioning for metallographic analysis was permissible so it is difficult to say much more about the structure of the blade than the observations given here. It is not possible to say to what extent steel was combined with wrought iron in the manufacture of this weapon or to evaluate the quality of the metal used to fashion the blade. Metallographic analysis on sword blades of a similar date and type would suggest that this blade is very likely to have included welded-on cutting edges of heat-treated (i.e. quenched and possibly tempered) steel.⁵ The pattern-welded zone along the fuller on either side must have given a highly decorative appearance to the blade and one which was clearly intended to be seen.

The hilt (Fig. 5; Pl. ix)

The undecorated lower and upper guards curve away from the grip. The pommel is trilobate, with an almost cone-shaped middle lobe and each lobe separated from the next by a narrow silver band decorated with two groups of incised parallel lines. On each side of the middle lobe of the pommel, between the narrow silver bands, is a convex-topped rectangular silver plate. Each plate is decorated with a circle divided into quadrants, the circle bordered by four triangular fields below and two sub-triangular fields above. A narrow silver band decorated with two groups of incised parallel lines encircles the middle lobe near its terminal. A silver band follows the curve of the pommel guard, each side decorated with five sub-rectangular panels each containing conventionalised plant ornament in a concave-sided square creating four sub-triangular fields. Below the pommel five silver strips encircle the grip. The upper strip is decorated with two panels on each side of the strip, each panel containing the same ornament as on the pommel band. The remaining four strips have the same ornament in three panels on each side. Although the ornament in each sub-rectangular panel is the same, its execution differs in points of detail and each panel must have been cut separately. The middle strip around the grip has scuff marks, presumably caused by a heavy glancing blow while it was supported by the (now perished) handle material. All of the silver mounts have remains of niello inlay which had been used to emphasize the ornament. The report by the British Museum Conservation Department notes the presence on the mounts of a gold-coloured metal thought to be solder.

Overall length of sword: 838 mm; width across lower guard: 86 mm.

Discussion

The basic form and decoration of the Gilling West sword place it within a well-known group of late Anglo-Saxon swords, characterised by guards curving away from the hilt and a trilobate pommel. This group was classified as type L by Petersen, who considered them the typical Anglo-Saxon sword of the Viking period.⁶ Amongst the examples known, perhaps the closest in overall form and in disposition of the decorative fittings is the sword from Fiskerton (Lincolnshire),⁷ although that found in Wensley churchyard (N. Yorkshire) also shows similarities to the Gilling find, particularly in the forms of the panels found amongst its

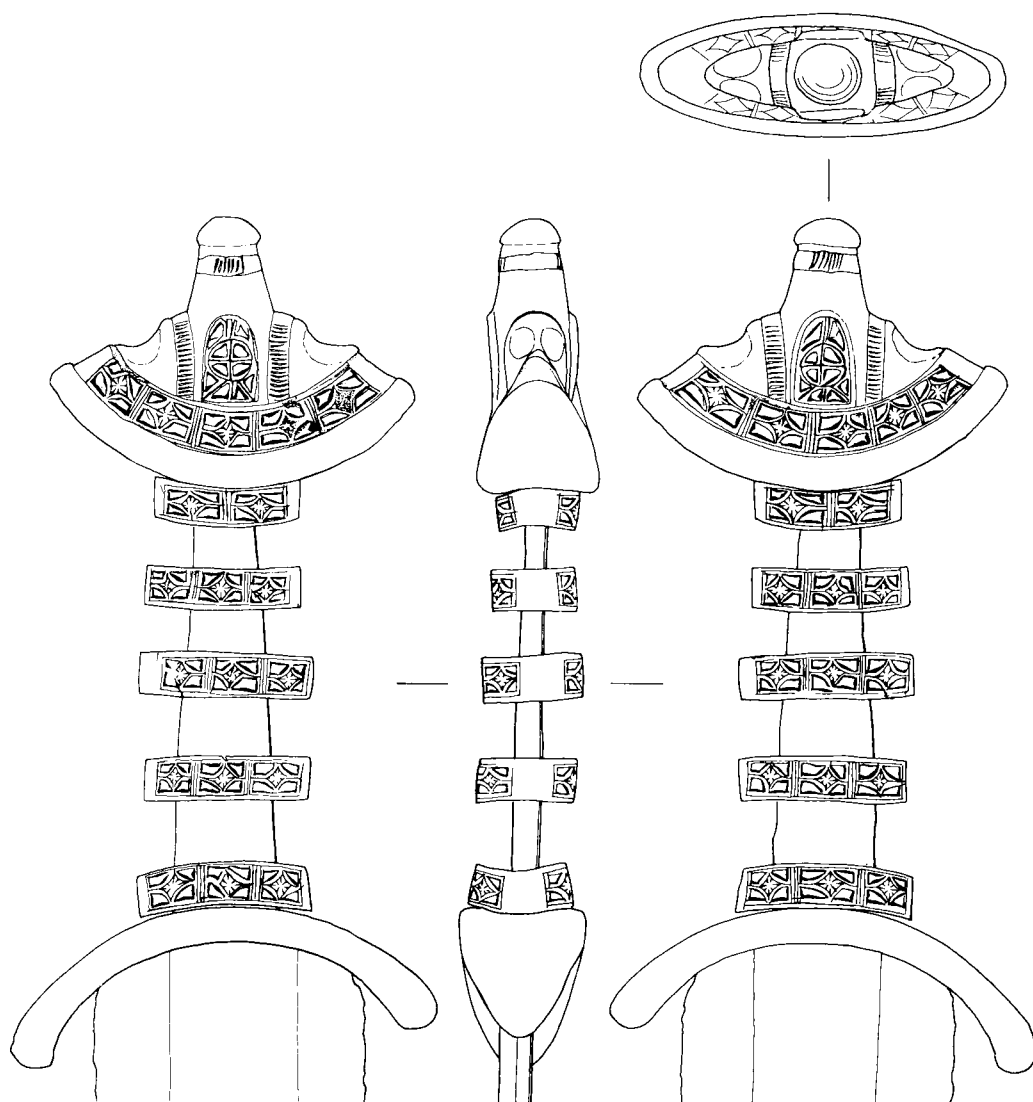


FIG. 5
GILLING WEST, N. YORKSHIRE
Detail of hilt. Scale 2:3

ornament.⁸ The nielloed, conventionalised plant and other designs in small panels repeated on the silver fittings of the Gilling sword belong to the repertoire of Anglo-Saxon ornament usually characterised as the 'Trewiddle' style, so called after the hoard found at Trewiddle, Cornwall, the deposition of which is coin-dated to after c. 868.⁹ The ornament of the Gilling sword is therefore consistent with the 9th-/early 10th-century date range usually assigned to type L swords.

Although the sword was actually found in the stream it has been noted above that the weapon may have been disturbed by the cleaning and widening of the Gilling Beck, which may in the past have been subject to changes of form and course which could also have moved the sword from its original place of deposition. Consequently the context of the sword's deposition must be regarded as uncertain, and one possibility is that it came from a Viking grave. Although rare in England as a whole, four Viking burials have been located in N. Yorkshire,¹⁰ two of which, Wensley¹¹ and Camphill,¹² have type L swords associated with them, showing that this characteristically Anglo-Saxon weapon was sometimes represented among Viking grave-goods. More late Anglo-Saxon swords are however known from rivers than from Viking graves and churchyards (a ratio of 34:8 was listed in 1965),¹³ many from suspected bridges or fords such as the recent find of a 9th-/10th-century sword from the R. Hull at Skernc, N. Humberside,¹⁴ discovered while excavating part of a late Anglo-Saxon bridge. River-crossing points were natural foci of activity in the late Anglo-Saxon period, and the police constable at the Coroner's Inquisition noted that at the point of the Gilling West sword's discovery the bank is open at both sides of the beck, slopes down to the water, is hard-cored and rutted, and may once have been the site of a ford. Although in larger rivers some swords may have been ritual 'offerings',¹⁵ the Gilling sword is from a smaller watercourse than is usual for such finds, and this may indicate that it is a casual loss.

Acknowledgements

This note is a result of research carried out on behalf of the Yorkshire Museum. I should like to thank Elizabeth Hartley for suggesting that the sword be published; Brian Gilmour for his report on the blade; Ian McIntyre for providing a copy of the British Museum Conservation Department report; Penny Simons for typing the manuscript; Helen Humphries for the drawings; and David Whitely for the photograph. In addition I am indebted to James Lang, Richard Morris and Deirdre O'Sullivan for discussions concerning the evidence for Anglo-Saxon settlement in the Gilling West area. X-radiographs of the sword were supplied by York City Hospital.

J. R. WATKIN

NOTES

¹ A record of the Coroner's Inquisition of Treasure Trove was supplied to the Yorkshire Museum by the Office of the Richmondshire Coroner, Kirkgate Chambers, Thirsk, N. Yorkshire. This forms the basis of the account of the circumstances of the find given here.

² British Museum internal report, January 1979.

³ E. Roesdahl *et al.*, *The Vikings in England* (The Anglo-Danish Project, London, 1981), 63, pl. page 44.

⁴ R. F. Tylecote and B. Gilmour, *The Metallography of Early Ferrous Edge Tools and Edged Weapons* (forthcoming).

⁵ *Ibid.*

⁶ J. Petersen, *De norske vikingesverd. En typologisk-kronologisk studie over vikingetidens vaaben*. Videnskapsselskabet Skrifter, II, Hist.-Filos. Klasse, 1919, No. 1 (Kristiania).

⁷ D. M. Wilson, 'Some neglected late Anglo-Saxon swords', *Medieval Archaeol.*, ix (1965), 33-35, pls. IIC, IIIA.

⁸ *Ibid.*, 41-42, pl. VII, A.

⁹ See D. M. Wilson, *Anglo-Saxon Ornamental Metalwork 700-1100 in the British Museum* (London, 1964), 21-35, for a discussion of the importance of the Trewiddle hoard in the 9th-century art-historical sequence, and S. Lyon, 'Historical problems of Anglo-Saxon coinage', *Brit. Num. J.*, 37 (1968), 235 for the coins' dates.

¹⁰ D. M. Wilson, 'The Scandinavians in England', in D. M. Wilson (ed.), *The Archaeology of Anglo-Saxon England* (London, 1976), 396-97, map fig. 10.1; J. Graham-Campbell, 'The Scandinavian Viking-Age burials of England — some problems of interpretation', in P. Rahtz, T. Dickinson and L. Watts (eds.), *Anglo-Saxon Cemeteries 1979* (Oxford, Brit. Archaeol. Rep. Brit. Ser. 82, 1980), 379-82, esp. 380.

¹¹ Wilson, *op. cit.* in note 7, 41-42.

¹² W. C. Lukis, 'On some Anglo-Saxon graves on Howe Hill, near Carthorpe, in the parish of Burneston, North Riding of Yorkshire', *Yorkshire Archaeol. J.*, 1 (1870), 180, figs 10, 11; H. Shetelig (ed.), *Viking antiquities in Great Britain and Ireland*, iv (Oslo, 1940), 15, fig. 4.

¹³ Wilson, *op. cit.* in note 7, 50 and Appendix A.

¹⁴ J. Dent, 'Skerne', *Current Archaeol.*, 91 (Vol. VIII, No. 8, March 1984), 251–53.

¹⁵ Wilson, *op. cit.* in note 7, 51. It is worth noting that the report by the British Museum Conservation Department records that the Gilling sword arrived with a ten degree bend about half way down the blade, which was straightened as part of the restoration work. This bend was interpreted by the Conservation Department as fairly recent because of the new corrosion in the area of the bend, so, like the other swords discussed by Wilson, the Gilling West sword would seem not to have been ritually 'killed'.

THE METROLOGY OF ANGLO-SAXON CRICKLADE¹ (Fig. 6)

In a recent analysis of three late Saxon planned towns (Winchester, London and Colchester), P. Crummy has argued for the ubiquitous use of a module of four poles (in standard measurement $16.5 \text{ ft} \times 4 = 66 \text{ ft}$) in the planning of street grids.² This hypothesis is tested here by a metrological analysis of Cricklade (Wiltshire), a new Saxon burh probably of late 9th-century origin which was laid out without having to be accommodated to pre-existing Roman defences or other features. The only major constraints on its siting and layout were the limits of the flood plain of the R. Thames on the N. and E. sides, defined now by the 80 m O.D. contour.

From the results of excavations by the writer on the SW. corner of the defences³ it can be inferred that an intra-mural walkway or wall street was the first structural element to be set out on the ground. The relative positions of other elements of the defensive system can also be reconstructed (albeit with some degree of reinterpretation) from evidence of a series of excavations on the defences since 1948.⁴ These also demonstrate the presence of the walkway on all four sides of the defences. From this it is possible to draw a detailed plan of the Saxon defences to a degree of accuracy of about 10 ft (3 m) in 1500 ft (457 m), or about 0.7%.⁵ The primacy of the intra-mural walkway implies that it would have provided the physical framework around and in relation to which other elements in the layout of the burh were set out on the ground, since the construction of the bank would have made measurement from the fronting palisade to internal features difficult. It would also be expected that it would have been planned in accordance with a basic modular measurement.

Measurements taken between the external corners of the walkway (i.e. those nearest to the bank) establish, firstly, that the walkway was planned, and for the most part laid out, as an almost perfect square (ABCD in Fig. 6: note that D is a notional point placed on the line of the S. defences at the fourth corner of the square figure whose other three corners are points A, B and C); and secondly, that the sides of this square are 96 poles in length, to an accuracy of between 0.06 and 0.7% (for measurements, see Table). The significance of the figure 96 is that it is divisible by the numbers 2, 3, 4, 6, 8, 12, 16, 24, 32, and 48, and is six times the 16-pole module which Crummy has detected in the layout of other burhs. Furthermore, the length of the diagonal A–D on the ground is exactly the length of the hypotenuse (2,240 ft) of a theoretical right-angled triangle with two sides of 96 poles (1,584 ft) in length, to which the length A–C very nearly conforms (C–D being a notional length), while the diagonal BC is only 24 ft (1.07%) longer. The only major irregularity in the square is that the line of the southern defences extends eastwards to E from the corner of the square at D by about 126 ft, or nearly eight poles (132 ft). This must have been with the intention that the E. side of the defences should be placed as near as possible to the edge of the flood plain of the river. The W. side is the straightest; the alignments of the others, while conforming at least at their corners to the square, appear to have been influenced to a certain extent by the configuration of low ground outside the enclosed area.

The 96-pole module creates further regularities in the overall dimensions of the defended enceinte. In the first place, the width of the bank between the outer edge of the added wall and the outer edge of the intra-mural walkway (nearest to the bank) is on average a little over two poles in width.⁶ A notional two-pole width for the bank would make each side of the facing