doubtless the word was here used, as quite frequently in the 19th century, with reference to the interlacing ornament without any awareness of the presence of an inscription.

The inscription (PL. XVIII, E) is today no more than a fragment consisting of a few characters, but quite possibly originally it might have run down and up the entire N. face. The fact that it runs down and up the shaft instead of, in lines, across it, is of interest. The latter is the normal practice on Anglo-Saxon runic crosses, although there are exceptions, as on the cross-shaft of St. Oswald's Church at Crowle in Lincolnshire; the former practice is particularly frequent on later Scandinavian stone-inscriptions.

What remains at Leek is in two lines, carved inside a panel just over $6\frac{1}{2}$ in. wide. The lower line of the panel corresponds almost exactly to the lower lines of the carved panels on the W. and S. faces of the cross-shaft. The carving on the E. face does not reach quite as low. The right (or upper) line of the inscription preserves three symbols very clearly, *i s a*, and a portion of a fourth, all facing downwards. A trace of the mortar used to cement the three cross-fragments together in 1885 has apparently remained embedded in the *s*-rune in this line. The *a*-rune is the most easily recognizable and is nearly $3\frac{1}{2}$ in. in height. The left (or lower) line has traces of perhaps nine runes, facing upwards, before it breaks off at the crack which separates the lower from the centre fragment of the cross-shaft. Above the crack the original surface of the cross is completely worn away and no traces of further runes remain. A tentative reading of the first five runes in this line, reading from right to left (going upwards) is: *þ* (=th) *b i b æ*. What remains of the inscription may be the end of one Old English word *-isath*, and the beginning of another, *bibæ-*.

The presence of the runic inscription lends weight to the suggestion that this cross-shaft is 'the oldest Christian relic in Leek';[9] at the same time it suggests a somewhat earlier date than 'the late ninth century' proposed by S. A. Jeavons.[10] Mr. Jeavons noted the close resemblance of the interlacement on the S. face of the Leek cross to that of the W. side of the Collingham runic cross in the West Riding of Yorkshire, which Brøndsted 'with no slight degree of certainty' dated 'about 875'.[11] But Collingham shows influence of Scandinavian ornamentation,[12] from which the Leek cross is quite free, as far as one is able to judge from what remains; on the other hand, the Leek Calvary stone shows Scandinavian influence in the intertwined beast's body on the dexter side. Kendrick has dated the Collingham shaft somewhere in the mid 9th century,[13] and Page's comments on the form *swiþi* in its inscription do not, it seems, wish to rule out a fairly late (? 9th-century) date.[14] Other comparable Anglo-Saxon crosses with runic inscriptions belong mainly to the 8th and early 9th century, although it is wise to remember Page's warning in the article just referred to that our evidence for dating Anglo-Saxon inscriptions is not always wholly reliable. With all due caution a date in the first quarter of the 9th century might be proposed for the Leek runic cross; such a dating certainly confirms the earlier suggestion that this cross is the oldest of the several Anglo-Saxon relics at Leek.

RALPH W. V. ELLIOTT

TWO 9TH-CENTURY STRAP-ENDS FROM YORK (PL. XIX)

During August, 1961, an extension was added to *The Brewer's Arms* on the corner of Tanner Row and Tanner Street, York. In clearing and preparing the site a number

9 *Ibid.*

10 S. A. Jeavons, 'Anglo-Saxon cross-shafts in Staffordshire,' *Trans. Birmingham Archaeol. Soc.*, LXVI (1945–46), 117. I am grateful to Mr. Jeavons for his comments to me in a letter of 17 May, 1959.

11 J. Brøndsted, *Early English Ornament* (London & Copenhagen, 1924), p. 225.

12 Cp. Brøndsted, *op. cit.* in note 11, p. 193, and G. Baldwin Brown, *The Arts in Early England*, VI, pt. 2 (London, 1937), especially pp. 154–6.

13 T. D. Kendrick, *Anglo-Saxon Art to A.D. 900* (London, 1938), p. 201.

14 R. I. Page, 'Language and dating in OE. inscriptions,' *Anglia*, LXXVII (1959), 399 f.

of objects of archaeological interest was found and most generously given to the Yorkshire Museum by the owners, Messrs. Tetley's Breweries. Among these were a coin of Burgred and two bronze strap-ends.[15]

Strap-end no. 1 (reg. no. 1961.6.1), L. 4·1 cm. (PL. XIX, A). The terminal is much worn and slightly fractured; it was presumably zoomorphic but a short transverse line is all that remains of the ornament of the 'forehead'. The ears of the terminal head are elaborately scrolled and curved and have a V-shaped central incision. The edges of the strap-end above this point are beaded and the central panel is inlaid with a number of different metals to portray a male figure surrounded by subsidiary ornament. Each eye of this figure is formed of a dot-and-circle and the rather pear-shaped nose is pendent between them. A line of dots across the forehead perhaps indicates a diadem or the hair line. The lentoid mouth is inlaid with silver and there are traces of a similar silver inlay in the ring of the right eye. There are three dots on the rather pointed chin. The top of the head and the eyebrows are indicated in brass-coloured inlaid wire, while the lower part of the face consists of an inlaid copper plate. The arms and trunk are indicated by brass-coloured wire covered with incised dots. The legs and phallus are cut out of a single sheet of copper and are dotted all over. A very stylized animal head in profile appears by the right-hand leg and another by the right-hand side of the face. Each head has an open mouth and the eye is indicated by a dot. The rest of the field is filled with inlaid brass wires and dots and the whole is defined by an inlaid brass border. The bottom of the field, below the feet of the man, is damaged and the ornamental detail is unclear. The split-end of the object is broken away. The back is plain.

Strap-end no. 2 (reg. no. 1961.6.2), L. 3·1 cm. (PL. XIX, B). The upper leaf only of the split-end survives and pendent below and between the two rivet holes is a fan-shaped field defined by a sharply cut line. There is a small nick in the top edge between the holes. The terminal takes the form of a formalized animal head with lentoid eyes seen from above. The back of the head has a series of small incisions, perhaps representing the hair or mane of the animal. The sides are defined by a beaded border. In the central panel is a backward looking animal with its head top-left. It has a dot for an eye and the body is speckled with incised dots. The hind leg has a large foot and two nicks indicate the paws. The mouth of the animal is represented by another nick and one in the hindquarters may define the tail. The back is plain.

The first strap-end is unique: no other strap-end is inlaid in this way with a number of contrasting metals, or decorated in this naïve style. Strap-ends inlaid with different metals are known, the most accomplished of which is that from Kroken, Fjære, Aust Agder, Norway,[16] which is inlaid with gold in the manner of the Strickland brooch;[17] the strap-end from Lansdown, Bath,[18] was presumably similarly inlaid but the inlay has disappeared. A bronze strap-end, which may come from Felixstowe, Suffolk,[19] is inlaid with a nielloed silver plate, while the bronze strap-end found at Dymchurch, Kent, in 1844 and now in the Sheffield City Museum[20] is embellished with silver plates, but these seem to have been applied and not inlaid. Many Anglo-Saxon objects of the Christian period have been inlaid with metals of contrasting colour, including a fairly large group of swords and stirrups which are mostly 10th-century.[21] This strap-end,

[15] There is unfortunately no evidence that the coin and the two strap-ends were associated. The find was briefly mentioned in D. M. Wilson and D. G. Hurst, 'Medieval Britain in 1961,' *Med. Archaeol.*, VI–VII (1962–3), 312, and I am grateful to Mr. G. F. Willmot for allowing me to publish it more fully.

[16] H. Shetelig, *Viking Antiquities in Great Britain and Ireland*, V (Oslo, 1940), 179, fig. 144.

[17] D. M. Wilson, *Anglo-Saxon Ornamental Metalwork, 700–1100, in the British Museum* (London, 1964), pl. xliii, no. 152.

[18] J. W. Gardner, 'Saxon finds from Lansdown, Bath,' *Archaeol. News Letter*, V (1955), 252.

[19] T. D. Kendrick, 'Some types of ornamentation on late Saxon and Viking period weapons in England,' *Eurasia Septentrionalis Antiqua*, IX (1934), fig. 5.

[20] Inv. no. J.93.1300: the main ornament is illustrated in Wilson, *op. cit.* in note 17, fig. 1.

[21] *Ibid.*, pl. vii, pl. xx, no. 32; pl. xxi, no. 35; etc.

however, is of earlier date: the ears of the terminal animal head and the speckling technique would indicate that they belong to the 9th century.[22] Strap-ends of this form are common in that century, but the main field is usually filled with animal or semi-geometric motifs. The only other strap-end decorated with a human figure which I know of was found at Selsey, Sussex,[23] but the figures on it are comparable to those on the Fuller brooch and the Abingdon sword[24] and bear little relation to the man on the York strap-end.

The figure portrayed on this strap-end is too small and too naïve to warrant any significant stylistic judgements. Its 9th-century date, however, would seem unquestionable on the basis of the form of the ears at the terminal. The metals of which it is composed compare with those inlaid on the blades of the 9th-century scramasaxes from Sittingbourne and Battersea.[25]

A 9th-century date can also be given, with little hesitation, to the second strap-end. It is merely a slightly more stylized version of other strap-ends bearing zoomorphic ornament found in York,[26] and is most closely paralleled in another Yorkshire find, that from Whitby Abbey.[27]

In view of the date of the strap-ends it is not impossible that they were lost at the same time as the coin of Burgred (died 874), which was also found on the site. It might not be altogether fanciful to connect their loss with one of the Viking campaigns in Yorkshire in the middle years of the 9th century, but such a thesis cannot be proved.

DAVID M. WILSON

MEDIEVAL DENDROCHRONOLOGY IN THE U.S.S.R. (FIG. 74)

Dendrochronology in the U.S.S.R. is a new development. B. A. Kolchin,[28] its leading exponent, pays a tribute to our previous work in England as described in this journal (*Med. Archaeol.*, I (1957), 78–95, and III (1959), 288–90). It must, nevertheless, be admitted that the Russian advances are now far more rapid than our own. In 1959 a laboratory of dendrochronology was set up in the U.S.S.R. and by 1961 more than 2,500 samples had been collected from Novgorod alone.

The earlier archaeological investigations at Novgorod were summarized in this journal (*Med. Archaeol.*, IV (1960), 173–4). Coins, lead seals and birch-bark documents, together with the effects of fires datable from the chronicles, had already led to the establishment of an extremely close chronology. Most of the timber specimens were derived from the approximately dated wooden pavements of the medieval streets of old Novgorod, and Kolchin has convincing cross-dated curves representing the neighbouring pine-forests from *c.* 890 to *c.* 1410.[29] A relative floating chronology was first established, and, later, timber from churches, for which building dates (1300–1421) are recorded in the chronicles, was used to fix the absolute scale.

The conspicuous depressions in the curve reflecting narrow rings or pairs of narrow rings could thus be dated to the years 1032, 1055, 1075, 1085, 1086, 1102, 1103, 1111, 1112, 1120, 1132, 1133, 1155, 1162, 1163, 1176, 1191, 1192, 1210, 1211, 1212, 1219,

22 For the ears cf. *ibid.*, pl. iv, *d*; for the speckling cf. *ibid.*, pl. xxxvi.

23 L. F. Salzmann, 'Excavations at Selsey 1911,' *Sussex Archaeol. Coll.*, LV (1912), 60, pl. v. It now appears to be lost.

24 Wilson, *op. cit.* in note 17, pls. xliv, no. 153, and vi, *b*.

25 *Ibid.*, pls. xxii, no. 36, and xxx, no. 80.

26 D. M. Waterman, 'Late Saxon, Viking and early medieval finds from York,' *Archaeologia*, XCVII (1959), fig. 10.

27 Cf. Wilson, *op. cit.* in note 17, pl. xl, no. 119.

28 *Soviet Archaeology*, 1962 (1), pp. 95–139; *Materials and Researches on the Archaeology of the U.S.S.R.* (1963), nos. 117 and 123; 'Dendochronological method in archaeology' (in English) at 6th International Congress of Prehistoric and Protohistoric Sciences, Moscow.

29 *Materials and Researches on the Archaeology of the U.S.S.R.* (1963), no. 123, fig. 1.