

A Fragment of Chain-Mail from the Romano-British Temple Site at Woodeaton

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A mass of iron concretion (Ashmolean Museum: 1936.183) from the area of the Woodeaton temple site,¹ hitherto taken to be iron slag, was seen to have two groups of bronze links embedded in it. On laboratory treatment it was found to be in fact a mass of iron links of chain-mail type. It consists of alternate sets of riveted links, 7 to 7.5 mm. in diameter, made from round-sectioned iron wire 0.8 mm. thick (with iron rivets), and rings 7 mm. across apparently punched from sheet iron about 1 mm. thick, giving a squarish section about 1 by 0.8 mm.² This is a standard manner and link-size for chain-mail fabric.³ The whole mass of iron has corroded to oxide and the links are very fragile: no orderly arrangement of the links into a piece of chain-mail fabric has yet been achieved, though sufficient can be seen to show that the riveted links alternate with the closed rings.

Such chain fabric has been found in pre-Roman and Roman contexts on the continent and in Britain.⁴ It is a remarkable technical achievement, especially the fine riveting.⁵ In some cases there is no doubt that it was chain-mail,⁶ and in most others it probably was.⁷ The bronze links in this Woodeaton piece are simple rings of thin bronze rod 1 to 1.1 mm. thick, bent round so that the ends are butted to form a circle 7.2 to 7.5 mm. across. As with the iron links, this again is a widely used standard ring size and rod gauge, within narrow limits.⁸ Similar bronze links have been found attached to iron chain fabric as bordering or for attachment of ornaments.⁹ Many of the objects from the temple area at Woodeaton were evidently votive offerings,¹⁰ and as pieces of chain-mail had been deposited in the bog at Thorsbjerg (Denmark), some carefully placed in pottery vessels,¹¹ this piece might similarly have been a votive offering at Woodeaton. However, parts of bronze chain regalia, made up of butted bronze links just like those attached to the Woodeaton piece, have been found at other Romano-Celtic temple sites,¹² and it is possible that this iron chain fabric decorated with bronze links might have been similarly used. though it could have been merely lost, it is perhaps most likely that it was a votive offering.

¹ *Oxoniensia*, XIX (1954), 15-37. This piece was found by Dr. W. h. C. Frend in 1936.

² The measurements are difficult to take with precision owing to corrosion, but are the result of a large number of observations with glass-worker's calipers graduated in tenths of a millimeter.

³ C. Engelhardt, *Denmark in the Early Iron Age* (1866), p. 46, pl. 6 and 7. Engelhardt and J. Curle (*Newstead* (1911) p. 161) describe the complete rings as welded, but as Mr. Burgess points out (*Proc. Soc. Antiq. Scot.*, LXXXVII (1953), 39-40) the square section indicates that they were punched out of sheet iron. On the chain-mail from the Belgic tumulus at Lexden, Colchester (2nd quarter of 1st century A.D.), the iron links seem not butted, contrary to the statement in *Archaeologia*, LXXXVI (1927), 248. The mass is badly encrusted with corrosion, but it can be seen that alternate rows of iron links are riveted with iron pins, with the usual slight swelling at the junction. The intermediate rows of links are embedded in the hard black iron oxide matrix, but the occasional square section seen in fracture suggests the stamped rings seen in other chain-mail of the period. I am most grateful to Mr. M. R. Hull, M.A., F.S.A., for his kindness in sending me a piece of the Lexden mail for examination.

⁴ References in *Proc. Soc. Antiq. Scot.*, LXXXVII (1953), 39-40; to which add e.g. Strasbourg, *Gallia*, XI (1953), 236, fig. 9, no. 20; and another Scottish example recorded from Castlehaven Kirkcudbright, *Proc. Soc. Antiq. Scot.*, XLI (1907), 79.

⁵ *Antiq. J.*, XXXIII (1953), 48-55, 193-202.

⁶ E.g. Vimose, *Guide to Danish Colls* (nat. Mus. Copenhagen, 1938), pp. 90-1; R.E.M. Wheeler, *Rome beyond the Imperial Frontiers* (1954), p. 59, pl. viii; C. Engelhardt, *Vimose Fundet* (1869).

⁷ J. Curle, *Newstead* (1911), p. 161.

⁸ *Ulster J. Archaeol.*, XX (1957), in press; see also note 12. Silver links of similar size are seen on the Aesica collar (*Archaeologia*, LV (1896), 179).

⁹ C. Engelhardt, *Denmark in the Early Iron Age*, p. 46; J. Curle, *Newstead*, p. 161.

¹⁰ *Oxoniensia*, XIV (1949), 1-45.

¹¹ C. Engelhardt, *Denmark in the Early Iron Age*, p. 46. Compare the chain mail found in a bronze vessel at Oerem'ölla, Sweden. H. Willers, *Neue Untersuchungen über die römische Bronzeindustrie* (1907), 49-50.

¹² R. E. M. and T. V. Wheeler, *Lydney* (1932), p. 91, pl. xxx; R. E. M. Wheeler, *Maiden Castle* (1943), p. 284; note also the examples of regalia from Woodeaton. This Woodeaton piece has, of course, no stratified context, and is not necessarily of Roman or just pre-Roman age, though it probably is. Compare *Guildhall Mus. Cat.* (1908), 278, pl. lxxxvii, 10; a chain collar, probably medieval.