

The medieval blacksmith produced the many tools and fittings used in everyday life, as well as more specialized items such as church doors and screens, weapons, and armour. These specialist classes are excluded from the following discussion which concentrates on material excavated in Great Britain. The term medieval is restricted to finds of post-Conquest date, earlier material being more specifically described. Pagan Saxon material is not considered.

Ironworking tools (Fig 50)

Smithing slag, incomplete forgings, and tools are the most common forms of evidence for ironworking, and smithing is known at the late Saxon settlement at St Neots, Cambs (Addyman 1973, 75)¹ as well as at a range of medieval sites including Southampton, Hants (Platt & Coleman-Smith 1975, 238, 267, 349) and Bramber Castle, W Sussex (Barton & Holden 1977, 38, 67). Excavated smithies include those at Waltham Abbey, Essex (Huggins & Huggins 1973), Netherne, Surrey (Ketteringham 1976, 17-32), and Goltho, Lincs (Beresford 1975, 46, 90-1).

The blacksmith's raw material was bar iron, no doubt with the addition of available scrap which was forged down on an anvil. A piece of iron was first cut from the bar with a chisel or set and then the blacksmith, holding the iron with tongs, used a sledgehammer, lighter hammers, and other tools, including punches and drifts, to complete the forging. The 11th century Caedmon manuscript (Wilson 1976, 264, p1 XIII) and 14th century Holkham Bible

(Hassall 1954, 131-2, f31) show anvils, but no block or beaked anvil has yet been found. Tongs, a chisel-cut length of bar iron, a sledgehammer (Fig 50,1-3), a broken chisel, an axe (Fig 51,4), and iron slag were found together at Deganwy Castle, Gwynedd, and may be from a smithy.² The other tools are represented by a light hammer from Wintringham, Cambs (Fig 50,4; Goodall 1977a, 257, fig 46,62), a chisel from Waltham Abbey (Fig 50,5; Goodall 1973, 170, fig 11,14), and a set from Goltho (Fig 50,6; Goodall 1975a, 87, fig 41,90). The punch from Kettleby Thorpe, Lincs (Fig 50,7; Goodall 1974a, 33, fig 1812) was used for driving holes in iron, whilst a punch and drift (Fig 50,8-9), the latter for enlarging and smoothing holes, are known from the smithy at Waltham Abbey (Goodall 1973, 170, fig 11,20,18). This smithy also produced much bar iron and some incomplete forgings, including blanks for auger bits and a key (*ibid*, fig 11,12,30), the latter yet to have its bow welded, wards cut, and be finished off with a file similar to that from the Manor of the More, Herts (Biddle et al 1959, 184, fig 19,36). Blacksmiths' tools of earlier date include a hammer and punch from Thetford, Norfolk (Wilson 1976, 264, fig 6,6d & b).

Woodworking tools (Fig 51)

Wood was the basic material of the carpenter and of many specialist craftsmen including the cooper, cartwright, and shipwright, and between them they used a wide range of tools. Large wedges similar to that from Stretham, E Sussex (Fig 51,1)³ were used in

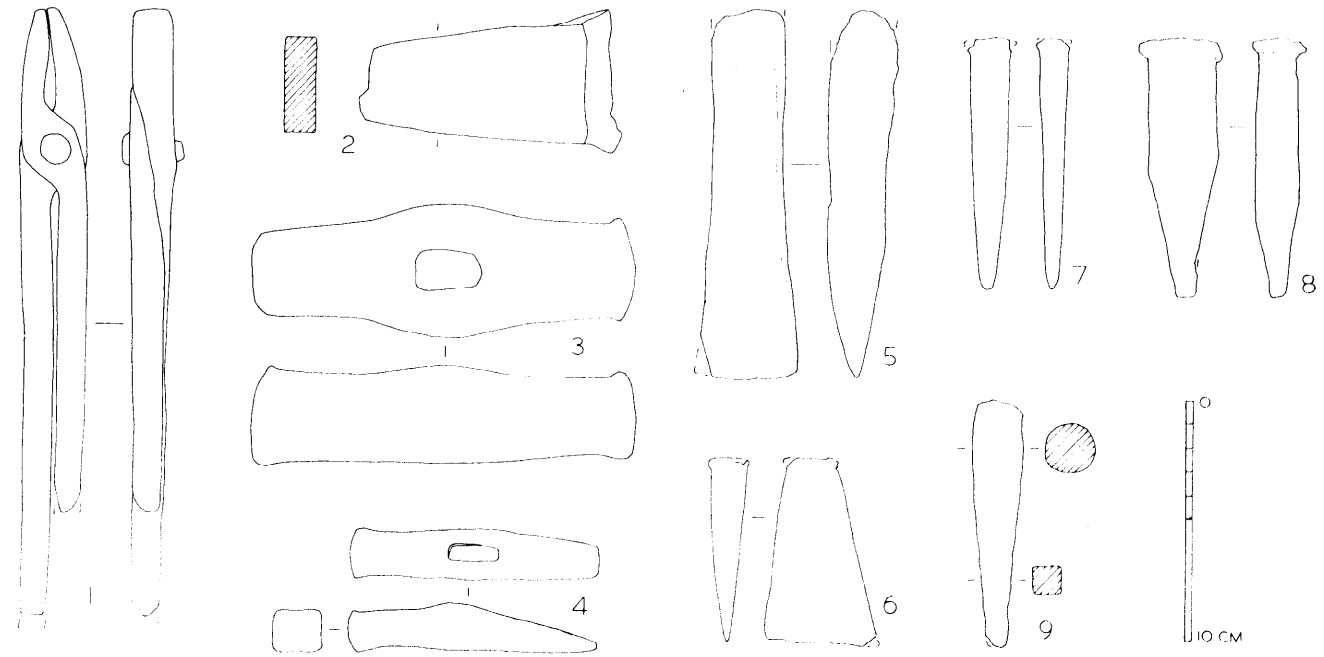


Fig 50 Ironworking tools

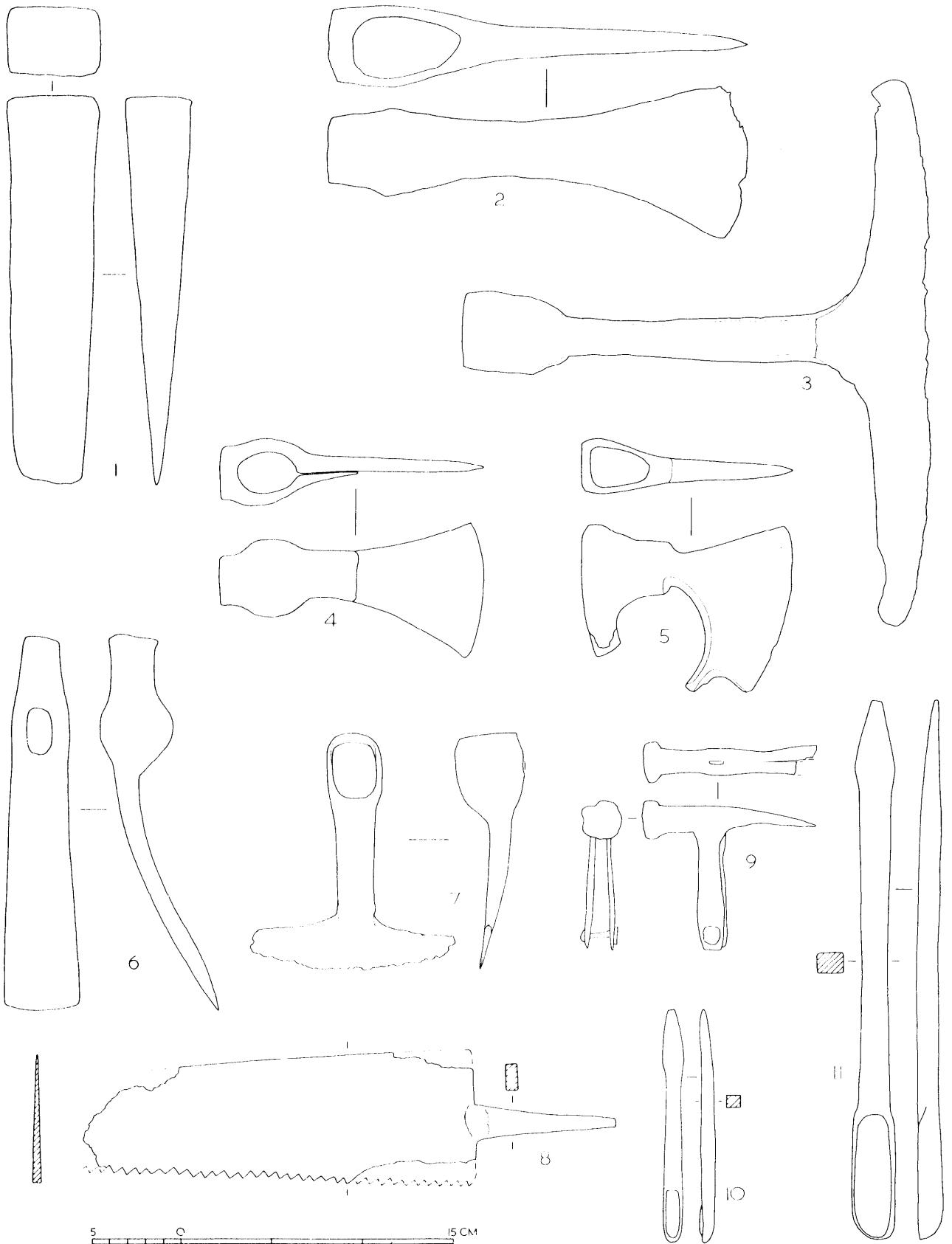


Fig 51 Woodworking tools

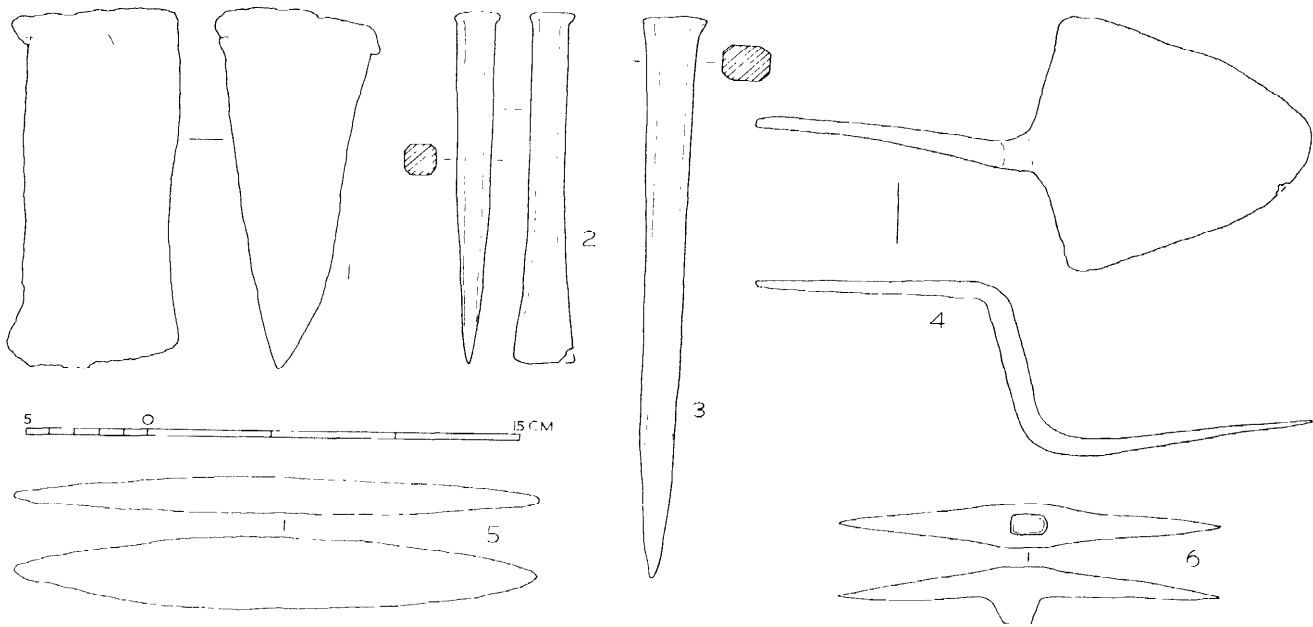


Fig 52 Stoneworking tools

conjunction with axes for felling trees and, when they were not sawn on trestles or in pits, for splittini trunks. Axes were also used for dressing timber, and whilst certain classes must have been used solely as tools or as weapons, others might be suitable for either use. The woodman's axe from Weoley Castle, W Midlands (Fig 51,2),⁴ a general-purpose tool suitable for lopping and felling, resembles an earlier example from Hurbuck, Durham, found with other tools and weapons including a T-shaped axe (Fig 51,3).⁵ Both types of axe are depicted in the Bayeux Tapestry (Stenton 1957, 169, pls 38, VII), the latter dressing timber, an appropriate use for the axes from Deganwy Castle (Fig 51,4; Alcock 1967) and Wroughton Copse, Wilts (Fig 51,5).⁶

Adzes such as that from Goltho Manor, Lincs (Fig 51,6),⁷ and a similar one from Thetford (Wilson 1976, 257, fig 6,1d), were used for removing heavy waste and for levelling and trimming the surface of timber, as was the T-shaped example from Hurbuck (Fig 51,7; *ibid*, 257, fig 6,1f). A long slender adze from Hurbuck (*ibid*, 257, fig 6,1c), not unlike another from Rochester, Kent (Harrison 1970, 112, fig 6), may have been used to cut mortices. Saws are rare finds but include the double-edged blade from Thetford (Wilson 1976, 257, fig 6,4b) and the medieval hand saw from Windcliff, Isle of Wight (Fig 51,8; Dunning 1939, 135-7, fig 3). The claw-hammer, although also used by farriers, may be regarded principally as a carpenter's tool which was as capable of withdrawing nails as of driving them in. The hammer from North Elmham Park, Norfolk (Fig 51,9; Goodall 1980a, 513, fig 266,54), with its side straps, is the most common form.

Augers with iron bits set in transverse wooden handles were used to drill holes in wood, and the surviving spoon bits range in size from examples as small as that from Somerby, Lines (Fig 51,10:

Mynard 1969,84, fig 13, IW.88) to that from Cheddar, Somerset (Fig 51,11; Goodall 1979a, 267, fig 90,146). The larger bits were ideal for drilling pegholes in structural timbers, or in the preliminary stages of cutting a mortice, whilst the smaller ones may have been used for furniture, panelling, and drilling tool handles prior to the insertion of tangs. Gouge bits and twist bits are found, but less frequently than spoon bits. The chisel from Glastonbury Tor, Somerset (Rahtz 1970, 53, fig 23,11) is one of a very small number of woodworkers' chisels; other tools found include shaves (Waterman 1953, 213, fig 1,22) and reamers (Goodall 1975a, 87, fig 41,91).

Stoneworking tools (Fig 52)

Stone required for building, unless reused from existing buildings, had to be quarried, and documents provide much information about this and about the tools employed (Salzman 1967, 119-39, 331-3). Wedges, mauls, crowbars, picks, and axes used in rough dressing are mentioned, but actual examples are rare; they include the wedge from Castell-y-Bere, Gwynedd (Fig 52,1; Butler 1974, 97, fig 8,13).

The chief tools of the mason are the axe with two vertical edges, the axe-hammer with one edge and a hammer head, the punch, and the chisel. Documents also mention saws and borers for cutting up and piercing blocks of stone, and trowels so constantly used in building. Masons' tools are rare in the early medieval period, perhaps not unexpectedly when buildings were generally timber-framed, but medieval tools include a chisel from Barton Blount, Derbyshire (Fig 52,2; Goodall 1975a, 97, fig 46,6) and a punch from King's Lynn, Norfolk (Fig 52,3; Goodall 1977b, 295, fig 134,38). Castell-y-Bere also produced a trowel (Fig 52,4; Butler 1974, 97, fig 8,14).

Millstones required dressing with picks and bills mounted in wooden handles, and a mill-pick (Fig 52,5)⁸ is known from the mill-slucice at South Witham, Lines (Freese 1957, 102-7). Stone slates were quarried and trimmed by specialist craftsmen, and the slater's pick from Kirkcudbright Castle, Dumfries and Galloway (Fig 52,6; Dunning *et al* 1957-8, 137-8, fig 7,1) would have been used to make holes.

Textile manufacture (Fig 53)

Iron was used for various implements involved in textile manufacture, not least for sheep shears like those from Cambokeels, Durham (Hildyard 1949, 199, fig 6,4). With both wool and flax fibres, a common requirement was the need to disentangle them with a woolcomb or heckle. Individual teeth resembling that from Eaton Socon, Cambs (Fig 53,1; Addyman 1965, 65, fig 11,3) are not infrequent finds, but complete heckles are rare, since they were usually composite objects with one or more rows of iron teeth set in a wooden stock. An unusual find is the plate from Thetford (Fig 53,2; Goodall forthcoming a), which must have fitted a rectangular stock. An early 16th century heckle from Pottergate, Norwich (Carter *et al* 1974-7, 47) has two rows of teeth set in a semicircular backplate.

After weaving and fulling the wet cloth was stretched on tenters, the most tangible remains of which are tenter hooks similar to that from Brixworth, Northants (Fig 53,3; Goodall 1977c, 94, fig 9,15). Over 70 tenter hooks are known from medieval layers at Winchester (Goodall forthcoming b). Tenters comprised pairs of horizontal rails set between posts; hooks were set in rows along each rail, those in the upper rail pointing upwards, those in the lower downwards. Cloth was attached to the hooks and the tension was adjusted by moving the rails between housings on the posts. The final process in finishing woollen cloth involved raising the nap of the cloth with teazels and then trimming it with shears similar to those which appear in carvings at Cullompton, Devon (Carus-Wilson 1957, 104-9, pls XII, XV-XVI). Hooks like that from Goltho Manor (Fig 53,4)⁷ secured the cloth to the shearboard in the manner shown on a bench-end at Spaxton, Somerset (Carus-Wilson 1957, 106, pl XVc), and the finished cloth went to various people, including the tailor. No broad-bladed scissors of the type shown in illuminations are yet known although some of the larger pairs of shears, including those from Seacourt, Oxon (Fig 55,13), may have been used in tailoring. Sewing needles of iron, such as those from King's Lynn (Goodall 1977b, 295, fig 134,40) and London (Fig 53, 5-6; Henig 1974, 195, fig 39,87), are not uncommon.

Leatherworking tools (Fig 53)

A varied group of tools was used during the tanning and working of leather. These included large blades to remove the hair and flesh from hides and eventually to split them. Tanned leather was cut with a half-moon-shaped knife similar to that from Badby, Northants (Fig 53,7)⁹ and it is possible that smaller knives of the type found at Wallingstones, Hereford and Worcester (Fig 53,8; Bridgewater 1970-2, 100, fig 16,12) were used likewise. A different type of knife was used by the shoemaker to trim leather and cut soles and an example from Oakham Castle, Leics (Fig

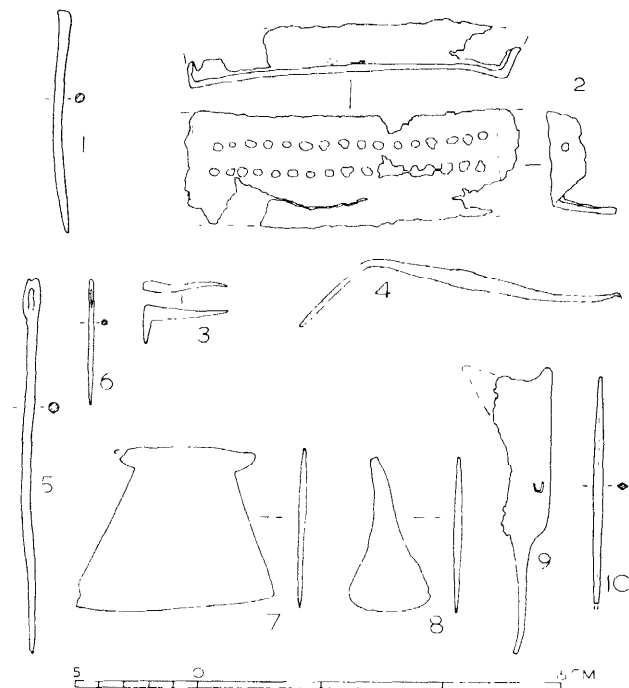


Fig 53 Textile manufacturing and leatherworking tools

53,9; Gathercole 1958, 33, fig 10,1) was found in a deposit with leather shoes and offcuts. The spike is inconvenient for use as an awl and may have been used for piercing thongs. Awls, generally straight and shaped like that from Northampton (Fig 53,10; Goodall 1979b, 273, fig 119,57), were used to pierce holes.

Agricultural and gardening equipment (Fig 54)

The form of ploughs is known from manuscript illuminations and descriptions, but the archaeological evidence is meagre and includes a ploughshare from St Neots (Addyman 1973, 94, fig 19,30) and two coulter from London (London Museum 1954, 123-4, pl XXII). Scythes and sickles used in harvesting are often broken, but fairly complete examples include those (Fig 54,1-2) from King's Lynn (Goodall 1977b, 295, fig 138,35) and West Hartburn, Durham (Still & Pallister 1964, 200, fig 6,31). Pruning hooks and weedhooks, the latter often used in conjunction with a forked stick (Higgs 1965, 8, pls 15a, 17b), are tanged, flanged, and socketed and display a variety of blade forms, as those (Fig 54,3-5) from St Neots (Addyman 1973, 93-4, fig 19,26), Wallingstones (Bridgewater 1970-2, 100, 114-15, fig 16,32), and Somerby (Mynard 1969, 85, fig 13, IW.94) demonstrate. Heavier lopping and hedge laying, if not carried out with an axe, might have involved the use of a billhook like that from North Elmham Park (Fig 54,6; Goodall 1980a, 513, fig 266,50). Ayton Castle, N Yorks (Rimington & Rutter 1967, 60, fig 11,37/20) produced a pitchfork (Fig 54,7) found with a group of scythes and an axe. Socketed spuds similar to that