

replica based on the Hedeby mould shown here in Pl. XI, c, the wooden element was made to include an ingate; more recently, however, Graham-Campbell has identified an opening on the rim of the Hedeby piece as an ingate, with the remains of an iron registration pin opposite.<sup>21</sup> The Southampton mould has a more clearly marked ingate incorporated in the brow tine expansion.

The ornaments produced from the Southampton mould would have taken the form of flat discs decorated on the obverse with a raised rim and with concentric rings of raised dots. Some idea of their appearance can be gained from a plated copper alloy ornament found at Ødsted, Denmark, and dated to the first half of the 9th century,<sup>22</sup> and from a lead alloy brooch with a slightly bossed centre found at Winetavern Street, Dublin.<sup>23</sup>

In addition to the re-identification suggested for the Southampton piece, therefore, an origin some two or three centuries earlier than the 12th-century date previously claimed may be postulated; several discoveries of pre-Conquest material have been made in recent years in the vicinity of Brewhouse Lane and St John's Lane,<sup>24</sup> providing a background for this important find. Finally, it introduces a new technique to the repertoire of casting methods established for the British Isles at this time.<sup>25</sup>

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#### NOTES

<sup>14</sup> C. Platt and R. Coleman-Smith, *Excavations in Medieval Southampton 1953-1969* (Leicester, 1975), 271, fig. 247, 1915.

<sup>15</sup> *Ibid.*, 161-64.

<sup>16</sup> T. Capelle, 'Metallschmuck und Gussformen aus Haithabu (Ausgrabung 1963-1964)', *Ber. über die Ausgrabungen in Haithabu*, 4, ed. K. Schietzel (Neumünster, 1970), 9-23; T. Capelle and H. Vierck, 'Modeln der Merowinger- und Wikingerzeit', *Frühmittelalterliche Studien*, 5 (1971), 42-100; I. Ulbricht, *Die Geweihverarbeitung in Haithabu* (Die Ausgrabungen in Haithabu 7) (Neumünster, 1978), 75-76, taf. 36, 4-9, taf. 37, 3.

<sup>17</sup> D. Eckstein and K. Schietzel, 'Zur dendrochronologischen Gliederung und Datierung der Baubefunde von Haithabu', *Ber. über die Ausgrabungen in Haithabu*, 11, ed. K. Schietzel (Neumünster, 1977), 157.

<sup>18</sup> H. Jankuhn, 'Die Bedeutung der Gussformen von Haithabu', *Das Ahnenerbe* (Ber. über die Kieler Tagung 1939) (Berlin, 1944), 227, Abb. 2.

<sup>19</sup> Capelle, *op. cit.* note 16, 19. Capelle suggests that the wax models were cast, rather than impressed, in the moulds.

<sup>20</sup> H. Drescher, 'Untersuchungen und Versuche zum Blei- und Zinn-guss in formen aus Stein, Lehm, Geweih und Metall', *Frühmittelalterliche Studien*, 12 (1978), 84-115.

<sup>21</sup> J. Graham-Campbell, *Viking Artefacts: a Select Catalogue* (London, 1980), 130.

<sup>22</sup> J. Brønsted, 'Danish inhumation graves of the Viking Age', *Acta Archaeologica*, 7 (1936), 81-228.

<sup>23</sup> B. O Ríordáin, 'The High Street excavations', *Proc. Seventh Viking Congress*, eds. B. Almqvist and D. Greene (Dublin, 1976), 135-40.

<sup>24</sup> Information from Mr R. G. Thomson.

<sup>25</sup> For a broadly contemporary trefoil brooch mould of clay see A. MacGregor, 'Industry and commerce in Anglo-Scandinavian York', *Viking Age York and the North*, ed. R. A. Hall (C.B.A. Research Report 27, London, 1978), 37-57, fig. 24, 8.

#### A GROUP OF EARLY MEDIEVAL SPADES (Figs. 2-4)

In the last volume of *Medieval Archaeology*, Mr M. O. H. Carver published a report on the excavations in Saddler St, Durham. In the section dealing with the wooden small finds he included an object which was identified as an oak roof-shingle.<sup>26</sup> The object is in fact a sub-triangular spade-blade with a rounded blade-edge, a tapering, truncated apex, and both a peg-hole and a now battered rectangular slot below the peg-hole. The spade-blade would have had a separate shaft.

It belongs to a group of spades whose date would seem to be quite limited (unlike most wooden objects), and whose function was probably more specialized than digging the ground. The group as a whole is very important in providing us with information about a special type of medieval tool, especially one made entirely of wood. In this note I have brought together all the British examples known to me at present. I shall describe the examples and suggest probable forms of and reasons for a special type of hafting. I shall suggest probable uses for this type of tool, describe the contexts in which they were found and outline the dating evidence, such as it is.

There are at present ten examples from the British Isles. All were found without shafts, although in the case of Nos. 5 and 9, a peg survived in the peg-hole. In the catalogue I shall use the descriptive terms spade-blade, functional end and fixing end to mean the object, the cutting/lifting end and the end which has the peg-holes, respectively.

#### CATALOGUE

*l* = surviving length; *w* = maximum surviving blade width; *th* = maximum blade thickness; *d* = diameter

**1.** Chester, Eastgate St/Godstall Lane.<sup>28</sup> (Fig. 2, a)

Grosvenor Museum I.M. 1898

Oak; *l* = 40.1 cm; *w* = 15.4 cm; *th* = 1.4 cm

Sub-rectangular blade with sloping shoulders and rounded diamond-shaped fixing end. Two peg-holes; rectangular slot originally 4.4 × 4.6 cm, cut slightly across the wood grain/long axis of the blade. Both long sides are broken, and functional end is now broken and worn.

Found in 1898, to E. of an apsidal structure interpreted as a Roman *lararium*. There is no stratigraphical evidence to suggest the spade is of Roman date.

**2.** Coventry, Broadgate. (Fig. 2, b)

Herbert Museum, Shelton Collection

Oak; *l* = 42 cm; *w* = 18.3 cm; *th* = 1.2 cm

Sub-rectangular blade with sloping shoulders and sub-triangular fixing end. Two peg-holes; rectangular slot, originally 3.2 × 5.2 cm. Two incised parallel lines cut at right angles on front of blade; one is 2.2 cm from the long side of the slot, the other is parallel to short side of slot. Signs of wear on each side of fixing end below upper peg-hole are probably rope-marks.

Found in the 1920s at a depth of approx. 3 m. A contemporary newspaper report describes it as 'a flat piece of oak with a slot and peg-holes, which might have been used as a boat paddle . . .'. No dating evidence.

**3.** Duffield Castle, Derbyshire.<sup>29</sup> (Fig. 2, c)

Derby Museum L73. 1931

Oak; *l* = 39 cm; *w* = 15.9 cm; *th* = 0.9 cm

Sub-rectangular blade with sloping shoulders and elongated, roughly parallel-sided fixing end, broken across in antiquity. Two peg-holes; rectangular slot. Traces of cord which is possibly original, still adhere to the fixing end above upper peg-hole. Cord is 0.2 cm thick and had been wrapped over the front of the fixing end at least four times. 4 cm from the top edge is a rectangular notch cut 0.8 cm into the wood, presumably for rope or cord. One shoulder is broken.

Found in 1886 at the bottom of the wellshaft of the Norman castle keep, along with pottery fragments and the staves of the well bucket. The castle was built in 1180–90, and was demolished *c.* 1266, giving a probable late 12th to mid 13th-century date to the spade.

**4.** Durham, Saddler St. (Fig. 2, d)

Mill Museum Acc LI sf168 1663

Oak; *l* = 35.3 cm; *w* = 16.8 cm (reconstructed = 18.5 cm); *th* = 0.9 cm

Sub-triangular blade with sloping shoulders tapering to an almost pointed fixing end, which is very thick, almost 1.5 cm. One very worn and broken peg-hole; rectangular slot which is also very worn. Blade edge is chamfered on reverse and blade is broken down one long side.

Found in 1973–74 excavations beneath a wattle fence. One of the fence stakes had been driven through the rectangular slot. Broken and worn spade-blade probably being re-used in the fence. 10th to 11th century.

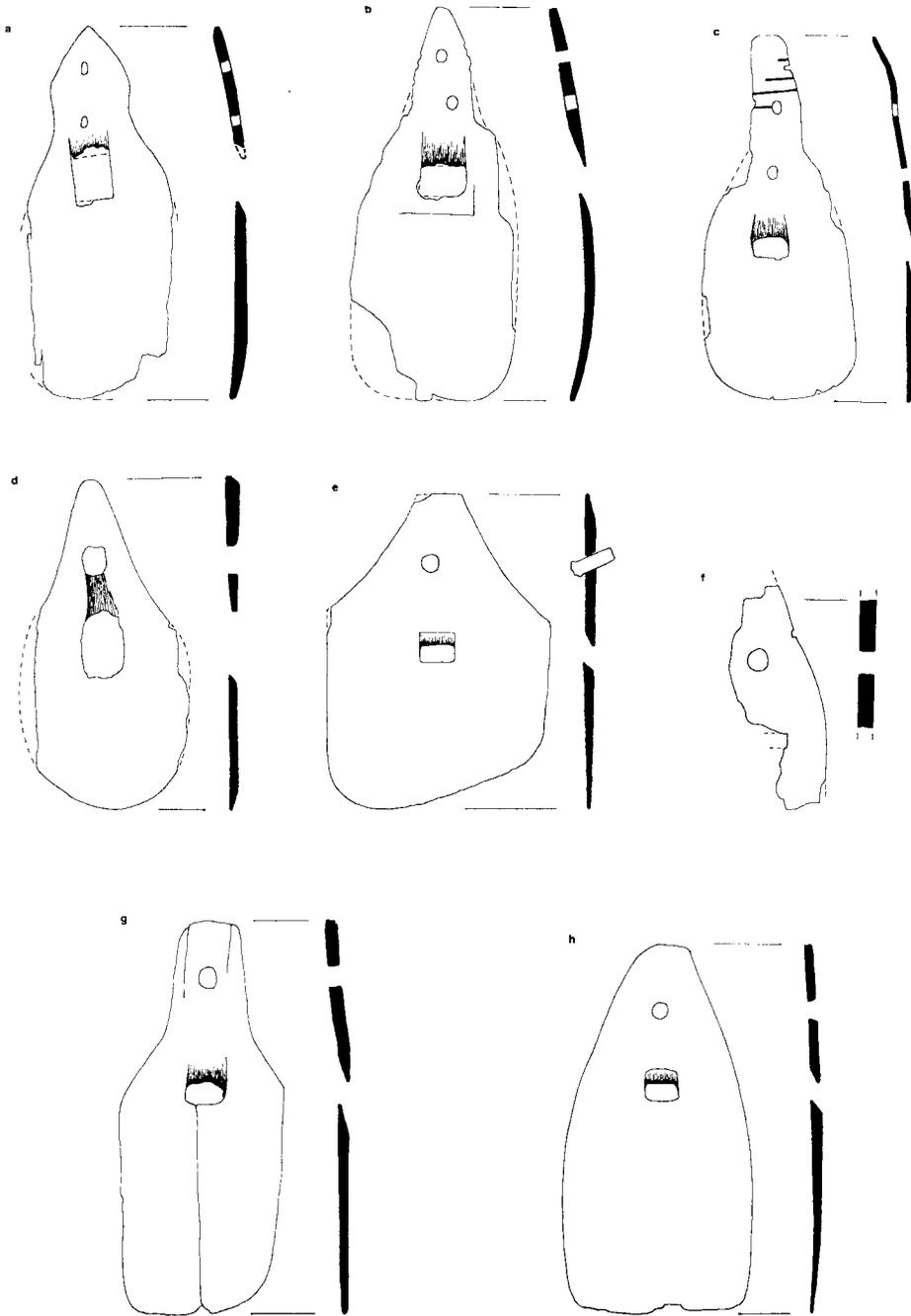


FIG. 2

Early medieval wooden spades: (a) Chester; (b) Coventry; (c) Duffield; (d) Durham (after Carver, *op. cit.* note 26); (e) Kings Lynn I (after Clarke and Carter, *op. cit.* note 30); (f) Kings Lynn II (after *ibid.*); (g) Norwich; (h) Perth. Scale 1:8

**5.** Kings Lynn I, Marks & Spencer Site. (Fig. 2, e)

Lynn Museum MS A5 II

Oak; l = 34 cm; w = 23.7 cm; th = 1 cm

Sub-rectangular blade with incurving sloping shoulders, tapering to truncated fixing end. One peg-hole with surviving trenail peg *in situ*; rectangular slot, which is very small in relation to width of blade. Functional end is worn down on one side only, giving blade an asymmetrical appearance. Small pieces missing from one shoulder and fixing edge.

Found in 1963-64 excavations over a disused cobble path, in an area of domestic occupation with wattle fences. 14th century.

**6.** Kings Lynn II, All Saints St.<sup>30</sup> (Fig. 2, f)

Lynn Museum sf111 12

Oak; surviving l = 23.8 cm; w = 10.5 cm; th = 1.7 cm

Fragment of sub-triangular blade, broken below peg-hole and across rectangular slot. One peg-hole; slot originally 1.3 cm wide but l. is not reconstructable. Above peg-hole a semi-circular notch is cut into the shoulder, probably for rope or cord.

Found in 1966-67 excavations in an area of intensive domestic occupation, associated with the keeping of animals. c. 1150-1200.

**7.** Norwich, Bishopgate North. (Fig. 2, g)

Norwich Survey 156N sf196 252

Oak; l = 42.2 cm; w = 18 cm; th = 1.3 cm

Sub-rectangular blade with almost parallel-sided fixing end. One peg-hole. Rectangular slot. Split from functional end, along wood grain to the slot, and also in two places at the fixing end.

Found in 1972. 12th to 13th century.

**8.** Perth, High St. (Fig. 2, h)

PHS75 AO121 C9179

Oak; l = 38.7 cm; w = 20.1 cm; th = 1.3 cm

Sub-triangular blade with convex sloping shoulders, tapering to truncated fixing end. One peg-hole; rectangular slot. Blade is complete and unbroken but has a slightly worn functional end.

Found in 1975, in a domestic context. Mid 12th century.

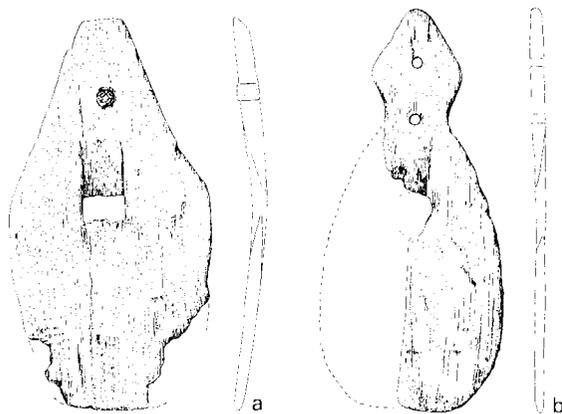


FIG. 3

Early medieval wooden spades: (a) York I; (b) York II. Scale 1:8

**9.** York, Coppergate I. (Fig. 3, a)

York Archaeological Trust 1977.7 IV/I 7510 ws8343

Oak; l = 40.7 cm; w = 21.1 cm; th = 2 cm

Sub-triangular blade with sloping shoulders and truncated fixing end. One peg-hole with remains of peg; rectangular slot. Functional end has very worn and broken edges and blade is split along wood grain from blade edge through slot to fixing end.

Found in 1976-77 excavations. Possibly 12th century.

10. York, Coppergate II. (Fig. 3, b)

York Archaeological Trust 1977.7 IV 5669 sf1772

Oak; l = 42.5 cm; w = 19 cm (reconstructed); th = 1.4 cm

Oval blade with diamond-shaped fixing end. Two peg-holes; rectangular slot which is broken and data not reconstructable. Blade is split along wood grain from functional end to slot and about half of the blade is missing.

Found in 1976-77 excavations. Possibly 12th century.

All ten spade-blades appear to be examples of a definite type with characteristics common to all of them. These characteristics include a sub-triangular or sub-rectangular form (sometimes rounded enough to be oval), a flat blade, sloping shoulders, a fixing end which is much narrower than the blade, one or two peg-holes, and a rectangular slot below the peg-holes. The slot almost invariably has channels cut into the wood and leading down to the slot on the front of the blade, and away from it on the reverse.

It was realized as far back as 1898 that this type of spade had a separate shaft fixed by means of the peg-holes and slot: 'Apparently the shaft of the implement was fitted into the rectangular hole, the sloping ends (i.e. channels) of which gave the shaft the required angle, and was evidently made secure by passing two wooden pegs through the holes . . .'<sup>31</sup>

By experimenting with half-scale models of reconstructed spades, I have been able to show that if a shaft were merely slotted through the rectangular hole at an obtuse angle, and pegged down, the pegs may become insecure and liable to work loose. I suggest that in some cases rope or cord was employed in conjunction with the pegs to secure the shaft. The Coventry, Duffield and Kings Lynn II spades have either notches cut into their shoulders, or very prominent wear marks which could indicate the use of binding, and it is possible that the Duffield blade still retains fragments of original cord. The narrowness of the fixing ends of the British examples (especially that brought about by a diamond-shaped fixing end) would be an advantage if rope or cord were to be used.

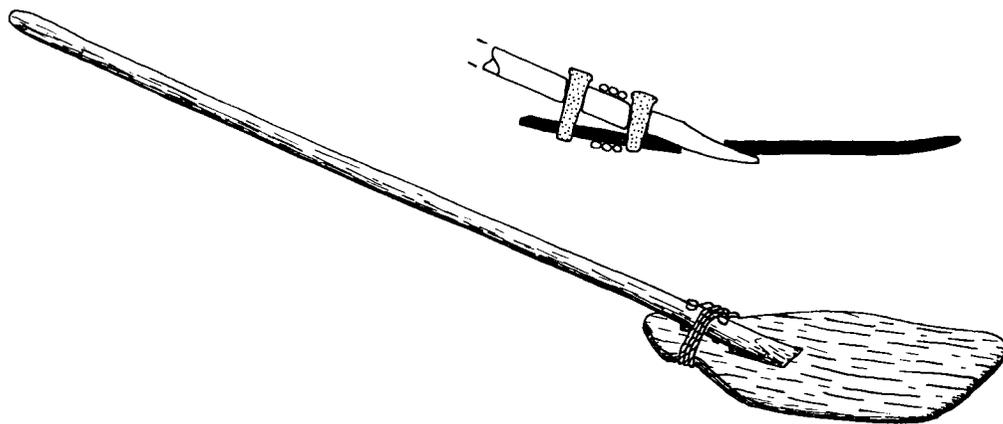


FIG. 4

Reconstruction of the general hafting mechanism as discussed in the text

A spade of this type from O. Tommarp in Sweden<sup>32</sup> was found complete with its shaft, the end of which had been thinned, slotted through the rectangular hole and pegged down. In this case, the fixing end was very wide and there were no traces of binding or rope-marks. It is likely, however, that binding was used on some spades, perhaps especially when repairs or strengthening was required.

The most important question to be answered is 'Why were the spades hafted in this way, and is their form functional?'. The difference between a spade which is cut all-in-one piece and one which is hafted in the manner described above is that an obtuse angle is

created between blade and shaft. The shoulders of all ten spades are sloping, and useless for putting the foot on to exert pressure for digging. It is probable, therefore, that the type is a shovel rather than a spade, and a slight obtuse angle, although little use for digging, is quite an advantage for shovelling. It is interesting to note that the Shetland 'fleeter', a modern folk example of a wooden tool with separate blade and shaft, is hafted in a similar way.

It is possible that the shovel was made in two pieces because it was of two species of wood. All ten blades are of oak, which is strong and hard-wearing. The shafts are likely to have been of ash, which is flexible and supple, and still used today for handles and hafts. The blades would wear out more quickly than the shafts and whereas shafts could be reused, new blades could be pegged on to them. It is perhaps important to note that all the spades except that from Perth are broken, worn, or split in some way. Moreover they were not found with their shafts.

Having established that these tools were probably shovels, it would be interesting to consider what they might have been used for. There is no evidence to suggest that any of them were iron-shod. This would imply that their strength lay not in the blade edge but in the capacity for lifting. They may, therefore, have been used to shovel soft, loose materials such as mortar, loose earth, dung, mud, grain, powdery substances, etc. Some indication as to their use comes from an early 14th-century manuscript.<sup>33</sup> Three scenes show this shovel being used for different purposes. One scene shows two men clearing mud from a water-course. One man is using a long-handled shovel whose shaft appears to pass through the blade and emerge on the reverse side. Another scene shows two shovels being used for mixing mortar. It is likely that they were all-purpose tools for moving or working soft materials in either domestic or 'industrial' contexts.

Except for the Durham blade, all the dated examples fall within the period from the 12th to the 14th centuries. The Egerton MS was written and illustrated probably between c. 1310–20, and this would seem to confirm the dating suggested by the spades themselves. The earliest example is the Durham blade of 10th to 11th-century date. Perhaps this was an early example of a type of tool which became most popular two centuries later.

Future discoveries may serve to provide better dating for these shovels. Meanwhile, this note may indicate the sort of work which can now be done with medieval wooden material, and provide us with information about the sort of wooden tools used in everyday activities of the early medieval period.

CAROLE MORRIS

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#### NOTES

<sup>26</sup> M. O. H. Carver, 'Three Saxo-Norman tenements in Durham City', *Medieval Archaeol.*, xxiii (1979), 1–81.

<sup>27</sup> *Ibid.*, 24, 26, and fig. 16.

<sup>28</sup> First published as Roman: R. Newstead, 'A descriptive account of Roman and other objects recovered from various sites in Chester and district, 1898–1901', *Jnl. Chester Archaeol. Soc.*, viii (1902), 84–85 and fig. 2.

I am very grateful to the following museums and units for their permission to publish the spades in their collections: Grosvenor Museum, Chester; Herbert Museum and Art Gallery, Coventry; Derby Museum; The Lynn Museum; Norwich Survey; Perth High Street Excavation Editorial Committee; York Archaeological Trust; Mill Museum, Durham.

<sup>29</sup> J. C. Cox, 'Duffield Castle: its history, site and recently found remains', *Jnl. Derbyshire Archaeol. Soc.*, ix (1887), 161.

<sup>30</sup> H. Clarke and A. Carter, *Excavations in Kings Lynn 1963–70* (Society for Medieval Archaeology Monograph Series No. 7, 1977), 372–73 and fig. 173, nos. 81, 82.

<sup>31</sup> Newstead, *op. cit.* note 28, 84.

<sup>32</sup> Now in the Lund Historical Museum.

<sup>33</sup> London, British Library, MS Egerton 1894, fols. 5, 14 and 17.

## A TRANSITIONAL CLOISTER ARCADE AT HAUGHMOND ABBEY, SHROPSHIRE (Fig. 5)

Excavations at Haughmond Abbey by the DoE are reported elsewhere in this issue (p. 240), but one product of the 1979 season merits immediate publication in more detail.