Worked stone artefacts

Geoff Gaunt and H.E.M. Cool[10]

Quern Stones

Fragments of seven flat rotary quernstones were recovered from Anglo-Saxon (nos. 6 and 7) and Saxo-Norman (nos. 3–5) contexts. Where sufficient of the skirt edge was preserved for a diameter to be measured (nos. 2, 4 and 6), the stones ranged between 40 cm and 50 cm across and were clearly hand querns rather than mechanically driven millstones. The pattern of deposition through time seen at St Peter's can be explained by the prohibitions by medieval land-owners on their tenants from operating hand mills, thus forcing them to use the landowner's watermill (Biddle and Smith 1990, 882). Even allowing for the tendency for broken stone artefacts to be found residually as make-up, large stratified collections of quernstone fragments from sites such as Winchester clearly show the effect of such prohibitions with a marked falling off in the number of finds in twelfth-century contexts and later (Biddle and Smith 1990, table 89, fig. 266). The two fragments found here in Period 4 contexts (nos. 1–2) may therefore be residual.

One fragment of a Mayen lava quern is catalogued below (no. 1) and there was another fragment of this stone type retained as a geological sample from a Period 3 context (F5384) which must have originated from a similar quern. Lava rotary quernstones are a common find on Roman sites and on those of middle Saxon to Saxo-Norman date. They tend not to occur on early Saxon sites (*cf*. King 1986, 95–7). It is clear that lava querns must have been imported during the Anglo-Saxon period since fragments can dominate large collections such as that from the eighth/ninth-century Anglian site at Fishergate, York (Rogers 1993, 1322) and the tenth/eleventh-century contexts at Winchester (Biddle and Smith 1990, table 89). There is also evidence that blanks were imported from the Rhineland and finished in London during the eleventh century (Freshwater 1996). It is not possible to date the fragmentary no. 1 more closely within the middle to late Saxon period[11].

Other quernstone fragments can also be assigned to this period but are made of more local rock types, perhaps suggesting that Barton did not regularly have access to lava querns during the later Saxon period. Nos. 2–5 are all made of Millstone-Grit type of sandstone. This description encompasses both the Upper Carboniferous Millstone-Grit successions in the Pennines and the few sandstones in the succeeding Upper Carboniferous Coal Measures of Yorkshire and Derbyshire with essentially similar lithologies. As some of the latter have been used as quernstones (Wright 1988), the term Millstone-Grit type sandstone has been adopted here to accommodate the possible Coal Measures provenances. No. 6 is probably Crinoid Grit of the Middle Jurassic Scarborough Formation which crops out in the western part of the North York Moors, Hambleton Hills and north-western parts of the Howardian Hills. It was widely used for both beehive querns (Hayes *et al*. 1980) and flat rotary querns (see for example Rogers 1993, 1329, no. 4543) in the east Yorkshire area, and one of the authors (GDG) has provisionally identified it at another north Lincolnshire site. No. 7 comes from the Upper Carboniferous or Middle Jurassic of north-east Yorkshire, probably the latter given its lithological comparability to no. 6. This is a valuable indicator of the trade in querns. The pattern of wear on no. 6 suggests it may have been re-dressed just prior to breakage, or possibly it was broken during re-dressing.

A fragment of stone used as a pillowstone (p. 227 no. 4) probably also originally came from a quern given its lithology, but retained no traces of its original function.

Fig. 845

1 (not illus.) Fragment. Mayen Lava; medium grey, very finely crystalline,

[10] Report written in 1999 and checked 2010. Abbreviations. SA –Sub-angular; SR – Sub-rounded

[11] Given that there is Roman material on site, and that querns were found in East Acridge, the possibility must be acknowledged that the lava fragments are residual from that period.

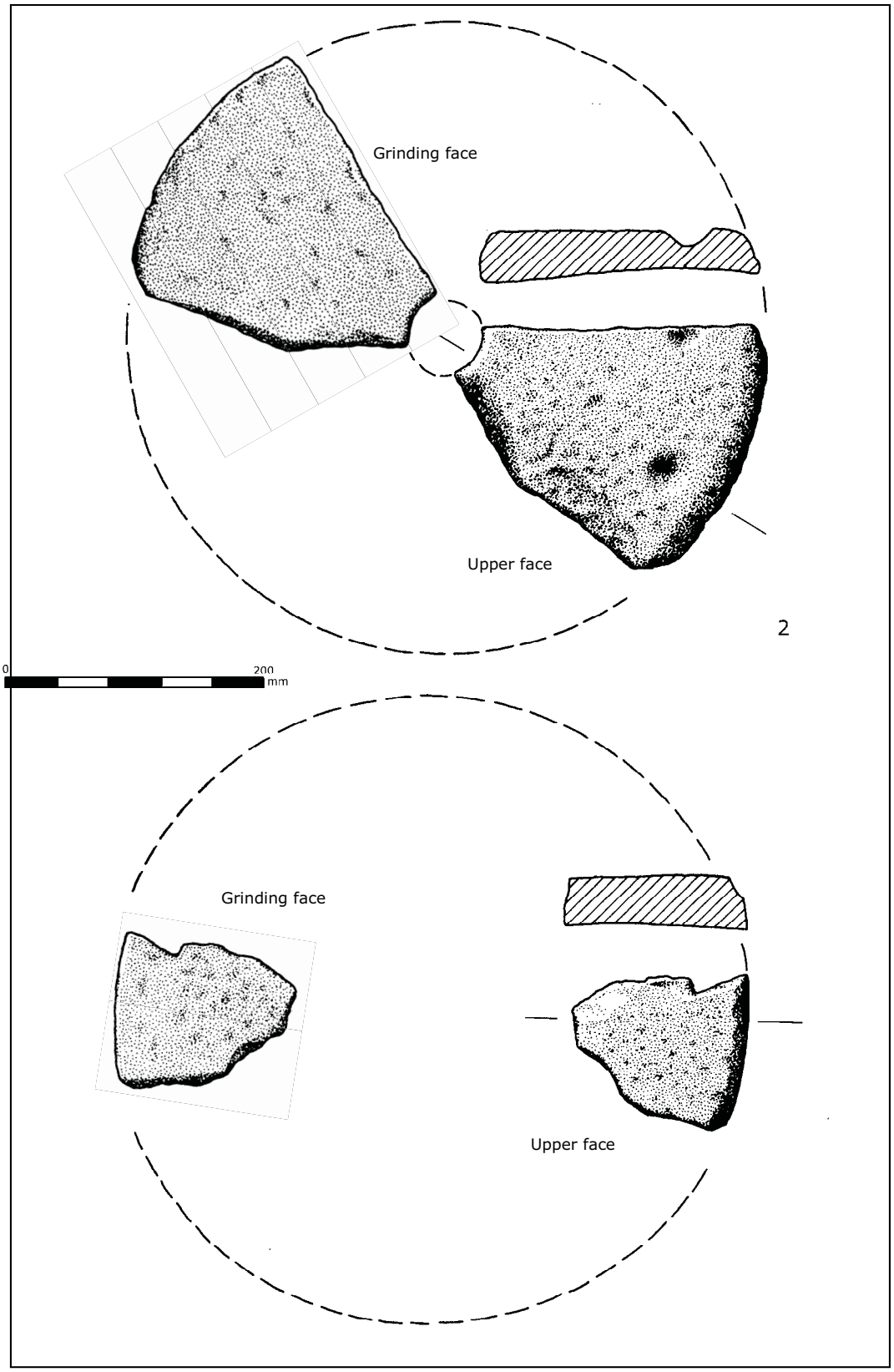

Fig. 845: Quern stones. Drawing: Simon Hayfield.

abundantly vesicular, with sparse feldspathoidal phenocrysts. Remnants of original outer edge with vertical dressing? F5422; Period 4.

2 Upper stone fragment. Millstone-Grit type sandstone; pale grey to reddish brown, medium to coarse grained with SA to SR grains, poorly sorted, poorly compacted, with appreciable (mainly degraded) feldspathic grains. Upper face and edge dressed with peck marks and retains two handle holes; slightly conical eye and rounded edge. Slightly concave grinding face with heavy band of wear at edge. Diameter *c.* 50 cm. (16% of the circumference extant); thickness *c.* 45 mm.; diameter of complete handle hole 33 mm. F5329; Period 4.

3 (not illus.) Skirt fragment of upper stone. Millstone-Grit type sandstone as no. 2 above. Straight-sided edge sloping out and retains traces of vertical dressing furrows. Dimensions 104 x 99mm, thickness 40mm. Used as a head-support in grave F7429; Phase E.

4 (not illus.) Skirt fragment of upper stone? Millstone-Grit type sandstone as no. 2 above with sparse muscovite. Upper face dressed to uneven thickness; straight edge sloping out slightly. Grinding face has slightly raised band around outer margin with inner circumference not concentric with outer edge. Diameter *c.* 40 cm (12% of circumference extant), maximum thickness 70mm.. F5366; Phase E.

5 (not illus.) Lower stone fragment retaining part of spindle hole. Millstone-Grit type sandstone as no. 2 above. Slightly convex grinding face; lower face dressed flat by pecking. Stone heat-reddened with lower face blackened. Dimensions 140 x 115mm, thickness 37mm. F1647; Phase E.

6 Skirt fragment of upper stone. Sandstone, medium reddish brown, fine to (mainly) medium grained with SA to SR grains and a few coarse rounded grains on one bedding plane, moderately sorted, well compacted; casts and moulds, apparently of bivalves, on upper face. Straight-sided edge sloping out slightly; upper face dressed flat by pecking. Convex grinding face with narrow band of heavy wear around edge and rest of face dressed by deep pecks showing little wear. Surfaces fire-blackened. Diameter *c.* 42–43 cm (9% of circumference extant); thickness 43 mm. F3909; Period 1C.

7 (not illus.) Skirt fragment of upper stone? Sandstone as no. 6 but lacking casts and moulds of bivalves. Upper face and edge damaged and missing. Grinding face dressed with peck marks and retains small part of heavily worn band close to edge. Surfaces fire-blackened. Dimensions 114 x 100mm, present thickness 43mm. F3874; Period 1C.

Hones

Nine items can be identified as hones. Some, such as nos. 8, 9, 16 and probably the much worn no. 11, are clearly purpose-made. Several others appear to retain their natural shapes which were judged to be suitable without further dressing. These vary from no. 14 which should perhaps be described as a utilized cobble rather than being graced with the title hone, to no. 10 where the faces are worn and grooves from sharpening are clearly visible. Such stones are not intrinsically closely datable. Most were found in twelfth-century or later contexts, but no. 14 was earlier as it was found in a Phase E grave fill.

Two of the hones are clearly the result of long-distance trade, on the basis of both their geology and archaeological comparanda. No. 8 is made of Norwegian schist (or 'ragstone') from Eidsborg (Ellis 1969, subgroup IA). This rock type has a metamorphic age-range based on potassium-argon radiometric dating of *c.* 900–1000 million years (Mitchell *et al*. 1984; Crosby and Mitchell 1987). This date range, allowing for cooling and some argon loss, equates with the Grenvillian Orogeny, which is represented by rocks in Canada, Greenland and Scandinavia, but until recently was thought to be absent in Britain. However, traces of this orogenic episode have now been found in the Scottish Highlands (Johnstone and Mykura 1989, 74–7; Craig 1991, 47, 55, 97–100, 233), but fortunately in rocks that are petrologically quite distinct from 'Norwegian' schist, so the combination of archaeological, petrological and radiometric-dating

evidence for a source in the Eidsborg area is still valid. No. 8 was found in a layer belonging to Period 8, and it is possible that it could be contemporary with it as this stone type has been imported into Britain for use as a honestone for the past millennium (Ellis and Moore 1990, 280, n.7 for references).

No. 9 is also likely to have been an import from Scandinavia. It is made from Purple Phyllite (Crosby and Mitchell 1987) also known as Blue Phyllite (Moore 1978; Ellis 1969, sub-group 1B). This has a metamorphic age-range based in potassium-argon radiometric dating of *c.* 395–470 million years, indicating the Caledonian Orogeny. Archaeological distributions suggest a source in the Norwegian Caledonide outcrops (Crosby and Mitchell 1987, 498–502), although a possible source in the eastern Scottish Highlands or Shetland Islands cannot be precluded. This stone type was in use primarily in the late Saxon period, although hones made of it are found in contexts of the twelfth to fourteenth centuries (Ellis and Moore 1990, 284), contemporary with the context in which no. 9 was found. One of the uses no. 9 might have been put to is for sharpening needles. The notch and grooves in the end would be ideal for fining down the sides of the point, while the small pit below the notch could have been used to give the tip a final polish.

Identifying whether nos. 10–14 arrived in Barton as the result of long-distance trade is more problematic. All are made of rocks from outcrops at some considerable distance from the site, but many give the appearance of being erratics, *i.e.* a rock fragment that has been transported naturally from its parent outcrop by glacial, marine, estuarine or fluvial processes. The Humber area has an exceptionally wide variety of erratics derived from the west, north and east (Gaunt *et al*. 1992, 109–27). It is possible therefore that nos. 10–14 represent local exploitation of erratic rocks that were available in the vicinity.

No. 10 is a schist that might have derived originally from the Scottish Highlands or Norway. It is superficially similar to the schist from Eidsborg (*cf.* no. 8) but the presence of the black mineral precludes any such correlation. Nos. 11–13 are made of Lower Palaeozoic sandstones, probably from southern Scotland or Cumbria, which are lithologically comparable to Ellis's (1969) hone petrography sub-group IIC. The stone of the cobble no. 14 is of similar age and origin, and is lithologically comparable to hone petrography sub-group IIB.

The remaining two hones come from rocks that crop out in areas nearer to Barton. If from the Upper Carboniferous, the outcrops are in the Pennines, north-east England and the Yorkshire-Derbyshire coalfields. If from the Middle or Upper Jurassic, the outcrops are in north-eastern Yorkshire and a narrower belt between Market Weighton and Brough-on-Humber. No. 15 is an Upper Carboniferous (probably Coal Measures) or Middle or Upper Jurassic sandstone, but it too has a shape that suggests it could be an erratic. No. 16 is a purpose-made hone of sandstone from the Upper Carboniferous or Middle Jurassic.

Fig. 846

8 Complete. Schist, pale silvery grey, fine-grained, consisting mainly of quartz and muscovite. Rectangular-sectioned tapering bar producing a triangular cross-section longitudinally. Broadest end retains grooves around end, possibly used to mark the end of the whetstone prior to snapping it off a pre-prepared rough-out. Section (maximum) 9.5 x 8 mm.; length 63 mm. F261; Period 8.

9 Fragment. Phyllite, medium grey, very fine grained, consisting mainly of quartz and muscovite. Thin rectangular-sectioned bar tapering towards broken end. Complete end has triangular notch and other grooves with a small drilled pit on one face. Section 13 x 6 mm.; present length 46 mm. F5348; Period 4.

10 Fragment. Schist, pale to medium silvery grey, fine grained, consisting mainly of quartz and muscovite but also with appreciable black lath-like mineral, probably hornblende (but not biotite). Rectangular sectioned, tapering to broken ends. Faces well worn with transverse scratches along one edge. Section 46 x 18 mm; present length 115 mm. F289; Phase A.

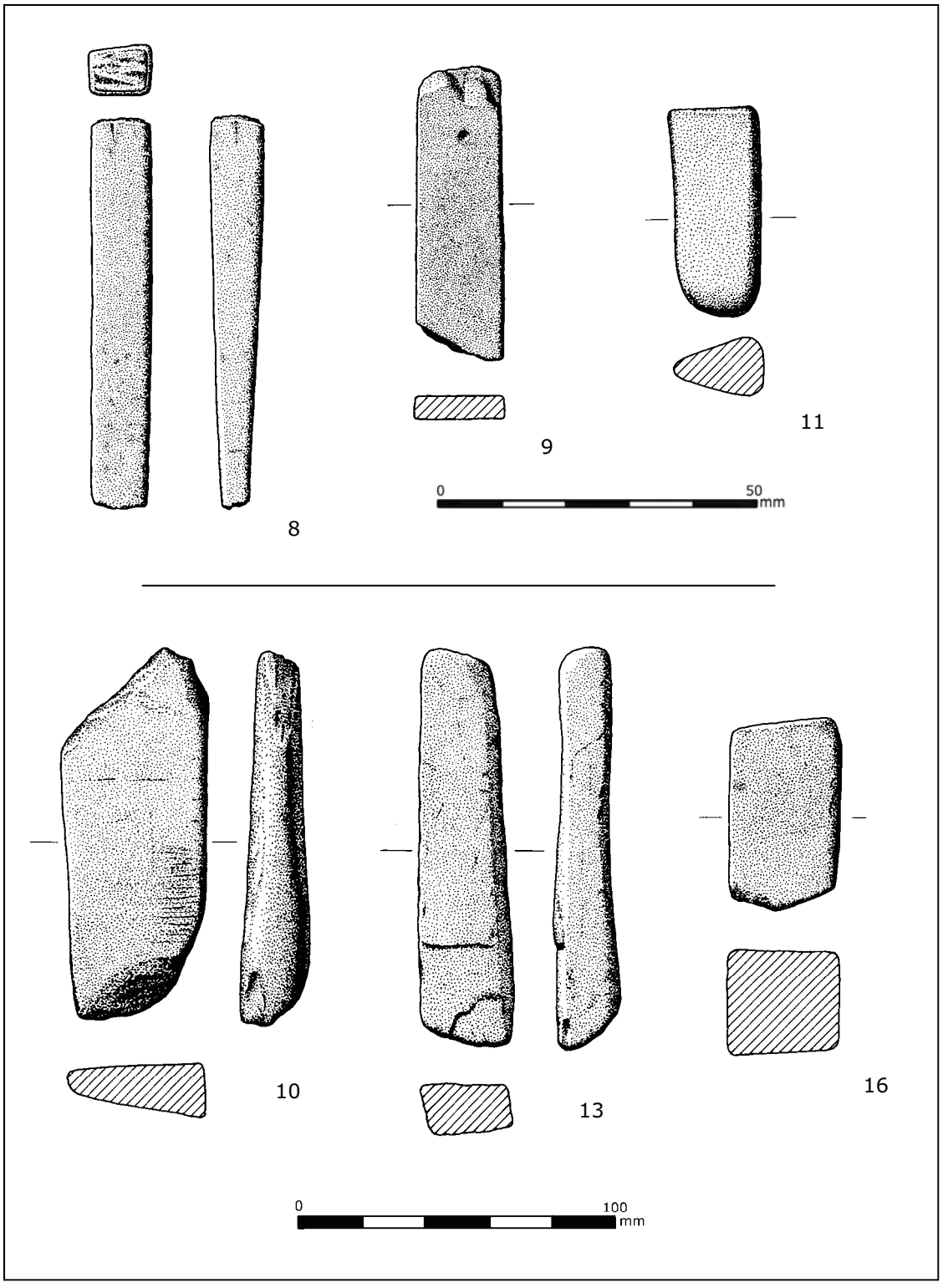

Fig. 846: Hones and sharpening stones. Drawing: Simon Hayfield.

11 Fragment. Sandstone, medium grey, very fine to fine grained (*i.e.* almost siltstone), highly compacted with sparse microscopic muscovite and dark minerals and/or rock fragments. Triangular-sectioned rectangular bar with rounded end; other end broken. One face shows high polish. Section 14 x 10 mm.; present length 32 mm. F382; Period 6.

12 (not illus.) Fragment. Sandstone, pale slightly greenish grey otherwise description as no. 11 above. All surfaces broken. Length 47 mm. F1248; Period 5.

13 Complete. Sandstone, medium slightly greenish grey, very fine to fine grained (*i.e.* almost siltstone), highly compacted, with sparse microscopic muscovite. Rectangular with rhombic cross-section; traces of wear on three sides. Section 30 x 19 mm.; length 121 mm. F4514; Period 8.

14 (not illus.) Utilized cobble. Sandstone, pale greenish grey, fine to medium (and slightly coarse) grained with A to SA (and sparse SR) grains, poorly sorted, highly compacted, with sparse dark minerals and/or rock fragments. Rounded rectangular-sectioned cobble with broadest face showing evidence of wear. Section 44 x 28 mm.; length 84 mm. F3506; Phase E.

15 (not illus.) Fragment. Sandstone; pale grey to slightly reddish brown, fine grained with SA to SR grains, well sorted, well compacted, probably thin bedded. Rectangular-sectioned with rounded damaged ends. One face has diagonal groove and small transverse sharpening grooves in edge. Slightly heat reddened and fire blackened. Section (maximum) 60 x 23 mm.; length 118 mm. F3697; Phase A.

16 Fragment. Sandstone; pale yellowish brown, fine to (mainly) medium grained SA to (mainly) SR grains, fairly well sorted, fairly well compacted, with sparse minute muscovite and feldspar, and traces of clayey matrix. Square-sectioned whetstone; both ends broken and stone tapering slightly towards one end. Section 37 mm.; present length 56 mm. Unstrat.; Period 4.

Other stone objects

The spindle-whorl no. 17 is probably made of chalk from the Ferriby Chalk Formation. This is the lowest of the four lithostratigraphical subdivisions of the Chalk succession in Yorkshire, Lincolnshire and northern Norfolk, and comprises the lowest *c.* 26 m of that succession. It includes the basal 2.5–3.0 m thick Hunstanton (formerly Red) Chalk, and several layers that, although fine grained in absolute terms, are nevertheless coarser than the very fine-grained chalk which comprises most of the *c.* 250 m-thick succession. No. 17 was found in a Period 4 layer where it was undoubtedly lost from contemporaneous use. The rounded biconical shape is typical of medieval whorls (Walton Rogers 1997, 1737, type C); and examples with concentric grooved decoration also thought to have been made of Ferriby Chalk, were also common in twelfth- and thirteenth-century contexts at Coppergate, York (Walton Rogers 1997, fig. 807, form C).

The three unstratified fragments from the rim of a mortar (no. 18) are made of Hibaldstow Limestones (formerly Hibaldstow Oolite). This rock, together with its lithostratigraphical equivalent on the northern side of the Humber, the Cave Oolite, comprises the upper part of the Middle Jurassic Lincolnshire Limestone Formation (Gaunt *et al*. 1992, 46–52). On general grounds it may be suggested that the unstratified no. 18 was in use during the later medieval period. Mortars appear to have replaced the hand quern as items of general household equipment after the use of the former was prohibited (see discussion of quernstones, p. 1027), and the relationship between the two is neatly illustrated by the examples from stratified contexts at Winchester (Biddle and Smith 1990, fig. 266).

A variety of fragments of black shiny material (black mudstones and Cannel coal) was collected during the excavations but only two pieces showed evidence of working. One of these is a bead, probably from a rosary, from a Period 6 context (no. 5, p. 1013). The other is catalogued here (no. 19) as a possible offcut which may indicate some exploitation of the material in the

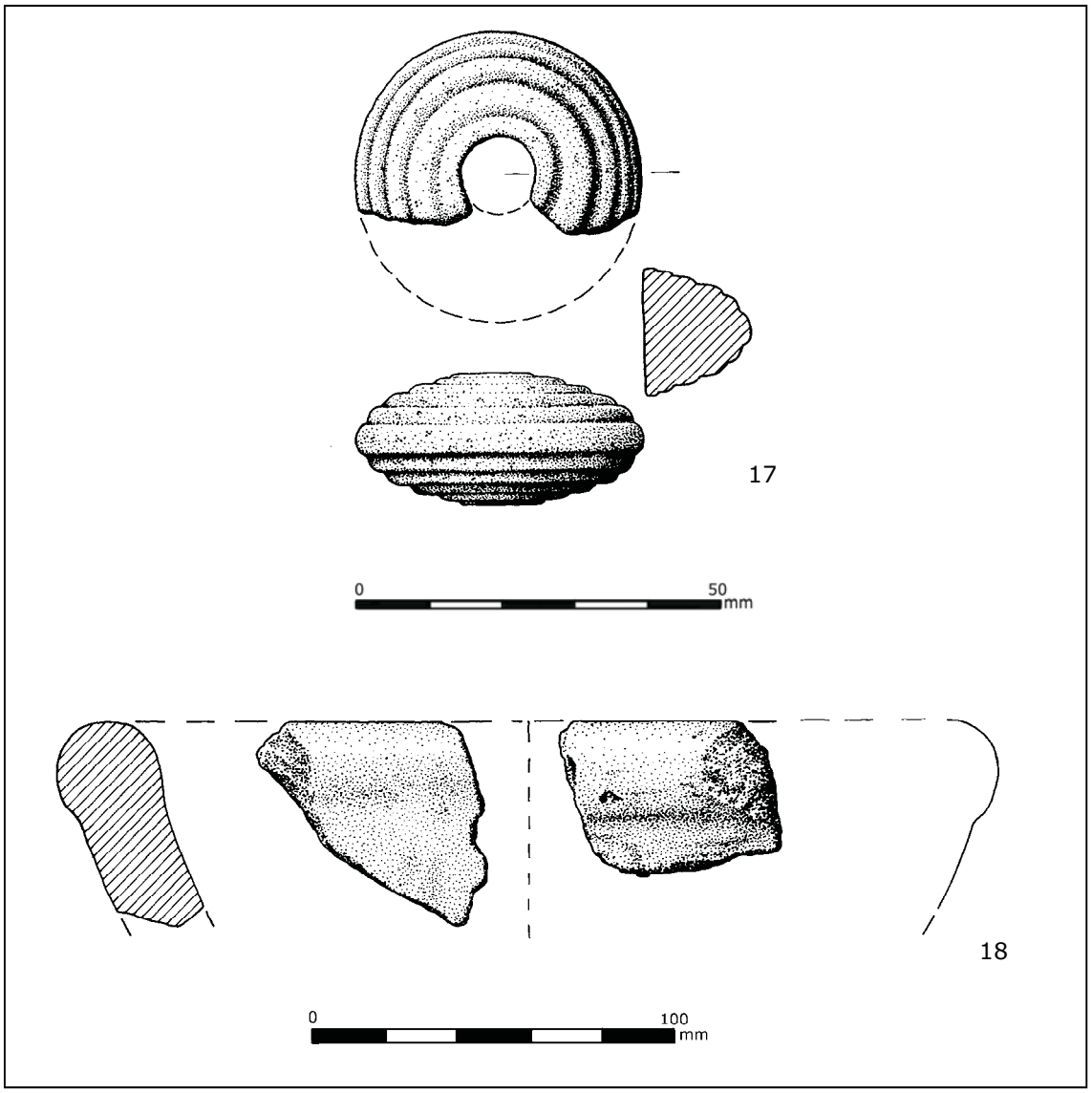

Fig. 847: Stone spindle whorl and mortar. Drawing: Simon Hayfield.

twelfth or thirteenth century.

Fig. 847

17 Spindle-whorl. Chalk; white, fine grained. Approximately two-thirds of a rounded biconical D-sectioned whorl with outer face decorated with concentric lathe-turned grooves. Diameter 40 mm; section 19 x 15 mm. F3784, Period 4.

18 Mortar. Limestone, finely to coarsely oolitic. Three rim fragments; rounded rim edge with concavity below rim edge on exterior. Rim diameter *c*. 26 cm. Unstrat.

19 (not illus.) Offcut? Cannel coal, black, with black streak, fissile, with irregular small jet-like inclusions and minute impressions of plant débris. Probably from 'bituminous paper shales' in upper part of Lower Jurassic Coleby Mudstones Formation, or from Thorncroft Sands in lower part of Middle Jurassic Glentham Formation (Gaunt *et al*. 1992, 43, 52–4, respectively). Small rectangular block with cut edges. Dimensions 17 x 14 x 8 mm. F1541; Period 4.