

The excavation of a Neolithic and Iron Age settlement at Wardend of Durris, Aberdeenshire

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with contributions by S Boardman, A Crone, W Finlayson & A MacSween

ABSTRACT

Gravel quarrying revealed a complex of plough-truncated features. Excavation over three seasons showed that a fragmentary Neolithic settlement and a multi-phase Iron Age settlement survived on the site. The project was funded by Historic Scotland.

INTRODUCTION

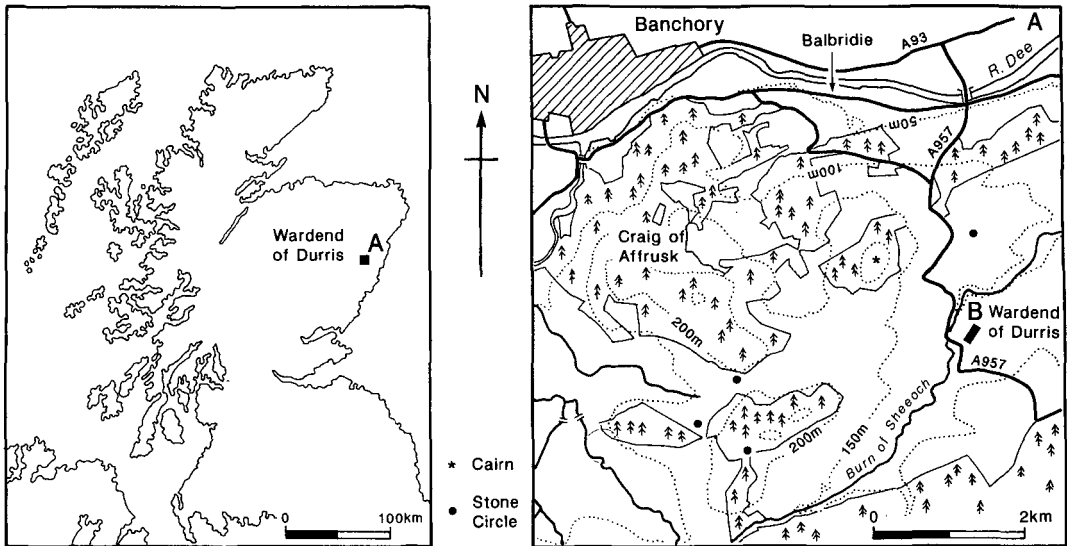
LOCATION, SOILS AND LAND-USE (ILLUS 1)

Durris is a fertile and moderately sheltered parish lying in a hollow on the north of the Mounth (the east arm of the Grampians). The site of Wardend (or Lochton Quarry) lies at NGR NO 752928 just off the A957 'Slug' Road from Crathes to Stonehaven, about 6 km south-east of Banchory, at an altitude of 120 m OD. It is situated on the north-east side of a rather flat-topped promontory of morainic gravels. This slopes down steeply to the north towards Wardend farmhouse and is cut sharply on the west by the Burn of Sheeoch. It is an exposed site, subject to cold south to south-west winds from the Mounth. The gravels are overlain by freely drained iron podsols of the Corby association, but they are closely bordered on the east by freely drained soils on till derived from granite and granitic gneiss. Both are light and easily managed soils. The neighbouring area divides into more poorly drained soils of both derivations. The land has been cultivated throughout living memory.

DISCOVERY AND THREAT

The archaeological site was unknown until stripping of topsoil, in preparation for extraction of gravel by the Lochton Quarry of Fyffe's Ltd, revealed stony areas and patches of charcoal. Mr Colin Blackhall, of Wardend Farm, recognized these as archaeological features. He notified Historic Scotland through Ian Shepherd. The author excavated the site on behalf of Historic Scotland, over three seasons in 1988 and 1989, in difficult circumstances. The longest season, in the face of imminent destruction of the site, occurred during a period of severe weather in

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ILLUS 1 Location plan of Wardend of Durris (Based on the Ordnance Survey map © Crown Copyright)

November 1989. Snowfall and severe frost during the last week on site prevented the complete excavation of some areas. The excavation and post-excavation were organized and funded by Historic Scotland.

Topsoil on the site was removed by machine. Part of this process had occurred between excavation seasons and without archaeological supervision. In some areas the gravels had been driven over by machinery over a long period, leading to the destruction of the sub-topsoil surface and the upper part of many archaeological features. Subsequently, the surface was manually cleaned so that the archaeological features became visible. Cleaning of the site showed that most of the archaeological features were present near the edge of the promontory. In one area (illus 3) the quarry had been extended between excavation seasons, so that it was not possible to examine part of the group of features in the central part of the site.

THE EXCAVATION RESULTS (ILLUS 2 & 3)

ENCLOSURES 1, 2 AND 3 AND OTHER FEATURES IN THE VICINITY

Enclosure 1: fragmentary enclosure

Only a 17 m long segment of the palisade slot of an originally circular enclosure (Enclosure 1) survived (illus 3). It was cut by and therefore predated Enclosure 2, which was centred c 12 m to the west. The size and shapes of the two slots were very similar (see below). When complete, Enclosure 1 would have enclosed an area some 25 m or so in diameter – roughly the same size as, or perhaps slightly smaller than, Enclosure 2. It is not clear whether Enclosure 1 represented an almost totally destroyed enclosure, or an uncompleted feature, but the former seems more likely. An association with Enclosure 4 is possible (see discussion below).

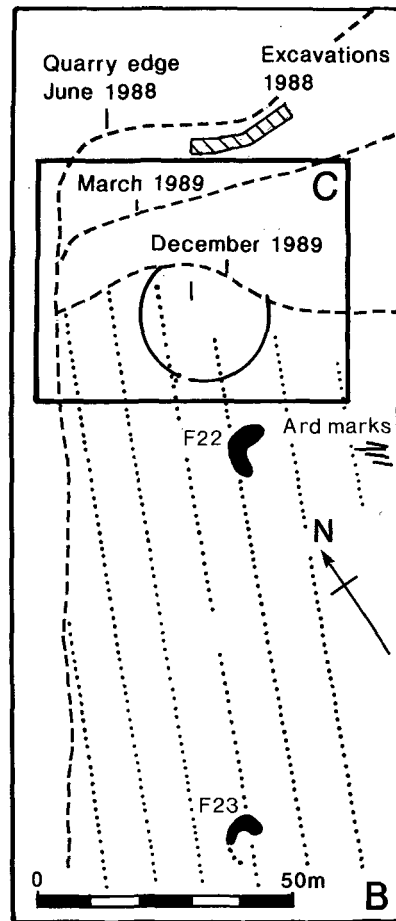
Enclosure 2: central, circular enclosure and related features

Enclosure 2 survived much more completely than all other main features on the site (illus 3). It comprised a narrow palisade slot, which enclosed an area about 26 m across with an entrance to the west. The slot was of fairly uniform width (c 0.3 m) but varied in depth from 0.3 m on the east, where it cut sand, to 0.1 m on the west, where it cut hard gravel. An assortment of shapes of post-pipes was also visible on the east, indicating that timbers of variable size had been used in the palisade construction. The 2 m wide entrance had a double post arrangement on each side.

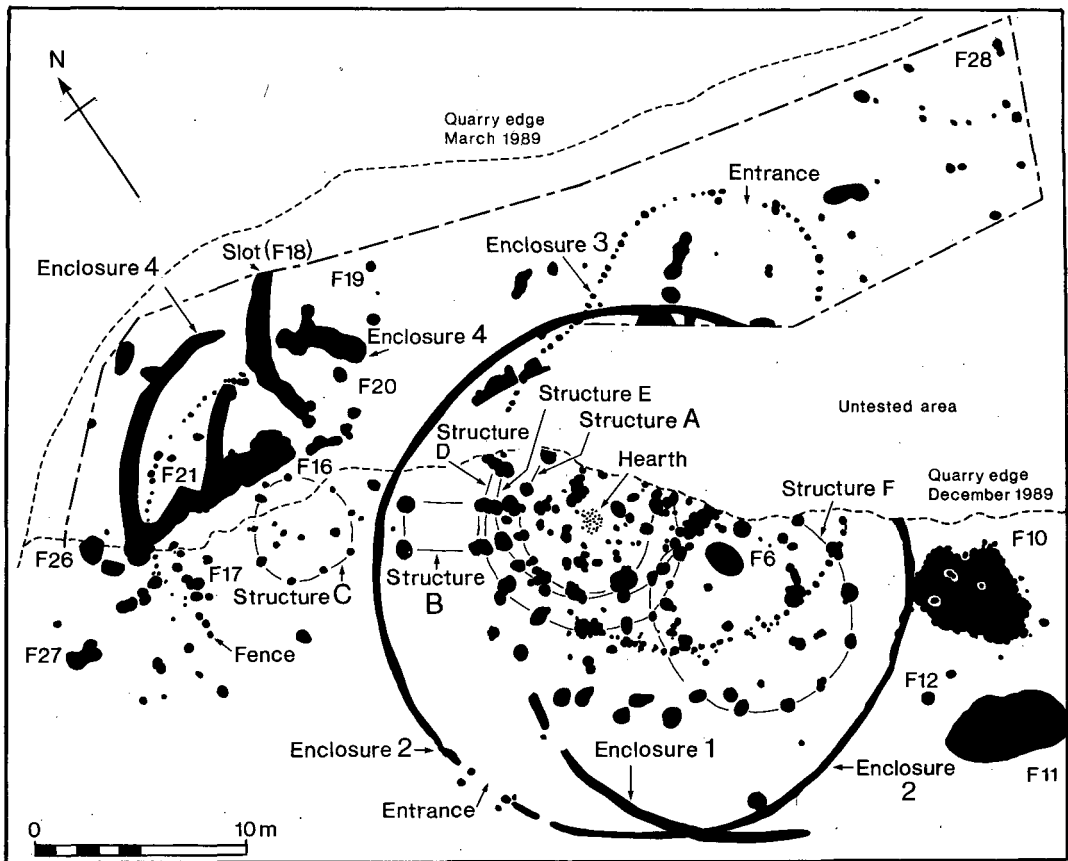
Within this palisade were many pits and post-holes. At least one circular arrangement was identified as the main structural element of a wooden building (structure A) roughly 9 m in diameter. This ring had a central hearth indicated by an area of burnt subsoil about 1 m across (illus 3). However, a far larger ring (structure D) is also centred in the same area. In the same part of the site a further ring (structure E), 9 m in diameter, can be suggested. South-east of this structure was a large oval pit (F6), measuring roughly 1 m deep and 1.7 m by 0.6 m across (illus 4). The upper part of the pit contained a lining of large stone blocks, which formed a bowl some 0.35 m deep. There were different soil fills above and below the stones. The former was a coarse sandy loam, with medium-sized stones generally confined to its north-west corner; and the latter comprised silty loams with few stones. Charcoal from the upper pit fill (F6) was dated to cal AD 25–240 (probability of 95.7%: GU-2962). To the south, a ring of large post-holes (structure F – 11 m in diameter) can be identified. Many other combinations of posts are possible in this densely packed area.

To the south of these structures were a number of large post-holes. From one of these charcoal was radiocarbon dated to cal 385–55 BC (probability 95.95%: GU-2961).

A rectangular arrangement of four deep, large post-holes (structure B) lay to the north-west of structure A, within Enclosure 2, but its purpose is unknown. Charcoal from the fill of one of the post-holes of this structure produced a radiocarbon date of cal 130 BC–AD 115 (95.68% probability: GU-2960). The final element within Enclosure 2 was a linear depression in the subsoil, tentatively interpreted as a hollow-way, which was aligned WSW/ENE and ran through the entrance to Enclosure 2, as far as the western quarry edge. The depression was too slight to be planned and illustrated. On the north side of this (outwith Enclosure 2) was a very large and irregular feature, interpreted as a probable tree-hole, the fill of which produced two rim-sherds and five body-sherds of undiagnostic, presumably domestic, pottery.



ILLUS 2 General site plan



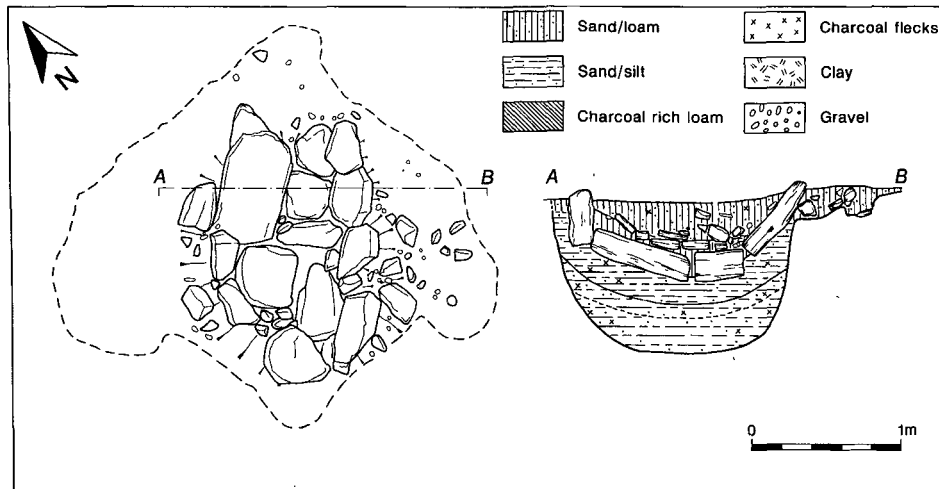
ILLUS 3 Plan of excavated features

Enclosure 3: pear-shaped enclosure

The pear-shaped enclosure fence (Enclosure 3) was formed of a series of small post-holes, each on average 0.25 m in diameter and 0.3 m deep, and spaced 0.25–0.50 m apart. The post-hole size and spacing is similar to the *Fence* (marked in illus 3) adjacent to Enclosure 4 (below). Enclosure 3 post-dates all the elements of Enclosure 2 with which it came into contact, ie its palisade slot, the large post-holes in the south-west part of Enclosure 2 and miscellaneous central pits. There was a 2.5 m wide entrance on the north-east side of Enclosure 3, formed by an arrangement of paired posts similar to that of Enclosure 2.

Scoops to the east of Enclosure 2

On the east side of Enclosure 2 were two very large scoops – F10 and F11 (illus 3 & 5). These were similar to each other in shape (both were roughly oval), in size (6 m by 4.5 m, and 5.5 m by 3.75 m), in depth (about 0.3 m), and in the nature of their charcoal-rich soil fills. However, whereas the northern scoop F10 (illus 5) had a stone floor, the other pit, F11, was virtually stone-free. A quern, SF21, was found set into the stone floor of the scoop F10 (illus 5), perhaps indicating that the area had



ILLUS 4 Detail of stone-lined pit (F6)

been used for milling. A line of small post-holes across the pit towards the northern end, and another at its south end, may have once housed the ends of posts supporting an insubstantial roof, shelter or screen. A halo of charcoal-rich soil around the perimeter of the pit overlies all elements of the palisade trench of Enclosure 2 (the cut, fill and post-pipes of the palisade), clearly indicating that this scoop post-dates Enclosure 2. An association with Enclosure 3 is possible. No artefacts were recovered from F11. A further two, small, charcoal-filled pits (F12) lay between the two large scoops.

The fill of the scoop F10 produced two radiocarbon dates. Charcoal from its upper level was dated to cal 400–130 BC (95.8% probability: GU-2959); while a date of cal 200 BC–AD 75 (95.6% probability: GU-2441) was produced from the lower level. Charcoal from pit F11 produced a date of cal 235 BC–AD 70 (probability of 95.5%: GU-2963).

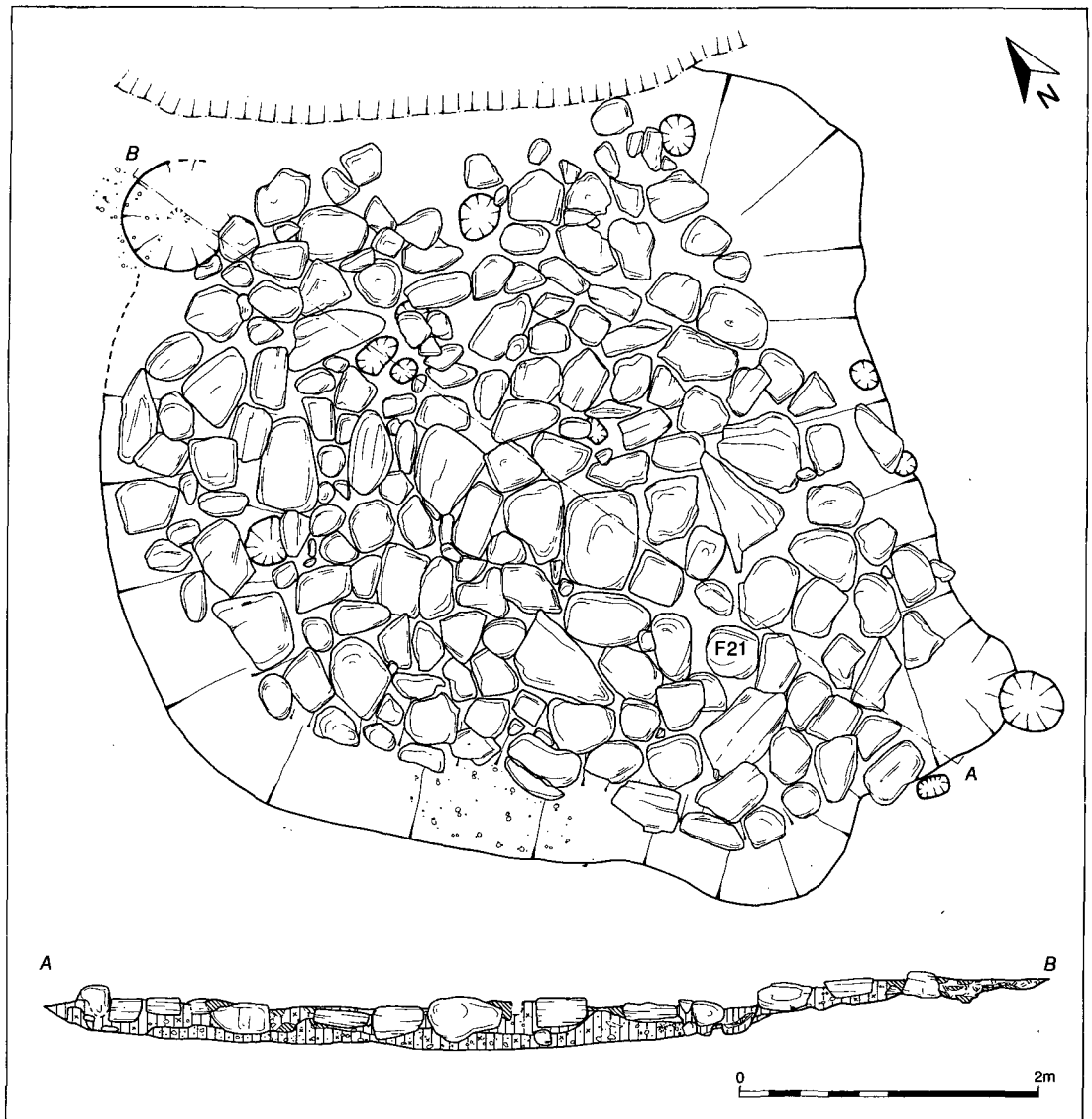
Miscellaneous pits north of Enclosure 2 (including those excavated in 1988)

Two groups of indistinct features were present in the northern part of the site. The short strip of features excavated in 1988 (illus 2) included several post-holes, but no structural pattern could be discerned. This also applied to a number of pits and miscellaneous features located to the north-east of Enclosure 2, one of which produced significant quantities of cereal grain (F28: illus 3). The small circular pits at the extreme north-eastern edge of the site were very shallow and insubstantial; whilst those which coincided with the northern end of the pear-shaped Enclosure 3 included several larger, irregular, uneven-bottomed pits, reminiscent of tree- or bush-holes. The archaeological significance of these features is unknown.

ENCLOSURE 4: WESTERN ENCLOSURE AND ADJACENT FEATURES

A few ditches (or slots), a number of pits, and several elements of another enclosure were uncovered to the north-west of the features already described (illus 3).

A segment of a possible palisade slot (F18) passed through the entrance to Enclosure 4.



ILLUS 5 Detail of stone-floored shallow scoop (F10)

Its north end had been truncated by the quarry and, at its apparent south end, it was cut by an arrangement of four post-holes (F20), perhaps representing an entrance feature associated with one of the later enclosures. These post-holes produced radiocarbon dates of cal 405–185 BC (95.6% probability: GU-2956) and cal 250 BC–AD 75 (95.5% probability: GU-2957) and were clearly associated with the Iron Age activity. However, a series of charcoal-filled impressions in the bottom of slot F18 indicated the *in situ* burning of rectangular-shaped posts or upright planks. These provided a date of cal 3315–2775 BC (95.6% probability: GU-2955). East of, or enclosed by,

slot F18 was a very disturbed length of another slot or ditch F19 and several large post-holes. The nature and sequence of this group of features could not be clarified during excavation.

The fragmentary Enclosure 4 comprised a curved, shallow palisade trench (no more than 0.2 m deep) which contained burnt wattle and small diameter timber. Some 22 m of the palisade survives, and to the south six further posts may indicate its continuation. Charcoal from the palisade trench produced a radiocarbon date of cal 235 BC–AD 70 (95.5% probability: GU-2963). Co-located with it was a small circle of nine posts, about 5 m in diameter, probably the main structural element of a house roughly central to Enclosure 4 when it was complete (structure C).

There was also a *Fence*, with part of an entrance surviving at the north end; the posts of the fence were between 0.15 m and 0.3 m in diameter, and between 0.05 m and 0.15 m deep. The fence is of uncertain association; it is not exactly aligned with Enclosure 4, and is similar in construction and alignment to the pear-shaped Enclosure 3 (above). It is perhaps unlikely that the *Fence* was associated with Enclosure 4. There were also several small, undiagnostic pits, for example F17. A scoop measuring c 3.3 m by 2.5 m and up to 0.25 m deep, with a crude stone-paved floor, was also excavated (F16).

In the vicinity of Enclosure 4, there were also the truncated remains of miscellaneous pits and slots, some of which may have been associated with earlier enclosures (for example, slot F21 was cut by the *Fence*). However, the discontinuous nature of these features suggests that they themselves were not parts of enclosures (see discussion below). A c 0.5 m deep slot F21 produced evidence for small posts, and contained most of the pottery recovered from the site, six body-sherds and one rim-sherd, all of which appear to come from undiagnostic domestic vessels.

To the west of Enclosure 4 were several more pits and/or post-holes, only two of which were of substantial size. A large stone-filled pit (F26), about 1 m in diameter and nearly 0.5 m deep, may have been a post-hole with collapsed packing. The other large feature (F27) consisted of several, intersecting cuts, all very badly disturbed by burrowing; however, it did produce two rim-sherds from a narrow-necked vessel (sherd no 28).

The nature and relative chronology of the diverse features in the north-west area are unclear. The fact that some of the linear features do not extend southwards may have been due, perhaps, to differential destruction by machinery, as outlined above. The limited time available, because of the rapid encroachment of the quarrying activity, meant that some of the features in the area were not completely excavated.

FEATURES TO THE SOUTH OF THE MAIN TRENCH AND CULTIVATION REMAINS (ILLUS 2)

Two, crescent-shaped features were recorded on the site to the south of the Enclosures (illus 2). The northernmost (F22) was found only c 10 m south of Enclosure 2, whilst the southernmost one, F23, was located some 70 m farther to the south-west. Due to time limitations and adverse weather conditions, only F22 was excavated. It measured 4 m by 2 m across, but was less than 0.5 m deep. The only finds recovered from its fill were fragments of burnt bone, unidentifiable to species (F McCormick, pers comm).

Broad rig-and-furrow (illus 2), aligned roughly south to north, could be seen to cross the entire site and ardmarks, aligned roughly north-east to south-west, were visible cutting into hillwash beneath the topsoil build-up on the slopes about 25 m to the south of Enclosure 2 (illus 2). The furrows of the rig and furrow were, on average, 2 m wide and 7 m apart. The one excavated example was cut 0.3 m into the subsoil; its sides were silted with gravel and its centre was filled with a topsoil very similar to the present ploughsoil horizon.

THE POTTERY

Ann MacSween

The pottery assemblage comprises fifteen sherds, representing nine vessels. All are from handmade vessels, probably coil-constructed in the majority of cases. The pottery is undecorated, but many of the sherds have been finished by smoothing or burnishing. The pottery was found in slot F21 (one of the features possibly earlier than Enclosure 4), pit F27 (to the west of Enclosure 4), and in the probable tree-hole to the south.

There are three rim sherds in the assemblage: sherd nos 2B and 27A which are plain rims, and no 28 which is an inverted rim. The only rim sherd large enough to allow estimation of the diameter of the original vessel is no 28, which came from a vessel with a neck 90 mm in diameter. The sherds are too small for vessel types and their period to be estimated. Apart from the rims, the only sherd indicative of vessel shape is no 2B which appears to have derived from a shouldered vessel. Since the pottery is of variable manufactured quality, it is probable that it does not derive from the same period of occupation of the site.

Examination of the vessel fabrics indicates that they were made from a range of clays with varying amounts of quartz, quartzite and igneous inclusions. In most cases the clay appears to have been coarse enough to allow firing without temper addition; only sherd no 28 has an added mixed gravel component. Sooting on the interior and exterior of the majority of sherds implies that they functioned as cooking vessels.

CATALOGUE

2 Slot F21 (6 sherds A–F)

2A 1 body sherd, 1 rim sherd (plain rim). 9 mm thick; 15 g; red. Exterior and interior smoothed. Fabric: hard; clay matrix has abundant quartz (up to 2 mm), frequent igneous inclusions and abundant mica. Exterior and interior sooted.

2B 1 body sherd. 4–10 mm thick; 14 g; brown. Probably from the upper part of a vessel which was narrow near the neck and then expanded to a shoulder. Broken off under point of inflection. Fabric: hard; clay matrix has frequent quartz (up to 3 mm) and black igneous inclusions. Exterior and interior burnished.

2C 1 body sherd. 6 mm thick; 6 g; red exterior, brown interior. Exterior and interior smoothed. Fabric: hard; clay matrix has abundant quartz, frequent mica and occasional black igneous inclusions. Exterior and interior sooted.

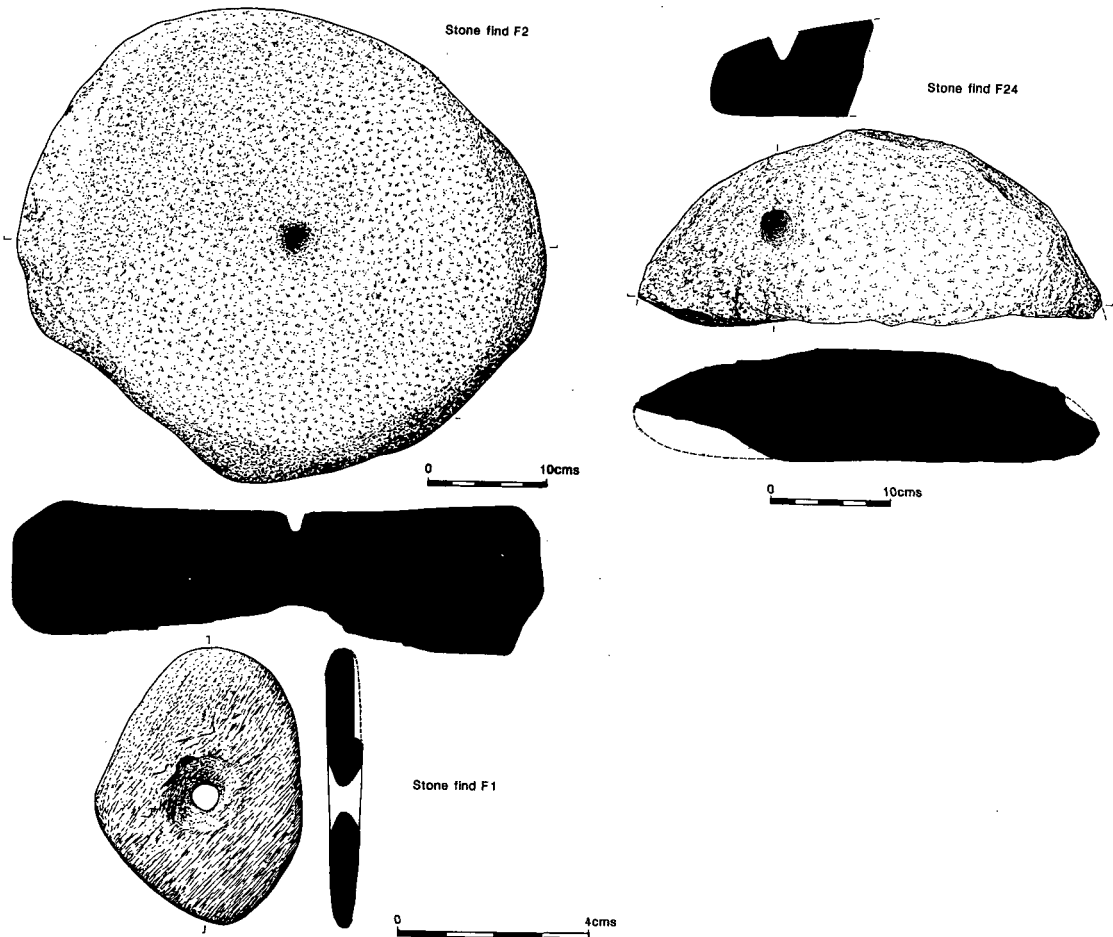
2D 1 body sherd. 6 mm thick; 5 g; red. Fabric: hard; clay matrix has abundant quartz/quartzite (up to 4 mm); abundant mica (some large plates); occasional black igneous inclusions.

2E 1 body sherd. 6 mm thick; 2 g; brown. Exterior and interior burnished. Fabric: hard; clay matrix has abundant quartz, abundant mica; frequent black igneous inclusions. Exterior and interior sooted.

2F 1 body sherd. 4 mm thick; 2 g; brown with red exterior surface. Exterior and interior burnished. Fabric: hard; clay matrix has frequent quartz, mica and black igneous inclusions. Interior sooted.

27 Probable tree-hole; (2 groups of sherds, A–B; A includes 4 sherds and B includes 2 sherds)

27A 1 rim sherd (plain rim), 3 body sherds. 8 mm thick; 14 g; red with brown core. Exterior and interior burnished. Fabric: hard; clay matrix has abundant quartz and frequent black igneous inclusions (up to 2 mm). Exterior and interior sooted.



ILLUS 6 Worked stone artefacts

27B 2 body sherds. 10 mm thick; 8 g; red. Fabric: soft; clay matrix has abundant quartz and occasional opaques and igneous inclusions.

28 Pit F27 2 rim sherds (inverted rim) from narrow-necked vessel (90 mm dia) 10 mm thick; 27 g; brown. Coil-constructed (N-shaped coil junctions) Fabric: hard; matrix has an even mix of quartz, opaques and igneous inclusions, and occasional mica; 20% of rounded gravel (up to 6 mm in diameter) added as temper. Exterior sooted.

THE WORKED STONE

Ann MacSween

A whorl of schistose siltstone no 1, the lower stone of a rotary quern, no 2, and a fragment of the upper stone of a rotary quern of mica schist, no 24, originally 0.37 m in diameter, were recovered during excavation (illus 6). The whorl came from the slot of Enclosure 4 (F13, while the querns came from the scoop F10 (to the east of Enclosure 2).

1 Whorl of schistose siltstone. Irregular oval in shape, measuring 56 mm by 42 mm and 6 mm thick. The centre is pierced by a hole 6 mm in diameter (Palisade slot of Enclosure 4).

2 The lower stone of a rotary quern. It is made of granite and measures 0.36 m in diameter and up to 0.12 m thick, with a central hole 20 mm in diameter and 20 mm deep. There is a lip around the outer edge of the stone due to the grinding action of the upper stone (F10).

24 Fragment of the upper stone of a rotary quern of mica schist, originally 0.37 m in diameter. The stone is 40 mm thick at the edge, and 80 mm thick towards the centre. 40 mm in from the edge of the stone is a handle socket, 25 mm wide and 30 mm deep (F10).

THE LITHICS

Bill Finlayson

Seven chipped stone pieces were recovered, six of flint and one artefact of pitchstone. No diagnostic retouched pieces are included in this sample. The flints were recovered from: topsoil; Enclosure 2 (the palisade slot and F6); a slot (F21 – of those earlier than Enclosure 4); and a probable tree-hole. One of the two pieces from the probable tree-hole is a flake fragment of Arran pitchstone, finds of which have been found only rarely in northern Scotland (Thorpe & Thorpe 1984).

Topsoil; no 20. Honey brown flint, secondary flake with pronounced bulb of percussion, bulbar scar and large thick platform. Typical hard hammer flake. Some irregular light inverse retouch. 37 x 38 x 9 mm

From postpipe in palisade slot of Enclosure 2: no 22. Heavily burnt and discoloured flint flake fragment. 13 x 14 x 4 mm

Pit (F6) no 24. Flint, secondary flake, burnt and discoloured. Cortex suggests battered pebble origin. 23 x 25 x 8 mm

Probable tree-hole; no 30. Flint, inner blade segment, discoloured by burning. 13 x 5 x 2 mm

Probable tree-hole; no 31. Pitchstone, flake fragment. Typical Arran pitchstone as transported widely in Scotland, starting in the Mesolithic and continuing into Bronze Age (cf Ritchie 1968). All pieces so far sourced have come from Arran sources. While it appears fairly common in the south of Scotland, it remains fairly rare in the north, with Thorpe & Thorpe (1984) reporting only three find locations in Grampian, and two in Highland Region, although their distribution map is now somewhat out of date.

Slot (F21). Two refitting blue-grey secondary flint flakes, both burnt. Cortex suggests battered pebble origin. 26 x 30 x 8 mm and 25 x 19 x 6 mm

THE CHARRED PLANT REMAINS

Sheila Boardman

INTRODUCTION

Two hundred and thirty-one soil samples, representing 176 soil contexts, were processed for the recovery of dating material, charred plant remains and any other environmental or artefactual material. A total of 125 samples produced charred plant remains. These encompass more than 20

major site features but the number of components from individual contexts was very low. The origins and importance of species in individual samples are therefore hard to assess. Nomenclature follows Clapham *et al* (1989), and for the sedges, Berggren (1969).

SPECIES REPRESENTED

These include barley, wheat, oat and flax. Barley was represented by grains only. The majority of these were hulled and many had asymmetric dimensions, indicating the six-row species (*Hordeum vulgare* L.). A few grains of naked six-row barley (*H. vulgare* var. *nudum*) also seem to be present.

Wheat was represented by grains and two glume bases. The latter were identified as emmer wheat (*Triticum dicoccum* Schubl.), as were the majority of grains. Many wheat grains could not be assigned to species.

Oat grains cannot be reliably identified without their chaff (floret bases), so the species present at Wardend remain unknown. The grains may include cultivated varieties (*Avena sativa* L., *A. strigosa* Schreb.), or simply the wild oat (*A. fatua/sterilis*).

One poorly preserved seed of flax (*Linum usitatissimum* L.) was present. Flax may have been utilized for fibre, oil or food (animal and human).

Wild edible plants are represented by robust hazel (*Corylus avellana* L.) nutshell fragments, and by some of the smaller seeds, eg wild radish (*Raphanus raphanistrum* L.). The latter is common on cultivated or disturbed ground, as are many of the wild taxa (*Atriplex*, *Bromus*, *Chenopodium*, *Galeopsis*, *Polygonum*, *Rumex*, *Spergula*, *Stachys*, *Stellaria*). Other possible habitats include grassland (Gramineae, *Lathyrus*, *Plantago*, *Ranunculus*, *Rumex*, *Sieglingia*, *Vicia*), scrub (*Galeopsis*, *Lathyrus*, *Stachys*, *Vicia*) and damp ground (*Carex*, *Polygonum persicaria/lapathifolium*). All the above taxa are common in prehistoric crop assemblages (Greig 1991). A few species have a preference for more acidic soils, eg *Raphanus raphanistrum* L., *Rumex acetosella* L. and *Sieglingia decumbens* L.. Light, well-drained soils are also represented by *Spergula arvensis* L.

THE DISTRIBUTION OF PLANT MATERIAL

The richest sample with nearly 600 components came from F28, the fill of an undated pit to the north of Enclosure 2. All but two of the finds were cereal grains. Barley and wheat make up nearly 80% of the cereals, and within these groups, hulled barley (33.5%) and emmer wheat (35%) are dominant. The remaining grains were oat (16.5%) and indeterminate cereal (4.5%). The other sample components were an emmer wheat glume base and one hazel nutshell fragment. The cereals from F28 did not show signs of sprouting or insect attack, which might indicate that they had been deliberately destroyed. The paucity of chaff and smaller seeds suggests fully cleaned crops. These may have become charred accidentally, for example, during storage or grain drying, before being dumped in the pit.

All other samples were poor in comparison. The more productive Groups were Enclosure 2, the miscellaneous features to its south and east. The scoops to the east of Enclosure 2 also produced the single flax grain. For other feature groups, the total cereals numbered 30 or less. Few samples contained more than a handful of wild species. The most frequent wild component was fragmented hazel nutshell. One of the posts of the group of four posts (F20), adjacent to Enclosure 4, also produced a range of weed seeds and seeds of more general plants, together with barley and oat grains and hazelnut fragments.

For features associated with Enclosure 2, the pits to the north of Enclosure 2 and the features to the north-west and west of Enclosure 4, barley was dominant overall. Elsewhere, oat grains were present in equal or greater numbers.

ON SITE CROP PROCESSING AND THE ORIGINS OF THE REMAINS

There is no evidence, via cereal straw and chaff (rachis internodes), of on site threshing and winnowing of barley. Two emmer wheat glume bases hardly suggest regular, local dehusking of wheat. The paucity of chaff and straw remains from the site as a whole may reflect preservation biases (eg Boardman & Jones 1990) or poor depositional conditions in the freely draining soils.

OTHER SITES

Barley, emmer, oats and flax seem to be present in the Wardend area from the very early Neolithic, based on the exceptional assemblage from the nearby Balbridie hall (Fairweather & Ralston 1993). The two Balbridie oat grains are unique within the British Neolithic. The remaining 15,000 cereal grains are dominated by emmer, which must reflect in part, optimal cultivation conditions in this part of Scotland. Samples dominated by bread wheat (*Triticum aestivum* L.) and other unusual species were also recovered.

Elsewhere in Scotland, naked barley is the principal cereal species. Emmer is sometimes present as a secondary crop, eg at Boghead, Fochabers, Moray District (MacClean & Rowley-Conwy 1984), Scord of Brouster, Shetland (Milles 1986), and the Early Bronze Age (Beaker) site of Rosinish, Benbecula (Shepherd & Tuckwell 1977). At the latter site, it was argued that emmer is at its northerly most limit of cultivation by this time (MacClean & Rowley-Conwy 1984).

A gradual shift from naked to hulled barley occurs from the Late Bronze Age period. During the Iron Age, emmer is again frequently recorded as a secondary crop of barley, from the Forth Valley to Orkney (Boyd 1988). Few wheat fragments apparently reached the domestic fires at Wardend. The presence of emmer in the sample of clean grain (F28) does provide a glimpse of its possible importance. Oat, at 16.5%, would also seem to be more than a mere weed. Crop processing may have taken place well away from the settlement, with grain only being brought on site for final crop cleaning, parching prior to milling or storage.

There is a paucity of evidence from local sites of similar age to Wardend. At Dalladies 2 and Newmills, pits containing barley grains were noted (Watkins 1980a; 1980b) but no details are given of other species present, and no other samples are recorded from these sites. Many grain finds for this period are single grains or impressions on pottery, and in the north-east they seem to confirm barley's dominance (Boyd 1988).

CONCLUSIONS

There is little doubt that Wardend of Durris supported settlements which were primarily agricultural. However, local cultivation could not be demonstrated for any of the crop plants. It was also impossible to assess changes in agricultural practices over time, and the extent to which the settlements relied on neighbouring sites, or even longer distance contacts, for some of their agricultural produce. The assemblage as a whole would seem to represent ephemeral crop-processing debris, mixed with other domestic refuse, eg. food remains and hearth debris. These seem to have accumulated over an extended period of time, and the remains have become very mixed across the site. The homogenization of material may reflect repeated reuse of the area, also middening activities and more recent cultivation, together with the action of animals and plant roots.

TABLE I
Radiocarbon dates (species identified by B A Crone; calibration of dates based on Pearson *et al* (1986))

No.	BP	One sigma range Range	Prob	Two sigma range Range	Prob	Species	Context
GU-2958	5050±50	3955–3795 BC	68.61%	3985–3715 BC	95.86%	<i>Quercus</i> sp <i>Salix</i> sp <i>Corylus avellana</i>	F19
GU-2955	4360±90	3070–2890 BC	69.01%	3315–2775 BC	95.60%	<i>Betula</i> sp <i>Quercus</i> sp <i>Corylus avellana</i>	F18
GU-2956	2250±50	400–270 BC	71.95%	405–185 BC	95.56%	<i>Salix</i> sp <i>Corylus avellana</i>	F20 (northern)
GU-2959	2200±50	395–220 BC	69.13%	400–130 BC	95.77%	<i>Corylus avellana</i>	F10 (under)
GU-2961	2150±50	255–75 BC	68.70%	385–55 BC	95.95%	<i>Corylus avellana</i> <i>Betula</i> sp <i>Quercus</i> sp <i>Alnus glutinosa</i>	F2
GU-2957	2090±50	190–45 BC	70.34%	250 BC–AD 75	95.49%	<i>Corylus avellana</i> <i>Salix</i> sp Promoideae <i>Alnus glutinosa</i>	F20 (southern)
GU-2954	2080±50	160–20 BC	69.08%	235 BC–AD 70	95.51%	<i>Salix</i> sp <i>Alnus glutinosa</i> <i>Betula</i> sp <i>Corylus avellana</i>	F13
GU-2963	2080±50	160–20 BC	69.08%	235 BC–AD 70	95.51%	<i>Corylus avellana</i> <i>Alnus glutinosa</i>	F11
GU-2441	2070±50	155–15 BC	69.59%	200 BC–AD 75	95.67%	<i>Alnus</i> sp	F10 (over)
GU-2960	2010±50	60 BC–AD 70	68.41%	130 BC–AD 115	95.68%	<i>Salix</i> sp <i>Corylus avellana</i> <i>Alnus glutinosa</i>	F8
GU-2962	1870±50	AD 90–200	70.65%	AD 25–240	95.75%	<i>Quercus</i> sp <i>Corylus avellana</i>	F6

RADIOCARBON DATES

C J Russell-White, B A Crone & Magnar Dalland

A total of 11 samples produced sufficient quantities of taphonomically secure charcoal for dating, and were submitted to the Scottish Universities Research and Reactor Centre, following species identification by Anne Crone. Calibration and statistical analysis was undertaken by Magnar Dalland (Dalland forthcoming). The contextual and species information is presented together with the results, both calibrated and uncalibrated, in Table 1.

DISCUSSION

Most of the radiocarbon dates from Wardend fall between 400 BC and AD 240 (two sigma range). These include the three dates recovered from features within the circular Enclosure 2. Oak and hazel charcoal from the upper fill of the deep, stone-lined pit F6 was dated to 1870±50 BP uncal (GU-2962: cal AD 25–240, probability 95.75%). A date of 2010±50 BP uncal (GU-2960: cal 130 BC–AD 115; 95.68% probability) came from the fill of a large post-hole, which formed part of the probable four-poster, structure B, on the west side of Enclosure 2. A fragment of timber post and associated wattle screening (charcoal of hazel, birch, oak and alder) from a large post-hole inside and on the south-west side of Enclosure 2 produced a date of 2150±50 BP uncal (GU-2961: 385–55 BC; 95.95% probability).

The two, large, shallow scoops (F10 & F11), immediately to the east of Enclosure 2, produced three radiocarbon dates. Two of these were from the scoop F10, from above and below the stone floor, and gave dates of 2070±50 BP uncal (GU-2441: cal 200 BC–AD 75; 95.67% probability) and 2200±50 BP uncal (GU-2959: 400–130 BC; 95.77% probability), respectively. The third date, from the fill of pit F11, was 2080±50 BP uncal (GU-2963: cal 235 BC–AD 70; 95.51% probability). These pits were adjacent to each other and their charcoal content, as with most of the samples, was dominated by hazel.

The shallow, outer palisade slot of Enclosure 4 on the north-west side of the excavated area produced charcoal of willow, alder, birch and hazel, which had the appearance of a wattle screen of small diameter wood, burnt *in situ*. This produced a date of 2080±50 BP uncal (GU-2954: cal 235 BC–AD 70; 95.51% probability).

Two of an arrangement of four pits (F20 in the vicinity of Enclosure 4) were dated from mainly large fragments of willow and hazel charcoal, probably representing the debris of posts burnt *in situ*. The resultant date for the northern pit was 2250±50 BP uncal (GU-2956: cal 405–185 BC; 95.56% probability), and for the southern, 2090±50 BP uncal (GU-2957: 250 BC–AD 75; 95.49% probability).

Two surprisingly early dates were also recovered. A date of 5050±50 BP uncal (GU-2958: cal 3985–3715 BC; probability 95.86%) came from a post, probably burnt *in situ*, and from small timbers with which it was associated (F19) in the confusion of pits earlier than Enclosure 4 on the north-west side of the site. This dated sample contained hazel, willow and oak. The other early date, 4360±90 BP uncal (GU-2955: cal 3315–2775 BC; 95.6% probability), was from the burnt remains of upright planks of hazel, birch and oak, from the bottom of a quite substantial palisade slot (F18). The character and radiocarbon date of this feature, in particular, seem to suggest that a substantial, Neolithic timber structure may have once stood on this gravel ridge (below).

Unfortunately no radiocarbon date was recovered from the feature rich in plant remains (F28), and the plant material has subsequently been mislaid.

DISCUSSION

C J Russell-White, incorporating contributions by S Boardman

INTRODUCTION

There is little evidence for sites comparable to Wardend in the immediate neighbourhood, but it should be remembered that neither was there any evidence for archaeological features at this site from aerial photographs taken prior to excavation. Durris lies mostly on well-drained gravels but, unusually for subsoil of this type, crop-mark sites do not seem to be readily or consistently visible

(RCAHMS 1984). However, it should not be assumed that comparable sites will appear only as crop-marks; upstanding sites have been recorded in the hills surrounding Wardend. These include four hut circles, noted amidst an extensive group of cairns and field-banks, located some 2 km SSW of Wardend, on the north side of the Ord (RCAHMS 1984, no 184); and a further hut circle is located c 2 km to the south-west of Wardend, at Westerton on the south-east slope of Mulloch Hill (*ibid*, no 194). There are also examples of field clearance cairns on the slopes to the west of Durriss.

The site at Wardend is clearly a multi-phase settlement, although most features appear to date to the Iron Age. In the main area of activity, there is a clear superimposition of enclosure upon enclosure (ie Enclosure 3 over Enclosure 2 over Enclosure 1). However, relatively little can be ascertained about the function(s) or stratigraphical relationships between any of the main feature groups on the site. Not enough survived of the two groups of pits and/or post-holes at the north end to provide evidence for coherent structures. The ard-marks and the two crescent-shaped features stand in isolation from the remainder of the site and are undatable. Of the Neolithic features, too little survived even for suggestions to be made about the original form of the structures. Useful discussion on form and relative chronology of features is essentially confined to the central and western areas of the site, around Enclosures 2 and 4.

A FRAGMENTARY NEOLITHIC SETTLEMENT?

Two radiocarbon dates, from adjacent features interpreted as a slot (F18) and a post-hole (F19), suggest that there had been a Neolithic settlement on the site at Wardend. There seems no reason to doubt these Neolithic dates which derive from charcoal samples from relatively secure contexts. The results are comparable to those from the Neolithic timber hall at Balbridie, located only some 3.5 km away (illus 1), where radiocarbon dates ranged from 5160±70 BP uncal (GU-1038) to 4740±135 BP uncal (GU-1036) (Ralston 1982, 241). Additionally, the rectangular shape of the relict posts or upright planks in the Wardend slot are similar in appearance to the squared beams of the Balbridie hall (Ralston 1982, 240).

THE IRON AGE SETTLEMENT

Amongst the four Iron Age enclosures, Enclosure 2 in the central area survived much more completely than Enclosures 1 and 4. Enclosure 2 is almost certainly associated with a number of groups of post-holes and other features. Various structures have already been mentioned as the main element of round houses and a four-poster. However, co-location does not prove direct association, in the absence of stratigraphic evidence. It is therefore quite possible that some of the miscellaneous pits and post-holes within Enclosure 2, especially features within F7, may, in fact, have been associated with the underlying Enclosure 1 or even the smaller overlying Enclosure 4. Again, this cannot be demonstrated although, as the projected course of Enclosure 1 would have intersected with the post-holes of structures D and E, these at least should post-date Enclosure 1. Stratigraphically, the oval scoop to the south-east (F10) appeared to overlie the slot of Enclosure 2, and this observation is not contradicted by its radiocarbon dates which bracket the date from the slot.

The excavation at Romancamp Gate (Barclay 1993) to the north-west revealed the remains of four rings (8.5 m to 11 m in diameter) of substantial posts; these were interpreted as the main structural elements of timber round houses between 12 m and 16.5 m in diameter.

The pear-shaped Enclosure 3, whose small post-holes were seen to cut not only the palisade slot of Enclosure 2 but also the tops of several of the internal pits and post-holes, is evidently later than Enclosure 2. As no small features can be firmly associated with Enclosure 3, it may have

contained no substantial buildings itself. Possible interpretations are that Enclosure 3 represents either a temporary habitation structure, or a corral for stock. It is conceivable that the fragmentary fence line F14 to the north-west of Enclosure 3 represents the remnants of an adjacent feature of similar type. Certainly, the similarities of alignment, and post size and spacing are striking.

It is possible that Enclosures 1 and 4 coexisted. Both were fragmentary survivals but if their courses are projected, and assuming that both were originally complete, they would appear to have been tangential circular enclosures, similar in size to each other (and, incidentally, to Enclosure 2, though perhaps a little smaller). Enclosure 1 is undated and the date for Enclosure 4 cannot be distinguished, in radiocarbon terms, from the other Iron Age dates from the site. Thus, their physical and/or chronological relationship cannot be demonstrated. It seems likely that the small round-house represented by the structure C post-holes was associated with Enclosure 4, as it is roughly central to the reconstructed line of Enclosure 4. Alternatively, it might have been associated with, but external to, Enclosure 2. It is similar in size to the houses external to the enclosure at Myrehead, Central Region (Barclay 1983); and to unenclosed houses at Dalladies 2, Kincardineshire (Watkins 1980a).

In general then, the central and north-western part of the site appears to contain a group of consecutively occupied enclosures, in use over several hundred years from the first millennium BC into the first millennium AD. The simplest interpretation of this Iron Age sequence is that it falls into the familiar British Iron Age tradition of enclosed, timber-framed, circular buildings which, when superimposed in several phases, as here, can result in apparently complex patterns of features (cf Barclay 1993).

The Wardend site, with its complexity of small pits and post-holes, is closely paralleled by the extensive settlement at Dalladies 2, Kincardineshire (Watkins 1980a), whose radiocarbon dates, which range from 2147±60 BP uncal (SRR-527) to 1449±65 BP uncal (SRR-287) (Watkins 1980a, 164) are comparable to those from Wardend. Post-hole group 7 at Dalladies 2, from which Watkins (1980a, 128, fig 3) has tentatively reconstructed the plans of five successive houses, strongly recalls the repeated circular patterns of post-holes within Enclosure 2 at Wardend. The Wardend site is also reminiscent of the settlement which was partially uncovered at Newmill, Perthshire, in association with a massive souterrain (Watkins 1980b), where a similar range of radiocarbon dates was noted (Watkins 1980b, 207).

There are also parallels in the settlement at Romancamp Gate, Moray. There, a complex settlement of at least four circular houses (three of them built sequentially) was accompanied by a large number of pits and post-holes, together with at least two fence lines. The radiocarbon dates for Romancamp Gate are comparable to those from Wardend.

It is a reasonably sound assumption that both Dalladies 2 and Wardend of Durris supported settlements which were primarily agricultural. Local cultivation at Wardend could not be proved for any of the plant remains but seems a likely hypothesis. The charred plant remains recovered on site seem to represent ephemeral crop-processing debris mixed with other domestic refuse. The dominance of hulled barley in the samples may reflect the gradual shift from cultivation of naked to hulled barley from the Late Bronze Age onwards. During the Iron Age, emmer is frequently recorded as a secondary crop of barley, from the Forth Valley to Orkney (Boyd 1988). The presence of emmer in the sample of clean grain from the single cereal-rich pit on the site (F28) provides a glimpse of its possible importance. Oats at 16.5% would also seem to have been more than a mere weed. Few wheat fragments apparently reached the domestic fires at Wardend. Crop processing may have taken place well away from the settlement, with grain only being brought on site for storage, final crop cleaning, or parching prior to milling. The presence of the rotary querns in the large scoop overlying Enclosure 2 (F10) may testify to the latter activity.

There is a paucity of evidence for cultivation from local sites of similar age to Wardend. At Dalladies 2 and Newmills, pits containing barley grains were noted (Watkins 1980a; 1980b) but no details are given of other species present, and no other samples are recorded from the sites. Many grain finds for this period are single grains or impressions on pottery, and in the north-east they seem to confirm the dominance of barley (Boyd 1988).

The fragments of burnt bone recovered from the Wardend site may offer scant evidence of pastoral agriculture. It is also possible that Enclosure 3, unusual in being pear-shaped and apparently devoid of internal features, may have contained stock rather than houses.

In general, the ploughed-out nature of the Wardend site prohibits the determination of function of either individual buildings or enclosures. Moreover, it is, if anything, even harder to disentangle the discrete elements of the Wardend settlement than it was at Dalladies 2. Within Enclosure 2, it is possible to tentatively propose several geometric house plans out of the post-holes. In Watkins' tentative reconstructions of house plans at Dalladies 2, the houses are assumed to have been circular, the posts of each circle are assumed to be reasonably evenly spaced and of the same general size, and concentric circles of different radii are assumed to represent a single house.

The presence of a hearth within the putative round-house formed by the post-holes of structure A may confirm, however, that this post-hole group as a whole represents a house or series of wooden houses built to replace one another on the one site. Watkins argued precisely this for his post-hole group 6 at Dalladies 2 (Watkins 1980a, 127), where again only one hearth was identified. One other possible hearth site was noted at Wardend, an area of burnt sand to the east of Enclosure 2 (illus 2), but it could not be related to any other group of features and may be modern.

Bearing in mind Hill's (1982, 27) observation that 'the distinction between stone- and timber-construction as a cultural phenomenon must be treated with caution', it should not be assumed that comparable houses in stone have little relevance to Wardend of Durriss. The stone round-houses and a souterrain recorded at the turn of the century at Dinnet (Abercromby 1904), some 32 km west of Wardend, may be roughly contemporary with Wardend, Newmill and Dalladies 2, but are simpler in plan. Thus, the distinctions between Dinnet and Wardend might exist more in terms of the discreteness of individual structures than in the varieties of building materials.

The problems of interpretation of a complex, truncated and fragmentary site, such as Wardend, are manifold. The recognized tradition of circular timber buildings with post-rings and slots, based as it is on an amalgam of relatively scanty evidence from a small number of 'type' sites, may have encouraged the use of over-simplistic classification systems, a fact highlighted by Hill (1982). These problems may be compounded by accidents of geography. Most overviews of the Iron Age, for example, regard areas such as north-east Scotland as peripheral to mainstream traditions centred elsewhere; and the generally accepted distinction between cultural manifestations in the highland and lowland zones of prehistoric Britain, is potentially misleading in an area as physically diverse as that of Deeside. These factors, and the possibilities of alternative models, need to be borne in mind when faced with the task of interpreting a complex truncated site in a relatively remote area.

CONCLUSION

Despite the limitations and diffuse nature of the evidence, the most likely interpretation of the Iron Age sequence at Wardend remains that of a series of consecutive enclosures (Enclosures 1 and 4, replaced by Enclosure 2 and, finally, Enclosure 3), each of which (except perhaps for Enclosure 3)

contained one or several, generally small, wooden round-houses. At least in the case of Enclosure 2, the houses were probably built to replace each other, implying that the enclosure was more long-lived than individual houses within it. The radiocarbon dates do not allow an assessment of the duration of individual enclosures; but the settlement as a whole lasted several hundred years from the latter half of the first millennium BC through to the early centuries of the first millennium AD. The nature of the settlement appears to have been primarily agricultural.

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