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Torwood Broch: the reassessment of a Complex Atlantic Roundhouse near Falkirk

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ABSTRACT

This paper presents the first modern account of Torwood's artefact assemblage and the most accurate survey of the site to date. These are combined with the results of a small-scale excavation on a newly discovered outer rampart and the publication for the first time of a reused concentric ring-marked stone and a carved face. In turn, these are combined with the results of a broader reassessment of the late prehistoric settlement in the Forth Valley. This review reveals a far greater range and variety of potentially contemporary architectural forms than previously recognised, which is argued to have arisen from conspicuous consumption in the context of local competition, which in turn was aided by the increased resources resulting from the proximity of the Roman Empire. It is further argued that Torwood may be pre-Roman in origin. The context of the concentric ring-marked stone may hint at contemporary Iron Age ritual practice, while the large proportion of local sites associated with both destruction by fire and the presence of large artefact assemblages suggests an underlying common practice regarding the closure of a site after its active use, which may share features with the destruction of souterrains in Fife and Angus.

INTRODUCTION

As part of a wider review of the late prehistoric settlement forms of the Forth Valley being undertaken by the lead author, a limited programme of resurvey, key-hole excavation and analysis of archived finds was undertaken at Torwood in January and February 2014. In addition, the opportunity has been taken to publish for the first time the carved face located to the north of the site and the concentric ring-marked stone in the stair chamber. All material costs were paid for by The Forestry Commission Scotland (now Forestry and Land Scotland), The Society of Antiquaries of Scotland and Archaeology Scotland, while the excavation and write up were undertaken in the main authors' own time, ably assisted by local volunteers and students.

LOCATION AND BACKGROUND

Torwood, or The Tappoch, sits on a prominent hill located to the west of the village of Torwood, Falkirk (NGR: NS 83335 84986) (Illus 1). The hill has a maximum height of *c* 115m OD and commands views across the Forth Valley with its wider environs covered in a conifer plantation. The site and its immediate curtilage have been subject to repeated vegetation clearance works by Geoff Bailey of the Falkirk Community

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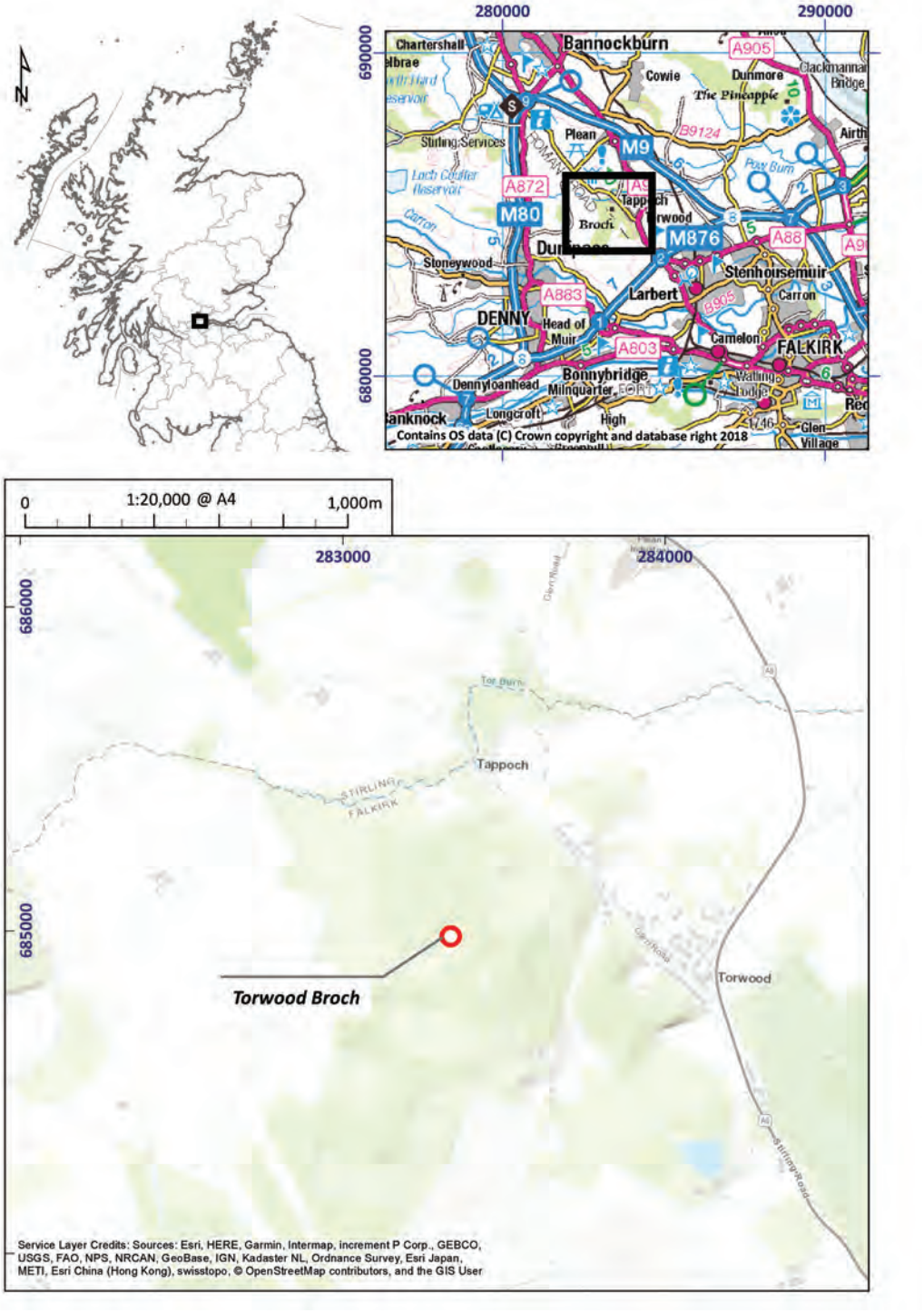


ILLUS 1 Site location

Trust to minimise self-seeding conifer growth. Torwood sits to the immediate east of the Roman Road from Falkirk to the north (RCAHMS 1963: 113) and above a series of rock overhangs and quarries (ibid: 443), which may have been the source of the stone for the site. Within one of the rock overhangs is a carved face, an image of which is published here for the first time (ibid; see The Carved Head).

Torwood comprises a Complex Atlantic Roundhouse (CAR, see below): a circular drystone structure, intended to be roofed and with an intramural staircase providing access to an upper floor, which was supported on an internal scarcement (Illus 2 and 3). In the past, the site has been referred to as a broch and indeed one of the southern brochs (Macinnes 1984), however, the main author prefers the term CAR for reasons which will be expanded on below.

Torwood is first noted as a feature of the 17th-century Torwood Castle designed landscape, and included in several intersecting avenues within the woodland, which is mapped on Roy's mid-18th-century map. While its precise nature is unlikely to have been understood, it was evidently identified as an antiquity. Broad terraces were placed around it with drystone retaining walls containing large boulders (G Bailey pers comm). The concept may have derived from the slightly earlier King's Knot in Stirling, though the use of antique mounds as terraced garden viewing platforms does seem to have occurred elsewhere in Scotland in this period (Brown 2017: 139–40). The broch mound at Torwood was used as the focus for many of the vistas – one extending from it to the large tower at the castle.

The site was first described in the *Old Statistical Account* (Harvie 1792: 336) and mapped on the 1st Edition Ordnance Survey (National Map Library of Scotland) where it is described as a 'tumulus'. The first excavation of the site was by Colonel Joseph Dundas (1868), though this was in reality a shovelling out of the interior. This exercise identified that the roof had burnt down (Dundas 1868: 261), there were two sets of outer enclosing works (ibid: plate XV) and a central hearth (ibid: 261), which is no longer extant, presumably having been buried. It also recovered three reused cup-marked stones from the interior of the site (ibid: 264). Significantly, no Roman finds were recovered, although pottery, stone and iron objects were recovered.

The site was reviewed by Christian Maclagan (1872) and related to other fortified structures, brochs and duns in the Forth Valley. In the 1940s, Doreen Hunter (1949a; 1949b) undertook further excavation, focusing mainly on the outer works; again no Roman finds were recovered. While no new survey was undertaken, Hunter identified a series of hearths in Rampart 2 (1949b: 90), suggested that the ramparts were constructed of dumped midden material (ibid), may have identified an external well (ibid: 96), and suggested that a previously recorded tread from the staircase was no longer present (ibid). No trace of either the well or the hearths was identified by the current works.

The site was surveyed by RCAHMS in 1963 (86) which confirmed the key features of Dundas's plan, while adding further detail to the ramparts' form. In 1964, MacKie identified and excavated a circular cell on the wall head, located in the site's north-east quadrant (marked B on Illus 2). As MacKie discusses, the feature does not seem to be original and was probably dug into its wall after abandonment; no artefacts were recovered. The cell measures 2.25m × 2.9m internally, and has two narrow entrances, one to the east and one to the south; MacKie notes that one of these may have been built since the excavation in 1964 (2007: 1318–19). A field visit by the Ordnance Survey in 1974 (Canmore ID 47004; Illus 2 and 4) identified a cup-marked stone with concentric rings, face down in the east side of the staircase, which does not appear to have been commented on by Dundas (1868: 264).

Aitchison (1978; 1979) identified both a complex carving (a bar, 19cm long, with figures of eight at either end) and a fragment of vitrified stone from the inner rampart. The carving was not identified during the current works and is considered by Bailey (pers comm) to have been undertaken by Dundas during his excavation.

Torwood is part of a cluster of sites that have been traditionally referred to as southern brochs, in other words, brochs located in the south of Scotland far from the probable point of origin of broch-architecture in northern or Hebridean

Scotland. As much of this historic debate used 'broch' rather than 'CAR', the former term will be used. All southern brochs appear to be later than their northern equivalents. The biggest cluster of southern brochs is in the Forth Valley (Armit 2003: 120). Initial interpretations had viewed southern brochs as evidence of invasion from the north in the window between the Roman retreat in the 1st century AD and reoccupation of Scotland in the early 2nd century AD (Piggott 1951). The 1970s and 1980s saw a renewed focus on southern brochs with the excavations of Leckie and Buchlyvie (Main 1998; MacKie 2016) and a number of reviews sprang from this data (MacKie 1982; Aitchison 1983; Macinnes 1984). Two opposing theories emerged. MacKie (1982: 67) argued for broch builders being northern allies of the Romans, travelling south at their invitation. In contrast, Macinnes (1984) argued that southern brochs appeared to be an expression of status and that the association of Roman goods in such sites may represent a similar expression of status. More recent commentators have suggested that CAR architecture may be an attempt to display a non-Roman identity (Armit 2003: 132; Harding 2009: 292). Today the latter theory is the general consensus. MacKie (2017: 22) has subsequently argued for the invitation of broch architects from the north of Scotland by local elites of the south in the face of Roman invasions and suggested an intention to build defensive structures, although brochs are generally not considered primarily defensive structures (Armit 2003). However, it is also clear that not all southern brochs were contemporary and they should not be treated as a homogenous group (Armit 2003: 132).

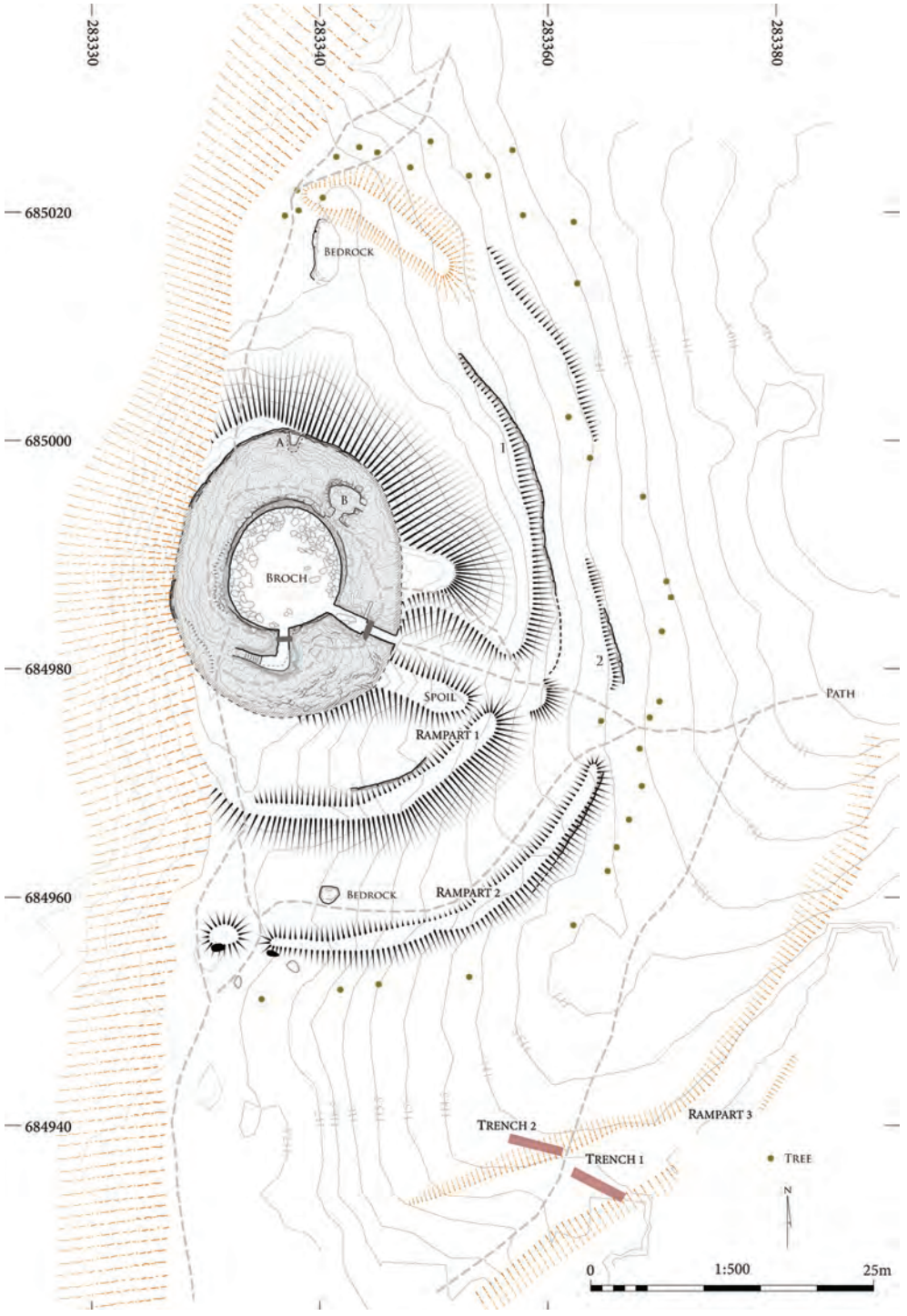
A key factor in these reviews was the classification of archaeological remains on their architectural traits and thus round stone-built structures that could be roofed were classified as either 'brochs' or 'duns' – depending on their structural complexity – which in turn were viewed as chronologically distinct monument types and subsequently discussed separately (Cook et al 2019), a practice that continues to this day (eg Armit 2003: 120; McLean 2016). Armit (1991; 2003) proposed the term Atlantic Roundhouses to encompass the various complexities of related structures (ranging from Simple Atlantic Roundhouses (SAR) to Complex Atlantic Roundhouses (CAR) and Broch Towers), thus while 'broch' has a very specific meaning (circular structures, usually hollow dry stone walls which contain galleries, cells and a stairway, with guard cells at the entrance), Atlantic Roundhouses include both brochs and duns which have more variable architectures. Under this model, Torwood broch is a CAR, although 'Atlantic' sits a little uncomfortably in a Forth Valley context. However, as has been demonstrated in a review of the Forth Valley's settlement patterns, there is a wide variety of contemporary and potentially contemporary forms ranging across what have been called 'brochs', 'duns', 'homesteads', 'forts' and 'souterrains' in the 1st and 2nd centuries AD (Cook et al 2019). As a consequence of this, Atlantic Roundhouse is considered a useful shorthand to describe such a variety of forms and, indeed, the term represents the current academic consensus (ScARF 2012: 57–8) and is used here accordingly. With regard to these related structures, Davies reviewed Forth Valley settlement patterns in 2004 using Armit's model (albeit on a restricted study area (see Cook et al 2019)). This confirmed that Torwood was the largest and best preserved of the Atlantic Roundhouses in the Forth Valley (Davies 2004: 232).

RESULTS

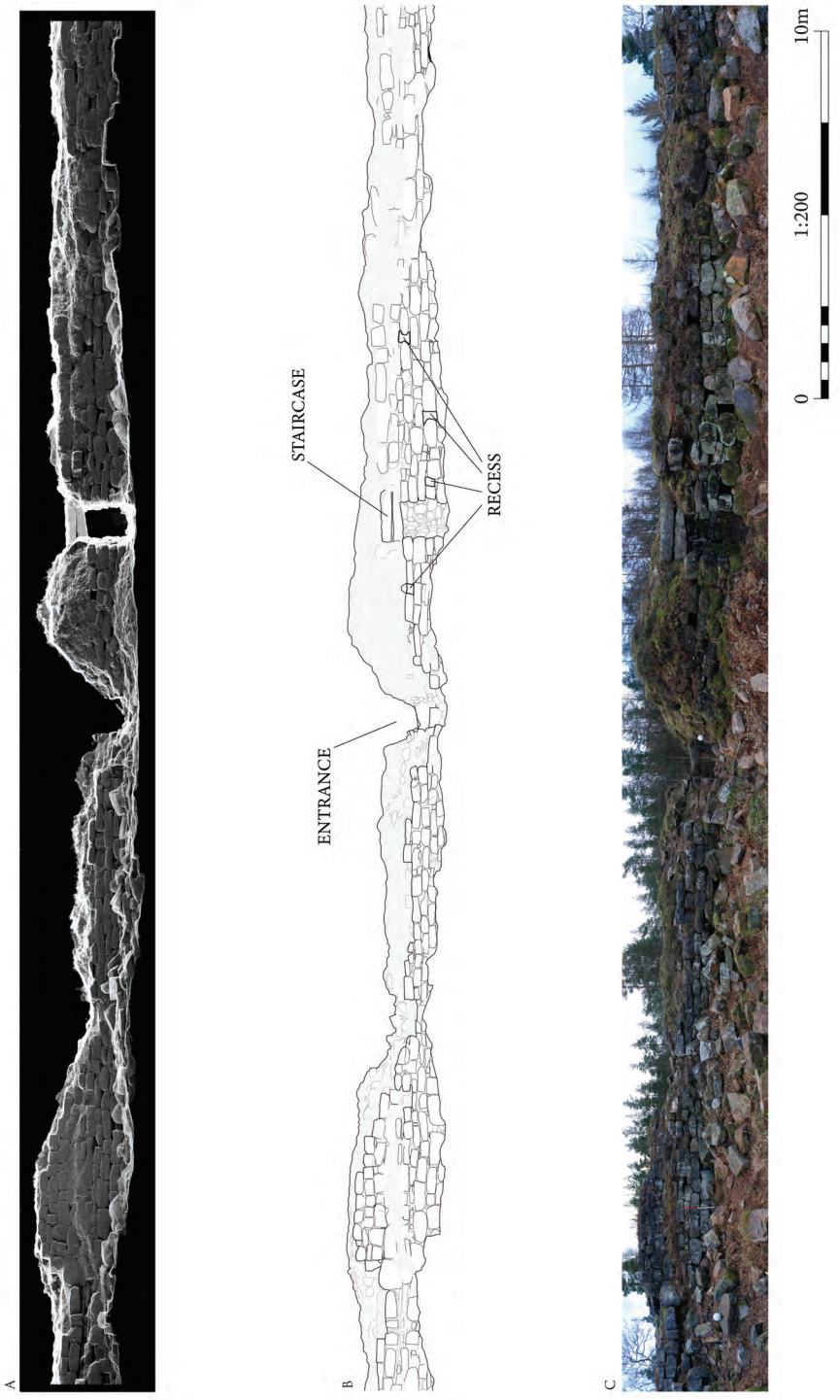
SURVEY

Grame Cavers and Gemma Hudson

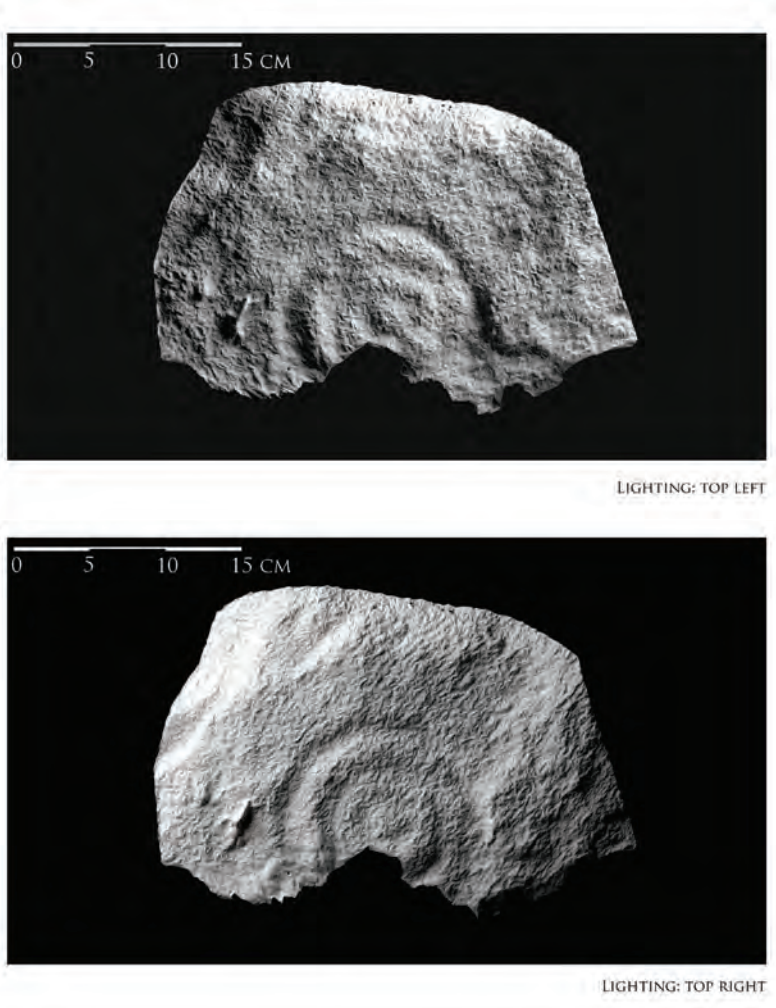
The primary element of the current project was a renewed survey of the site. In particular, this was aimed at providing the most detailed survey of the site currently possible and locating an outer bank identified by Bailey. The site's interior and outer two enclosing works were cleared of vegetation by Archaeology Scotland aided by Stirling and Falkirk Councils. AOC Archaeology carried out the survey works which involved a detailed topographic survey of all visible features. The text below represents a summary of the main report (Cavers & Hudson 2014).



ILLUS 2 Site plan. (© AOC Archaeology Group)



ILLUS 3 Internal section of structure. (© AOC Archaeology Group)



ILLUS 4 Scan of concentric ringed stone. (© AOC Archaeology Group)

The CAR itself is not circular, but forms an ellipse which, in plan, is slightly longer in the north/south axis (23.9m externally) than east/west (20.4m) (Illus 2 and 3). The interior, which measures 9.79m east/west and 12.65m north/south, was almost completely emptied of rubble by Dundas, who believed that he was digging into a subterranean chamber and as such did not explore the external wall faces (1868).

The external wall face is visible in a few places around the exterior, particularly around the north side of the structure and at the end of the entrance passage. The wall is not a consistent thickness and the thickest portion lies to the south of the entrance where it is 7.15m thick. It is unclear if the variable thickness is caused by either variation in construction or subsequent subsidence. The CAR is built on uneven bedrock footings, so the variation in thickness may be in part attributable to compensation in levels, but the wall is certainly thicker on the downslope sides: the wall is 5.3m thick on the west side, 30cm above the floor level in the entrance (Illus 2 and 3).

The entrance passage is 6.3m in length and has door checks on either side, 2.6m in from the external wall face. The bar hole, recorded by RCAHMS (1963: 85) as close to ground

level on the north side of the entrance, is no longer visible as it is now obscured by rubble. A possible receiver socket is visible on the south side, close to the top of the door check orthostats, but this may not be the corresponding receiver to the low-level bar hole, which may also now be buried. A single lintel survives in situ, directly above the door check; according to Bailey some of the lintels were moved and reinstated recently, though photographs and the RCAHMS' plan show this lintel in place (1963: 86). Other large stones lying on the floor of the entrance passage are probably fallen lintels as recorded by Dundas; his figure 2, showing the passage fully lintelled, is presumably schematic (1868: 262). There are no other features in the entrance passage and there are no guard cells.

In the south side of the CAR, at about 8 o'clock in the notation system used by MacKie (2007), is the entrance to the stair chamber. The entrance is lintelled with two large blocks, one on top of the other, which may have been placed there in modern times (however, this corresponds with Dundas's description of the superimposed lintels at the time of discovery (1868: 260)). The stair chamber is partially corbelled – though there is no reverse chamber – and at the time of survey, eight steps were visible (though Dundas records 11 and both Hunter (1949b: 94) and MacKie (2007: 1318) noted that at least one was missing).

The interior of the CAR wall is otherwise featureless (the exterior is buried), aside from a ledge-type scarcement which is virtually level along its length, with less than 0.1m vertical variation (Illus 2 and 3). However, no attempt is made here to describe the geologies, stone size, or presence or absence of pinnings as its beyond the scope of the paper. A small recess on the outer wall face (Illus 2: point A) is likely to be attributable to modern excavation, and does not appear to be an ancient feature. There is no trace of any feature likely to relate to upper galleries within the CAR wall. There are several recesses or aumbries in the interior wall face, commented upon by both Dundas (1868) and MacKie (2007); although some of the voids are doubtless caused by fallen stones, at least four of these appear to be genuine constructional features (though MacKie identifies 13 that he considers original (2007: 1318)), particularly those around the entrance to the stairway. Their purpose is unclear; they may have been intended as storage niches, or were perhaps related to the internal furnishing of the building.

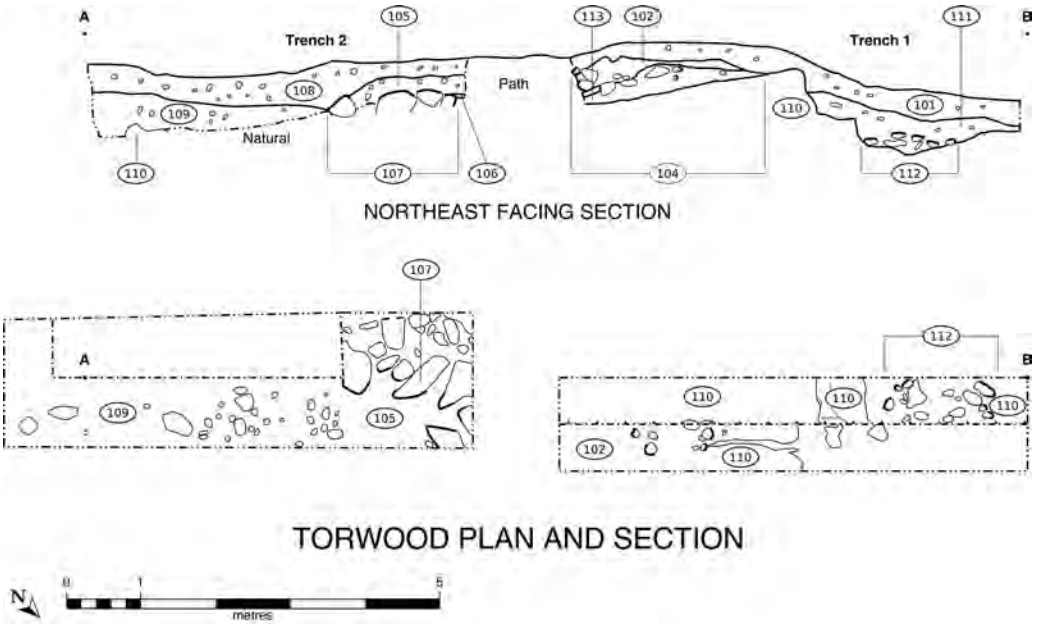
The outworks

The CAR is enclosed by three enclosing works (Illus 2) (the first two of which were identified by Dundas). The inner two are large stone and earth ramparts, which were investigated during small-scale excavations in 1948 and 1949 (Hunter 1949b). The first of these, Rampart 1, stands 1.43m in height and is 4.7m in width. The stone facings are visible in the interior of Rampart 1 on the south side and also on the outer face on the north side, indicating that the rampart was probably about 4.5m in width. Significantly, on the south-western side, a sharply curving arc of rampart recorded by the RCAHMS (1963: 86) was not recorded by the current survey. It appears to correspond to one of the active paths over the site and may have been destroyed.

The spoil that was produced during the 19th-century excavation of the CAR obscures most of the outer face of the building and infills much of the area behind Rampart 1, particularly on the north side. Rampart 2 was evidently of similar construction, but is much lower than Rampart 1. Facing stones of Rampart 2 are visible on either side of the entrance and to the north may in fact form a revetment rather than a wall. Although relatively complete on the south side, Rampart 2 is only partially preserved to the north.

The outer putative rampart (Rampart 3; Illus 2), first identified by Bailey, was located to the south-east of the CAR which measured up to 5m wide, 0.40m high and can be traced for 65m. This rampart lies outwith the current Scheduled Area. As indicated below, excavation confirmed that this feature was anthropic and it is assumed to be an outer rampart, which significantly adds to the enclosed area. It should also be noted that it has been highly impacted by previous forestry operations and is difficult to follow on the ground.

There is no evidence for the relationship of the four key features: the outworks and the CAR. The outworks are clearly denuded and this could



ILLUS 5 Plan and section of trenches

have occurred during the construction of the CAR or during the 17th-century landscaping works.

EXCAVATION

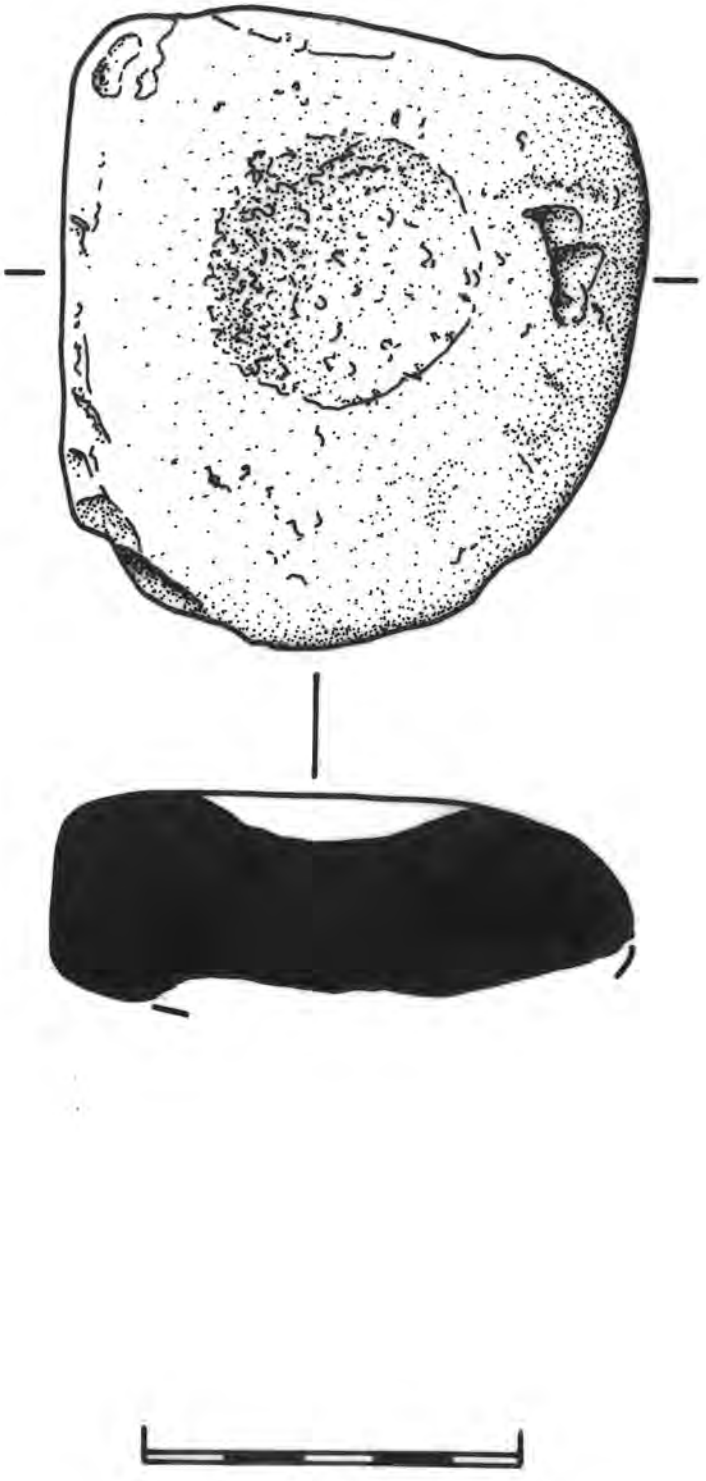
Murray Cook and Fiona Watson

The excavation was carried out at the same time as the vegetation clearing works, using local volunteers. It comprised the excavation of two trenches to either side of the third rampart and a path which runs over it. Both trenches were orientated south-east to north-west and aligned in order to be roughly perpendicular to the rampart (Illus 2 and 5). It was designed to confirm the nature of the feature and to attempt to recover dating evidence.

Trench 1 measured 6.2m × 1m and identified an initial rich dark layer of leaf litter and topsoil (101), which was up to 0.31m thick. Beneath layer (101) lay the soil component of the bank (102), a mid-brown silty soil which overlay the core of the rampart (104). This was composed of rounded river pebbles measuring, on average, 0.22m × 0.12m × 0.10m. Context (104) was up

TABLE 1
Radiocarbon date from Torwood. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program

Sample	*Material*	*Context*	*Description*	*Depositional Context*	*Uncal BP*	*Calibrated 1-sigma*	*Calibrated 2-sigma*	*Delta-^{13}C ‰*
SUERC-57504	Birch charcoal	104	Redeposited charcoal	secondary	4351 ± 28	3011–2977 call BC (27.9%) 2968–2950 (12.6%) 2944–2912 (27.7%)	3081–3070 (2.33%) 3026–2902 (93.1%)	–28.2 ‰



ILLUS 6 Illustration of mortar

to 0.39m thick and 80% stone and 20% a pale brown soil (113). A single piece of birch species charcoal was recovered from (104) and was dated to 4351 ± 28 BP (Table 1; SUERC-57504) which when calibrated to two sigma gave a range of 3081–2902 cal BC. Context (104) also produced a mortar (reported below; Illus 6). The bank (104) lay directly over a bedrock shelf (110). Below layer (110) was a mid-brown soil, possibly a buried topsoil layer (111), up to 0.39m thick, which contained shattered bedrock (112). This may be evidence of quarrying of the bedrock shelf, perhaps to increase the gradient of the rampart, although, of course, this face was to the interior of the rampart. A ledge of rock was also used to construct the second rampart (Hunter 1949b: 90).

Trench 2 measured 6.2m × 1.2m, with a 0.90m extension at either end, and uncovered an initial rich dark layer of leaf litter and topsoil (108). Beneath this lay Deposits (105) and (109), (105) was a red brown soil, up to 0.35m thick and likely to be soil fill of the bank. It lay above (107), which was formed of large water-worn boulders measuring on average 0.81m × 0.21m and up to 0.12m thick, which lay on the natural clay and bedrock. To the east of (105) and (107) lay (109) a brown organic soil, which appears to be a deeper topsoil up to 0.58m thick. The deposits are broadly similar across both trenches and assumed to relate to bank material used to construct an outer rampart.

ARTEFACTS

Gemma Cruickshanks and Fraser Hunter, with geology by Fiona McGibbon

A small assemblage of 36 artefacts has been recovered from three phases of excavation at Torwood (summarised in Table 2). Catalogue numbers for each object are listed beside each object in the text. The assemblage is dominated by various stone items, with smaller amounts of pottery and iron. Most of the assemblage is typical of later prehistoric sites in south-east Scotland, but it is both markedly smaller and lacking in Roman material when compared to the neighbouring lowland CARs of Leckie and Fairy Knowe (Canmore IDs 45379 and 44651). Medieval pottery and a recent iron hammer indicate activity beyond the Iron Age, while cup- and ring-marked stones and worked flint attest to earlier use. Despite a lack of contextual information, the assemblage still reveals aspects

TABLE 2
Summary of artefacts recovered from Torwood. Dundas's material is in the National Museum of Scotland (NMS) (accession numbers X.GM 1-38; only artefactual material is included here). Hunter's items were apparently deposited in Falkirk Museum but only the pottery could be located. Cook's find is pending allocation at the time of writing. *Two carved stones are still in situ

	Excavation			
Artefact type	*Dundas 1864*	*Hunter 1948*	*Cook 2014*	***Total***
Coarse stone tools	18		1	***19***
Pottery	5	1		***6***
Iron	2			***2***
Slag		1		***1***
Lithic	2			***2***
Shale/cannel coal	1			***1***
Carved stones*	5			***5***
Total	***33***	***2***	***1***	***36***

of daily life at the CAR, including crafts such as yarn spinning (spindle whorl), non-ferrous metalworking (burnisher) and skin processing (hide-rubbers), along with everyday activities like grain processing (rotary querns). Some atypical stone finds point to the inhabitants as people of some substance, with unusual decorated items (a pendant and a whorl), exotic materials (steatite) and evidence of leisure time (gaming counter). The assemblage is summarised here; a full catalogue can be found in the archive.

COARSE STONE

A large proportion of the assemblage is composed of coarse stone tools (summarised in Table 3). Apart from a mortar recovered by Cook (Illus 6), all were from Dundas's excavation.

Two bun-shaped rotary quern upper stones with vertical handle slots (X.GM 33 and 34) and one lower stone (X.GM 35) were recovered. The upper stones are an unusual sub-oval shape which projects around the handle slot, while the lower stone is also oval, but with a circular wear pattern. The lower stone is fully perforated, suggesting it was an adjustable type (Curwen 1937: 144). One of the upper stones is missing part of its edge but otherwise they are all intact. It seems unlikely that useable querns would have been casually discarded and there is now extensive evidence of the deliberate deposition of querns during later prehistory (eg Engl 2008: 221; Heslop 2008; McLaren 2013: 318). However, their context was not recorded by Dundas and the nature of their deposition unfortunately remains unknown. Both Torwood upper stones are bun shaped, whereas at nearby Fairy Knowe CAR there were both disc- and bun-shaped querns (Clarke 1998: 383).

Four stone mortars (X.GM 11–13 and SF2.01) have circular pecked and ground depressions on one or both faces, two of which have orange or brown staining, possibly suggesting they were used to prepare pigments. Three found by Dundas have no contextual details, but the one recovered during Cook's excavation (Context 104; SF2.01) was from the outer bank fill, which produced a Neolithic radiocarbon date from associated charcoal. Unfortunately, mortars are not a chronologically sensitive artefact type and it cannot be used to clarify the date of this feature.

Some of the stone artefacts indicate particular craft activities were taking place, notably the spindle whorl (X.GM 15) for spinning yarn, the hide-rubbers (X.GM 6 and 8) for processing animal skins and a burnisher (X.GM 10) which was most likely used in fine non-ferrous sheet metalworking. The spindle whorl is an unusual

TABLE 3
Summary of stone tool assemblage

Group	*Object*	*Total*
Cobble tools	Burnisher	1
	Hide-rubber	2
	Mortar	4
	Multi-functional cobble tool	3
Food production	Rotary quern	3
Textile production	Spindle whorl	1
Gaming/leisure	Gaming counter	1
	Ball	1
Personal ornament	Perforated discs (pendants?)	2
Miscellaneous	Lamp	1
Total		19

B-sectioned shape with a raised disc on one face, similar to a possible unfinished example from nearby Fairy Knowe CAR (ibid: 379 and illus 36 no. 312). There are several cobble tools, usually multi-functional, which have less clear functions and display a range of grinding and pounding wear. Several of the cobble tools, especially the multifunctional ones, show evidence of extensive wear: for example (X.GM 1) has well-developed bifacial ground and pecked facets on both ends, while (X.GM 2) has been extensively ground and pounded around its entire circumference as well as being used as a rubber on both faces.

The small steatite counter (X.GM 16) was probably used for gaming, providing a glimpse of leisure activities on the site. Gaming counters are rare in Scotland until the Roman Iron Age (Hall & Forsyth 2011). It is also one of the few stone artefacts manufactured from non-local stone, indicating it, or the raw material, was imported. Another possible leisure item is a stone ball (X.GM 5), which may have been a gaming piece. Such balls are common in the south-east Scottish Iron Age, though this example is rather larger than normal at just over 60mm in diameter. Few other stone balls are so large, with most being between 25 and 35mm in diameter (Cool & Baxter 2013: 340, table 10.24). They also tend to be ground, rather than pecked into shape. It also has a circumferential ridge, making it more complex than traditional stone balls and almost decorative. This stone ball is therefore anomalous and it could be simply a rather unusual example, a different type or partially finished object. While Neolithic material was present on site, the stone ball is not of Neolithic origin.

Personal items comprise two perforated discs which were probably pendants (X.GM 17 and 18), though their roughly abraded edges suggest they may have been unfinished or in the process of modification; this is the only potential evidence for on-site stone artefact manufacture.

A miniature stone lamp (X.GM 14) is similar in form to Iron Age stone lamps found elsewhere in Scotland, for example, a lamp found at West Plean, Stirlingshire (Steer 1956: 244, fig 7 and pl XVIII). However, the Torwood lamp is smaller in size and an unusual stone type: a very fine grained red silty mudstone. The red colour suggests it has been fired and it now looks very similar to ceramic. Aside from a charred black patch on the underside, there is no evidence of differential burning, such as sooting along a particular part of the rim, to suggest how it may have been used. The lamp may have been deliberately fired to change its colour, or this could have happened in use or during an accidental fire.

It is interesting to note that one of the cobble tools (X.GM 1), the querns and the lamp all show signs of burning (though those on the lamp may have been through use). Dundas described the walls being stained ‘as if from smoke’ and the floor being strewn with ‘a great deal of charred wood’ and discoloured stones (1868: 261), suggesting there may have been a conflagration event.

Pottery

Four sherds of prehistoric pottery were recovered: two rim sherds and two undiagnostic body sherds. One of the rims (X.GM 26) is from a coarse, plain vessel with rounded rim, most likely of bucket or vase form. The other rim is internally bevelled with a row of fingertip impressions around the neck, creating a false everted rim (X.GM 29). There are three fabrics present. Two comprise soft fine clay with 10–30% large angular dark rock inclusions, creating a coarse fabric typical of later prehistoric Scotland. The other fabric is fine sandy clay with no temper. X.GM 29 and 30 are likely to be from the same vessel, indicating this assemblage represents a minimum of three vessels.

Iron Age pottery only tends to be recovered in very small quantities in south-east Scotland, and the pottery sequence in this area is not well understood. For example, the large artefact assemblage from the Fairy Knowe CAR in Stirlingshire only produced two sherds of prehistoric pot (Willis 1998: 328), while only a few sherds were recovered from Leckie CAR, Stirlingshire, which also had an otherwise large, rich assemblage (MacKie 2007: 1317).

Two groups of refitting medieval green-glazed redware dating to the 14th/15th centuries were also recovered, one by Dundas and the other by Hunter. Hunter described the pottery from her excavation as both Roman (Hunter 1949a: 285)

and Romano-British (Hunter 1949b: 98, fig 11) but it is medieval in date.

Iron

Two iron artefacts were collected: a modern hammer and an axe of uncertain date. The hammer, including its loop-terminal iron handle, is in very good condition and therefore recent in date (X.GM 23). The axe (X.GM 24) has a narrow, slightly downturned blade and is not a chronologically distinct form but its relatively poor condition suggests it could be Iron Age. Fragments of mineralised wood survive in the socket, suggesting it was hafted when deposited. Dundas mentioned recovering two axes, 'one of them of ancient, the other of comparatively modern form' (1868: 264); presumably the surviving axe is the former. He described finding them both 'on the floor of the house'.

Slag

A fragment of slag was recovered by Hunter from one of the ramparts. The slag could not be located to confirm its nature but the comprehensive description in Hunter's report (1949b: 99) suggests it could be from ironworking.

Lithics

Dundas recovered two fragments of flint (context unknown), hinting at early prehistoric activity at the site. One is struck, but undiagnostic (X.GM 20), while the other is unworked (X.GM 21). Flint does not naturally occur in the vicinity and so must have been brought to the site. The nearest large deposits are in Yorkshire (see McGibbon below).

Shale and lignite

An unusual decorated shale pendant (X.GM 19) came from Dundas's excavation and a 'rough lump of lignite' was recovered by Hunter (1949b: 92). The latter could not be located and it is therefore uncertain if it was worked. The pendant is teardrop-shaped, perforated at the apex and has unusual incised zig-zag decoration on one side and rough linear grooves on both sides, overlaying the decoration. It was probably a pendant which was then reused as a sharpening stone. Its form cannot readily be paralleled – though a comparable artefact was apparently found around 1.3km away, it was a stray surface find and its age is thus uncertain (Aitchison 1981: 5). Dundas mentions it being found with a piece of 'rude, thick pottery' (1868: 263) but it is unclear how closely they were associated and no context is mentioned. The pendant is manufactured from bituminous shale, which does not occur in the immediate vicinity but is known in the wider region (McGibbon below).

Carved stone

Three sandstone blocks in NMS (X.GM 36–8) with multiple cup- and ring-marks were discovered by Dundas 'near the centre of the floor' (1868: 264). As Dundas pointed out, the decoration does not respect the broken edges, suggesting the stone was quarried from a larger rock art display and deliberately built into the CAR. This is backed up by the presence of a further two fragments still in situ. One fragment is built into the wall of the staircase (Illus 4) and is not easily seen without prior knowledge of its location. The other (described above) was noted by Nick Aitchison (1978: 3) but its location is now unknown, possibly obscured by collapsed material, although Bailey (pers comm) suggests this latter carving may have been undertaken during Dundas's excavations.

Reusing early prehistoric rock art in Iron Age structures finds parallels elsewhere in eastern Scotland, especially in souterrains. Tealing, (Canmore ID 33350) Pitcur (Canmore ID 30539) and Letham Grange (Canmore ID 35451) souterrains, among others, all have reused cup- and ring-marked stones built into their walls in visible locations (Simpson 1865: 41; Jervise 1873: 287; MacRitchie 1900: 208). A cup- and ring-marked stone was used as paving in the intramural gallery of Hurly Hawkin CAR, while two others were discovered within and just outside the associated souterrain (Taylor 1982: 218).

Geological Context

Fiona McGibbon

(see archive for full description of each stone artefact's lithology)

Torwood is in an area of Carboniferous Period sedimentary rocks (Francis et al 1970), specifically the Passage Formation of sandstones and seat-earths (a layer of sedimentary rock underlining a coal layer). This formation is quite diverse but includes bleached white sandstones of variable grain size that could account for some of the sandstone objects examined, for example, the cup- and ring-marked stones. There are also limestones in the vicinity, as well as some basaltic igneous dykes. Not far to the north and west are outcrops of Devonian red sandstones and conglomerates, and intercalated lava flows. Some water-worn cobbles among this assemblage (eg X.GM 4) are typical of Devonian conglomerates and are likely to have been reworked by recent surface processes, becoming locally abundant in river courses and in drift deposits.

Not far away, around 40km to the north, is the Highland Boundary Fault (HBF) which marks the junction with a largely metamorphic and igneous terrane of higher elevation. Multiple glaciations are known from various data sources to have fed into the Midland Valley from the higher ground to both the north (Highlands) and south (Southern Uplands), where glaciers merged and flowed eastwards. This means that a large range of rock types from distant outcrops is potentially available in the local drift and would be hard to distinguish from material actually sourced from further afield in situ.

The two mortars (X.GM 12 and SF2.01) manufactured from greenschist are Dalradian lithologies which may be available in local drift, but field investigation is required to confirm this. Water-worn pebbles of these rock types could of course also exist in areas of Dalradian outcrop (that is north of the HBF) and so could not be distinguished from potential locally available sources (aspects of the rock types observed are typical of outcrops in Argyllshire).

The only material seen that is unlikely to be available locally in drift deposits is the soapstone used in fashioning the gaming counter (X.GM 16). This lithology is too soft for transport and so is likely to be an imported item. There are several potential source sites for this lithology and it is not currently possible to determine which was used for this item. Soapstone is found as a rare import in the area (Hunter 2015: illus 13.2).

The two perforated discs (X.GM 17 and 18) are of similar rock type; a spotted slate or hornfels. This is unlikely to be available in local drift deposits and although something like this is hypothetically possible in the in situ Carboniferous sequence where heat-affected by neighbouring intrusion, this could equally have come from further afield. These two extensively shaped objects are more likely to have been fashioned from material harvested from outcrop than from water-worn pebbles. A finely bedded, carvable material has been intentionally selected.

A decorated pendant (X.GM 19) has been manufactured from bituminous shale. The shape suggests it was probably a water-worn fragment which could have been collected from the coast, but was ultimately derived from Carboniferous Period strata in the area.

Artefacts discussion

Little is known of the context of most of this assemblage, particularly those finds recovered by Dundas. He either did not mention their context, or provided vague descriptions – such as 'near the doorway' or 'on the floor'. It is not always clear from his report which finds were recovered from these locations. The medieval green-glazed pottery sherds found by both Dundas and Hunter provide a brief glimpse of post-Iron Age activity on the site, while the iron hammer is evidence of more recent visits. Dundas mentioned that wheel-turned pottery and the hammer were both recovered in clearing out the passage to the intramural stairway and that they were 'probably the traces of some treasure-seeker of former days' (1868: 260). This raises the likelihood that the CAR suffered even earlier unrecorded excavations, casting further confusion over what little we know of the assemblage's context.

This level of contextual recording is typical for such an early excavation but limits what can be said in terms of phasing, spatial analysis and structured deposition. However, we can still look at the different crafts and activities taking place on site and the raw materials used and compare the assemblage composition with other similar sites. With the exception of the late finds noted

above and the lithics which hint at earlier activity, the remainder of the assemblage is consistent with an Iron Age date.

Though the assemblage is small, a range of crafts is represented. The spindle whorl was used for spinning yarn and the dark waxy residues on the hide-rubbers suggest they were used for preparing animal skins. The organic products of these crafts rarely survive outwith waterlogged contexts and so the tools are an important indicator. Production of textiles and hides are crafts which were probably carried out on most sites, as the technology was relatively simple and raw materials easy to acquire (Hunter 2015: 228). The unfinished pendants, and possibly the stone ball, suggest stone may have been worked on site, mostly from locally available stone types (as discussed by McGibbon below). The shale pendant, steatite gaming counter and flint are exceptions, having been brought in to the site from elsewhere. Non-ferrous sheet metalworking, as indicated by the burnisher, is a more specialised craft which seems to have been more closely controlled. Evidence for this craft tends to be restricted to the lowland CARs in this part of Scotland and is seldom recovered from other site types (Hunter 2015: 235). The fragment of iron slag reportedly discovered by Doreen Hunter could indicate ironworking took place too, though this cannot now be confirmed and the quantities involved are very small.

The Torwood assemblage is notably smaller than that of its neighbouring lowland CARs, Fairy Knowe and Leckie. These also produced a larger range of artefacts, but Roman finds are conspicuous by their absence at Torwood. However, another local site, Coldoch (Canmore ID 45356), is a similar structure which was emptied out at around the same date but produced no finds (apart from some whalebones which have not survived) (MacKie 2007: 1311). MacKie suggested that Torwood and Coldoch were built at a different time to Leckie and Fairy Knowe, based on their lack of Roman finds (2007: 1319).

Illus 7 Photograph of overhang and carved face

Based on the artefacts alone, there is certainly a stark difference between the two pairs of sites, but the surviving finds from Torwood offer no possibility of tight dating at present. There are hints in the surviving assemblage of some status to the site's inhabitants, however. The presence of two decorated items (the pendant and whorl) among the stone finds is unusual, as is the presence of imported stone in the form of soapstone. The fact that this was a gaming counter is also unusual as gaming seems to have been a restricted practice. Taken along with the evidence for sheet metal-working, there are clear signs in the small assemblage that this was something above the norm of an Iron Age settlement.

The Carved Head

Fraser Hunter

In an overhang near Torwood (not illustrated) is a small carved head on a slightly projecting arris between two planes of rock (RCAHMS 1963: 443). It is rather weathered. The overall shape has been defined by pecking a border around it to leave the head in relief. It has then been shaped quite three-dimensionally, with a rounded face with rounded cheeks, a bulge representing the hair, and quite naturalistically shaped eyes recessed under the brow and tapered nose; the mouth area is worn (Illus 7 and 8). In total the head measures 10.2cm × 11.4cm. RCAHMS further notes that the overhang where the carving is located has been deeper in the past and may have been quarried or collapsed, reducing the interal area. Elsewhere on the same geological feature there are deeper overhangs and at least one collapsed example which would have been several metres deep (M Cook pers obs).

There has been a long tendency to identify any carved human head as a 'Celtic head' (Ross 1967: ch 2; Ross 1974), but very few can be shown to be Iron Age. There was a long-running habit of carving the human head in medieval

Illus 8 Photograph of carved face

and post-medieval folk art; all such carvings by non-classically trained sculptors tend to simplify the head in a way often, and wrongly, termed 'Celtic'. In fact, the Torwood one does not fall into this category. The head is quite naturalistic, with notable three-dimensional shaping of the cheeks and representation of the hair. It is most unlikely to be of any antiquity; such naturalism suggests a recent (19th-/20th-century) date by someone with artistic leanings, brought up in a world where naturalism was the dominant artistic movement.

DISCUSSION

Murray Cook

This review of Torwood has revealed greater detail regarding the site's sequence and a greater appreciation of the material wealth of the occupation. The piecing together of the individual disparate elements has allowed the site to be placed in its regional context.

SEQUENCE AND DATING

While there is no new evidence for the site's sequence, it is postulated that the enclosing works relate to an older hillfort which had been subsequently robbed out, possibly to build the CAR, even though there is no direct evidence for this. Certainly the curving western arc of the inner rampart as recorded by the RCAHMS (1963: 86) makes no sense if one was trying to add additional defences to the CAR, as the projected arc runs under the line of the CAR rather than to its side. However, even if one accepts that the fort is older this need not mean that there was a significant time difference between phases. Clearly, the CAR's entrance seems to have been orientated on the original fort entrance (ibid).

There is a traditional assumption that forts were increasingly abandoned in the closing centuries BC, before the appearance of 'broch' architecture in southern Scotland (Armit 2005: 64–5). However, elsewhere in the Forth Valley there are examples of ramparts and forts dating to the 1st and 2nd century AD (for example Mote Hill and Keir Hill of Gargunnock (Cook et al 2016; Cook et al 2018)). This raises the possibility that rather than reusing a significantly older site, the Torwood CAR represents the next phase of settlement design and renewal, in a continuous settlement sequence.

Alternatively, it may be that the site was more significantly impacted in the medieval and post-medieval periods than previously assumed, certainly, 14th-/15th-century pottery was recovered from the site and the precise scale of the 17th-century landscaping works is unknown as is the precise nature of the intrusive cell marked B (Illus 2).

At face value, the absence of Roman finds from the site suggests that it is either pre- or post-Roman, though MacKie favours either a post-Roman construction or construction by an elite with no relations with the Romans (2017: 17) and this will be returned to later on.

However, to focus on the structure, as noted above Torwood is the best preserved (it is the only one to have a scarcement) and largest of the excavated CARs in the Forth Valley (Table 4). Davies (2004: 232) analysed the percentage wall base of both excavated 'duns' and 'brochs' and concluded that of the four excavated 'brochs', the second largest 'broch', Leckie, had the least potential to have any great height and was more akin to some of the excavated 'duns' (Keir Hill of Gargunnock and Castlehill Wood). To the main author, the greater size and structural integrity of Torwood suggests that it was more likely to have been built when CAR construction was more commonplace, arguing for a pre-Roman origin. By contrast, the other structures (Leckie, Coldoch and Fairy Knowe), which were less well built, may have been constructed when people were less familiar with how to build such structures, arguing for a later date. But it is worth noting that, given the potential longevity of well-built CARs (Harding 2009: 288), the site could have a pre-Roman origin but still have been occupied during the Roman presence.

Hunter's observations of dumped midden material in the ramparts (1949b: 94), along with the presence of both a redeposited mortar and Neolithic charcoal in the outer rampart, indicates that there was older activity and perhaps settlement in the vicinity of Torwood.

TABLE 4
Internal area of excavated brochs. Not all the structures are precise circles and internal diameters have a range so the minimum figure given is used to create a minimum internal diameter

Site	*Minimum wall thickness (m)*	*Minimum internal diameter (m)*	*Internal area (m^2)*	*Source*
Coldoch	5.2	8.39	55.25	Cavers & Hudson 2014
Fairy Knowe	5.4	8.15	52.14	Main 1998: 304
Leckie	6	9	63.56	Mackie 2016: 40
Torwood	6.1	9.89	76.78	Cavers & Hudson 2014

However, it is not clear if such material had been included in the rampart by accident or design. The same arguments can also be applied to the lithics and carved stones from the CAR, the latter discussed in greater detail below. The presence of so much easily accessible stone in the site's environs tends to suggest that a deliberate choice was made to quarry existing settlement material for inclusion in the rampart. Hingley (1996) has commented on the prevalence of older material in Iron Age structures and it is assumed that such material helped to establish connections with the ancestors/gods and legitimise contemporary power structures.

The presence of Neolithic material in the outer rampart raises the possibility that it may be Neolithic, though this is considered extremely unlikely by the main author, given there are no such examples in the area known to the main author.

IRON AGE RITUAL?

This Iron Age reuse of earlier material mirrors patterns seen elsewhere in Scotland, particularly in north-west Scotland where several CARs were constructed upon Neolithic tombs (Hingley 1996). It is interesting that there is such a concentration of reused cup- and ring-marked stones in souterrains (Williamson 2013), and that the two with known contexts from Torwood and Hurly Hawkin CARs were situated in the stairs and intramural gallery: narrow, dark, enclosed spaces conceptually similar to souterrains.

Of the prehistoric carved stones from within the CAR, only the location of the stone in the staircase (Illus 4) can be confirmed and the others may simply have been used as building material. The fragment in the staircase is still in its intended Iron Age position, and the fact that it was first observed over 100 years after the site's excavation clearly indicates that its location could have been intended as a secret.

Previous discussion on the reuse of older stones in souterrains has debated whether such material was deliberately included for more than merely aesthetic display purposes (*contra* Sheriff 1995: 16; Williamson 2013) and Hingley (1996) has commented more widely on the reuse of Neolithic material in Iron Age structures. Elsewhere in the Scottish Late Iron Age, the ritual function of dark spaces has been regularly commented on, from natural caves such as Covesea Cave (Armit et al 2011), to constructed spaces such as wells in brochs (Armit 2003: 108–10) and the spectacular Mine Howe (Card & Downes 2003). Martin Carruthers (2018) has convincingly drawn attention to the claustrophobic nature of Orcadian souterrains and their potential for ritual activity based on their repeated association with funerary remains. Within discussion of Palaeolithic cave art the impact of darkness on the artist and audience is often described in terms of disorientation, confusion and the potential for hallucinations (Bahn & Vertut 1998: 188). The presence of reused older carved stones can only have increased the sense of occasion within Iron Age dark tight spaces. This prompts the suggestion that the concentric ringed stone from Torwood (and indeed the Hurly Hawkin reused stone (Taylor 1982: 218)) was deliberately placed in

order to be revealed as part of some form of ritual, perhaps by touch first (the stone is tactile and its worked surface a significant contrast to the surrounding sharp quarried stone) and then by flickering flame, a secret subsequently kept by the initiated and helping to bind them together.

DESTRUCTION BY FIRE

As noted above, Dundas recorded evidence of a possible conflagration at Torwood (1868: 261), Hunter observed burning in the ramparts (1949b) and Aitchison recovered a vitrified stone from the inner rampart, perhaps suggesting that both the CAR and the earlier fort were destroyed by fire (1979). Of the nine excavated and potentially contemporary structures in the Forth Valley, seven show evidence of having been destroyed by fire (Table 5).

Some of these events appear to have been quite extensive; for example, the vitrification at Mote Hill will have required a sustained fire for several days (Ralston 2006: 162–3). In addition, both Leckie and Fairy Knowe were partially dismantled/demolished before being set alight (Main 1998: 310; MacKie 2016: 81). There are three main possibilities: accidental destruction (always a danger in a building with a timber roof, although not an option for Mote Hill); deliberate enemy action, MacKie (2017: 81) directly links Leckie's destruction to the Romans); and deliberate destruction by the occupants. Equally, one should not expect a single theory to encompass the destruction of all of these varied forms over several decades and clearly more dating is required. While we have seen that, compared with Leckie and Fairy Knowe, there were fewer objects at Torwood, when compared to the typical Iron Age Scottish assemblage, Torwood is rich indeed. In general, the presence of significant quantities of artefacts within a burnt structure, as, for example, at Torwood, Leckie and Fairy Knowe (see above; Hunter 1998; MacKie 2016) is generally taken to mean that these objects were not recovered pior to the site's destruction because they could not be, as the destruction was an unplanned event, most likely either accidental or deliberate destruction by enemy action (Pope 2003: 369–71). Alternatively, La Motta and Schiffer's

TABLE 5

Excavated late prehistoric settlement sites in the Forth Valley. Castelhill Wood (Feachem 1957); East Coldoch (Wooliscroft 2005); Easter Moss (Gordon 2007); Fairy Knowe (Main 1998); Keir Hill (MacLaren 1958; Cook et al 2018); Leckie (MacKie 2016); Mote Hill (Cook et al 2016); Torwood (Dundas 1868; Hunter 1949a, 1949b); Wallstale (Thomson 1969). This excludes four sites which are likely to be contemporary but cannot be confirmed due to either absent or limited dating: Coldoch (Graham 1949); Myrehead, Falkirk (Barclay 1983); Camelon native site (Proudfoot 1978) and Greenyards, Bannockburn (Rideout 1996)

Site name	*Roman finds*	*Type*	*^{14}C dates*	*Excavated*	*Destroyed by fire*
Castlehill Wood	1st/2nd century AD	dun	–	yes	yes
East Coldoch	1st–4th century AD	palisaded enclosure	1st–4th century AD	yes	yes
Easter Moss	1st/2nd century AD	souterrain	2nd century AD	yes	?
Fairy Knowe	1st/2nd century AD	broch	1st century BC/AD	yes	yes
Keir Hill	1st century AD	homestead	1st/2nd century AD	yes	yes
Leckie	1st/2nd century AD	broch	1st/2nd century AD	yes	yes
Mote Hill	no	fort	1st/2nd century AD	yes	yes
Torwood	no	broch	–	yes	yes
Wallstale	no	dun	–	yes	no

(1999) concept of Ritual Enrichment may be of use: this posits the addition of material to a structure prior to its abandonment. Certainly, given that social competition and conspicuous consumption are considered relevant concepts for the construction and design of a site, there is no reason why these should not also be relevant at its destruction.

Armit's review of the contemporary evidence from souterrains in Angus and Fife is of clear relevance to this discussion (1999). Where evidence exists for the end of these sites it shows they were often dismantled, backfilled, deposited with Roman high-status goods, and fired, a process assumed to be undertaken by the occupants. Clearly this process echoes aspects of the evidence from the Forth Valley. Armit (1999) discussed this phenomenon in terms of local reaction to the end of a specific economic pattern associated with the Roman retreat to the south, although others have argued that this process is not solely tied to the Roman occupation (Coleman & Hunter 2002: 97).

Given the physical proximity of Fife and Angus to Stirling, it seems likely that there were links between these societies in the Iron Age, which perhaps alludes to an underlying set of common beliefs and practices. Such beliefs may suggest that when deciding to 'end' a site's active life that people in Stirlingshire, Fife and Angus reacted in the same way: by depositing exotic/expensive goods in structures prior to their deliberate destruction by fire, with occasional evidence for prior dismantling. Certainly, deliberate destruction by the occupiers is frequently advanced as a potential option, with regard to vitrified forts (Ralston 2006: 163). However, this of course does not preclude accidental destruction or destruction by an enemy, in some cases.

TORWOOD IN CONTEXT

In recent studies of the late prehistory of the Forth Valley, considerable focus has been applied to the Roman Iron Age and comparatively less on the immediate pre-Roman Iron Age, although this is clearly associated with the problems of identifying such activity (Hunter 2001). It is argued above that Torwood may date to the pre-Roman Iron Age and it is likely that several other sites may also be contemporary, for example, Wallstale (Thomson 1969), which also has no Roman finds. The main author's review of contemporary and potentially contemporary settlements (Cook et al 2019) identified 40 structures of which of at least 24 had no apparent architectural complexity and may therefore be SARs (ibid).

This leads to the possibility that in the Late pre-Roman Iron Age substantial stone-built roundhouses (SARs and perhaps CARs) were more commonplace than previously thought, perhaps reflecting social competition. Hunter (1997; 2007: 18–49) has argued that society in Stirling, Fife and north-east Scotland in the closing centuries BC and early centuries AD was less hierarchical, based on the variety of objects recovered from hoards which indicates a more individualist population. These individualistic societies within the Forth Valley may have stimulated greater social competition, expressed through more elaborate architecture, seen in the transition from timber to stone (for example, Fairy Knowe (Main 1998: 404–5) or Keir Hill of Gargunnock (Cook et al 2018: 156)). Presumably the resources that were used to fund this conspicuous consumption derive from traditional subsistence farming, control of mineral resources and, to some extent, control of travel routes across the Forth Valley, the restrictive geography of which acts as a funnel through Stirling (Cook et al 2019).

The presence of Roman military installations, first to the north of the Forth in the late 1st century AD and then to the south in the mid-2nd century AD, may have vastly increased the volume of resources available to local societies. It is assumed that one of the ways in which local societies competed with each other was architectural elaboration (for example, Parker Pearson 1996; Armit 2003: 79–80) and so any increase in resources may have led to even greater competition and even more varied architectural forms (SARs, CARs, forts and souterrains (Cook et al 2019)), perhaps even increasing the number of participants engaging in architectural competition.

However, in his analysis of the Fairy Knowe artefact assemblage Hunter (1998: 400) suggested that contact with Rome may have been mediated by chieftains operating a more hierarchical system. It may be that access to such increased resources created or increased this hierarchy as chieftans sought to control the greater volume of material potentially available. It is assumed that agricultural products travelling from north to south formed part of this exchange, and indeed, Stallibrass (2009) observes 60% of animal bone from sites on Hadrian's Wall are cattle bone and therefore likely to have arrived on foot rather than as processed carcasses. Given this, it is likely that there was some level of co-ordination to allow stock or other agricultural produce to be transported south, which may indicate the emergence of a hierarchy. Elsewhere in Scotland, Mercer (2018: 204–10) has estimated the extensive requirements of the Roman army for cattle and ponies and argues convincingly for a substantial managed ranching landscape to supply such demands in Dumfriesshire.

As noted above, much of the debate regarding southern brochs has focused on the apparent archaic nature of their architecture and that the use of CAR architecture may reflect an attempt to display a non-Roman identity (Armit 2003: 132; Harding 2009: 292). However, the potential pre-Roman date for Torwood supports Armit's (2003: 132) assertion that southern brochs are not a homogenous assemblage with only one potential explanatory model. Additionally, this earlier date may imply that in a Forth Valley context it was Torwood and its occupant/architect that was being referenced by the construction of subsequent Roman Iron Age CARs. The original impulse to design and construct Torwood presumably still lies in local competition and conspicuous consumption, and does not need the Roman presence as an excuse for such a wonderful structure.

Assuming a pre-Roman date for the site raises two key explanations for the absence of Roman goods from the site: first, that the site was destroyed prior to the Roman presence in Scotland; second, that the site had no contact with Rome. It is difficult to see how the site's destruction will ever be dated as none of the burnt timber mentioned by Dundas (1868: 261) survives in the archives. However, returning to the latter option, it may be that the occupants were not in receipt of Roman goods – either through choice, or deliberately through Roman policy. If the absence was a choice made by the inhabitants this would raise interesting questions about identity, and may support Armit's (2003: 132) suggestion that CAR architecture helped project a non-Roman identity.

Alternatively, Hunter (2007: 54) describes the Roman practice of destabilising the local polities by using gifts and bribes and then their sudden withdrawal, and it may be that Torwood was deliberately excluded from Roman exchange to create rivaliries on the frontier and prevent a a unified opposition. Of course, the ultimate sanction, that of the complete destruction of a site (for example, Leckie), appears to have been reserved for only very specific circumstances.

CONCLUSION

While limited in scale, the programme of works at Torwood identified a new external rampart, produced the most accurate survey to date of the site, undertook the first modern analysis of the finds assemblage and published, for the first time, images of two different rock carvings. This paper has argued that Torwood belongs in the pre-Roman Iron Age, in a competitive and less hierarchical society in which architecture played a role in conspicuous consumption. Torwood was one of a series of Atlantic Roundhouses in the Forth Valley but it seems likely that most were Simple, and Torwood may have been amongst the first CARs built locally. It is assumed that, following the Roman incursions, there would have been greater access to Roman goods and resources and that this resulted in greater variance in architectural forms. Others have argued (see above) that this is one of the ways in which prehistoric societies competed with each other, with greater numbers of Roman objects present in site assemblages. The absence of Roman goods from Torwood has a number of possible explanations and reflects either its

early destruction, the projection of a non-Roman identity or a deliberate Roman policy to divide any potential opposition. The high incidence of destruction by fire, which in turn can be associated with high volumes of exotic artefacts, seems to be a feature of closing rituals in the Forth Valley and shares factors with souterrains in Angus and Fife, but can be seen as having origins in the pre-Roman period. The presence of the face-down carved concentric ringed stone in the stairway may give a clue to Iron Age rituals during the use of Torwood, and again shares features with other sites in Scotland's Iron Age: darkness, reuse of older material and perhaps disorientation. Finally, the project clearly demonstrates the benefits of returning to older, already sampled sites.

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REFERENCES

Aitchison, N 1978 'Tappoch Broch: stone carving', *Discovery and Excavation in Scotland* 1978: 3.

Aitchison, N 1979 'Tappoch Broch: vitrified stone, daub', *Discovery and Excavation in Scotland* 1979: 3.

Aitchison, N 1981 'Doghillock, (Dunipace p): pin sharpener', *Discovery and Excavation in Scotland* 1981: 5.

Aitchison, N 1983 'The brochs and duns of the Forth Valley', unpublished MA dissertation, University of Glasgow.

Armit, I 1991 'The Atlantic Scottish Iron Age: five levels of chronology', *Proc Soc Antiq Scot* 121: 181–214.

Armit, I 1999 'The abandonment of souterrains: evolution, catastrophe or dislocation?', *Proc Soc Antiq Scot* 129: 577–96.

Armit, I 2003 *Towers of the North*. Stroud: Tempus Publishing.

Armit, I 2005 *Celtic Scotland*, 2nd edition. London: Batsford.

Armit, I, Schulting, R J, Knüsel, C J & Shepherd, I A G 2011 'Death, decapitation and display: the Bronze and Iron Age human remains from the Sculptor's Cave, Covesea, NE Scotland', *Proceedings of the Prehistoric Society* 77: 251–78.

Bahn, P & Vertut, J 1998 *Images of the Ice Age*. London: Facts on File.

Barclay, G 1983 'The excavation of a settlement of the later Bronze Age and Iron Age at Myrehead, Falkirk District', *Glasgow Archaeological Journal* 10: 41–71.

Brown, M 2017 'The King's Knot: Scotland's Finest Lost Garden', *Forth Naturalist and Historian* 40: 134–44.

Card, N & Downes, J 2003 'Mine Howe – the significance of space and place in the Iron Age', *in* Downes, J & Ritchie, A (eds) *Sea Change, Orkney and Northern Europe in the Later Iron Age AD 300–800*, 11–19. Brechin: Pinkfoot Press.

Carruthers, M 2018 'Windwick – the key to the mystery?'. www.orkneyjar.com/history/earth-houses/windwick.htm. Accessed 12 October 2018.

Cavers, G & Hudson, G 2014 'Torwood and Coldoch Brochs, Archaeological Survey Report', unpublished report for AOC Archaeology.

Clarke, A 1998 'Stone', *in* Main, 'Excavation of a timber round-house and broch at the Fairy Knowe, Buchlyvie, Stirlingshire, 1975–8', *Proc Soc Antiq Scot* 128: 377–90.

Coleman, R & Hunter, F 2002 'The excavation of a souterrain at Shanzie Farm, Alyth,

Perthshire', *Tayside and Fife Archaeological Journal* 8: 77–101.

Cook, M, McCormick, T, Greenshields, R, Hunter, F, Cruickshanks, G & Cook, G 2018 'Keir Hill of Gargunnock: Redefining the nebulous, the re-assessment of a Roman Iron Age native settlement', *Forth Naturalist and Historian* 41: 152–69.

Cook, M, McCormick, T, McAlpine, J, Greenshields, R & Cook, G 2019 'A New Look at The Later Prehistoric Settlement Patterns of the Forth Valley', *in* Romankiewicz, T, Fernández-Götz, M, Lock, G & Büchenschütz, O (eds) *Enclosing Space, Opening New Ground: Iron Age Studies from Scotland to Mainland Europe*, 87–101. Oxford: Oxbow Books.

Cook, M, Watson, F & Cook, G 2016 'Burning Questions: New Insights into Vitrified Forts', *in* Erskine, G, Jacobsson, P, Miller, P & Stetkiewicz, S (eds) *Proceedings of the 17th Iron Age Research Student Symposium, Edinburgh, 29th May – 1st June 2014*, 149–57. Oxford: Archaeopress.

Cool, H & Baxter, M J 2013 'Stone balls', *in* Armit, I & MacKenzie, J (eds) *An Inherited Place: Broxmouth Hillfort and the South-East Scottish Iron Age*, 333–48. Edinburgh: Society of Antiquaries of Scotland.

Curwen, E C 1937 'Querns', *Antiquity* 11: 133–51.

Davies, M 2004 'An archaeological analysis of later prehistoric settlement and society in Perthshire and Stirlingshire', unpublished PhD dissertation, Durham University.

Dundas, J 1868 'Notes on the excavation of an ancient building at Tapock, in the Torwood, Parish of Dunipace, County of Stirling', *Proc Soc Antiq Scot* 6: 259–65.

Engl, R 2008 'Coarse stone', *in* Cook, M & Dunbar, L *Rituals, Roundhouses and Romans: excavations at Kintore, Aberdeenshire 2000–2006*, 210–25. Edinburgh: Scottish Trust for Archaeological Research.

Feachem, R W 1957 'Castlehill Wood dun, Stirlingshire', *Proc Soc Antiq Scot* 90: 24–51.

Francis, E, Forsyth, I, Read, W & Armstrong, M 1970 *The Geology of the Stirling District*. Edinburgh: HMSO.

Gordon, D 2007 'Cowiehall Quarry, Easter Moss, Stirling (St Ninians parish), excavation', *Discovery and Excavation in Scotland*: 30.

Graham, A 1949 'Notes on some brochs and forts visited in 1949', *Proc Soc Antiq Scot* 83: 12–14.

Hall, M & Forsyth, K 2011 'Roman rules? The introduction of board games to Britain and Ireland', *Antiquity* 85: 1325–38.

Harding, D 2009 *The Iron Age Round-House: Later Prehistoric Building in Britain and Beyond*. Oxford: Oxford University Press.

Harvie, G 1792 'United parished of Larbert and Dunipace, County of Stirling', *Statisitical Account of Scotland* 3: 333–8.

Heslop, D H 2008 *Patterns of Quern Production, Acquisition and Deposition. A Corpus of Beehive Querns from Northern Yorkshire and Southern Durham*. Leeds: Yorkshire Archaeological Society.

Hingley, R 1996 'Ancestors and identity in the later prehistory of Atlantic Scotland: the reuse and reinvention of Neolithic monuments and material culture', *World Archaeology* 28: 231–43.

Hunter, D 1949a 'Note on excavations at the broch of Tappoch in the Tor Wood, Stirlingshire', *Proc Soc Antiq Scot* 83: 232–5.

Hunter, D 1949b 'Torwood Excavations', *Proceedings of the Falkirk Archaeological and Natural History Society* 4: 89–107.

Hunter, F 1997 'Hoarding in Scotland', *in* Gwilt, A & Haselgrove, C (eds) *Reconstructing Iron Age Societies*, 108–33. Oxford: Oxbow Books.

Hunter, F 1998 'Discussion of the artefact assemblage', *in* Main, L 'Excavation of a timber round-house and broch at the Fairy Knowe, Buchlyvie, Stirlingshire, 1975–8', *Proc Soc Antiq Scot* 128: 393–401.

Hunter, F 2001 'Roman and native in Scotland: new approaches', *Journal of Roman Archaeology* 14: 289–309.

Hunter, F 2007 *Beyond the Edge of Empire: Caledonians, Picts and Romans*. Inverness: Groam House Museum.

Hunter, F 2015 'Craft in Context: artefact production in later prehistoric Scotland', *in*

Hunter, F & Ralston, I (eds) *Scotland in Later Prehistoric Europe*, 225–46. Edinburgh: Society of Antiquaries of Scotland.

Jervise, A 1873 'Notice regarding a "Pict's House" and some other Antiquities in the Parish of Tealing, Forfarshire', *Proc Soc Antiq Scot* 10: 287–93.

La Motta, V M & Schiffer, M B 1999 'Formation processes of house floor assemblages', *in* Allison, P M (ed) *The Archaeology of Household Activities*, 19–29. London: Routledge.

Macinnes, L 1984 'Brochs and the Roman occupation of Lowland Scotland', *Proc Soc Antiq Scot* 114: 235–49.

MacKie, E W 1964 'Torwood, the Tappoch broch', *Discovery and Excavation in Scotland*: 50.

MacKie, E W 1982 'T*he Leckie broch, Stirlingshire: an interim report', Glasgow Archaeological Journal* 9: 60–72.

MacKie, E W 2007 *The Roundhouses, Brochs and Wheelhouses of Atlantic Scotland: Architecture and material culture. Part 2 (II): the Northern and Southern Mainland and the Western Isles*. Oxford: British Archaeological Reports, British Series, 444 (II).

MacKie, E W 2016 *Brochs and the Empire. The impact of Rome on Iron Age Scotland as seen in the Leckie broch excavations*. Oxford: Archaeopress.

Maclagan, C 1872 'On round castle and ancient dwellings of the Forth Valley, and its tributary the Teith', *Proc Soc Antiq Scot* 9: 29–44.

MacLaren, A 1958 'Excavations at Keir Hill, Gargunnock', *Proc Soc Antiq Scot* 91: 78–83.

MacRitchie, D 1900 'Description of an Earth-House at Pitcur, Forfarshire', *Proc Soc Antiq Scot* 34: 202–14.

Main, L 1998 'Excavation of a timber round-house and broch at the Fairy Knowe, Buchlyvie, Stirlingshire, 1975–8', *Proc Soc Antiq Scot* 128: 293–417.

McLaren, D 2013 'The Rotary Quern Stones', *in* Armit, I & MacKenzie, J (eds) *An Inherited Place: Broxmouth Hillfort and the south-east Scottish Iron Age*, 309–29. Edinburgh: Society of Antiquaries of Scotland.

McLean, A 2016 'Towers in the South: An analysis of six lowland brochs and their significance within the context of the early Roman occupations of Scotland', unpublished MA dissertation, University of Edinburgh.

Mercer, R 2018 *Native and Roman in the Northern Frontier: Excavations and Survey in a Later Prehistoric Landscape in Upper Eskdale, Dumfriesshire*. Edinburgh: Society of Antiquaries of Scotland.

Parker Pearson, M 1996 'Food, fertility and front doors in the first millennium BC', *in* Champion, T C & Collis, J (eds) *The Iron Age in Britain and Ireland: recent trends*, 117–32. Sheffield: Sheffield Academic Press.

Piggott, S 1951 'Excavations in the broch and hill-fort of Torwoodlee, Selkirkshire, 1950', *Proc Soc Antiq Scot* 85: 92–117.

Pope, R 2003 'Prehistoric Dwelling Circular Structures in North and Central Britain *c* 2500 BC – AD 500', unpublished PhD dissertation, University of Durham.

Proudfoot, E 1978 'Camelon native site', *Proc Soc Antiq Scot* 109: 112–28.

Ralston, I 2006 *Celtic Fortifications*. Stroud: Tempus Publishing.

RCAHMS 1963 *Stirlingshire: An inventory of the ancient monuments*, 2 vols. Edinburgh: HMSO.

Rideout, J S 1996 'Excavation of a promontory fort and a palisaded homestead at Lower Greenyards, Bannockburn, Stirling, 1982–5', *Proc Soc Antiq Scot* 126: 199–269.

Ross, A 1967 *Pagan Celtic Britain: Studies in Iconography and Tradition*. London: Routledge & Kegan Paul.

Ross, A 1974 'A pagan Celtic tricephalos from Netherton, Lanarkshire', *Glasgow Archaeological Journal* 3: 26–33.

ScARF 2012 Hunter, F & Carruthers, M (eds) *Iron Age Panel Report*, Scottish Archaeological Research Framework: Society of Antiquaries of Scotland. http://tinyurl.com/cx4nlt8. Accessed 10 April 2019.

Sheriff, J R 1995 'Prehistoric rock carvings in Angus', *Tayside and Fife Archaeological Journal* 1: 11–22.

Simpson, J Y 1865 'Appendix: On Ancient Sculpturings of Cups and Concentric Rings', *Proc Soc Antiq Scot* 6: 1–148.

Stallibrass, S 2009 'The way to a Roman soldier's heart: Did cattle droving supply the Hadrian's Wall area?', *in* Driessen, M, Heerer, S, Hendriks, J, Kemmers, F & Visser, R (eds), *Proceedings of the eighteenth annual theoretical Roman archaeology conference, Amsterdam 2008*, 101–12. Oxford: Oxbow Books.

Steer, K A 1956 'An early Iron Age homestead at West Plean, Stirlingshire', *Proc Soc Antiq Scot* 89: 227–51.

Taylor, D B 1982 'Excavation of a Promontory Fort, Broch and Souterrain at Hurly Hawkin, Angus', *Proc Soc Antiq Scot* 112: 215–53.

Thomson, J K 1969 'Wallstale Dun, Polmaise, Stirling', *Proc Soc Antiq Scot* 101: 119–21.

University of Oxford Radiocarbon Accelerator Unit calibration program. https://c14.arch.ox.ac.uk/oxcal3/oxcal.htm. Accessed 24 July 2019.

Williamson, S 2013 'An Investigation into the Reuse of Cup and Ring Marked Stones in Iron Age Settlements of South-East Scotland', unpublished MA dissertation, University of Edinburgh.

Willis, S 1998 'Iron Age and Roman pottery', *in* Main, L 'Excavation of a timber round-house and broch at the Fairy Knowe, Buchlyvie, Stirlingshire, 1975–8', *Proc Soc Antiq Scot* 128: 321–31.

Woolliscroft, D 2005 'East Coldoch, Stirling (Kincardine parish), Iron Age settlement', *Discovery and Excavation in Scotland*: 139.