

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository: <https://orca.cardiff.ac.uk/id/eprint/120544/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Seaman, Andy and Lane, Alan 2019. Excavation of the Ty'n-y-Coed Earthworks 2011-14: the Dinas Powys 'Southern Banks'. *Archaeologia Cambrensis* 168 , pp. 1-27.

Publishers page:

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



Excavation of the Ty'n-y-Coed earthworks 2011–14: the Dinas Powys 'Southern Banks'

By ANDY SEAMAN¹ and ALAN LANE²

with contributions by Jody Deacon,³ Helen Whelton and Lucy Cramp,⁴ Peter Webster,⁵ and Ian Dennis⁶

The Ty'n-y-Coed earthworks, also known as the Dinas Powys 'Southern Banks', lie 140m to the south of the important early medieval promontory fort known as Dinas Powys and were first trenched by Geoff Wainwright in the late 1950s as part of Leslie Alcock's excavation campaign. The Southern Banks were central to Alcock's interpretation of the main defences of the promontory as being a Norman period ringwork built by a native Welsh prince. This interpretation has been shown to be incorrect and the nature of the Southern Banks has become a significant issue for the understanding of Dinas Powys. As part of a reassessment of the Dinas Powys complex excavation and survey were undertaken on the Southern Banks between 2011 and 2014. The earthworks consists of two separate banks and ditches (Bank A and Bank B), which appear to be incomplete. Limited evidence was recovered in the new excavations, but the fieldwork has added significantly to our understanding of the date and function of the earthworks, and their relationship with the adjacent promontory fort. Bank B is interpreted as a univallate L-shaped settlement enclosure occupied during the Late Iron Age and potentially into the early Romano-British period. Sherds of an almost complete Glastonbury Ware bowl were recovered from the primary fill of the ditch, and are likely to represent the deliberate deposition of a significant vessel. The evidence for the date and function of Bank A is considerably weaker, and interpretation more ambiguous. It is suggested that part of the monument appears to be early medieval in date and is tentatively interpreted as an unfinished settlement enclosure.

INTRODUCTION

The Ty'n-y-Coed earthworks⁷ are located towards the southern end of a prominent whale-back ridge of Carboniferous limestone that lies between the valley of the river Cadoxton and a narrow gorge known as the Cwm George in the eastern Vale of Glamorgan, 5.5 kilometres west of Cardiff. The closest major settlement is the village of Dinas Powys (c. 800m to the south) though the monuments lie within the parish of the Michaelston-le-Pit (Fig. 1). The earthworks are a Scheduled Ancient Monument and are currently managed by the Woodland Trust. The monument consists of the north-west and north-east sides of a partial enclosure with dimensions of at least 60m north-east by 50m south-west. The notional enclosure is delineated by a L-shaped bank (known as Bank B) fronted by a ditch with a second straight-sided bank and ditch c. 13m to the north-west (known as Bank A). Bank A has a possible 'entrance' gap at its north-east end and a further short section of bank and ditch beyond (Fig. 2). The earthworks lie at c. 53 metres above Ordnance Datum, but topography of the ridge in this area rises gently from south to north and from west to east, and so the earthworks are slightly overlooked by higher ground to the north and east. A track leads towards the earthworks from the base of the hill on the south-east. It now terminates in the field to the south, but an estate map of the 1750s shows that it previously continued to the south-western termination of the banks (Glamorgan Archives, DF/VOL/26). A slight hollow-way also runs through the

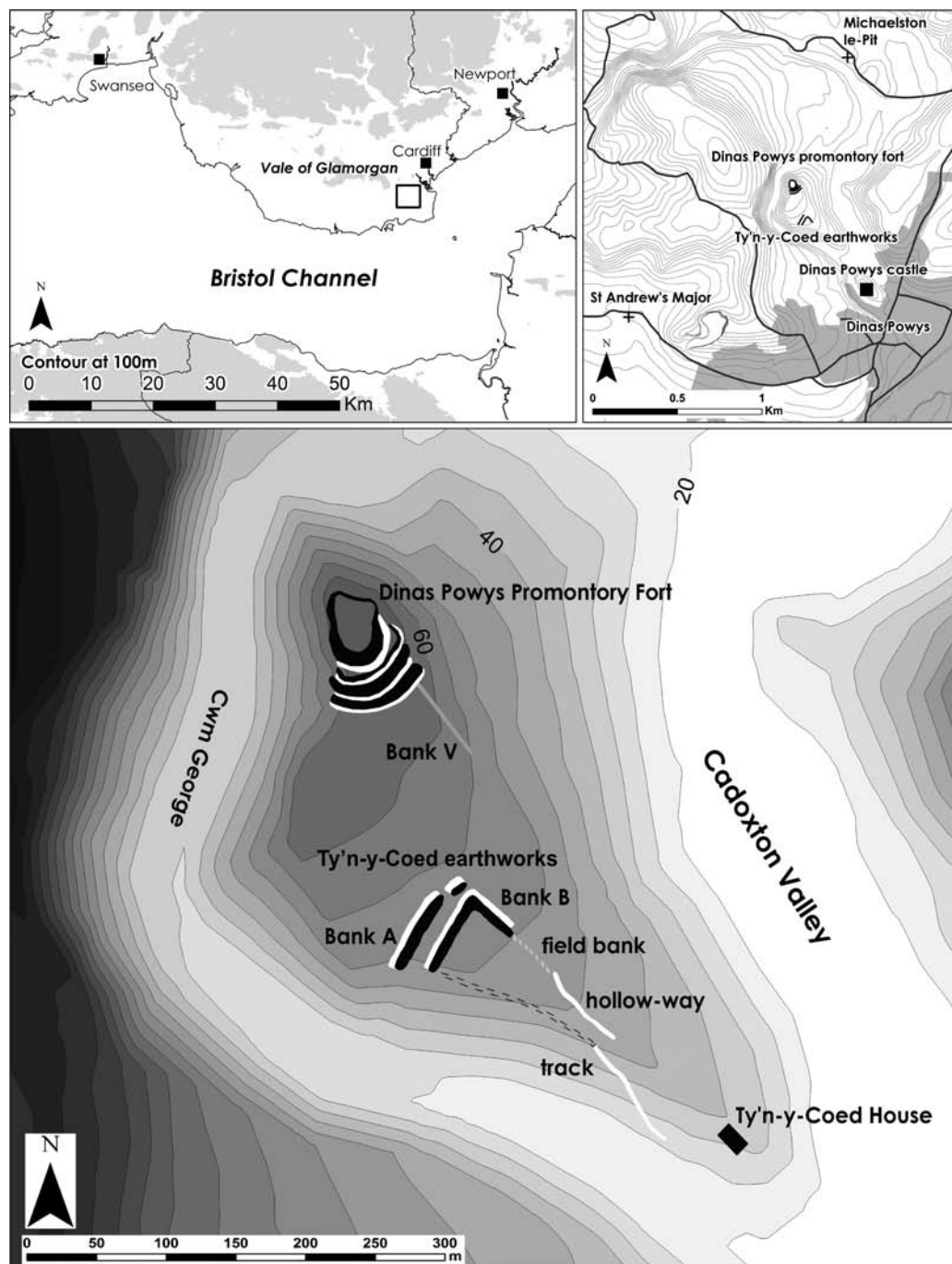


Fig. 1. Ty'n-y-Coed location map. After Alcock 1963 (based on survey by RCAHMW) with additions. Contours at 5m intervals. © Crown Copyright and Database Right (March 2018) OS (Digimap Licence).

southern field towards the south-eastern arm of Bank B. The monuments have been densely wooded since at least the early-nineteenth century, but historic mapping shows that the areas within Bank B and to the north of Bank A were under pasture as recently as the 1940s, and were previously under cultivation. The earthworks are located 140 metres south of a small but highly defended multivallate promontory fort known as Dinas Powys fort or Cwm George Camp⁸ which occupies the northern tip of the ridge. This promontory fort was extensively excavated by Leslie Alcock in the late 1950s (Alcock 1963). The quality and quantity of the post-Roman material recovered from the site is thus far unparalleled in Wales and Dinas Powys is frequently cited as a type-site of early medieval western Britain. The Ty'n-y-Coed earthworks were also trenched by Alcock, but minimal artefacts and dating evidence was recovered and their interpretation has remained ambiguous. The aims of the 2011–14 excavation, which forms part of a wider research project focused on the Dinas Powys promontory fort, were to establish the form, chronology and function of the Ty'n-y-Coed earthworks, and ascertain their relationship, if any, with the promontory fort. The excavations were undertaken over an eleven week period across four seasons, and were accompanied by a programme of topographic and geophysical survey.

Background

The earthworks are named after Ty'n-y-Coed ('house in the wood' or 'the woodland cottage'), a post-medieval farmhouse that lies at the southern end of the ridge on which the earthworks are situated (Fig. 1). The name Ty'n-y-Coed is first attested in 1786 (Pierce 1968, 156), but the property is called 'The Wood Farm' on the 1750s estate map, and if the earthworks had an earlier name it has not been recorded. Alcock referred to them as the 'Southern Banks', in reference to the promontory fort to the north. Here, Ty'n-y-Coed earthworks is preferred as it does not imply a relationship with the promontory fort or the existence of a unitary complete enclosure, neither of which can be proven.

Ty'n-y-Coed lay within the Cwrt-yr-Ala Estate throughout the nineteenth and early twentieth century, having previously been part of the Fonmon Estate between the Civil War and the late-eighteenth century. During the later medieval period most of the parish of Michaelston (later known as Michaelston-le-Pit) formed a sub-manor of the de Somery lordship of Dinas Powys, which had its *caput* at the twelfth-century stone castle c. 500m to the south-west of the earthworks (Griffiths 1985, 173–5, fig 2; RCAHMW 1991, 307–14). Evidence for landholding in the pre-Norman period is very limited, but it has been suggested that the Norman lordship may have perpetuated an earlier territory focused on the Dinas Powys promontory fort (Seaman 2013, 14). The earliest record of the earthworks is on the estate map referred to above, in which they are depicted as two parallel boundaries described as an 'ancient breastwork' in the schedule accompanying the map. The earthworks are not marked on the Tithe map of 1842, but their shape is preserved in a patch of woodland delineated by field boundaries. The first modern plan of the earthworks and the adjacent promontory fort was created by Mortimer Wheeler in the early 1920s (referred to in Alcock 1963, 6), but it has not been possible to locate a surviving copy. In the 1940s the earthworks were described by Hubert Savory as a 'large (?cattle) enclosure adjoining [Dinas Powys promontory fort] to the south' (Savory 1948–50, 156).

In the early 1950s the Royal Commission undertook a topographic survey of the earthworks and this was followed in 1958 by small-scale trial trenching directed by Leslie Alcock as part of his campaign of excavation focused on the adjacent fort (RCAHMW 1991, 95–100; Alcock 1963, 19–22, 81–2, 180–90, figs 4, 5, pl. VI). An innovative geophysical survey of the interior of the earthworks was undertaken as part of this work, but failed to produce significant data (Aitken 1959). Only one of Alcock's three trial trenches was excavated down to natural through both Banks A and B and very little material culture was recovered (Alcock 1963, fig. 3). Two sherds of 'black gritty pottery' were recovered from the make-up of Bank A, a number of slingstones were recovered in and around Ditch and Bank A, and Alcock also

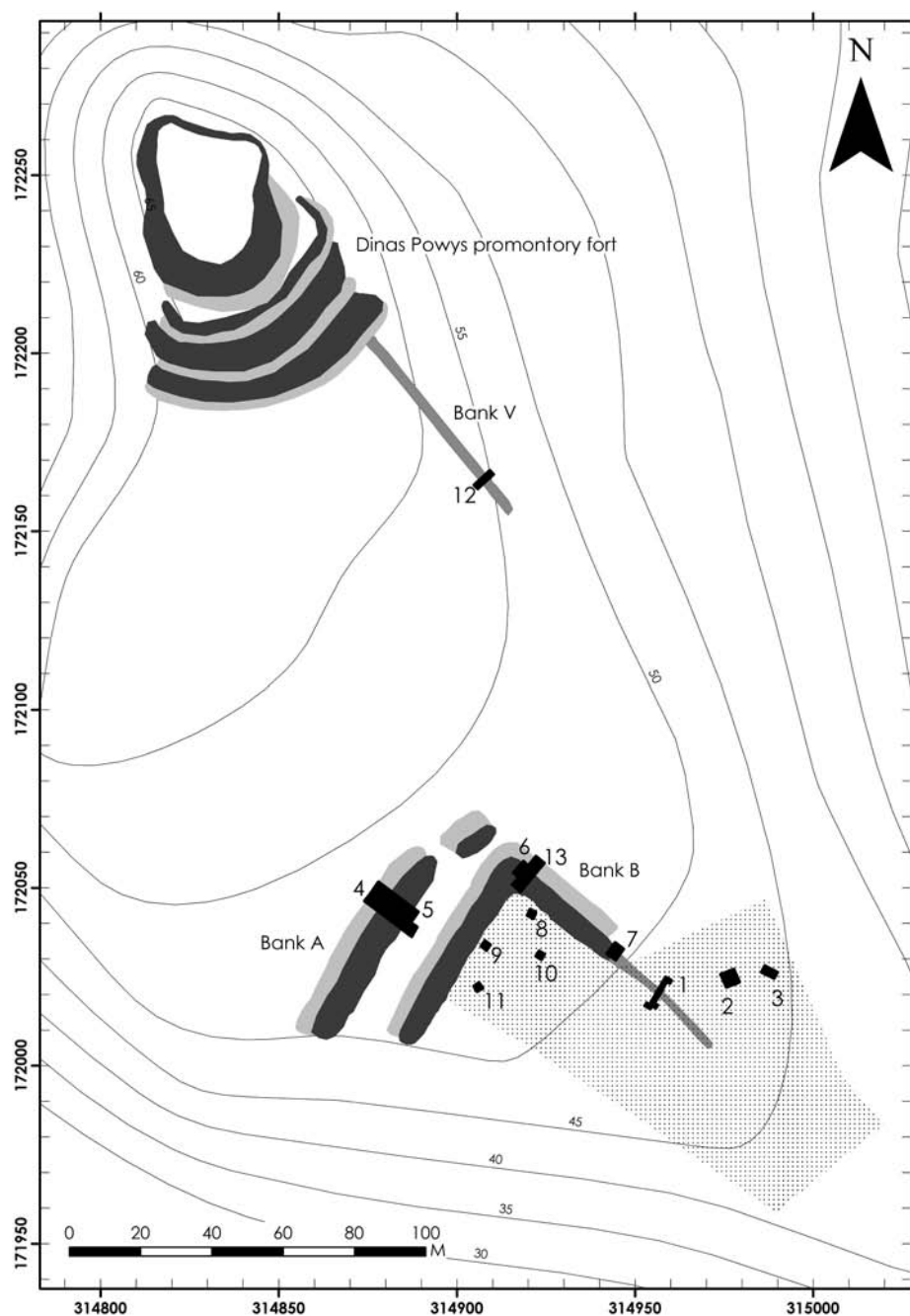


Fig. 2. Location of trenches excavated in 2011–2014. The area to the south of Bank B (stippled) was subject to resistivity and magnetometer survey, but no archaeological features were identified. After Alcock 1963 (based on survey by RCAHMW) with additions.

reported that a quantity of burn daub was recovered from a narrow trench between Bank A and Ditch B. Bank and Ditch B, however, produced no dating evidence at all. Subsequent study of the surviving animal bone by Roberta Gilchrist identified several large hunting dogs which had been buried in the upper fill of ditch B (1985, 26). These were initially thought to be ancient and of symbolic importance (Campbell 1991, 99–100) but radiocarbon dating indicated they were modern; their burial attributed to a local dog breeder (pers. comm. Leslie Alcock). Despite the limited evidence available Alcock tentatively suggested that the earthworks represented two distinct monuments; an incomplete Late Iron Age hill-slope enclosure (Bank A) and a Norman siegework (Bank B) associated with an earth and timber ‘castle-ringwork’ at the promontory fort (Alcock 1963, 22, 83). The earthworks were assigned different dates and functions, but Alcock argued both were incomplete and abandoned before they had been completed.

Alcock’s interpretations of the earthworks were accepted at the time of publication and reiterated by himself in 1987 and by the RCAHMW in 1991 (Alcock 1987; RCAHMW 1991, 95–8). Since the 1980s, however, doubts have arisen over Alcock’s interpretations (Campbell 1988, 58–61). This has come about as a result of the reinterpretation of the multivallate phase of the adjacent promontory fort. The majority of the finds from the promontory fort are dated to the late-fifth to seventh century, but Alcock only attributed a single bank and ditch to this phase. He interpreted the multivallate defences as a native Welsh late-eleventh/twelfth-century earth and timber castle-ringwork with an incomplete outer bailey, which had been besieged by an adjacent Norman siege work represented by Ty’n-y-Coed Bank B (Alcock 1963, 73–83). Both Ewan Campbell (1991, 89–99; 2007, fig. 68) and Ken Dark (1993, 67–9, fig. 17) questioned Alcock’s identification of a Norman period castle-ringwork, and convincingly proposed that the multivallate defences of the promontory fort should be attributed to the sixth to seventh centuries AD. This revised chronology was subsequently confirmed for the massive innermost rampart (Bank 1) through a programme of targeted radiocarbon dating of material from Alcock’s archive (Seaman 2013, 5–7). The interpretation of the Dinas Powys promontory fort as a medieval castle-ringwork and Ty’n-y-Coed Bank B as an adjacent siegework must, therefore, be dismissed. Ewan Campbell tentatively proposed an alternative phasing for the Ty’n-y-Coed earthworks (Campbell 1991, 99–100, fig. 144), but firm evidence was lacking. Thus, whilst Dinas Powys is a nationally significant monument, some major questions remain unanswered, not least of which is its relationship to the Ty’n-y-Coed earthworks.

EXCAVATION RESULTS

The excavation strategy was restricted in scope, and designed to answer the research questions whilst ensuring minimal disturbance to the scheduled monuments.⁹ The earthworks are in dense woodland and not accessible to vehicles, so all excavation was undertaken by hand. All archaeological deposits were dry-sieved, and bulk samples for environmental analysis were collected from ditch fills. Tree growth has caused significant damage to the monuments in places, and all of the archaeological deposits encountered were bioturbated to a greater or lesser extent. Moreover, the thin clayey soils of the Worcester 431 Association are prone to waterlogging (National Soil Resources Institute 2013), and the especially wet conditions of the summer of 2012 made excavation very difficult. Consequently, it was often difficult to define interfaces between contexts with certainty. These factors should be taken into account when assessing the interpretations presented below.

Bank A

Bank A runs in a north-easterly direction for 60m from the top of the western scarp-edge of the hill (Fig. 2). The ditch lies directly in front of the bank on the northern uphill side and there is no evidence

for an intervening berm. Whilst the bank rises directly from the scarp-edge there is a short gap between the terminal of the ditch and the western break of slope. The earthwork is most impressive towards its south-west terminal where the top of the bank stands 2.2m above the base of the ditch, but it becomes progressively smaller after running for about 38m where its course also deviates 10° to the east. At its north-east terminal the top of the bank stands 1.25m above the base of the ditch. There is a gap of around 6m between the north-east terminal of the main section of Bank A and the south-west terminal of the shorter section. The shorter section is aligned 10° further east and runs in a north-easterly direction for around 11m before fading away. This section is again fronted by a subtle ditch without any trace of a berm. It is a much slighter earthwork and the top of the bank is not much higher than the natural ground surface to the north. It is therefore possible that this section of the earthwork was not constructed from material quarried from the ditch, but instead represents an island between two ditches.

Two trenches were opened across Bank A. In 2012 Alcock's main trench (Cut SB1) was reopened and extended 0.5m to the north and south (Fig. 2, Trench 4), but whilst the sequence of deposits was broadly confirmed, minimal dating evidence was recovered (Seaman and Lane 2012). The trench was therefore extended 4m to the north-east in 2013. The larger trench allowed a more detailed understanding of the earthwork to be established (Fig. 2, Trench 5).

The bank was 7.5m wide and survived to a maximum height of 1.50m above the bedrock. A transverse section excavated across the bank deposits revealed the construction sequence very clearly (see Fig. 3). The bank had been constructed on top of a layer of dark buried soil (712), which must indicate a pre-bank phase of agriculture in part of the hilltop between Bank B and the promontory fort (the same layer was not found under Bank B). The bank itself consisted of four distinct dumps of material (715, 707, 714 and 713 — the latter two deposits were observed in plan, but not in the section recorded in Fig. 4) that had been quarried from the adjacent ditch (Fig. 4, top). It is clear from the sequence of the deposits that this part of the bank had been constructed from north-east to south-west. The upper layers of the bank were highly bioturbated, but patches of limestone rubble 704 survived in places and may represent remains of a rubble capping. A large spread of limestone rubble 705 lay at the base of the eastern side of the bank and extended beyond it for around 3m (see Fig. 5). This deposit was initially interpreted as deriving from the downward movement of the capping material of the bank and/or stone clearance from ground to the south of the earthwork. However, although some rubble may have slipped from the steep sides of the bank, this deposit could represent a deliberately laid surface to the rear of the rampart. Whilst much of the material appears to have been quarried from the ditch, some of the stones may have been robbed from the revetment of Bank B. Interpretation is speculative, but this may represent a rough path or trackway running along the rear of the bank. If this was the case no evidence for wear/resurfacing was identified. No finds were recovered from the bank deposits, but seven flints and two small sherds of possible Glastonbury Ware pottery were recovered from the buried soil 712. A single radiocarbon date of 2853–2476 cal. BC (2 sigma range) was also obtained from this layer (see below).

A 2m section was excavated across the bank and ditch to provide a complete profile (Fig. 4, top). No evidence of revetment, postholes or timber slots associated with the bank was identified. The ditch is rock-cut and has a U-shaped profile, although the irregular fracturing of the bedrock gives it uneven sides in places. The ditch is 4.85m at its widest point and cut to a depth of 1.22m below the current ground surface. The top of the ditch cut lay only 0.5m from the base of the rampart make-up, and there was hardly any berm between the bank and the ditch. The sequence of deposits in the ditch was broadly similar to that observed by Alcock (1963, fig. 4). Below the bioturbated topsoil (700) was a thick layer of clean mid-reddish brown clayey silt (702) which had accumulated from the north-west, most likely as a result of agricultural processes being undertaken in the area north of the earthworks during the late- and post-medieval period. Two small sherds of unidentifiable, but certainly post-medieval, glazed pottery



Fig. 3. Transverse section through Bank A, looking NW, showing the layer of dark buried soil 712 below the bank. The overlying bank deposits were built up from NE to SW. Scales 1m and 2m.

were recovered from this layer alongside residual finds of earlier date, including a sherd of thirteenth- or fourteenth-century Vale Ware, the tip of an iron knife blade, and tiny fragments of burnt daub. On the south-eastern side of the ditch 702 overlay a mid-orangey brown clay with very frequent medium to large limestone blocks (703). These stones appear to have derived from the adjacent bank, and the deposit may represent a discrete episode of bank collapse associated with a tree throw which was evident on the surface of the bank immediately above layer 703. Layer 703 overlay two silty clay deposits (708, 709), which were similar in composition to 702 and had accumulated from the north-west, again probably as the result of agriculture. Layer 709 overlay a deep and compact rubble and silty clay layer 710 which had accumulated from the south-east and was clearly derived from the collapse of the adjacent bank. The stones were generally small and are unlikely to have derived from a revetment. Layer 710 lay above the 0.25m primary fill (711). There was no obvious evidence for recuts, and 710 appears to have formed shortly after the ditch was initially cut. Apart from a single possible sling-stone, no artefacts were recovered from lower deposits within the ditch, but three radiocarbon dates of cal. AD 582–661, cal. AD 660–770, and 795–542 cal. BC (at 2 sigma range) were obtained from samples of hazel charcoal (see below).

Bank B

Bank B lies to the south and east of Bank A (Fig. 2). It rises from the top of the south-western scarp of the hill and runs roughly parallel to Bank A for 55m, before then turning 95° clockwise and then running on a south-east alignment for around another 50m. Bank B is fronted by a ditch (the profile of which may have been altered by its use as a footpath) and again there appears to be no visible berm between the bank and ditch. Bank B is noticeably smaller than Bank A, and the ditch of the south-east aligned segment

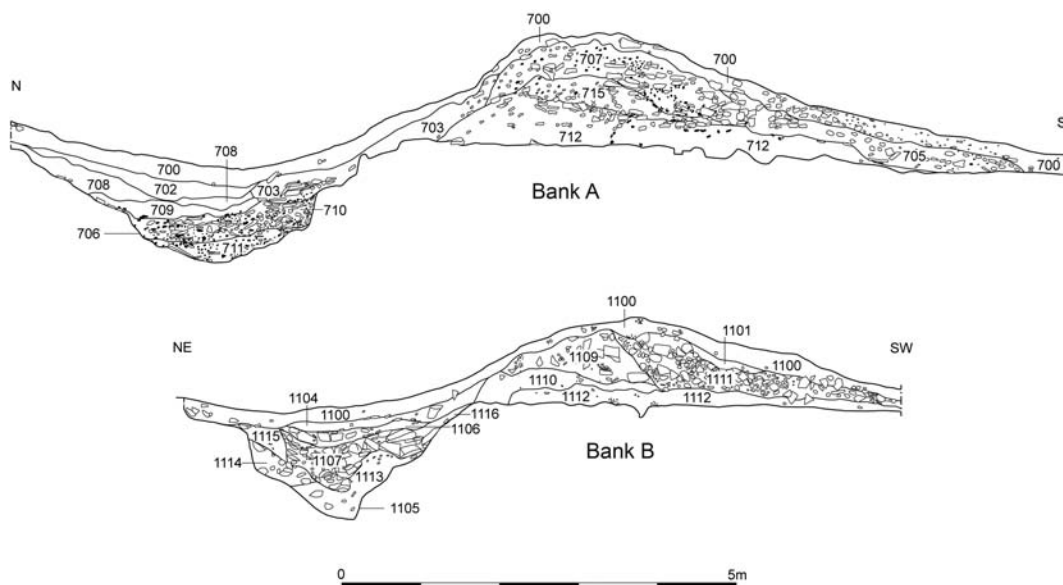


Fig. 4. Section drawings of Banks A and B.



Fig. 5. Stone surface 705 to south of Bank A, looking NW. The extent of tree growth on the monuments is also visible. Scale 2m.

gets progressively shallower along its length. After the ditch fades away the line of the bank continues for around another 11m, but it becomes progressively smaller and more diffuse. The earthwork notionally encloses an area of *c.* 0.2 hectares, but geophysical survey failed to identify evidence for any form of enclosing earthwork to the south.

Four trenches were opened across Bank B (see Fig. 2). Trenches 6 and 13 were positioned close to the turn of the bank. The remit of trench 6 was to ascertain whether the eastern part of Bank B displayed evidence of a stone revetment similar to that identified by Alcock on the western side (Alcock 1963, pl. VI B). This trench revealed the stone capping of the bank and the upper ditch fill, but no evidence of revetment was visible. In 2014 permission was granted to excavate a 3 × 10m section across both the ditch and bank in this area. The larger trench allowed a more detailed understanding of the earthwork to be established and also led to the recovery of vital dating evidence (Fig. 2, Trench 13).

Within the area of Trench 13 the bank was 5.3m wide and survived to a height of 1.13m above the bedrock. Bank B was of a noticeably different construction to Bank A, and it was constructed on top of a layer of buried soil (1112) that showed no evidence for disturbance through agriculture (unlike that below Bank A; contra Alcock 1963, 22). A single sherd of what can tentatively be identified as Glastonbury Ware was recovered from the surface of this deposit and alongside two radiocarbon dates on fragments of hazel charcoal provides a *terminus post quem* for its construction (see below). The core of the bank consisted of two dumps of clay and rubble (1109) and (1110) derived from material quarried from the adjacent ditch (Fig. 4). This clay and rubble core was overlain by extensive deposits of limestone rubble (1111 and 1108 — the latter was observed in plan, but not in the section in Fig. 4) that included large blocks of quarried stone. Similar deposits of limestone rubble were also observed in the adjacent ditch (1107 and 1116), and were interpreted as the remains of a disturbed and collapsed revetment. Thus, the bank was formed of a clay and rubble core that was revetted front and back with walls of limestone. No postholes or slots for timber lacing were identified, although root disturbance may have removed evidence for the latter. Moreover, the average spacing of revetment postholes from the nearby settlement at Coed y Cymdda was between 2.5m and 4m (Owen-John 1988, 65), so it is possible that the trench was positioned between postholes. The revetment might have been constructed directly on the old ground surface directly behind the cut of the ditch, but it is possible that slippage of the clay and rubble core following the collapse of the revetment has distorted the original configuration.

The V-shaped ditch 1105 was 2.9m wide and cut to a depth of 1.43m below the current ground surface, but uneven fracturing and degradation of the bedrock produced an irregular profile. The ditch had been allowed to silt up with deposits 1113, 1114 and 1115 before it was recut. Shortly after recutting the ditch was substantially filled by 1107 and 1106, which contained large amounts of limestone, including very large freshly quarried blocks (Fig. 6). These deposits must derive from the collapse of the bank revetment, and the quantity of stone and presence of large voids between them suggests they accumulated quickly, perhaps as a result of the deliberate destruction of the bank. The revetment collapse was sealed by 1104, a reddish brown clayey silt that is interpreted as natural silting of the shallow depression left by the ditch. A large number of sherds from a single Glastonbury Ware bowl were recovered from 1113 with a smaller number from 1114 (Fig. 8). The majority of the sherds from 1113 were concentrated on the south-western side of the ditch close to its base, but sherds from the same vessel were also recovered from 1114 higher up on the northern-eastern side. It is possible that the vessel had originally been placed intact and upright within the base of the ditch (see below), but if this was the case the vessel must have been subsequently disturbed and the sherds partly scattered. This could have occurred through the recutting of the ditch or the collapse of the rampart. Alternatively, the vessel could have been broken elsewhere before the sherds were incorporated in the ditch deposits, or potentially the vessel could have been broken through the act of



Fig. 6. Surface of suggested collapsed revetment material 1107 in Ditch B, looking SE. Scale 2m.

deposition. A sherd of samian ware was recovered from (1104), the upper fill above the revetment collapse (see below), suggesting that Bank B had collapsed by the early Roman period.

Trench 7 was positioned 30m to the south-east of Trench 13, where the earthwork is much slighter (Fig. 2). The aim was to ascertain whether traces of revetment could be identified in this area, and to investigate an apparent break and/or change of character of the earthwork observed in the topographic survey (Seaman and Lane 2013b). Below the topsoil two distinct deposits were identified, one to the south-east and one to the north-west with a slight depression running in-between. Both these deposits were heavily bioturbated and root disturbed. The deposit to the west side of the trench (1001) is likely to have been continuous with Bank B, but appears to have terminated within the trench. This can be interpreted as the original termination of Bank B, but no trace of revetment or ditch was visible.

The deposit to the east of the trench (1002) was very different in character and not part of the same feature, although it did form the north-western end of a low bank that extended a further 17m to the south-east. Below 1002 were two diffuse stony deposits 1003 and 1004 that overlay the natural subsoil 1005 and limestone bedrock. Although forming a slight earthwork this feature cannot be described as a rampart and there was no associated ditch. This feature was also inspected in Trench 1, which was located 14m to the south-east. Immediately below the turf a low 1.5–1.8m wide aligned rubble bank 004 was identified which was similar in character to 1002. To the west of this deposit and also lying immediately below the turf layer was a clay and rubble deposit 003 interpreted as spread from the adjacent bank. Again no trace of an associated ditch was identified, and 004 and 1002 were interpreted as the remains of a field boundary. Thus, we can be confident that Bank B terminated before its line was picked-up, probably in the late/post-medieval period, by creation of a field boundary.

The semi-enclosed area defined by Bank B was subject to a magnetometer survey, but no features of archaeological significance were identified (Seaman and Lane 2013b). Test pits 8, 9, 10 and 11 were therefore located in this area with the aim of firstly testing for the presence and/or survival of archaeological

deposits and secondly recovering evidence relating to activity and/or occupation. In all trenches a heavily bioturbated mid reddish brown silty clay topsoil lay directly over the limestone bedrock to a thickness of 0.22–0.20m, and no features of archaeological significance were identified. A small number of sherds of post-medieval pottery and glass were recovered, but are more likely to reflect manuring than occupation, as the Tithe map and apportionment show this area was cultivated in the early-nineteenth century.¹⁰ Thus, it is likely that any original archaeological deposits have been destroyed by cultivation, although it should be noted that very few features were identified within the late Bronze Age enclosure at Coed y Cymdda, despite nearly half of the interior having been excavated (Owen-John 1988, 70, fig. 3).

Area south-east of the Ty’n-y-Coed earthworks

Trenches 2 and 3 were located to the south-east of the earthworks and targeted anomalies identified within a resistivity survey (Seaman 2011). No evidence for occupation or activity was identified, and the geophysical anomalies were interpreted as being geological in origin.

Alcock’s Bank V

Trench 12 was located to the north of the Ty’n-y-Coed earthworks across a subtle bank that Alcock (1963, 83) described as Bank V of the promontory fort (Fig. 2). The bank runs in a south-easterly direction for 60m from the south-east side of Bank 4, the outermost circuit of defences (RCAHMW 1991, fig. 61). Despite the bank being much slighter than others, it was originally interpreted as the remains of an incomplete outer bailey associated with the supposedly Norman period castle-ringwork. Alcock’s interpretation and dating was questioned by Campbell (1991, 99), who noted that a sherd of post-medieval pottery had been recovered from the bank. He suggested that this feature was associated with post-medieval field boundaries on the hill that shared the same alignment. This interpretation is supported by Trench 12, which revealed a subtle 3.4m-wide, 0.3m high, loose rubble bank (1201) lying immediately below the topsoil/leaf litter and above the natural. The feature lies parallel to a natural break of slope several metres to the east, but no ditch was identified and there was no structure or coursing to the rubble. There is nothing which suggests it was defensive in nature, and it is most likely to have been formed from stone clearance when the ridge top was under cultivation in the late- and post-medieval periods.

RADIOCARBON DATES

Seven AMS determinations were provided by the 14Chrono Centre, Belfast and Beta Analytic (Fig. 7). The calibrated ranges were calculated in OxCal v4.3 using the IntCal13 calibration curve. The wood charcoal was recovered through flotation of bulk samples, and identified under a light microscope. It should be noted that the quantity of charcoal and size of fragments within all the samples was small, and the dated fragments may have been older than the contexts in which they were deposited.

Beta-366908

Sample: hazel charcoal (*Corylus avellana* L.)

Context: 1112, pre-Bank B soil

Radiocarbon date BP: 4560±30 BP

Calibrated date at 1 sigma range: 3367–3130 cal. BC

Calibrated date at 2 sigma range: 3487–3107 cal. BC

Calibrated date at 1 sigma range: 1403–1298 cal. BC

Calibrated date at 2 sigma range: 1418–1264 cal. BC

UBA-35027

Sample: organic residue

Context: organic residue on Glastonbury Ware sherd from 1113, primary fill of Ditch B

Radiocarbon date BP: 2019±26 BP

Calibrated date at 1 sigma range: 46 cal. BC – cal. AD 16

Calibrated date at 2 sigma range: 92 cal. BC – cal. AD 54

Beta-366907

Sample: hazel charcoal (*Corylus avellana* L.)

Context: 1112, pre-Bank B soil

Radiocarbon date BP: 3080±30 BP

Beta-332145

Sample: hazel charcoal (*Corylus avellana* L.)

Context: 712, pre-Bank A soil

Radiocarbon date BP: 4060±40 BP

Calibrated date at 1 sigma range: 2834–2493 cal. BC

Calibrated date at 2 sigma range: 2853–2476 cal. BC

Beta-366906

Sample: hazel charcoal (*Corylus avellana* L.)

Context: 711 primary fill of Ditch A

Radiocarbon date BP: 1420±30 BP

Calibrated date at 1 sigma range: cal. AD 613–651

Calibrated date at 2 sigma range: cal. AD 582–661

Beta-366905

Sample: hazel charcoal (*Corylus avellana* L.)

Context: 711 primary fill of Ditch A

Radiocarbon date BP: 1300±30 BP

Calibrated date at 1 sigma range: cal. AD 669–764

Calibrated date at 2 sigma range: cal. AD 660–770

UBA-32964

Sample: hazel charcoal (*Corylus avellana* L.)

Context: 711 primary fill of Ditch A

Radiocarbon date BP: 2520±30 BP

Calibrated date at 1 sigma range: 784–558 cal. BC

Calibrated date at 2 sigma range: 795–542 cal. BC

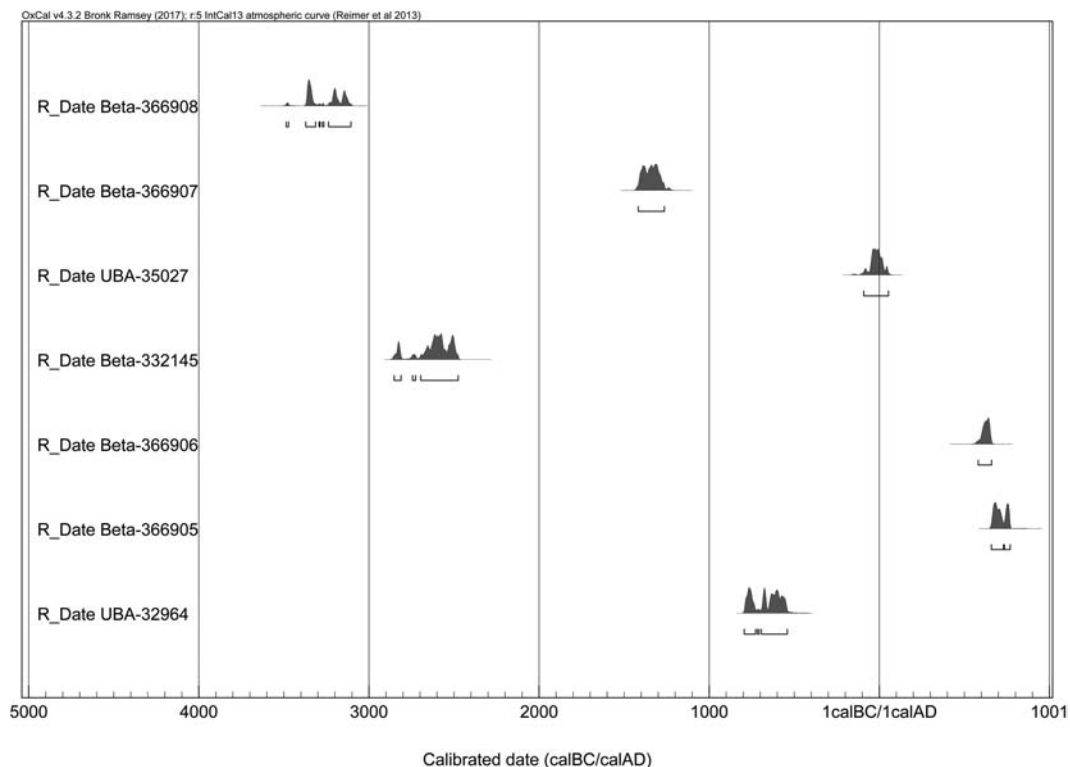


Fig. 7. Plot of calibrated radiocarbon dates.

GLASTONBURY WARE BOWL

By Jody Deacon

58 sherds weighing 258g of Glastonbury Ware (known as South Western Decorated Ware in Devon and Cornwall) were recovered from the lower fills of Ditch B in Trench 13. The majority of the sherds were recovered from context 1113, but a small number came from 1114. These sherds derive from a single bowl, which is the only example of a near complete decorated Glastonbury Ware vessel from Wales (Fig.

8). Given its completeness, and since it appears to have been deliberately deposited either whole or in fragments within the base of the ditch, it will be considered in some detail. Several small fragments of undiagnostic form, but with an identical fabric, were also recovered from buried soil 1112 sealed by Bank B in Trench 13, and 712, an agricultural soil sealed by Bank A in Trench 4. These probably also represent Glastonbury Ware.

Fabric and manufacture

The fabric contains calcite inclusions and is soft with a reduced appearance throughout. Calcite inclusions are one of the main groups identified by Peacock in his petrological analysis of Glastonbury Ware which he interpreted as having derived from the Carboniferous Limestone of the Mendips (Peacock 1969, 48, fig. 2; see also Allen 1998, 38). However, a case can also be made for local production of this material (Gwilt 2007, 304; Webster *et al.* 2006, 80). The bowl is handmade and coil built with the clay drawn up on the outer surface of the vessel and downwards on the internal surface. Both surfaces have been carefully smoothed with the outer surface being burnished around the rim, neck and base.

Form and decoration

The vessel is a small globular bowl 115mm in height with a maximum rim diameter of 140mm and a base diameter of 90mm. Following the form series created for Danebury (Cunliffe 1984, 259–307) and later modified by Brown (1991) and Woodward (2000) for Maiden Castle and Cadbury Castle respectively the Ty'n-y-Coed bowl would be classified as a Type BD6 bowl. Further subdivision of this group is proposed by Quinnell (2011, 163) for the Cornish material with form BD6.1 offering the closest parallel. The rim is rounded and everted with an inward sloping neck creating a closed profile. The neck is ornamented with a single shallow cordon created by horizontal tooled grooves above and below, a characteristic of South Western Decorated Ware in Cornwall as exemplified by the material from Trevelgue Head (Quinnell, 2011, 165), but also seen within the assemblages from Glastonbury (Bulleid and Grey 1917, pl. LXXVI, xiv) and Llandough (Webster 1988, fig. 93, P91). The shoulder of the bowl is gently rounded and narrows to an unusual tall, hollow, base defined by a narrow cordon created by a pair of horizontal tooled lines. This form finds good parallels with vessels 2 and 3 from Sudbrook (Nash-Williams 1939, 61, fig. 5) and P127 and P247 from Glastonbury Lake Village (Bulleid and Grey 1917, pls LXXIV and LXXXIV) which, although more highly ornamented, are all of comparable diameter and height.

The entire surface of the vessel has been finished with fine horizontal, and occasionally slightly diagonal, burnishing extending over the rim and including the upper part of the internal surface. The decorated zone of the bowl is defined by a pair of horizontal tooled lines directly beneath the neck and covers the entire shoulder and lower part of the bowl. The motif appears to be a variation on the swag motif commonly seen within Glastonbury and South Western Decorated assemblages. Around the circumference of the bowl three broad swags, created by bands infilled with closely spaced lattice, sweep from the shoulder to the cordon at the base. Three further bands create 'half-swags' around the lower part of the bowl between the complete swags. The three semi-circular zones created around the shoulder are filled, in their left halves at least, by hanging triangles infilled with closely spaced lattice. Lattice motif is visible within the right half of the zone but too little of this area survives to be certain of the overall motif. Similar cut-off swags and infilled bands have been noted on P235 and P257 from Meare Village East (Rouillard 1987, 212, fig. 5.22).

For the majority of decorated Glastonbury and South Western Decorated wares the decoration is restricted to the upper part of the body and shoulder and in Devon and Cornwall the decorated zone is specifically restricted to the shoulder (Quinnell 2011, 163). It is unusual for the decoration to extend all the way to the base of the vessel, although occasional examples can be found within the Glastonbury

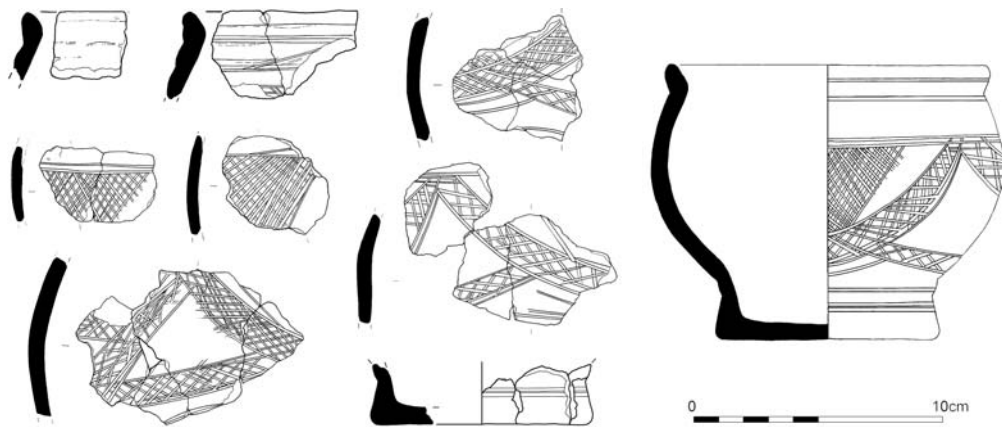


Fig. 8. Selected sherds from the single Glastonbury Ware bowl from lower fills of Ditch B, with reconstructed vessel profile. Scale 1:3.

Lake Village and Meare Village East assemblages (Bulleid and Gray 1917, P143, P149, P196, pls XXIII, LXXIV and LXXIX; Rouillard 1987, P254, P221, figs 5.22, 5.26). For the Ty'n-y-Coed bowl the extended decoration may be due to the body of the bowl being raised up on the tall, hollow base allowing far greater visibility around the lower part of the bowl.

Condition, wear and use

The bowl is highly fragmented, with many of the breaks occurring at or shortly after excavation, due to the highly brittle and friable nature of calcite tempered wares. Approximately 60% of the rim is present, 90% of the circumference of the base and an estimated 70% of the body sherds. Numerous tiny fragments which cannot be joined probably make up the remainder of the body suggesting that the bowl was largely complete when deposited although old breaks around the top of the hollow base and beneath the neck demonstrate that the vessel was largely broken in antiquity. The position of these older breaks at the weakest points in the vessel might indicate that the bowl was placed upright in the ditch and collapsed *in situ*, with subsequent dispersal taking place through the recutting of the ditch or the collapse of the rampart. However, since fragments of the base were upside-down when discovered, it is also possible that the vessel had been broken before being deposited, or was even broken in the act of deposition.

There is a marked difference in the surface condition of the sherds from the shoulder of the vessel. Three sherds from this zone survive, all of which have a markedly more abraded appearance, with highly rounded edges, pitted surfaces and barely visible decoration, compared with joining sherds from both above and below. Again this is suggestive of collapse *in situ*, with the majority of the rim falling inside the pot leaving the shoulder zone exposed to greater abrasion.

Date

Glastonbury Ware sherds are well documented, albeit in very small numbers, across south-east Wales at Late Iron Age hillforts such as Llanmelin (Nash-Williams 1933), Sudbrook (Nash-Williams 1939; Sell 2001), Castle Ditches, Llancarfan (Hogg 1976), and Caerau (Oliver Davis pers. comm.); within midden contexts at Llanmaes (Gwilt *et al.* 2016), and at Romano-British farmsteads such as Cae Summerhouse (Davies 1966), Whitton (Webster 1981), Biglis and Llandough (Webster 1988). Unfortunately at the majority of these sites the stratigraphy and dating of the decorated Iron Age pottery is mixed or uncertain

and the vessels are usually ascribed a broad date between the late second century BC and the mid first century AD. While it has become clear that plain calcite-gritted wares were probably in use in the region by the later part of the second century BC (Webster *et al.* 2006, 79–80) it is unclear at which point during the period decorated wares began to be used (Gwilt 2007, 304). The hollow bases from Sudbrook, which were found in ‘occupation layers on lower cobbled floor’ of both Hut 1 and 2 which also contained Severn Valley Wares and ‘Belgic’ sinuous and carinated bowls, tentatively hint at an early first century AD date for the decorated Glastonbury Wares at that site. Ceramic Assemblage 8 from Cadbury Castle in Somerset, which includes Glastonbury vessels, dates to between around 250 BC and the mid-first century AD, and decorated vessels from early excavations at Meare Village East, West and Glastonbury are all ascribed broadly similar dates (Woodward 2000, 42, table 2). South Western Decorated wares from Cornwall may also have origins in the third century BC although it is interesting to note that the use of neck cordons is suggested to be a later development influenced by the introduction of Cordoned Ware in the first century BC (Quinnell 2011, 180). No associated material was recovered from Ty’n-y-Coed, but a radiocarbon date on organic residue adhering to a sherd of the vessel produced a calibrated date range of 92 cal. BC – cal. AD 54 (2 sigma range). This fits comfortably within the dates suggested from other sites, and suggests that decorated forms were in use during the first century BC and first half of the first century AD.

Significance

The highly decorative nature of this vessel and its globular bowl form sets it apart from the more widely used plain jars which dominate Middle to Later Iron Age assemblages in south-east Wales and indicates a different functional and symbolic role. Moreover, it appears to have been deliberately deposited either whole or in fragments at the base of the enclosure ditch, a practice echoed elsewhere in Iron Age Britain (Hill 1995), including at New House Park, Chepstow where large fragments of wide-mouthed ‘Belgic’ bowls, dating to AD 20–80, were deliberately placed in the Phase 1 ditches (Ponsford and Robic 2008). Ceremonial use need not be at odds with the analysis of the organic residues (see below), which suggest that vessel was used for cooking, particularly if the latter was associated with ritual feasting (Woodward 2008, 303–4). The significance of decorated material when contrasted against a background of the largely plain and drab artefacts of the period has been explored by Joy (2011), who argued that these items were used differently to plain items and tended to be deposited in a different way. For pottery, he uses the example of Wardy Hill ringwork, Cambridgeshire to illustrate this (Joy 2011, 207). In a similar manner to the known assemblages of Iron Age pottery from south-east Wales, the rare decorated sherds tend to be small, but where large decorated sherds occur, they are deposited differently. While the Ty’n-y-Coed vessel is, so far, the only example of a near-complete decorated vessel from Wales, its apparent deposition upright within the base of a ditch hints at a similar conceptual division.

Summary of organic residue analysis. By Helen Whelton and Lucy Cramp

Extensive areas of thick, black residue are preserved on the internal surface of the bowl, particularly within the hollow base. Samples of this residue were submitted for analysis at the Department of Archaeology, University of Bristol. Two sherds of the Glastonbury Ware bowl from Trench 13 were analysed using an acidified methanol extraction, followed by gas chromatography (GC), GC-mass spectrometry (GC-MS) and GC combustion-isotope ratio mass spectrometry (GC-C-IRMS) in order to identify the presence and origins of potentially preserved organic molecules. A full report is included in the project archive (Whelton and Cramp 2017), but a summary is presented here. Lipid residue analyses revealed good preservation of absorbed lipids. Gas chromatograms of the extracts showed the presence of free fatty acids in a significant proportion of lipid extracts, confirming the presence of degraded animal fats. Mid-chain ketones were identified in one pottery extract, which confirms extensive heating of the sherds from which

they derived. Ruminant dairy and ruminant carcass fats comprise the animal fat types identified within the sherds. The organic residue analysis confirms, therefore, that despite its form and the lack of evidence for burning or sooting on the exterior of the vessel, it was used for cooking.

SAMIAN WARE

By Peter Webster

Six joining fragments (one sherd broken in excavation) of a Central Gaulish samian form 37 bowl, probably from a freestyle design were recovered from context 1104 in Trench 6. The ovolo is missing, but the bead row which lay immediately beneath it is present. Below are fragments of four animals of which a lion and leaping dog are recognisable. Below the dog is the upper part of a row of small circles. The vessel can be dated to *c.* AD 125–150.

FLINTWORK

By Ian Dennis

The flint assemblage recovered from the 2011–14 excavations is small, comprising a total of 11 worked flints (Fig. 9). None are diagnostic of one particular prehistoric period. Of these 11 flints, three have further retouch. The worked flints from Bank A all come from 712, the pre-bank soil, or 713, a redeposited pre-bank soil that had been incorporated into the bank make-up. These flints consist of one awl (no. 1), one snapped bladelet with a small notch (no. 2), and one broken cortical primary flake with retouch (no. 3). One rejuvenation flake (no. 4) was found in 1110, a make-up layer in the Bank B. The remainder of the lithic assemblage consists of two secondary flakes and two chips from 712, one cortical primary flake (beach pebble) and one burnt cortical primary flake (beach pebble) from 702, and one large split cortical beach pebble from the top soil in Trench 5. Classifications have been adopted from previous lithic studies (Andrefsky 2006; Butler 2005; Clark 1960).

The small size of the worked flint assemblage is characteristic of South Wales and other regions where only small quantities of natural flint occur (usually pebble flint deposited by glacial flow or rivers). It is likely that the majority of the worked flint derives from local pebble flint which has patinated to a grey-blue colour. The exceptions are the awl (Fig. 9, 1) and one of the secondary flakes (not illustrated), which have patinated white. This colouration suggests they may have derived from the chalk downlands in southern England and were then manuported to the site. The flint flakes have been manufactured by using hard hammer technique (a raised bulb of percussion is present) and soft hammer technique (a diffused bulb of percussion is present).

The assemblage is generally consistent with Neolithic and early Bronze Age flint industries (Butler 2005). The flints at Ty'n-y-Coed were all recovered from what appear to be Iron Age deposits, and are likely to represent residual finds incorporated within later contexts. The same can also be suggested for the larger lithic assemblage (169 flints) recovered from Alcock's excavations on the promontory fort, the majority of which were not recovered from the prehistoric 'N layers' (Alcock 1963, 168–75). At the time of publication, Alcock assigned much of the flint to the Iron Age/post-Roman period; however, the assemblage is characteristic of the Neolithic to Early Bronze Age with a number of diagnostic flints from each period. The recently discovered Caerau Neolithic causewayed enclosure and associated occupation also confirms a picture of varied Neolithic activity in the Cardiff area (Davis and Sharples 2016).

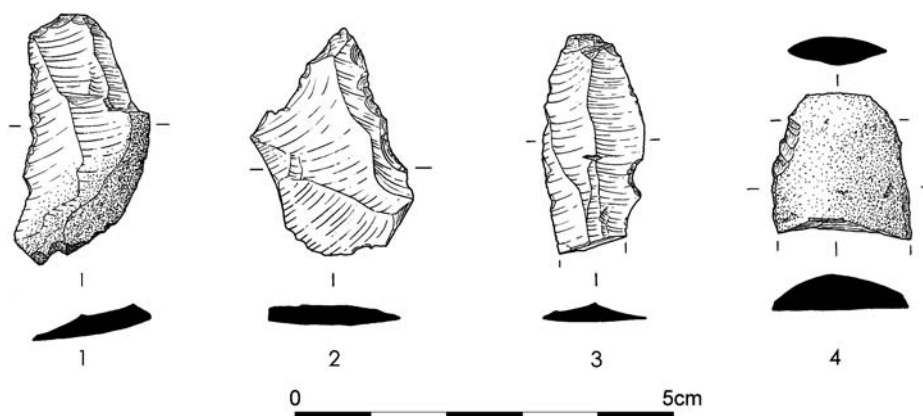


Fig. 9. Flints with retouch. Scale 1:1.

The recovery of the prehistoric flint tools and flint-working debitage from Ty'n-y-Coed and Dinas Powys is interesting. Neolithic and Early Bronze Age occupation and use of the hill is strongly suggested by these assemblages, and the presence of primary flakes, rejuvenation flakes, cores and flake debitage may indicate a series of individual knapping episodes on the hill. Although Neolithic or early Bronze Age occupation features have not been identified on either site, it is likely that later occupation has destroyed, truncated or masked some features from these earlier periods. Thus the assemblage pushes back the earliest activity on the hilltop from the Late Bronze Age into the Neolithic.

SLING-STONES

Ovoid pebbles were recovered from the primary fill of Ditch A 711, the upper fill of Ditch B 1106, and the clay core of Bank B 1110. These weighed 26g, 46g, and 61g respectively, and sit comfortably within the range of sling-stone weights reported for the Late Iron Age and Romano-British farmstead at Biglis (Parkhouse 1988, 61). These pebbles could have been brought to the site for use as sling-stones, and Alcock (1963, 19) also reported the discovery of 'a number of sling stones in and about Bank A', but geological transportation cannot be discounted (pers. comm. Tim Young). Sling-stones were used for both hunting and combat, and although they are usually attributed to the Iron Age and Romano-British periods a later date cannot be discounted (Wastling 2009, 431–2).

COPPER ALLOY BRACELET

A curved, slightly tapered, copper alloy strip with raised edges (Fig. 10) was found unstratified in topsoil close to the edge of Trench 5. The wider end appears to be a properly finished edge, but the other is broken. It is fairly crudely decorated with short, slightly curved, incisions, in three parallel lines along its length. The central line splits near the wider end to form a V-shape. Length 38mm (broken); maximum width 11mm, tapering to 9mm; thickness 2mm.

The fragment is reminiscent of early-Roman wide-cuff strip bracelets of Cool's Group IX (Cool 1983, 144–7, 764–7). This type is dated to the second half of the first century AD, and has been interpreted by

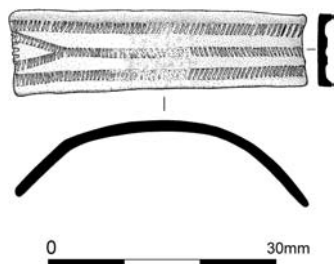


Fig. 10. Copper alloy bracelet, trench 5, unstratified. First century AD. Scale 1:1.

Nina Crummy as *armillae* (military awards akin to campaign medals) (Crummy 2005, 98). The Ty'n-y-Coed example has similarities to Crummy's Group C, but the decoration is executed comparatively poorly, the angled incisions do not sit exactly on a ridge and have been applied individually, rather than with a stamp or roller. Nevertheless, it is broadly comparable to crude examples from South Cadbury (Somerset) and Poundbury (Dorset) (Foster 2000, 146, fig. 70.10; Sparey-Green 1987, fig. 68.9). The distribution of this bracelet type is largely focused in south-east England, but there are outliers further west (Crummy 2005, fig. 2).

DISCUSSION

The excavated evidence suggests that the Banks A and B are not part of a single unitary monument, and here we shall attempt to examine their date and function. However, it is important to remember that because the site is a scheduled ancient monument no more than 2.5 per cent of the site was allowed to be excavated and the dataset is very limited.

Date of the earthworks

The dating evidence for Bank B is stronger and more secure than that for Bank A, and will be considered first. Two radiocarbon dates and the single undecorated sherd of probable Glastonbury Ware from the surface of a buried soil layer sealed by Bank B (1112) provide a *terminus post quem* for its construction. Glastonbury Ware is thought to have been in circulation in south Wales between the late-second century BC and the mid-first century AD, and so the pottery evidence suggests a later construction date than the two radiocarbon dates obtained on hazel charcoal from the same layer: 3487–3107 cal. BC and 1418–1264 cal. BC (at 2 sigma). It should be noted, however, that the single sherd was small and fragmentary, and identified as Glastonbury Ware on the basis of its fabric rather than form or decoration. Nevertheless, sherds of a potentially complete, but fragmentary, Glastonbury Ware vessel were found securely stratified within the lower ditch fill (1113) below the revetment collapse. A radiocarbon date on organic residue adhering to one of the sherds produced a date range of 92 cal. BC – cal. AD 54 (at 2 sigma). In addition the decorated sherd of samian ware was recovered from the upper ditch fill (1104) above the revetment collapse. Taken together, the evidence suggests that Bank B was constructed during the Late Iron Age, and that the monument was in a state of disrepair by the mid-second century AD.

Apart from the samian sherd there is no further evidence for Romano-British occupation, although there is early Roman material from elsewhere on the hilltop. An unstratified early Roman bracelet recovered from the vicinity of Bank A is discussed above, and a small assemblage of Roman material was recovered during Alcock's excavations on the promontory fort. This material included a first-century Nauheim brooch, a shale core, a single radiate of Salonina (AD 253–260), and a small assemblage of

coarse wares (36 sherds) and samian (18 sherds) (Alcock 1963, 23–5). Most of the pottery dated to the first and second centuries, although some later sherds of Oxford Ware were also present (Campbell 1991, 429). Both Alcock (1963, 23–5) and Campbell (1991, 58, 430–1) have argued convincingly that this material did not represent Romano-British occupation on the promontory and must have been brought to site from a nearby Romano-British settlement. In the light of the dating evidence discussed above, it is possible that an early Romano-British settlement associated with Bank B was the source of this material though the absence of finds from the excavated areas may suggest another location.

The dating evidence for Bank A is more ambiguous and largely dependent upon radiocarbon dates obtained on small charcoal samples that could be residual. A *terminus post quem* for Bank A is provided by two sherds of prehistoric pottery that Alcock reported from 'low down in the make-up' of the bank (Alcock 1963, 19; Campbell 1991, 99). Campbell has confirmed that one of these was a large fresh calcite gritted bodysherd (in litt.). This can now be complemented by two small sherds identified by Deacon as Glastonbury Ware and a radiocarbon date on hazel charcoal from 712, an agricultural soil sealed by the bank deposits. The radiocarbon date produced a date range of 2853–2476 cal. BC (at 2 sigma), and does not give a tighter chronology than the Late Iron Age *terminus post quem* provided by the pottery evidence. It does, however, alongside the pieces of flint recovered from the same layer, indicate a phase of Neolithic/Bronze Age activity in the vicinity. Three radiocarbon dates were obtained on samples of hazel charcoal from 711 the primary fill of the ditch. These dates present problems, however: one produced an Early Iron Age date range of 795–542 cal. BC (at 2 sigma), and whilst the other two produced early medieval dates of cal. AD 582–661 and cal. AD 660–770 (at 2 sigma) the overlap of the calibrated ranges is not statistically significant. Thus material of different ages were entering the ditch when it started to silt-up. Nevertheless, these dates provide a strong indication that the ditch was not cut before the mid-seventh century AD. Indeed, whilst we must be careful in arguing from negative evidence, we can note that whilst a sherd of later medieval Vale Ware was recovered from 702, a deposit that sealed the bank collapse 706, no sherds were recovered from below this layer. Thus, although very tentative, it is possible that Bank A dates to the seventh or eighth century AD. This is thought to be around the time that the adjacent promontory fort was abandoned (Campbell 1991, 109). If this is the case and the monuments were related, it could explain why the ditch silted up quite rapidly and was not recut, and the monument itself appears to have been left unfinished.

Function and interpretation of the Ty'n-y-Coed earthworks

The limitations of the evidence should not be underestimated when considering the function of the Ty'n-y-Coed earthworks. This is particularly so for Bank A, which does not make sense in its current form and appears to have been left unfinished. Its size, particularly towards the south-western end, and rock-cut ditch suggests that it was not simply a field-boundary, and Alcock (1963, 19–21) interpreted it as an unfinished Late Iron Age hillslope enclosure with a north-west facing entrance. This interpretation was based upon extremely limited evidence however, and can now be challenged on chronological grounds. The relationship between the two sections of the bank either side of the 'entrance gap' is difficult to determine. The shorter section is much slighter, and whilst Alcock excavated two very small trenches across part of the bank and ditch terminal he recovered no dating evidence (Alcock 1963, fig. 5). Thus, there is no *a priori* reason to suggest that both sections were constructed at the same time. Indeed, it is possible that the 'entrance gap' and shorter section relates to late- and post-medieval agricultural use of the hilltop. Superficially, the larger 60m section of Bank A displays similarities with a 'cross ridge dyke' (RCAHMW 1976a, 5–11; Hankinson and Caseldine 2007), but since these are thought to have controlled upland route ways associated with transhumance this interpretation cannot be sustained.

It is possible, but by no means certain, that Bank A was somehow associated with early medieval occupation of the promontory fort, 140 m to the north. The ditch is to the north of the bank and therefore

appears to ‘face’ the promontory fort. The laid stone surface to south of the bank 705 suggests, as might be expected, that the intended focus of activity was on its inside, and it was from this area that Alcock (1963, 21) reported a quantity of burn daub. However, we must remember that the monument may be unfinished, and we cannot be certain what was intended for its final form. It is possible that Bank A formed the southern part of an unrealised bifocal arrangement of settlement, perhaps associated with intended reoccupation of the interior of Bank B as suggested by Campbell (1991, 100). A possible parallel to this is Crickley Hill (Gloucestershire), where a timber-palisaded enclosure containing rectilinear houses located towards the centre of the hillfort and a small cluster of rectilinear sunken-floored buildings associated with grass-tempered pottery 200m to the south-east have been interpreted as juxtaposed high/low status settlements (Dixon 1988, 73–8; Dark 1994, fig. 26E; Jarrett 2011, 5), although these excavations have not been published and dating evidence is limited. Early medieval reoccupation of Iron Age and Romano-British enclosures is known elsewhere in Wales (see examples discussed in Edwards and Lane 1988, 68–9, 97–8, 99–100). Alternatively, it is possible that it is much later in date, and formed part of the later medieval agricultural landscape, or potentially even the beginning of a deer park pale. The evidence in support of any of these interpretations is limited, however, and given the difficulties of survival and access even further excavation may yield little more in the way of positive evidence.

It is possible to make more affirmative conclusions about the function of Bank B, but this monument also presents interpretive difficulties. The rock-cut ditch and revetted bank represent a substantial investment of labour, but the south-east arm gets progressively smaller along its length before eventually fading away, and we can be confident that the bank and ditch did not form a complete enclosure. Whilst this could suggest that its builders abandoned their project prior to it being completed, there is evidence to suggest that small incomplete/partial enclosures were a distinct settlement type during the Bronze Age and Iron Age. The RCAHMW (1976b, 13) identified several examples elsewhere in Glamorgan that occupy similar topographic positions to Bank B and are comparable in size, including Coed y Cymdda, Blaen-cwm Bach, Gwersyll, Tor-Gro, Cefn Morfudd, Mynydd y Fforest, and Gron Gaer. Whilst these sites are curvilinear in form, Davis’ recent analysis of aerial photography and lidar data identified several rectilinear examples in Glamorgan, including Green Down, Derry Farm, Cowshed Field, and Lavernock, although these are usually represented by three rather than two sides of enclosure (Davis 2017, fig. 7). Ty’n-y-Coed is also distinct in that the bank and ditch of the south-eastern arm fade away rather coming to an abrupt end. Incomplete rectilinear enclosures of less than 1 hectare are also known through aerial photography in the Bristol Avon region (Powlesland 2009, 48, fig. 59), Hampshire (Palmer 1984, 54), and Kent (RCAHME 1989), whilst examples dating to the Middle and Late Bronze Age have been excavated at Down Farm and Angle Ditch in Wiltshire (Barrett *et al.* 1991). Since few have been excavated it is difficult to determine whether these sites are incomplete due to erosion/destruction of the earthworks, abandonment prior to completion, or if the missing parts were enclosed by some other means, such as a palisade or fence, or whether the design was deliberate. The excavator of the incomplete late Bronze Age curvilinear enclosure at Coed y Cymdda (2.5 kilometres to the NW of Ty’n-y-Coed), suggested that the site was abandoned prior to the completion of the enclosure, on the basis of a lack of material culture, the absence of occupation deposits including hearths or round house gullies, and the absence of recutting in the enclosure ditch (Owen-John 1988). In contrast, Middle Bronze Age occupation of the partially ditched rectilinear enclosures at Down Farm (Wiltshire) was demonstrated by the presence of roundhouses and midden deposits, and the partial ditch circuit was augmented by a timber palisade/fence (Barrett *et al.* 1991, 209, fig. 5.41).

At Ty’n-y-Coed, geophysical survey and trial trenching failed to reveal features within the area enclosed by Bank B, but this should not be surprising given the small size of the permitted excavation and fact that the area was ploughed during the post-medieval period. Nevertheless, a small fragment of burnt daub was

recovered from the make-up of the denuded post-medieval field boundary that was sampled in Trench 1, and a single fragment of flint and a possible sling stone were recovered from the buried soil layer below Bank B. Despite the lack of features within the enclosure, the deposit of Glastonbury Ware, possibly deliberately placed within the base of the ditch, and the recutting of the ditch suggest that it was occupied and remained in use for a period of time. Indeed, the likelihood that this occupation was associated with agricultural activity on the hilltop is supported by the charcoal rich soil (712) preserved below Bank A from which pottery fragments of a similar fabric to the Glastonbury Ware were recovered. Thus, there is sufficient evidence to describe the monument as a univallate L-shaped settlement enclosure of c. 0.2 hectares, which was occupied during the Late Iron Age and potentially into the early Romano-British period.

No evidence for a palisade, fence or hedge that could have augmented the incomplete ditch and bank has been identified, but the presence of one cannot be ruled out. Why only part of the settlement was 'defended' is difficult to determine, but it would appear that protection from would-be attackers was not a primary concern. Collis (1996, 89–90) has considered the functions of Iron Age settlement enclosures beyond defence, including the delimitation of activity areas and displays of status, whilst Hingley (1990) has examined the symbolism of settlement boundaries. Bank A was not located in an especially prominent position, would not have been visible from much of surrounding low ground, and the bank would have faced away from the likely direction of approach (Seaman and Sucharyna Thomas forthcoming). Indeed, given its downslope position on the hilltop, the thin clayey soils and direction of natural drainage, it is possible that the 'defences' primarily served a more pragmatic role, such as preventing surface water runoff from entering the settlement area.

The Glastonbury Ware bowl from Trench 13 may have been placed intact and upright within the base of the ditch, where it was left exposed long enough for the vessel to collapse in on itself (see above), although if this was the case the sherds must have later been dispersed. The bowl could have had special significance as ceremonial vessel, and the residue analysis suggests that it had been used for cooking. There is considerable evidence for placed deposits in Iron Age settlements, although much of the evidence comes from pits rather than ditches, and sherds of broken pots rather than complete vessels (Hill 1995). The Ty'n-y-Coed bowl is rare in this manner, and is likely to have been deliberately chosen for deposition because of its special significance.

Sequence of settlement on the hilltop

The evidence from the 2011–14 excavations can be taken together with Alcock's excavations and their subsequent re-evaluation by Campbell (1991), Dark (1993), and Seaman (2013) to present a more comprehensive, if still incomplete picture of occupation on the hilltop. The earliest phase is represented by an assemblage of flints from the promontory fort (Alcock 1963, 168–75) and Ty'n-y-Coed, and two late Neolithic/early Bronze Age radiocarbon dates from soil layers sealed by Banks A and B (see above). At present it is not possible to say much about the nature of this activity, although the flint assemblage is indicative of a series individual knapping episodes, and the quantity of flint from the fort, which includes a barbed and tanged arrowhead, blades, scrapers, awls, and flakes, could suggest that this area was a focus of activity. Sherds of prehistoric pottery recovered from pre-rampart deposits in the promontory fort include forms of late Middle Bronze Age to Late Bronze Age date (Jody Deacon in litt.; cf. Alcock 1963, 16; Campbell 1991, 428; who dated this material to the Iron Age and Late Bronze Age respectively). In contrast pottery incorporated into the make-up of Banks 1 and 3, has a slightly later character, being much thinner walled and displaying the finger-tipping decoration characteristic of the Early Iron Age period (Jody Deacon in litt.). Much of the prehistoric material was recovered from early medieval contexts, so it is difficult to determine the nature of activity. Nevertheless, a small number of cattle, pig, and sheep bones

were recovered from pre-rampart deposits, and it possible that postholes and stakeholes in the south-east part of the promontory and below Bank 3 were associated with prehistoric activity. Both Alcock (1963, 27) and Campbell (1991, 55) discussed the possibility that Bank 2 was prehistoric in date, but ultimately favoured construction in the fifth or sixth century AD. The dating evidence for Bank 2 should not be overstated, however, and whilst it is true that the distribution of prehistoric sherds extended either side of the bank, suggesting that occupation was not constrained by it, only two small sherds were recovered from below it (Campbell 1991, fig. 90). Indeed, when discussing a single sherd of early medieval import ware which was also found below the bank Alcock (1963, 27) noted that the area was much disturbed by animal burrows. Thus, Bank 2 is effectively undated, and whilst Alcock argued that the focus of prehistoric settlement probably lay outside of the excavated area (Alcock 1963, 18–9) it remains a possibility that Bank 2 was associated with occupation on the north end of the promontory between the Middle Bronze Age and Early Iron Age.

The only evidence for Bronze Age and Early Iron Age activity at the Ty'n-y-Coed earthworks, are radiocarbon dates on hazel charcoal from below Bank B and the primary fill of Bank A (see above). There is no Middle or Late Iron Age material from the promontory fort, but Ty'n-y-Coed Bank B and its L-shaped enclosure appears to have been constructed at this time, and was probably associated with the agricultural activity evidenced below Bank A. Thus, their construction appears to mark a local shift in the focus of occupation away from the promontory fort. This phase of occupation may have extended into the second century AD, but there is little evidence for Romano-British occupation at either Ty'n-y-Coed or the promontory fort in the third and fourth centuries, when settlement shifted away from hilltop locations (Seaman 2010, 228).

The internationally significant post-Roman occupation on the promontory fort is discussed in detail by Alcock (1963; 1987), Campbell (1991; 2007), Edwards and Lane (1988, 58–61), and Seaman (2013), and will not be considered here at length. The initial phase of post-Roman occupation appears to have commenced in the mid- to late-fifth century and was probably enclosed by Bank 2. During the mid- to late-sixth century the massive Bank 1 was constructed inside of Bank 2, reducing the occupied area down to under 0.1 hectare, and at later dates, Banks 3 and 4 were added. Ty'n-y-Coed Bank A may have been instigated as a second lower status settlement focus or successor to the promontory fort. In either scenario it appears not to have been completed. The end of occupation on the hilltop is difficult to determine, but there is no material culture from the promontory fort which need date later than *c.* AD 700. Most of the other high-status defended settlements known in Wales were also abandoned around that time, possibly as part of the wider processes of socio-political and economic change which took place during the 'long eighth century' (Seaman 2016, 43). Wendy Davies' detailed examination of the Llandaff charters provides important evidence about south-east Wales at this time (Davies 1978, 65–98), and it is tempting to associate the abandonment of Dinas Powys with the rise of the dynasty of Meurig ap Tewdrig (d. *c.* 665). Meurig and his descents gained control over the whole of the south-east Wales during the seventh and eighth centuries at the expense of several independent 'petty kingships', one of which has been argued to have been associated with Dinas Powys (Davies 1978, 93–4; Seaman 2013, 12–14).

Now that Alcock's Norman-period castle-ringwork and adjacent siegework can be removed from the sequence, it appears that the hilltop was not inhabited throughout the later Middle Ages and post-medieval period, although memory of the promontory fort is preserved in a reference to the 'yoldecastel' in an early-fourteenth century extent of the de Ralegh manor of Michaelston.¹¹ After the Norman Conquest settlement probably focused on the site of Dinas Powys Castle (RCAHMW 1991, 307–14), and a small nucleated settlement at Michaelston-le-Pit (Griffiths 1985, 180). However, these settlements co-existed with single farmsteads, and whilst Ty'n-y-Coed House, which occupies the southern slope of the hill is post-medieval in origin, it is possible that a medieval precursor was located in the vicinity. A handful of

sherds of later medieval pottery from the promontory fort and Ty'n-y-Coed indicate low-level activity during this period, most likely associated with agriculture. By the eighteenth century the earthworks had been incorporated into a network of field boundaries that are depicted on the 1750s estate map. It is possible that the north-east 'extension' of Bank A and the field boundary sampled in Trench 1 were created as part of this agricultural landscape, and the hollow-way and track leading from Ty'n-y-Coed House probably also related to this activity.

Suggested future work

The 2011–14 excavations have added significantly to our understanding of Dinas Powys and Ty'n-y-Coed earthworks, but a number of important questions remain unanswered and require further research. The relationship between the two sections of Bank A could be investigated through excavation of the shorter section to the north-east of the 'entrance', and it is possible that further excavation in the area between Banks A and B could reveal evidence relating to its function. Open area excavation within the area defined by Bank B, not all of which is wooded, could also reveal evidence relating to settlement in this area though soils were shallow and preservation poor in the area investigated. There are considerable opportunities for exploring the promontory fort in more detail, both in terms of re-analysis of material within the Alcock archive, and further fieldwork, including high resolution lidar survey and excavation. Work is needed to resolve the nature of prehistoric activity on the promontory, and the phasing of the defences and in particular Bank 2. Moreover, the rich early medieval midden deposits to rear of Bank 1 are otherwise unparalleled in Wales, and selective re-excavation and sampling could yield significant data pertaining to settlement activity and the economy of the site.

ACKNOWLEDGEMENTS

We are grateful to a number of people who supported and facilitated the excavations. In particular we would like to thank: Mr and Mrs Watts (Ty'n-y-Coed House); Chris Matts and John Mitchell (Woodland Trust); Louise Mees and Jonathan Berry (Cadw); Nick Wells, Tudur Davies, Leo Sucharyna Thomas, Sebastian Schuckelt, Belle Nielson, Vicky Owen, Andrew Martin, Peter Butterworth, and Matthew Austin (site supervisors); and Nicola Emmerson, Kirsty Beecham, Emily Johnson, Lisa Gray, Tim Young, Jody Deacon, Nina Crummy, Evan Chapman, Peter Webster, Niall Sharples, Oliver Davis, Ewan Campbell, Tim Champion, Sarah King and Sue Virgo. Much of the excavation was undertaken by Cardiff and Canterbury undergraduate students and local volunteers who worked extremely hard in what were often very challenging conditions. Their good humour and hard work is greatly appreciated. The illustrations were prepared by Laura Hogg, Kirsty Harding and Rachel Roberts (Cardiff University). The fieldwork was funded by Canterbury Christ Church and Cardiff Universities and grants from the Cambrian Archaeological Association and Medieval Settlement Research Group.

NOTES

1. Archaeology Programme, School of Humanities, Canterbury Christ Church University, North Holmes Road, CT1 1QU.
2. School of History, Archaeology and Religion, Cardiff University, John Percival Building, Colum Drive, Cardiff, CF10 3EU.
3. National Museum Cardiff, Cathays Park, Cardiff, CF10 3NP.

4. Department of Anthropology and Archaeology, University of Bristol, 43 Woodland Road, Bristol, BS8 1UU.
5. National Museum Cardiff, Cathays Park, Cardiff, CF10 3NP.
6. School of History, Archaeology and Religion, Cardiff University, John Percival Building, Colum Drive, Cardiff, CF10 3EU.
7. Glamorgan-Gwent Archaeological Trust (GGAT), Historic Environment Record (HER), PRN 00015s; ST 14999 72032.
8. GGAT HER PRN 00013s; ST 14848 72291.
9. The archive is currently with the excavator in Canterbury, where it is being prepared for deposition with the National Museum Wales, Cardiff.
10. Glamorgan Archives, P43/1/2.
11. Somerset Heritage Centre, DD\WO/47/1/1.

BIBLIOGRAPHY

- Aitken, M. J., 1959. 'Magnetic prospecting', *Archaeometry* 2, 32–6.
- Alcock, L., 1963. *Dinas Powys: An Iron Age, Dark Age and Early Medieval Settlement in Glamorgan* (Cardiff: University of Wales Press).
- 1987. *Economy, Society and Warfare among the Britons and Saxons* (Cardiff: University of Wales Press).
- Allen, J. R. L., 1998. 'Late Iron Age and earliest Roman calcite-tempered ware from sites on the Severn Estuary Levels: character and distribution', *Studia Celtica* 32, 27–42.
- Andrefsky, W., 2006. *Lithics: Macroscopic Approaches to Analysis* (Cambridge: Cambridge University Press).
- Barrett, J. C., Bradley, R. and Green, M., 1991. *Landscape, Monuments and Society: The Prehistory of Cranborne Chase* (Cambridge: Cambridge University Press).
- Brown, L., 1991. 'Later prehistoric pottery', in N. Sharples. *Maiden Castle. Excavations and Field Survey 1985–6*, Archaeological Report 19 (London: English Heritage).
- Bulleid, A. and St George Gray, H., 1917. *The Glastonbury Lake Village*, 2 vols (Glastonbury: Glastonbury Antiquarian Society), vol. 2.
- Butler, C., 2005. *Prehistoric Flintwork* (Stroud: History Press).
- Campbell, E., 1988. 'Dinas Powys', in N. Edwards and A. Lane, *Early Medieval Settlement in Wales AD 400–1100* (Cardiff and Bangor: University of Wales), 58–61.
- 1991. 'Imported Goods in the Early Medieval Celtic West: With Special Reference to Dinas Powys', unpublished PhD thesis, University of Wales, Cardiff.
- 2007. *Continental and Mediterranean Imports to Atlantic Britain and Ireland, AD 400–800*, CBA Research Report 157 (York, Council for British Archaeology).
- Clarke, J. G. D., 1960. 'Excavations at the Neolithic site at Mildenhall Suffolk', *Proceedings Prehistoric Society* 26, 202–45.
- Collis, J. R., 1996. 'Hill-forts, enclosures, and boundaries', in T. C. Champion and J. R. Collis (eds), *The Iron Age in Britain and Ireland: Recent Trends* (Sheffield: J. R. Collis), 87–94.
- Cool, H., 1983. 'Roman personal ornaments made of metal, excluding brooches, from southern Britain', unpublished PhD thesis, University of Wales, Cardiff.

- Crummy, N., 2005. 'From bracelets to battle-honours: military *armillae* from the Roman Conquest of Britain', in N. Crummy (ed.), *Image, Craft and the Classical World. Essays in Honour of Donald Bailey and Catherine Johns* (Montanac: Éditions Monique Mergoil), 93–105.
- Cunliffe, B., 1984. *Danebury: An Iron age Hillfort in Hampshire Vol. 2, The Excavations 1969–1978: The Finds*, CBA Research Report 52b (London: Council for British Archaeology).
- Dark, K., 1993. *Discovery by Design: The identification of secular elite settlements in western Britain A.D. 400–700*, British Archaeological Reports, British Series 237 (Oxford).
- 1994. *Civitas to Kingdom: British Political Continuity 300–800* (Leicester: Leicester University Press).
- Davies, J., 1966. 'Excavations at Cae Summerhouse, Tythegston 1966', *Morgannwg* 10, 54–9.
- Davies, W., 1978. *An Early Welsh Microcosm: Studies in the Llandaff Charters* (London: Royal Historical Society).
- Davis, O., 2017. 'Filling the gaps: the Iron Age in Cardiff and the Vale of Glamorgan', *Proceedings of the Prehistoric Society* 83, 225–56.
- Davis, O. P. and Sharples, N., 2016. 'Excavations at Caerau Hillfort, Cardiff, South Wales, 2015: An Interim Report', Cardiff Studies in Archaeology Specialist Report No. 34 (Cardiff: Department of Archaeology and Conservation, Cardiff University).
- Dixon, P., 1988. 'Crickley Hill 1969–87', *Current Archaeology* 110, 73–8.
- Edwards, N. and Lane, A., 1988. *Early Medieval Settlements in Wales* (Cardiff and Bangor: University of Wales).
- Foster, J., 2000. 'Copper-alloy bracelets', in A. Woodward, J. Barrett, and P. Freeman, *Cadbury Castle Somerset: The later prehistoric and early historic archaeology*, (London: English Heritage), 192.
- Gilchrist, R., 1985. 'The Animal Bones from Dinas Powys, Glamorgan', unpublished undergraduate dissertation, Department of Archaeology, University of York.
- Griffiths, M., 1985. 'The manor in medieval Glamorgan: the estates of the de Raleigh family in the fourteenth and fifteenth centuries', *Bulletin of the Board of Celtic Studies* 32, 173–201.
- Gwilt, A., 2007. 'Silent Silures? Locating people and places in the Iron Age of south Wales', in C. Haselgrove and T. Moore (eds), *The Late Iron Age in Britain and Beyond* (Oxford: Oxbow), 297–328.
- Gwilt, A., Lodwick, M., Deacon, J., Wells, N., Madgwick, R. and Young, T., 2016. 'Ephemeral abundance at Llanmaes: exploring the residues and resonances of an Earliest Iron Age midden and its associated archaeological context in the Vale of Glamorgan', in J. Koch and B. Cunliffe, *Celtic from the West 3: Atlantic Europe in the Metal Ages – questions of shared language* (Oxford: Oxbow), 277–303.
- Hankinson, R. and Caseldine, A., 2007. 'Short dykes in Powys and their origins', *Archaeological Journal* 163, 264–9.
- Hill, J. D., 1995. *Ritual and Rubbish in the Iron Age of Wessex, A study on the Formation of a Specific Archaeological Record*, British Archaeological Report, British Series 242 (Oxford).
- Hingley, R., 1990. 'Boundaries surrounding Iron Age and Romano-British Settlements', *Scottish Archaeological Review* 7, 96–103.
- Hogg, A. H. A., 1976. 'Castle Ditches, Llancarfan, Glamorgan', *Archaeologia Cambrensis* 125, 13–39.
- Jarrett, K., 2011. 'A Summary of Roman and Early Medieval activity at Crickley Hill, Gloucestershire', unpublished interim report.
- Joy, J., 2011. 'Fancy objects' in the British Iron Age: why decorate?', *Proceedings of the Prehistoric Society* 77, 205–29.
- Nash-Williams, V. E., 1933. 'An Early Iron Age hill-fort at Llanmelin, near Caerwent, Monmouthshire', *Archaeologia Cambrensis* 88, 237–346.

- Nash-Williams, V. E., 1939. 'An Early Iron Age coastal camp at Sudbrook, near the Severn Tunnel, Monmouthshire', *Archaeologia Cambrensis* 88, 237–346.
- National Soil Resources Institute, 2013. 'Academic Soils Site Report for location 314949E, 172015N', National Soil Resources Institute, Cranfield University, available online at <<https://landis.org.uk/sitereporter/>>.
- Owen-John, H. S., 1988. 'A hill-slope enclosure in Coed y Cymdda, near Wenvoe, South Glamorgan', *Archaeologia Cambrensis* 137, 43–98.
- Palmer, R., 1984. *Danebury, An Iron Age hillfort in Hampshire. An aerial photographic interpretation of its environs* (London: RCHME).
- Parkhouse, J., 1988. 'Stone objects', in D. M. Robinson, *Biglis, Caldicot and Llandough: Three Late Iron Age and Romano-British Sites in South-East Wales, Excavations 1977–79*, British Archaeological Reports, British Series 188 (Oxford), 60–3.
- Peacock, D. P. S., 1969. 'A contribution to the study of Glastonbury Ware from south-western Britain', *Antiquaries Journal* 49, 41–61.
- Pierce, G., O., 1968. *The Place-names of the Dinas Powys Hundred* (Cardiff, University of Wales Press).
- Ponsford, M. and Robic, J. Y., 2008. 'Newhouse Park, Chepstow, 1995–2007: A prehistoric and Roman site on the Severn Estuary', Cardiff, Cardiff Archaeological Consultants.
- Powlesland, I., 2009. *The later prehistoric landscape of the Bristol Avon region*, British Archaeological Reports, British Series 490 (Oxford).
- Quinnell, H., 2011. 'The pottery', in J. Nowakowski and H. Quinnell, *Trevelgue Head, Cornwall: the importance of CK Croft Andrew's 1939 excavations for prehistoric and Roman Cornwall* (Cornwall: English Heritage and Cornwall Council).
- RCAHME 1989. *The Classification of Cropmarks in Kent* (London: HMSO).
- RCAHME 1976a. *An Inventory of the Ancient Monuments in Glamorgan Vol. 1 Pre-Norman. Part III The Early Christian Period* (Cardiff: HMSO).
- 1976b. *An Inventory of the Ancient Monuments in Glamorgan Vol. 1 Pre-Norman. Part II The Iron Age and the Roman Occupation* (Cardiff: HMSO).
- 1991. *An Inventory of the Ancient Monuments in Glamorgan Vol. 3 Medieval secular monuments. Part 1a, The Early Castles, from the Norman Conquest to 1217* (Cardiff: HMSO).
- Rouillard, S. E., 1987. 'The Iron Age pottery from Meare Village East', in J. Coles, *Meare Village East, The Excavations of A. Bulleid and H. St. George Gray 1932–1956*, Somerset Levels Papers No. 13 (Thorverton: Somerset Levels Project).
- Savory, H. N., 1948–50. 'List of hill-forts and other earthworks in Wales. I Glamorgan', *Bulletin of the Board of Celtic Studies* 13, 152–61.
- Seaman, A. P., 2010. 'The Roman to Early Medieval Transition in South East Wales: Settlement, Landscape and Religion', unpublished PhD thesis, University of Wales, Cardiff.
- 2011. 'Geophysical Survey at Tyn y Coed Enclosure, Dinas Powys, South Glamorgan', unpublished report, Department of Archaeology and Conservation, Cardiff University.
- 2013. 'Dinas Powys in context: settlement and society in post-Roman Wales', *Studia Celtica* 47, 1–23.
- 2016: 'Defended settlement in Early Medieval Wales, problems of presence, absence and interpretation', in N. Christie and H. Herold (eds), *Fortified Settlements in Early Medieval Europe: Defended Communities of the 8th–10th Centuries* (Oxford: Oxbow), 37–50.
- Seaman, A. P. and Lane, A., 2012. 'Archaeological Evaluation at Tyn y Coed Enclosure, Dinas Powys, South Glamorgan' (Canterbury: Canterbury Christ Church University).

- 2013a. 'Archaeological Excavation at Tyn y Coed Earthworks, Dinas Powys, South Glamorgan, June/July 2012' (Canterbury: Canterbury Christ Church University).
- 2013b. 'Topographic Survey at Tyn y Coed Earthworks, Dinas Powys, Vale of Glamorgan, 2012–2013' (Canterbury: Canterbury Christ Church University).
- Seaman, A. P. and Sucharyna Thomas, L., forthcoming. 'Power in the Landscape: a GIS Study of Dinas Powys', *Medieval Settlement Research*.
- Sell, S. H., 2001. 'Recent excavation and survey work at Sudbrook Camp, Portskewett, Monmouthshire', *Studia Celtica* 35, 109–41.
- Sparey-Green, C., 1987. *Excavations at Poundbury, Volume 1: The Settlements* (Dorchester: Dorset Natural History and Archaeological Society).
- Wastling, L. M., 2009. 'The sling-shots', in D. H. Evans and C. Loveluck (eds), *Life and Economy at Early Medieval Flixborough c. 600–1000. Volume 2: The Artefact Evidence* (Oxford: Oxbow), 431–3.
- Webster, P., 1981. 'The pottery', in M. G. Jarrett and S. Wrathmell (eds), *Whitton: An Iron Age and Roman Farmstead in South Glamorgan* (Cardiff: University of Wales Press), 102–48.
- Webster, P., 1988. 'Coarse pottery', in D. M. Robinson (ed.), *Biglis, Caldicot and Llandough: Three Late Iron Age and Romano-British Sites in South-East Wales, Excavations 1977–79*, British Archaeological Reports, British Series 188 (Oxford), 161–71.
- Webster, P., Gwilt, A. and Horák, J., 2006. 'The pre-Roman pottery', in A. Barber, S. Cox and A. Hancocks, 'A Late Iron Age and Roman farmstead at RAF St Athan, Vale of Glamorgan. Evaluation and excavation 2002–03', *Archaeologia Cambrensis* 155, 49–116.
- Whelton, H. and Cramp, L., 2017. 'Summary of the organic residue analyses of a Glastonbury ware potsherd', unpublished report, Department of Archaeology, University of Bristol.
- Woodward, A., 2008. 'Ceramic technologies and social relations', in J. Pollard (ed.), *Prehistoric Britain* (Oxford: Blackwell), 288–330.
- Woodward, A., 2000. 'The ceramic form series', in J. C. Barrett, P. W. M. Freeman and A. Woodward, *Cadbury Castle, Somerset. The Later Prehistoric and Early Historic Archaeology*, English Heritage Archaeological Report 20 (London: English Heritage), 326–46.

