

An Early-medieval Monastic Cemetery at Llandough, Glamorgan: Excavations in 1994

By NEIL HOLBROOK *and* ALAN THOMAS

EXCAVATIONS ADJACENT to the church of St Dochdwy in Llandough, near Cardiff, examined part of a large monastic cemetery. In all 1,026 inhumation burials were examined, by far the largest Early-medieval burial population so far recovered from Wales. Sherds of imported Bii amphorae were found in the backfill of five graves indicating activity at Llandough in the late 5th or 6th century. Radiocarbon dates indicate that burial had commenced by the mid-7th century at latest, and it appears that the cemetery continued in use until the demise of the monastery in the late 10th or early 11th century. A Romano-British villa lay to the south of the church, and it is conceivable, although unproven, that there was continuity of settlement from the Roman Period onwards.

The village of Llandough lies to the north of Penarth and about 3.5 km from the centre of Cardiff (Fig. 1). It occupies gently sloping ground near the crest of an escarpment, which overlooks the estuary of the River Ely. The present church of St Dochdwy largely dates to the mid-19th century, but has long been considered to overlie the site of one of the major Early-medieval monasteries of Glamorgan recorded in the Llandaff charters. A fine late 10th- or early 11th-century carved cross that still stands in the churchyard provides further evidence of the antiquity of the site.

In 1990 an area immediately to the north of the churchyard was proposed for residential development (NGR ST 16817331). The Vale of Glamorgan Borough Council granted outline planning permission for development with a condition requiring archaeological evaluation given its proximity to the presumed site of the monastery. In 1990 Glamorgan-Gwent Archaeological Trust (GGAT) excavated eight trenches across the proposed development area. The results suggested to the excavators that large parts of the site had been disturbed by post-medieval quarrying and levelling. Nearer the churchyard wall disarticulated human skeletal remains, which appeared to have been disturbed from their original context, were located. This part of the site was designated by GGAT as being of medium-high archaeological potential.¹ In March 1992 full planning permission was obtained

¹ Glamorgan-Gwent Archaeological Trust (GGAT), Land at Great House Farm, Llandough: An Assessment of the Archaeological Implications of Redevelopment at the Site of Great House Farm, Llandough (unpub. rep., 1990); 'Llandough', *Archaeol. Wales*, 30 (1990), 66.

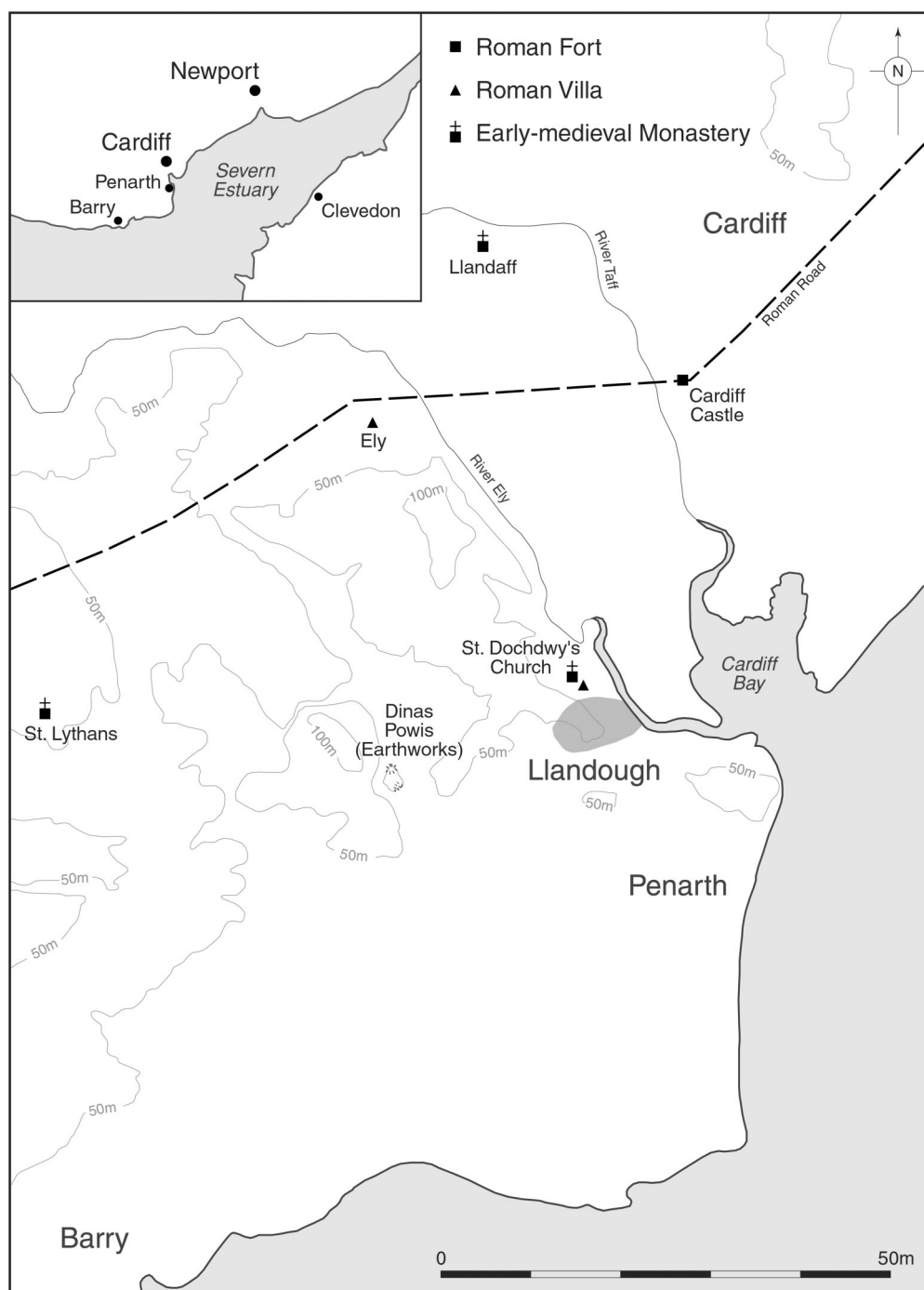


FIG. 1
Site location.

for the residential development, with no condition requiring further archaeological work. Generously the developers, Ideal Homes Wales Ltd (now part of Persimmon Homes), voluntarily undertook to sponsor an excavation of that part of the site which was considered to be of medium-high archaeological potential. The total area to be examined was approximately 0.1 ha, and in March 1994 Cotswold Archaeological Trust (CAT; now Cotswold Archaeology) was commissioned to undertake the excavation.

At an early stage it became clear that the site contained numerous burials that continued beyond the bounds of the agreed excavation area. Consequently the excavation was extended in order to establish the extent of the cemetery within the development site. In the event an area of 0.22 ha containing a total of 1,026 burials was investigated and work finally ceased on site in September 1994. A preliminary typescript report outlining the principal excavation results was issued later that year.² It was readily appreciated that the costs of full stratigraphic and osteoarchaeological analyses of the excavated evidence would be considerable, and that this was not a cost which the developers could legitimately be asked to bear (Ideal Homes Wales had already increased their financial contribution more than five-fold from the original project budget to cover the costs of excavating the burials). Given the evident importance of the discoveries, the desirability of full post-excavation analysis was discussed by the Ancient Monuments Board for Wales, and in January 1998 Cadw: Welsh Historic Monuments generously provided funding for the stratigraphic analysis of the site, and the National Museums & Galleries of Wales agreed to produce and co-ordinate reports on the artefacts. In October 1998 Louise Loe was awarded a Ph.D. scholarship from the University of Bristol to undertake the osteological examination of the skeletal assemblage, for which a doctorate was awarded in 2004.

PREVIOUS ARCHAEOLOGICAL WORK IN LLANDOUGH

Although the potential antiquity of the site occupied by St Dochdwy's church has long been recognised, no systematic investigation occurred in the village until an area to the south of the church was excavated by the Barry and Vale Archaeological Group in 1963 (Fig. 2).³ In 1979 further excavations were conducted in this area by GGAT when the earliest structure found was a possible late Iron-age roundhouse, perhaps part of a farmstead.⁴ In the 2nd century A.D. a Roman villa was constructed, which developed considerably in the early 3rd century and was occupied until the early 4th century. The fact that some of the walls of the villa were reused as foundations for a 12th- or 13th-century barn was the only evidence identified that occupation may have continued on the villa site into the post-Roman period.⁵

² A. Thomas and N. Holbrook, *Excavations at Great House Farm, Llandough, Cardiff, South Glamorgan: A Preliminary Report* (unpub. rep., 1994).

³ E. J. Beare, *Llandough, Penarth* (unpub. MS., Dept. Archaeology, National Museum and Gallery, Cardiff, 1963).

⁴ H. Owen-John, 'Llandough: the rescue excavation of a multi-period site near Cardiff, South Glamorgan', 123–77 in D. M. Robinson (ed.), *Biglis, Caldicot and Llandough: Three Late Iron Age and Romano-British Sites in South-East Wales. Excavations 1977–79* (BAR Brit. Ser., 188, Oxford, 1988).

⁵ *Ibid.*, 152.

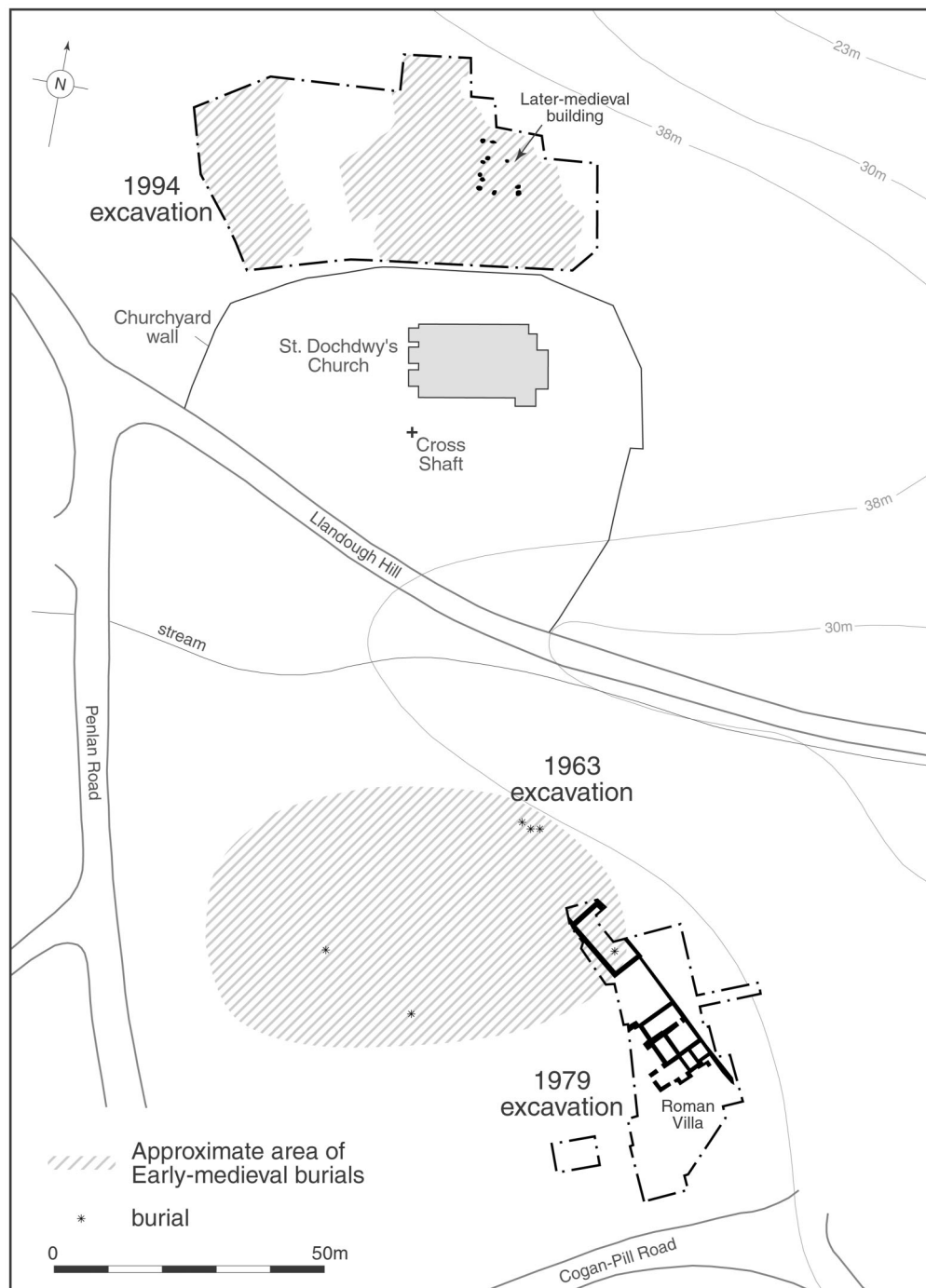


FIG. 2

Location of the 1994 and earlier excavations.

Building operations outside of the main excavation area disturbed a number of burials, probably at least 30, and two of these were recovered through salvage recording. They were dated by radiocarbon determination to the period spanning the late 8th to late 10th century (Tab. 8). A further burial within the excavation area was dug through a demolished wall of the villa and produced a radiocarbon date of 999–1284 cal A.D.

At the close of the 11th century the village of Llandough was granted to Tewkesbury Abbey, and a grange was subsequently established here. This remained in Tewkesbury's ownership until the Dissolution when it was confiscated by the Crown and sold.⁶ A dovecote and barn, possibly of late 12th-century date, overlay the villa site and may be part of the grange. These were associated with pits, crude areas of paving, and sections of walling. The corner of a substantial 12th- or 13th-century house had previously been uncovered in 1963, when a gully containing three human skeletons of possible 13th-century date was also recorded.⁷ Further structures were revealed during the 1979 watching brief in the same area.⁸

Jeremy Knight discusses the historical evidence relating to the monastery at Llandough in a separate article in this journal, and that relating to the post-Conquest period is discussed elsewhere.⁹

THE EXCAVATION SITE

The present churchyard of St Dochdwy's occupies a raised position, with the escarpment overlooking the Ely estuary to the north, and a combe occupied by a stream to the south. The 1994 excavation site lay immediately north of the churchyard wall, and extended as far as the edge of the escarpment (Fig. 2). The surface geology of the escarpment is made up of Lower Lias overlying rocks of the Rhaetic series and Red Marls. Within the excavation area the lias took the form of thin alternating bands of rock and yellow clay, sloping gently to the south and west. The site lay at approximately 43 m above sea level. Prior to the start of the excavation this area was waste land covered with rough vegetation. It had previously been occupied by the farmhouse and outbuildings of Great House Farm, which had been comprehensively demolished in 1988. The farmhouse dated largely to the 17th century, although it may have incorporated some earlier fabric.

The present wall of the churchyard matches the masonry in the church, which was rebuilt in the mid-19th century.¹⁰ The chancel arch is said to be Norman.¹¹ Diane Brook has charted the development of the churchyard in an unpublished M.A. thesis: the current boundary was in existence by 1878, but had developed from a churchyard of more rectilinear form depicted on maps of 1786, 1824 and 1846 (Fig. 3).¹²

⁶ H. J. Thomas, 'Historical Notes', 177 in Owen-John, op. cit. in note 4.

⁷ Beare, op. cit. in note 3.

⁸ Owen-John, op. cit. in note 4, 155.

⁹ Thomas, op. cit. in note 6.

¹⁰ C. J. O. Evans, *Glamorgan: Its History and Topography* (Cardiff, 1938), 282.

¹¹ S. Glynne, 'Notes on the older churches in the four Welsh dioceses', *Archaeol. Cambrensis*, 6 ser., 1 (1901), 245–78, at pp. 258–9.

¹² D. L. Brook, *Early Ecclesiastical Sites in South-East Wales* (unpub. M.A. Thesis, University College, Cardiff, 1981).

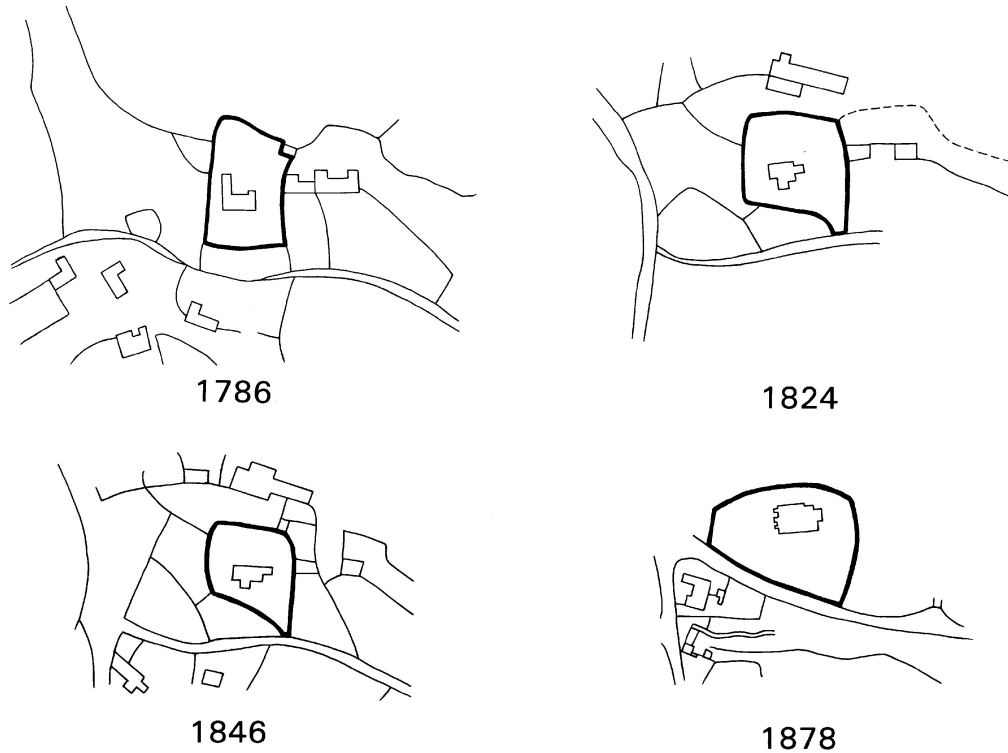


FIG. 3

Cartographic representations of the boundary of St Dochdwy's churchyard. Sources: 1786 and 1824, Estate Maps. 1846, Tithe Map. 1878, 1st Edition O.S. The maps appear to show that the churchyard formerly had a more rectangular form. After D. L. Brook, *Early Ecclesiastical Sites in South-East Wales* (unpub. M.A. Thesis, University College, Cardiff, 1981).

EXCAVATION AND POST-EXCAVATION METHODOLOGY

During removal of the topsoil and overburden by a mechanical excavator equipped with a toothless grading bucket, it became clear that numerous articulated burials lay within, and outside, of the area of initial excavation. As a result it was agreed with the developers that, while hand excavation of the original area was continuing, machining should continue to the west, north and east in an attempt to identify the extent of the cemetery within the development site. Following the completion of this process it was agreed that the excavation should be phased with a view to allowing the building contractors access to those parts of the site where archaeological work was complete. As a result excavation resources were initially transferred to the line of a road, which was to be built through the site. Following the removal of the burials along its route excavation then concentrated on the burials to the south of the road, and lastly the area to the north of the road.

All of the burials were excavated in accordance with the guidelines prepared for the Institute of Field Archaeologists.¹³ The burials were recorded on *pro forma* sheets following standard CAT procedures. Every skeleton was recorded by vertical black-and-white and colour-slide photography. The drawings of the burials in this report have been produced from the photographic archive. Features such as pits and postholes were half-sectioned and ditches sampled at appropriate points along their length. In January 1998, when the post-excavation programme commenced, details of every grave were entered on to a computerised database using Microsoft Access software. For each individual grave a single sheet has been compiled detailing the contextual data; stratigraphic relationships; grave-type; orientation; posture; arm, leg and skull positions; and finds information. A fully computerised plan of the cemetery has also been compiled using Microstation software. The plan and database were then linked using MapInfo software which allows full distribution plots of the information on the sheets and finds to be cross-referenced and analysed.

Washing and processing of the skeletons took place in 1996–2001. Initially different parts of each skeleton had been bagged separately in accordance with the guidelines, but during the processing of the bones the osteological advisor recommended that the bones from each individual be amalgamated into one bag. Osteological recording of each skeleton was undertaken in the Rheumatology Unit of Bristol University by Louise Loe as part of her doctoral research between 1998 and 2001.

PURPOSE OF THIS REPORT AND ASSOCIATED PUBLICATIONS

This report is one of series of linked publications on differing aspects of the cemetery. It is designed to be read as a free-standing account of the excavations, and contains full finds reports. It is considered important, however, that a detailed catalogue of all burials should be made widely available to facilitate future analysis and review of the conclusions presented here. A digital archive has therefore been prepared and this is hosted by the Archaeology Data Service. It can be freely accessed at http://ads.ahds.ac.uk/catalogue/resources.html?llandough_cadw_2004. The digital archive comprises a full listing of each grave, including stratigraphic relationships, age and sex of the skeleton, data on body posture and arm positions, and full listings of any artefacts contained within the grave-fill. The database is linked to a digital site plan which allows details of a particular grave, and its location within the cemetery, to be quickly found. The archive also possesses a search facility which allows users to generate their own distribution plots of specific attributes, either singly or in combination. This report contains a short summary account of the human remains which focuses mainly on the demographic characteristics of the cemetery population. A full report on the palaeopathology of the Llandough cemetery will be published elsewhere.¹⁴ Finally a wide-ranging

¹³ J. I. McKinley and C. Roberts, *Excavation and Post-Excavation Treatment of Cremated and Inhumed Human Remains* (Institute of Field Archaeologists Technical Paper, 13, 1993).

¹⁴ L. K. Loe, *Health and Socio-Economic Status in Early Medieval Wales* (BAR Brit. Ser., forthcoming).

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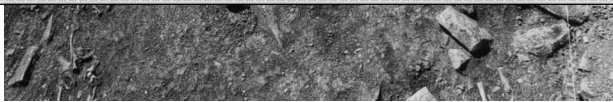


FIG. 4
General view of burials in the northern part of Area III. © *Cotswold Archaeology*.

discussion of the cemetery and its context can be found in Jeremy Knight's paper which follows this in this journal.

ANALYSIS OF THE CEMETERY

PRESERVATION/SCALE OF DISTURBANCE

The original ground level of the cemetery had been truncated at some stage following its abandonment. Over much of the excavation area, particularly the north and west parts, articulated skeletons were found a matter of only a few centimetres below modern ground level (Fig. 4). Indeed although no burials were found in the north-east corner of the excavation, and only a few in the north-west part of the site, it is almost certain that they had once existed in these areas but had been completely removed by later truncation. The plan as produced (Fig. 5) cannot therefore be regarded as a true reflection of the original distribution of burials within the excavated area. Much of the levelling was presumably associated with the construction of Great House Farm, of which some walls survived within the

excavation area. Evidence was also recovered of post-medieval quarrying (p. 39). One deep quarry bisected the excavation and others were exposed to the west of the excavation area during the construction of two houses. In the southern part of the excavation area nearest to the churchyard wall a dark brown loam 007 overlay the natural clay, possibly the remnants of a former cultivation soil.

In addition to the subsequent disturbance of the site, the intensive use of the cemetery led to a large degree of intercutting which further reduced the level of preservation. Despite these difficulties a total of 814 inhumations was excavated and recorded, along with a further 212 disarticulated bone groups. Prior to the processing of the skeletons a rapid assessment on their state of preservation was carried out (Tab. 1). The assessment was based on the approximate percentage of bones per skeleton remaining, and shows that most of the burials were either well preserved (category A) or poorly preserved (categories D and E). The latter two categories mostly comprise burials that had been disturbed by later interments. The disarticulated bone groups were mostly found within the fills of later graves. Of the 814 inhumations recorded on site, 801 were identified as discrete skeletons during detailed osteological examination (see below).

TABLE 1
PRESERVATION OF THE SKELETAL
ASSEMBLAGE BY PROPORTION OF
BODY SURVIVING (FROM SITE
RECORDS)

Category	Total
A (70–100%)	425
B (50–70%)	77
C (30–50%)	73
D (10–30%)	126
E (under 10%)	113
Bone groups (disarticulated)	212
<i>Total</i>	<i>1,026</i>

INTRODUCTION TO THE ANALYSIS

N.B. In the following sections references to burials are prefixed by the letter B. The symbol * indicates that a burial is illustrated. The letters and numbers in italics refer to the sex and age of the burial, where M = male; F = female; U = uncertain sex; YC = young child (0–<6); C = child (>6–<18); YA = young adult (18–25). Table 9 presents a full classification of the various age-groups to which the skeletons have been ascribed.

In seeking to analyse the cemetery data a series of traits have been defined, and these are quantified in Table 2. The cemetery was provisionally divided into three areas during the initial post-excavation programme (Fig. 6). This division was necessarily somewhat arbitrary as no features such as boundary ditches or walls contemporary with the use of the cemetery were found in the excavation. This deficiency is exacerbated by the absence of vertical stratigraphy due to the

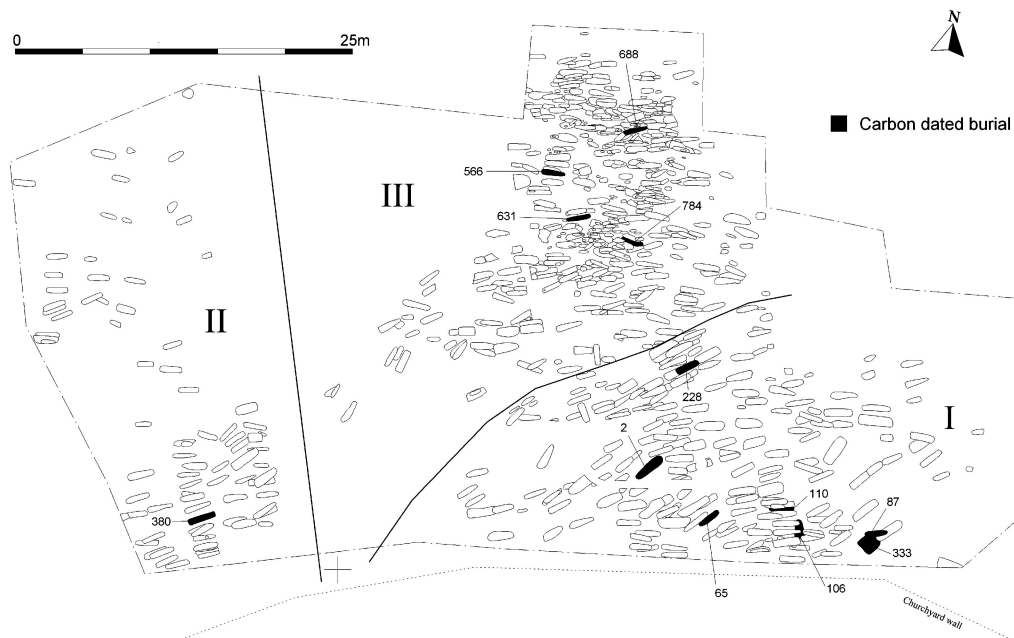


FIG. 6

Plan of the cemetery showing burials selected for radiocarbon dating and spatial divisions referred to in the text.

truncation of the site. The division was therefore made purely on the basis of the spatial distribution of the burials. During subsequent post-excavation work, analysis of the artefacts and the results of a selective programme of radiocarbon dating have permitted some conclusions to be drawn on the layout and development of the cemetery. Area I comprised those burials contained within a putative curvilinear boundary (no trace of the boundary survived but its existence was suspected from a concentration of graves on a distinct NE.-SW. alignment; see below p. 88). In the west part of the site rows of occasionally intercutting inhumations were found, which for convenience have been termed Area II. To the north of Area I there were further burials, and indeed they may continue to the south-west to cut the original burials in Area II. These burials have been termed Area III.

Types of Burial

All of the burials at Llandough were inhumations, and almost all were single burials within individual grave cuts. There were, however, a small number of exceptions. There was a single instance of an adult male burial (B18, *M*, 45+) placed directly on top of a child (B24, *C*) in the same grave cut. There were also two instances, one in Area I (B10, *M*, 40, and B11*, *M*, 40) and the other in Area III (B206*, *C*, and B212*, *C*), where two male adults and two children were placed side-by-side. The filling of the grave for B10/11* contained a fragment of 13th- or

TABLE 2
CONCORDANCE OF BURIAL TRAITS AND ARTEFACTS.
SKULL POSITION: U = FACING UPRIGHT; L = FACING LEFT, R = FACING RIGHT, AND INDET = INDETERMINATE

Trait	Skull position					Orientation			Pottery			An. Cu/ Fe Fe Fe Coin Glass Glass Bone Pebble Flint Slag Bone Pb Hob- other knife Ves- Bead Object nail sel															
	Total	U	L	R	indet	E.-W. NE.- SW.	N.-S. NW.- SE.	IA/E. Rom	Early med.	Later med.	Post med																
Arm A	95	5	19	28	43	40	42	1	12	1	10	1	2	1	42	0	0	10	1	0	1	0	0	6	0	5	
Arm B	73	11	16	25	21	30	37	0	6	1	1	10	2	0	1	38	2	1	10	0	1	0	2	0	3	1	2
Arm C	55	3	17	9	26	32	18	0	5	1	4	1	0	0	24	0	0	5	0	1	0	1	0	4	0	4	
Arm D	25	1	6	8	10	12	6	0	7	0	7	0	2	0	15	0	1	2	1	0	0	0	1	0	0	0	
Arm E	4	1	2	1	0	3	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Arm F	10	1	2	3	4	5	3	0	2	1	2	0	0	0	5	1	0	1	0	0	0	0	0	0	0	0	
Arm G	17	1	2	3	11	8	6	0	3	0	3	0	0	0	8	0	0	1	0	0	0	1	0	4	1	0	
Arm H	6	2	2	0	2	3	3	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	0	0	0	0	
Arm I	10	0	4	2	4	6	4	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0	
Arm J	2	0	1	0	1	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Arm K	1	1	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
Arm L	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
Arm M	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	
Arm N	1	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	
Arm O	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Arm P	57	8	16	10	23	30	21	1	5	3	8	0	1	1	23	0	2	4	0	1	1	0	0	6	0	0	
Arm Q	17	3	1	7	6	6	9	1	1	1	5	0	0	0	7	0	1	1	0	0	0	0	0	1	0	2	
Stone packing	16	3	5	4	4	8	6	0	2	1	5	0	0	0	10	0	1	5	0	0	0	0	1	1	0	2	
Ankles crossed	8	0	4	2	2	2	6	0	0	1	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	
Coffin	25	0	6	9	10	14	11	0	1	1	2	1	2	0	7	0	1	2	0	2	0	0	2	0	1	1	
Shroud	9	1	3	2	3	5	4	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	1	0	1	0	
Marker	3	0	1	1	1	1	2	0	0	0	1	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	
Pillow	6	3	0	1	2	5	0	0	1	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	
Flexed	4	0	2	0	2	1	2	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
Prone	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	
Crouched	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
Pit	1	0	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	
Right-side	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	

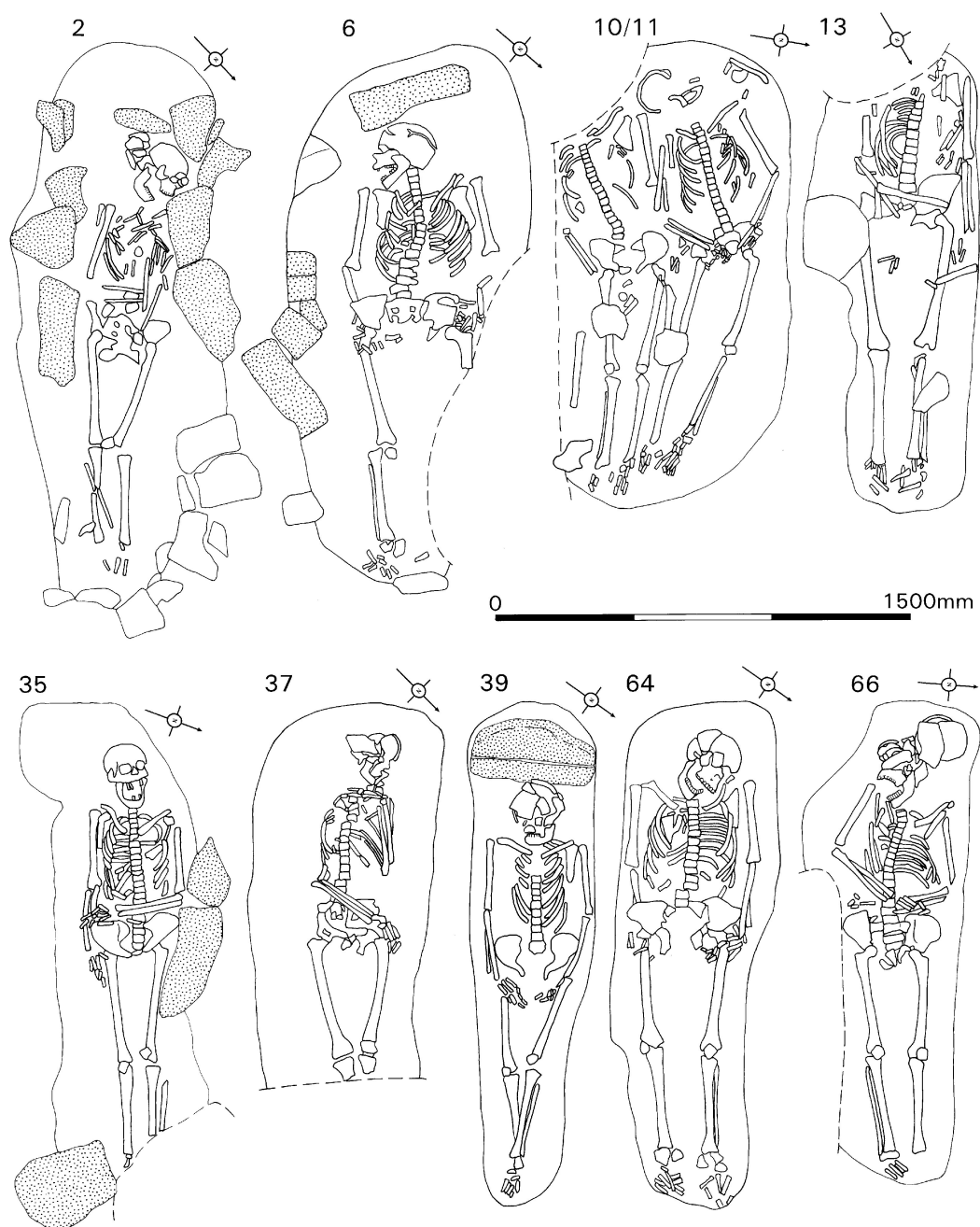


FIG. 7
Selected burials B2–B66.

14th-century roof tile (although cf. p. 32). There was also an instance in Area II (B265*, *M*, 45+, and B267*, *fetus*) where an adult and a fetus, or conceivably a new-born infant, were buried in the same grave. Double burials occur rarely in Late Roman cemeteries, but were more prevalent in the early post-Roman cemeteries at Cannington (5% of the population) and Henley Wood, Somerset (where there were five examples, including an adult associated with a juvenile).¹⁵

Age and Sex Distributions

Of the population available for study, 30% was either certainly or probably male, 25% certainly or probably female, and 26% children under 18 (Figs. 18–19). The distribution of male, female and child burials is shown in Figure 12, and more detailed information is available in the digital archive. It would appear from the overall plan that the adult graves were not grouped according to age and sex, but that all areas of the cemetery contain mixed burials. Area III contained a distinct concentration of child and young child burials, which were scattered throughout the area, although two adjacent clusters could be recognised. The burials within the clusters were aligned E.–W. These juvenile burials cut through adult inhumations, with the solitary exception of B568, which was partially overlain by the adult B562, and so represent the final use of this part of the cemetery. Within all parts of the cemetery it is possible to discern localised concentrations or possible alignments of the same sex, although it is doubtful how much significance should be attached to these observations. No obvious patterning could be recognised within the different age categories of the adult burials.

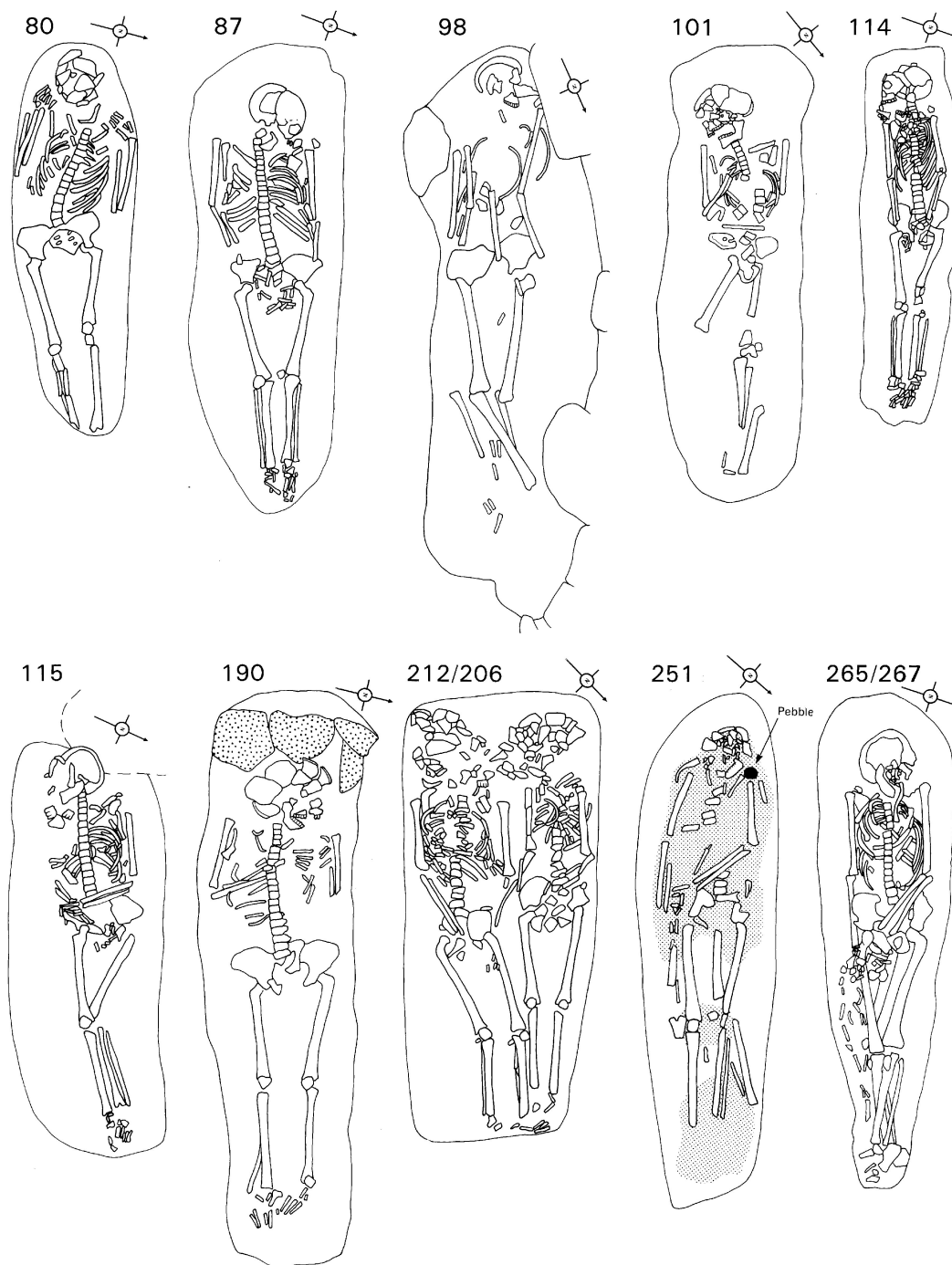
Body Positions

The vast majority of the inhumations at Llandough were extended and supine, although there were rare examples of differing postures. One burial (B233) had been placed on its right-hand side, and four burials were flexed (B55, B68, B333* which produced a radiocarbon date of 610–777 cal A.D., and B652). Of these B68 and 652 were young children, while B55 and B333* were adults. The flexed burial of a young man was found dug into the ruins of the Roman villa to the south of the church: it produced a radiocarbon date of 999–1284 cal A.D.¹⁶

A single prone burial (B470, *C*) was found in Area III. Finds from the grave included two lead balls of shot which must be intrusive. Nearby was B474* (*F*, 30) who had been laid on her back with the knees drawn up to her chest. A pit-burial (B601*, *IA*) was also found in the same area (Figs. 10, 14C). This burial was unique in that the upper torso had been laid on a slope of approximately 45°, suggesting that it had been placed in a pre-existing pit which was at least 0.48 m deep. The eastern part of this pit, which must have contained the legs of the burial, had been removed by modern activity. The grave fill contained three sherds of pottery: two from a late Iron-age/Early-Roman calcite-gritted jar, the other from a possible

¹⁵ A. B. Woodward, 'Part 3: Discussion', 215–39, in D. E. Farwell and T. I. Molleson, *Poundbury Vol. 2: The Cemeteries* (Dorchester, 1993), 227; L. Watts and P. Leach, *Henley Wood: Temples and Cemetery Excavations 1962–69* (CBA Res. Rep., 99, York, 1996), 51; P. Rahtz, S. Hirst and S. Wright, *Cannington Cemetery* (London, 2000), 98.

¹⁶ Owen-John, op. cit. in note 4, 144, pl. 14.



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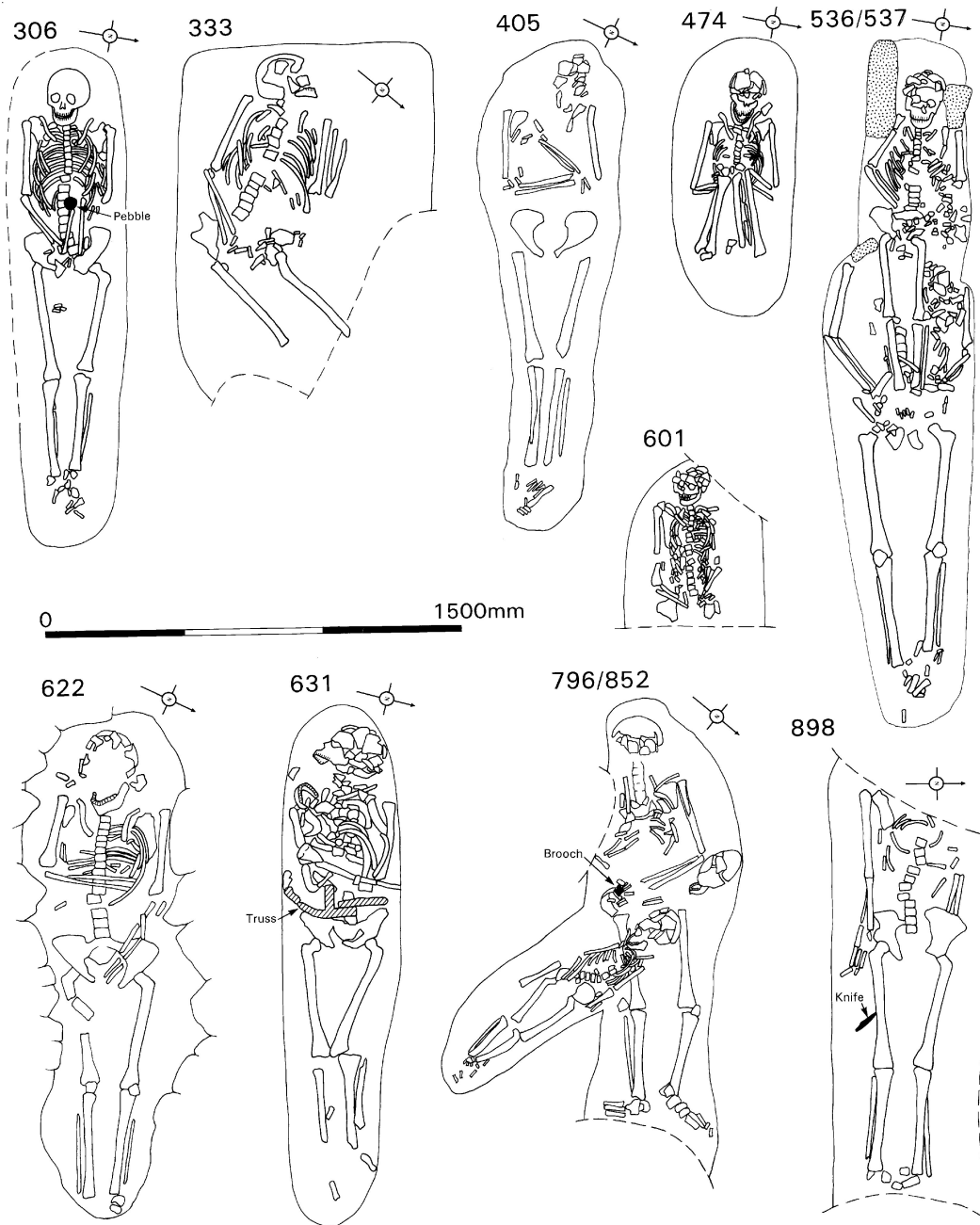


FIG. 9

Selected burials B306-B898.

FIG. 8 (*facing*)

Selected burials B80-B267.

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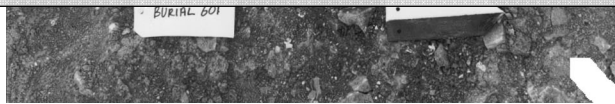


FIG. 10
Burial 601. © Cotswold Archaeology.

Severn Valley ware jar or large tankard. A 1st-century A.D. date is suggested for this burial (p. 86).

Leg Positions

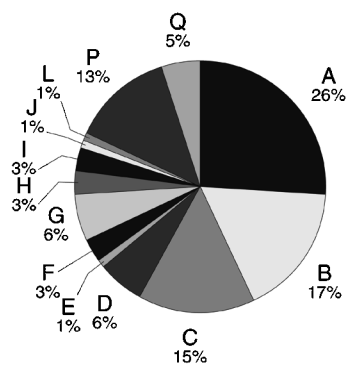
The vast majority of burials had their legs out straight, as with the post-Roman cemeteries of Cannington and Henley Wood where this was almost the only position.¹⁷ Exceptions comprised eight burials which had their ankles crossed (e.g. B39*), one adult burial (B89) which had the right leg flexed and the other straight, and a further fourteen burials with slightly flexed or bowed legs, probably a result of post-burial settlement.

Arm Positions

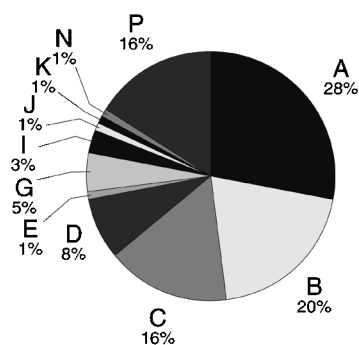
Seventeen arm positions (A–Q) have been defined in the cemetery population with reference to those identified in the discussion of the Poundbury (Dorset)

¹⁷ Woodward, op. cit. in note 15, 222. Rahtz et al., op. cit. in note 15, 76–7.

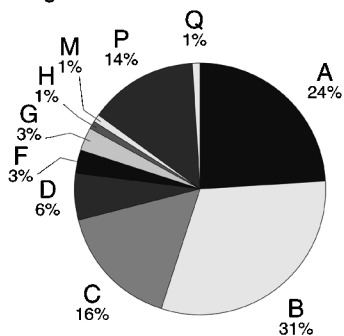
Arm positions in male graves



Arm positions in female graves



Arm positions in child graves



- | | | | |
|---|--------------------------------------|---|---|
| A | both straight | I | R bent on pelvis, L crossed on waist |
| B | L bent on pelvis, R straight | J | L by head, R crossing or bent on pelvis |
| C | R bent on pelvis, L straight | K | both by head |
| D | both bent on pelvis | L | R by head, L straight |
| E | both crossed on chest | M | L on waist, R on chest |
| F | both crossed on waist | N | L by head, R on chest |
| G | L straight, R crossed on waist | P | both crossed on pelvis |
| H | L bent on pelvis, R crossed on waist | Q | L crossed on waist, R straight |

FIG. 11

Pie-charts showing prevalence of arm positions with male, female and child burials.

assemblage.¹⁸ These are listed in Table 3 and their occurrence quantified in Table 2.

TABLE 3
POSITION OF THE ARMS IN THE CEMETERY POPULATION (ILLUSTRATED
EXAMPLES IN BRACKETS)

Arm Position A	both arms straight (B6, B10, B39, B64, B898)
Arm position B	left arm bent on to pelvis, right arm straight (B114, B206, B251, B265, B796)
Arm Position C	left arm straight, right arm bent onto pelvis (B87, B536)
Arm Position D	both arms bent onto pelvis (B212, B537)
Arm Position E	both arms crossed on lower chest (B474)
Arm Position F	both arms crossed on waist (B66)
Arm Position G	left arm straight, right arm crossed on waist (B2, B13)
Arm Position H	left arm bent onto pelvis, right arm crossed on waist (B622)
Arm position I	left arm crossed on waist, right arm bent onto pelvis (B115)
Arm Position J	left arm raised by head, right arm bent or crossed onto pelvis (B37, B333)
Arm Position K	both arms raised by head (B80)
Arm Position L	left arm straight, right arm raised by head (B98)
Arm Position M	left arm crossed on waist, right arm on chest (B101)
Arm Position N	left arm raised by head, right arm on chest (B190)
Arm Position O	left arm on chest, right arm crossed on waist (B405)
Arm Position P	both arms crossed on pelvis (B601)
Arm Position Q	left arm crossed on waist, right arm straight (B35)

The most common position was with both arms straight (Position A: 25% of the population), followed by Position B (19%), Position P (15%), Position C (14%) and Position D (6%). None of these arm positions was confined to any particular part of the cemetery and all were found within Areas I–III. Most of the other arm positions were too rare to allow for any meaningful analysis of their distribution, and there were five instances where the arm position was unique, and one with only two examples. Four burials in these latter two categories were found in one part of Area I: B80*, B98*, B190* (which contained a burial pebble), and B333* (which produced a radiocarbon date of 610–777 cal A.D.).

Woodward has studied the arm positions in a selection of Late Roman and early post-Roman cemeteries, and concluded: ‘... that some cemeteries are characterised by very particular combinations of arm positions, although no general chronological or spatial patterning of the different specific positions may be perceived.’¹⁹ Table 4 presents the data from a number of sites, and the lack of obvious pattern is apparent. Tables 5 and 6 present a concordance of burials with independent dating evidence, and it is evident that certain arm positions were

¹⁸ Woodward, op. cit. in note 15, 222–6.

¹⁹ Woodward, op. cit. in note 15, 224.

²⁰ Sources for Table 4. Poundbury, Cirencester, Cannington, and Henley Wood: Woodward, op. cit. in note 15, fig. 130; Caerwent: E. Campbell and P. Macdonald, ‘Excavations at Caerwent Vicarage Orchard Garden 1973: An extra-mural post-Roman cemetery’, *Archaeol. Cambrensis*, 142 (1993), 74–98; Capel Maelog: W. J. Britnell, ‘Capel Maelog, Llandrindod Wells, Powys: excavations 1984–87’, *Medieval Archaeol.*, 34 (1990), 27–96.

TABLE 4
PREVALENCE OF SELECTED BURIAL TRAITS IN LATE-ROMAN-MEDIEVAL CEMETERIES

Poundbury (Dorset) and Cirencester (Gloucs.) are late Roman; Cannington and Henley Wood (Somerset) early post-Roman; Caerwent (Mons.) c. 6th–7th century. At Capel Maelog (Powys) the cemetery spans the period from the 7th/11th to early 16th century, although of a population around 500 individuals, sufficient skeletal material to determine the burial arrangement of the corpse survived only in 16 graves which date to the period from the mid-13th century to the early 16th century.²⁰

<i>Site</i>	<i>Population.</i>	<i>Stone lining</i>	<i>Arm Position A</i>	<i>Arm Position D</i>	<i>Arm Position F/P</i>	<i>Arm Position E</i>
Poundbury (Main)	1,114	3%	20%	40%	10%	0%
Cirencester	453	6%	15%	23%	11%	8%
Cannington	542 (159)	5%	32%	0%	38%	10%
Henley Wood	72	15(+)?%	30%	33%	26%	13%
Caerwent	76	10%	c. 100%	0%	0%	0%
Llandough	824	2%	25%	6%	18%	1%
Capel Maelog (c. 500)		3%	0%	0%	30%	30%

utilised over a very long period. Arm Position A doubtless occurred throughout the life of the cemetery and was certainly still being used after the late 9th century at least (B228). Arm Position B was used in burials B110 and B65, which produced radiocarbon dates of 655–938 and 705–1000 cal A.D. respectively; and in three graves containing burial pebbles. Arm Position C also occurs in four graves containing burial pebbles (the incidental sherd of medieval tile in the filling of grave B10* is probably intrusive) and in B87* which produced a radiocarbon date of 776–1018 cal A.D. The arms crossed-on-chest arm position (Position E) has been discussed in the report on the excavations at Cannington. It has been suggested that this might be a possible indicator of Christianity, but the authors stress that too few examples have been found in unequivocal Christian contexts for there to be any certainty in the matter.²¹ Its rarity at Llandough demonstrates that it was not a common early Christian rite in this part of Wales at least. Arm Position G was used for a burial with a radiocarbon date of 370–640 cal A.D. and in four graves containing burial pebbles. Arm Position P occurs in six graves containing burial pebbles (the 13th-century *terminus post quem* provided by a single sherd of medieval tile from a burial underlying B811 has been disregarded) and in one (B688) that produced a radiocarbon date of 779–1024 cal A.D. Arm Position K is unusual although a single burial at the Anglo-Saxon cemetery at Alton (Hants.) had the right arm sharply bent back with the hand on the neck which could have been due to the pain caused by severe arthritis in the vertebrae.²² Similarly there is

²¹ Rahtz et al., op. cit. in note 15, 417.

²² V. I. Evison, *An Anglo-Saxon Cemetery at Alton, Hampshire* (Winchester, 1988), 29.

TABLE 5

BURIALS WITH INDEPENDENT DATING EVIDENCE.

Abbreviations: strat. rel. denotes a burial where dating derives from its stratigraphic relationship with another burial; TPQ = *terminus post quem*; TAQ = *terminus ante quem*; C¹⁴ denotes a burial which is dated by radiocarbon assay. On balance finds of later-medieval and post-medieval pottery and tile within the grave fills have been considered intrusive. Incidental finds of Roman pottery within the grave fills are most probably residual and so are likewise not listed.

Burial No.	Method	Trait	Arm Posit.	Orienta- tion	Datable Finds	Stratigraphic relationships	Suggested Date
2*	C ¹⁴	Part stone lining	G	45°	Roman pot		370–640 cal A.D.
35	grave good artefact	Part stone lining	Q	70°	hobnails, Roman pot		?
34	grave good artefact		D	75°	iron knife	Above B38	11th century
38	Strat. Rel.		D	75°	Roman pot	Below B34	Pre-11th century?
40	grave good artefact		B	45°	melon bead	Above B521	?
59	grave good artefact		B	80°	mid-4th century coin	Below B47	?
65	C ¹⁴		B	45°		Above B355	705–1000 cal A.D.
74	Strat. Rel.		B	75°	iron frags.	Above B106	TPQ 782 cal A.D.
87*	C ¹⁴		C	70°	hobnails, coin, slag, Roman pot	Cuts B333	776–1018 cal A.D.
93	grave good artefact	organic stain	P	70°	2 mid-4th century coins; Iron nails	Above B110. Below B69	TPQ 655 cal A.D.
94	Strat. Rel.		C	75°	iron nail, slag	Above B106	TPQ 782 cal A.D.
106	C ¹⁴	N–S burial	A	340°	Roman pot	Below B74, B94, B115, B125	782–1024 cal A.D.
110	C ¹⁴	organic stain	B	75°	hobnails, Roman coin, slag, Roman pot	Below B33	655–938 cal A.D.
115*	Strat. Rel.		I	65°		Above B106	TPQ 782 cal A.D.
116	casual artefact		B	100°	Bii Amphora	Above B130	late 5th century +
125	Strat. Rel.		Partially flexed	70°	2 hobnails	Above B106	TPQ 782 cal A.D.

Burial No.	Method	Trait	Arm Posit.	Orienta- tion	Datable Finds	Stratigraphic relationships	Suggested Date
228	C ¹⁴		A	50°	burial pebble, Roman pot	Cuts B248, B272	885–1035 cal A.D.
248	Strat. Rel.		Q	50°		Cut by B228	TAQ 885–1035 cal A.D.
272	Strat. Rel.		A	50°	Roman pot	Cut by B228	TAQ 885–1035 cal A.D.
333*	C ¹⁴ ; Strat. Rel.		J	50°	Roman tile	Cut by B87	610–777 cal A.D.
355	Strat. Rel.		B	40°		Below B65	TAQ 705–1000 cal A.D.
380	C ¹⁴	coffin	Q	60°			680–980 cal A.D.
458	Strat. Rel.	infant		75°		Above B854	Late 5th century +
517	casual artefact		B	80°	Bii amphora	Above B539 & B771	Late 5th century +
525	Strat. Rel.		P	90°	Late Iron-age pot	Above B542	Late 5th century +
542	casual artefact	organic stain		75°	Bii amphora, burial pebble, ?Late Iron- age pot	Below B525, Cuts B679	Late 5th century +
547	grave good artefact		B	80°	Roman beads	Below B503, 501	?
566	C ¹⁴	Part of a row of burials in Area III	D	85°		Cuts 565	434–687 cal A.D.
578	Strat. Rel.		C	90°		Above B638	?Early- medieval +
624	grave good artefact		D	80°	Roman glass bead, Roman pot	Above 625	?
631	C ¹⁴ ; grave good artefact			75°	iron girdle, burial pebble, post-med. pottery		361–662 cal A.D. Girdle suggests 5th–8th century date

Burial No.	Method	Trait	Arm Posit.	Orienta- tion	Datable Finds	Stratigraphic relationships	Suggested Date
640	casual artefact			65°	late 6th–7th century glass cone beaker, Late Iron- age/ Early- Roman pot	Above B663, Below B644	Late 6th–7th century +
644	Strat. Rel.			80°		Below B645, Above B640	Late 6th–7th century +
645	Strat. Rel.	infant		80°		Above B644	Late 6th–7th century +
650	Strat. Rel.			90°		Above B784	TPQ 604 cal A.D.
688	C ¹⁴ ; stratigraph- ically late		P	60°		Above B705, B755	779–1024 cal A.D.
722	Strat. Rel.		B	100°		Above B784	TPQ 604 cal A.D.
784	C ¹⁴		A	90°		Above B783 Below B650, B722	604–885 cal A.D.
796	grave good artefact		B	50°	Polden Hill brooch, Roman pot	Above B850, ? 868, 901, 930; Below B851, 551, 817, 661, 532	
819	casual artefact		C	40°	Bii amphora; burial pebble	Below B755	Late 5th century +
851	grave good artefact			80°	Roman bead	Above B796 Below B852	?
854	Strat. Rel.		P	70°		Below B458 Above B864	late 5th century +
864	casual artefact		A	80°	Bii amphora, burial pebble	Below B854	late 5th century +
898	grave good artefact		A	95°	Fe knife		?8–11th century
934	grave good artefact		G	80°	Roman bead; burial pebble	Above B768, Below B710	?

TABLE 6
DETAILS OF BURIALS CONTAINING PEBBLES

<i>Burial No.</i>	<i>No. of pebbles</i>	<i>Sex / Age + Grave trait</i>	<i>Pebble Position</i>	<i>Arm Position</i>	<i>Orienta- tion</i>	<i>Other Finds</i>	<i>Relationship</i>
18	1	M, 45 +		P	60°	Roman pot, animal bone	Above B24
142	1	Adult		G	95°		
190	1	F, 25 Partial Stone Lining		N	80°	Late Iron-age Early Roman pot, fired clay, animal bone	
228	1	F, 35		A	50°	Roman pot	C ¹⁴ 885–1035 cal A.D. Cuts B248 & B272 Above 252
251*	1	U, 30 Coffin		B	50°		
306*	1	?F, 20	Chest		80°	Roman pot	Above B275 & B334. Cuts B304
322*	2	Adult	Legs		70°		Above B353
442*	1	M, adult			80°	slag, flint,	Below B445, Above B519
448 ¹	5	F, adult		I	80°		Above B480
456	2	Y Child			80°		Above B644
498	1	U, Adult	Ribs		80°	slag	Above B602 & B472
512	2	U, Adult	Feet (1)	P	75°	Roman pot, animal bone	Above B682
521	1	M, 40	Pelvis		70°	Roman pot, animal bone	Below B470 & B522
533	1	Child			90°	animal bone	Above B840
542	1	M	L arm		75°	?Late Iron-age pot, Bii amphora, animal bone	Below B525, Above B679
547	1	F, 60 +		C	80°	4 beads, iron nail, slag	Below B501
551 ²	2	Y Child			80°		Above B796
560	1	Fetus	Chest		70°		Above B656
562	1	F, 45		C	105°	?Later-medieval pot, animal bone	Below B545, Above B568
570	2	Y Child			60°	limpet shell, animal bone	Above B642 & B1000
587	1	M, 30 Shroud		C	80°	animal bone	Cuts B446
589	3	Y Child	Chest		80°	animal bone	
627	2	?F, 40	L arm (1) Feet (1)	A	80°	2 iron nails	

<i>Burial No.</i>	<i>No. of pebbles</i>	<i>Sex / Age + Grave trait</i>	<i>Pebble Position</i>	<i>Arm Position</i>	<i>Orienta- tion</i>	<i>Other Finds</i>	<i>Relationship</i>
628	3	Child	Knees (1) Feet (1)		75°		Cut by B617; Above B618
631*	1	M, 30 girdle	Chest		75°	iron girdle, animal bone	C ¹⁴ 361–662 cal A.D.
638	1	?F, 50+		P	80°	Roman pot, Post-med glass	Above B662, Below B578 & B537
643	10	Child	L shoulder (1) chest/ abdomen (5) knees (3)	P	80°		Below B753 & B754, Above B892 & B618
680	1	Y Child			70°		Below B639, Above B749 & B723
687	6	?F, adult			80°	animal bone, slag, ?Late Iron-age pot	Below B645, B837
691	12				80°	Roman pot, Roman bead, iron nail	Cut by B692
727	3	F, 25	Knees (2)	P	80°	animal bone	Below B568 & B562, Above B956
753–756	25	F, 30 M, 60+ U, adult U, adult			25° 80° 30° -	fired clay, animal bone	Above B643, B756, B819, B764; Below B688, B810, B755 & B819
760	4	?F, 35	Knees (2) Feet (2)	P	60°		Above B777; Below B545
768	2	?F, 40		Q	60°	Roman pot, animal bone	Below B459 & B934 Above B747
796*	1	?M		B	50°	Roman pot, Roman brooch, animal bone, iron hobnail	TPQ of 604 cal A.D. from B784. Above B650, B868, B901 & & B930; Below B851, B551, B532, B661 & B817
819	1	M, 40		C	40°	Bii amphora, animal bone	Below B755
846	1	F, 40	Knees	A	80°	animal bone	Below B890, Cuts B848,
864	1	F, 40		A	80°	Bii amphora, animal bone	Above B698

<i>Burial No.</i>	<i>No. of pebbles</i>	<i>Sex /Age + Grave trait</i>	<i>Pebble Position</i>	<i>Arm Position</i>	<i>Orienta- tion</i>	<i>Other Finds</i>	<i>Relationship</i>
868	1	F, 30		A	110°		Above B881, Below B901
890	1	M, 20	Feet	G	80°	animal bone	Below B613 & B806, Above B846 & B847
896	1	Y Child			80°		Above B916
934	1	M	L pelvis	G	80°	Roman bead, animal bone	Above B768, Below B710
983	1	M, 35		B	85°		Above B913

Notes

¹ The burial stones from B448 may be associated with groups of disarticulated bone (B480–1) and therefore not *in situ*.

² A burial stone from B551 may be associated with Bone Group B550.

Not listed in the Table: Bone Group B391 (a few skull fragments) produced a single pebble; Bone Group B548 (an upper arm and a few skull fragments) produced three pebbles around the skull; Bone Group B728 (just skull fragments) produced a single pebble; Bone Groups B802, B843, B855 each produced a single pebble, and Bone Group B1021 produced two pebbles.

no obvious patterning in the distribution of the various arm positions, save for the greater prevalence of the crossed arm positions F/P in the northern part of the cemetery (Fig. 13A). This may indicate that these positions were more prevalent in the later period of cemetery use, and certainly the crossed arm positions were very common in the medieval burials at Capel Maeilog (Tab. 4). Figure 11 presents the prevalence of the different arm positions with male, female and child burials. Arm Position B is slightly more common in child burials than those of adults, but otherwise little patterning is evident.

Skull Positions

The position of the skull in the graves is not considered to be significant as burials with skulls facing to the left, right, and upwards are common throughout all areas of the cemetery. A similar conclusion has been reached at Cannington and elsewhere.²³ No clear association with any burial trait can be discerned (Tab. 2).

GRAVE-TYPES

Many graves had been cut through the natural limestone bedrock and in sixteen cases the stone spoil had been re-used as packing around the edge of the grave-cut (e.g. B2*, which yielded a radiocarbon date of 370–640 cal A.D., B6*, B35*, which contained 21 Roman hobnails, and B190*). The distribution of these graves is shown in Figure 13B where the concentration within Area I is apparent. The packing was usually random and not laid with particular care. Exceptions comprise three burials (B110, which produced a radiocarbon date of 655–938 cal

²³ Rahtz et al., op. cit. in note 15, 79.

A.D., B373, and B809) with unworked vertically-pitched thin limestone slabs placed upright at their feet, and five burials (B61, 81, 490, 508, and 536*), which contained head support stones (Fig. 13B). In three cases the skull was sandwiched between two stones; elsewhere only a single stone was used. All of these latter graves, apart from B61, were either children or young children. The distribution of graves with stone linings shows a marked bias towards the southern part of the cemetery (Fig. 13B), a pattern also apparent in the distribution of Roman artefacts within grave fills (Fig. 14C). Burials 829 and 908 had single large stones placed immediately to the top of the skull. Two graves (Fig. 13B) had possible markers: B39* (F, 45) with a broken vertically-pitched unworked slab at its head, possibly part of a headstone, and B60 (M, 45+) which contained a group of stones arranged to one side of the skull, possibly packing for a timber marker-post. The degree of intercutting evident in the cemetery indicates either a low regard for spatial organisation, or a lack of respect for previous burials. It would therefore appear that it was not usual practice for most graves to be marked, or if they were, that the markers quickly perished.

The use of rough stone-lining in graves is a tradition that occurs in both Roman and post-Roman cemeteries. Table 4 presents the evidence from a selection of Late Roman–medieval cemeteries. The high value from Henley Wood may be of little significance as many of the graves there were rock cut. A slab-lined grave dated to the early 4th century was found at the Romano-British farmstead at Biglis, 4 km south-west of Llandough, and such graves were also represented in the small cemetery at the Atlantic Trading Estate, Barry (Vale of Glamorgan), which could possibly have continued in use from the 2nd to 10th century.²⁴ The use of head-support stones is a feature which also occurs spasmodically in the graves of a variety of dates, including Late-Roman; early post-Roman (such as grave 5A at Henley Wood), and medieval (such as Capel Maelog where in one case at least the grave pre-dated the late 12th- or early 13th-century church).²⁵ Their function was presumably to lessen head-rolling. There were no examples from the present excavation of ‘pillow’ stones, although one was found with a child burial which produced a radiocarbon date of 668–1022 cal A.D. to the south of the church.²⁶ There were no examples from Llandough of slab graves (i.e. with a floor of flat slabs) or lintel cists (where the sides, floor and top of the grave were formed by flat stone slabs). This may be of significance as they occur widely around the western seaboard of Britain, and are ascribed to the Early Christian Period.²⁷ At the Caerwent East Gate cemetery there were four slab burials and one lintel cist; a further cist had previously been recorded in 1910.²⁸ A lintel-cist grave from Caer, Bayvil (Pembs.), produced a radiocarbon date of 640–883 cal A.D.²⁹

²⁴ J. Parkhouse, ‘Excavations at Biglis, South Glamorgan’, 1–64 in D. M. Robinson (ed.), op. cit. in note 4, 16; H. James, ‘Early medieval cemeteries in Wales’, 90–114 in N. Edwards and A. Lane (eds.), *The Early Church in Wales and the West* (Oxford, 1992), 96–8.

²⁵ R. Leech, ‘Religion and burials in South Somerset and North Dorset’, 229–66 in W. Rodwell (ed.) *Temples, Churches and Religion: Recent Research in Roman Britain* (BAR Brit. Ser., 77, Oxford, 1980); Watts and Leach, op. cit. in note 15, 57; Britnell, op. cit. in note 20, 54.

²⁶ Owen-John, op. cit. in note 4, 144.

²⁷ C. Thomas, *The Early Christian Archaeology of Northern Britain* (London, 1971), 48–90.

²⁸ Campbell and Macdonald, op. cit. in note 20, 76 and 84.

²⁹ H. James, ‘Excavations at Caer, Bayvil, 1979’, *Archaeol. Cambrensis*, 136 (1987), 51–76.

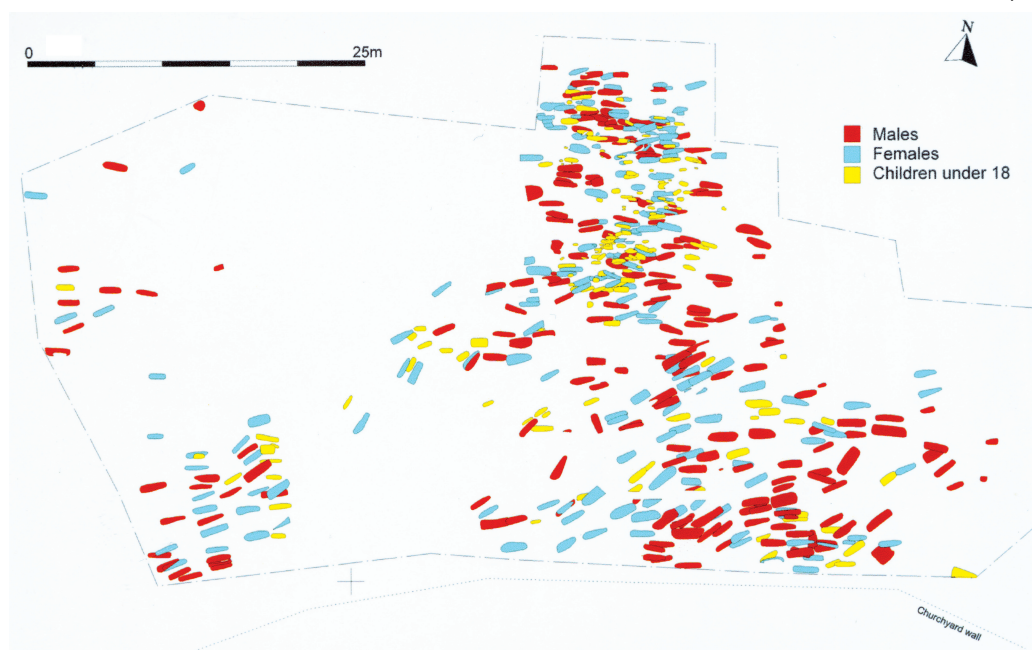


FIG. 12

Distribution of males, females and children under 18 within the cemetery.

GRAVE FURNITURE

No certain coffin fittings were found. Some 27 graves, however, produced nails or very small corroded iron fragments. Of these, 23 produced single nails and three only two nails. Only in the case of B449, which produced a total of seven nails on the upper chest, the pelvis, and by the right shoulder, might these represent coffin nails.

Some graves contained traces of black organic staining around the edges or base of the grave cut, or on top of the skeleton itself. In nine cases (B21, 238, 251*, 256, 380, 404, 672, 784, and 915) this staining is probably the remains of a decayed wooden coffin (although none produced nails), while in nineteen other cases the staining is so fragmentary that it could be the remains of some other organic material. Indeed, one of these burials (B110, dated 655–938 cal A.D.) is unlikely to have been in a coffin as it had a vertically-pitched limestone slab at its feet. One coffin burial (B380) produced a radiocarbon date of 680–980 cal A.D., while another two (B251* and B542) contained burial pebbles. Burial 542 which displayed some organic staining also yielded a burial pebble and two sherds of Bii amphora from the grave fill. At least nine burials exhibited a marked ‘hunching’ of the shoulders, indicating that these were either shroud burials or that they had been tightly packed into a coffin (e.g. B114*). Numerous other burials display a less marked hunching of the shoulders. The distribution of the nine hunched burials closely matches that of the coffins and it is possible that coffin and shroud burials were a contemporary burial rite (Fig. 15E). It is very probable that more

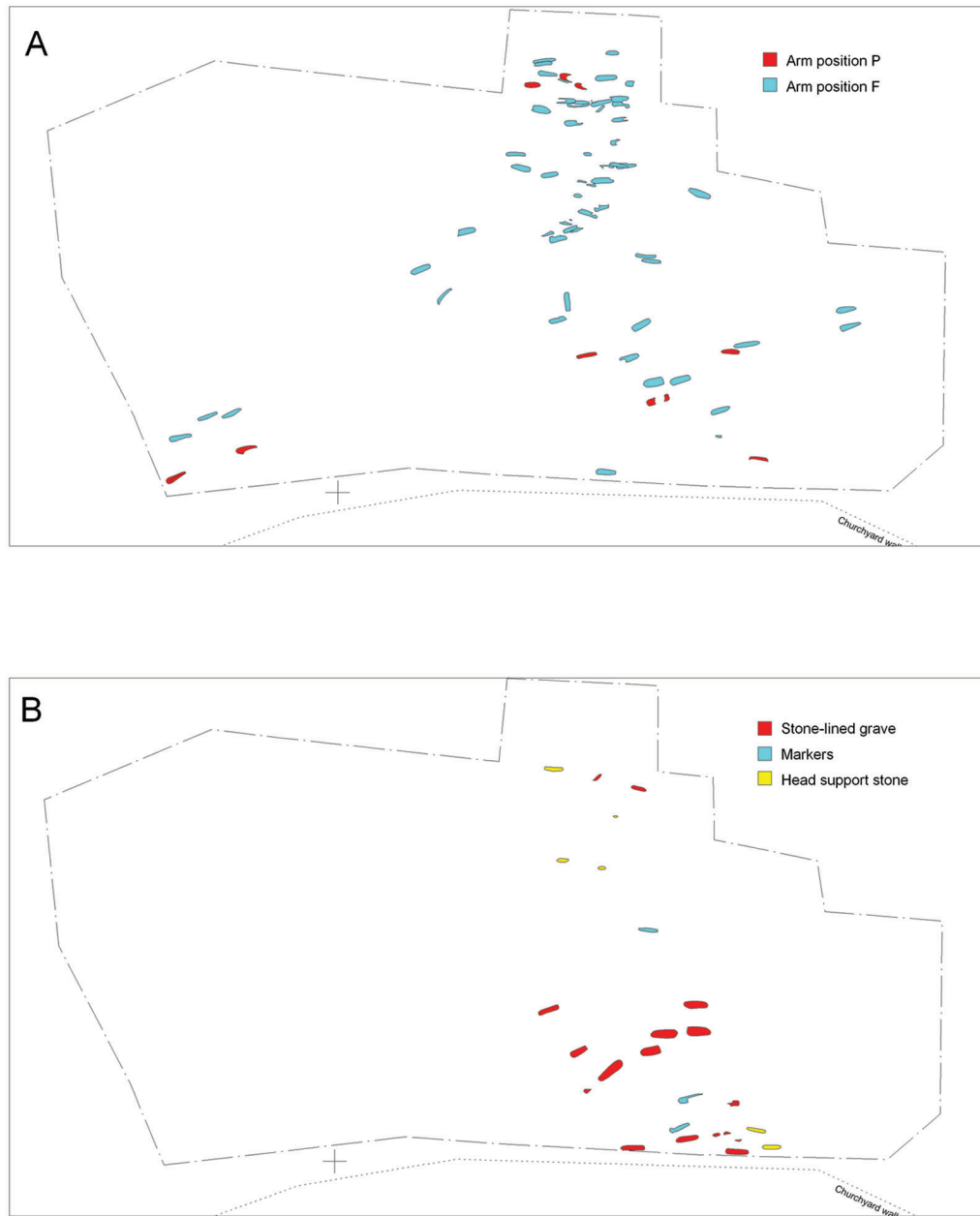


FIG. 13

A: Burials with Arm Positions F and P. B: stone-lined graves, grave markers and head-support stones.

burials were interred in coffins of which no trace has survived. Consequently the distribution of recorded coffin burials in the cemetery is unlikely to reflect their true distribution, although it can be observed that few graves with organic staining

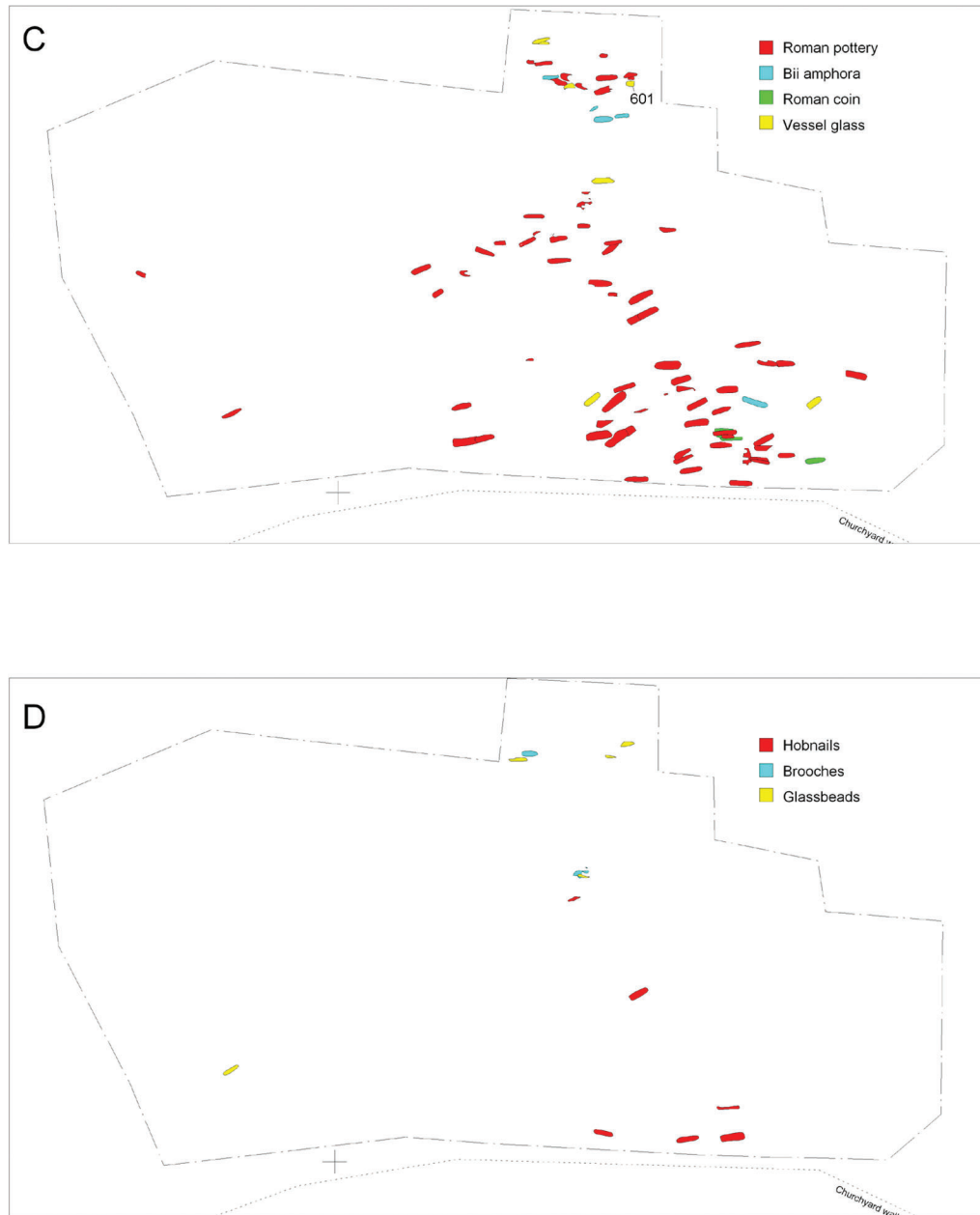


FIG. 14

C: grave fills containing Roman pottery, Roman coins, Bii amphora and early-medieval glass. D: Hobnail burials, Roman brooch grave good, glass beads.

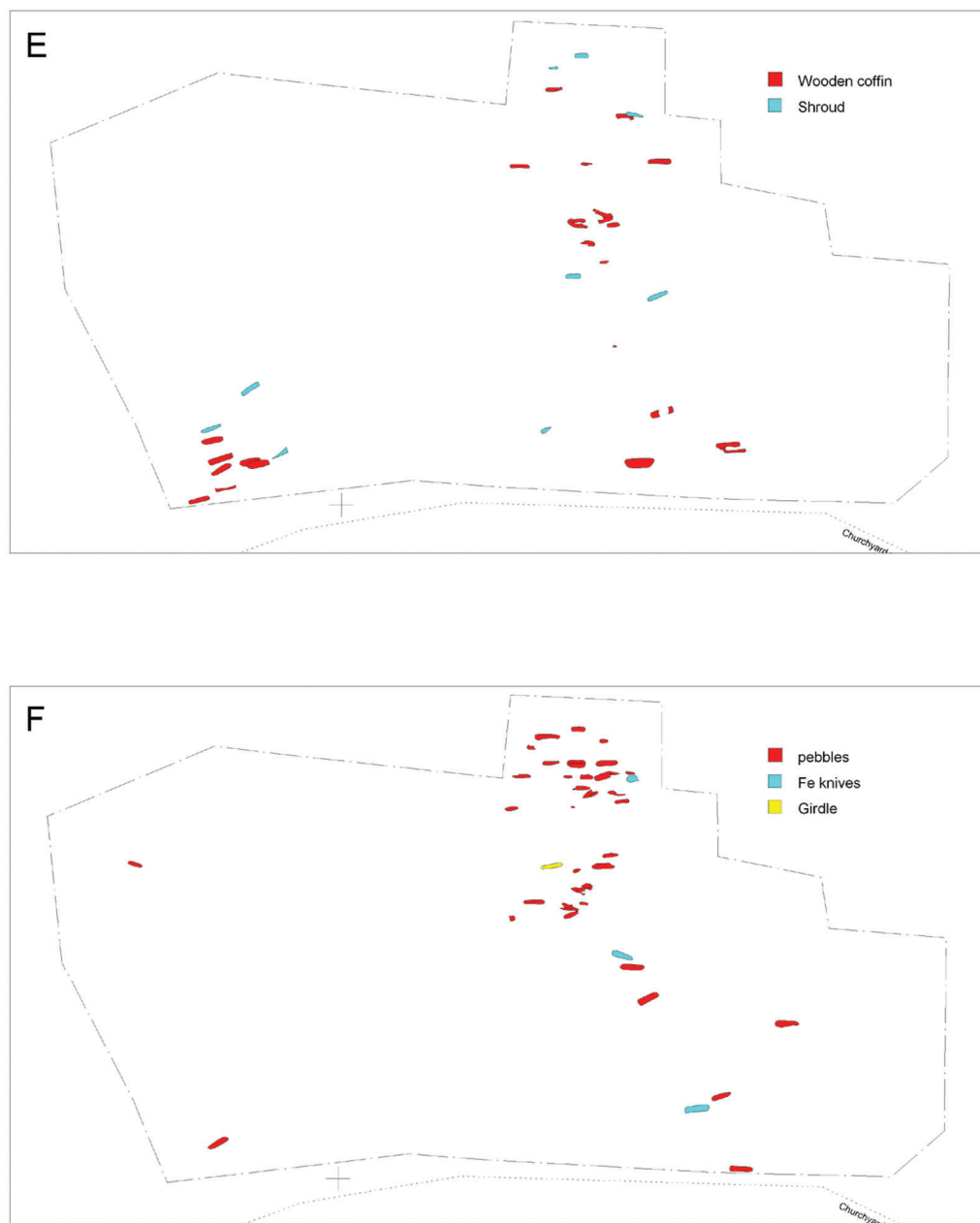


FIG. 15

E: graves with evidence of wooden coffins and shrouds. F: graves containing burial pebbles, iron knives and the iron girdle.

occurred in Area I, and that there were small clusters in Areas II and III. Both males and females, adults and juveniles are represented.

Wooden coffins occur commonly in some Late Roman cemeteries (such as Poundbury and Lankhills, Winchester (Hants.)), while being much less prevalent elsewhere (such as Cirencester).³⁰ Such coffins also occur in a number of post-Roman cemeteries in Wales, such as Plas Gogerddan, Ceredigion (radiocarbon date from a coffin of 265–640 cal A.D.) and Tandderwen, Denbighshire (radiocarbon dates from coffins of 560–655 and 886–1012 cal A.D.).³¹ A higher proportion of the graves attributed to the early cemetery at Capel Maelog (7th/11th–late 12th/early 13th century) had coffins than in the later phases.³² Shroud burials, identified in the same manner as those at Llandough, were also found at the Atlantic Trading Estate, Barry.³³

GRAVE FILLINGS

Most of the graves were backfilled with redeposited yellow clay containing limestone fragments and charcoal flecks. This often made recognition of the precise edges of the grave cut very difficult. Where there were instances of several intercutting graves the fills tended to be much darker, resulting in a dark grey, brown, or greenish-brown silty clay gravesoil heavily mottled with the yellow clay and limestone fragments. These fills often contained bone fragments from earlier disturbed burials and most of the artefactual material is either simply residual, being incidentally incorporated within the grave backfill, or possibly 'sweepings' of the debris from a graveside meal.³⁴ Other than odd nails and hobnails, casually deposited finds include an iron oval chain loop from the fill of B106; two Late-medieval pins from B75; a rim fragment of a glass cone beaker of late 6th- or 7th-century date from B640; a small sliver of plain glass, possibly of Early-medieval date (Fig. 14C), from B482, and a fragment of a lead window grille, probably Roman, from B331. In addition, pieces of slag were found in several grave fills and two globules of post-medieval glass waste in the fill of B457. All of the Roman pottery recovered from the grave fills is also considered to fall into the accidental category, although a slight caveat should be introduced concerning the five graves which produced sherds of post-Roman Bii amphora (Fig. 14C). These amphorae (and their contents) were doubtless exotic and high-status, and it has been suggested that such pottery may have been deliberately introduced into the grave fill as part of the burial ritual. Certainly the discovery of amphora sherds on the ground surface close to a 'special' grave within the churchyard of St Materiana at Tintagel (Cornwall) has been interpreted thus.³⁵

³⁰ Woodward, *op. cit.* in note 15, 228.

³¹ K. Murphy, 'Plas Gogerddan, Dyfed: a multi-period burial and ritual site', *Archaeol. J.*, 149 (1992), 1–38 at p. 22; K. S. Brassil, W. G. Owen and W. J. Britnell, 'Prehistoric and early medieval cemeteries at Tandderwen, near Denbigh, Clwyd', *Archaeol. J.*, 148 (1991), 46–97 at p. 88.

³² Britnell, *op. cit.* in note 20, 54.

³³ James, *op. cit.* in note 24, 97.

³⁴ For a discussion see Rahtz et al., *op. cit.* in note 15, 398.

³⁵ C. D. Morris, J. Nowakowski and C. Thomas, 'Tintagel, Cornwall: the 1990 excavations', *Antiquity*, 64 (1990), 848; C. Thomas, *Tintagel, Arthur and Archaeology* (London, 1993), 103; Rahtz et al., *op. cit.* in note 15, 424.

Given the frequent intercutting of graves, and the truncated stratigraphy, it must be recognised that there is a strong likelihood that some artefacts contained within the grave fills are intrusive, either from later cutting burials or the overlying topsoil. For example, eight burials contained sherds of High-medieval pottery and tile, and four post-medieval pottery, including B631* which contained the securely dated Early-medieval girdle. Given that the site of the cemetery was occupied by Great House Farm in the post-medieval period, and that the farmhouse itself may have a Late-medieval origin, this pottery must be considered intrusive, perhaps introduced during post-cemetery cultivation or animal burrowing, and it cannot be used to indicate that burial continued until the 13th or 14th century or beyond. The timber building in the north-eastern part of the site provides further evidence for the cemetery having gone out of use before this time (p. 39).

POTENTIALLY SIGNIFICANT ARTEFACTS CONTAINED WITHIN GRAVES

This section discusses Roman and post-Roman artefacts (other than pottery) contained within graves. In some cases deliberate deposition of the object as a grave good seems reasonably assured (for instance the Roman brooch with B796* and the post-Roman knives with B34 and B898*). Elsewhere there are varying levels of doubt whether artefacts were consciously placed with a body as part of a ritual or accidentally introduced into the grave during backfilling.

Burial 34 (*M*, 25): a single-edged blade, comparable to 11th-century examples at Whithorn (Dumfries), had been placed on the right side of the chest (Fig. 35, 3).

Burial 35 (*U*, 45+): 21 hobnails within the grave fill, possibly from a shoe thrown in with the backfill. This could have been deliberate. The grave had a partial stone lining, and the fill also contained sherds of late 3rd- or 4th-century pottery.

Burial 40 (*C*): a large complete Roman melon bead dated to the 1st or 2nd century found on the right-hand side of the neck (Fig. 33, 1).

Burial 59 (*?F*, *adult*): the grave fill contained a 4th-century Roman coin. This grave had been heavily disturbed and there is a possibility that the coin had been displaced from elsewhere.

Burial 87* (*F*, 20): 15 iron hobnails were recovered from the feet area. A Roman coin of A.D. 330+ was contained within the grave fill along with 4th-century pottery. The bottom of the grave displayed organic staining. A radiocarbon date of 776–1018 cal A.D. proves the Early-medieval date of this grave, as does the date of 610–777 cal A.D. from the stratigraphically earlier burial B333*.

Burial 93 (*F*, 45+): a Roman coin of A.D. 335–40 was found near the left eye socket. Whether it was originally placed here, or had fallen from the mouth on decomposition is uncertain. A second coin of A.D. 337–40 was recovered from the grave fill, as were two iron hobnails, and an iron nail 25+ mm long. The base of the grave displayed evidence of organic staining. This burial overlay B110 and so is no earlier than 655 cal A.D.

Burial 110: the grave fill produced four hobnails (widths of heads 10 mm and 12 mm) and two nails, both with bent shafts. The one complete example was 68 mm long. Two of the nails were found at the feet together with a coin dating to A.D. 337–40. The foot of the grave was lined with vertically pitched stone slabs. A radiocarbon date of 655–938 cal A.D. once again confirms the date of this burial.

Burial 449 (*C*): a length of copper-alloy rod, possibly part of a pin from a Roman brooch, was found between the feet (Fig. 34, 2). There must be uncertainty whether this was a deliberate deposition.

Burial 547 (*F*, 60+): four small glass annular beads were found close together on the neck, directly underneath the jaw. Their proximity and arrangement suggests that they were strung around the neck (Fig. 33, 2–5). The beads are difficult to date but are possibly recycled from Roman bottle glass. The grave fill also produced a burial pebble.

Burial 624 (*U*, *adult*): a small dark grey annular glass bead (Fig. 33, 7). Position within grave uncertain.

Burial 631* (*M*, 30): dated 361–662 cal A.D., contained a series of iron bands around the waist from an Early-medieval girdle (Fig. 15F). A full description and discussion of this object is presented below (pp. 53–64).

Burial 796* (*?M*): a complete Polden Hill-type brooch of the 1st century A.D. The brooch was in good condition and lay by the left hand, which had been positioned on the right side of the pelvis (Fig. 34, 1). It is possible that this may have been used to fasten a shroud, although the body did not display the hunching of the shoulders recorded elsewhere. The Early-medieval date of the grave is indicated by a radiocarbon date of 604–885 cal A.D. from a burial (B784) which was stratigraphically earlier than B796*. The grave fill also contained a burial pebble. The brooch must therefore be regarded as a stray find that was collected as a curiosity.

Burial 851 (*1C*): large dark blue glass annular bead (Fig. 33, 9). Roman. Position within grave uncertain. This burial is stratigraphically later than B796* which contained a burial pebble.

Burial 898* (*M*, 25) contained a single-edged knife, broadly datable to the 8th–11th centuries, laid by the right leg (Fig. 35, 1).

Burial 934 (*M*): a small opaque turquoise annular glass bead (Fig. 33, 8). Roman. Position within grave uncertain. The grave fill also produced a burial pebble.

Further residual hobnails were found in twenty other graves. Fifteen graves contained only single nails, four graves two nails (B93, B125, B593, B839), and one grave (B321) three nails.

The iron knives accompanying two burials by can reliably be interpreted as grave goods (Fig. 15F). A further fragmentary knife of possible Early-medieval date was found in the fill of a post-pit of the post-cemetery timber building, and the blade from a cutting tool in an undated pit 120 (Fig. 35, 2 and 4). They might have been disturbed from other burials. Iron knives are one of the few grave goods to

occur in early post-Roman cemeteries, such as Cannington where they accompanied seventeen burials, and Ulwell (Dorset) where a single knife was the only item of furniture among 54 burials.³⁶ Iron knives were also one of the comparatively rare grave goods found with Period 1 (pre-A.D. 730) monastic graves at Whithorn.³⁷

The complete state of the Roman brooch from B796* (Fig. 14D), and its position by the left hand, also strongly suggest deliberate burial. Of the Roman coins (Fig. 14C), those found within the grave fills of B110 and B35 might just be incidental finds contained within the backfill of the graves, while that within B59 could have been disturbed from elsewhere. That nearer the head of B93, no earlier than the mid-7th century, is the best candidate, but still a far from certain one, for deliberate grave deposition. The practice of placing coins in graves, either by the head or thrown into the grave fill, is a well-attested Late Roman practice. Indeed Philpott has observed that the frequency with which coins are found in Roman grave fills suggests that their presence is not accidental, but rather that coins were often deliberately thrown into the grave pit during backfilling.³⁸ Roman coins occur in Anglo-Saxon graves, sometimes pierced for use as amulets, and it would appear that the practice continued on a spasmodic basis well into the post-Roman period in western Britain, using increasingly archaic coins that no longer served as currency but may have had a symbolic value.³⁹ At Caerwent a coin of A.D. 335–48 was found with a burial which was dated by radiocarbon assay to the 6th or 7th century, while at Cannington a 2nd-century coin was found with a burial dated 540–790 cal A.D. and a pierced 3rd-century coin with a burial that associated grave goods suggest is much later than the coin.⁴⁰ The collection and retention of coins for use as amulets and talismans is more credible than an alternative suggestion that low-value Roman coinage was employed for economic transactions in post-Roman western Britain.⁴¹

Most of the hobnails recovered from the graves occur in such small quantities that they are best considered residual within the grave fill (Fig. 14D). The only possible evidence for a body buried with iron-shod footwear is the fifteen hobnails from the feet area of B87* which dates to no earlier than late 8th century. Footwear of this type is not so far recorded from Early-medieval Wales, and a total of fifteen hobnails is not sufficient to prove conclusively that they derived from nailed boots or shoes.⁴² Burial with iron-shod footwear is a commonly attested Roman funerary

³⁶ Rahtz et al., op. cit. in note 15, 84–95; P. W. Cox, 'A seventh century inhumation cemetery at Shepherd's Farm, Ulwell, near Swanage, Dorset', *Proc. Dorset Nat. Hist. Archaeol. Soc.*, 110 (1989), 37–48 at p. 46.

³⁷ P. Hill, *Whithorn and St Ninian: The Excavation of a Monastic Town 1984–91* (Stroud, 1997), 74.

³⁸ R. Philpott, *Burial Practices in Roman Britain* (BAR Brit. Ser., 219, Oxford, 1991), 212.

³⁹ Cf. the discussion by W. Davies, *Wales in the Early Middle Ages* (London, 1982), 54–5 of the significance and prevalence of coins in Early-medieval Wales.

⁴⁰ M. Farley, 'A six-hundred metre long section through Caerwent', *Bull. Board Celtic Stud.*, 31 (1984), 209–50; Rahtz et al., op. cit. in note 15, 85–98.

⁴¹ K. R. Dark, *Civitas to Kingdom* (Leicester, 1994), 200–6.

⁴² J. M. Mills, 'The Hobnails', 99 in Farwell and Molleson, op. cit. in note 15, demonstrates that at the Late Roman cemetery at Poundbury the numbers of hobnails found in individual graves suggest that there were three basic types of footwear containing c. 10, c. 35 and c. 50 nails per boot. Study of the Roman footwear from Billingsgate Buildings, London, identified three types of nailed shoes. Type B, the least heavily nailed, still had in excess of ten nails per shoe: M. Rhodes, 'Leather Footwear', 99–128 in D. M. Jones, *Excavations at Billingsgate Buildings, Lower Thames Street, London, 1974* (London, 1980). The fifteen nails from B87* is therefore on the low side if a similar type of shoe is envisaged.

rite which was widely adopted in the rural areas of south-central England, especially in the 4th century.⁴³ The explanation of the practice is usually interpreted to be a belief that the dead were felt to need a good pair of shoes for the journey into the underworld, and has therefore been seen as an essentially pagan tradition. There is now some supporting evidence that the tradition continued, albeit rarely, into the post-Roman period. At Shepton Mallet (Somerset) an inhumation burial was found with concentrations of hobnails at its feet and with a large quantity of 3rd- or 4th-century pottery in the grave fill. The burial produced a radiocarbon date of 430–680 cal A.D.⁴⁴

The beads from B40 and B547 were found by the neck and were observed and recorded at the time of excavation. The single beads from B624, B851 and B934 were only found during washing of the skeletons, and consequently their position within the graves is not recorded (Fig. 14D). It seems likely that the beads with B40 and B547 were suspended on necklaces that were being worn at the time of burial, and as such can be considered grave goods. Greater doubt must attach to whether the beads from the three other graves were deliberately deposited or accidentally introduced during backfilling. The melon bead is clearly Roman, and there are examples of single melon beads in Romano-British graves from Ospringe (Kent); Horncastle (Lincs.) and Poundbury.⁴⁵ There is no independent dating for B40. The beads from B547 are difficult to date, although they are probably Roman, and the Early-medieval date of this grave is demonstrated by the presence of a burial pebble. Single beads, which were neither typically Roman or Anglo-Saxon, were found in four graves at Cannington, one of which produced a radiocarbon date of 660–1150 cal A.D.⁴⁶

BURIAL PEBBLES

A total of 122 pebbles of quartz and other non-local stone were found associated with burials and disarticulated bone groups (Tab. 6).⁴⁷ Forty individual graves produced pebbles (e.g. B306*; Fig. 16), while a large scatter was found over the group of intercutting burials B753–6. These burials overlay B643, a juvenile which contained ten pebbles, so the pebbles in the later graves might represent a disturbed covering to B643. B687, 1 m north of B643, yielded six pebbles. In addition the stones from two further burials (B448 and B551) may be derived from associated disarticulated bone groups. Seven other bone groups also produced pebbles.

The pebbles were found in all areas of the cemetery but concentrate mainly in the northern part (Fig. 15F). This distribution may be influenced in part by the fact that the significance of the pebbles, particularly of the non-quartz variety, was not

⁴³ Philpott, *op. cit.* in note 38, 167–75, Tab. A31.

⁴⁴ P. Leech, *Excavation of a Romano-British Roadside Settlement in Somerset, Fosse Lane, Shepton Mallet, 1990* (London, 2001), 45.

⁴⁵ Philpott, *op. cit.* in note 38, tab. A30.

⁴⁶ Rahtz et al., *op. cit.* in note 15, 96–8.

⁴⁷ Geological provenancing by Heather Jackson clearly indicates that few of the recorded stones from Llandough occur locally (*pers. comm.* M. Redknap).

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FIG. 16

Burial 306 with quartz burial pebble on the chest. © *Cotswold Archaeology*.

recognised in the early stages of the excavation and thus not recorded. Any such bias will have affected the distribution plot in Area I, but not Area II.

Most of the burials contained only one to three pebbles, but a few contained more. They occur in a variety of grave-types although eleven of the burials were those of infants or children. Most of the pebbles appear to have been thrown in with the grave fill but there are several instances where the stones were placed directly over the burial. Where this occurs the stones appear to have been deposited randomly. Pebbles were found with three burials (B542, 819, and 864), which also contained sherds of Bii amphorae in their grave fillings. These burials only provide a late 5th-century *terminus post quem* for the use of pebbles, although the radiocarbon date of 361–662 cal A.D. from B631* shows that the rite was established before the mid 7th century. The radiocarbon date from B228 of 885–1035 cal A.D. indicates that the tradition continued until at least the late 9th century, unless the pebble in this particular grave was simply residual. Pebbles were found with one foetus, six young children, three children, twelve probable or certain males, and sixteen probable or certain females.

Quartz pebbles have been found in a number of other Early-Christian Welsh contexts. At Capel Maelog two graves were specially marked at ground level by edge-set stones enclosing an area covered by a thin scattering of large quartz pebbles.⁴⁸ One grave certainly belonged to the pre-church cemetery (i.e. pre-late 12th or early 13th century), and the other one might have done so too. A similar use of quartz pebbles to cap graves at ground level has also been found at Pennant Melangell (Powys) in a pre-12th-century context, and at St Justinian's chapel near St David's (Pemb.).⁴⁹ A second burial at St Justinian's contained a white pebble on the crown of the skull, another on the abdomen, one beneath each knee joint, and one near the feet. At St Patrick's chapel, also near St David's, one burial contained a pebble at the base of the pelvis and another several pebbles in the grave fill.⁵⁰ Incidences of such stones are not confined to Wales, however, as they have also been found in Scotland, Ireland, the Isle of Man, and Cornwall. Dated examples suggest a 7th-century or later date.⁵¹ The largest assemblage to be studied is that from the monastic graveyards at Whithorn, where four graves which can probably be dated to the second half of the 7th and opening decades of the 8th century were capped with white stones. These pebbles also seem to have been used as burial talismans in later 13th- to mid-15th-century graves.⁵² Where such stones occur as coverings they presumably define 'special graves',⁵³ but those that occur with the body should probably be interpreted differently. Perhaps they are some reflection of Christ's messages in the Revelation of St John the Divine (Revelation Ch. 2, Verse 17): 'To him that overcometh will I give to eat of the hidden manna and will give to him a white stone, and in that stone a new name written, which no man knoweth, saving he that receiveth it.' At Whithorn it was suggested that the stones might be an 'admission ticket to the other world', while Crowe has considered them tokens for prayers for the dead, a rite which may have derived from monastic practice in 4th- and 5th-century Egypt and Syria.⁵⁴ In a discussion of the white stones which had been dug up in the churchyard of Penmynydd (Anglesey) it is stated: 'these had no doubt been brought here on occasion of interments, when, as was usual in some parts of Wales during the Middle Ages, each mourner brought and deposited a white stone on or near the grave of the departed'.⁵⁵

⁴⁸ Britnell, op. cit. in note 20, 54.

⁴⁹ W. J. Britnell, 'Excavation and recording at Pennant Melangell Church', *Montgomeryshire Collect.*, 82 (1994), 41–102 at p. 82; E. J. Boake, 'Report on the Excavations of the Chapel of St Justinian, St David's', *Archaeol. Cambrensis*, 81 (1926), 381–94 at p. 387.

⁵⁰ A. B. Badger and F. Green, 'The chapel traditionally attributed to St Patrick, Whitesand Bay, Pembrokeshire', *Archaeol. Cambrensis*, 80 (1925), 87–120 at pp. 103–8 includes a general discussion of the practice.

⁵¹ C. Crowe in J. A. Nowakowski and C. Thomas, *Grave News From Tintagel* (Truro, 1992), 9.

⁵² P. Hill, op. cit. in note 37, 472–3. The excavations at Whithorn uncovered graves containing white pebbles, usually quartz or granite, and cattle teeth. According to Peter Hill, a total of 13,000 'white stones' was recovered from stratified deposits and studied. While they were widely dispersed in space and time, those in graves concentrated in the latter part of Period I, perhaps dated to the second half of the 7th century. Two out of eight graves in Phase 1, three out of thirty-one in Phase 2, five out of 33 in Phase 3, and 22 out of 47 in Phase 4 contained pebbles. The practice continued in the Period II childrens' graveyard, and Period II burials (?8th–late 9th centuries).

⁵³ Thomas, op. cit. in note 27, 58.

⁵⁴ Op. cit. in note 51.

⁵⁵ Anon., 'Mona Mediaeva no. XXI', *Archaeol. Cambrensis*, 3 ser., 5 (1859), 21–7.

ALIGNMENT

In some cemeteries it has been possible to construct detailed models of burial process and sequence based upon alignment,⁵⁶ but the Llandough assemblage is unlikely to be susceptible to such analysis as the main factors determining alignment are likely to have been the monastery church and its associated boundaries. In a total of 781 cases sufficient survived of the burial for its alignment to be determined. Given the nature of the bedrock it is unlikely that the grave diggers would have been able to achieve any precision of alignment nearer than 5°–10°. The vast majority of burials lay between 50° and 90° (Tab. 7) and the essentially E.–W. nature of the cemetery is therefore evident. The Victorian church has an alignment of 83° east of north, and if this reflects the alignment of earlier structures (such as the presumably timber monastery church) then this probably accounts for the most frequently recorded orientation (71°–80°).⁵⁷ Some burials

TABLE 7
BURIAL ALIGNMENT (FOOT END)
0° = feet due north; 90° feet due east;
360° feet due south

<i>Alignment</i>	<i>total</i>	<i>%</i>
0–10°	0	0.0
11–20°	4	0.5
21–30°	12	1.5
31–40°	19	2.4
41–50°	70	9.0
51–60°	89	11.4
61–70°	124	15.9
71–80°	314	40.2
81–90°	108	13.8
91–100°	19	2.4
101–110°	11	1.4
111–120°	2	0.3
121–130°	2	0.3
131–140°	0	0.0
141–150°	1	0.1
151–270°	0	0.0
271–280°	2	0.3
281–290°	2	0.3
291–300°	1	0.1
301–330°	0	0.0
331–340°	1	0.1
341–360°	0	0.0
TOTAL	781	100%

⁵⁶ Cf. P. A. Rahtz 'Grave orientation', *Archaeol. J.*, 135 (1978), 1–14.

⁵⁷ A study of burial orientation within Early-medieval cemeteries in NW. Wales has shown that there is a tendency towards burial in the ENE. arc of the compass which is unlikely to be accidental: D. Longley, 'Orientation within some Early Medieval cemeteries: some data from North-West Wales', *Antiquaries J.*, 82 (2002), 309–21.

display a more pronounced NE.–SW. alignment and these may have been aligned on the postulated curvilinear monastic boundary. There is therefore unlikely to be any chronological significance to the varying alignments, and this is reinforced by the stratigraphic evidence: in at least fourteen cases graves on more of a NE.–SW. alignment cut those that lay approximately E.–W., while the converse was true on at least eleven occasions. Two graves were dug on a near N.–S. alignment (B106 and 382). Burial 106 lay in Area I and produced a radiocarbon date of 782–1024 cal A.D. It had been cut by several later graves.

POST-CEMETERY ACTIVITY

In the NE. corner of the excavation part of a timber building represented by twelve irregular post-pits was found. Its full plan did not survive because of post-medieval truncation of the ground level (Figs. 5 and 17). The surviving features presumably represent the W. and S. walls of a rectangular building, although the post-pits are clearly not all of one phase. Although the dimensions of the post-pits were large (in a number of cases about 1 m square), this was the product of the removal of large slabs of limestone bedrock. For example post-pit 2589 had dimensions of 1 m x 0.88 but the actual post pipe was just 0.1 m in diameter. The remainder of the pit had been packed with stone. No floors or other internal deposits survived and it is therefore difficult to assign a function to the building. The building is clearly later than the abandonment of the cemetery as some of the post-pits cut earlier graves. Eight post-pits produced a total of 116 sherds of 13th- or 14th-century pottery (Tab. 16). In some cases the pottery was most probably contained within the *in situ* packing of the post-pit (distinction was not always possible) and therefore can be used to provide a *terminus post quem* for construction.

A shallow curving ditch 29 was aligned approximately NE.–SW. (Fig. 5). It cut through several graves and was approximately 1.35 m wide, a maximum of 0.36 m deep, and had been recut once. The original ditch fill 30 consisted of a gravelly clay, and that of the recut 31 a very stony greenish-brown clay indicating that the ditch had been deliberately backfilled. A second ditch 1214 lay further to the west and was aligned approximately NNW.–SSE. It was traced for a length of approximately 6 m, and had been removed at both ends by later quarrying. The ditch was approximately 1.5 m wide and 0.3 m deep and had been recut once. It contained a primary fill 1215 of redeposited yellow-brown clay, and that of the recut 1171 was a greyish-green clay with a single surface patch (1172) of a shelly grey-brown clay. This ditch cut B37*. No finds were recovered from either ditch and they presumably relate to the period following the abandonment of the cemetery but prior to the construction of Great House Farm.

At some point much of the site had been the subject of intense quarrying. One of these quarries bisected the excavation area, and further large quarries were seen to the west of the excavation area during the construction of two houses fronting Penland Road. They had all been backfilled with what appeared to be a slurry-type deposit. The date of their excavation and backfill is uncertain, but these quarrying operations must have removed a large part of the cemetery. Stone walls and demolition deposits apparent in the excavation all belong to Great House Farm and its outbuildings, which had been systematically levelled in 1988.

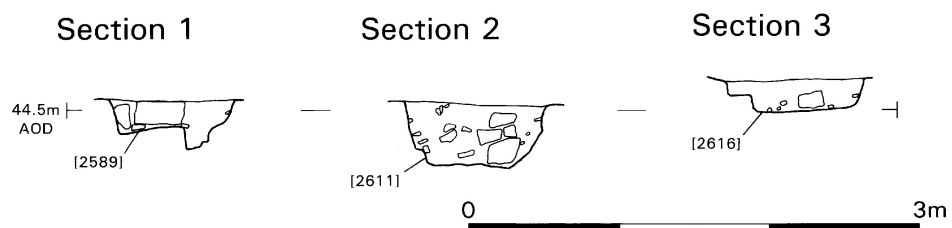
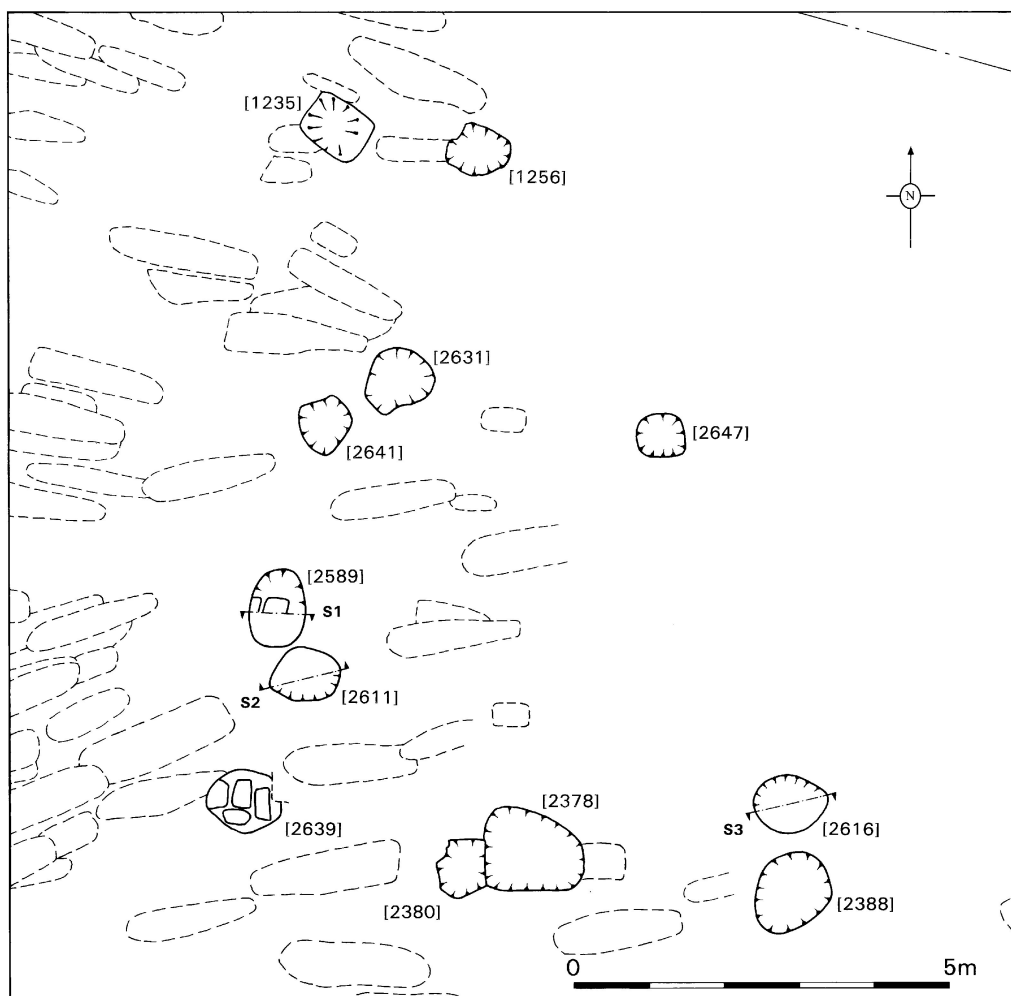


FIG. 17

Plan of the later medieval building.

Examination of the building by RCAHMW in 1974 suggested that the farmhouse was essentially 17th-century but may have incorporated some medieval fabric.⁵⁸

THE RADIOCARBON DATES (Tab. 8)

Bones from four burials were submitted for radiocarbon dating by Beta Analytic Inc. in 1994. Two (B65 and 380) yielded insufficient collagen for conventional analysis and were sent for AMS determination. Another six samples were dated at Waikato in 1998, and a further two in 1999 (Fig. 6). In addition Table 8 also includes the three dates already published from burials recovered in the 1979 excavation and watching brief.⁵⁹ The dates as published were not

TABLE 8
RADIOCARBON DATES⁶⁰

<i>Lab. Ref.</i>	<i>Burial No.</i>	<i>C¹⁴ date (BP)</i>	<i>2 Sigma calibration (95% prob) cal A.D.</i>	<i>1 Sigma calibration (68% prob) cal A.D.</i>	<i>Area</i>	<i>Selection Criteria</i>
Beta-76463	B2*	1570 ± 70	370–640	420–590	I	Stone-lined grave. NE.–SW. burial
Wk-6938	B631*	1530 ± 80	361–662	426–639	II	Girdle burial
Wk-7021	B566	1450 ± 55	434–687	558–653	III	Part of a distinct row of E.–W. burials
Wk-7323	B333*	1340 ± 45	610–777	652–764	I	Burial under B87
Wk-7023	B784	1320 ± 70	604–885	651–777	III	Burial stratigraphically earlier than B796
Wk-7324	B110	1270 ± 50	655–938	687–858	I	Coin of 337–40 in fill
Beta-76466	B380	1210 ± 60	680–980	770–890	II	Wooden coffin
Beta-76464	B65	1170 ± 60	705–1000	790–970	I	NE.–SW. burial
Wk-6936	B87*	1140 ± 50	776–1018	783–984	I	Hobnail burial; coin of 330+ in fill.
Wk-7022	B688	1110 ± 55	779–1024	887–997	III	Stratigraphically late burial towards N. limit of cemetery
Wk-6937	B106	1100 ± 50	782–1024	892–998	I	Aligned N.–S.
Beta-76465	B228	1070 ± 50	885–1035	960–1015	III	Part of a row on a clear NE.–SW. alignment
CAR 305	GGAT 122	1155 ± 81	687–1025	777–794, 797–990	–	S. of church in watching brief area
CAR 306	GGAT 145	1175 ± 81	668–1022	775–983	–	S. of church in watching brief area
CAR 271	GGAT 052	885 ± 75	999–1284	1033–1143, 1147–1258	–	S. of church. Dug into villa demolition

⁵⁸ Royal Commission on the Ancient and Historical Monuments of Wales, Notes on Sites and Finds in Llandough Village (unpub. notes by R. F. Suggett, 1988).

⁵⁹ Owen-John, op. cit. in note 4, 176.

⁶⁰ References for calibration. Beta Analytic: J. C. Vogel, A. Fuls, E. Visser, and B. Becker, *Radiocarbon*, 35 (1993), 73–86. A. S. Talma and J. C. Vogel, *ibid.*, 317–22; M. Stuiver, A. Long, R. S. Kra and J. M. Devine, *ibid.*, 1–244. Waikato: OxCal programme. Swansea: M. Stuiver and B. Becker, *ibid.*, 35–65. *Radiocarbon Calibration Program Rev. 3.0*. University of Washington, Quaternary Isotope Lab.; M. Stuiver and P. J. Reimer, *ibid.*, 215–30.

calibrated, but this information has kindly now been supplied by Dr Q. Dresser of Swansea University.

SUMMARY REPORT ON THE HUMAN SKELETONS

By LOUISE LOE and KATE ROBSON-BROWN

A total of 801 discrete skeletons was received for examination by the Palaeopathology Study Group, University of Bristol.⁶¹ These represent the largest assemblage of skeletons to have been recovered from Wales to date. They therefore present a unique opportunity to explore the health and physical attributes of the Early-medieval Welsh and allow comparison with populations of similar date and type.⁶² This short report summarises the main findings of a standard anthropological and palaeopathological examination that was undertaken on the remains between 1998 and 2002. A more detailed report is to be published separately in due course.⁶³

TABLE 9
AGE CATEGORIES EMPLOYED IN THE
ANTHROPOLOGICAL AND
PALEOPATHOLOGICAL ANALYSES

Fetus	= 0–9 months <i>in utero</i>
Perinate	= 0 (around the time of birth)
Infant	= > 0–< 2 years
Young child	= > 2–< 6 years
Late Childhood	= > 6–< 18 years
Young Adult	= 18–25
Adult	= > 25–35
Middle Adult	= > 35–45
Mature Adult	= > 45 and > 60

Ages and sexes were estimated by employing standard anthropological techniques.⁶⁴ For the purposes of analysis, summary ages were derived by taking the middle of the ascribed range and, for adults, rounding it up to the nearest decade (as appropriate). For example, individuals aged as 17–25 years were summarised as 20 years. The summary ages were then placed into a series of categories (Tab. 9) which have been utilised in the analysis presented in Figures 18–23. Further details on the methodology employed to estimate age and sex can be found in the digital archive and the full specialist bone report.

⁶¹ The research was undertaken as part of doctoral study funded by a University of Bristol Scholarship and a British Federation of Women Graduates Award.

⁶² Unless stated, all comparisons are based on the first author's own observations whilst undertaking Ph.D. research: L. K. Loe, *Health and Socio-Economic Status in Early Medieval Wales* (unpub. Ph.D. Thesis, University of Bristol, 2003). They include samples examined from Atlantic Trading Estate, Barry (Vale of Glamorgan); Cannington (Somerset); Saint Andrew's Fishergate, York; and Whithorn (Dumfries and Galloway).

⁶³ Op. cit. in note 14.

⁶⁴ M. Brickley and J. I. McKinley, *Guidelines to the Standards for Recording Human Remains* (IFA Paper No. 7, 2004). M. Cox and S. Mays, *Human Osteology in Archaeology and Forensic Science* (London, 2000). L. Scheuer and S. Black, *Developmental Juvenile Osteology* (London, 2000).

TABLE 10
CONDITION OF THE SKELETONS

<i>No. of Good Skeletons (%)</i>	<i>No. of Fair Skeletons (%)</i>	<i>No. of Poor Skeletons (%)</i>
280 (35%)	320 (40%)	201 (25%)

TABLE 11
COMPLETENESS OF THE SKELETONS

No. (%)	< 15%	15–25%	> 25–50%	> 50–75%	> 75%
	58 (7%)	74 (9%)	323 (40%)	213 (27%)	133 (17%)

The skeletons were in varying states of preservation and completeness (Tabs. 10–11). Most were sufficiently well preserved to allow full analysis, being in a fair or good condition and relatively complete. ‘Poor’ skeletons comprised bones with considerable damage to most joint ends, as well as abraded bone surfaces, while ‘fair’ skeletons were characterised by bones that had reasonably well preserved surfaces and relatively un-abraded joint ends. ‘Good’ skeletons generally had un-abraded joint ends and bone surfaces that were in an excellent state of preservation. Fragmentation was considerable across all condition and completeness categories. No skulls had survived complete and of the 6,372 major long bones (humerus, radius, ulna, femur, tibia and fibula) that were present, 373 (6%) were intact, 1,077 (17%) were complete but broken, and 4,922 (77%) were incomplete, some represented by just a few fragments. Therefore, some analyses (for example, metrical assessment) were limited by this degree of fragmentation.

The demographic profile (Figs. 18–19) reflects a mixed group comprising males, females and children, with a normal mortality curve for a population of this date and type.⁶⁵ Deaths peaked in infancy, early adulthood, and later adulthood. Infants were, however, under-represented and this may have been caused by factors relating to burial practice, extent of excavation, preservation, and cultural attitudes towards children.⁶⁶ Twenty-eight per cent of the population failed to reach adulthood. In particular, this relates to sub-adults aged between the ages 0–<2, 4–<6 and 8–<10 years. Compared to other samples, the ratio of sub-adults to adults was lower suggesting a lower mortality rate among older children overall.⁶⁷

Males were more numerous in the sample than females: the ratio was 1.2 males to 1 female. This is within the range observed for other samples, although Cannington has a higher ratio of females to males.⁶⁸ Deaths were more common among females at 18–25 years and 25–35 years indicating that child-bearing may

⁶⁵ T. Waldron, *Counting the Dead: The Epidemiology of Skeletal Populations* (Chichester, 1994).

⁶⁶ D. R. Brothwell, ‘Palaeodemography’, 111–29 in W. Brass (ed.), *Biological Aspects of Demography* (London, 1971); J. Henderson, ‘Factors determining the state of preservation of human remains’, 43–54 in A. Boddington, A. N. Garland and R. Janaway (eds.), *Death Decay and Reconstruction* (Manchester, 1987). Waldron, op. cit. in note 65.

⁶⁷ Loc, op. cit. in note 62.

⁶⁸ Rahtz et al., op. cit. in note 15.

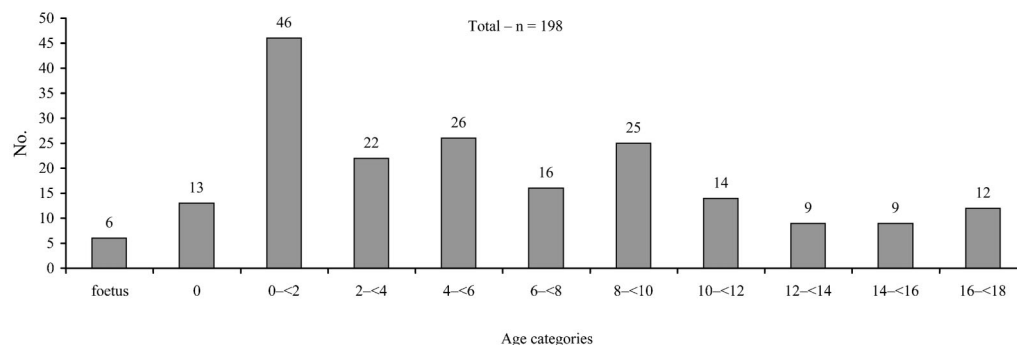


FIG. 18

Sub-adult mortality profile for the entire cemetery sample.

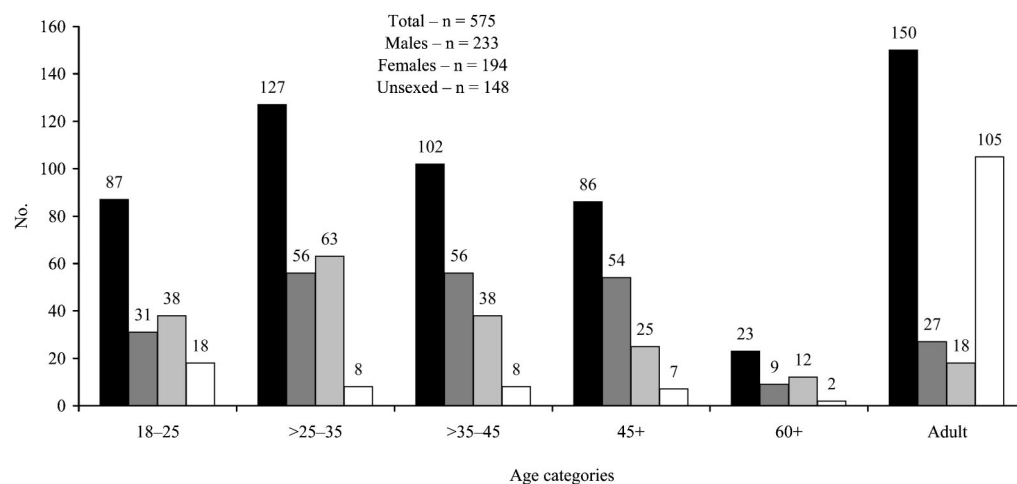


FIG. 19

Adult mortality profile for the entire cemetery sample — columns from left: total; males; females; and unsexed.

have had a significant impact on female mortality. Mortality among males also peaked at 25–35 years. It is possible that this is a result of problems associated with age-estimation,⁶⁹ or, given the comparatively high levels of morbidity that were observed among males, that mobility, immigration and exposure to pathogens had some influence on this mortality peak.⁷⁰ Fewer individuals lived beyond 60 years than beyond 45 years. This probably reflects an ageing bias rather than a true trend because few individuals had the appropriate traits available with which to estimate an age beyond 45+.

⁶⁹ M. Cox, 'Ageing adults from the skeleton', 61–81 in Cox and Mays, op. cit. in note 64; R. L. Gowland and A. T. Chamberlain, 'Detecting plague: palaeodemographic characterisation of a catastrophic death assemblage', *Antiquity*, 79 (2005), 146–57.

⁷⁰ Loc, op. cit. in note 62.

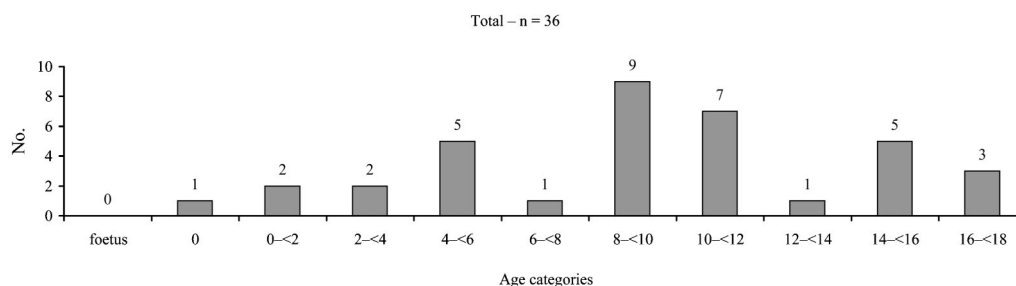


FIG. 20

Sub-adult mortality profile for burials within Area I.

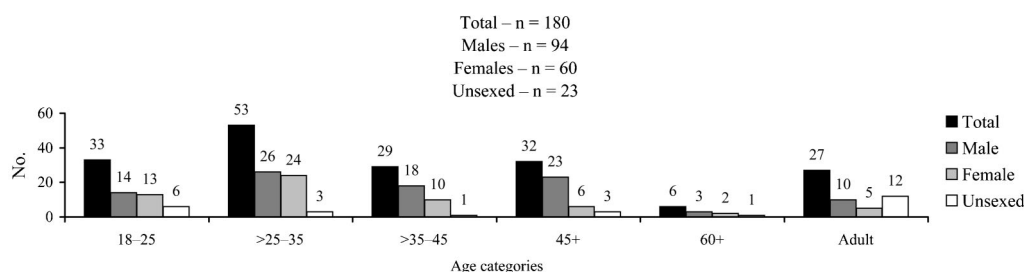


FIG. 21

Adult mortality profile for burials within Area I — total; males; females; and unsexed.

Some differences in mortality experience were identified when burials contained within Area I were compared with those in Areas II and III combined (Figs. 20-3). Area I had a higher proportion of males to females and children whereas Areas II and III had a more even ratio of males, females and children. Most striking is the high number of infant burials in Areas II and III. These occur as a distinct self-contained group, centrally located in the north of the cemetery and surrounded by adult burials (Fig. 12). It is impossible to determine why such a group should be buried in this area. No pathology was identified that would indicate a specific cause or event but acute disease, the changing use of the cemetery, circumstances under which infants were baptised, social attitudes towards the burial of infants and the status of parents (for example, their health, marital, and religious status) are among the possible explanations for this.⁷¹

Stature ranged from 1.45 m to 1.87 m for the entire sample, between 1.57 and 1.87 m for males and 1.45 and 1.69 m for females. This was similar to those calculated for other contemporary populations, although the range tended to be greater than these smaller, samples (Tab. 12). The difference in mean male stature and mean female stature also tended to be greater. A possible explanation for this may be that the male population comprised immigrants, while the female population comprised individuals from the local area. However, although stature is influenced by genetic predisposition, environmental factors (for example,

⁷¹ Loc, op. cit. in note 62.

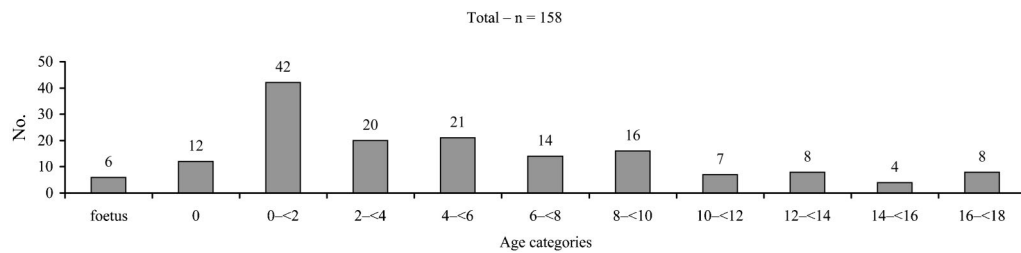


FIG. 22

Sub-adult mortality profile for burials within Areas II and III.

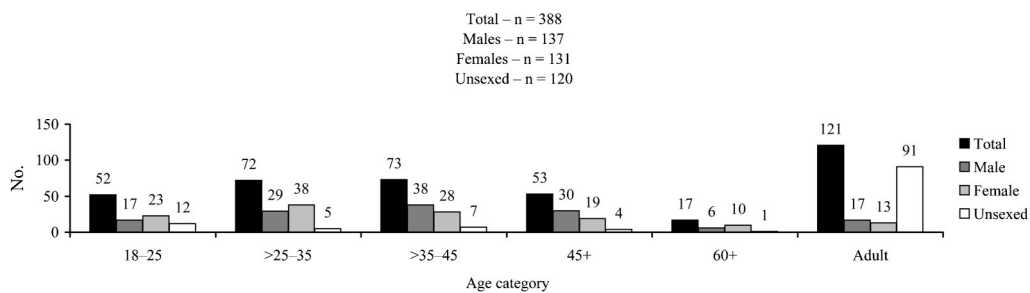


FIG. 23

Adult mortality profile for burials within Areas II and III — total; males; females; and unsexed.

TABLE 12
SKELETAL STATURES: LLANDOUGH AND COMPARACTIVE SAMPLES. S.D. = STANDARD DEVIATION

	<i>Llandoough</i> (n = 151)			<i>Whithorn</i> (n = 7)			<i>Saint Andrew's, York</i> (n = 27)			<i>Cannington</i> (n = 37)			<i>Atlantic Trading Estate, Barry</i> (n = 19)		
	Mean	Range	s.d	Mean	Range	s.d	Mean	Range	s.d	Mean	Range	s.d	Mean	Range	s.d
Males	169.57	156.71-186.66	5.28	173.20	160.69-178.52	7.26	168.80	157.04-177.86	5.67	169.16	161.24-178.20	5.01	165.19	160.06-170.90	4.04
Females	156.80	144.80-169.12	4.60	165.00	162.04-167.92	4.19	154.72	139.94-162.07	6.51	159.66	149.14-176.95	6.98	156.75	150.92-159.32	3.07
Entire sample	163.56	144.80-186.66	8.09	170.86	160.69-178.52	7.35	161.50	139.94-177.86	9.35	164.28	149.14-178.20	7.71	161.91	150.92-170.90	5.56

childhood disease and malnutrition) are also an important influence. For example, severe, longstanding malnutrition encountered during the growing years may compromise an individual's ability to achieve their full height potential.⁷² Sexual dimorphism in height may, therefore, suggest a community that had access to a nutritional surplus where, given the taller mean stature of males, this was invested in their growth.⁷³ Further analysis is required to test these hypotheses.

⁷² R. H. Steckel, 'Stature and the standard of living', *J. Econ. Lit.*, 33 (1995), 1903-40.

⁷³ C. Arcini, *Health and Disease in Early Lund: Osteo-pathologic Studies of 3,305 Individuals buried in the First Cemetery Area of Lund 990-1536* (Archaeologica Lundensia. Investigationes de Antiquitatibus Urbis Lundae VIII, Lund, 1999).

A range of pathological conditions was observed including those relating to joint disease, nutritional disorders, infection and trauma. Joint disease was by far the most common and this was mainly represented by osteoarthritis (OA), which affected 29.7% of all adults, mostly males. A high prevalence of OA is not unusual: it is the most common condition encountered in both modern and ancient populations.⁷⁴ Since it becomes more common with the advancement of age, it was also unsurprising to find that most of those affected were aged over 40 years. The most frequently affected sites were the cervical spine (13.5% of all cervical spines) followed by the hand (9.5% of all joints combined). This pattern has been observed in other populations of similar date.⁷⁵ Skeletons with multiple joint OA tended to show patterns that involved the hand, spine and shoulder and hand, spine and elbow. In modern clinical contexts OA affecting the upper limbs is believed to be more closely associated with hereditary factors than the weight bearing joints of the lower limbs.⁷⁶

The presence of other joint diseases in the population was indicated, such as septic arthritis and, most interestingly gout. This disease is more common in males than females, and is associated with obesity, excessive alcohol intake, high blood pressure, and kidney problems.⁷⁷ In dry bone, diagnosis rests on the presence of punched out oval or round erosions that have overhanging edges ('Martell hooks') and, when viewed radiologically, sclerotic margins.⁷⁸ The most convincing example in the Llandoough population was observed on skeleton B848, a male aged between 35 and 45 years, and involved the right and left elbow joints and right and left first metatarsophalangeal joints (Fig. 24), sites that are commonly affected by this disease. Few examples of gout have been reported in the palaeopathological literature, but five examples from the Romano-British cemeteries at Poundbury are among these.⁷⁹

No specific nutritional disorders (for example, rickets and scurvy) were identified in the population. However, this does not necessarily mean that they were absent. Rather, it is a reflection of how difficult they are to identify in human skeletal remains. Preservation, limited knowledge of how these conditions manifest themselves in the human skeleton, and variability in the expression of disease in the skeleton, can all influence this. For example, six skeletons (B68, 233, 304, 468, 682 and 930) were noted for periostitis, a non-specific inflammation of the outer surface of bone, involving sites that have been described in possible examples of scurvy elsewhere.⁸⁰ However, all six skeletons were incompletely preserved and in

⁷⁴ J. Rogers and T. Waldron, *A Field Guide to Joint Disease in Archaeology* (Chichester, 1995).

⁷⁵ T. Waldron, 'Changes in the distribution of osteoarthritis over historical time', *International J. Osteoarchaeol.*, 5 (1995), 385–9.

⁷⁶ D. Resnick and G. Niwayama, 'Degenerative disease of extraspinal locations', vol. 3, 1263–1371 in D. Resnick (ed.), *Diagnosis of Bone and Joint Disorders* (Pennsylvania, 1995).

⁷⁷ C. A. Roberts and K. Manchester, *The Archaeology of Disease* (2nd ed., New York, 1995), 137.

⁷⁸ Rogers and Waldron, op. cit. in note 74.

⁷⁹ Farwell and Molleson, op. cit. in note 15.

⁸⁰ D. J. Ortner and M. F. Erikson, 'Bone changes in the human skull probably resulting from scurvy in infancy and childhood', *International J. Osteoarchaeol.*, 7 (1997), 212–20. D. J. Ortner, E. Kimmerle and M. Diez, 'Skeletal evidence of scurvy in archaeological skeletal samples from Peru', *American J. Physical Anthropol.*, 108 (1999), 321–31. D. J. Ortner, W. Butler, J. Cafarella and L. Milligan, 'Evidence of probable scurvy in subadults from archaeological sites in North America', *American J. Physical Anthropol.*, 114 (2001), 343–51.



FIG. 24

Ulna and first metatarsal of Burial 848 with marginal erosive lesions affecting proximal joints and suggestive of gout. *Photograph by Medical Illustration, Bristol Royal Infirmary.*

none were the lesions pathognomonic of scurvy. Diagnosis, therefore, remains speculative.



FIG. 25

Enamel hypoplasia. Top: linear horizontal furrows (Skeleton 242, 33-45 year-old male); Bottom: pits of depressed enamel (Burial 458, 3-5 years old). *Photographs by Medical Illustration, Bristol Royal Infirmary.*

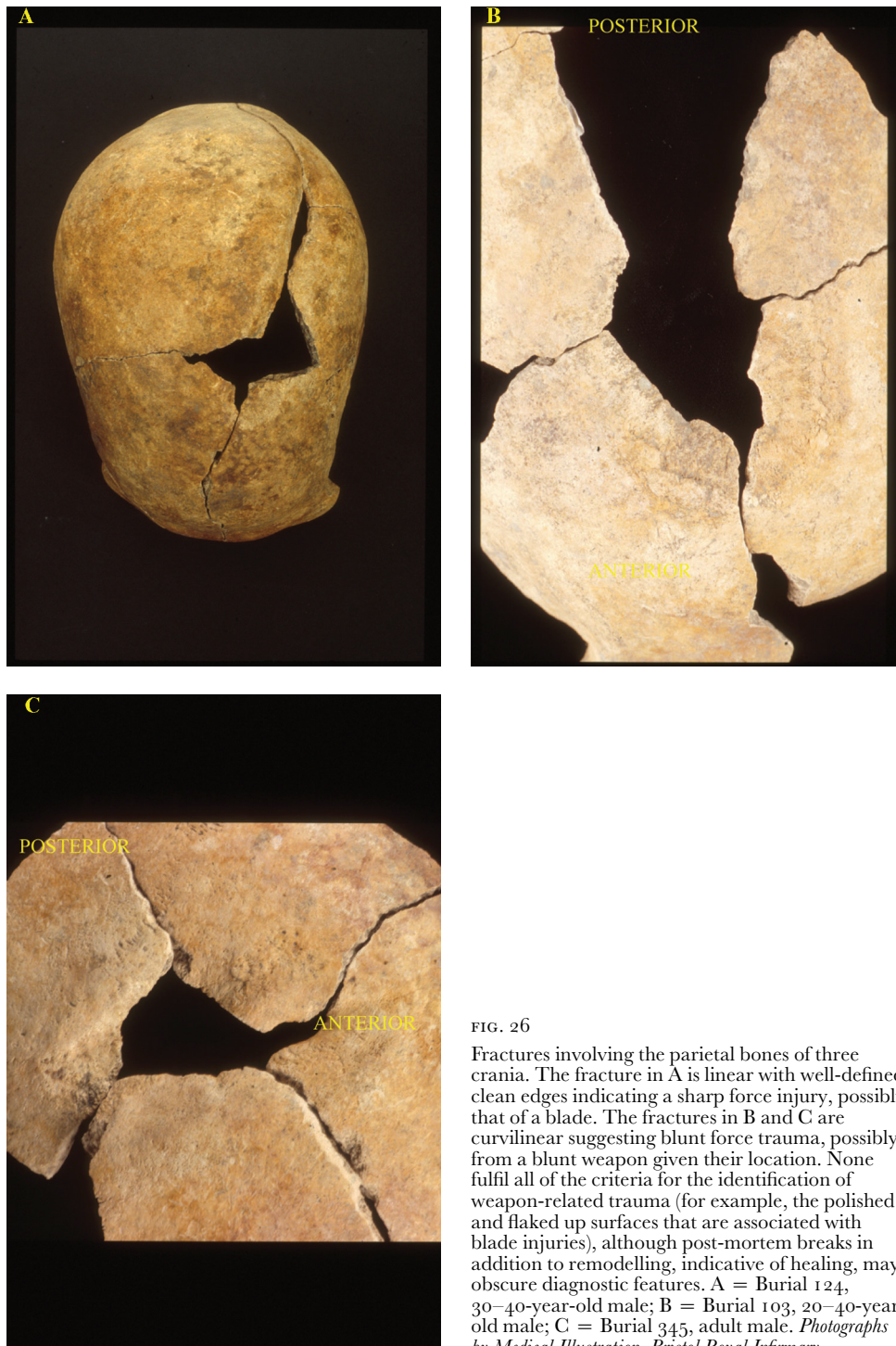


FIG. 26

Fractures involving the parietal bones of three crania. The fracture in A is linear with well-defined clean edges indicating a sharp force injury, possibly that of a blade. The fractures in B and C are curvilinear suggesting blunt force trauma, possibly from a blunt weapon given their location. None fulfil all of the criteria for the identification of weapon-related trauma (for example, the polished and flaked up surfaces that are associated with blade injuries), although post-mortem breaks in addition to remodelling, indicative of healing, may obscure diagnostic features. A = Burial 124, 30–40-year-old male; B = Burial 103, 20–40-year-old male; C = Burial 345, adult male. *Photographs by Medical Illustration, Bristol Royal Infirmary.*

Perhaps a clearer picture of the nutritional status of the population is to be gleaned from three non-specific conditions: enamel hypoplasia, cribra orbitalia, and porotic hyperostosis. Enamel hypoplasia is identified on teeth as sharp lines, furrows, grooves, or pits of depressed enamel (Fig. 25).⁸¹ It is the result of disruption to the formation of enamel during growth and therefore represents health stress encountered during the growing years. There are many factors besides malnutrition that can cause this condition, infection and childhood illnesses such as measles being among these.⁸² In the Llandough population 6.7% of all dentitions had one or more hypoplastic defects. Defects were more frequent among skeletons from Areas II and III combined (19.7%) compared to Area I (6.2%). Overall, levels of enamel hypoplasia were not particularly high, implying intermittent periods of poor health rather than chronic physiological disturbance.

Cribra orbitalia and porotic hyperostosis, also believed to reflect childhood health stress, were identified as small porosities or large inter-connected trabeculae on the roof of the orbits (cribra orbitalia) and the external surface of the skull vault (porotic hyperostosis).⁸³ Both conditions were infrequent, affecting 35.7% of all orbits and 5.7% of all skulls. Overall, they were more common and more severe among skeletons buried in Areas II and III compared with those buried in Area I. Frequencies were not significantly different to other samples, if a little lower.

It is thought that cribra orbitalia and porotic hyperostosis are caused by iron deficiency anaemia.⁸⁴ Given the relatively low frequencies, added to the fact that most lesions were not severe, the overall impression is that the inhabitants of the Llandough area experienced relatively mild forms of iron deficiency anaemia during their lives.

Infection was observed in 0.1% of the population or 0.6% of all skeletal elements that could be observed. It was more frequent compared to other samples and involved more males than females.⁸⁵ Almost all lesions were represented by periostitis. Besides infection, periostitis may also arise in other conditions such as mild trauma and varicose veins. A more detailed analysis of the distribution of periostitis in the Llandough population suggested that most lesions were related to these relatively minor conditions. Most were isolated, were of minimal or moderate expression, and most involved the lower limb bones. Specific infections were not generally prevalent, although diagnosis was hampered by poor preservation. Those suggested are tuberculosis, osteoarthropathy, brucellosis and the previously mentioned septic arthritis. Evidence for syphilis and leprosy was less determinative although diagnosis, based on the distribution of lesions around the skeleton, was hindered by the incomplete specimens. These diseases were not necessarily absent.

Most trauma was represented by healed fractures, involving 11% of the population, or 0.2% of all elements that were observed. These affected more males, and tended to involve the upper regions, especially the clavicle and the forearm.

⁸¹ S. Hillson, *Teeth* (Cambridge, 1986).

⁸² Roberts and Manchester, op. cit. in note 77.

⁸³ P. Stuart-Macadam, 'Nutritional deficiency diseases: a survey of scurvy, rickets, and iron-deficiency anaemia', 201–22 in M. Y. Ićcan and K. A. R. Kennedy (eds.), *Reconstruction of Life from the Skeleton* (New York, 1989).

⁸⁴ Stuart-Macadam, op. cit. in note 83.

⁸⁵ Loc, op. cit. in note 62.

Analysis of the distribution of fractures and fracture patterns indicated that the majority were associated with indirect forces, such as accidental falls.

There was a near absence of fractures affecting sites that are typically involved during acts of aggression (e.g. the facial skeleton and crania). Exceptions are a group of fractures which, in modern clinical contexts, are associated with violence.⁸⁶ These include one possible scapula fracture (B838), five fractured metacarpals involving four skeletons (B91, 119, 225 and 329) and, less conclusively, fractures involving the forearms of three females and three males. In addition, three possible weapon injuries were identified involving three crania (B103, 124 and 345). None of these fulfil all of the criteria for the identification of weapon-related trauma but given their location (among other things), they are possible examples. All show bony remodelling indicating that they were not themselves fatal (Fig. 26).

Overall, fracture patterns were typical of a rural population for which farming activities are the most likely cause of injury.⁸⁷ These patterns were not significantly different between burial areas. However, a wider distribution of elements was involved in skeletons from Areas II and III compared with Area I, perhaps indicating that the people buried in the former engaged in more diverse activities.

These are the main findings of the skeletal analysis. But what of the overall health status of the Llandough population? It is difficult to draw conclusions about the mortality and morbidity experience of an assemblage that is undoubtedly biased by many factors such as preservation, sampling and cultural circumstances. However, the impression is of a population that enjoyed an adequate diet, perhaps more than adequate in some instances if we consider the example of gout. Males tended to have experienced more pathological conditions than females, possibly because they were more mobile and therefore exposed to more pathogens and stressors. Conditions that relate to childhood experiences (e.g. cribra orbitalia and enamel hypoplasia) were more common than those that relate to adulthood (e.g. trauma and infection), and a greater burden of disease was indicated in Areas II and III than in Area I. In general, the small amount of evidence for long-standing conditions and violence-related trauma suggest that the inhabitants of Llandough enjoyed favourable living conditions. Although not dissimilar in their overall health and physical attributes, lower levels of disease and a tendency towards a higher life expectancy are suggested compared to other contemporary populations.

THE FINDS

In the following sections the various categories of artefact recovered from the excavation are catalogued and discussed. The finds are crucial to the understanding and interpretation of the cemetery. For instance, in a number of cases there is uncertainty as to whether an artefact was deposited in the grave incidentally during backfilling or was deliberately deposited as an item of grave goods. Information on

⁸⁶ J. Crawford Adams, *Outline of Fractures* (New York, 1983); L. F. Rogers, *Radiology of Skeletal Trauma* (New York, 1992).

⁸⁷ M. A. Judd and C. A. Roberts, 'Fracture trauma in a medieval British farming village', *American J. Physical Anthropol.*, 109 (1999), 229–43.

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FIG. 27

Burial 630 showing the iron bands *in situ*, prior to lifting. © *Cotswold Archaeology*.

the completeness of an artefact and its location within the grave can in some cases assist in differentiating between these two possibilities. It is equally important that the Roman artefacts, including the pottery found within the grave fills, are fully reported as they are of importance when considering questions such as whether the cemetery originated in the Roman Period, or the survival and use of Roman artefacts in the post-Roman period.

AN EARLY-MEDIEVAL GIRDLE FROM BURIAL 631

By MARK REDKNAP

During the first stages of the excavation of the grave fill of B631*, a large number of fragments of corroded iron 'banding' were found lying above and in front of the pelvis of the extended body (Fig. 27). Following discussions with the National Museums & Galleries of Wales (NMGW), it was decided that the ironwork should be lifted as a block for excavation in laboratory conditions.

Recovery

Once the skeleton, which lay on its back (head to the west), had been fully uncovered and recorded, the legs and upper body were lifted by the excavation team. The whole pelvic area which remained, including the lower arms, wrists, vertebrae and associated rib fragments, was lifted as a single block encased in Plaster of Paris bandage and transferred to the Conservation Laboratory of the Department of Archaeology & Numismatics at the NMGW, Cardiff.⁸⁸ Field conservation was undertaken by Diane Dollery, and laboratory conservation by Kathy Bird and Penny Hill.

In the laboratory, the block was x-radiographed, and a wooden box was constructed around it. This was then filled with a polyurethane foam to provide a support during excavation. The block was carefully excavated in an inverted position. Each stage of exposure was traced on melinex film, providing an additional record of the details of the precise orientation of bones and iron, and their relationships.

As the soil was removed, it became clear that there were two (not one) fragmentary bands of iron lying across the back of the pelvis (Fig. 28). Across the front of the pelvis lay two further bands, one fragment orientated at right angles to the other fragments. The disposition of these two iron fragments and of some bones within the block suggest that the pelvic area of the body had been disturbed by animal activity and elements displaced. This is also supported by the discovery of the jaw and teeth of a small rodent, within the corrosion of one fragment.

Description

The original surfaces and fractures of the iron fragments remained in good, if unstable, condition. With careful cleaning of the fractures, it has been possible to re-orientate the various pieces, and to re-assemble them in their original positions. This has revealed two separate, parallel bands of iron, designated 'upper' (Fig. 29) and 'lower' (Fig. 30). These iron bands vary from 20 to 30 mm in width. All fragments are slightly convex to the body, varying in cross-section from flat back with slightly raised edges, to shallow U-shaped guttering. No decorative detail has been found on the banding. In both cases, the ends terminate and meet in the centre of the back, close to the spine. The method of fastening the ends together was in both cases by means of a 'hook' forged out of one end and being passed upwards through a loop forged on the other, the point being bent over to secure the junction. The loops on both bands had slightly 'waisted' or tapered edges.

The corrosion products on the concave sides (i.e. those that face away from the body) of the fragments contained impressions of organic matter which were consolidated. Mineral-replaced wood was present in two discrete areas above the vertebrae, the wood rays being aligned parallel to the vertebral column in both cases.⁸⁹

⁸⁸ For details of the lift see K. Bird, *Excavation and investigation of iron banding associated with a human burial from Llandough* (unpubl. diss., University of Durham, 1995).

⁸⁹ Bird, *op. cit.* in note 88.

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FIG. 28

Top: the fragments after excavation of the block, showing their relative positions in the ground.
Bottom: Detail of the upper band, showing conserved sections of ironwork. © *National Museum of Wales*.

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FIG. 29

The upper band. Scale 1:2; details 1:1. *Drawing by Tony Daly; © National Museum of Wales.*

Impressions of textile were found on the external surface of three adjacent sections of the lower iron band, within the concave 'guttering'. These impressions have been examined by Hero Granger-Taylor and identified as a coarse tabby of average quality, with open weave and loosely spun threads of long fibres, indicative of linen. Both systems are Z-spun, with 12 threads per cm longitudinally, and 14 per cm horizontally. The weave is diagonal to the iron banding, suggesting accidental impressions of textile pressed tightly against the banding. The impressions are on frontal sections of the banding, which would have been uppermost in the grave at the time of burial. Backfilling of the grave may therefore have pushed

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FIG. 30

The lower band. Scale 1:2; details 1:1. *Drawing by Tony Daly; © National Museum of Wales.*

the cloth against the ironwork, but it is not possible to establish whether the impressions represent a shroud or clothing.

Casts of *cyclorrhaphous* fly puparia were found on approximately half of the fragments (identified by John Deeming, Curator of Diptera, NMGW) during cleaning. The majority of these casts, preserved by the formation of iron-corrosion products around the abandoned puparia cases, appear on the outside of the bands,

though a small number have also been noted on the inner face of the bands. Two seed cases were also noted within the corrosion products.⁹⁰ The convex side of the banding was featureless (no organic remains).

The object is now in the collections of the Department of Archaeology & Numismatics, NMGW (NMW acc. no. 95.56H)

Date

The radiocarbon date for the skeleton in B631* (i.e. when metabolism ceased) gave a result of 1530 ± 80 B.P. (Wk-6938) (cal. A.D. 361–662 at 2 sigma calibration) or A.D. 340–660 using OxCal c2.18. A 5th- or 6th-century date is compatible with the other archaeological evidence, such as the position of the burial within cemetery.

Discussion

The skeletal evidence indicates that B631* was a robust adult male, aged 25–35, and about 1.75 m in height (based on left radius).⁹¹ One rib had a healed fracture. It is clear from the surviving remains that the iron bands enclosed the waist of the adult, and that no attempt appears to have been made to remove them on his death. Their purpose is less clear, but two interpretations are indicated by historical sources: penitential or hernia belts. No changes were observed on the skeleton that would suggest a medical condition requiring a surgical truss.

Bands made of iron were sometimes worn as a form of penance to expiate sins committed during life ('penitential belts'). Most recorded instances post-date the 6th century, a late practitioner being King James IV of Scotland (1473–1513) who wore an iron belt under his shirt in penance for the death of his father at Sauchieburn (1488), discovered on his death at the Battle of Flodden (1513).⁹²

One of the direct inheritors of the austere ascetic traditions of the East was John Cassian (c. A.D. 360–435), a native of Dobrudja (Romania/Bulgaria) on the Black Sea, who after visiting the famous monastic communities of the eastern deserts, was active in Gaul by A.D. 415, sharing his experience of eastern asceticism with a new audience. His writings were known in Anglo-Saxon England, but this type of spirituality is thought to have grown in popularity in the 12th century. At the basis of the penitential life was the Christian realisation of sin.⁹³ In the 11th and 12th centuries an eremitical life could provide a career of expiation — the purging of the soul by hurting the body. The characteristic external austerities of the penitential life as practised in England around this time are set out in the *Ancrene Wisse* (12, 10–12) — bodily pain, with fasts, vigils, scourgings, harsh clothes, rough lodging, disease, and hard physical work. The ascetic life was thought of as a life of service, particularly military service (the *militia Christi*). The coats of mail worn by some hermits (*loricati*) seem to have been put on, not to burden the flesh so much as to defend against the physical assaults of the devil: 'I know one man who wears

⁹⁰ Bird, op. cit. in note 88.

⁹¹ Pers. comm. Louise Loe.

⁹² L. Stephen and S. Lee (eds.), *The Dictionary of National Biography*, vol. X (London, 1921–2), 582–90 at p. 582.

⁹³ G. Shepherd (ed.), *Ancrene Wisse Parts Six and Seven* (Manchester 1959), xxiv.

at the same time a heavy coat of mail and a hair-shirt fastened painfully about his waist, thighs, and arms with broad bands of iron.⁹⁴ In one case recorded by Peter Damian, an Italian called Dominic, the so-called *loricatus* (A.D. 955–1060) ‘wore for about three years an iron corslet next to the skin, but girt about the body with two iron hoops and his arms fastened by another pair’.⁹⁵ An early *loricatus* in Wales was a William, knight of Hugh Lacy, who withdrew around A.D. 1100 to Llanthony Abbey (Mons.) and wore ‘An habergeon with which to defend himself against the darts of the Enemy’.⁹⁶ One English visionary, Godric of Finchale, is said to have worn out three shirts of chain-mail during his period of seclusion.⁹⁷ Another form of religious devotion recorded by Walter Map is the case of an English hermit who had a long iron chain with iron peg attached to his leg, which restricted his movement by the week.⁹⁸

The preacher, Caesarius of Heisterbach (c. 1170–c. 1240), whose ecclesiastical histories and ascetical writings were very popular in Germany, recorded in his early 13th-century *Dialogue on Miracles* two instances of ‘sinful women’ wearing such bands as punishment. In one account, a nun named Clementia, in the convent of St Gertrude, at Nivelles in Brabant, ‘gave her whole time to washing with tears each day the tunic of her innocence, which she had polluted . . . with sins of the flesh . . . When she was dying, there were found round her body nine iron bands’.⁹⁹ In another account, a maiden of Liège called Osilia, grieving for her sins, became a nun near the church of St Severin, Metz, where:

. . . in exceeding remorse she often shed tears of blood; moreover she had bound herself with bands of iron. But as she stood at prayer with these upon her, they all burst asunder. Now fearing that those chains had not been acceptable to God, she bound herself again. When she revealed this to the abbot of S. Lambert, he said to comfort the sorrowing woman: ‘He who said to Mary Magdalen “The sins are forgiven thee,” has broken thy bonds’.¹⁰⁰

Caesarius described this event as having happened ‘not long since’, and presumably it can be attributed to the late 12th or early 13th centuries.

Closer in time and place to Llandough, a visionary brother at the monastery of (Much) Wenlock (Shrops.) was instructed by angels:

. . . to confess all his own sins, which the impure spirits had imputed to him, to this priest [Begga] making amends for them as he judged fit; and, as a token of the angelic instruction he was to testify to the priest that unknown to men he [the priest Begga] had worn an iron girdle round his loins for love of God . . .¹⁰¹

This episode is recorded in a letter from Boniface to his correspondent Eadburg, before 719, and Boniface may have encountered the visionary in England before he went to Frisia in 716. The visionary is thought to have been a full member of

⁹⁴ *Ancrene Riwe* fol. 103v, 11–12, trans. M. B. Salu, *The Ancrene Riwe* (London, 1955), 169.

⁹⁵ *Patrologia Latina* 144, col. 1017; Shepherd (ed.), op. cit. in note 93, 51.

⁹⁶ Shepherd, op. cit. in note 93, 51.

⁹⁷ *Ibid.*

⁹⁸ Walter Map, *De Nugis Curialium*, ed. and trans. M. R. James, rev. C. N. L. Brooke and R. A. B. Mynors, *Courtier's Trifles* (Oxford, 1983), note 55, 131.

⁹⁹ Caesarius of Heisterbach, Book XI, Ch. XXVIII, trans. H. Von E. Scott and C. C. Swinton Bland, *The Dialogue on Miracles by Caesarius of Heisterbach (1220–1235)*, (London, 1929), 262–3; C. Daniell, ‘When penance continued in the grave’, *British Archaeol.*, 19 (1996), 7; idem, *Death and Burial in Medieval England 1066–1550* (London, 1997), 157.

¹⁰⁰ Caesarius of Heisterbach, Book XI, Ch. XXIX: op. cit. in note 99, 263–4.

¹⁰¹ P. Sims-Williams, *Religion and Literature in Western England, 600–800* (Cambridge, 1990), 243 and 246.

Abbeß Mildburg's community at Wenlock (though he was not called 'brother', *frater*). The priest Begga was an ascetic, and appears to have worn an iron girdle round his loins for many years.¹⁰² The device around his waist would appear to belong to the same category of penitential device as that recorded by Caesarius of Heisterbach in the 13th century.

An alternative interpretation for the Llandough object is that provided by the occasional discovery of iron banding around the pelvic area of skeletons on the Continent, notably from Merovingian graves in France and Germany, where they have been identified as hernia belts or *Bruchbänder*. There is no evidence on the Llandough skeleton for a medical injury requiring treatment, but an ailment such as a hernia would not leave any trace. Hernia is a condition in which there is a projection of part of an organ or tissue through a weak area in the muscle or tissue that normally contains it, the projection appearing as a tumour or swelling on the outside. In males, this frequently occurs in the groin (inguinal or scrotal hernia), while in women it can occur in a similar region or towards the centre of the upper thigh (femoral or crural hernia), and in children it can occur at the umbilicus (umbilical hernia). Hernias can also occur in the central upper abdomen (epigastric or abdominal hernia), in which the intestine bulges out at a point between the navel and the breastbone. This can be three times more common in men than women, and it is most likely to occur in people between the ages of 20 and 50. An incisional hernia is when the intestine bulges through a weakness caused by a wound or surgery; in modern cases a mesh may be required to repair the bulge. Hernias are often caused by extra pressure being exerted on weak places, through lifting heavy objects or frequent coughing. Treatment usually involves returning the protrusion within the belly and keeping it there (reducible hernia) with purpose-made pads kept in place by a strong spring band that passes round the body. Trusses have to be carefully fitted over the place from which the rupture comes, and it is clear from the Merovingian examples that the metal pads have been placed directly over such spots (usually lower abdomen, suggesting epigastric or inguinal hernias).

The first medical references to hernias go back far in time, and they must have been an occupational hazard in antiquity. Direct evidence for their treatment can be found in mummies from the necropolis at Sakkara dated ca. 2500 B.C.¹⁰³ Hernias were well known in the Classical world. Medical authors such as Hippocrates (c. 460–375 B.C.) or Aulus Cornelius Celsus (first half 1st century A.D.) described treatment principles which formed a basis for treatment well into the Middle Ages. In his *De medicina*, Celsus mentions fixing the intestine with a 'strip of linen, to one end of which has been stitched a ball of rags'.¹⁰⁴ In a well-known epigram, the Roman poet Martial (c. A.D. 40–104) names a number of surgical specialists, including one specialising in healing hernias: *enterocclarum fertur Podalirius*

¹⁰² Ibid., 248.

¹⁰³ P. Ghalioungui, *Magic and Medical Science in Ancient Egypt* (1963).

¹⁰⁴ Celsus, *On Medicine*, Books VII–VIII (trans. W. G. Spencer, Loeb, Cambridge and London, 1994), 20.

Hermes, '... Hermes is said to be the Podalirius of hernias'.¹⁰⁵ The *Naturalis Historia* of Pliny the Elder (Gaius Plinius Secundus, A.D. 23–79) refers to hernias: inguinal hernias are called *enterocele* (XXVII, 89); umbilical hernias are called *umbilici eminentia* (XXVI, 49).¹⁰⁶ Hernias are thought to be represented on Gallo-Roman anatomical ex-votos (wooden and bronze) which show the torso with a protuberance adjacent to the genitals or on the abdomen.¹⁰⁷

The *Compendium Medicinae* written about 1240 by the English physician Gilbertus Anglicus (born c. 1180), contains advice on the care of those suffering from conditions such as hydrocele, orchitis and hernia.¹⁰⁸ According to the *Chirurgia* of Roger of Salerno, written about A.D. 1150, hernia was first treated by medication, and then with a truss. If these failed, surgery could be performed, but was risky.¹⁰⁹

The first direct archaeological evidence for hernia belts consisting of iron bands around the waist was first noted from Merovingian contexts by antiquaries in the 19th century, such as A. Danicourt who described one from Marchélepot, Dép. Somme, in 1884. In 1900, the Belgian doctor Victor Deneffe produced a small monograph on Merovingian *Bruchbänder* in a series on *Chirurgie der Antike*, citing Frankish examples from Devise and Fluy (Dép. Somme).¹¹⁰ More recently, further examples have been discovered in France at Lavoye (Dép. Meuse), Grave 126, dated to the mid-7th century,¹¹¹ and from grave 32, Royaumeix/Menil-la-Tour (Meurthe-et-Moselle), which was attributed to the second half of the 6th century;¹¹² in Germany at Schwenningen, Schwarzwald-Baar-Kreis (dated to the second half of the 7th century),¹¹³ in Switzerland at Bülach (two examples) and Matzingen, and a Visigothic example from Spain at Acequilla near Madrid.¹¹⁴ Examples have also been reported from Westgothic and Langobardic graves, and from post-Merovingian contexts in the north.¹¹⁵ The form of the Continental belts is fairly distinctive, each being forged to specific dimensions to fit the patient. An

¹⁰⁵ R. Jackson, *Doctors and Diseases in the Roman Empire* (London, 1988), 123; Martial, *Epigrams* (ed. and trans. D. R. Shackleton Bailey (vol. 2, Cambridge Mass. and London, 1993), X, 56; G. Penso, *La médecine romaine: L'art d'esculape dans la Rome antique* (Paris, 1984), 110.

¹⁰⁶ Pliny, *Natural History* (trans. W. H. S. Jones, Loeb, Cambridge and London, 1956), Bks. 20–3 (pp. 322–3); Penso, op. cit. in note 105, 330.

¹⁰⁷ R. Bernard and P. Vassal, 'Études médicales des ex-voto des sources de la Seine', *Rev. Archéol. Est et Centre-Est*, 9 (1958), 328–37 (Abb. 124); Penso, op. cit. in note 105, 110, figs. 149, 150 and 152; M. Vauthey and P. Vauthey, 'Les ex-voto anatomiques de la Gaule Romaine (Essai sur les maladies et infirmités de nos ancêtres)', 111–17 in A. Pelletier (ed.), *La médecine en Gaule: villes d'eaux, sanctuaires des eaux* (Paris, 1985) at p. 114; S. Deyts, *Les bois sculptés des sources de la Seine* (42nd supplement to *Gallia*, Paris, 1983), no. 73, pl. XXII; Jackson, op. cit. in note 105, 164.

¹⁰⁸ S. Rubin, *Medieval English Medicine* (Newton Abbot, 1974), 203.

¹⁰⁹ R. S. Gottfried, *Doctors and Medicine in Medieval England 1340–1530* (Princeton, 1986), 211.

¹¹⁰ V. Deneffe, *Chirurgie antique: les bandages herniaires à l'époque mérovingienne* (Antwerp, 1900/90).

¹¹¹ G. Joffroy, *Le Cimetière de Lavoye (Meuse): nécropole mérovingienne* (Paris, 1974), 115, Taf. 14, 1; L. Buchet, 'Die Landnahme der Franken un Gallien aus der Sicht der Anthropologen', 662–7 (Abb. 532) in *Die Franken: Wegbereiter Europas. Vor 1500 Jahren: König Chlodwig und seine Erben* (Mainz, 1996).

¹¹² A. Liéger and R. Marguet, 'Le cimetière Mérovingien de Royaumeix/Menil-le-Tour (Meurthe-et-Moselle)', *Rev. Archéol. L'Est et Centre-Est*, 43 (1992), 99–149, esp. fig. 32. Others are reported from Euville (Meuse), Behaut (Vosges), and Lay-Saint-Christophe (Meurthe-et-Moselle): *ibid.*, 141–2.

¹¹³ K. W. Alt and G. Oehmichen, 'Ein frühmittelalterliches Bruchband von Schwenningen. Schwarzwald-Baar-Kreis', *Fundbericht Baden-Württemberg*, 17 (1992), 407–22 at p. 408.

¹¹⁴ G. C. Koenig, 'Schmane und Schmied, Medicus und Mönch: ein Überblick zur Archäologie der merowingerzeitlichen Medizin im südlichen Mitteleuropa', *Helvetia Archaeol.*, 51/52 (1982), 75–154 at pp. 129–30; R. Baumgartner, 'Fußprothese aus einem frühmittelalterlichen Grab aus Bodanuz', *Helvetia Archaeol.*, 51/52 (1982), 155–62.

¹¹⁵ Koenig, op. cit. in note 114, 130.

iron band encircles about half the body, and one end of the band has been forged into an expanded end, bent to position the plate over the ailment. Loops in the band enabled the wearer to fasten the device by means of a leather strap.

In Britain, such objects are extremely rare. Deneffe cited an 'Anglo-Saxon' example in the collections of the British Museum attributed to the 13th century, though inquiries have so far failed to locate such an object.¹¹⁶ The medieval skeleton of an adult male excavated in the N. transept of Merton Priory (Greater London) was furnished with an accessory over the pelvis which has been interpreted as a hernia belt.¹¹⁷ This has a very different form to the published Merovingian examples, comprising a belt which did not continue around the body, with a wide downward extension on the front right hand side of the body. As in the case of the Llandough find, the Merton Priory fitting was made from iron beaten into a thin sheet, without any evidence for rivet holes or joins. Fibrous material overlying the belt was identified as a woven textile, and though degraded, animal fibre, possibly wool, was suggested by the scale pattern observed by scanning electron microscope.

The sporadic archaeological survival of trusses provides a poor reflection of the fairly continuous history of treatment, and some hernia trusses may have been made of perishable materials. The hernia was an occupational hazard for many, resulting from the strain of lifting, hauling and similar exertions. A hernia truss developed by Geiger and introduced in 1651 overlapped and fastened at the front of the pelvis, the strap passing right around the body.¹¹⁸ Samuel Pepys's father had a rupture of some 20 years standing which occasionally escaped the truss which supported it, causing him great pain.¹¹⁹ An early 19th-century example from Wales, formerly in the possession of Mr Owen Griffith (died 1865) of Tryfau (Caernarfonshire) has the form of a plain band of iron which encircled the waist, and provides a good parallel to the Llandough find (Fig. 32).¹²⁰ Lumbar support belts for back pain provide firm support for the vulnerable lower lumbar area, but these tend to support the back, rather than frontal area. Very little of the iron banding from Llandough has been lost through poor preservation, and it has been possible to estimate the circumference or waist measurement of both bands at about 32 in./81 cm; the small diameter suggests that they must originally have fitted *above* the hips, at epigastric or umbilical level. This was the position of the fragments on the body when first uncovered (Fig. 27).

Original appearance

Evidence for textile has been noted on the interior face of the expanded terminal of a 6th-/7th-century example from Champigneul-sur-Vence, while the iron band from grave 45 at the cemetery at Bülach (Kt. Zürich, Switzerland), of similar date, has been reconstructed with a leather sleeve and belt.¹²¹ An example

¹¹⁶ Deneffe, op. cit. in note 110; Alt and Oehmichen, op. cit. in note 113, tab. 1, 411.

¹¹⁷ B. White and H. Ganiaris, 'Excavating bodies: excavating and analysing human skeletons', 14–21 and fig. 6 in A. Werner (ed.), *London Bodies* (London, 1998); H. Ganiaris, 'Merton Priory hernia belt', MoLAS report (in prep.).

¹¹⁸ E. Bennion, *Antique Medical Instruments* (London, 1979), 154.

¹¹⁹ L. M. Beier, *Sufferers and Healers: The Experience of Illness in Seventeenth Century England* (London, 1987), 147.

¹²⁰ Museum of Welsh Life: NMW acc. no. 33.237/13.

¹²¹ Koenig, op. cit. in note 114, 127.

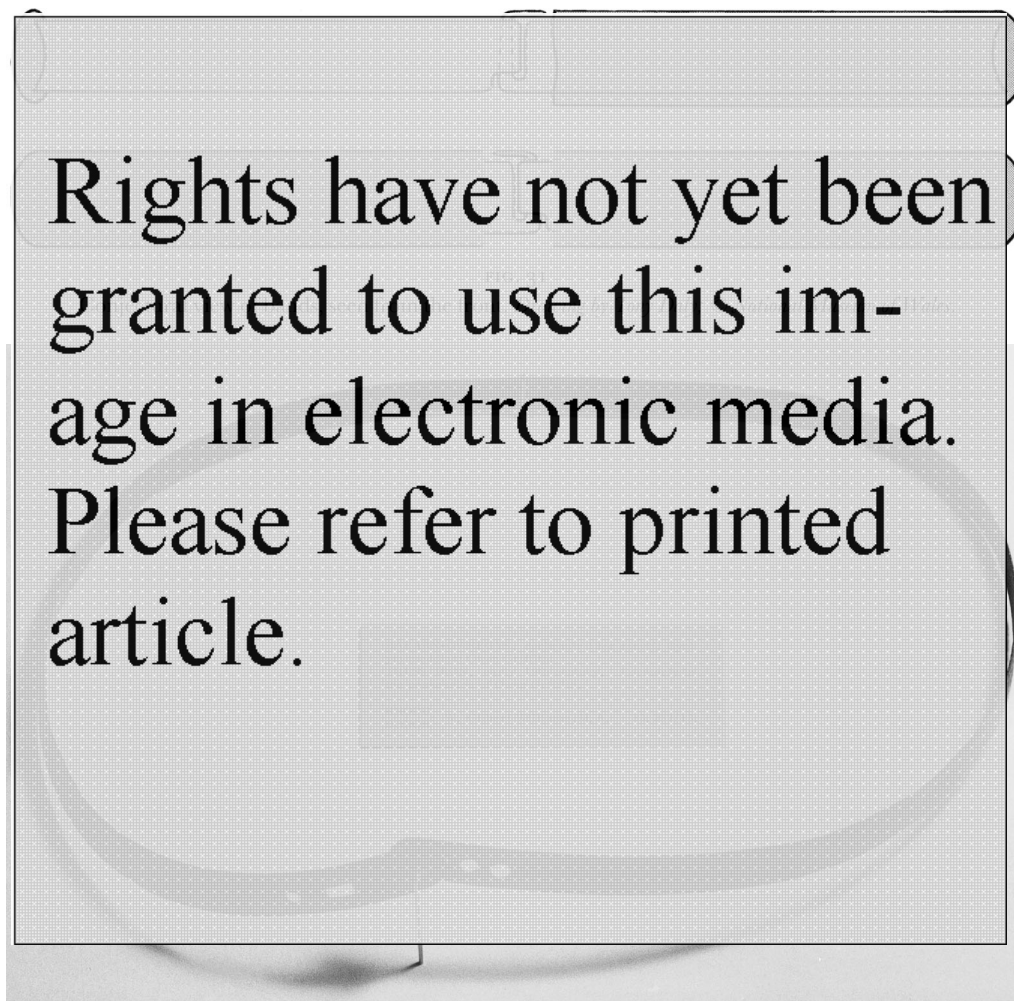


FIG. 32

Early 19th-century iron hernia belt ('truss-iron'), formerly in the possession of Owen Griffith: MWL/NMW acc. no. 33.237/13. © National Museum of Wales.

from grave 17 at Acequilla near Madrid, appears to show some similarity to the Llandough find, with the fragmented strap passing right around the front of the pelvis from behind.¹²² All such ancient devices appear to have been forged in one piece, and some may have been sheathed in a softer material to prevent chafing. Modern trusses have in principle two functional elements, an elastic spring (*Feder*) and a pad (*Pelotte*). An elastic, canvas or padded metal appliance can be used to hold an abdominal hernia in place — in antiquity, all forged in one piece. The

¹²² Koenig, op. cit. in note 114, fig. 71; L. Vasques de Parga, 'Informe provisional sobre as excavaciones arqueológicas en Azuquecal (Guadajara), Finca de Acequilla, Termino de la Cabana 1962', *Noticiario Arqueol. Hisp.*, 7 (1963), 224 (Taf. 62).

strap was only slightly elastic, being thick and not varying in thickness — unlike Llandough.

Despite the literary references to penitential devices, there seems to be little direct archaeological evidence to support an identification of the Llandough object as such worn ‘about the loins’ as described in the episode involving the visionary of Wenlock. However, he does remind us of the existence of very religious laymen and *conversi* in Early-medieval Britain. For example, Guthlac spent nine years as a soldier, partly on the Welsh border, and then entered the monastery at Repton; after two years he began a solitary life in the Fens (c. 704–16). Samson of Dol first moved from Llantwit Major to Caldey Island, then to a cave near the Severn, before becoming a bishop and, in the course of travelling, setting up three monasteries in Brittany and Cornwall.

If the Llandough object had served as a hernia belt, it provides rare evidence for palaeopathology which does not usually manifest itself on skeletons. There is one significant difference between many of the Continental hernia belts and the Llandough example — the ability in the case of the former for the appliance to be removed by the wearer. This would have been impossible in the case of the Llandough straps, as a second person would have been needed to hammer the iron points over behind the wearer when putting them on, and similarly, someone would have needed to hammer the hooks open in order to release the bands from the body. While this raises some doubts about their function as a temporary remedy, the care with which both belts were shaped to reduce the risk of chafing favours this interpretation. With the emphasis on punishment and penance, would a penitential belt have been constructed in this way? It is not difficult to imagine penance being proposed as an explanation for iron hernia belts found in medieval burials. Perhaps a higher significance became accepted by some wearers — a remedy for hernia being regarded at the same time as a penance for sin? Methods of deadening pain were rudimentary, and much discomfort would have been caused by such chronic conditions, which were probably fairly common. In the later Middle Ages, sufferers may have tried hard to accept the pain with humility, on the assumption that they would be spared a worse ordeal in purgatory; it has been suggested in such cases that the promise of a speedier passage through purgatory may have brought partial relief.¹²³

THE COINS

By EDWARD BESLY

Seven Roman coins of the late 3rd and 4th centuries were discovered, as follows.

1. Tetricus I, in Gaul A.D. 271–4; radiate, mint I (Trier), reverse SPES PVBLICA. Elmer 764/Cunetio 2610.¹²⁴ Corroded. 007, ?former cultivation soil; NMGW 95.56H/2.
2. Urbs Roma; *nummus*, reverse wolf and twins, //TR·P; irregular, d. 16 mm. After A.D. 330. Unworn? B87*; NMGW 95.56H/4.

¹²³ C. Rawcliffe, *Medicine and Society in Later Medieval England* (Stroud, 1995), 9.

¹²⁴ Elmer: G. Elmer, ‘Die Münzprägung der gallischer Kaiser in Köln, Trier und Mailand’, *Bonner Jahrb.*, 146 (1941), 1–106. Cunetio: E. Besly and R. Bland, *The Cunetio Treasure* (London, 1983).

3. House of Constantine I, uncertain ruler; *nummus*, reverse GLORIA EXERCITVS, one standard type, chi-rho // [PLG?]. c. A.D. 335–40. Unworn. B93; NMGW 95.56H/5.
4. Theodora, commemorative issue; *nummus*, reverse PIETAS ROMANA, - // [?] (Trier). c. A.D. 337–40. Unworn. B93; NMGW 95.56H/6.
5. Theodora, commemorative issue; *nummus*, as no. 4. Unworn. B110; NMGW 95.56H/7.
6. Constantius II, A.D. 337–61; *nummus*, reverse VICTORIAE DD AVGG Q NN, branch // [. . .]. Trier, cf. RIC VIII Tr. 204, A.D. 347–8.¹²⁵ Corroded but probably not worn. Unstratified; NMGW 95.56H/8.
7. Uncertain; certainly 4th-century, but details of reverse type are unclear through corrosion. Perhaps an irregular Fel Temp Reparatio ‘fallen horseman’ type, d. 15 mm, mid-350s. B59; NMGW 95.56H/3.

THE NON-CERAMIC ARTEFACTS

By MARK REDKNAP

*Roman and Early-medieval
Glass*

Beads

1. Large melon bead in light blue/turquoise frit. Roman, 1st–2nd century. Diameter 27 mm (B40; NMW 95.56H/19; Fig. 33, 1).
2. Small annular bead. Pale green metal. Diameter 9 mm (B547; NMW 95.56H/21; Fig. 33, 2).
3. Small annular bead. Pale green metal. Diameter 8.5 mm. Roman (B547; NMW 95.56H/22; Fig. 33, 3).
4. Small annular bead. Pale green metal. Diameter 8.5 mm. Roman (B547; NMW 95.56H/23; Fig. 33, 4).
5. Small annular bead. Dark blue metal. Diameter 7.2 mm. Roman (B547; NMW 95.56H/24; Fig. 33, 5).
6. Annular bead. Pale green metal, iridescent surface. Diameter 9 mm. Roman (unstratified; NMW 95.56H/25; Fig. 33, 6).
7. Small dark annular bead. Dark green glass, iridescent surface. Diameter 4.5 mm. Roman (B624; NMW 95.56H/26; Fig. 33, 7).
8. Small opaque turquoise annular bead with flat ends. Diameter 3 mm. Roman (B934; NMW 95.54H/388; Fig. 33, 8).
9. Large opaque dark blue annular bead. Diameter 21 mm (B851; NMW 95.56H/387; Fig. 33, 9).

Melon-shaped beads of the type represented here in turquoise glass paste are found in Britain in 1st- and 2nd-century contexts.¹²⁶ The small undecorated annular beads of spheroid form (Guido Group 7) have slightly differing diameters, suggesting that some may have originated from graduating necklaces, while others may have been on necklaces alongside beads of a variety of sizes. They are difficult to date. Roman examples of similar small size (2.5–9 mm in diameter) in green or

¹²⁵ RIC VIII: J. P. C. Kent, *The Roman Imperial Coinage. Volume VIII: The Family of Constantine I AD 337–364* (London, 1981).

¹²⁶ N. Crummy, *The Roman Small Finds from Excavations in Colchester 1971–9* (Colchester, 1992), 30.

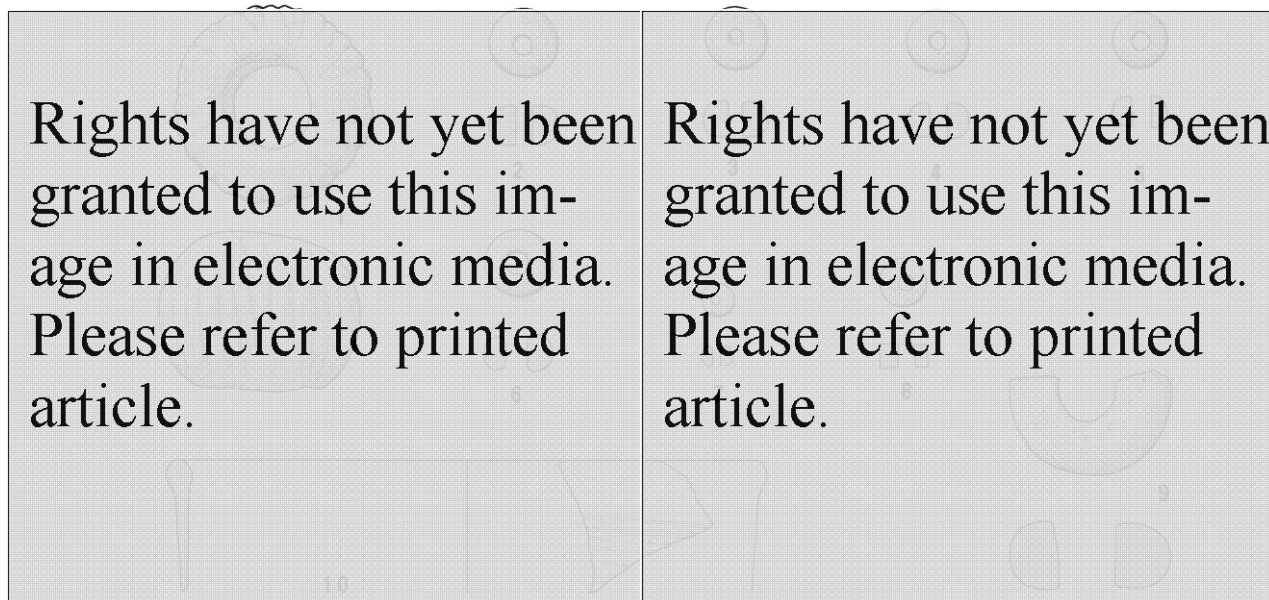


FIG. 33

The Roman and early medieval glass. Scale 1:1. Drawing by Tony Daly; © National Museum of Wales.

opaque blue glass have been published from Drain Group 4 (c. A.D. 160–230) at the Legionary Fortress Baths at Caerleon;¹²⁷ Guido lists further examples in natural greenish translucent glass from Coygan Camp (Carmarthenshire), Merthyr Mawr Warren (Bridgend), Whitton Roman villa, near Barry (Vale of Glamorgan), Caerwent Roman town (Mons.), and blue beads from Caerwent and Usk (Mons.).¹²⁸ A bead from Cadbury-Congresbury (Avon) similar to no. 6 was attributed to the pre-Roman/Roman Iron Age;¹²⁹ bead no. 9 is similar in size to an annular bead in blue-green glass from a late 4th-century context at *Segontium* Roman fort, and has the same profile as one in blue-green glass (also with a pitted surface) from *Leucarum* Roman auxiliary fort (Loughor, Swansea), attributed to the 1st century A.D.¹³⁰ In light of the quantity of Roman pottery and other material from the Llandough excavations, a Roman date appears likely for the Llandough beads. However, some beads may have been manufactured from recycled Roman bottle glass: an example from Dinas Powys was described as either Roman or ‘Teutonic’.¹³¹ Beads nos. 2–5 were found in the fill of B547, which also contained a burial pebble.

¹²⁷ R. Brewer, ‘The beads and glass counters’, 146–56 in J. D. Zienkiewicz, *The Legionary Fortress Baths at Caerleon: Vol. II The Finds* (Cardiff, 1986) at p. 147.

¹²⁸ M. Guido, *The Glass Beads of the Prehistoric and Roman Periods in Britain and Ireland* (London, 1978).

¹²⁹ P. Rahtz et al., *Cadbury Congresbury 1968–73: A Late/Post-Roman Hilltop Settlement in Somerset* (BAR Brit. Ser., 223, Oxford, 1992), B0573.

¹³⁰ D. Allen, ‘Roman glass’, 219–28 in P. J. Casey and J. L. Davies with J. Evans, *Excavations at Segontium (Caernarfon) Roman Fort 1975–79* (CBA Res. Rep., 90, York, 1993), fig. 13.4 no. 47; idem, ‘Glass’, 387–94 in A. G. Marvell and H. S. Owen-John, *Leucarum: Excavations at the Roman Auxiliary Fort at Loughor, West Glamorgan 1982–84 and 1987–88* (London, 1997), fig. 140, no. 53.

¹³¹ L. Alcock, *Dinas Powys: An Iron Age, Dark Age and Early Medieval Settlement in Glamorgan* (Cardiff, 1963), fig. 41, 6.

Early-medieval Vessel Glass

10. Fragment of the rim of a cone-beaker with rounded rim, pale yellow metal with opaque white marvered trails. Clear/pale bluish-green glass. Estimated rim diameter about 80 mm, falling within the known range (60–159 mm). Late 6th or 7th century. (B640; Fig. 33, 10).

11. Small plain yellowish fragment; thin walled, some fine bubbles. Possibly Early-medieval, but form uncertain (B482; NMW 95.56H/35; not illustrated).

While little of the contour of the body of the vessel represented by rimsherd no. 10 survives, on the basis of profile, surface treatment, colour and method of production, it probably belongs to a cone beaker, the largest category of glass found at Whithorn.¹³² The source of the western British group is thought to be the Continent (as yet unprovenanced, but possibly northern or western France; some production has also been identified at Macquenoise, Belgium, during the 6th century), and most vessels of this type have been dated to the late 6th or 7th century, on the basis of associations with imported pottery (D and E wares).¹³³ Conical beakers have been recognised at 'high-status' settlements in South Wales such as Dinas Powys (where over 250 sherds were recovered during the 1954–8 excavations) and Hen Gastell near Swansea (38 fragments), as well as undefended settlements such as Longbury Bank (Pembrokeshire), trading places such as Caldey Island, and monastic sites such as Margam.¹³⁴ Other sites producing similar glass include Cadbury-Congresbury (Avon) and *wics* such as Hamwic.¹³⁵ Cone beakers have a fairly wide distribution, finding popularity across north-western Europe, some occurring in Scandinavia. In the Rhineland many are attributed to Böhner's *Stufe III*, A.D. 525–600, though the form was popular among Germanic *Offizier*en from the late 4th century. The Llandough sherd is important for it is complementary to the material reported from Dinas Powys, and provides a further indication of the sophisticated material culture circulating in the vicinity of the monastery in the late 6th or 7th centuries. Cone beakers were certainly in use on sites in Wales, though lumps of partially fused glass from Hen Gastell and Dinas Powys indicate that broken glass was also collected and recycled.

Metals

Copper-alloy

1. Polden Hill-type brooch, complete. Length 50 mm. 1st century A.D. (B796*; Fig. 34, 1).

¹³² Group C1 in E. Campbell, 'The early medieval vessel glass', 297–314 at p. 297 in Hill, op. cit. in note 37, fig. 10.7, no. 18; fig. 10.10, no. 71).

¹³³ Ibid., 297.

¹³⁴ Alcock, op. cit. in note 131, fig. 40, nos. 26, 30; for colour plate: M. Redknap, *The Christian Celts. Treasures of Late Celtic Wales* (Cardiff, 1992), 22; for reconstruction see E. Campbell, *Imported Goods in the Early Medieval Celtic West: with special reference to Dinas Powys* (unpubl. Ph.D. thesis, University of Wales, College of Cardiff, 1991), illus. 64, no. 23; idem, 'Continental glass', 19–22 in P. F. Wilkinson, 'Excavations at Hen Gastell, Briton Ferry, West Glamorgan, 1991–92', *Medieval Archaeol.*, 39 (1995), 1–50; E. Campbell and A. Lane, 'Excavations at Longbury Bank, Dyfed, and early medieval settlement in South Wales', *Medieval Archaeol.*, 37 (1993), 15–77; E. Campbell, 'New finds of post-Roman imported pottery and glass from South Wales', *Archaeol. Cambrensis*, 138 (1989), 59–66, Fig. 1.

¹³⁵ Rahtz et al., op. cit. in note 129, 140; J. R. Hunter and M. P. Heyworth, *The Hamwih Glass* (CBA Res. Rep., 116, York, 1998).

2. Fragment of rod/shaft, of circular cross-section. Both ends appear truncated. Possibly part of a pin from a brooch. Roman? Length 21 mm (B449; NMW 95.56H/12; Fig. 34, 2).
3. Small fragment of folded sheet (unstratified; NMW 95.56H/93; Fig. 34, 3).
4. Fragments of bronze sheet whose edges have incomplete perforations (B504; NMW 95.56H/3). Unlike a 'perforated' ornamental plate from Dinas Powys, decorated with repoussée dots which had worn away, these fragments have holes which appear to have been drilled or punched.¹³⁶ Lengths of fragments 9, 13 and 17 mm. The fragmentary nature of this object makes identification uncertain; the lines of dots and spacing are similar to that found on Roman colanders or strainers, but the Llandough fragments are of thinner sheet metal and appear to bend along one edge in the manner of a binding strip.¹³⁷ Mounts with 'serrated' edges are known,¹³⁸ but no traces of rivets survive on the Llandough fragment (Fig. 34, 4).

Lead

1. Lead junction for iron grille (window?). Probably Roman (B331; NMW 95.56H/14; Fig. 34, 5).

Iron (a complete list of iron objects is deposited in the site archive)

1. Small single-edged knife with angled back. Complete length 103 mm; blade length 62 mm (B898*; NMW 95.56H/15; Fig. 35, 1).
2. Fragment of large knife blade. Slight angled back. York back-form C, with back almost straight, curving down towards tip; blade curving up to point. Broken at tang. Overall length 91 mm (fill 2642 of post-pit 2641 of the post-cemetery timber building; NMW 95.56H/16; Fig. 35, 2).
3. Narrow, single-edged knife blade, Type C3. Straight back, narrow blade, turning down slightly at point. Overall length about 112 mm. Whithorn Class C with convex front part. Most period IV, c. A.D. 1000–50 (B34; NMW 95.56H/17; Fig. 35, 3).
4. Single-edged blade (some of tang missing) from cutting tool. Overall length 185 mm. The poor state of preservation makes interpretation of this object difficult. There are similarities to the seax from Abbey Green, Chester,¹³⁹ and larger knife forms from York, if one assumes that the pointed end has snapped off, but the blade back is not particularly thick (fill 121 of pit 120; grid 10/3; NMW 95.56H/45; Fig. 35, 4).
5. Oval loop. Width 46 mm; thickness 9 mm (B106; NMW 95.56H/60; not illustrated).
6. Fragment of iron strap-work. Main section 90 mm long by max. 24 mm wide, thickening from 2 mm at wide end to 7 mm at narrow end (fill of post-pit 1235 of the post-cemetery timber building; Fig. 35, 5).
7. 'Object'/nail? (B110; NMW 95.56H/62; not illustrated).
8. Lump (B60; NMW 95.56H/119; not illustrated).

¹³⁶ Alcock, op. cit. in note 131, fig. 20, no. 21.

¹³⁷ E.g. Crummy, op. cit. in note 126, no. 2029.

¹³⁸ E.g. S. Margeson, *Norwich Households: The Medieval and Post-medieval Finds from Norwich Survey Excavations 1971–1978* (East Anglian Archaeol., 58, 1993), fig. 23, no. 282 (c. 1400–1600).

¹³⁹ Q. Mould, 'Iron', fig. 12.1, no. 1 in S. Ward (ed.), *Excavations at Chester: Saxon Occupation within the Roman Fortress: Sites Excavated 1971–1981* (Chester, 1994).

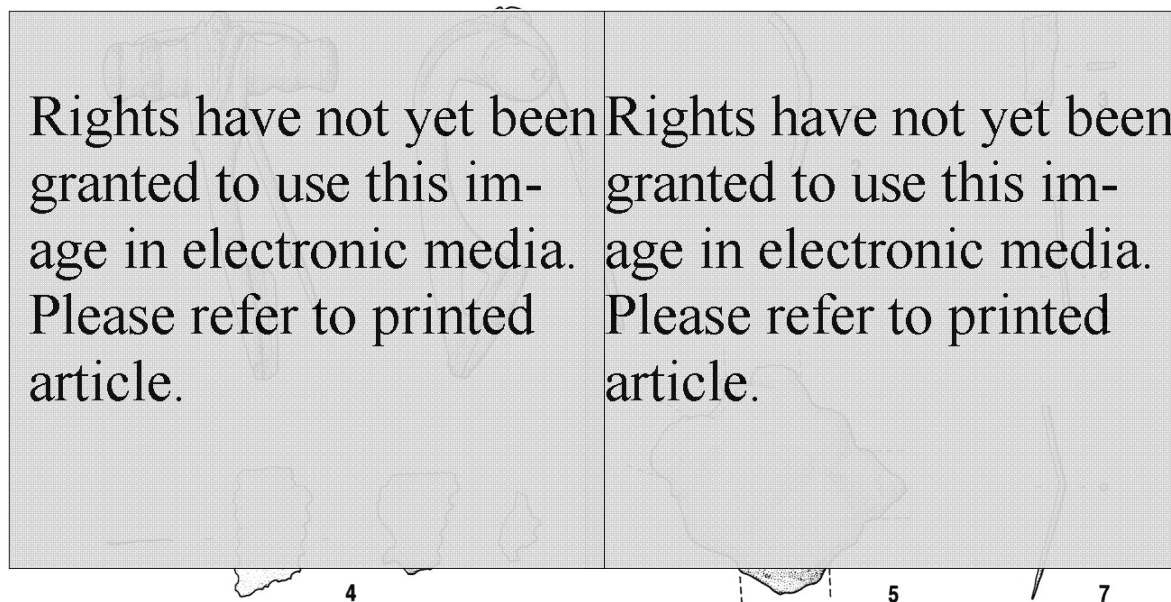


FIG. 34

The non-ferrous artefacts. Scale 1:1. *Drawing by Tony Daly; © National Museum of Wales.*

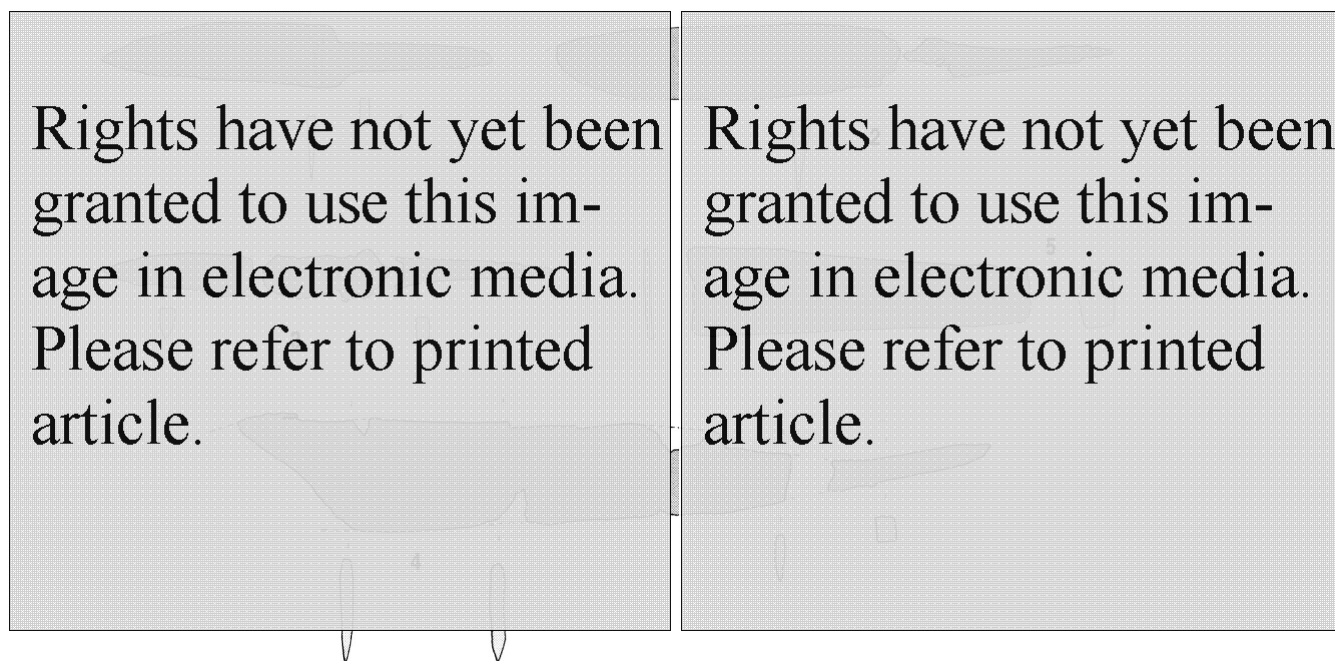


FIG. 35

A selection of the ironwork. Scale 1:2. *Drawing by Tony Daly; © National Museum of Wales.*

9. Section of bar, length 48 mm, width 22 mm, thickness 8 mm (fill 2617 of post-pit 2616 of the post-cemetery timber building; NMW 95.56H/; not illustrated).
10. Object. Length 47 mm (B69, SF10; NMW 95.56H/46; not illustrated).
11. Two fragments of binding strip (B303; NMW 95.56H/125; not illustrated).
12. Fragment of binding strip or sheet, 15 by 19 mm (B635; NMW 95.56H/94; not illustrated).
13. Fragment of binding strip. Width 14 mm (B956; NMW 95.56H/107; not illustrated).
14. Small fragment of iron (B1027; not illustrated).

Apart from nails, knives formed the largest group of iron objects. The knife blades are difficult to date with any degree of accuracy, but their profiles are known from Dinas Powys and Whithorn. Similar examples to no. 1 occur at York (Type A1); Whithorn class A (2 straight parts to back, meeting at angle) where it is dominant during phases II and III, c. A.D. 730–1000; and Dinas Powys.¹⁴⁰ Parallels for no. 2 have been found at Whithorn 66.8 and Dinas Powys.¹⁴¹ Parallels for no. 4 include Whithorn 66.56 (Class D), c. 730–1250 (most common during Whithorn phase IV, c. 1000–1250/1300). Mention should also be made of the fact that medieval ironwork was discovered under the rear wing of Great House Farm c. 1880.¹⁴² It is now in the collections of the National Museums & Galleries of Wales.

Nails

Nails are present in 28 of the excavated graves. Many are fragmentary, and there are insufficient large nails from individual graves to have functioned as coffin fastenings (usually one per grave). An exception is B449 which contained seven nails, two of which have been bent at right-angles at points 28 and 30 mm below their head, suggesting a timber thickness, but not necessarily as part of a coffin. A diversity of original functions for the nails can be assumed, in view of the variation in size, their fragmentary nature, the bent shafts of many, and the presence in similar deposits of hob-nails.

In view of the other Roman material recovered during the excavations, a Roman date seems likely for most if not all of the nails. Many of the large nails were bent, and a source for their use within the context of the 2nd- to early 4th-century Roman villa situated some 100 m south of the excavation appears likely.¹⁴³ Most large nails are incomplete (shafts or heads), the complete examples measuring 68 mm (B110), 44 mm (B175), 74 mm (B449), 63 mm (layer 1255) and 70 mm (fill 2255 of feature 2256).

The nails have on occasions been classified by head-form and length of shaft, the smaller examples being tacks or segs. Of the small hobnails, their lengths vary

¹⁴⁰ P. Ottaway, *Anglo-Scandinavian Ironwork from Coppergate* (The Archaeology of York, 17/6, London, 1992), fig. 229, no. 2807; A. Nicholson, 'The iron', 404–33 in Hill, op. cit. in note 37, p. 427; Alcock, op. cit. in note 131, fig. 21, no. 1.

¹⁴¹ Nicholson, op. cit. in note 140; Alcock, op. cit. in note 131, fig. 21, no. 6.

¹⁴² R.C.H.A.M.W., op. cit. in note 58.

¹⁴³ Owen-John, op. cit. in note 4, 142–4.

TABLE 13
QUANTIFICATION OF IRON HOBNAILS BY LENGTH AND WIDTH OF HEAD

	6– 6.9mm	7– 7.0mm	8– 8.9mm	9– 9.9mm	10– 10.9mm	11– 11.9mm	12– 12.9mm	13– 13.9mm	14– 14.9mm	15– 15.9mm	16– 16.9mm
Length				3	4	4	8	6	3	4	5
Head Width	1	1	9	18	22	8	5	1			

from 10–16 mm and their head-widths from 6–13 mm (Tab. 13). Similar hobnails have been published from Roman Caerleon, where some 600 were found in the upper sediments of the *frigidarium* drain of the Fortress Baths. Their domed heads were typically 10–12 mm across.¹⁴⁴ There are too few hobnails from graves (with the possible exception of B87*) to confirm that they represent intact footwear on the bodies, and there is no evidence that their occurrence is evidence for continuity of a late Roman burial rite.¹⁴⁵

Samples

?Pigment. Layered (B98*; NMW 95.56H/56; not illustrated). No analysis has been undertaken.

Similar fragment from B60 (NMW 95.56H/119).

Bone

1. Roughly trimmed tapering shaft and point, probably from an awl or large pin. Length 34 mm; max. width 6.4 mm. High-medieval or earlier (B69; NMW 95.56H/42; Fig. 36, 1).

2. Knife handle (sawn, split type) with one rivet hole; burnished surfaces. Original width about 17.2 mm. Date uncertain (unstratified; NMW 95.56H/41; Fig. 36, 2).

Textile-related objects

1. Fragment of irregularly-shaped spindle whorl made from an Oxfordshire bowl possibly of Young type C45.¹⁴⁶ The fabric is orange with a grey core and with traces of red slip. The vessel-type has a long currency in the period from the mid-3rd to the late 4th century. Width 24 mm. Possibly Early-medieval (unstratified in the vicinity of B153; NMW 95.56H/192; Fig. 37, 1).

2. Fragment of spindle whorl cut from sherd of a samian bowl, probably of form 18/31 or 31 and Central Gaulish in manufacture. The original vessel will have been of 2nd-century date. Diameter 49 mm (007, ?former cultivation soil; NMW 95.56H/191; Fig. 37, 2).

One of the pottery spindle whorls found at Dinas Powys was made from a re-used sherd of Romano-British greyware.¹⁴⁷ Other examples at Dinas Powys were made from a redware resembling A ware, while two flakes were reported of a

¹⁴⁴ Zienkiewicz, op. cit. in note 127, 192–3.

¹⁴⁵ D. Petts, 'Cemeteries and boundaries in western Britain', 24–46 in S. Lucy and A. Reynolds (eds.), *Burial in Early Medieval England and Wales* (Leeds, 2002), at p. 30.

¹⁴⁶ C. J. Young, *Oxfordshire Roman Pottery* (BAR Brit. Ser., 43, Oxford, 1977).

¹⁴⁷ Alcock, op. cit. in note 131, fig. 33, no. 1.

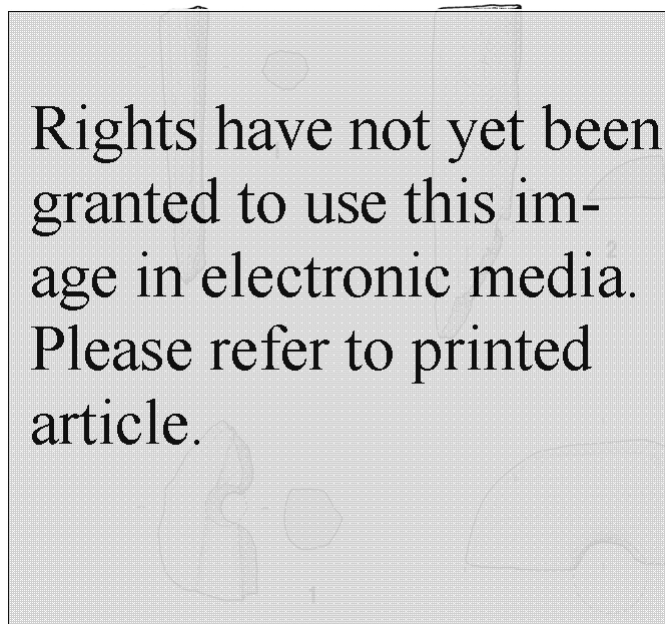


FIG. 36

The bone artefacts. Scale 1:1. *Drawing by Tony Daly; © National Museum of Wales.*

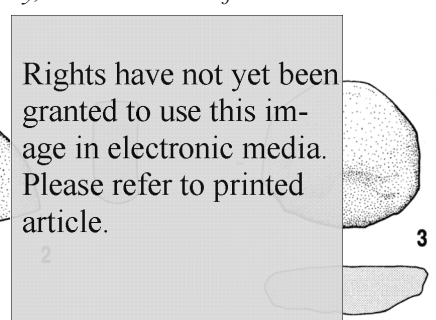


FIG. 37

1, 2: ceramic spindle whorls; 3: roundel of mudstone. Scale 1:1. *Drawing by Tony Daly; © National Museum of Wales.*

spindle whorl made out of a sherd of samian, as well as one of bone.¹⁴⁸ The Llandough cemetery examples may have a similar origin, and reflect the spinning of wool in the vicinity of the site. The textile impressions found on the ironwork from B631* are important evidence for textile used in South Wales during the 5th or 6th centuries.

Stone

1. Possible honestone (fill 2379 of post-pit 2378 of the post-cemetery timber building; NMW 95.56H/180; Fig. 38, 1).
2. Honestone, fine-grained, micaceous Devonian sandstone pebble. Heavily worn on flat side; some longitudinal wear on opposite side. Length 137 mm; max. width 45 mm. Early-medieval? (B127; NMW 95.56H/182; Fig. 38, 2).
3. Disc of irregular shape, made of siltstone. Post-Roman counter? Found on upper vertebrae just below flat stone on which skull rested (B791; NMW 95.56H/173; Fig. 37, 3).

¹⁴⁸ Ibid., 149, fig. 34, no. 14.

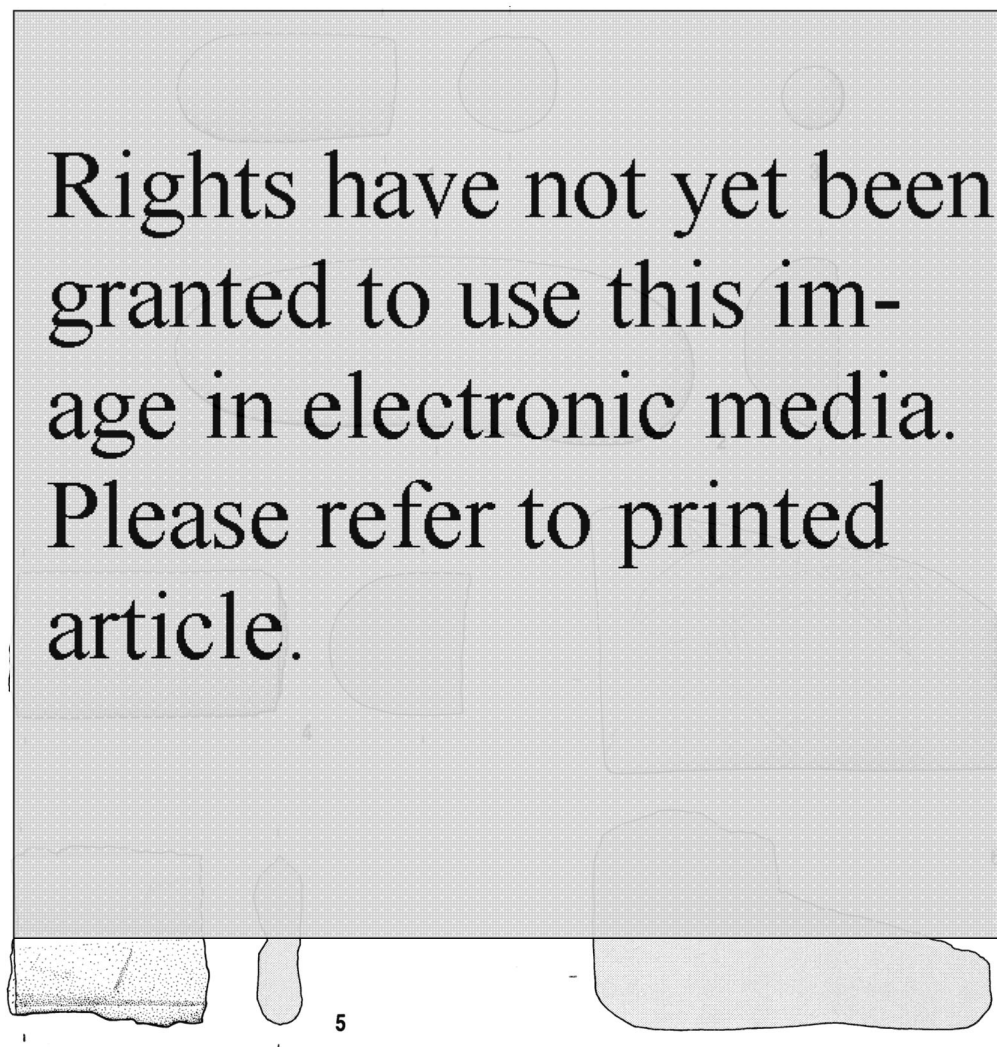


FIG. 38

1–4, 6: worked stone; 3: ceramic marble; 5: possible fossil. Scale 1:2. *Drawing by Tony Daly; © National Museum of Wales.*

The two definite honestones (nos. 1, 2) are both of sandstone, the most popular rock-type utilised at Dinas Powys.¹⁴⁹ As at this site, hand-sized pebbles were selected for use at Llandough.

Later Medieval

Copper-alloy

1. Small pin with wound wire spherical head (B75; NMW95.56H/10; Fig. 34, 6).

¹⁴⁹ Alcock, op. cit. in note 131, 160.

2. Pin or needle (top missing) (B75; NMW 95.56H/11; Fig. 34, 7).

Pins were used to secure shrouds, though this is not proven in these cases. Similar examples are reported from Norwich and Beeston Castle.¹⁵⁰

Post-Medieval Artefacts

Glass

1. Bottle base. 17th-century (unstratified; NMW 95.56H/27).
2. Glass waste. Opaque white metal. Length 14 mm (2 globules) (B457; NMW 95.56H/83).
3. Twist of clear cullet. Length 26 mm (B436; NMW 95.56H/33).
4. Thin sliver of plain glass. Clear, no bubbles. Length 12 mm (B638; NMW 95.56H).
5. Fragment of bowl in reddish glass. Length 15 mm (1255, stony layer in the northern part of Area III which was cut by numerous burials; NMW 95.56H/29).

All other glass recovered from the site is of recent date, the majority being window glass (listed in site archive).

Stone

1. Fragment of honestone or moulded edging for a sill or doorstep, in Pennant sandstone. Very straight, rounded edge. Possibly 19th-century (B31; NMW 95.56H/181; Fig. 38, 4).
2. Fragment of fine-grained micaceous sandstone, with two raised, blackened bands on one face. These may be impressions of the sandstone horizon on top of a coal-bed (B511; NMW 95.56H/183; Fig. 38, 5).
3. Fragment of rectangular worked block of carboniferous limestone, with a brownish-red outer surfaces (on all four sides, possibly derived from weathering or water action). One end is very flat (B532; NMW 95.56H/184; Fig. 38, 6).

Copper-alloy

1. Small spectacle-type buckle (misshapen). Width 22 mm. Probably 16th-century (unstratified; NMW 95.56H/114).¹⁵¹
2. Thimble (flattened). Post-medieval. 17th- or 18th-century (unstratified; NMW 95.56H/112). Similar examples found on the wreck of the *Kronan*, Royal Flagship of the Swedish fleet (lost 1676).¹⁵²

Miscellaneous non-ceramic artefacts

Only stratified artefacts are listed.

Flat disc-shaped button with wire loop. Diameter 16 mm. 19th-century (B75; NMW 95.56H/49).

Flat disc-shaped button with cast lug. Diameter 16 mm. 19th-century? (B198; NMW 95.56H/122).

Two pellets — shot (B470; NMW 95.56H/79).

Lead shot (B152; NMW 95.56H/85).

Modern nail (B428; NMW 95.56H/77).

¹⁵⁰ Margeson, op. cit. in note 138, no. 31 (c. 1450–1500); *ibid.*, fig. 5, nos. 34–7 (17th-century); P. Courtney, 'The medieval and post-medieval objects', in P. Ellis, *Beeston Castle, Cheshire: Excavations by L. Keen and P. Hough, 1968–85* (London, 1993), fig. 101, nos. 44, 46 (17th-century).

¹⁵¹ For similar see Margeson, op. cit. in note 138, fig. 16, nos. 164–5 and 168–9 (17th-century).

¹⁵² A. Franzén, 'Kronan: remnants of a warship's past', *National Geographic*, 175 (1989), 438–65 at p. 457.

Modern nail (B227; NMW 95.56H/123).

Brick

Fragment of hand-made brick. Post-medieval. Rubble 2255 overlaid by B871; NMW 95.54H/205.

IRON AGE AND ROMAN POTTERY

By PETER WEBSTER

Most, if not all, Iron-age and Roman pottery recovered from the site is from residual contexts. In this situation, it seems most relevant to restrict published comment to a general survey of the material. A more detailed listing, consisting of the initial assessment by Jane Timby and a listing by Museum number and context (by PVW) will be placed in the site archive. The material will be stored separately from post-Roman pieces in the NMGW, Cardiff.

The range of material is, in fact, sufficiently restricted to allow us to summarise it under a combination of source, fabric and form headings (Tab. 14). In the table, some effort has been made to ensure that different sherds from the same vessel are counted only once, but, in a collection which consists mainly of sherds, it is often not possible to assign sherds to specific vessels and some multiple counting is inevitable. Nevertheless, the table does achieve a reasonable overview of the collection and presents it in a form capable of comparison to that published from the adjoining Roman site in terms both of its sources and chronology.¹⁵³

Sources

Table 14 has been arranged by period. Iron-age/Early Roman fabrics may all be considered local. The Roman fabrics are arranged in terms of the distance of the source from the site with the most distant first.

Iron-age/Early Roman fabrics

Fabrics associated with the Iron Age/Roman transition are comparatively well represented on the site (20% of the total). They consist mainly, or wholly, of jars. Fabrics have been divided into those with calcite, 'quartz', stone (probably limestone) and unidentified grit filler. Calcite grits are well known from South Wales.¹⁵⁴ The stone temper is presumably that identified by Spencer and further discussed by Allen.¹⁵⁵ The quartz-like temper (from B178, B180, B190*, B195, B552 and the fill 806 of pit 805; Museum nos. 257-9 and 261) may occur with stone tempering and is in small roughly rectangular blocks. A number of the sherds in this ware are in the Glastonbury tradition. A sherd in this tradition has previously been noted from Llandough but the quantity from the 1994 site is more comparable with that from Biglis.¹⁵⁶ The Iron-age/ Early-Roman material as a whole would suit a date range within the early/mid- to mid-/late 1st century (i.e. either side of the Roman conquest of the region). However, both on the 1979 site and on the 1994 one, 1st-century romanised pottery is conspicuous by its absence and a pre-Neronian

¹⁵³ Owen-John, op. cit. in note 4, 160-72.

¹⁵⁴ Cf. Whitton: M. Jarrett and S. Wrathmell, *Whitton: An Iron Age and Roman Farmstead in South Glamorgan* (Cardiff, 1981), 116; Usk: W. H. Manning, *Report on the Excavations at Usk 1965-1976: The Roman Pottery* (Cardiff, 1993), 230 and refs.

¹⁵⁵ B. Spencer, 'Limestone tempered pottery from South Wales in the late Iron Age and early Roman period', *Bull. Board Celtic Studs.*, 30 (1982-3), 405-19; J. R. L. Allen, 'Late Iron Age and earliest Roman calcite-tempered ware from sites on the Severn Estuary levels: character and distribution', *Stud. Celtica*, 32 (1988), 27-42.

¹⁵⁶ Owen-John, op. cit. in note 4, 162; Parkhouse, op. cit. in note 24, 33.

TABLE 14
ROMAN POTTERY BY CLASS AND SOURCE

	<i>Flagon</i>	<i>Beaker</i>	<i>Jar</i>	<i>Bowl</i>	<i>Mortarium</i>	<i>Dish</i>	<i>Unclassified</i>	<i>Total</i>	<i>%</i>
IA / E-Roman									
Calcite Grit	—	—	7	—	—	—	—	7	5
'Quartz'	—	—	8	—	—	—	—	8	6
Stone	—	—	7	—	—	—	—	7	4
Gritted	—	—	6	—	—	—	—	6	4
Roman									
Samian	—	—	—	3	—	—	2	5	4
<i>à l'éponge</i>	—	—	1	—	—	—	—	1	1
S. Midland	—	—	3	—	—	—	1	4	3
Oxford White	—	—	—	—	4	—	—	4	3
Oxford Red	1	1	—	8	3	1	—	14	10
BB1	—	—	33	9	—	3	1	46	33
Severn Valley	—	—	1	—	—	—	—	1	1
S. Wales Grey	—	—	10	1	—	—	—	11	8
Other oxidised	3	—	13	1	1	—	1	19	14
Other reduced	—	—	6	—	—	—	1	7	5
Total	4	1	95	22	8	4	6	140	100
%	3	1	68	16	6	3	4	100	

conquest date may be suggested for this part of the assemblage. We may also note in passing that Glastonbury-style pottery does not appear on Roman sites in South Wales that have no Iron-age predecessors and it probably, therefore, went out of use before the conquest. One group is worthy of note, that from the fill 806 of pit 805 which was cut by B217 (Fig. 5). This pit yielded six fragments of a large Late Iron-age/Early-Roman jar with quartz filler; a sherd of a large Roman grey ware jar; a sherd from a jar with quartz and stone temper; seven sherds of Glastonbury Ware with quartz and grey stone filler (some with cross-hatching between lines and also some deeper grooves, perhaps from the same vessel as no. 7), and a sherd of black-burnished ware cooking pot, probably with lattice below a line and therefore of late 3rd- or 4th-century date. Excluding the last as intrusive, it is likely that this pit dates to the 1st century A.D.

Samian

The few sherds of samian ware found could all be of 2nd-century date. The most remarkable aspect of the samian is, however, its sparsity. It is highly unlikely that any substantial occupation of the area excavated could have occurred in the period c. A.D. 70–200 without deposition of more sherds of samian than this.

Céramique à l'éponge

This late fineware imported from an area north of the lower Loire in western Gaul is extremely rare in South Wales.¹⁵⁷ In view of the small size of the assemblage, its presence here is the more remarkable and probably serves to underline the intensity of the nearby late Roman occupation.

¹⁵⁷ P. Tyers, *Roman Pottery in Britain* (London, 1996), 145.

South Midlands shell-gritted ware

Only four sherds were present (layer 1255, B545, B624 and B625; Museum nos. 202 and 289). They are, however, significant as being the latest Roman sherds discovered on the site. The fabric is found sparsely in South Wales, but always in contexts later than the mid-4th century.

Oxford white mortaria

Oxford mortaria are typical of later sites in the region. The form represented here, where identifiable, is Young M22 (Fig. 39, 1 and 9) the archetypal later Roman Oxford white mortarium produced probably throughout the period c. A.D. 240–400.¹⁵⁸

Oxford red colour-coated ware

This represents the only fineware present in any quantity in the assemblage (a surprising 10% of the total). The ware is typical of the later 3rd and 4th centuries.

Black-burnished ware (BB1)

This is the most prolific of the fabrics found (33% of the total). Of this, the majority were jars. The overwhelming majority of the diagnostic pieces recovered belonged to the late 3rd and 4th centuries.

Severn Valley ware

The ware is not well represented in South Wales outside the conquest period, so the presence of a single vessel at Llandough is of some interest (B605, Museum no. 295).

South Wales grey ware

This is normally the predominant local fabric on South Welsh sites. One would expect it to have been better represented among the 1994 material than is the case. The single illustrated example (Fig. 39, 6) reflects the relatively low percentage of this fabric present.

Other oxidised and reduced wares

This category covers those fabrics not related to a specific source. Most will probably be local in origin. Of note, however, is Figure 39, 4 which appears to be an import of a fabric not previously noted in the area.

In general, the sparsity of finewares other than Oxfordshire red colour coated fabric may be noted. This could reflect the low level of Roman activity prior to the late 3rd century.

Chronology

The date of the 1994 material is broadly similar to that excavated in 1979. There are, however, some differences. As with the 1979 collection, that from 1994 contains a significant amount of pottery from the late Iron Age or early Roman Period (20% of the total). As already stated, most of this could be either pre- or post-conquest, but it is noticeable that there is a marked absence of Roman-style pottery of certainly 1st-century date. This reinforces the suggestion made in the earlier report that a gap may exist between the Iron-age and Roman occupation of the site.¹⁵⁹

¹⁵⁸ Young, op. cit in note 146.

¹⁵⁹ Webster in Owen-John, op. cit. in note 4, 162.

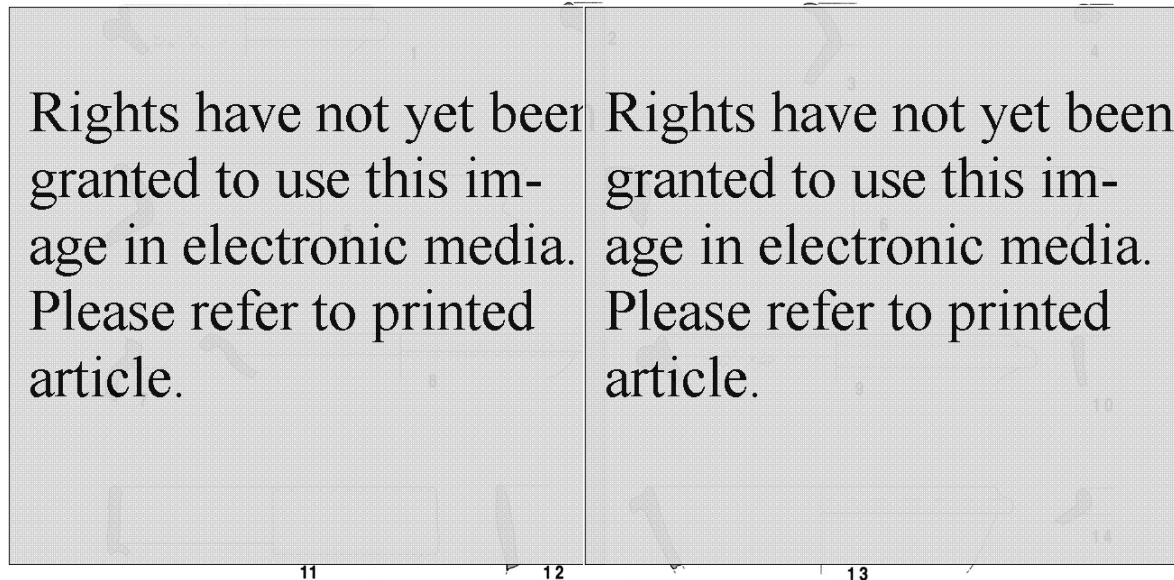


FIG. 39

Roman pottery. Scale 1:4. Drawing by Tony Daly; © National Museum of Wales.

The majority of the remainder of the pottery probably belongs to the later part of the Roman period. There are a few pieces which could belong to the 2nd or early 3rd century. However, of the BB1 (33% of the total assemblage), 20 vessels (14% of the whole) are diagnostically late 3rd-century or later. Little of the remaining BB1 is certainly earlier than this. All the Oxfordshire products are likely to date from the mid-3rd century onwards. In this the assemblage closely resembles that from 1979. The more extensive 1979 collection suggested a cessation of activity in the 'first third of the 4th century'. The 1994 collection, though smaller, has a few pieces which are likely to post-date this. Almost certainly later than c. A.D. 350 are the few fragments of shell-gritted fabric derived from the South Midlands (from contexts 1250, B624, B625 and B545; Museum nos. 203 and 289; cf. Fig. 39, 2) which, in South Wales, are typical of activity in the second half of the 4th century. The single sherd of the fabric known as *céramique à l'éponge* might also be of this late date (no. 15 below). It is difficult to be certain quite where in the late Roman Period the various late BB1 jars fit. However, although many have the flaring rims and obtuse angled lattice (often below a horizontal line) typical of the period from the late 3rd century onwards, there are no certain examples of vessels with rims oversailing slim bodies,¹⁶⁰ or of the more extremely flared rims which seem to be the latest in the BB1 jar series (Fig. 39, 3). It is, therefore, safe to assume that most of the pottery reflects the dating already proposed for the nearby 1979 site (i.e. late Iron-age and Roman, particularly from the late 3rd to the early 4th century), but that the 1994 site does have some evidence for some activity in the mid- and late 4th century. There is, however, no clear indication that this latest Roman activity was of any intensity.

Function

It would be unwise to draw too many conclusions from such a small assemblage as this. It may be noted, however, that the division by form in Table 14 highlights the

¹⁶⁰ J. P. Gillam, 'Coarse fumed ware in North Britain and beyond', *Glasgow Archaeol. J.*, 4 (1976), 57–80, no. 14.

extremely high proportion of jars present. These make up 68% of the entire assemblage. Even if we remove the Iron-age material (all jars) we still find that there are 67 jars out of a total of 112 Roman vessels, 58% of the Roman total. Parallel to this is the low proportion of forms, such as flagons and beakers, which could be associated with the table (a mere 4%). This might normally be taken to indicate a subsistence level of existence, but the 1979 assemblage is against this. It might, however, indicate that the vessels being thrown out into the area examined in 1994 were derived from kitchen activities and serve as a pointer towards the location of the service range nearby.

Catalogue

A small number of vessels have been chosen for illustration (Fig. 39). These are intended as an indication of the range of material present. Much of the Roman material comes from later contexts, so these vessels show the chronological range rather than serving to date specific contexts. Vessels are listed in order of their Museum numbers.

1. Mortarium in cream fabric with a greyish core and some greying on the rim and with grey trituration grits. An Oxfordshire product: cf. Young M22 (c. A.D. 240–400).¹⁶¹ 007, possibly from former cultivation soil; NMW no. 195.
2. Rim-fragment from a jar in South Midlands shell-tempered fabric.¹⁶² Although not one of the most developed typologically, a mid- to late 4th-century date may be suggested. 1255, stony layer in the northern part of Area III which was cut by numerous burials; NMW no. 202.
3. Jar in Black-burnished ware; cf. Gillam nos. 11–12 (late 3rd to early 4th century).¹⁶³ B15; NMW no. 219.
4. Jar rim in creamy fabric, shading to grey. The filler includes quartz. There are some similarities to Portchester D Ware,¹⁶⁴ and also some fabrics from the Rhineland.¹⁶⁵ A Late-Roman date for the piece seems most likely. B46; NMW no. 232.
5. Jar in Black-burnished ware; cf. Gillam nos. 11–12 (late 3rd to early 4th century). B111; NMW no. 246.
6. Flanged bowl in grey fabric, brown near the surface and with a dark grey/black surface. This is South Wales Grey ware, probably altered by burning. There was a similar form from Usk (fig. 116, type 62.5) dating to the 2nd to 3rd century.¹⁶⁶ B122; NMW no. 251.
7. Shoulder-and-neck fragment from a jar or necked bowl in dark grey/black fabric with an angular 'quartz' filler. A vessel in the Glastonbury tradition seems possible,¹⁶⁷ and this is supported by other fragments of Glastonbury-style pottery from the site (from B552 and pit fill 806), one of which also has the grooves of this piece. A small fragment of rim from B195 (NMW no. 261) could be from this vessel and suggests a curving upright rim. B180; NMW no. 258.
8. Dish in orange fabric with a grey core and faint traces of red slip. An Oxfordshire product: cf. Young C48.5 (c. A.D. 270–400). B272; Museum no. 269.
9. Mortarium in cream fabric with a greyish core and with a cream surface shading to grey. An Oxfordshire product: cf. Young M22.2 (c. A.D. 240–400). B306*; NMW no. 271.
10. Bowl in orange fabric with traces of orange slip. An Oxfordshire product: cf. Young C81–2 (4th century). B320; NMW no. 272.

¹⁶¹ Young, *op. cit.* in note 146. All further references to Young in the catalogue refer to this publication.

¹⁶² For a brief discussion of this ware in a South Welsh context see Webster in Manning, *op. cit.* in note 154, 294–5. For a complete jar with a similar rim to this, see *ibid.*, fig. 136.1.

¹⁶³ Gillam, *op. cit.* in note 160. All further references to Gillam in the catalogue refer to this publication.

¹⁶⁴ Cf. Tyers, *op. cit.* in note 157, 194–5.

¹⁶⁵ M. Redknap, *pers. comm.*

¹⁶⁶ Webster, *op. cit.* in note 162.

¹⁶⁷ Cf. B. Cunliffe, *Iron Age Communities in Britain* (3rd ed., London, 1991), fig. A:21.

11. Mortarium rim in orange fabric with a grey core and orange/grey slip. An Oxfordshire product; cf. Young C97.3 (c. A.D. 240–400). B523; NMW no. 287.

12. Beaded dish in Black-burnished ware. The angle of the wall suggests a vessel such as Gillam no. 72 (early 3rd century). B979; NMW no. 310.

13. Flanged and ridged bowl in Black-burnished ware; cf. Gillam nos. 46–7 (late 3rd to early 4th century). Unstratified; NMW no. 313.

14. Bead-rim jar in dark grey fabric with a white gritty filler.¹⁶⁸ The overall date is late Iron-age to Early Roman, but the absence of other Early-Roman fabrics suggests an Iron-age date in this instance. Unstratified; NMW no. 314.

15. (Not illustrated). A jar or bowl fragment in *céramique à l'éponge*, a smooth orange-buff fabric with red sponged slip. The ware, found mainly in Brittany, Normandy and Anjou, is rare in Britain and exceptionally rare in South Wales.¹⁶⁹ 4th century. Unstratified; NMW no. 314.

Roman Brick and Tile

Seven fragments of certain and probable Roman tile were recovered. Stratified examples of certain attribution comprised a fragment of *imbrex* from B41/51, and probable attributions of *tegula* from B116 and *imbrex* from B333*.

THE EARLY-MEDIEVAL POTTERY

By DAVID WILLIAMS and MARK REDKNAP

Nine sherds of post-Roman Bii amphorae were found, five of which were examined by David Williams.

1–2. Two small plain body sherds in a sandy light buff fabric with scattered pieces of white limestone (B542; NMW 95.56H/288; not illustrated).

3. A small closely rilled body sherd in a sandy light buff fabric with some limestone showing. Probably from the top section of the vessel (unstratified, Area III; not illustrated).

4. A very similar looking sherd to no. 3 (B864; NMW 95.56H/305; Fig. 40, 3).

5. A slightly larger rilled body sherd than the others in this group, with the rilling more widely spaced. This piece probably came from the central body area of the vessel. Light reddish-buff sandy fabric with many small pieces of white limestone (B116; NMW 95.56H/247; Fig. 40, 1).

6–7. Two body sherds of amphora, one with wide horizontal rilling and one with narrow horizontal rilling (B819; NMW 95.56H; not illustrated).

8. Small, close rilled body sherd in sandy, light buff fabric with some limestone showing through (B517; NMW 95.56H/285; Fig. 40, 2).

9. Small, close-rilled body sherd in sandy, light buff fabric (1255, stony layer in the northern part of Area III which was cut by numerous burials; NMW 95.56H/202; Fig. 40, 4).

All of the above sherds belong to the Eastern Mediterranean Bii amphora form.¹⁷⁰ This type was made mainly along the southern coast of Asia Minor, especially around the Golfe D'Alexandrette (Cilicia, SE. Turkey has been

¹⁶⁸ For a discussion of the general type see Webster, op. cit. in note 162, 230.

¹⁶⁹ Cf. Tyers, op. cit. in note 157, 144–5, especially fig. 161. British finds are listed by M. Fulford, 'Pottery and Britain's long distance trade in the later Roman period', 35–84 in D. P. S. Peacock (ed.), *Pottery and Early Commerce* (London, 1977) at p. 77.

¹⁷⁰ D. P. S. Peacock and D. F. Williams, *Amphorae and the Roman Economy* (London, 1986), Class 44.

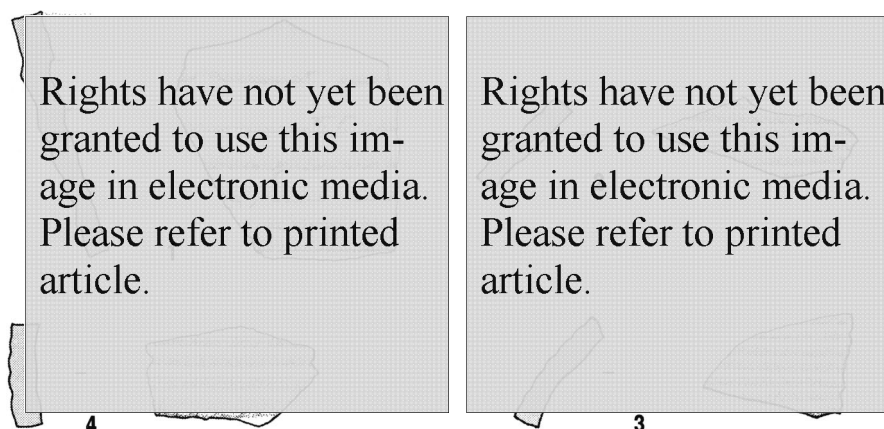


FIG. 40

B-ware amphorae sherds. Scale 1:2. Drawing by Tony Daly; © National Museum of Wales.

suggested)¹⁷¹ and is generally considered to have carried olive oil, although this awaits firm proof and wine has also been suggested.¹⁷² These vessels seem to have reached Britain only in the immediately post-Roman period,¹⁷³ although they were in use some time before; early versions of the form are present at Kourion in Cyprus, for example, which was destroyed by an earthquake during the mid-360s A.D.¹⁷⁴ In fact, their occurrence in Britain may possibly have been restricted to the period from the late 5th century to the mid-6th century, if importation was allied to Phocaean Red Slipped ware.¹⁷⁵ In South Wales, B-ware amphorae occur at Dinas Powys¹⁷⁶ and Longbury Bank, while in North Wales B ware occurs at Dinas Emrys. Bii has not yet been found in Roman contexts, and cannot therefore be explained as an element of the Romano-British scatter on the site.

The combing, wall thicknesses and fabrics of sherds 6 and 7 suggest that one belongs to the same vessel represented by sherds 4, 8 and 9. This means that burials B517, B864 and context 1255 contain cross-linked pottery. The second sherd has a similar fabric to that of nos. 1 and 2 (B542).

LATER MEDIEVAL POTTERY

By MARK REDKNAP

As is the case with most of the Roman and earlier pottery from the excavations, most of the later medieval pottery would appear to be residual in nature. The material is stored within the medieval collections at the National Museum &

¹⁷¹ J. Y. Empereur and M. Picon, 'Les regions de production d'amphores imperiales en Méditerranée orientale', 223–48 in *Amphores romaines et histoire économique: dix ans de recherche* (Coll. de L'École Française de Rome, 114, 1989).

¹⁷² Campbell 1991, op. cit. in note 134, 60.

¹⁷³ A. C. Thomas, *A Provisional List of Imported Pottery in Post-Roman Western Britain and Ireland* (Redruth, 1981).

¹⁷⁴ D. F. Williams, *Roman Pottery from Kourion, Cyprus: An Interim Report* (forthcoming).

¹⁷⁵ M. G. Fulford, 'Byzantium and Britain: a Mediterranean perspective on post-Roman Mediterranean imports in western Britain and Ireland', *Medieval Archaeol.*, 33 (1989), 1–5.

¹⁷⁶ In identical fabric: Alcock, op. cit. in note 131, fig. 27, no. 3.

Gallery in Cardiff. As with the Roman and earlier material, sherds from the same vessel have only been counted once, but the same qualifications to the results apply (Tabs. 15–16). The overall pattern is useful, in terms of allowing comparison with contemporary assemblages from the vicinity, including Cosmeston, some 3 miles (4.8 km) from Llandough.¹⁷⁷

TABLE 15
THE SOURCES AND PROPORTIONS OF THE LATER-MEDIEVAL SHERDS

Fabric	Vessel type			Total/%
	Glazed Jug	Cooking Pot/Jar	Inturned bowl	
Vale ware (VF1)	3	74	1	78/52.7%
Vale ware (VF2)	—	22	—	22/14.9%
Bristol/Redcliffe ware	1	—	—	1/0.7%
Llandough fabric F	—	42	—	42/28.4%
Limestone-tempered ware	—	4	—	4/2.7%
Uncertain	1	—	—	1/0.7%
<i>Total</i>	5	142	1	148/100%

The Fabrics

Vale Ware

Light brown to brown sandy iron-rich fabric, containing moderate to abundant sub-angular to sub-rounded quartz, and sparse red iron ore, sub-rounded black inclusions. VF1 is lighter in colour, harder and finer in texture; VF2 tends to be chocolate brown in colour, softer, and more friable.

Sherd total: (VF1) 78, (VF2) 22.

Llandough fabric F

Light to dark brown fabric, moderately hard, with reduced grey core, and sometimes narrow brown margins. Inclusions of abundant ill-sorted coarse to fine (<3 mm) sub-rounded and angular fossiliferous limestone, sparse fine black inclusions (0.5 mm), sparse opaque grey to white sub-angular quartz (1.5–0.3 mm), and iron-rich clay pellets (fine, 0.3 mm).

Sherd total: 42.

Bristol/Redcliffe wares

Hard fabric, reduced to light grey core with oxidised light yellowish-brown to pale brown inner surface and margins. Inclusions of subangular and rounded quartz (up to 1 mm), occasionally very coarse chert/flint (up to 8 mm). Patchy green external glaze, at times thick. Wheel-thrown.

Minimum number of vessels: 1.

Sherd total: 1.

¹⁷⁷ P. Andrews, 'Excavations at Cosmeston medieval village, near Penarth, South Glamorgan, 1993', *Archaeol. Wales*, 36 (1996), 11–35.

TABLE 16
LATER-MEDIEVAL POTTERY BY CONTEXT. THOSE CONTEXTS MARKED *
RELATE TO THE POST-CEMETERY TIMBER BUILDING

<i>Context</i>	<i>Vale F1</i>	<i>Vale F2</i>	<i>Llandough fabric F</i>	<i>Limestone- tempered ware</i>	<i>Bristol/ Redcliffe</i>	<i>Uncertain</i>
Fill of pit 004		2				
Empty Grave 64				1		
Fill of pit 190		1				
*Fill of 1235	59		30			
*Fill of 1256		11				
Rubble 1422 = 1255				1		
*Fill of 2378			1			
*Fill of 2388			1			
*Fill of 2589				1		
*Fill of 2611	4					
*Fill of 2641	5			1		
*Fill of 2647	1		2			
Fill 2652	2	3	2			
B10, 11, 19	1					
B43			1			
B52	3				1	
B135	1 (glazed)					
B601	2 (glazed)					
B764						1 (glazed jug?)
B1022		5	5			
Totals	78	22	42	4	1	1
%	52.7	14.9	28.4	2.7	0.7	0.7

Limestone-tempered ware, source uncertain

Moderately hard fabric with dark grey core and brown to pinkish-buff surfaces. Coarse, heavily tempered fabric with abundant ill-sorted coarse-fine (<3 mm) limestone inclusions, reddish iron-rich inclusions, and white quartz inclusions. Sherds represent jars with fairly thick walls. All the sherds are undiagnostic and very small, so dating is uncertain.

Sherd total: 4.

A small number of sherds have been chosen for illustration, to indicate the rim forms represented on the site.

1. Cooking pot rimsherd. Vale ware (Llandough fabric ai = VF1).¹⁷⁸ Fill of post-pit 1235 of the post-cemetery timber building; NMW 95.56H/201 (Fig. 41, 1).

¹⁷⁸ For similar form see B. E. Vyner, 'Vale Fabric—a medieval pottery industry in Glamorgan', *Medieval and Later Pottery in Wales*, 5 (1982), 31–9, fig. 1, 21.

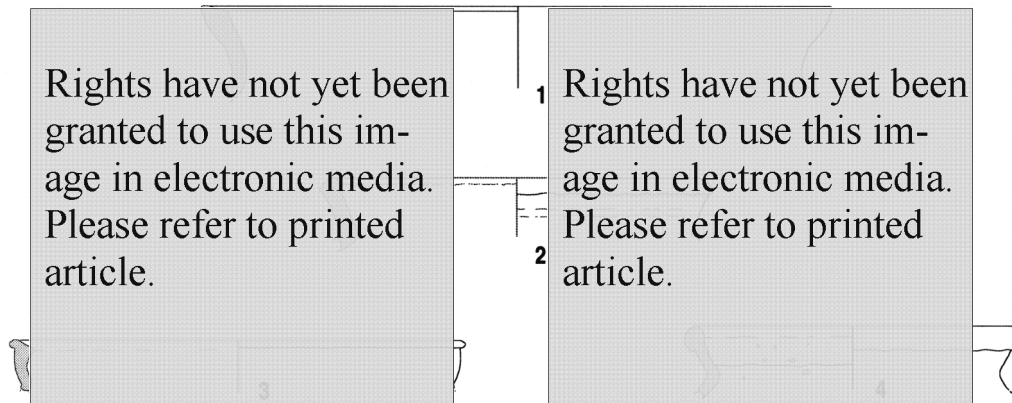


FIG. 41

Medieval cooking-pot rim sherds. Scale 1:4. Drawing by Tony Daly; © National Museum of Wales.

2. Cooking pot rim fragment. Llandough fabric F.¹⁷⁹ Fill of post-pit 1235 of the post-cemetery timber building; NMW 95.56H/201 (Fig. 41, 2).
3. Cooking pot rim fragment. Vale ware (Llandough fabric ai = VF1). Fill 2642 of post-pit 2641 of the post-cemetery timber building; NMW 95.56H/211 (Fig. 41, 3).
4. Cooking pot rim fragment. Llandough fabric F.¹⁸⁰ Fill 2379 of post-pit 2378 of the post-cemetery timber building; NMW 95.56H/206 (Fig. 41, 4).

Tile

1. Fragment of plain ridge tile, unglazed. Vale ware, similar to Llandaff wasters. 13th or 14th-century. Fill 190 of pit 189; NMW 95.56H/198.
2. Fragment of roof tile. B10/B11/B19; NMW 95.56H/218.
3. Fragment of glazed ridge tile. 13th or 14th-century. B817; NMW 95.56H/304.
4. Two fragments of ridge tile (similar to Llandaff wasters). Vale ware. GGAT evaluation test pit 5; NMW 95.56H/315.

Discussion

Seven burials produced sherds of 13th-/14th-century pottery (Tab. 16) and two graves produced fragments of 13th-/14th-century ridge tile (B10/B11/B19 and B817). Post-medieval pottery was recovered from the fills of four graves (B26/27, B50, B296, B631*). On balance all of this material is considered to be intrusive within the grave fills (see above, p. 32). The most productive context for later medieval pottery was post-pit 1235, with cooking-pot rim-forms in Llandough fabric F and Vale ware. All the sherds are fairly small, and from cooking pots/jars. As at Llandough, Vale ware dominates assemblages from Barry Village and Wrinstone, and occurs in reasonable quantities at Llantwit Major, Coity Castle and Kenfig Castle. It occurs in smaller quantities at Margam, Swansea and

¹⁷⁹ For a similar form from Cosmeston see Andrews, *op. cit.* in note 177, fig. 5, 12.

¹⁸⁰ B. E. Vynner, 'Medieval and post-medieval pottery from Llandough, Glamorgan', *Medieval and Later Pottery in Wales*, 4 (1981), 12–25 at p. 19.

Loughor, occasionally in Cardiff and a few sherds from the later phases of Rumney Castle. The concentration in South Glamorgan has suggested a source in the Vale, and the recent discovery of coarseware, glazed jug and ridge-tile wasters (both Vyners fabrics VF1 and VF2) at Llandaff indicates one source for at least some of this sandy ware during the 13th–14th centuries.¹⁸¹ Most of the sherds found at Llandough are cooking pots.

Llandough fabric F was also poorly represented amongst the later medieval pottery assemblage recovered during the 1980s excavations, which was dominated by Vale ware.¹⁸² The pottery from the Llandough cemetery reflects this supply to the area, and presumably reflects activity in and around the church during the high medieval period. Sherds of 13th- or 14th-century pottery were recovered by E. J. Beare in 1962–3 on the slope immediately to the north-east of Great House Farm (to the north of the church).¹⁸³

POST-MEDIEVAL POTTERY

By MARK REDKNAP

1. Horizontal rim sherd, glazed slipware. Orange fabric, brown external glaze. Yellow slip pellets between concentric lines on rim top. Chamber pot? 18th-century. 007, possibly from former cultivation soil; NMW 95.56H/195.
2. One body sherd, glazed redware. 18th-/19th-century. B26/27; NMW 95.56H/223.
3. One body sherd of fine redware with internal green glaze. 16th- or 17th-century. B50; NMW 95.56H/234.
4. One sherd of white china with printed blue external design, 19th-century; one sherd glazed redware wall sherd, 19th-century; one redware wall sherd with white slip on interior surface, glazed. 18th-century. B296; NMW 95.56H/270.
5. One rim sherd from plate, transfer-printed. 19th-century. B631*; NMW 95.56H/296.
6. Marble in light brown fired clay. Diameter 17 mm. Post-medieval. Unstratified; NMW 95.56H/179; Fig. 38, 3.
7. Base of a stoneware jar, c. 1900; eight sherds of glazed and unglazed post-medieval redware, 18th-/19th-century. GGAT evaluation test pit 5; NMW 95.56H/315.

Unstratified wares have not been listed.

The presence of some post-medieval artefacts within grave fills reflects the disturbed nature of some of these burials and the impact of the scrambling of these and later deposits. Most of these artefacts probably derive from activity associated with the area around Great House Farm, which used to stand about 30 m north of St Dochdwy's church. The farmhouse may have incorporated medieval fabric within parts of the 17th-century house associated with the Vaughan family. The 19th-century work on the farmhouse is associated with the Bute Estate.¹⁸⁴

¹⁸¹ T. Young, 'Llandaff Cathedral School (ST 156 779)', *Archaeol. Wales*, 41 (2001), 140–2.

¹⁸² Vyners, op. cit. in note 180.

¹⁸³ GGAT, op. cit. in note 1, 4; Beare, op. cit. in note 3.

¹⁸⁴ GGAT, op. cit. in note 1, 4; R.C.A.H.M.W., op. cit. in note 58.

GENERAL DISCUSSION OF THE CEMETERY

By NEIL HOLBROOK

AN IRON-AGE BURIAL?

Excluding a background scatter of seven flints, to which little significance is attached, the only evidence for possible prehistoric activity at the site is the recovery of 28 sherds of late Iron-age/Early-Roman pottery, 16 of which came from the fill 806 of pit 805 (Fig. 5). On balance Webster, above, prefers to date this material to the pre-Conquest period. The scattered distribution of this pottery is of little evidential value as in most cases it is residual in later graves. There is only one possible example of a late Iron-age grave, the pit burial B601* (Figs. 10, 14C). Pit-burials have been found on a variety of Iron-age sites central-southern Britain, although the deposition of isolated skeletons in pits was clearly an atypical rite.¹⁸⁵ Hill has shown in Wessex that these burials were part of a ritual practice involving the deposition of a variety of artefacts and materials.¹⁸⁶ If this burial is of late Iron-age date, it may be associated with other burials, features or monuments which have since been destroyed (it lay on the very edge of an area that has been truncated by later activities). Iron-age settlement was discovered beneath the Roman villa 150 m to the S.¹⁸⁷

CONTINUITY OF BURIAL FROM THE LATE-ROMAN TO THE EARLY-MEDIEVAL PERIOD?

Before all the radiocarbon dates became available the authors believed that there were some burials at Llandough (in particular B87* and 110) to which a Late-Roman date could be ascribed with reasonable confidence.¹⁸⁸ Radiocarbon assay has, however, confirmed Rahtz's strictures that Roman artefacts only provide a *terminus post quem*,¹⁸⁹ and there are now no burials for which a Roman date is unequivocally claimed. That is not to say that the cemetery does not have a Roman origin; only that it cannot be demonstrated given the current precision of radiocarbon dating. Whether the Roman artefacts within the grave fills were just introduced incidentally into the backfill, or were the product of more structured deposition (sweepings from funeral feasts, etc.) is open to question (see above). There is a noticeable cluster in the distribution of Roman pottery and other artefacts within the graves in the very southernmost part of the excavation area (Fig. 14C). The presence of such material clearly reflects Roman activity in the vicinity, although it is noticeable that some of the coins and pottery recovered from the grave fills are later in date than that found in the excavation of the villa in 1979. Indeed Webster dated the abandonment of the house to the first third of the 4th century. It is conceivable that there was another Roman building beneath the churchyard that was occupied for longer than the villa house, and if a Roman

¹⁸⁵ R. Whimster, *Burial Practices in Iron Age Britain* (BAR British Series, 90, Oxford, 1981), 191.

¹⁸⁶ J. D. Hill, *Ritual and Rubbish in the Iron Age of Wessex* (BAR Brit. Ser., 242, Oxford, 1995).

¹⁸⁷ Owen-John, op. cit. in note 4.

¹⁸⁸ Cf., for instance, *Current Archaeol.*, 146 (1996), 73–7.

¹⁸⁹ P. A. Rahtz, 'Late Roman cemeteries and beyond', 53–64 in R. Reece (ed.), *Burial in the Roman World* (CBA Res. Rep., 22, London, 1977), at p. 55.

origin for the cemetery is sought, this might have acted as a focus for burial. It must be stated that this would be a very unusual state of affairs, as while scattered burials have been found on a wide range of Romano-British rural sites, rural cemeteries are extremely rare as discussed by Jeremy Knight in the supplementary essay that follows this report.

There, Knight outlines various models which might explain the link between the Roman villa and the Early-medieval monastery. The monastery at Llandough is first recorded historically in the mid-7th century. Although the written sources cannot establish the matter beyond doubt, they suggest that advent of enclosed monastic communities in South Wales occurred from the late 5th century, and to have been well established by the early 6th century.¹⁹⁰ As yet radiocarbon dating is insufficiently precise to ascertain whether there was continuity of burial from the Late-Roman Period, or whether the cemetery was established *de novo* around this date. *If* burial was continuous, it begs the question of how Llandough should be interpreted in the period before the monastery. Was there a settlement here that was post-villa and pre-monastery, or did the former villa lands pass into the control of a local leader, perhaps the one who lived at the defended hilltop enclosure of Dinas Powys, only 2 km distant? A link between the two sites is certainly suggested later by the occurrence at both of sherds of Bii amphora from Asia Minor, for which the main period of importation into Britain appears to fall in the 75 years between A.D. 475–550,¹⁹¹ and of late 6th- or 7th-century glass cone beakers. Bii amphorae are found on comparatively few sites, and in South Wales by far the most significant is Dinas Powys which has produced not only amphorae but also imported fine wares in quantity. Exactly how this site should be interpreted is a matter for debate, although the evidence for high-quality metalworking and the range of exotic imports clearly marks its high status. The mechanisms by which sites were selected for monastic foundations are unclear, but one possibility at Llandough is that lands were granted to it by a local overlord (perhaps even the one at Dinas Powys). The monastery could therefore have been implanted on to a site with a long established and continuing tradition of burial (be it Christian or not) in a similar manner to the chapels which were added to pre-existing rural graveyards from the late 6th or 7th century onwards (Knight's Models 3–5).¹⁹² The alternative, of course, is that the cemetery dates entirely to the years following the foundation of the monastery (Knight's Models 6–8).

Cemetery sites of the immediately post-Roman Period have been discussed by Rahtz, and some show reasonable evidence of continuity of burial from late into sub-Roman times (Cannington is the largest with an estimated original population of 1,500–5,500 burials).¹⁹³ Like Llandough, the majority of burials from such sites were oriented E.–W. and had few grave goods. Locally the small enclosed cemetery at the Atlantic Trading Estate, Barry seems to span the period from the 2nd–10th

¹⁹⁰ Thomas, *op. cit.* in note 27, 21–2; Davies, *op. cit.* in note 39, 147–8.

¹⁹¹ Fulford, *op. cit.* in note 175.

¹⁹² Generally Thomas, *op. cit.* in note 27, 67–90, and excavated Welsh examples at Capel Maelog (Britnell, *op. cit.* in note 20, 82–5) and Pennant Melangell (Britnell, *op. cit.* in note 49, 91–2).

¹⁹³ Rahtz, *op. cit.* in note 189, 56; Rahtz et al., *op. cit.* in note 15, 420 and 422–3.

centuries.¹⁹⁴ The burial arrangements at Llandough display greater affinity to these types of site than to the early Christian rural enclosed cemeteries which occur along much of the Atlantic coast of Britain.¹⁹⁵ In Wales such cemeteries have traditionally been recognised by the practice of burial in long-cists, although it is now clear that more diverse burial-types also occur, none of which have been found at Llandough.¹⁹⁶

OVERALL CHRONOLOGY OF THE CEMETERY

The earliest radiocarbon date from the excavated burials only shows that burial had commenced by the period 370–640 cal A.D. It is possible to refine this dating, however, due to the presence within five grave fills in Areas I and III of sherds of imported Bii amphorae (from B116, B517, B542, B819 and B864). While this pottery only provides a *terminus post quem* for the individual graves, this material does nevertheless provide archaeological evidence of late 5th- or 6th-century activity of some nature at Llandough. The fill of one grave (B640) also produced fragments of a late 6th- or 7th-century glass cone beaker. Turning to the date when the cemetery went out of use, the ranges of the latest radiocarbon dates are 885–1035, 779–1024 and 782–1024 cal A.D. respectively. Burial 34 in Area I was accompanied by an iron knife for which a 11th-century date might be appropriate. This evidence strongly suggests that burial continued at Llandough until the demise of the monastery which historical sources suggest occurred in the late 10th or early 11th century. The rarity of sherds of medieval pottery from the grave fills, in contrast to the post-pits of a timber building which overlay part of the cemetery, supports the radiocarbon dates in suggesting that regular burial had ceased within the excavated area by the 13th century when such pottery became widespread.

MORPHOLOGICAL AND CHRONOLOGICAL DEVELOPMENT OF THE CEMETERY

No definite boundaries to the graveyard were found during the excavation to assist in the reconstruction of the cemetery layout and organisation, or in the formulation of a model of its development. During the preliminary phases of post-excavation analysis, and before all the radiocarbon dates were available, the cemetery was divided into three areas. It was considered that a noticeable group of graves on a distinct NE.–SW. orientation could have been aligned on a putative curvilinear boundary to the cemetery which has left no archaeological trace (an attempt to mark the approximate position of the boundary is shown on Fig. 6, although precision is impossible). The burials contained within the area between this line and the present churchyard wall were designated as Area I. The burials to the west of Area I were termed Area II where more clearly defined rows were apparent, although later burials on a marked NE.–SW. alignment cut across this arrangement. The full extent of these burials lies outside of the excavation area to the west and ground levelling has probably removed many burials in the northern part of the site. A shallow ditch 1214 on an almost N.–S. alignment to the east of

¹⁹⁴ James, *op. cit.* in note 24, 96–8.

¹⁹⁵ Thomas, *op. cit.* in note 27, 50–68.

¹⁹⁶ James, *op. cit.* in note 24; Murphy, *op. cit.* in note 31, 30.

these burials is probably a later feature as it cut through B37*, removing its legs. Burials to the north of the putative boundary were termed Area III where burial extended right up to the edge of the steep scarp. It is difficult to make much of the morphological arrangements within Area III, save to note the frequent intercutting and the fact that no evidence of any other boundary was found in the excavated areas. This was the most intensively utilised part of the cemetery, with burials generally on an E.–W. alignment. One fairly clear row (B730/731, 567, 566, 592, 614, 599 and 893) could be recognised, but little other obvious patterning. Area III contained numerous infant or juvenile burials which represent the final use of this part of the cemetery. By way of comparison it may be noted that 56 children were found buried by the wall of a chapel in the Period II (8th- to 9th-century) monastery at Whithorn. These clearly formed a distinct group which had been deliberately separated from the adult population, and pathological examination demonstrated that they had a variety of afflictions.¹⁹⁷ Another possibility might be that the children were the victims of a specific outbreak of plague or endemic.¹⁹⁸

Implicit in the zoning outlined above was a simple model which considered that burial expanded outwards in a broadly radial fashion from a single focus (the monastery church which presumably lies beneath the present churchyard). In such a model some of the burials closest to the churchyard wall would be early in the sequence, although later burials were evidently dug into the previously utilised area, so hindering attempts to recognise spatial patterning. It was thought that the putative boundary between Areas I and III might have dated to relatively early in the history of the monastery, it subsequently being removed as the cemetery expanded to the north, perhaps with later graves cut across its former line (the expansion of monastic boundaries can be paralleled in Period I at Whithorn).¹⁹⁹ In this hypothesis the burials in Areas II and III should constitute later expansion to the early core.

Once all the radiocarbon dates were available, it became clear that it was difficult to uphold such a simple model for the development of the cemetery. Three bodies were very likely buried in the period of the 5th–7th centuries, and certainly before A.D. 700. Burial 2 was aligned NE.–SW. and lay within Area I, while the other two lay within Area III. Burial 566 was part of the distinct row of eight or more E.–W. aligned burials (B730/731. etc.); it cut an earlier burial. Burial 631* contained the iron girdle. Burial was therefore ongoing within both the S. and N. parts of the cemetery by A.D. 700, although it is by no means assured that the latter represents expansion from an earlier southern core, and it is conceivable that burial occurred simultaneously across the whole of the excavated area from the outset of cemetery use. Equally there may have been more than one focus of burial. In the northern part of the cemetery the probable Iron-age pit-burial may have been associated with a landscape feature which has since been destroyed. Evidence for the re-use of prehistoric monuments as a focus for Early-medieval burial is

¹⁹⁷ Hill, *op. cit.* in note 37, 557–9.

¹⁹⁸ Cf. the burial of children within the churchyard at Tintagel, Cornwall, which might be associated with a historically recorded plague in the winter of 1546–7: Nowakowski and Thomas, *op. cit.* in note 51, 27–9.

¹⁹⁹ Hill, *op. cit.* in note 37, 28–37.

increasingly being found in Wales.²⁰⁰ Some 4 m south-west of the pit burial was B643 (a child) which may have had an original surface covering of white quartz pebbles, perhaps a marker of special status. This burial is clearly not a very early feature of the cemetery as it overlay two burials which both in turn overlay an earlier one. Any status that the grave may once have possessed was not subsequently respected as a number of later inhumations cut through it. No patterning in the burials which immediately surrounded B643 could be detected.

Bodies which were buried no earlier than the A.D. 600 occur in all three parts of the cemetery. In Area III B784 overlay an earlier burial and was in turn covered by four sequential phases of intercutting burials, while in Area I they included burials on both E.–W. (B110) and NE.–SW. (B333*) alignments. The date from B380 in Area II suggests that burial in regular rows continued here after the late 7th century. There were three bodies buried no earlier than A.D. 700 in Area I and one in Area III. The N.–S. burial B106, buried no earlier than 782 cal A.D., underlay a number of E.–W. aligned burials in Area I, while B688 in Area III (no earlier than 779 cal A.D.) was the latest in a localised sequence of five phases of burial. To these radiocarbon dated burials can be added B898* in Area III, which was accompanied by an iron knife grave good broadly dated to the period from the 8th–10th centuries. The latest radiocarbon date from the site came from B228 (885–1035 cal A.D.), one of the NE.–SW. aligned burials which it was thought might reflect the putative boundary to the cemetery.

To summarise, burials were being made before A.D. 700 in Areas I and III, and before A.D. 980 at latest in Area II. Burials which must date to after A.D. 700 occur in both Areas I and III. Bodies were being interred on a NE.–SW. alignment in Area I before A.D. 640 (B2*) and after A.D. 885 (B228). If these burials do reflect the alignment of a boundary to at least part of the cemetery then this was therefore in place before the mid-7th century. Burial in Areas II and III clearly continued after this, and contrary to the belief that the boundary went out of use as the cemetery expanded, the late date from B228 suggests that it remained a visible feature in the latest period of cemetery use. Curvilinear enclosed cemeteries have been demonstrated to be a feature of pre-Norman Christian archaeology in western Britain, and monasteries in particular were generally enclosed,²⁰¹ although a recent survey suggests that the advent of enclosed Christian cemeteries should be dated to the period from the 8th–10th centuries, and not before.²⁰² Whatever structure the putative boundary took it has left no trace: certainly no ditch existed as at some sites, although less tangible structures are also known.²⁰³

Only broad deductions can be made concerning the extent of the cemetery in its most developed form. Burial is unlikely to have continued to the west of Penland Road as this probably marks the historic route to Cardiff, while to the north and

²⁰⁰ James, op. cit. in note 24; E. O'Brien, *Post-Roman Britain to Anglo-Saxon England: Burial Practices Reviewed* (BAR Brit. Ser., 289, Oxford, 1999), 35–8.

²⁰¹ D. A. Brook, 'The Early Christian Church east and west of Offa's Dyke', 77–89 in Edwards and Lane (eds.), op. cit. in note 24; A. Preston-Jones, 'Decoding Cornish churchyards', 104–24 *ibid.*

²⁰² Petts, op. cit. in note 145.

²⁰³ Cf. the insubstantial Period 1 (pre-A.D. 730) boundaries at Whithorn, and the references cited therein for monastic boundaries composed of hedges and wattles: Hill, op. cit. in note 37, 35.

east the break of slope would have formed natural boundaries. To the south the monastic enclosure is likely to have extended as far as the crest of the slope above the small stream, and perhaps beyond. The 30 or more burials disturbed during building work in 1979 to the south of the stream seem to date to the late 8th–9th century to judge from the two radiocarbon dates (Tab. 8), and are thus contemporary with burial to the north of the church (Fig. 2). One possibility is that they represent the lay population buried outside the monastic bounds, although equally they might represent a second cemetery close to the southern limit of the enclosure.

DEMOGRAPHY OF THE CEMETERY

Full discussion of the demography and pathology of the burial population must await the publication of Loe's analyses,²⁰⁴ although the following broad conclusions can be drawn. Of the population available for study, 30% were either certainly or probably male, 25% certainly or probably female, and 26% were children under 18. Adult males outnumbered females by a proportion of about 20%, although whether this is a particular characteristic of monastic sites of this date must await further study. Females and juveniles were also present in the burials in the southern area examined in 1979.²⁰⁵ On some monastic sites the presence of female burials has been considered to be indicative of a lay population,²⁰⁶ although it is doubtful if this need necessarily be so as historical evidence suggests that marriage amongst the Welsh clergy was commonplace from the outset.²⁰⁷ Equally the cemetery may contain some lay burials as well, as Davies has concluded that by the late 11th century burial within the cemetery of a religious community was normal, at least for the aristocracy, on payment of fees.²⁰⁸ To what degree this practice occurred earlier is unclear, although O'Brien has remarked on the early 8th-century historical evidence from Ireland where people were being exhorted to leave family or tribal cemeteries and bury their dead in Christian cemeteries.²⁰⁹ The excavated cemetery is therefore likely to have contained an amalgam of clergy, their wives and children, and elements of the lay aristocracy. Indeed given the estimated size of the cemetery, the latter group may have comprised a significant proportion of the burial population. It may be pertinent in this respect that Loe has observed that there is a greater variation in male statures at Llandough than at some other cemeteries, and she suggests that this could be due to the males being drawn from a wide geographical area. The skeletal examination also suggests that there were lower levels of disease and greater life expectancy than at some other Early-medieval cemeteries, perhaps a reflection of the status and relatively high standard of living of those buried here.

²⁰⁴ Loe, op. cit. in note 14.

²⁰⁵ Owen-John, op. cit. in note 4, 147.

²⁰⁶ Cf. Monkwearmouth, R. J. Cramp, 'Monastic sites', 201–52 in D. M. Wilson (ed.), *The Archaeology of Anglo-Saxon England* (Cambridge, 1976), 231, and Whithorn, where the presence of a small number of females suggested to the excavator either a secular burial ground or the presence of monks and nuns of a double monastery: Hill, op. cit. in note 37, 74.

²⁰⁷ Davies, op. cit. in note 39, 157.

²⁰⁸ Ibid., 187.

²⁰⁹ O'Brien, op. cit. in note 200, 53–4.

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