Proceedings of the Prehistoric Society 76, 2010, pp. 351–356

New Dates for Sarn-y-bryn-caled, Powys, Wales

By ALEX GIBSON[1]

The timber circle and other sites within the Sarn-y-bryn-caled ritual complex were excavated in advance of the construction of the Welshpool bypass and published in this journal in 1994 (Gibson 1994). The radiocarbon dating undertaken at the time relied totally on charcoal and, in the case of site 1 (the timber circle) and site 2 (a small panannular ring ditch), oak charcoal was the only available material. At the time, it was not possible to date cremated bone but now with this facility at our disposal, it seemed appropriate to redate these two important sites to check the existing dating and refine that dating if possible.

SITE 1 – THE TIMBER CIRCLE

The timber circle comprised an outer circle of 20 oak posts with an inner circle of six larger posts, also of oak (Gibson 1994, 146–59 & figs 4–11). The post-holes of the inner circle were all intercutting and an oak-lined pit was excavated in the centre of this inner circle and through the backfills of the post-holes. This pit was 1.3 m deep below the present gravel surface and two deposits of cremated human and animal bone were located at and just above its base. The primary deposit, on the very base of the pit, comprised the remains of a mature adult of unknown sex associated with four barbed and tanged arrowheads of Conygar type (Green 1980). Also associated with this deposit were fragments of pig bone and a 2nd left petrous temporal clearly indicating the presence of bones from a second individual.

The secondary deposit, distinctly above the primary but also low down in the fill of the pit (30 mm above the floor), represented the remains of a young adult, possibly female, associated with a fired lump of clay, an undecorated bipartite vase Food Vessel, and, once again, fragments of pig bone.

The posts had been partially carbonised prior to insertion in the post-holes and, therefore, the radiocarbon dates obtained from them, though oak, can be regarded as reliable as they had been derived from the outer tree-rings. Two dates were obtained from posts 11 and 12 in the outer circle, 3720±40 BP (BM-2808) and 3660±60 BP (BM-2807). Two dates were also obtained from the inner circle, posts F and E: 3730±40 BP (BM-2805), 3670±40 BP (BM-2806). These 4 dates are in statistical agreement suggesting that the double circle was a single-phased monument.

The primary and secondary deposits of cremated remains produced dates of 3900±40 BP (BM-2810) and 3660±40 BP (BM-2809) respectively (note that both dates were erroneously quoted as BM-2809 in the report: Gibson, 1994, 155). The radiocarbon dates obtained from the cremated remains, however, were derived from oak charcoal and these suggested that the primary deposit was older than the circles, despite the clearly secondary nature of the central pit. The date obtained from the secondary deposit was more in keeping with dates obtained for the circles.

In order to date the cremations more precisely, the following samples were submitted to SUERC

Primary Cremation:	left petrous temporal 1 (2 g)
Primary Cremation:	left petrous temporal 2 (3 g)
Primary Cremation Pig:	unidentified long bone fragment (3 g)
Secondary Cremation:	scapula fragment (8 g)
Secondary Cremation Pig:	unidentified long bone fragment (3 g)

The results obtained are listed in Table 1. Calibrations have been undertaken using the University of Oxford's OxCal v4.1 (Bronk Ramsey 2010) using the curve of Reimer *et al.* (2009)

[1]Archaeological Sciences, University of Bradford, Bradford BD7 1DP

Received and accepted: August 2009

TABLE 1: RADIOCARBON DATES FROM THE SARN-Y-BRYN-CALED TIMBER CIRCLE

Sample ID	*Lab. Code*	*Determination BP*	*^{13}C (‰)*	*Calibrated date BC (68.2%) modelled data*	*Calibrated date BC (95.4%) modelled data*
Original dates					
Outer post 11	BM-2808	3720±40		2105 (68.2%) 2027	2189 (92.5%) 2013 1997 (2.9%) 1980
Outer post 12	BM-2807	3660±60		2107 (68.2%) 2002	2143 (95.4%) 1956
Inner post E	BM-2806	3670±40		2116 (68.2%) 2012	2137 (95.4%) 1971
Inner post F	BM-2805	3730±40		2138 (1.8%) 2133 2101 (66.4%) 2029	2193 (93.4%) 2016 1995 (2.0%) 1982
Primary cremation	BM-2810	3900±40		2466 (68.2%) 2341	2482 (92.6%) 2279 2251 (2.1%) 2230 2220 (0.7%) 2212
Secondary cremation	BM-2809	3660±40		2130 (24.6%) 2086 2051 (43.6%) 1973	2191 (1.0%) 2181 2142 (94.4%) 1924
New dates					
Primary cremation Individual 1	SUERC-27586	3600±35	-22.1	2011 (8.4%) 1999 1982 (59.8%) 1923	2026 (95.4%) 1900
Primary cremation Individual 2	SUERC-27587	3595±35	-24.0	2010 (7.0%) 2000 1981 (61.2%) 1920	2025 (95.4%) 1897
Primary cremation pig	SUERC-27588	3575±35	-21.7	1977 (68.2%) 1911	2021 (95.4%) 1891
Secondary cremation	SUERC-27589	3545±35	-23.2	1936 (68.2%) 1881	2006 (0.5%) 2001 1975 (94.9%) 1814
Secondary cremation pig	SUERC-27590	3640±35	-22.5	2113 (5.4%) 2102 2037 (62.8%) 1949	2135 (18.5%) 2077 2065 (76.9%) 1911

Discussion

The statistical agreement and the integrity of the original British Museum dates for the outer and inner rings of the timber circle, derived as they are from the outer post-rings, was not in doubt and they have been accepted in the model proposed here (Fig. 1). The timber circle is seen as the primary single-phased monument. The central pit, dug through the backfilling of the inner post-holes, is clearly stratigraphically secondary to the monument and the cremated remains within this pit clearly form a sequence. On Figure 1, the uniformity of the dates for the timber circle is obvious. The charcoal date from the primary deposit (BM-2810) clearly seems too old as was originally expected while the three dates from the cremated remains of the two individuals (SUERC-27586 & 27587) and the pig (SUERC-27588) are in good statistical agreement.

The dates from the secondary deposit show a lesser degree of agreement. All dates, however, suffer from a plateau in the calibration curve. The original date from oak charcoal (BM-2809) and from the associated pig bone (SUERC-27590) are in statistical agreement but are significantly older than the date for the human cremated remains. It may be that the old wood factor is responsible for the age of BM-2809 and that the pig remains represent residual material, possibly incorporated accidentally in the pyre, curated material cremated with the individual or perhaps even food deposits remaining from an earlier cremation. This model, incorporating all these dates has a poor statistical agreement ($A_{overall}$ = 9.8). When BM-2810 is removed from the model the agreement improves ($A_{overall}$ = 76.2). When BM-2809 and SUERC-2750 (oak and pig) are removed from the secondary burial phase the agreement improves still further ($A_{overall}$ = 141) (Fig. 1).

The date of this monument is now better understood. The monument, as previously dated, seems to have been built in the 22nd or 21st centuries cal BC. The primary burial was inserted in the 21st or 20th century cal BC and the secondary in the 20th or 19th century cal BC. The monument therefore appears to have been in use for sepulchro-ritual activity for little more than 250 years.

https://doi.org/10.1017/S0079497X00000554 Published online by Cambridge University Press

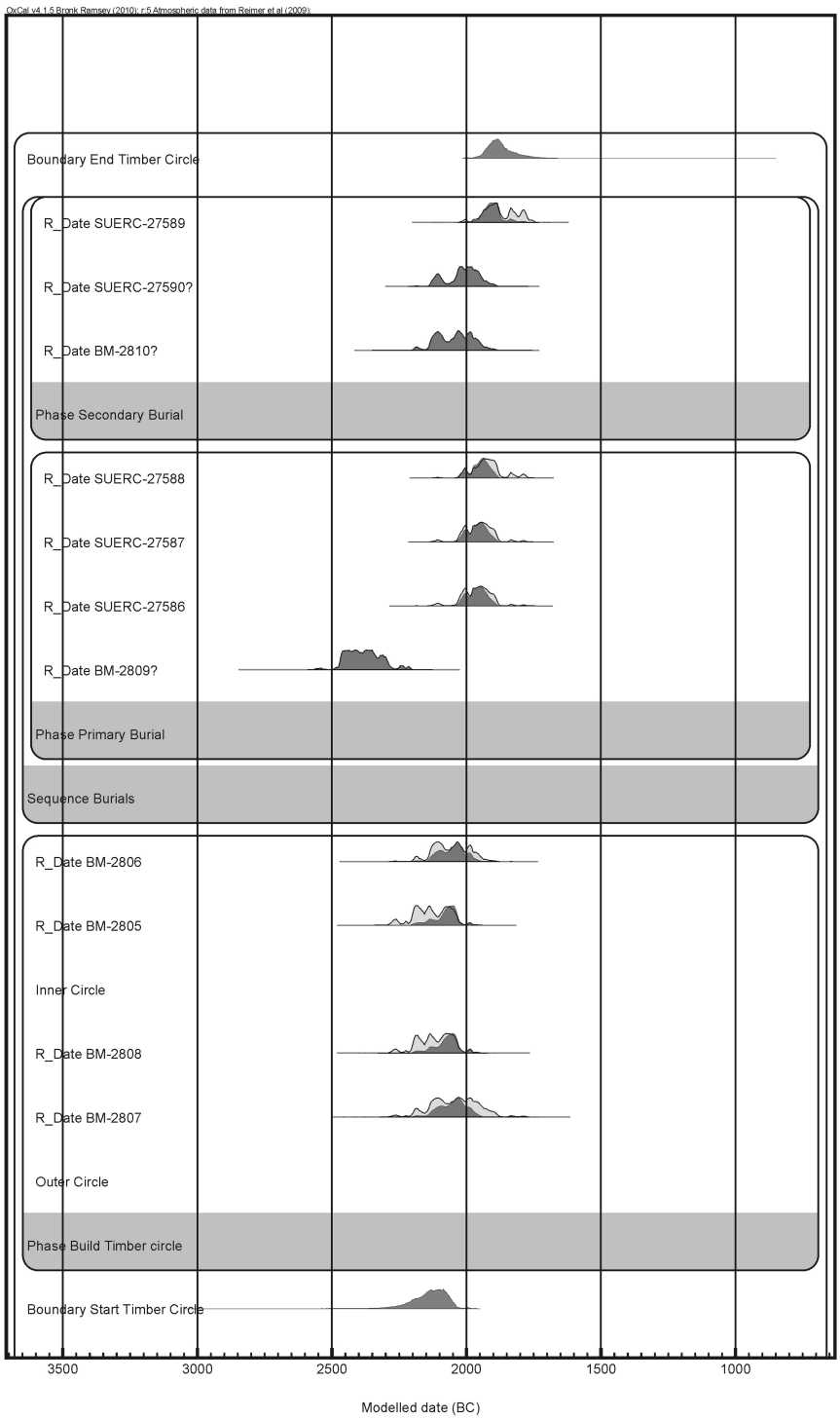

Fig 1:
New and existing radiocarbon dates from the Sarn-y-bryn-caled timber circle

https://doi.org/10.1017/S0079497X00000554 Published online by Cambridge University Press

SITE 2 – THE PENANNULAR RING DITCH

This small site measured 8 x 7 m overall, was open to the north-west and the entrance was flanked by two post-holes (Gibson 1994, 159–61 & figs 13–15). The ditch had rounded terminals, averaged some 1.1 m across and 0.90 m deep and appeared to have silted, almost completely, from the outside. This digging and silting may be considered as Phase 1. The ditch had then been recut from a considerably high level (Phase 2) and this recut also seems to have silted naturally.

Four deposits of cremated human bone were found in the ditch terminals. The primary deposit, representing the remains of a young adult (possibly female) was located in the southern terminal, on the ditch floor and undercut into the ditch terminal. There was no indication that the primary silts had been disturbed so this may safely be considered to have been one of the primary acts of deposition at the site. Deposits 2 and 3 were described as being associated with the recut in the original report (Gibson 1994, 159) however this now seems to have been unlikely. Placed hard against the terminal wall, these deposits must have been in the primary silts as the recut did not completely re-empty the ditch. Deposit 2, representing cremated bones from a child of about 3 years old, lay midway up in the ditch silts whilst deposit 3 (derived from a young adult, possibly female) lay in the upper levels of the Phase 1 silting. The exact stratigraphy of the very fragmentary deposit 4 (adult, unknown sex) from the northern terminal is less certain as this was discovered during machining in the plough-damaged uppermost surviving levels of the ditch. The remains of a carbonised post and some small sherds of Peterborough Ware, almost certainly residual, were found in the silts of Phase 2.

Radiocarbon dates of 4400±45 BP (BM-2820) and 4200±40 BP (BM-2819) were obtained from charcoal within the silts of the recut: unfortunately both samples were from oak and therefore of limited reliability however the dates were in keeping with the Peterborough Ware with which they were associated. Both dates were from very much secondary contexts but the primary silts contained no datable material.

As with the timber circle, the development of radiocarbon dating to include cremated bone makes it timely to obtain dates for the cremations from the primary silts. Accordingly the following samples were submitted to SUERC

Cremation 1: cranial parietal fragment (2 g)
Cremation 2: three long bone fragments (2 g)
Cremation 3: three fragments cranial vault (3 g)

The results obtained are listed in Table 2

Discussion

The new dates suggest that the dates previously obtained from the charcoal were, indeed, too old, particularly in the case of BM-2820. When incorporated into the model, the agreement is poor ($A_{Overall}$ = 2.4) however, when removed from the model, the agreement increases significantly ($A_{Overall}$ = 119). The deposits of burnt bone clearly show a sequence of deposition. Although the calibration of the uppermost deposit suffers from a plateau in the calibration curve, it is likely that this sequence spans the first 2 centuries of the 3rd millennium cal BC (Fig. 2). The charcoal dates for Phase 2 would clearly appear to be too old. Once again plateaux in the calibration curve give both dates a broad span. The younger of the two dates (BM-2819) has a similar date range to that obtained from the uppermost deposit of cremated remains whereas stratigraphically, BM-2819 should be later.

Dating of the deposits of cremated bone, has been important in adding to and confirming a growing body of early 3rd millennium cremation burials in the upper Severn Valley. They are broadly contemporary with the deposit of cremated remains from nearby Neolithic enclosure at Lower Luggy (Gibson 2006) and from the pit grave at Trelystan on the opposite side of the valley to Sarn-y-bryn-caled (Britnell 1982). They are also contemporary with activity at the multi-period Four Crosses barrow cemetery to the north (Warrilow *et al.* 1986; see also Gibson 2006, fig. 17). Nationally, these dates are also adding to a pattern of the deposition of cremated human remains in the middle Neolithic, long suspected at Dorchester on Thames (Atkinson *et al.* 1951) and recently published from Horton in the Colne Valley (Barclay *et al.* 2009) as well as Cairnpapple Hill, Midlothian (inf. A. Sheridan). Sites such as these are important in that they are starting to fill an apparent gap in the burial record between *c.* 3000 cal BC and the advent of Beakers some 500 years later.

Acknowledgements: I am grateful to Eva Bredsdorf of the Powysland Museum for permission to resample the cremation deposits and to Alan Ogden for identifying the samples prior to their submission. Thanks also to Sarah-Jane Clelland for guiding me through OxCal 4.1.

TABLE 2 – RADIOCARBON DATES FROM SARN-Y-BRYN-CALED SITE 2 (PENANNULAR RING-DITCH)

Sample ID	*Lab. Code*	*Determination BP*	*^{13}C (‰)*	*Calibrated date BC (68.2%) modelled data*	*Calibrated date BC (95.4%) modelled data*
Original dates (Phase 2)					
Recut	BM-2820	4400±45		3089 (20.9%) 3041 3034 (47.3%) 2928	3325 (11.5%) 3233 3174 (1.0%) 3161 3118 (82.9%) 2907
Recut	BM-2819	4200±40		2889 (19.3%) 2857 2810 (37.2%) 2750 2723 (11.7%) 2700	2899 (27.3%) 2834 2818 (67.1%) 2664 2647 (1.0%) 2639
New dates (Phase 1)					
Cremation 1	SUERC-24176	4315±30	-25.0	2922 (68.2%) 2894	3007 (5.1%) 2983 2967 (90.3%) 2886
Cremation 2	SUERC-24172	4255±30	-24.4	2900 (68.2%) 2880	2915 (95.4%) 2864
Cremation 3	SUERC-24171	4145±30	-23.5	2881 (66.4%) 2801 2756 (1.8%) 2749	2885 (95.4%) 2671

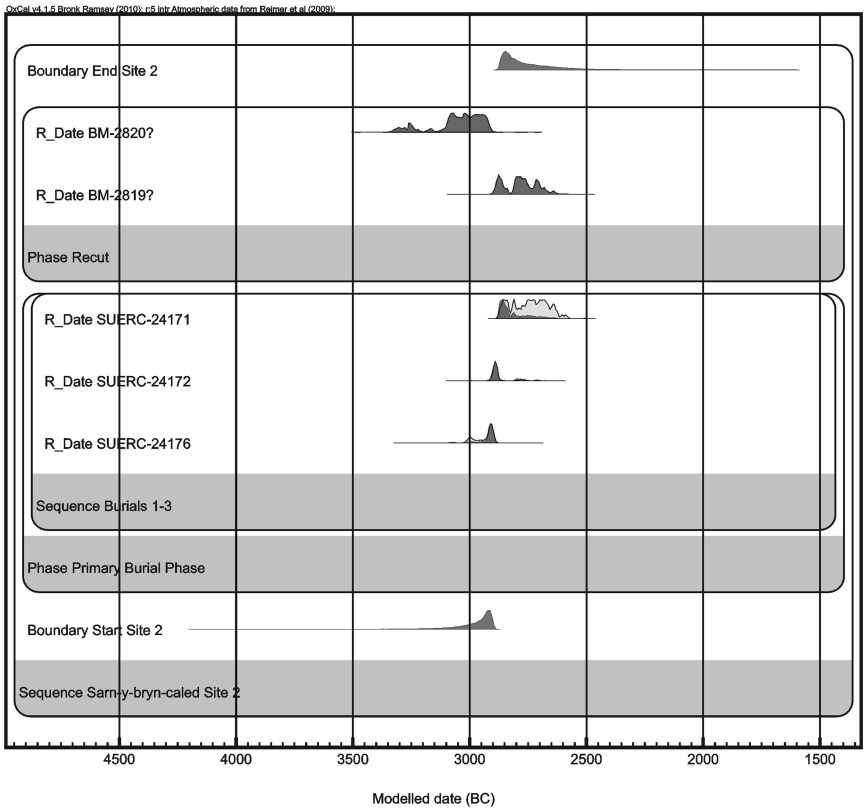

Fig 2:
New and existing radiocarbon dates from the Sarn-y-bryn-caled Site 2 (penannular ring-ditch)

https://doi.org/10.1017/S0079497X00000554 Published online by Cambridge University Press

BIBLIOGRAPHY

Atkinson, R.J.C., Piggott, C.M. & Sandars, N.K. 1951. *Excavations at Dorchester, Oxon*. Oxford: Ashmolean Museum

Barclay, A., Beavan, N., Bradley, P., Chaffey, G., Challinor, D., McKinley, J.I., Powell, A., & Marshall, P. 2009. New evidence for Mid-Late Neolithic burial from the Colne valley, west London. *PAST: Newsletter of the Prehistoric Society* 63, 4–6

Britnell, W.J. 1982. Two round barrows at Trelystan, Powys. *Proceedings of the Prehistoric Society* 48, 133–201

Bronk Ramsey, C. 2010. *Oxcal Radiocarbon Calibration Programme v4.1*. Oxford: University of Oxford

Gibson, A.M. 1994. Excavations at the Sarn-y-bryn-caled cursus complex, Welshpool, Powys, and the timber circles of Great Britain & Ireland. *Proceedings of the Prehistoric Society* 60, 143–224

Gibson, A.M. 2006. Excavations at a Neolithic enclosure at Lower Luggy, near Welshpool, Powys, Wales. *Proceedings of the Prehistoric Society* 72, 163–92

Green, H.S. 1980. *The Flint Arrowheads of the British Isles*. Oxford: British Archaeological Report 75

Reimer, P. J., Baillie, M. G. L., Bard, E., Bayliss, A., Beck, J. W., Blackwell, P. G., Bronk Ramsey, C., Buck, C. E., Burr, G. S., Edwards, R. L., Friedrich, M., Grootes, P. M., Guilderson, T. P., Hajdas, I., Heaton, T. J., Hogg, A. G., Hughen, K. A., Kaiser, K. F., Kromer, B., McCormac, F. G., Manning, S. W., Reimer, R. W., Richards, D. A., Southon, J. R., Talamo, S., Turney, C. S. M., Plicht, J. van der & Weyhenmeyer, C. E. 2009. IntCal09 and Marine09 radiocarbon age calibration curves, 0-50,000 years cal BP. Radiocarbon 51(4), 1111–50

Warrilow, W., Owen, G.,& Britnell, W. 1986. Eight ring-ditches at Four Crosses, Llandysilio, Powys, 1981–85. *Proceedings of the Prehistoric Society* 52, 53–88

https://doi.org/10.1017/S0079497X00000554 Published online by Cambridge University Press