THE SHEPTON MALLET SILVER AMULET

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INTRODUCTION

Shortly after the discovery of the Shepton Mallet amulet in 1990 doubts were cast about its authenticity on both stylistic and metallurgical grounds. Belief that the amulet was a hoax has received coverage in the media, especially in 1997 and 2008, but, until now, there has been no scientific publication to substantiate the issue. This paper seeks to rectify that with an account of the discovery of the amulet and associated events and the results of new, more sophisticated, metal analyses.

DISCOVERY

In 1990 large-scale excavations took place along Fosse Lane, Shepton Mallet, in advance of the construction of a £6 million warehouse for Showerings Ltd. The excavations were directed by Peter Leach on behalf of Birmingham University Field Archaeology Unit. These, and subsequent excavations, revealed a small town situated along both sides of the Fosse Way that included roadside buildings, workshops, agricultural enclosures, industrial workings and small enclosed cemeteries (Leach 2001).

Towards the southern end of the 1990 Fosse Lane excavations lay a small cemetery of 16 burials within a sub-rectangular enclosure defined by a shallow ditch (Fig. 1). The burials lay in rock-cut graves. Grave F50, near the middle of the cemetery, contained a well-preserved adult male (numbered HB22) of 30-50 years of age. He lay on his back and had been buried in a wooden coffin around which were vertically set packing stones. Like the other 15 burials this grave was oriented east-west. The amulet was discovered on the floor of the grave. The object lay on edge with one of the cross arms pointing upwards. It

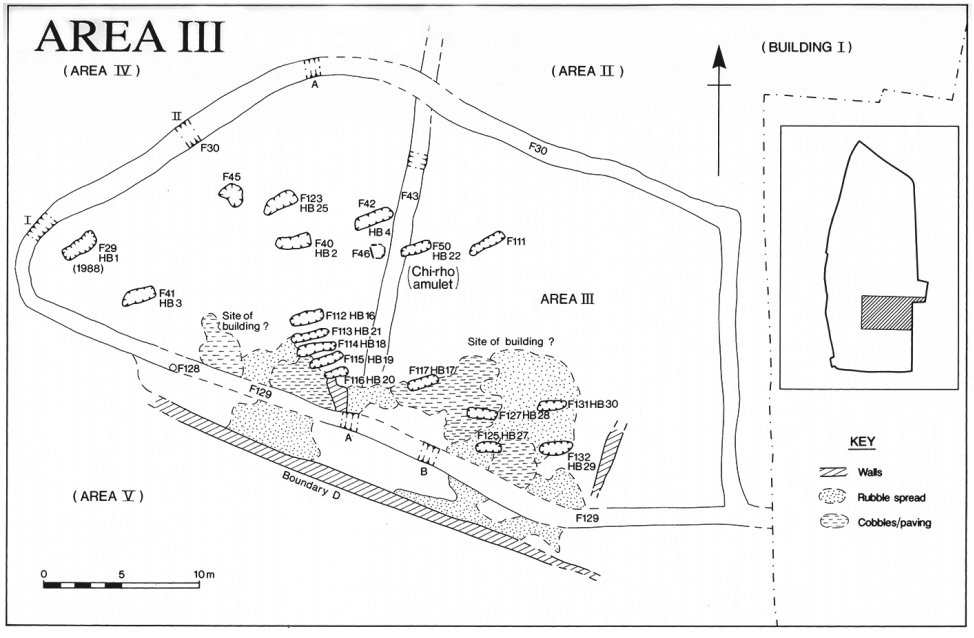


Fig. 1 Plan of the cemetery in which the amulet was discovered. (From Leach 2001, fig. 10). Image copyright the Society for the Promotion of Roman Studies.

is described as lying 'beneath the pelvic area of the burial on the floor of the grave' (Leach 2001, 35).

The amulet/pendant was found on Sunday 15th July 1990, as the excavations were nearing the end. The object quickly entered the public domain with news reports appearing by 19th July. There was extensive coverage in the national media, for example, *The Independent* on 28th July 1990 reported: 'Archaeologists have unearthed the earliest Christian cross ever discovered in Britain.'

A summary report written for an excavation open day held on 5th August 1990 describes the object as 'lying on the floor of the grave under the pelvic area, where it had evidently slipped when the body decayed.' (Leach 1990). Leach went on to state that the individual in the grave was 'perhaps the first indubitable Christian to have been found in a Romano-British cemetery…. The full significance of the discovery must, however, await further study and expert opinion.'



Fig. 2 The Shepton Mallet amulet. Image courtesy of the South West Heritage Trust

The amulet consists of a silver disc with four projecting arms forming a cross (Fig. 2). The shaft, arms and top are formed from double silver beads. The beads forming the shaft and sides are pinned on to the disc whilst the beads at the top, which served as the suspension loop, are soldered on. The overall height is 45mm; the diameter of the disc is 25mm. The front face of the disc bears a Chi-Rho created by punching 69 holes into the front. The Chi-Rho is an early Christian symbol formed by superimposing the Greek letters Chi (X) and Rho (P), the first two letters of the Greek word 'Christos'. The form of the monogram is very unusual with the Chi represented as + rather than x.

As an early Christian object, the amulet interested George Carey, then Bishop of Bath and Wells. An enlarged copy was made and presented to him and he frequently wore it as bishop and later as Archbishop of Canterbury. The copy was made by Mr C. J. Taylor of Norton Fitzwarren, near Taunton, Somerset, who provided identical copies for the bishops of Wakefield and Dar es Salam, and for Showerings. The amulet became something of an icon for Shepton Mallet; the local theatre was re-named The Amulet; roads on a new housing estate built on the site of the Roman town were named Amulet Way and Chi-Rio (sic, the name remains unchanged) Close; the welcome sign to the town features the amulet; Gilderthorp and Partners, local insolvency practitioners, featured it on their logo. At the time of writing Shepton Mallet's former theatre, still known as The Amulet, was being marketed as premises for retail or leisure use.

Following its excavation, the amulet was delivered to the British Museum on 15th August 1990. It was received by curator Dr Catherine Johns who arranged for the Research Laboratory at the British Museum to undertake XRF analysis of the silver. In the first instance three analyses were carried out, one each on the disc, a rivet and a bead. The results were semi-quantitative as they were carried out on the uncleaned surfaces. All were anomalous in that no parallels were found with the hundreds of pre-existing analyses of Roman silver. As a consequence, a further analysis was carried out on the disc. A small area of the disc was abraded to overcome the possibility of the earlier analyses of the surface metal being unrepresentative. This result was equally anomalous, bearing a parallel with modern sterling silver. The Research Laboratory also examined the amulet under a binocular microscope, 'which showed the metal was in good condition; there was no significant depth of corrosion, contrary to what might have been expected for an ancient silver object.'

The amulet was initially very largely accepted as a genuine late Roman artefact. However, some doubted its authenticity. Professor (then Dr) Martin Henig of the Institute of Archaeology at University of Oxford had no doubt that the object was a hoax based upon its style and appearance. It was suggested that the disc was adapted from a Roman coin but although the disc was the size of a copper-alloy *as* of the early-middle Empire, no Roman silver coins of the size and period exist. Dr Catherine Johns, who wrote the report on the amulet for the excavation report, was another, though

rather more guarded, doubter stating that the analytical results did not conform with some hundreds of existing analyses of Roman silver, and that 'its composition very closely resembles that of modern sterling silver' (Leach 2001, 260).

Because it derived from an excavation, Catherine Johns was guarded in her comments on the amulet's authenticity when she wrote her report for the excavation publication (Johns 2001, 257-60). She did write that had it been a chance find rather than from an excavation there would have been serious doubt about its antiquity. She concluded by saying:

> 'in view of the archaeological context it seems wise to keep an open mind, and hope that future discoveries may produce evidence which will resolve the apparent contradiction.'
>
> and:
>
> 'Working on the assumption that the amulet is late Roman, its importance ranks with finds like the silver treasure from Water Newton or the mosaic floor from Hinton St Mary, making it an early Christian object of international significance.' (Johns 2001, 260)

Questions about the amulet's authenticity entered the public domain in late May 1997 and featured in the national and local media. Amongst those to voice doubt was Dr Martin Henig (University of Oxford). From the beginning Dr Henig had doubted that the amulet was genuine on stylistic grounds. In *The Times* for 28th May 1997 he is quoted as saying: 'When I saw it I was not at all happy with it. The thing screamed that it was modern. It looked to me as though somebody had looked at a picture of a brooch found in Sussex and made an amateur copy of it.'

Peter Leach, director of the Fosse Lane excavations, had accepted that the amulet was in all probability a modern creation by the time that his book *Fosse Way: Britons and Romans in Somerset* was published in 2010 (Leach 2010, 79-81):

> 'Despite its careful excavation from within an apparently undisturbed burial deposit, the circumstances of its discovery in a grave whose excavation had begun the previous day, on an easily accessible site with low security, and from a mixed grave fill whose disturbance could have been readily disguised, provide support for doubts about its ancient origin. Perhaps of even more interest are the motives that lie behind its creation and deposition, for which we may never have an answer. However, the discoveries along Fosse Lane in 1990 aroused enormous local and national interest, and not a little opposition to the development that led to the discovery of Roman settlement remains. Might this have stimulated the production of an intelligent and initially convincing fake, whose discovery could influence the impending development or fate of the remains thereafter?'

An opportunity for further analyses followed in 2008. The results received media coverage across the world. Headlines for the story included 'Britain's 'Holy Grail' is exposed as a fake' (*Metro* 19th September 2008), 'Ancient Christian amulet declared a hoax' (*New Kerala*, India, 19th September 2008), 'Chi-rho cross may be fake, say experts' (*Church Times* 24th September 2008), ''Ancient' Christian silver cross worn by former Archbishop of Canterbury is exposed as a 19th century FAKE' (*Daily Mail* 19th September 2008), 'Shamulet' (*Shepton Mallet Journal* 11th September 2008), and 'We're sorry to announce that Shepton's treasure is a shamulet' (*Western Daily Press* 19th September 2008).

REPORT ON THE CHEMICAL ANALYSIS OF THE SILVER PENDANT FROM FOSSE LANE

Matthew Ponting

Analytical method

A single sample was taken from the central disc of the pendant by drilling into the metal with a 0.6mm diameter drill and collecting the turnings; the first millimetre or so of turnings were discarded to avoid including corroded or otherwise contaminated metal and prepared for analysis according to standard criteria (Hughes et al. 1976).

The sample was analysed by inductively-coupled plasma atomic emission spectrometry (ICP-AES) and the instrument used was a Perkin Elmer Optima DV3300. The instrument was calibrated using two matrix-matched solutions made-up from commercial single element ICP standards and a matrix-matched blank. Major and minor elements were bracketed between the two standards and trace elements were measured on a single point calibration to avoid curvature. The acids used were 'primar' trace analysis grade and the water was from a Milli-Q® ultra-pure water system. A matrix-matched quality control solution containing moderate levels of the elements sought was run to monitor instrumental drift and a standard reference metal (Bundesanstalt für materialprüfung nr. 211) was also included. Relative accuracy based on two analyses of 211 at the beginning and at the end of the analysis is better than 8% for all major and minor elements, with the exception of lead (8.7% error at a concentration of 0.74%). The relative accuracy of the trace elements is better than 10%, again

with the poorer values occurring when the concentrations approached the limits of detection (i.e., arsenic with a 10.4% error on a certified value of 0.021%). Instrumental precision (coefficient of variation across three replicate analyses of the same sample) is generally better than 3%, while analytical precision (coefficient of variation of two analyses of the same SRM across all analyses) is generally better than 3% for major, minor and trace elements over all analyses, with the exception of bismuth, which is poor because the certified value was close to the limit of detection (LOD). The LODs for the analysis (expressed as parts per million), calculated at 3 σ are:

As	Au	Co	Cu	Fe	Mn
0.076	0.002	0.002	0.01	0.001	0.0002
Ni	Pb	Sb	Sn	Zn	Cr
0.002	0.015	0.023	0.044	0.006	0.001

Silver was not measured in this analysis because of dissolution difficulties; the silver values quoted are calculated by difference and cross-checked with the copper values measured for standard reference materials and the sterling silver samples.

In light of the results of the analysis of the disc a second analysis was carried out on a different component of the amulet: the pin attaching the beads forming the base of the cross.

Results

The silver (Ag) content of the pendant is greater than that of the sterling silver samples included in the analysis (Table 1). Duplicate analyses confirmed the precision of these data, which were then cross-checked with a sterling silver sample that has been analysed by several techniques over a number of years and good agreement was achieved. The metal of the central disc was therefore close to the composition of Britannia silver rather than sterling, whereas that of the pin was consistent with sterling.

Of greater importance in characterising the metal from which the pendant is made are the trace metals that contaminate the alloy. Gold (Au) is a ubiquitous contaminant in ancient silver that is passed directly from the ores smelted and processed to the refined silver with little reduction in concentration (Craddock 1995). No amount of subsequent refining or re-melting will appreciably alter the gold content, making the concentration of gold traces an important characterising

TABLE 1 COMPOSITIONAL ANALYSES AND COMPARATIVE DATA

	Pendant disc	***Pendant pin***	***19th century sterling***	***Modern sterling***	***Roman denarius***	***Roman silver plate***
	Mean		Mean		Mean	Ranges
As	0.008	0.005	0.025	Nd	0.011	
Au	0.008	0.002	0.008	0.01	0.540	0.1 - 1.0
Bi	0.001	0.000	0.007	0.005	0.040	
Co	0.001	0.171	0.001	Nd	0.0001	
Cr	0.000	0.006	0.000	Nd	0.0001	
Cu	5.27	7.89	7.46	7.60	7.70	
Fe	0.057	0.056	0.013	0.010	0.006	
Mn	0.0003	0.0002	0.0003	Nd	0.00004	
Ni	0.001	0.001	0.003	0.001	0.001	
Pb	0.008	0.004	0.248	0.070	0.530	0.25 - 1.0
Sb	0.002	0.000	0.027	0.010		
Sn	0.002	0.001	0.006	Nd	0.005	
Zn	0.001	0.001	0.005	Nd	0.001	
Ag	94.6	91.8	92.2	92.6	91.1	91.5 - 98.5

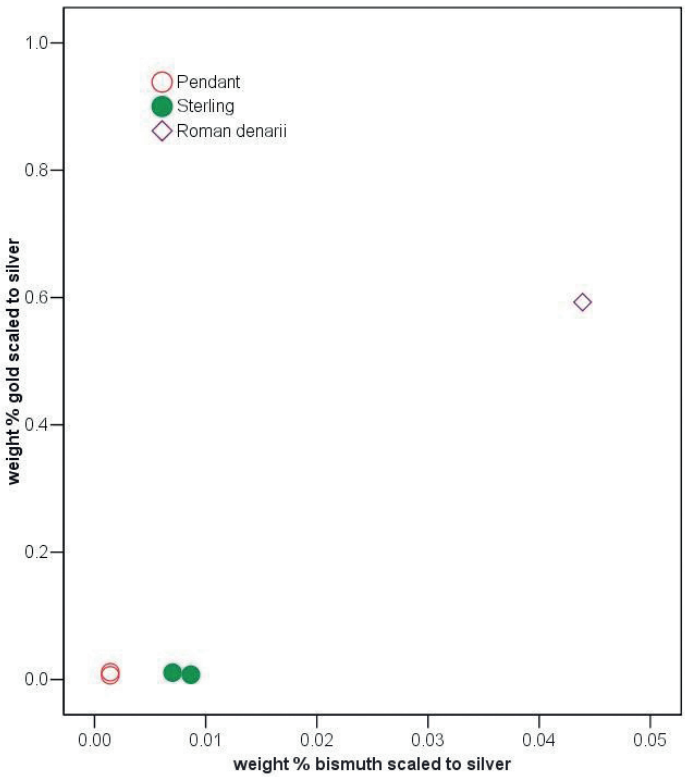


Fig. 3 Scatter-plot of the gold and bismuth concentrations

element. Research has also shown that bismuth (Bi) is particularly difficult to remove from silver during smelting and refining meaning that this element can also be of use in characterising silver alloys (McKerrell and Stevenson 1972; Pernicka and Bachmann 1983).

It is quite clear that the concentrations of both gold and bismuth in the pendant are low and as such are consistent with 19th-century and modern silver rather than with ancient silver. Comparison with data for these elements derived from over 500 analyses of Roman silver denarii (Butcher and Ponting 2015) can be seen in Fig. 3; Table 1 also includes published data presenting ranges of values derived from several hundred analyses of Roman silver plate artefacts from various museum collections (Hughes and Hall 1979). In both cases the levels of gold and bismuth are considerably higher than those measured in the pendant.

Lead (Pb) can also be of use in characterising silver alloys because it is from argentiferous lead ores that most ancient silver was extracted (Craddock 1995). Furthermore, lead would also have been added to concentrate the silver in any recycling and refining process required to re-process silver artefacts. Consequently, it would have been necessary to extract the silver from lead at some stage during the production process regardless of whether the silver was being extracted from new ore or from recycled scrap metal. The process by which this is done is cupellation: a process where the lead is gradually oxidised away leaving the pure silver behind (Percy 1870). However, a trace of lead inevitably remains behind contaminating the silver along with the gold and bismuth, and the amount of lead remaining is often a reflection of the efficiency of the cupellation process. Thus, ancient silver can frequently contain between 0.25% and 1% of lead, sometimes more (Craddock 1995). Modern silver is produced by more complex and efficient process (often from sources that do not contain appreciable lead) and therefore has significantly lower levels of lead contamination. It is therefore significant that the metal of the pendant contains very low levels of lead, at least two orders of magnitude below what would normally be expected for ancient silver and, indeed, lower than the levels measured in 19th-century silver.

Conclusion

A combination of characteristics come together to present an overall picture of the metal from which the Fosse Lane pendant was made. The silver content is not particularly diagnostic, the disc being higher than that of standard sterling silver, but consistent with that of Britannia silver; the arms are consistent with sterling silver. This difference could indicate that the brooch was made from silver scrap from at least two origins. Both silver concentrations could be consistent with Roman silver. The trace element concentrations from both samples are considerably more informative, providing evidence that strongly suggests that the metal of the pendant is inconsistent with what would be expected of ancient silver. Comparison of the three most significant trace elements, gold, bismuth and lead, with data from recent analyses of Roman silver coins and with published analyses of Roman silver plate show clearly how significant these differences are. Further comparison with two separate samples of sterling silver show that the metal of the pendant bears considerably greater similarity to modern silver than to silver from the Roman period.

THE SUSSEX BROOCH



Fig. 4 The Sussex brooch. Image courtesy of the British Museum.

Typologically the pendant stands alone. The closest parallel is the so-called 'Sussex brooch' which was acquired by the British Museum in 1954 (accession number 1954, 1206.1) when, rather vaguely, it was said to have been found in Sussex (Fig. 4). The silver-gilt brooch is a variant of the crossbow brooch, a type dating to the late 4th to 5th century. It was published by Professor Frend (Frend 1955, 17 and pl. IV) and subsequently included by Professor Toynbee in *Art in Britain under the Romans* (Toynbee 1964, 344 and pl. LXXIXc) It has since appeared in numerous publications (Kent and Painter 1977, 28 no. 21; Thomas 1981, 165 fig. 21; Tait 1986, 205, no. 495; Mawer 1995, 79, 129; Johns 1996, 169 fig. 7.13; Petts 2003, 114, fig. 55). Frend provides the fullest description, photographs of the brooch which show the knobs to best advantage, and a line drawing of the Chi-Rho. Although of crossbow type, the Sussex brooch is unique. It is 65mm in length and is made from silver. The bow is in the form of a stylised boar, with eyes of glass. It has a sprung pin and both ends of the spring terminate with reel-like knobs. Attached to the front of the bow and under the animal's head is a disc bearing a Chi-Rho. The top of the monogram is positioned below the animal's head. The disc conceals the spring apart from the terminals. Pinned on to the front edge of the disc is a third reel-like knob. The diameter of the disc is 16mm, making it significantly smaller than the amulet (25mm), and the metal is much thinner than the disc of the amulet. Size apart, the disc of the Sussex brooch bears a striking similarity with the Shepton Mallet amulet when viewed from above with the reel-like knobs closely resembling the beads of the amulet. The form of both monograms is very similar in application: both are pricked (62 holes in the case of the Sussex brooch and 69 on the Shepton Mallet amulet), and on both the curve of the Rho is a single line of punch marks while the upright and cross arms are double lines. The main difference is that the Shepton Mallet Chi-Rho is more regular. The Sussex brooch is on display at the British Museum, as it has been for many years, and is placed with the disc towards the visitor, a position that gives it maximum similarity to the amulet. It is also a well-known artefact that has appeared in a variety of publications. The Sussex brooch underwent XRF analysis, the outcome was: 88.8% silver, 6.8% copper, 1% gold, 1% lead and 2.4% zinc. These results are wholly compatible with late Roman silver meaning that there is no question over its authenticity.

The Chi-Rho monogram does occur in other late Roman contexts, for example engraved on spoons, on coinage, and on the Hinton St Mary mosaic, but the Sussex brooch and the Shepton Mallet amulet are the only two examples from Britain of it in this form with a horizontal cross arm.

WHY A HOAX?

It is important to emphasise that the archaeologists involved with the Fosse Lane excavations and in the discovery of the amulet were in no way involved in the deception; all behaved entirely properly throughout and had no reason to doubt the object's authenticity.

Grave F50 had been partially excavated two days prior to the discovery of the amulet. The grave was therefore clearly visible for this period of time. A security

firm was employed to protect the site from unauthorised visitors, but the enormous scale of the excavation meant that it was very difficult to prohibit access, even during the working day. Nighthawks were regularly found to have been metal-detecting on the site.

Following the media coverage in 1997 a number of people put forward their views as to who lay behind the production of the amulet and why. They included a teacher who had worked in Glastonbury who wrote that in the 1980s there was a practice amongst the 'alternative society' for burying items of jewellery at 'sacred places', including silver and bronze pendants at the Chalice Well, Glastonbury. The correspondent considered that the amulet bore a resemblance to the silver items made by a 'New Age' jewellery maker in Glastonbury, notably the 'bead-like structures of the arms'. Comments went on to include the fact that Shepton Mallet at the time was the centre of a church group practising 'spiritual warfare and aiming to claim Glastonbury for Christ.'

The discovery of extensive Roman remains in advance of this major development created considerable local interest and controversy. Attempts were made to use the archaeology as a means of achieving the long-running aim of establishing a new museum in Shepton Mallet. There was also the belief, amongst some, that the development work should cease, and that the Roman town should be preserved and the site opened to the public on a permanent basis with all of the tourism benefits that this would bring. A petition signed by 650 people was sent to Chris Patten, the then Environment Minister, and to the Archbishop of Canterbury, in an attempt to stop the building work. Others were opposed to a development on such a large scale on the periphery of Shepton Mallet.

Some of the feeling can be gained from a letter to the Shepton Mallet Journal from Evelyn Downton published on 19th July 1990:

Sir. What a golden opportunity has been missed with the desecration of the Roman site found at Fosse Lane, Shepton Mallet. It has been known for a good many years that there was a Roman settlement here.

Why wasn't more investigation done when the lead coffin was found in 1988?

I will tell you why – GREED. Nothing was made public. Everything was hushed up. Bulldoze it all up, build on it as quickly as possible. Make money. Out of sight, out of mind.

To hell with our heritage. To hell with what the people of Shepton want. It could have been made into a sightseeing attraction for Bath, also an added attraction for the Bath and West showground.

In the city of York remains of a Norse village were found. They did not bury it under a pile of concrete. They made it into a major tourist attraction for all to see including future generations. They made money for the city.

Shepton Mallet has missed out. Handled properly it could have brought a great deal of money into the town to the benefit of all.

This was written before the discovery of the amulet! Other letters of a similar nature followed.

Those opposing the Showerings development formed a new organisation, the Friends of Roman Shepton Association, in late July-early August 1990, after the discovery of the amulet. Amongst its supporters was Fay Weldon. Their aim was to stop the building work, have the site scheduled, and create an archaeological park for community benefit. They requested £1 million pounds from the European Community towards the cost of archaeological works.

In spite of strong local opposition, planning permission was granted for Showerings' new warehouse. It is in controversial circumstances such as this that someone might have planted the amulet in the hope that it would lend weight to the campaign to stop the development. The Sussex brooch is a well-known object, illustrated in many publications. For someone wishing to create a Christian object of potentially national importance a variant of the brooch's terminal could have provided an ideal model. Was the amulet specially made, or had someone made it previously and then found a new use for it? Nobody has ever come forward accepting responsibility, nor, if a hoax for the above reasons, did it have the desired effect, although it did help significantly with negotiations for an extension of the period allowed for the excavations. Attempts to persuade the maker of the amulet to identify themselves have failed. It could, of course, be that the hoaxer is too embarrassed to come forward in the light of the way the amulet has been adopted by Shepton Mallet as its symbol.

Finally, it should be emphasised that, while the amulet is a modern intrusion, the grave into which it was inserted is, without question, a burial of the later 4th to early 5th century AD.

ACKNOWLEDGEMENTS

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