THE LEAD FONT AT THE CHURCH OF ST MARGARET, WYCHLING

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This report on the Wychling lead font includes new research and analytical tests carried out on the vessel, concluding that the vessel is likely to have been built using a Roman lead decorative panel, possibly from a sarcophagus. It explains that the vessel was constructed during the early Saxon period using known Saxon lead working methods and that the XRF evidence supports the deposition of bone material within the vessel, suggesting that its original function was related to a funerary process.

The Church of St Margaret (NGR 592 156) borders managed coppiced woodland to the south and west and open arable fields to the north. It is on the dip slope of the North Downs characterised by a drift deposit of ferruginous clay and profuse flint overlaying the Upper Chalk. The church is approached over a grassed field to the east, which was once part of a larger area called 'Playstool' on the 1841 tithe map an area probably used by the widespread community for gatherings, fairs and the like. The village of Wychling consists of a dispersed collection of farmsteads and later residential dwellings.

Archaeological work undertaken by the Wychling, Doddington and Newnham Historical Research Group (WDNHRG) has proved that there are no signs of medieval occupation in the area around the church, though an earlier Iron Age settlement has been found.[1] Evidence of smelting iron along with EIA roundhouses and a very early dew pond have been discovered. This feature could well have been the reason for the church being located here.[2]

The church's origins almost certainly relate to the network of drove ways in this area. The drove routes were served by a few isolated churches, known to historians as 'wilderness churches'.[3] A church here is recorded in the Domesday Survey, implying that a Saxon church existed on the site. This was possibly a timber construction, though recent excavations of a flint-built Saxon building, possibly a chapel, around three miles away in Newnham, show similarities with the Chancel at Wychling in plan ratios, wall thickness and construction elements.[4] The fact that we have the remains of Roman material in the fabric of the church, notably the east wall of the Chancel, would also hint at this. There is also the odd patch of *opus signinum* in the wall. There is further evidence of a Roman phase of occupation in the immediate vicinity with hypocaust flue tile found in the woodland next to the church.

The church as it stands today is largely Norman in plan with a north aisle, later incorporated into the main body of the Nave. An infilled Norman Romanesque doorway remains on the north side of this aisle opposite the main south door. The church by the time of the late nineteenth century was seemingly in a bad state of repair and major work was undertaken during the incumbency of Reverend Thomas Norton (1881-1912). This saw, not only the repair of the walls, but also the original beaten earth floor raised and replaced with a plain tiled floor to the Nave housing an underground heating system.[5] It is likely that during the first phase of the restoration the Chancel and Sanctuary were raised above the general ground level. The amount by which it has all been raised can be seen by the current position of the Piscina relative to the floor level in the Sanctuary. It would appear that the new floor to the Nave was installed to be level with the outside ground level, which in common with most other burial grounds, had been caused to be higher than the average ground level due to the process of burial. It is reasonable to assume that there was a step down into the main body of the church, with the original ground level being that of the remaining floor level of the underground heating vault.

A new tower to the north of the Chancel was also built during the Victorian restoration to hold the remaining two out of three bells, that were originally contained in a short bell spire on the west end of the nave roof (**Plate I**). This rather poor photograph of an original watercolour shows the church with an earlier stone porch and that the church itself was, as far as one can tell, in a good condition.

The Discovery of the Font

The font is reported to have been discovered during the Victorian restoration work at St Margaret's (1882-3). There are several references that tell us the circumstances

PLATE I

1809 photograph of a watercolour depicting the church.
https://www.kentarchaeology.org.uk/Research/Libr/VisRec/W/WIH/01.htm.

by which this was found, the first being the near contemporary report from Alfred Cooper Fryer, a nineteenth-century historian specialising in ecclesiastical history:

> The leaden bowl in the church at Wychling, in Kent, was dug up a few years ago from out of a mass of brickwork. The Rev. Thomas Norton M.A. informs me that there were signs of a leaden lid which could not be found although the ground was trenched in search of it … Some experts believe that this font dates from Saxon times. I venture to suggest that this is far too early a date to assign it and I have little doubt that it was constructed about the end of the Early English or beginning of the Decorated period.[6]

The second account is taken from Lawrence Weaver's book:[7]

> The Wychling Bowl is a good deal disfigured by the rather aggressive modern woodwork which has been added, presumably to keep the leadwork in shape. It is the simplest of the pre-Reformation fonts, and, though difficult to date (the stringy ornament has a curiously modern look), it is probably of the end of the thirteenth century. It is an example of the chequered history of metal fonts. The rector states that it was found when he restored the church, built into a lot of brickwork and 'providentially saved from the bricklayers and smashers'. Restorers have so often proved the most finished of 'smashers' that it is refreshing to find a church where these vocations have been kept distinct.

The main theme common to both the Fryer and Weaver articles is that the font was discovered underground within brickwork. The brickwork could allude to grave vaults sunk into the natural soil of the Sanctuary/Chancel area, though there is an implied suggestion that it might have been deposited in a separate niche of some form. The fact that Fryer's version states that the ground was 'trenched' in search of a possible lid, implies that the true context of its deposition was uncertain, possibly as a result of the demolition methods employed. This could also be interpreted to mean that the vessel was either in the undisturbed earth surrounding the vault or even beneath it.

It is of note that W.R. Letharby does not include it in his comprehensive list of lead fonts, finally published in 1893,[8] for at the time of his earlier survey and research work it remained undiscovered beneath ground. Hasted also fails to mention the font,[9] no doubt for the same reason.

At the time of the church restoration it is likely that the wooden arcading was made to enclose the font and the current pillar plinth constructed for it to stand upon. This can be seen from an early photograph of the font and plinth taken in 1910,[10] followed by two recent photographs showing plinth and font and detail of pattern (**Plates II and III**). These show the Font as it has been seen since the Victorian restoration and remains its present condition.

Recent developments

The church of St Margaret had been subject to a consultation for imminent closure during 2012 and 2013. During this period of uncertainty when the church was closed and not regularly monitored, the Parochial Church Council were urged to have the font removed from the church to a safer place. This relocation was primarily amid fears of metal theft at that time and that the church was vulnerable

PLATE II

Font on plinth as a display in The Fleur De Lys Heritage Centre, Faversham. (Photo by P. Jardine-Rose.)

PLATE III

Detail of pattern with arcading. (Photo by P. Jardine-Rose.)

due to its isolated position. The font was duly moved to the Fleur Heritage Centre in Faversham and put on display there (Plate II). In May 2015 the Font had to be moved back to the church. During the interim period the church had been saved from closure and was re-establishing its place in the community.

When the font returned to the church it was noticed that the Victorian wooden arcading needed attention. A decision was taken to remove it and clean the accumulated dust from it and repair the pillar fixings. It was only on the removal of the arcading that the full detail of the font could be appreciated, which again brought into question its actual age.

Description of the Vessel

The Vessel is 30cm in height (with slight variations around the circumference) and 52cm diameter (also slightly variable). The thickness of the sheet metal is approximately 3mm and the overall weight is in the region of 30kg.

The decoration takes the form of ten divisions on the top section of the vessel, each displaying a foliate design crowned with a 'Fleur de Lys' type shape showing similarities to an emerging shoot (Plate III**, Plates IV and V**). The lower part of the design takes the form of opposing tendrils with a lower boss from which

PLATE IV

The font without arcading. (Photo by P. Jardine-Rose.)

PLATE V

Detail of the design. (Photo by P. Jardine-Rose.)

they emerge. The lower section of the vessel is further subdivided creating a plain rectangular decoration. Each foliate design is identical, which implies that all impressions were created from a single stamp when making the original mould.

PLATE VI

Detail of the seam and cut panel. (Photo by P. Jardine-Rose.)

Adjacent to the long seam (see **Plate VI**) the design has been cropped to the left and also to the right, suggesting that the panel may have been slightly longer than is now evident. The crude manner in which this has been fashioned belies the fine craftsmanship of the cast panel itself, strongly suggesting that the fashioning of the panel and construction of font were two distinct episodes.

The lead vessel itself is constructed from several component pieces. Firstly the main decorative part of the font is composed of one sheet of lead joined with one long flared-top seam. Plate V shows a flared top main seam to the left of the vessel and a triangular outline that forms the opposing handle mount. This seam exhibits a flared top within which are the remains of a square section iron staple let into the section at the casting stage. With the use of a magnetic compass it has been possible to trace the outline of the submerged staple section which appears to be triangular in shape. This fitting has been sawn off, slightly below rim level where there now remains a dip and the clear lines of the saw (**Plate VII**). This is most likely to have taken place during the restoration period when applying the Victorian wooden arcading, as the saw marks look quite fresh and the ancient patina has been removed as a result.

On the opposing side where no join has been necessary, a triangular section of lead has been heat welded to the outside of the vessel. The section has been applied to carry the iron staple as in the long seam. The section is quite poorly fixed with space between it and side wall towards the lower end.

The base has been formed of a plain circular panel which has been attached by means of an ‘L’-shaped length of lead that is heat welded to both the wall and the base. The base has also had a later addition in the form of a brass drain plug. It

PLATE VII

Top of sawn seam. (Photo by P. Jardine-Rose.)

would appear that a small rectangular section was removed from the base, the plug inserted and the section soldered back in place. It is likely that this was done at the time of restoration as the plug is a common Victorian ¾in. example with brass loop attachment. The main stone pillar designed to hold the font has provision for drainage in the shape of a hole bored down through the centre (**Plate VIII**). The plinth latterly sat upon a stone slab which would not have let water drain to the

PLATE VIII

The plug detail and the two handle mounts. (Photo by P. Jardine-Rose.)

PLATE IX

Repairs above the midline. (Photo by P. Jardine-Rose.)

ground. On removal of the slab it was clear that earth remained underneath, so we might assume that the slab was perhaps used to stabilise the heavy structure.

The top rim has been constructed by a simple strip of lead that has been folded over the top edge of the vessel. The bottom edge of this lies very close and in places slightly overlapping the top part of the panel decoration, suggesting that the panel was not cast with the rim position in mind.

The vessel shows signs of repairs just above the midline division (**Plate IX**) which corresponds to an etched line inside, which may denote where the contents have laid.

Comparisons with leadwork elsewhere

The Wychling vessel has several defining features that assist in dating the object:

1: the provision of handles
2. the lead seam
3: the top rim
4: the side to bottom joint

These various features are paralleled on Saxon lead vessels from a number of sites in Eastern England including Flixborough[11] and Riby[12] (both Lincs.) and Cottingham (East Yorks.).

1. *Handles*: the handles on these Saxon vessels are constructed of a loop of square

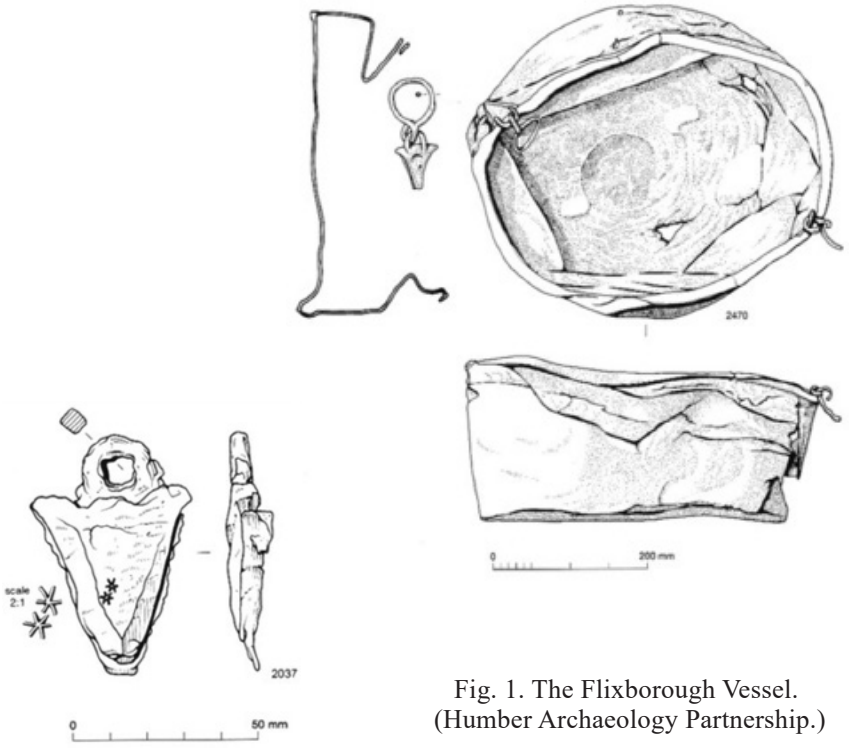

Fig. 1. The Flixborough Vessel.
(Humber Archaeology Partnership.)

section iron which is an integral part of a triangular section of flat iron that has been cast into the flared end of the seam. The seam on one side joins the single lead panel together, the other handle has been cast into a triangular section of lead which has then been heat welded to the vessel. The design of handle is typical of the Saxon period, with parallels to the two Lincolnshire examples. **Fig. 1** shows the handle arrangement for the Flixborough lead vessels, identical to the iron triangular handle mount on the Wychling vessel.

The iron staples of the Wychling vessel having been sawn off, leaving two visible ends of the iron ring (**Plate X**). The presence of the staples, extant at the time of discovery and having subsequently been removed, may explain why Rev. Norton looked for an accompanying lid. It may have been thought that these were the means to lock the cover of the 'font'. Archbishop Edmund of Canterbury in 1236 made it law for all fonts to be covered and locked, as fonts of this period retained their water.[13]

2. *The Seams*: the flared nature of the top of the seam visible in the Wychling vessel (**Plate XI**) (and also Flixborough vessel No. 2469), allows for the provision of the handle mount and is not present on any later lead vessels/fonts which have a narrow lead joining seam with no flared end.

PLATE X

The sawn off handles. (Photo by P. Jardine-Rose.)

PLATE XI

Flared top seam – Wychling. (Photo by P. Jardine-Rose.)

This feature is only present on Saxon-period vessels. The Cottingham tank that shares this same feature (**Plate XII**).[14]

3. *The Top Rim*: the top rim of the Wychling vessel is essentially a 'U' shaped piece of lead, folded over the raw edge of the lead to form a tidy rim to

PLATE XII

Flared top seam – Flixborough. (Humber Archaeology Partnership.)

the vessel. This is also a typical construction feature of Saxon vessels, as seen in the Cottingham tank (see **Plate XIII**). The rim may have originally been everted, forming a flat rim. Later vessels/fonts have a rim and base decoration as part of the casting design and are not added separately.

PLATE XIII

Flared top seam – Cottingham.
(Birmingham Museums Trust: https://creativecommons.org/licenses/by-sa/4.0/legalcode.)

4. *The Side to Bottom join*: the base of the Wychling vessel is joined to the sides by an 'L' shaped piece of lead. This is identical to vessels of the Flixborough Hoard and also the Cottingham tank (**Plate XIV**).

PLATE XIV

Base of Cottingham Tank.
(Birmingham Museums Trust: https://creativecommons.org/licenses/by-sa/4.0/legalcode.)

Construction Method

The Wychling vessel's decorative panel would have started life as a wooden, or ceramic, block with the relief pattern upon it. A sand or clay mould /tray was then constructed and divided up into sections with a separate rod or batten placed into the moulding medium. The patterned block was then pressed into the mould to make a negative image of the pattern. The molten lead was then poured into the mould to create a positive image. In the case of the Wychling vessel, the panel is cast in one long sheet at least 1.63m long and possibly would have been longer, as it appears to have been reduced in length. In an attempt to discern where this panel might have originated, it soon became apparent that the length of it is consistent with lead sarcophagi sections. At a much later date, the Saxon lead worker has curved this panel around to make a cylinder and a long seam with the handle has been fashioned to join the two edges. A separate handle mount was applied to the opposing side and the base was heat welded on using an 'L' shaped strip of lead.

Metallurgical analysis

Scientific analysis was undertaken on the vessel to establish the characteristics of the lead used in the construction. The aim of this was to discern differences in the lead used for various parts of the vessel, thus determining whether there were differences in the source/age of lead used. This would support the view that there was a well-established process of reusing materials in the Saxon period.

A handheld X-ray Fluorescence Analyser (XRF) was used for the non-destructive testing of the vessel. The model was a Niton XL3 GOLD and was undertaken by the University of Kent at Canterbury. There were limitations to this analysis, namely that it was being used for 'general metals' only. This covered the initial aim of the survey. Other non-metal minerals and elements were thus not looked for.

The results of the XRF analysis give a very clear indication of the purity of the lead used in construction, making it possible to date the component pieces based on

the methods that were employed for lead smelting and refining at different periods. The analysis also allows the observer to glimpse the possible environmental conditions that the object has been subjected to in the past.

It is clear that the base has been constructed from lead sheet with a very different profile to the decorative side panel. The lead of this side panel is very pure (99.3%), unlike the lead of the base that has silicon and zinc as its main contaminants with the interior also being contaminated with aluminium, phosphorus and iron. The presence of these trace contaminants are consistent with the deposition of human bone which breaks down in an acid environment[15] generated by the soil profile of the location and churchyard. The resultant carbonic acid would also explain why there is significant corrosion to the vessel above the midline, being one of the few acids that will attack lead. The midline denotes the interface between the anaerobic contents in the lower half of the vessel and the aerobic conditions above it.

The Victorian drain plug alteration has simply cut out a section of the base, as both base and plug sections exhibit the same profile. The section has then been soldered back in. The base joint and also the small handle mount have used the same material as the base, having, in the case of the handle mount, been melted down to form the triangular section which has then had the iron handle cast within it. The iron of the handle has been contaminated by the lead of the rib when it was sawn off, but otherwise reflects the usual profile for Iron with inclusions of Sulphur and Silicon.

It could be suggested that the vessel was not watertight when it was first used as a font explaining the presence of lead/tin solder mostly on the base joint, together with the small repairs to the panel above the midline division. In addition to this, solder has also been used under the external part of the rim, possibly to keep it in position. General traces of solder on the lead probably only reflect the environment in which it was mended or altered, though the small handle may have been partly soldered at the same time.

Dating the Font

Lead vessels were made in a similar fashion from the Roman period to the later medieval era, though each period has its own unique method. The Wychling vessel is identical in construction to the examples that have been found in a Saxon recycling context dating to the 8th century. The panel, however, has a very fine decoration unlike any surviving Saxon examples, which are either simply plain lead or exhibit a heavy style of decoration as in the Cottingham tank (Plates XIII and XIV). The Wychling embellishment shares many more similarities with fine Roman lead cast decoration. Another issue arises in the fact that all larger Roman and Saxon lead tanks are made of two panels and not one. The majority of later lead fonts are made using four panels with only a handful being made in one section. Although the decoration of the Wychling font has some comparisons with the imagery in Saxon manuscripts, such as the *Codex Aureus of Lorsch* (Laurensius) written AD 778-820, the detailed casting is unlike any Saxon lead vessels.

Professor Rosemary Cramp, Anglo-Saxon scholar at Durham University, is of the opinion that it is more likely to be Roman than Saxon (*pers. comm*), an opinion shared by the author based on the fine casting detail compared with the quite brutal, heavy construction.

PLATE XV

St Eanswythe's Reliquary. (Image in Canon Scott Robertson, 'St Eanswith's Reliquary in Folkestone Church', *Archaeologia Cantiana*, XVI (1886), 322.)

There are several Roman equivalent decorations of vines with tendrils, which the Wychling vessel displays, these are seen in mosaics such as those at Ostia Antica and also at Hadrian's Villa in Tivoli.

The designs are also evident on some Roman sarcophagi.[16] The only long Roman lead panels that were manufactured are from these coffins and it seems possible that the Wychling font forms a vessel made in the Saxon period that has used a 'recycled' Roman coffin panel.

It has a possible parallel with the St Eanswythe reliquary (Folkestone) where the vessel appears to have been constructed using a Roman sarcophagus panel but has all the construction detail of Saxon methods. The very fact that the St Eanswythe reliquary holds bones could explain and substantiate the XRF results. **Plate XV** shows the reliquary and remains and has the typical Saxon type flared top seam.[17]

Lead in Roman Britain: its purity, decline in production and consequent recycling

The mining of lead during the Roman era in Britain was a major industry and together with other northern hemisphere Roman and Greek producers, caused considerable and measurable pollution. A gauge of this can be seen in ice core samples taken from the Greenland ice sheets. Samples taken show an increased activity of smelting during the period of 500 BC to AD 300, with a peak of Roman production being during the height of the Roman Empire around AD 140.[18] This high pollution concentration was not seen again in the ice cores until the Industrial Revolution.

The lead mined during the Roman period was refined in order to de-silver it. The

quantities of silver varied across the country but as an indication, the silver content of Yorkshire and Derbyshire ore was 32-62 g/tonne, Shropshire 62-93 g/tonne and Cornwall 1.25kg/tonne and Glamorgan a staggering 4.80kg/tonne. With perhaps the exception of Cornwall and Glamorgan, most lead ore in Britain was mined for its lead content.[19] The ore used in the production of lead is Galena (lead sulphide PbS). The smelting of lead produced a very pure material up to 99.9% purity where it had been de-silvered, but still of high lead content even where it was not refined. It appears that it was not economic to de-silver lead which yielded under 560g/tonne of silver. Therefore many Roman lead artefacts contain some silver. This is in contrast to the higher silver yielding ores of Cornwall and Glamorgan, whose lead would have been totally de-silvered.[20]

At its height, the Roman imperial territory produced around 100,000 tonnes of lead annually. Towards the end of the Roman Empire there came a complete halt to the industry.[21]

The population was left with no freshly processed lead and were forced to seek out other sources. This resulted in the scavenging of lead from buildings and objects to recycle into new products. An example of recycling Roman lead comes from the excavations at Mucking in Essex where lead has been fashioned into ring shaped ingots that have subsequently been found traded to former lead producing areas.[22] The Mucking settlement appeared to be awash with lead, as they are using it in many applications, but notably in funerary rites making vessels to accompany the dead but also to seal coffins and cremation urns. Lead was certainly plentiful in its recycled context during the late fifth and early sixth centuries, but by the seventh century, lead, along with other metals had become a scarce commodity.[23]

The Kent Vessels

Apart from the Wychling font/vessel, there are the two other known comparable vessels, one from Rochester (**Plate XIV**) and one at Folkestone (see above). Unlike the various other vessels that have been discovered in the country, these three appear to have been made using Roman decorative lead panels. This may be a regional peculiarity, but referring to the interpretations of the XRF results, and in particular data from the base sample, there are indications that the Wychling vessel had bone deposition within. In the case of the Folkestone vessel, the bones remain inside. Perhaps this explains their original purpose. Further research will be required to gather a full data set for the other vessels to consider this aspect, but access to the Folkestone vessel remains, quite rightly, a sensitive issue, due to the likelihood that it houses the bones of St Eanswythe.

Conclusion

To conclude, it is important that we do not just view the Wychling Font as an historic object alone, however magnificent an example it is. The context of the vessel is uniquely linked to the site as a whole and as such remains sacred. For over a hundred years it has been the Baptismal Font of our church and as such continues to be a treasured item in the life of all who have been baptised in it and in the life of the church community itself.

PLATE XVI

Rochester Vessel. (Photo by P. Jardine-Rose, courtesy Maidstone Museum.)

As in all research, it is likely that more will be discovered about these lead vessels in the future but for the present this statement from an authority underlines the place currently held by the Wychling font:[24]

> The Wychling font … leaves no room for doubt that it is one of the Anglo-Saxon bucket-like tanks found on various archaeological sites in eastern England … the Wychling font is primus inter pares: the fact that it is complete, undamaged and so magnificently decorated puts it firmly at the head of the league.

ENDNOTES

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2 The name of Wychling comes from the Saxon name of Winchelesmere. This when analysed etymologically can mean either a pond belonging to someone called Winchel, or it is more likely to mean that there was a pond 'mere' in a corner 'Wincel', directly alluding to the dew pond, already mentioned, which sits in the corner of the enclosure close to the church.

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4 WDNHRG Site notes CC 2015/16 – c/o P.K. Jardine-Rose.

5 www. KentChurches.Info (John Vigar).

6 Alfred C. Fryer, 1900, 'Leaden Fonts', *Archaeological Journal*, vol. 57, p. 49.

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12 K. Steedman, 1994, 'Excavations of a Saxon Site at Riby Crossroad Lincolnshire', *The Archaeological Journal*, Royal Archaeological Institute, 151.

13 Francis Simpson-Prowett, 1828, *A Series of Ancient Baptismal Font Chronologically Arranged*.

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15 E.M. White and L.A. Hannus, 1983, *Chemical Weathering of Bone in Archaeological Soils*.

16 See, for example, 'Roman Lead Sarcophagus design from Tyre', M. Haarsh, 2007, Metropolitan Museum of Art – https://creativecommons.org/licenses/by-nc-sa/2.0/.

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18 Hong, Candelone, Patterson and Boutron, 1994, 'Greenland Ice Evidence of Hemispheric Lead Pollution Two Millennia Ago by Greek and Roman Civilisations', *Science*, Vol. 265.

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22 H. Hamerow, 1993, *Excavations at Mucking II: The Anglo-Saxon Settlement*, English Heritage.

23 S. Hirst and D. Clark, 2009, *Excavations at Mucking III – Anglo-Saxon Cemeteries*, London.

24 By Warwick Rodwell, consultant archaeologist for Westminster Abbey.