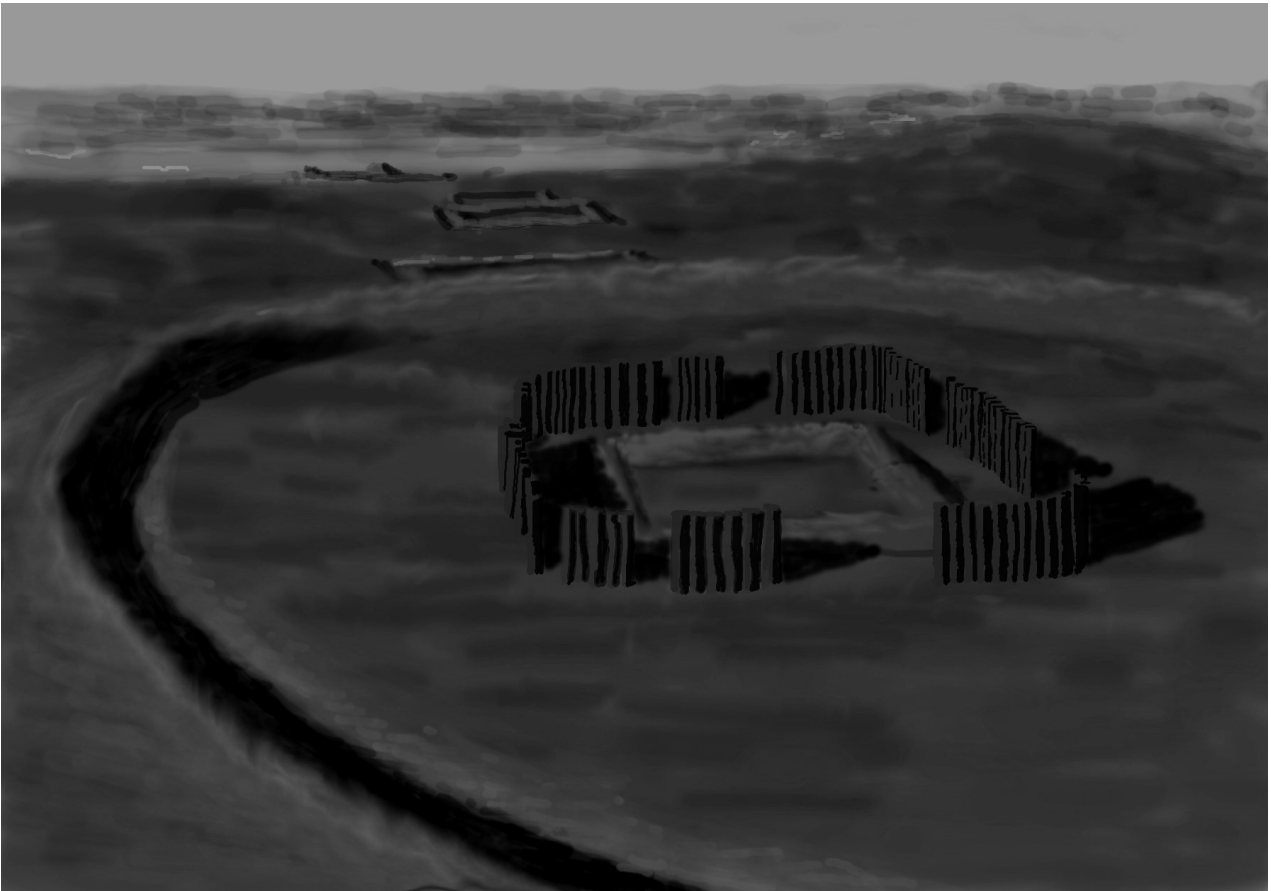


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Errata

Page 45, conclusion of third paragraph.

For “5 *actus* square” read “5 *passus* square”.

Page 55 (Bibliography)

Add entry as follows

Hutcheson, N. C. G. 2011. Excavations at Snettisham, Norfolk, 2004: Re-investigating the past. In *The Iron Age in Northern East Anglia: New Work in the Land of the Iceni*. British Archaeological Reports British Series 549. edited by Davies, J. A. pp. 41-48. Archaeopress, Oxford.

A tale of two temples: measurement of the shrines at Harford Farm and Heathrow

John Peterson

Introduction

Trevor Ashwin's report on the 1989-90 excavations on the line of the Norwich Southern Bypass (Ashwin 2000) compared a probable shrine at Harford Farm, south of Norwich, to the shrine (or temple) revealed in 1944 prior to the construction of Heathrow Airport (Fig.1).

The layout of the shrines looks similar; both have two concentric quadrilateral features: an inner trench surrounded by outer alignments of postholes. Their dates were also thought to be similar. Ashwin suggested (2000:139) that the Harford Farm enclosure, one of several "square-ditched" enclosures at that site, "might well date to the hundred years following 50 cal. BC". If so, its date would be near to that of the Heathrow shrine, since English Heritage currently give it a Later Prehistoric date (Wilson 2011: 3).

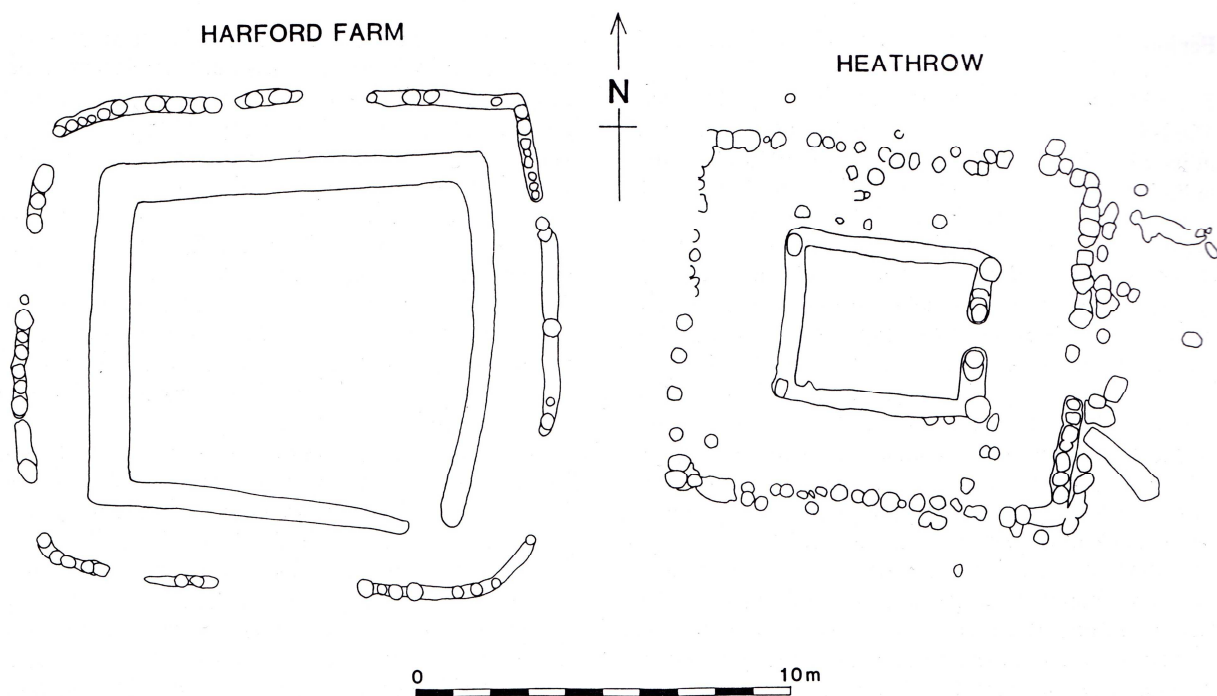


Figure 1 Comparative plan: square-ditched enclosure 2043 and Heathrow Shrine. Drawing and caption after Ashwin (2000: Fig 112), with thanks to Norfolk County Council.

However, the dating of both shrines to the late Iron Age is approximate. Careful measurement of both structures may show that their form and dimensions, both absolute and relative, are similar to Roman structures. For that and other reasons it will be suggested that they might both be better assigned to that later period.

Measurement of the Harford Farm shrine (enclosure HF 2043)

Before measuring enclosure 2043 at Harford farm (HF 2043), we need to make reasonable assumptions about what to measure. This depends on using the excavated features to make a structural interpretation. The interpretation adopted here (Fig. 2) is essentially Ashwin's – that the inner excavated feature was an open ditch surrounding an inner bank that was destroyed by subsequent ploughing and erosion. The outer feature is evidence for posts set close together. The whole structure can be seen as an open-air shrine formed by three concentric features: an inner bank, a ditch and an outer palisade.

Figure 2. The Harford Farm Shrine, looking north. It is set within a circular Bronze Age structure, whose outer bank and ditch would then still have been visible, but whose central wooden circular post setting would have long since vanished. Other “square enclosures” lie further north. The posts of the palisade are represented as if the visible part is approximately 1.8m high.



HF 2043 is one of six ditched, and probably banked, enclosures on the Harford Farm site. They are arranged in a line running north-south between a single Bronze Age barrow, on the edge of the hill looking north over the Yare valley, and a group of such barrows (including a possible henge) on the southern edge of the hill, overlooking the valley of the river Tas. Nearly three kilometres to the northeast two other similar enclosures were revealed at another Southern Bypass site, at Valley Belt (VB), Trowse.

An earlier study (Peterson 2003) looked at the enclosures on both sites, assessing them according to the degree of care with which they appear to have been laid out. This seemed to vary from those that are only approximately rectilinear to the most regular, which forms an almost perfect square. This variation in quality may relate to employment of a Roman unit of length. The structures that seemed to be most carefully set out were also the ones that could most convincingly be measured in *passus* (five Roman feet = 1.48m)³¹.

This earlier study suggested that the enclosures could be assigned to four groups, reflecting increasing degrees of Romanisation:

- i) non-Roman (or only slightly Roman) monuments, laid out rather irregularly in units of five “Drusian” feet,
- ii) early Romanising monuments in which the *passus* is employed to lay out the centre lines of the ditches, but which are still rather irregular,
- iii) late Romanising monuments which are laid out in the same way but more regularly,
- iv) the almost completely regular square monument at the Valley Belt site, VB 1802, in which a multiple of the *passus* seemed to determine both the inner and outer edge of the ditch.

Since the excavated inner and outer features of HF 2043 were only a rather poor fit to squares of 6 x 6 and 9 x 9 *passus*, it was assigned to the second (early Romanising) group.

This assignment now looks wrong. Using CAD software, more precise measurement may be made. More importantly, greater attention has been paid to the way in which a contemporary observer is likely to have perceived the monument. When he or she saw the inner bank and ditch, what would have seemed to be the outside of the structure?

The outside of a Roman open air shrine in northwest Europe, such as that at Hoogeloon, Netherlands (Derks 1998: Fig. 4.12), was probably seen by contemporary observers as the outside of its bank. At

³¹ The *passus* of five Roman feet (*pedes monetales* of 0.296m) was a pragmatic choice of a potential unit of measurement (i.e. module); it would have been very difficult to detect the use of the next smaller unit of measurement (the foot itself) in this way. However, this choice may also be justified on theoretical grounds since Lewis’s drawing of “Suggested proportions” for a Romano-Celtic temple (Lewis 1966; Fig. 53) is dimensioned only in *passus* and half *passus*.

Hoogeloon this is rectangular, with a ditch outside it. The upstanding, and visible, bank is the equivalent, in earth, of the wall of other structures made of wood or masonry. In contrast the ditch in front of it is, like a ha-ha, invisible to a ground-based observer. The paradox is that a modern observer, seeing the features on the excavation plan, could regard the visible ditch as the most important part of the structure and disregard the bank inside it – because it is not on the plan – whereas someone who was standing there at the time would have the opposite impression. When measuring it is therefore the inner edge of the ditch (equivalent to the outer edge of the bank) that should be the focus of our attention.

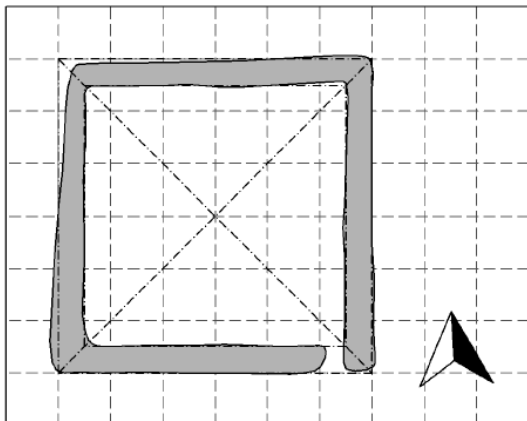


Figure 3. VB 1802 on a passus grid.

As an introduction to the method of measurement used in this study, let us see how it can be applied to the square enclosure VB 1802. The plan of VB 1802 (Ashwin 2000: Figure 146) was scanned, imported to CAD, traced, scaled, and then placed on a *passus* grid (Fig. 3).

Ashwin considered it “possible” that both square enclosures at Valley Belt “represented the ploughed-out remains of square barrows of early Romano-British date”. In the case of VB 1802, after measurement on a *passus* grid this possibility seems to become a high probability. The profile of the inner edge of the ditch (the visible outside of the monument itself) conforms very well to a 5 *actus* square.

It could be argued that this conformity to rather precise dimensions, 25 x 25 Roman feet (p.m.), is a chance result of erosion, but this is probably not so. Erosion at this particular site since the early Roman period does not seem to have been severe; one Iron Age ditch had survived to a depth of over 1m (Ashwin 2000: 159) and a substantial part of a Roman iron-smelting furnace had also survived. If so, the boundaries of the ditch have moved little and it seems valid to compare its inner and outer profiles. The outer profile is the less regular, as you might expect if the only function of the ditch was to be a source of material for the construction of the inner bank or barrow, and so its regularity would not be important to the excavators.

It could also be argued that measuring in this way, using a grid of *passus* (1.48m) squares, forces the data to conform to a specific model. This cannot be denied, but any system of measurement does the same; the question is whether or not it is appropriate to the thing being measured. In this case, if the structures being measured are Roman then it is most appropriate to measure them in Roman units (rather than in imperial feet or metres) and with right angles; furthermore, if the structures being measured are not Roman then there is a good chance that the method will provide an indication of that also.

The plan of HF 2043 (Ashwin 2000: Fig. 98) was treated in the same way, so that the outside of the western enclosing bank, i. e. the inner edge of the western ditch, was on a grid line and the centre of this edge was at a grid intersection (Figure 4). It is then clear that the outer faces of the inferred north and south banks have mirror symmetry about an axis at right angles to the western bank. Their angles to the axis of symmetry are both 1 : 10.

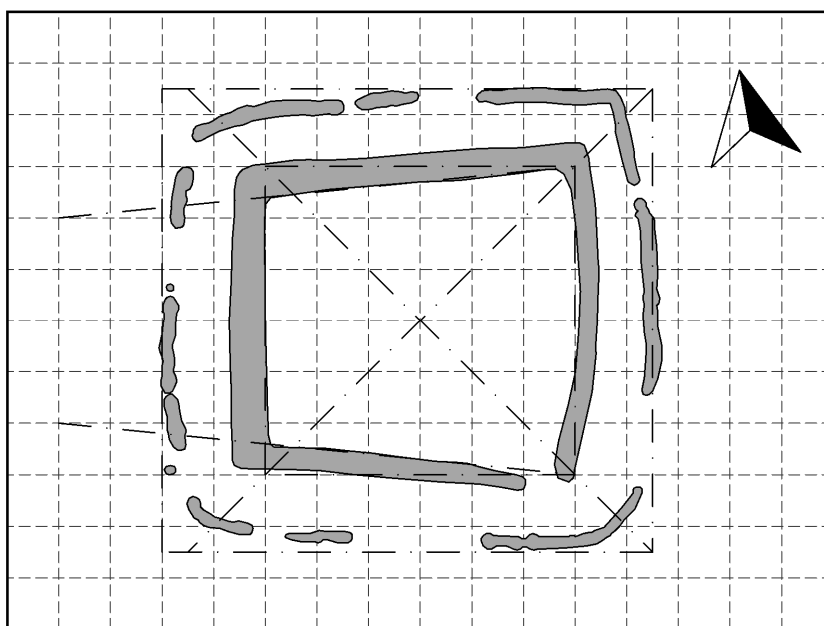


Figure 4. HF 2043 on a passus grid

The form of the outside of the inner bank thus appears to be a regular trapezium, slightly modified on the eastern side, where the bank would still have been almost symmetrical about the east-west axis of symmetry, but was curved, possibly to avoid the formation of acute angles at the corners.

However, it must be admitted that erosion at the Harford Farm site has been severe³² so the outline of the ditch has changed. Indeed, it probably has, this need not have changed the 1 : 10 relationship of the sloping sides of the trapezium to the monument's axis of symmetry. Provided that the erosion was uniform, which it probably would have been on the flat top of the hill accommodating the site, there would be little change in this feature.

This arrangement of components and this regular trapezoidal form are compatible with that of other Roman structures.

A Roman trapezoidal enclosure may be seen (in part) in the *temenos* of the Romano-Celtic temple at Snettisham, NW Norfolk. This site is famous for its deposits of Iron Age metalwork, especially gold, but Roman material was also found in 1952. Nevertheless, it was not until 2004 that the excavation of a square building foundation, with associated Iron Age and Roman pottery, *tesserae*, painted wall plaster and roof tiles indicated the presence of the *cella* of Romano-Celtic temple. The dimensions of the foundation, described as "approximately 6 x 6 metres" (Hutcheson 2011: Figure 3), could correspond to 4 x 4 *passus*.

Hutcheson (2011: Figure 2) provides a drawing of the *temenos*, but its shape and position is only approximate. However, Jody Joy has shown a more accurate drawing³³, and he kindly supplied the author with a copy of his image. In this drawing the western side of the enclosure is not fully determined, and the western end of the southern boundary is not shown. Nevertheless, the geometry of the rest of the enclosure is clear. The northern and southern boundaries have almost the same angle to the eastern boundary³⁴, which is itself oriented about 3 degrees west of geographic North. Given that the plan suggests that some part of the western boundary was curved, the *temenos* could be very similar in shape to the outside of the bank of HF2043, although on a larger scale, and with the narrow end of the trapezium to the east, rather than the west.

Again in Norfolk, only 3.5km southeast of Harford Farm, and probably in direct line of sight across the Tas valley and the Roman town of *Venta Icenorum*, there is the Stoke Holy Cross Roman building (Bowden 2008; 2011). The building may not be a temple, but its single storey wings set at 45° (1 : 1) to each other, and symmetrically arranged, could have been intentionally designed to lead the eye of the visitor towards that part of the building, probably of two stories, lying at the narrow end of the almost regular trapezoidal space that they define.

Outside Norfolk, regular trapezoidal form is also seen in the so-called triangular temple at Verulamium (Lewis 1966: Fig. 96), although the shape may result solely from its situation at the convergence of oblique streets.

At an even greater distance, in Gaul, the *temenos* of the temple at Ribemont-sur-Ancre has this shape, and the buildings of the whole complex are reflected about its axis of symmetry and convergent upon it. This seems designed to focus the visitor's attention since "it is striking that as one approaches the top of the hill, and the temple, the spaces become smaller and more closed" (Derks 1998: 211).

It may also be worth remarking that the form of a regular trapezium with one curved side can be expected to be seen in Roman architecture. Antonescu, in analysing the architecture shown on Trajan's Column, was prepared to reconstruct a fort on in this way (see appendix).

The Norwich Southern Bypass enclosure HF 2043 is not what it was at first thought to be. It was labelled one of the "square enclosures" and seemed to be a poor attempt to conform to that ideal, and hence an early Romanising structure. Now it seems that it was not based on a badly surveyed square, but could have been built with care according to a more sophisticated and interesting design – a regular trapezium. This

³² The enclosures are on light hilltop land, where plough erosion, described as "heavy" (Ashwin 2000: 137), evidently took place.

³³ The drawing was shown at a meeting of the Norfolk and Norwich Archaeological Society on 3 November 2012,

³⁴ One angle is 107°, the other 108.5° (both figures ± 0.5°). The latter angle may be of interest because it is defined by a 3 : 1 slope. Angles (i.e. slopes) defined in this way (by rational tangents) commonly occur in Roman contexts, both in land surveys (Peterson 1992) and in architecture.

shape currently appears to have no precise parallel in the Iron Age, but is seen in structures of the Roman period. Furthermore, the mirror-image angles of the sloping sides of HF 2043 (1 : 10) are also known in Roman design; they appear to have been employed for the layout of neighbouring centuriations (Morra and Nelva 1977). The evidence from design thus tends to suggest a Roman date.

This suggestion is not incompatible with one of Ashwin's views. In discussion leading to his conclusions (Ashwin 2000: 138) he says of HF 2043 that "The similarity in plan ... to a Romano-Celtic temple, and the retrieval of a single coin of the third century AD from one of its fills – the only stratified Roman coin found at Harford Farm – both suggest a broadly Romano-British date."³⁵

Measurement of the Heathrow shrine

Ashwin's report of HF 2043 is a model of clarity, but in some respects this cannot be said of the last, and supposedly definitive, report on the Heathrow shrine (Grimes and Close-Brooks 1993). Apart from giving the structure two different orientations³⁶, it includes three other self-contradictions, relating to the sequence of structures, the scale of the plan drawing, and the erosion that the site is supposed to have suffered. These need to be considered before making an attempt to measure and interpret the temple structure.



Figure 5. Part of photograph of excavation of the Heathrow shrine (Grimes and Close-Brooks 1993: Fig. 8). See Wilson (2011) for the whole picture. Reproduced with the permission of the Museum of London.

The sequence of structures is unclear. The published photograph (partially reproduced as Fig. 5) shows, (according to its caption), "the temple excavated, and the rectilinear ditch which crosses it unexcavated"; the rectilinear ditch can be seen as the dark feature from bottom left to top right. Since an earlier feature would generally be excavated after a later one, the picture seems to show that the unexcavated dark feature (the rectilinear ditch) predates the inner rectangle (*cella*) of the temple.

The remarks of Ton Derks (1998: 179) are relevant. According to him, the 1993 report and the preliminary report (Grimes 1948) "gave the impression that though the trench [the rectilinear ditch] does cut the 'porticus', it is in turn cut by the 'cella'". So he agrees that the *cella* appears to cut the ditch, and seems to be the later feature, but on the other hand he believes that the 'porticus', the outer rows of post holes, is earlier than the ditch. This is what the drawing (Fig. 6) shows, but close inspection of the photograph seems to show the opposite. The ditch turns (Fig. 5, top right) and is parallel to the post row. If we consider the five holes visible to the right of the angle, it seems that they are all approximately round and that two of them, third from the right and far right, numbers 57 and 59 (Grimes and Close-Brooks 1993: Figure 10),

³⁵ Ashwin appears to have modified this view later in his report on the Norwich southern bypass excavations. In his synthesis he concludes that the square-ditched enclosures, including HF 2043 and VB 1802, "might form another element of the rich and diverse Late Iron Age landscape".

³⁶ Grimes and Close-Brooks' (1993) Figs. 5 and 9 give the temple two orientations, differing by more than 11°. This is a potentially significant source of confusion for those interested in temple orientation, but not so important for the current discussion.

impinge upon the surface trace of the linear ditch. Therefore, like the *cella*, they also seem to be cutting into it, and hence to be the later features.

The contradiction is thus as follows: that the caption to Grimes and Close-Brooks' plan (Fig. 6) states, without equivocation, that the ditch is later than the temple, whereas the photograph makes it appear that the rectilinear ditch is certainly earlier than the *cella* and probably earlier than the outer posts of the temple. In choosing between the two views, the photographic evidence should be preferred.



Figure 6. Plan of the Heathrow temple (Grimes and Close-Brooks 199). Reproduced courtesy of the Prehistoric Society.

The scales of the plan (Fig. 6) are also self-contradictory. It has not previously been remarked, but 20 units on the foot scale, which should be 6.1m, is made equivalent to 6.3 units on the metre scale, a discrepancy of more than three percent. In an attempt to get at the truth, a search was made for the original site plans, but they could not be found³⁷. Despite this, other sources of information could be used. The preliminary report (Grimes 1948) has a single scale, in feet (of 0.305m) whose size, in comparison to the building plan appears to be very close in to that of the foot scale on the later report. The correctness of this scale is corroborated by a reference in the text of the 1993 report to the overall width of the *cella* as "14 ft 6 inches"³⁸. This corresponds to the dimension on the 1993 plan, according to its foot scale. So it was decided to ignore the metre scale in the metrological analysis.

Finally, there are the statements made in the report about erosion and the original ground level. The two principal authors do not agree. Grimes³⁹ was the author of one part (Grimes and Close-Brooks 1993: 308-330) which, according to Joanna Close-Brooks, was written by him "perhaps soon after the dig" and was

³⁷ I must record my thanks to Cath Maloney, Museum of London, for her attempts to locate the archive.

³⁸ When we make allowance for the fact that the most common Roman foot was 296mm (whereas an English foot is 305mm), 14 ft 6 inches is within 18mm (3/4 inch) of 15 Roman feet, or 3 *passus*.

³⁹ Professor William Francis Grimes (31 October 1905 – 25 December 1988) (Source: Wikipedia)

presented by her “with only minor amendments” (Grimes and Close-Brooks 1993: 304). In it he states that the first stage of the excavation was “to establish the original ground level” from which the “overburden” of up to 18 inches of plough soil was removed by machine. And, although he admits that the scraper may in places have gone too deep, he seems to assume that the surface exposed in the area of the temple was only slightly below the original ground level. The best proof of this assumption is provided by his description of evidence for post 51. This post ‘hole’ has no depth, and, according to Grimes was “nothing more than a mark on the surface”. He suggested (Grimes and Close-Brooks 1993: 315) that “the post itself had been wedged into place beneath the roof of the building”. He could not have conceived this if he had thought that original ground level was higher. The general description of the outer post holes, as “surprisingly shallow”, seems also to signal Grimes’ belief that he was looking at a close approximation to the original ground level, and that the holes had never been significantly deeper.

Close-Brooks does not seem to share this view. She raises the possibility that the outer posts could “have made an imposing enclosure wall”. The post holes, as excavated, are so shallow that this would have been structurally impossible unless, as she suggests, the site had “been heavily cultivated, the excavated features truncated” (Grimes and Close-Brooks 1993: 336, 339). There is no evidence for this and the pre-excavation contour plan (Grimes and Close-Brooks 1993: Fig. 6) seems to show, to the contrary, that the ploughing of the bank of the enclosing earthwork (Caesar’s Camp) had raised the surface level in the temple area. Consequently there seems to be little reason to prefer her view over that of Grimes, who was perhaps better able to judge since he was on site at the time⁴⁰.

As with the Harford farm structure, the plan of the Heathrow temple (Fig. 6) was traced and scaled. Following Close-Brooks, the outermost post holes in the south and east are regarded as “extra”, and so they were not taken to be original, and not traced. For clarity, part of the rectilinear ditch (diagonally hatched) was also not traced. The scaled plan was then placed on a *passus* grid so that a grid intersection coincided with its centre of symmetry (Fig. 7). It is apparent that the outside of the *cella* is $3\frac{1}{2} \times 3$ *passus*, and that the posts of the *porticus* could have been designed on the basis of a rectangle of 7×6 *passus*. This 2 : 1 proportional relationship between inner and outer rectangles strongly supports the idea that this is a classical building and its overall dimensions, in Roman units, suggest that it is Roman.

In fact the dimensions and proportions of the Heathrow temple are, for a British Romano-Celtic temple, within the normal range. It is small; its size, 35 x 30 feet, gives it an area of 1050 square feet which according to Lewis’ tabulation of sizes (Lewis 1966: 25), would make it the second smallest British Romano-Celtic temple of known size. However, in terms of continental European examples it is slightly less unusually small, being considerably larger than the smallest known there, whose outer dimensions, according to Lewis, are 25 feet square. Its ratio of *cella* to overall dimensions, 1 : 2, appears not merely normal, but ideal. Lewis’ average [mean] value for British temples is 1 : 2.025 and that for 133 continental European temples is 1 : 1.989. Despite the wide range of temple proportions, they cluster around these values and one can only agree with his assertion that these figures are “too close to 2.00 ... to be accidental”. In only one way might the proportions be considered exceptional; Lewis (1966: 11), presumably writing in a British context, regarded the Heathrow building as “considerably more elongated in shape than is usual in Romano Celtic temples”. However, the *cella* of building 48 from the Trier Altbachtal (Lewis 1966: Fig. 110), is a rectangle with almost the same proportions, and there are at least ten other rectangular Romano-Celtic temples on that site.

⁴⁰ Erosion depends on situation. The temple at Heathrow is on an almost flat terrain, suitable for a major airport, so little erosion would be expected, even if the bank and ditch that surrounded the group of Iron Age round houses had not been there. The situation at Harford Farm is entirely different.

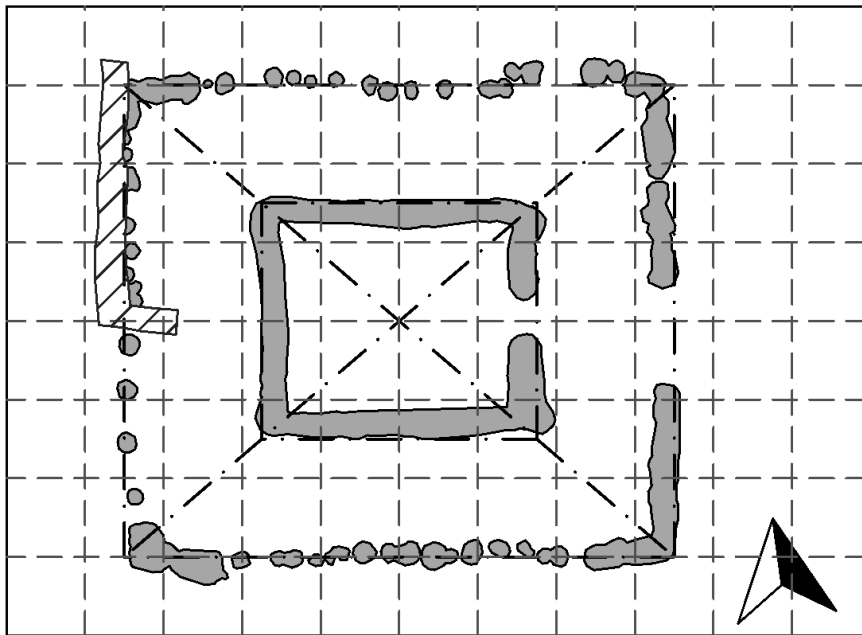


Figure 7. The Heathrow temple on a passus grid.

Furthermore, a very close British parallel has been identified by John Magilton. He found during his excavations at Coleshill, Warwickshire, a wooden temple of the second century AD, of normal Romano-Celtic type⁴¹, beneath a similar but larger masonry temple. In his report (Magilton 2006) he noted the similarity “both in overall dimensions and proportions” to the Heathrow building, adding that the dating evidence for the Heathrow building is admitted to be slim and that “despite the best efforts of the prehistorians, the British Iron Age has yielded few rectangular buildings and none with this distinctive ground plan”⁴². Although, because of his death, it is not possible to ask him for confirmation, it is clear that in his eyes the Heathrow temple is Roman.

The author’s imaginative reconstruction (Fig. 8) presents the temple as a timber framed building, mostly plaster-covered to imitate masonry. In this it would resemble the Wroxeter town house, recently physically reconstructed⁴³. Externally it would appear to be a normal Romano-Celtic temple.

⁴¹ It is the latest wooden Roman temple currently known in any part of northwest Europe – and considerably younger than building 48 from the Trier Altbachtal (Lewis 1966: Fig. 110), which dates from only the middle of the 1st century AD (Derks 1998:183).

⁴² When the Coleshill wooden temple is measured using a *passus* grid, its dimensions can be seen to be close to 4 x 4 (outside *cella*) and 7½ x 7 (outside *porticus* posts). Its larger overall dimension would indeed be very close to 7 *passus* larger dimension of the Heathrow building, provided we take it that Magilton was using the inflated metre scale on the Heathrow plan (Fig. 5).

⁴³ Visit <http://www.english-heritage.org.uk/daysout/properties/wroxeter-roman-city/wroxeter-roman-town-house/>



Figure 8. The Heathrow Shrine. This is shown as a timber framed Romano-Celtic temple with the shingled roof that John Magilton (2006: 110) suggested as a possibility for the Coleshill temple. This may be compared to Alan Sorrell's Museum of London reconstruction (Merriman 1990: 39) of a building that, in Magilton's words, resembles a "thatched barn".

There can certainly be doubts about this reconstruction; one is raised by the fact that only one of the four massive posts forming the corners of the *cella* is square. As Goodburn (1995) says, Roman timber framing is normally made of carefully squared timber. Furthermore, the corner posts of the Heathrow *cella* are earth-fast, which tends to rule out the idea that they were part of timber frames assembled flat on the ground and then pulled up to the vertical, as shown in the film of the reconstruction of the Wroxeter house. On the other hand, accepting Grimes' views on the contemporary ground level, the holes in which they were set are shallow, not more than 0.4m deep. If so, they would not have been deep enough to support freestanding posts. Perhaps the builders employed a blend of techniques and the function of the postholes was not primarily to support the corner posts, but to give lateral stability and stop the lower ends of the frames slipping when they were pulled up from the horizontal. There is, however, no available evidence of such a practice.

Despite these doubts, and whatever the building's method of construction, its metrology speaks of a Roman origin. This message is supported on more general grounds. Derks argues that this particular building cannot be both Iron Age and a temple of Romano-Celtic type; his very comprehensive study of religion and religious structures in north-western continental Europe demonstrates beyond reasonable doubt that this form – *cella* with surrounding *porticus* – is a classical innovation that did not occur, there, before the Roman period. Again, Lewis (1966: 11), states with little reservation that “the date of Heathrow [i. e. Grimes' original date] is incompatible with its apparent type”.

Discussion

Grimes gave the Heathrow shrine a middle Iron Age date and claimed (in 1948) that it provided “the clue to the source from which the Romano-Keltic temple sprang”. This idea was attractive to many, including Stuart Piggott. His distorted reproduction of the plan (Piggott 1968: Figure 8) probably reinforced the claim of its pre-Roman origin, thus establishing it as a fact for at least one generation of archaeologists. This fact, that the form of the Romano-Celtic temple was an indigenous development in the Iron Age (even if now later in that period than Grimes originally thought) still holds sway. For example we can still read, with reference to the two Romano-Celtic temples in the eastern part of Silchester, that “There are no known temples of classical type at Calleva; instead native architectural traditions persisted”.⁴⁴ Such a widely held belief probably influenced Ashwin. The two shrines under discussion (Fig. 1) have such deceptively similar plans that it is natural to suggest that they may have similar dates; and also to suggest that those dates should be in the Iron Age.

However, it appears the the Heathrow temple was constructed in the Roman period, so we need to consider where and how Grimes could have gone wrong. From the above description of the self-contradictory information in the 1993 report it seems that in two respects Grimes was right. His original foot scale and his judgements regarding the original ground level are probably correct. However, it is difficult to agree that he sequenced the structures correctly.

In considering the chronological sequence the following groups of features within Caesar's Camp are of interest: the hut-rings, the temple and the rectilinear enclosure (Fig. 9).

⁴⁴ Visit <http://www.reading.ac.uk/silchester/Guide/sil-guide-temples.aspx>

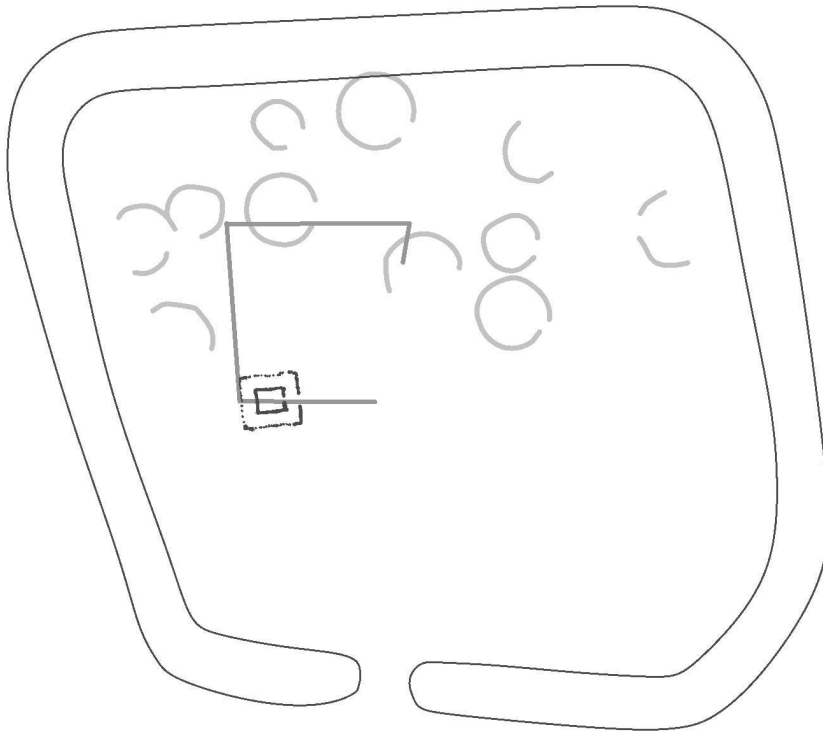


Figure 9. Caesar's camp, containing hut circles (light grey), rectilinear ditch (dark grey) and temple (black). (After Grimes and Close-Brooks 1993: Fig. 5)

Grimes thought that the hut-rings and the temple were contemporary (as Sorrell portrays them) and that the rectilinear ditch was later than both, as the caption to the plan in the 1993 report claims. Close-Brooks concurs in saying that the ditch could be "Late Iron Age or Roman", while admitting that its dating "rests primarily on its relationship to other features" (Grimes and Close-Brooks 1993: 338).

The relationship of this ditch to the temple seems to be a major area of confusion for Grimes and Close-Brooks. This confusion could have arisen, in part, from the difficulty that Grimes and/or his excavators had in determining the sequence of intercutting features in some parts of the site. He says, in discussing the relationships of holes defining the *porticus*, in the sequence numbered 84-94, that "it was far from easy to be sure that the sections were correctly interpreted, especially in the very dry conditions in which this part of the work had to be done". Perhaps this was also the case at the point where the rectilinear ditch and the eastern trench of the *cella* intersect (Fig. 5). The photograph shows that the *cella* trench had been excavated as if it were the later feature. Such an interpretation is flatly contradicted, in writing, by Grimes.

It is hard to believe that excavators of such large features could have made such a mistake. Nevertheless, excavation cannot be objective; diggers dig what they think they are digging; and it may have been virtually impossible to tell one ditch fill from the other. So perhaps Grimes was faced with a genuine ambiguity in the evidence.

On the other hand, scientists may be as much influenced by the icons of their culture as anyone else, so maybe Grimes was swayed by an idealised vision of the settlement as an analogue of the English village, with its cottages clustered round the church⁴⁵. Given that he wanted the huts and the temple to be parts of a single satisfying whole, he may have been prepared to gainsay the evidence produced by excavation, on the grounds that the excavators were mistaken.

However, there seems to be no good reason to disregard the evidence in this way; a more straightforward conclusion would be that the rectilinear ditch is later than the huts but earlier than the temple, and that the huts and the temple could not have been contemporary.

So what is a plausible date for the rectilinear enclosure? Close-Brooks warns that the plan of the site may exaggerate its regularity, but nevertheless we can see clearly that if its eastern side were complete it would have a trapezoidal form, although not a regular one. Nevertheless, given the discussion above of the parallels for the regular trapezoidal form of HF 2043, there is support for Close-Brook's suggestion that

⁴⁵ For another beautiful example of such a village, see Alec Wade's reconstruction of the ACS Iron Age settlement at Stansted Airport (Havis and Brooks 2004: Plate XII).

perhaps the regularity “suggests a Roman date”. Furthermore, provided the short length of eastern ditch is correctly drawn, the suggestion is supported by measurement of the angle between the sloping sides, which is within 0.2° of 14.04° the angle of a 1 : 4 slope.

It may also be significant that the long axis of symmetry of the temple coincides with the southwest corner of the rectilinear enclosure, and the western sides of both structures are parallel. These coincidences, if deliberate, would have been much easier to create if the temple followed the enclosure, rather than the reverse. So, independently of the metrology, the structures at Heathrow may be put in the following order: (i) hut-rings, mid to late Iron Age; (ii) rectilinear ditch, late Iron Age or Roman (probably the latter); (iii) temple, probably Roman. The metrology itself could be regarded as confirmation, since it seems to give the Heathrow temple a Roman date.

There is not sufficient space to discuss all the possible implications of this shift of date, but one of them could be a similar shift of the Harford Farm shrine from the late Iron Age to Roman period. Such a shift would support the kinship of the two structures (Fig. 1) on the basis of Roman date but, according to the present analysis, not on the basis of true similarity of form.

Metrology may have demonstrated its value in this study. If so I venture to suggest that similar changes of date might come from similar measurement of other supposedly Iron Age temples (or shrines) in Britain⁴⁶.

⁴⁶ One such is the first extra-mural temple (or shrine) at Great Chesterford (Medlycott 2011), whose *cella*, if reconstructed as a square, would match the 4 x 4 *passus cella* of the Coleshill wooden Romano-Celtic temple.

Bibliography

- Antonescu, D. 2009. *Trajan's Column : the architecture on the sculpted frieze*. Trans. Vasiliu, D. Editura A.R.A., Bucuresti.
- Ashwin, T. 2000. Excavations at Harford Farm, Caistor St Edmund (Site 9794), 1990. In *Excavations on the Norwich Southern Bypass, 1989-91, Part 1*. East Anglian Archaeology 91. edited by Ashwin, T. and Bates, S. pp. 52-140. Norfolk Museums Service, Gressenhall.
- Bowden, W. 2008. A new Roman site near Caistor St. Edmund. *The Annual* 17 : 9-18.
- Bowden, W. 2011. Architectural innovation in the land of the Iceni: a new complex near *Venta Icenorum* (Norfolk). *Journal of Roman Archaeology* 24 : 382-388.
- Derks, T. 1998. *Gods, Temples and Ritual Practices: The transformation of religious ideas and values in Roman Gaul*. Amsterdam University Press, Amsterdam.
- Goodburn, D. 1995. Beyond the Post-Hole: notes on stratigraphy and timber buildings from a London perspective. In *Interpreting Stratigraphy 5 - 1994 Norwich*. edited by Shepherd, E. pp. 43-52. Norwich Castle Museum, Norwich.
- Grimes, W. F. 1948. A Prehistoric Temple at London Airport. *Archaeology* 1.1 : 74-78.
- Grimes, W. F., and Close-Brooks, J. 1993. The excavation of Caesar's Camp, Heathrow, Harmondsworth, Middlesex, 1944. *Proceedings of the Prehistoric Society* 59 : 303-360.
- Havis, R., and Brooks, H. 2004. *Excavations at Stansted Airport*. East Anglian Archaeology 107. Essex County Council, Chelmsford.
- Lewis, M. J. T. 1966. *Temples in Roman Britain*. Cambridge University Press, Cambridge.
- Magilton, J. 2006. A Romano-Celtic temple and settlement at Grimstock Hill, Coleshill, Warwickshire. *Birmingham and Warwickshire Archaeological Society Transactions* 110.
- Medlycott, M. 2011. *The Roman Town of Great Chesterford*. East Anglian Archaeology Report No.137. Essex County Council, Chelmsford.
- Merriman, N. 1990. *Prehistoric London*. HMSO, London.
- Morra, L., and Nelva, R. 1977. Reciproca rotazione di tracciata delle "Centuriato" romane. *L'Universo* 57 : 249-269.
- Peterson, J. W. M. 1992. Trigonometry in Roman cadastres. In *Mathématiques dans l'Antiquité*. Centre Jean-Palmerne: Mémoires 11. edited by Guillaumin, J.-Y. pp. 185-203. Université de St-Étienne, St-Étienne.
- Peterson, J. W. M. 2003. Iron Age and Roman square enclosures near *Venta Icenorum*. In *Histoire, Espaces et Marges de l'Antiquité 1: Hommages à Monique Clavel-Lévêque*. edited by Garrido-Hory, M. and Gonzalès, A. pp. 161-184. Presses Universitaires Franc-Comtoises, Besançon.
- Piggott, S. 1968. *The Druids*. Ancient People and Places Thames and Hudson, London.
- Wilson, P. 2011. *Introduction to Heritage Assets: Later Prehistoric Shrines and Ritual Structures*. English Heritage. <http://www.english-heritage.org.uk/publications/iha-later-prehist-shrines-ritual-structures/prehistoricshrines.pdf>

Appendix

Dinu Antonescu, a modern architect, interpreted the examples of architecture be seen on Trajan's column. He presents interpretative plans of them, including Roman forts. Although the great majority of the forts are rectangular, several take other forms, including trapezoidal. The formal resemblance of one of these to HF 2043 is very close.

Roman trapezoidal fort. Detail of the frieze (Trajan's Column, Scene XXXII) and reconstructed plan. After Antonescu (2009: Fig. 15).

