The full size reconstruction of the second-century water-lifting machine from Gresham Street being worked by willing slaves outside of the Museum of London.  (See article on page 16).
EDITORIAL

We are pleased to provide another edition of ARA, albeit a little later than planned, due to a sequence of unforeseen tribulations. However, we hope you enjoy this issue – we believe there is something to interest everyone.

Our cover picture shows the working reconstruction of one of the water-lifting machines, parts of which were found during excavations in London. It continues a theme touched on in the last issue, and we now give further details of Roman London’s water supply.

Martin Henig has introduced us to the engraved gemstones of Roman Britain in a two-part article – the first being on Intaglios. He also has thoughts on the Keynsham Eagles – an article in the last edition. Anthony Beeson replies... but are there any other thoughts on this fascinating subject?

David Rudling furnishes us with details of his latest excavations at Barcombe villa, making comparisons with the earlier site excavated at Beddingham. The Roman temple at Millington, East Yorkshire, has been ‘rediscovered’, using a selection of the latest technological surveying techniques.

Grahame Soffe, our Chairman, attended the International Roman Archaeology Conference earlier in the year, and has produced a very comprehensive report on the subjects covered.

Reproduction Roman glass is again on offer from the Roman Glassmakers at Andover – every sale will add funds to the ARA charity! You can learn where some of the money goes from the short article and picture round-up of our Bradford-on-Avon visit, an appetite-whetter for a full-length article in the next Bulletin.

Happy reading!

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ENGRAVED GEMSTONES IN ROMAN BRITAIN
PART 1 – INTAGLIOS

by Martin Henig

Before a written signature was acceptable as proof of personal identity, it was vital to carry a seal, in order to make one's mark, literally, in wax or clay. In recent times devices have been limited to initials or a coat of arms, but one only need go back to the early 19th century to discover ringstones bearing a vast range of figural subjects intricately carved upon semi-precious stone such as cornelian, jasper or amethyst, measuring a mere centimetre or so in length. If I had been writing in that period of neo-classical taste it would not have been necessary to explain the manner in which gemstones were engraved, how they were used nor the subjects cut upon them. Now, in an age when Greek and Latin mythology is not central to the educational curriculum, the idea that a seal-ring might be a man's most valuable possession is hard for most archaeologists to believe. It is, indeed, sad that very few of the excavators with whom I have been associated for over thirty years have shown any real interest in Roman gemstones. Shining exceptions to this indifference were, of course, George Boon and our late honorary president, Graham Webster, to both of whom intaglios were invaluable evidence for life and beliefs. One reason for lack of interest in these tiny objects, incidentally, lies in the relative difficulty in recording them, and, in my case, working with the brilliant gem-photographer Robert Wilkins has been a great privilege.

The first factor to be taken into consideration is the skill required to engrave these tiny objects. The material is too hard for metal points to make any impression unaided so bronze drills with minute lap-wheels at their tips had to be used in conjunction with a paste composed of corundum powder in an olive-oil base. Motive power was provided by means of a bow. The gem-cutter would need to be able to control this at the same time as being able to feel his way through the sticky, opaque abrasive, to gouge out grooves within the stone (see Figs. 10 and 11). The finer details of the images he created lay near the limits of human sight.

There is no evidence that lenses were ever employed by gem-cutters in antiquity. The Roman tradition of gem-cutting was inherited from the Greeks and the Etruscans who had also held the craft in the highest esteem. As in much more recent times, glass intaglios, cast in moulds, provided a cheap and cheerful substitute for those unable to afford a cut gem. The three examples illustrated here (Figs. 3, 4 and 13), three hundred years apart, show that these are not without their interest either.

We know that gems were collected and high prices were paid for them. Collections of gems were sometimes given by wealthy men to temple treasuries, which served as the museums of antiquity. Furthermore, to a far greater degree than was the case with larger or more frequently-studied works of art such as mosaics or wall-paintings, which merely decorated rooms in houses, the seal with its device was part of the owner's persona and expressed his personality. The importance of the seal-device is implicit in the Elder Pliny's account of how Augustus chose his signet ring. He first used a sphinx, but it seems that the bad reputation of that creature as a weaver of riddles led to criticism; he next tried a gem depicting Alexander the Great who was a popular hero, no...
doubt (see Fig. 6), but also a king — and monarchy was not acceptable to the Romans. Finally he had his portrait carved by the leading gemcutter of his day, Dioscorides, some of whose engraved gems are still extant (including a lovely little cornelian depicting the god Mercury, in the Fitzwilliam Museum, Cambridge, which it has been my great privilege to catalogue). No signed work by a famous engraver has yet been excavated in Britain, but a large number of intaglios of high quality have been found in the province and, in terms of craftsmanship, these are equal to most intaglios found in other parts of the Empire. This article can be no more than a brief introduction to a fascinating and much under-used source of information on Roman life and art.

During the second half of the first century, the kingdom of Togidubnus became a major centre of Roman culture. This sophistication is epitomised for me by a lovely green chalcedony intaglio from Chichester (West Sussex) showing the satyr Marsyas, who had challenged Apollo in a musical contest and lost, awaiting his terrible punishment of being flayed alive (Fig. 1). It is a superb example of gem-cutting of the time of Augustus, detailed but not over fussy. The viewer concentrates on Marsyas’ sad expression and on the double-pipes (auloi) now lying useless against the rock. For the owner, the gem may have been a reminder to be respectful to the gods. A second exquisitely engraved intaglio from the area, this time from nearby Fishbourne, is an onyx, light blue on black in colour (a variety which jewellers call nicolo) showing a racehorse with a palm (Fig. 2). This is not a rare type but the Fishbourne ring-stone is finer than any other example known to me. Its owner demonstrates here his love of that most popular of Roman sports, chariot racing. Another fine intaglio from the Fishbourne palace is an amethyst depicting the god Mercury. These superlative gems would most probably have been mounted in gold rings, the prerogative of the upper orders of society, for until the end of the second century one had to be of at least Equestrian rank in order to be allowed to wear a gold ring. These may well have belonged to people closely connected with Togidubnus himself.

Two intaglios belonging to soldiers, socially of far less account than the owner of the Fishbourne gem, are glass settings, doubtless lost from iron rings. One is from the fortress and town site at Alchester (Oxfordshire) excavated by Eberhard Sauer and depicts the head of a horse within a border, which, on close inspection, is a cornu, a curved military trumpet. The intaglio was assuredly the seal of a cornicen from the garrison of the early fortress, presumably in an auxiliary cavalry regiment (Fig. 3). The other is from the fort at Waddon Hill (Dorset) excavated by Graham Webster and shows a theatre-mask, full face and glaring at the beholder (Fig. 4). It was possibly regarded as a charm against the ever-feared Evil Eye. Amongst many other gems associated with men serving in the Roman army there is only space here to mention one or two. Most obvious is a nicolo, still set in its iron ring, perhaps of a decade or so later than the Alchester gem. It was found in the fort at Great
Casterton (Rutland) and depicts an eagle perched on an altar between legionary standards (Fig. 5). Unfortunately the name of the legion in which its owner served is not given. A beautiful early second-century red jasper seal found by Wheeler in the military amphitheatre or ludi at the legionary fortress at Caerleon (Gwent/Monmouthshire) is a fine study of a youth wearing a plumed helmet (Fig. 6). The person who wore it might have identified him as Mars or more probably as Achilles or Alexander the Great, whose prowess he wished to emulate. It is clear from a study of intaglios from forts that it was not uncommon for soldiers to wear the images of heroes such as Achilles, Theseus or Hercules upon their rings.

Some gems certainly give the viewer the feeling of ‘touching’ the very fabric of history. I could hardly believe my eyes when I opened a small package sent to me by Dr. Graham Webster, then digging at the fortress and town at Wroxeter (Shropshire), and found it contained a rare sardonyx intaglio depicting King Ptolemy XII (Fig. 7). It had been found in the Hadrianic destruction layer, dating from the time when the fortress was being refashioned as a town. Ptolemy XII (80-51 BC) was adept at playing the aulos (the very instrument shown in the Marsyas gem) and evidently preferred such diversions (his nickname was Auletis, ‘the flute-player’) to ruling his kingdom.

Unlike his formidable daughter, Cleopatra VII, he was very much a Roman puppet and he presumably gave this gem to one of his Italian ‘minders’, in whose family it passed down until the sad day when a great great grandson, perhaps, lost the heirloom in distant Britain.

Even more certainly historic are the gems associated with the campaigns of Septimius Severus and Caracalla between the years 208 and 211. Illustrated here is a red jasper from the forward base at Newstead (Roxburghshire) showing the bust of the young Caracalla (Fig. 8) and a cornelian found near Lincoln depicting Caracalla in the guise of Hercules being offered a wreath by Victory (Fig. 9). Both of these, and others such as a green chalcedony from Silchester portraying Caracalla as the Genius of the Roman People, were probably cut in a workshop associated with the Imperial court. A fascinating aspect of the Lincoln gem is that it was later set in a very ordinary mid-third century disc brooch. Presumably after the death of Caracalla its owner did not fancy wearing the image of a tyrant and handed it over to a servant for use as a pretty setting in a piece of dress jewellery.

For the most part, intaglios simply reflect the lives and beliefs of people who wore them. Two cornelian intaglios shown here depict respectively, the goddess Diana, goddess of the hunt (Fig. 10) and Bonus Eventus, personifying a successful harvest (Fig. 11). They were part of a large cache of jewellery from Snettisham (Norfolk), containing over 100 unset gems which comprised part of the stock-in-trade of a jeweller, who was working in the mid-second century. Study of the cutting-technique by Professor Kleibrink demonstrates that only two or three gem-cutters were involved in this studio. Clearly they were giving local farmers what they wanted. Allusion to harvest is shown in other ways too, most charmingly on a niccolo from the temple site at Woodeaton (Oxfordshire). It portrays a bushy-tailed creature,
though metal (gold, silver and bronze) signet rings are not infrequently found. However, a glass intaglio found, again by Graham Webster, at the villa at Barnsley Park (Gloucestershire) must date from the fourth century. It shows the Good Shepherd (Fig. 13), and is a typical example of a Christian intaglio of a well-known type. It demonstrates that there was at least one Christian in residence at the villa, though given the low quality of the material, not the villa owner in this case.

A future paper will discuss the variety of engraved gemstone – the cameo.

Further Reading:
Martin Henig, A Corpus of Roman Engraved Gemstones from British Sites (BAR British series 8, 1974, 2nd edn. 1978), lists all gems recorded in Britain down to that time. A large number have been found since.

J. David Zienkiewicz, Roman Gems from Caerleon (Roman Legionary Museum, Caerleon. 1987) illustrates the gems lost by soldiers bathing in the Fortress Baths as well as other gems from the site.

For gems from Wroxeter see Martin Henig and Robert Wilkins, 'One hundred and fifty years of Wroxeter gems', pp. 49-66 in Martin Henig and Dimitris Plantzos, Classicism to Neo-Classicism. Essays dedicated to Gertrud Seldmann (BAR Int. ser. 793, 1999).

On the Snettisham hoard of Roman jewellery see Catherine Johns, The Snettisham Roman Jeweller’s Hoard (BMP 1997), which contains chapters by Professor Kleibrink and myself on the gem workshop.

For other useful introductory accounts, chapter 4 of Catherine Johns’ The Jewellery of Roman Britain (UCL Press, London 1990) and my own chapter (chapter 6) on ‘Roman Seabones’ in Dominique Collon, 7000 Years of Seals (BMP 1997) should be useful.


THE KEYNSHAM EAGLES

by Martin Henig

Congratulations to Anthony Beeson for identifying not just one, but two, eagles at Keynsham (Beeson 2003).

The cross-hatched plumage of the eagle shown holding a snake readily brings to mind that of an eagle from Cole’s Hill, near the Spoonley Wood villa, Gloucestershire (Henig 1993, p. 56 no. 168) and we would do well to bear in mind two other eagles from Cirencester and Somerford Keynes respectively (ibid., nos. 166 and 167). That there may have been a shrine or temple to Jupiter in the vicinity of a site with some official function, as the inscription dedicated Num (initus) Divorum (RIB 181) suggests, should occasion no surprise.

Where much more caution is required is in accepting here a link with Zeus Heliopolitanos. Of course, it is impossible to disprove that this particular Levantine deity was intended, but at least it would be well to let a little scepticism break in.

First, the accepted occurrence of the god in Britain is limited to one or two inscriptions from Carvoran (RIB 1782–3; the reading of the first is very doubtful) which was garrisoned in the second century by a unit of Syrian archers, the Cohors I Hamiorum Sagittariorum; and by a sardonyx intaglio from Corbridge (Henig 1978, p. 228 no. 351) very possibly lost by a member of the same unit. Beeson does have a more than reasonable case with the small, curiously carved Sea Mills altar. I have previously taken the image on the base to be a term, delimiting territory, but the association with the bacularium here may be significant, and the pedestal is perhaps a suggestus, designed to raise the image above its votaries. Comparison may be made with the curious image, probably of Zeus Heliopolitanos (rather than Serapis as published), on a red jasper intaglio from Caesarea Maritima (Hamburger 1968, p. 25 no. 1). The trident on the altar suggests that Neptune was also being invoked so perhaps the altar was dedicated by a Syrian marine based at Sea Mills?

But to return to the Keynsham sculptures, which are in no way connected with the Sea Mills altar: as Beeson has shown, the type of eagle and serpent is very widespread. Insufficient remains, in this case, to show how friendly the two creatures are. The reason for their close proximity may, in large part, lie in the nature of the limestone block from which the piece was cut, which would not allow much in the way of undercutting, and in the modest skills of the sculptor himself. Even where an eagle has a serpent in its talons as in the case of a nicolo intaglio, set in a silver ring, found near Wotton-under-Edge (Henig 1981, p. 130, plate 8.1 no. 2; now in Gloucester Museum), our natural
reaction to interpret the scene as one of belligerence should be tempered by the knowledge that the serpent often represents the genius, as is so clearly demonstrated by the Tickenham relief illustrated by Bryn Walters, in the last issue of ARA (Walters 2003, Fig. 1). Admittedly there is no genius, indeed no eagle, present on a little carving from Bisley, Gloucestershire, showing a snake climbing up the altar (Henig 1993, p. 57, no. 169; Stroud Museum) but it does emphasise that we should think locally before casting our eyes on exotic places, and only reject the simplest solution when it is clear that it does not do justice to the evidence. The eagle and serpent sculpture is amongst the less well executed carvings in oolitic limestone from the region and belongs very much to the local, amateur tradition. It could well have been carved by a ‘sculptor’ for himself or if not, no very exotic patronage can be suggested.

Once again I do not want to end on too critical a note. It took Anthony Beeson’s sharp eyes to recognise the two eagles and thus to suggest a probable shrine of Jupiter, but I suspect it was the good old Roman or Romano-British god in the present case. For the moment, I doubt whether we should go further.

Of course there have been many discoveries of eagle sculptures from Roman Britain, but the whole point of my argument and the reason for excluding them from my paper is that none of these have an attached serpent nor any evidence of one, so local sculptural iconography is certainly wanting. In such a case, it is surely more sensible to seek then the closest examples in sculpture, which are those of the Syrian god. The whole point of the Syrian eagle and serpent duo, which I had hoped that I had sufficiently stressed, is that they are part and parcel of the same deity and NON-belligerent. The serpent climbs and does not wind itself about the torso of the bird in aggression. The Keynsham sculptor, for all his limited abilities, was determined to show this. It would have been far simpler for him to have allowed the serpent to spiral about the eagle but this would have obfuscated the iconography that he was trying to reproduce. In my opinion, the local and simplest solution just does not work in this case and the most likely origin of this dedication is to be found further afield than Somerset. Considering the number of eastern cults which have left evidence of their existence in Roman Britain, should we really be surprised at this? The altar from Sea Mills, which Martin Henig admits that there is a more reasonable case for believing to be a dedication to Zeus Heliopolitanus, was only nine miles away from Keynsham and at the end of the road connecting the two to Bath. Incidentally, the ‘Trident’ on this altar is actually a thunderbolt, as the lower half of the object may still be traced, so Neptune may be discounted.

Ideas and personal religious beliefs travel with individuals. One Christian travelling in the past in a non-Christian country might make a dedication or plant a cross. This does not mean that Christianity was widespread in the region, but neither does it mean that it did not exist there at all. We know from excavations at Walcott in Bath (featured on Meet The Ancestors) that a burial there contained a man whose origins were in the Middle East. People travelled vast distances in Roman times and traded or owned property all over the Empire, so it is hardly far fetched to imagine a Syrian visitor to Keynsham. Of course, short of finding an inscription at Keynsham to accompany the sculpture, we are unlikely to know for certain, but surely, in studying the past, as in many sciences, it is vital to do so with a mind open to the unexpected.

Abbreviation:
RIB: Roman Inscriptions of Britain, 1965, etc.

References:
Beeson, A., 2008 From Petra to Keynsham – A Roman-British sculpture and its iconographical origins. ARA 14, 10–13 and 17.
Henig, M., 1993 Roman Sculpture from the Cotswold Region (CSIR 1, 7, British Academy, Oxford).
"Whilst we were on the spot directing the survey, in the year 1745, a year in which the House of Stewart again did attempt to recover the British Crown, some people observing us, gave an information at York, that we were marking out a camp in the Wolds; which had like to cause us some trouble to contradict."

(Drake 1746, cited in Ramm 1990, 13).

Thus relates York Antiquarian, Francis Drake, who together with his companion Dr. John Burton, were exploring the site of Roman buildings. According to Knowlton, gardener to the Duke of Devonshire at Londesborough, in a letter to Mark Catesby, read at a meeting of the Royal Society on 6th March 1745/6 (Anon. 1748),

"... many foundations (were found) in a ploughed field ... discovered by one Mr. Hudson, a farmer at Millington, as he formerly tended his sheep on one side of the hill, and on the opposite side had perceived in the corn a different colour for some years before: which led him this summer to dig ... in one part was discovered a circular foundation 5 feet wide and the plan within 45 feet diameter by which I imagine it was a temple ... there were many other foundations which had Roman pavements within them ... by which I imagine after the dissolution of the temple became a Roman station, then called Delgovicia; which has been so uncertainly fixed at Goodmanham, Londesborough, Hayton &c."

Following this discovery, Haynes, a renowned map maker, was commissioned by Lord Burlington of Londesborough Park to draw up a map entitled, An accurate survey of some stupendous remains of Roman antiquity on the Wolds in Yorkshire, through which some grand military ways to several eminent Roman stations are traced. (Ramm 1990). The map showed a large circular building described as a Roman temple with ancillary structures including the mosaics. A further map was drawn up by Burton (Fig. 1).

In 1776 John Wesley records in his diary an account of the same site: "... In my way hence from Malton Mr. C. gave me the following account: - his grandfather ... ploughing up a field, two or three miles from Pocklington, turned up a large stone under which was a hollow. Digging on he found at a small distance a large magnificent house. He cleared away the earth and going into it found many spacious rooms. The floors were all of mosaic work exquisitely wrought. Many flocked to see it" (Curnock 1938).

Apart from some work by Ramm (1990), who attempted to locate the building, no recent archaeological work has been done on the site. In 1983 the author carried out a cursory inspection with staff from Pocklington School, which yielded a few sherds of Roman pottery on the supposed site of the circular temple itself. Roman pottery, tesserae and tile from a Roman structure were found in molehills on the man-made terraces near Millington Beck and in the beck itself.

This is one of a very small number of temple sites known in the territory of the Parisi. The fascinating historical background to the site provides added attraction.

The current project

In August 2001, the first named writer (based in the Department of History, Hull University) was approached by the current landowner of one of the fields in the area identified by Ramm, to attempt to locate the Roman temple and its ancillary buildings. In January 2002, during a brief reconnaissance accompanied by the landowner, further large and diagnostic tegulae were found in the stream and arrangements were then made to organise detailed survey work.

As part of a field visit for the 'Diploma in Archaeology and the Landscape' at Hull University, a topographical survey was undertaken using a differential Global Positioning System (GPS) to map the contours of the site and find any above-ground structural remains. This was carried out with the aid of Dr. Malcolm Lillie, Helen Fenwick and Dr. Henry Chapman of the Wetland Archaeology and Environments Centre at Hull University. At the same time Dr. Jeremy Taylor (Department of Archaeology, Leicester University), and Helen Woodhouse (Department of Archaeology, Southampton University), carried out a magnetometer survey using an FM36 Geoscan fluxgate gradiometer (Fig. 2). The topographical and geophysical surveys were continued in the spring and early summer of 2002.

Fig. 1. Extract from Burton's map showing the Roman buildings at Millington.

Fig. 2. Millington Geophysics and topographical survey, February 2002.

With the aid of the GPS, which allowed very accurate plotting of finds, the Hull students carried out a survey of the molehills, which proved productive.
The results so far

The topographical survey confirmed the presence of a plateau area in the north-east corner of the field, and emphasised the steep slope running towards the beck. The layout of the earthwork running parallel to the beck was also clarified. The presence of ridge-and-furrow, now scarcely visible on the surface, also became evident.

In the gradiometer survey (Fig. 3) several large magnetic anomalies were located, which by their shape would appear to be buildings. The most northerly of these is situated in a polygonal enclosure which also contains a large pit or well. The southerly structure lies on the same alignment, though its relationship with a ‘ladder-like’ system of ditches is unclear. The strength of the magnetic anomalies associated with these buildings may indicate hypocausts or similar structures. This would fit well with the antiquarian accounts of underground rooms and burning. There is also a very strong ditch-like anomaly running north-east – south-west towards the beck.

Next to the northern enclosure, there appears to be a circular feature c. 20 m in diameter. This is possibly the ring ditch of a round barrow rather than the circular temple described by antiquarians, though only further work will clarify this (Fig. 4).

During the molehill survey, further sherds of Roman pottery, tesserae, tegulae and other tile fragments were collected on the ‘terrace’ area by the beck and in the beck itself, and post-fieldwork analysis of the tile was carried out by Sophie Tibbles. The results of the geophysical survey were inconclusive here, and it is possible that the Roman material may have travelled down the steep slope during cultivation. The large size of the tegula fragment found in the stream would argue against this, and it may have been eroded from its context by flooding.

Conclusion

Various commentators, including Drake (1748) himself, equate Millington with the Roman site of Delgovia referred to in the Antonine Itinerary (Rivet and Smith 1979) but the results of our survey make this unlikely. The fieldwork has indeed confirmed the presence of Roman activity, but it is not of sufficient density to be a Roman roadside settlement such as Hayton (Halkon et al 2000) and in any case the road itself lies some 300 m to the east. The dramatic (for the Yorkshire Wolds!) and beautiful location, overlooking a small sheltered and probably wooded valley (pers. comm. R. Middleton), with many springs close by, makes it likely that it is a Roman rural sanctuary (Lewis 1966, 86, Woodward 1992). The buildings so far discovered during the geophysical survey correspond well with those featured on the Haynes map and the survey conducted by Drake and Burton, both in shape and their location relative to each other. The circular temple itself lies to the north in another field and further investigation will be carried out by the team in summer 2003 which we hope will further elucidate this most intriguing site.

Acknowledgements

We are very grateful to Mr. and Mrs. Greenwood for all their help and to the Faculty of Arts Research Executive at the University of Hull for funding the fieldwork.

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A TALE OF TWO VILLAS: BEDDINGHAM AND BARCOMBE

by David Rudling

Introduction

Excavations in the parishes of Beddingham and Barcombe, both near Lewes, East Sussex, but to the east and west respectively of the River Ouse (Fig. 1), have provided important information regarding the developmental histories of the principal buildings (winged corridor houses) at two villas near the presumed eastern border of the civitas of the Regni (Cunliffe 1973, fig. 1). This shared tribal setting, together with the relatively close proximity of the two villas (they are about 8 km [5 miles] apart), makes for interesting comparisons in terms of the origins, development and decline of the two sites, together with such aspects as building methods, economies and evidence for ritual practices. However, since work will continue at Barcombe in 2003, the results from this site should be treated as interim at this stage. For background information and a general overview of the development of Roman villas in Sussex, the reader is referred to an article by the writer (Rudling 1998).

The Beddingham villa

The villa at Preston Court Farm, Beddingham, near the foot of the scarp of the South Downs, was discovered in 1986 during aerial reconnaissance (Frere, 1987, 353, pl. XXVII). It was subsequently subjected during the following winter to both field-walking and a resistivity survey. The discovery of a villa at Beddingham caused excitement and interest in Sussex since the site is located in an area between the rivers Ouse and Cuckmere which had previously been thought to contain no villas, and may thus have been given at the end of the Romano-British period by “some sort of treaty arrangement” to Saxon settlers (Welch 1971, 232). To investigate further, between 1987 and 1992...

Fig. 1. Locations of various Roman sites in Sussex as far east as the Saxon Shore Fort at Pevensey, and including the villas at Beddingham and Barcombe. Drawing © University College London Field Archaeology Unit.
excavations each summer (directed by the writer on behalf of the University College London Field Archaeology Unit) fully exposed the main villa building at Beddingham and also sampled adjacent buildings and two phases of villa 'farmyard'/ditched enclosure (Fig. 2; Plate 1; annual summary reports in Britannia; Rudling 1998, 52-59).

The earliest definite settlement evidence at the Beddingham villa site dates to the Late Bronze Age/Early Iron Age. There is actually very little evidence for Late Iron Age settlement at the site, two coins (a bronze issue of Cunobeline and a silver issue of Epaticcus) and a very abraded sherd from an Augustan Pascual amphora (Malcolm Lyne pers. comm.) being the only finds which can be securely dated to this period. Most of the other 'early' finds, including several imported first-century Gallo-Belgic butt-beakers, are likely to be post-conquest.

The one feature which may possibly date to the Late Iron Age is a two-phase timber round structure/‘house’ (Figs. 2 and 3; Plate 2). Unfortunately the small sherd of pottery recovered from the second-phase post-holes of this structure do not confirm such dating, and tend to suggest a pre-Flavian but post-Conquest date (Malcolm Lyne pers. comm.). The absence of pottery in the first phase post-holes may indicate that the earliest round ‘house’ was constructed on an unoccupied site. Thus if the ring-post structure had a domestic function it could represent the original farmhouse at the very end of the Iron Age or soon after the Conquest. Whatever its date, the interpretation of this circle of upright timbers is by no means certain (Rudling 1997).

Although it is similar in size and form to plans of Iron Age single ring-post houses, other possible interpretations could include an estate office (Black 1997) or a shrine. The suggestion of a shrine, for which there is no firm evidence (e.g. offerings) is based upon several factors, including the lack of any associated domestic features (e.g. a hearth) and the fact that the location of this structure was apparently respected long after it had gone out of use. Encroachment (presumably unintentional) only occurred during the final building phase (VIII) of the villa. This long period of respect for/memory of the location of the circular structure is an extremely important indication of continuity of ownership throughout most of the Roman occupation of Britain.

Indirect dating evidence for the ring-post structure includes the construction of Phase I of the main villa building (Fig. 3). This phase of building does not encroach upon the circle of posts, and may therefore have been constructed alongside it. Phase I is dated to the Flavian period, and thus indicates that the round structure is either also of this period, or earlier.
The main period of occupation dates from the late first to the mid-fourth centuries, and included a large domestic building with masonry foundations, a well, a shrine, a detached bath-house, a timber building and two phases of enclosure ditch.

The main domestic building (Plates 3 and 4; Fig. 3) is located immediately to the north of the timber round ‘house’ and centrally within the two ditched enclosures (Fig. 2). The earliest phase (I) consists of five adjoining rooms aligned north-east/south-west. It is possible that this rectangular range, which had mortared flint foundations, may have replaced a timber ‘proto villa’ building. Immediately up-slope to the west of the Phase I buildings, and parallel with it and the postulated timber predecessor, was a drainage ditch containing Flavian pottery.

Later modifications and enlargements to the Phase I house included the adding of at least three phases (II-IV) of baths at the northern end of the building. The intended addition (Phase IIIb) of a heated room at the western end of the baths was never completed. Although there is little direct dating evidence for the various phases of baths, one of these stages probably utilized relief-patterned flue-tiles of Die 5A (Lowther 1948), a type which occurs at a tileyard at Hartfield (Fig. 1) which has been dated by archaeomagnetic dating to c. AD 100-130 (Rudling 1986, 198). The eastern plunge-bath of the Phase II baths and the hypocaust of the Phase IV baths had gone out of use by the early third century. The disused eastern plunge-bath became, and continued to be, a place for depositing rubbish until c. AD 270, when it was overlaid by masonry of Phases Va and VI. It is probable that the demolition of the Phase IV baths coincided with the building of an as yet unexcavated detached bath-house to the east (Fig. 2).

Phase Va (probably Antonine) saw the addition of new rooms to both the eastern and western faces of the villa. On the eastern side these changes consisted of a corridor and two winged rooms. Also at this time, one of the original rooms was subdivided in order to create a passage between the new front
end of the corridor. Other discoveries within and around the house included various pits and layers containing infant burials (Plate 5), or articulated animal remains (either of complete skeletons or animal parts Plate 6), or carefully-placed objects, such as pottery vessels. Most of these finds are thought to be of ritual significance, with some probably representing foundation deposits/commencement rituals, and others, termination rituals. Six of the seven infant burials formed part of a research project to investigate methods of sexing such remains (Waldron et al. 1999).

The Roman house was located within two circuits of enclosure ditches (Fig. 2), the earlier and smaller circuit yielding pre-Flavian to Hadrianic pottery from the lower fills. This enclosure was replaced during the mid-second century by a considerably larger version, which probably indicates an increase in prosperity at the site. Near the western end of the integrated baths was a conveniently-located stone-lined well (Plate 7), and to the west of the south-west corner of the house a small masonry building (Fig. 2) interpreted as a shrine.

Originally the shrine had been approximately 3.6 m square, but it was subsequently slightly enlarged westwards, and was finally given an apsidal west end (Plate 8). One of the most important discoveries at the site concerns the final use of the shrine during the early Saxon period. A large area was hollowed out at the western end of the Roman building, and finds from its fill include sherds of Saxon pottery dated to the late fourth or fifth century (Malcolm Lynes pers. comm.). The fill also contained sherds of Roman pottery, including a large and abraded piece from a Pevensy ware bowl dated to c. AD 350/70-400+. There is thus the possibility that at least some of the late fourth century Roman pottery, which dates to after the abandonment (probably c. AD 330) of the main villa building, could be contemporary with some of the Saxon pottery. Other sherds of late Roman and early Saxon pottery were recovered from several features in the vicinity of the shrine and to the west of the main villa building. Thus by the end of the fourth century or early in the fifth century part of the villa complex, but apparently not the former main house, was occupied by people (Romano-British and/or Saxons) using Saxon pottery.

**The Barcombe villa**

The current research and rescue (plough damage) project of a Roman site in the Ouse valley is at Barcombe, just to the south of the Greensand Way, a Roman road which connects Pulborough in West Sussex to modern Barcombe Mills (Fig. 1). There is also a probable north-south orientated Roman road just to the east of the villa. The initial stages of the Barcombe project began in 1999 when the Mid-Sussex Field Archaeological Team (MSFAT), under the direction of Chris Butler, undertook fieldwalking, geophysical survey and trial trenching following an invitation to investigate the site by the farmer, Harold Stroud. After further small scale work in 2000, MSFAT joined forces with the writer...
and the University College London Field Archaeology Unit in order to carry out much larger-scale excavations in 2001 and 2002 (Rudling and Butler 2001; Butler and Rudling 2002). Most of the funding for this work has been raised by student fees for summer schools and training programmes, and similar arrangements will apply in 2003.

The excavations in 2001 and 2002 concentrated upon the main villa building (Fig. 3), which had been accurately located by both resistivity and ground-penetrating radar surveys. Unfortunately the building had suffered badly from stone robbing (perhaps to build the nearby parish church of St. Mary) and plough damage. As at the Bedingham villa, the finding of small, white, red and grey mosaic cubes and many larger red tile tesserae provides information about the destroyed flooring.

The main sequence of human activity at the site started with a Bronze Age ring ditch, some 20 m in diameter, which may have originally surrounded a barrow. The next phase of activity involved a number of timber roundhouses (Fig. 3). Roundhouse 3, which was approximately 9 m in diameter and comprised an outer wall of wattle and daub, may be the oldest, and possibly Late Iron Age or very early Roman in date. To the south of this structure is another roundhouse (4), which has been only partly excavated. A third possible roundhouse (2), overlies Roundhouse 3 along part of its northern margins, and also partly underlies one of the two western wing rooms of the Roman villa. To the north of Roundhouse 2, and

almost entirely located beneath the later masonry villa, is a fourth roundhouse (1) (Plate 9), sealed beneath a deposit of flints above a burnt clay area dated by archaeological magnetic dating (English Heritage) to c. AD 140-200. Originally (Butler and Rudling 2002, 487) it was thought that the burnt clay area was a floor deposit within the roundhouse, but further investigations in 2002 showed that this was not so.

Roundhouse 1 was later replaced by a simple, rectangular building with narrow flint footings (Fig. 3); most probably such masonry would have supported a timber-framed structure. Various features may be contemporary with this building, especially the ditched enclosure whose western, northern and eastern ditches are parallel to the corresponding walls of the building. Other features which may also be contemporary with the narrow-walled structure include a possible lime kiln and an associated pit, and various quarry pits which may have been dug to provide clay for daub walls. Provisional dating for the pottery retrieved from the quarry pits is late-second/early third century.

In the next phase, perhaps in the mid-third century, the building was demolished and replaced by a much larger structure: a winged corridor villa. The new building, which also had masonry foundations, has suffered badly from stone robbing – often down to the bottom course of stones. Fortunately, where earlier features (such as ditches and pits) were encountered and recognised, the Romano-British builders went to a lot of trouble to ensure that these did not cause the villa walls to subside. The wall footing trenches were excavated deeper, sometimes right to the bottom of the earlier feature, and were then packed with flints, or occasionally chalk, to aid stability (Plates 10-12). As at Bedingham, where the building and many of the rooms (e.g. the front corridor and the main wing rooms) are smaller, it had a porched front entrance. In contrast to the Bedingham building, however, Barcombe had pairs of projecting wing rooms. The discovery of small mosaic cubes and larger tile tesserae, as at Bedingham, indicates the former presence of at least one mosaic (in Room 8) and probably various tessellated floors. Apart from the finding of fragments of box-flue tile (including several tesserae made from such tiles), there has been no evidence for a hypocaust heating system in this building.

In addition to completing the
Conclusions

The villas at Beddingham and Barcombe provide both similarities and contrasts in terms of their respective developmental histories and cultural practices. Whilst at both sites there is evidence for activity during the Bronze Age, there is no conclusive evidence for occupation in the late pre-Roman Iron Age. At both sites, however, there are remains of at least one timber round structure which could pre-date the Conquest in AD 43. Whether pre-Conquest or slightly later, the timber round structures/houses appear to be the earliest phases of occupation associated with these predominately Roman-period settlements, and at Barcombe at least one of the roundhouses (I) may have survived until the mid second century. Whilst at Barcombe the roundhouses were replaced by a building with narrow masonry foundations, at Beddingham the single round 'house' probably existed alongside, or was replaced by, a simple 'row-type' house. Subsequently at both sites the earliest villa buildings were either incorporated into, or demolished in order to make way for, increasingly larger and more complex houses with masonry foundations. Attempts to identify any similarities between the two villas in terms of ritual behaviour have been limited by a sparsity of such evidence at Barcombe. Thus whilst at Beddingham the excavations revealed various examples of such behaviour (e.g. the infant burials and various deposits of animal bones), the Barcombe site has, to date, only yielded two unusual deposits of animal bones, and no infant burials.

By c. AD 300 at Barcombe and by c. AD 330 at Beddingham, these two similar-sized villas were either abandoned or in decline, perhaps due to their vulnerability to Saxon or pirate raids. That at Beddingham became the site of late fourth or early fifth century squatter occupation - a fate which did not occur at Barcombe until much later in the Saxon era.

References


Introduction

Fascinating discoveries made by the Museum of London Archaeology Service (MoLAS) and AOC Archaeology Group at 20-30 Gresham Street, and by MoLAS at 12 Arthur Street, in the City of London during 2001 have shed new light on the mechanics employed to supply water to the Roman city.

Prior to the archaeological excavations on these sites, no evidence had ever been found to suggest that water-lifting machines or bucket chains could have played a pivotal role in supplying fresh water in Londinium during the first and second centuries. It is extraordinary, therefore, that by the end of 2001 the remains of four bucket chain systems had been found in the bottom of three massive wells, with two distinct types of device being identified. These discoveries have forced archaeologists and experts in the field of ancient technology to reassess completely the subject of water supply and distribution within the Roman city.

Although it was already known that bucket chains were used to draw water from deep wells on sites throughout the Roman Empire, the archaeological evidence for these complex machines rarely survived, and only the presence of massive well shafts might betray their original presence. The only positively-identified remains of Roman bucket chains or their drive systems found elsewhere were excavated at Cosa in Italy in 1984 and at Barzan in France during 2001. At both of these sites, where the aquifer was much lower than in London, the water had to be lifted between 13 and 16 metres to the surface. Consequently, the individual water boxes, or buckets, were likely to have been linked together with rope to lessen the weight of the suspended chain. By contrast, iron was used for the linkage on the bucket chains from London because the shorter lift meant that the extra weight was not a concern.

The bucket chains from London represent the best preserved and most diverse group of these devices yet found anywhere in the Roman Empire, and as such they are of international importance.

The sites
20-30 Gresham Street

During the excavation on Gresham Street, two deep wells and a third, shallower well, or watertank, were excavated. The earliest well had an oak lining and measured c. 2.60 m square in plan, and at least 4.50 m in depth. The lining was constructed of tiers of close-fitting rebated planks, which were set behind four corner posts, and four centrally-placed intermediate posts. These intermediate posts were braced by three sets of oak cross-braces; dendrochronological dating of these timbers showed that the well had been constructed around AD 63 (Fig. 1).

This construction date indicates that the well was built in the early years after the Boudican revolt of AD 60, and was most likely part of a well-planned enterprise, carried out during the rebuilding of the infrastructure of the Roman city. Interestingly, this renewal of infrastructure, such as roads and water supply, preceded the general re-establishment of roadside properties and new buildings. Several discarded timbers were found in the lower levels of the well, and also dated by dendrochronology, showed that the structure was in use for less than ten years prior to being abandoned following a major collapse of part of its lining.

Set into a cut in the base of the well beneath the lower cross-frame, was a perfectly preserved softwood half cask, bound with hardwood hoops. The function of this cask is somewhat enigmatic, although it has been suggested that it might have acted as a silt trap at the bottom of the well. Alternatively, it might have been the base of a barrel-lined well or sump excavated to test the aquifer and assist in the drainage of the well shaft during its construction (Fig. 2).

The most significant finds from the well were recovered from its lower levels, including many from the cask at its base, which contained a number of parts of a bucket chain. The finds included parts of twelve rectangular water boxes or buckets, a number of associated iron rivets or connecting pins, and a small wooden roller. Each of the water boxes had been carefully made from hollowed-out blocks of oak, with each of the containers covered by a board lid, which was nailed over the water chamber (Fig. 3). At either end of the boxes were two slots, which originally housed a pair of pivoting iron links held in place by an iron rivet or pin to join the buckets together in a continuous loop or chain. Each of the boxes could hold about 1.75 litres of water, which entered and left the water chamber via a small rectangular slot cut into the upper side of each of the boxes. The presence of water slots on opposite faces of two of the water boxes suggests that two bucket chains might have been operating in the well, effectively doubling its output. Two almost identical, but

Fig. 1. The cruciform bracing structure in the lower half of the first-century well at Gresham Street. Photo: © MoLAS.
fragmentary, wooden boxes had been found immediately to the south in 1955 in an oak-lined well or water tank on the site of the second-century Cheapside bathhouse, but were not identified.

The second deep well on site, was part of an improved and larger structure, provisionally dated to the early second century, precluding its having been a direct replacement for the earlier well. This well was also made entirely of oak, and was seen in plan to be 3.60 m square, and 5 m in depth. The lining was composed of tiers of close fitting planks set behind four corner posts and eight equally spaced intermediate posts. Nails fastened the planking to the reverse of the posts. The intermediate posts were strengthened by at least one set of cross-braces, which were found in situ in the lower levels of the well. These cross-braces effectively subdivided the well into nine square compartments. This well, like the first, was probably prefabricated with the lower well frame being put into place partly assembled before having the upper lining planks added sequentially as the excavation of the well pit continued.

The most significant finds from the well were also recovered from its lower levels, and included several large semi-articulated parts of a contrasting bucket chain. The mechanism was made of wrought iron, forming a heavy double chain supporting boarded oak buckets held between flat links alternating between pairs of cranked iron links (Fig. 4). All the water containers had been heavily burnt, indicating that the upper sections of the bucket chain and the overlying well house had been destroyed by fire. However, enough fragments survived to work out how the boxes were made and how they articulated with the iron bucket chain. The straight links of the chain were nailed onto, and in isolated cases had been recessed into, the outer sides of the water boxes and were joined at each end to the intermediate cranked links by a large pin, held in place by a split ring. This system of linked elements meant that the bucket chain could easily be shortened or strengthened dependent on the relative cyclical or seasonal water level in the well. Unlike the side discharge system used in the much smaller water boxes from the adjoining well and those found on Arthur Street and the Cheapside bathhouse sites, the containers were open at the top and had a forward discharge, with the cranked links located in the open mouth of the containers (Fig. 5).

It is calculated that in order to lift water from the lower levels of the well, the bucket chain would have required a chain of 30 water boxes. Each of the containers held in the region of 6 litres of water or three times the amount of one of the boxes from the smaller bucket chains described above. It has been calculated that using a geared capstan drive to power the bucket chain, it would be capable of raising 72,000 litres (15,838 gallons) of water over a ten hour operating day. To put this output figure into perspective, this volume of water would be capable of providing a subsistence level of household supply to around 8,000 people, or approximately one third of the estimated population of Roman London in the second century. Water might also have been supplied to trades and industries or used to flush out drainage systems.
used in the well. It is highly improbable that buckets of different dimensions could have worked as part of a single bucket chain, although the key question is whether the two bucket chains were working simultaneously. Given the unusual elongated rectangular shape of the well, which would comfortably have allowed for two devices to be in operation, it is highly likely that the structure was specifically designed for this purpose.

The reconstruction project

Given the international importance and rarity of these finds, a decision was taken by the Museum of London during 2002 to build a full-scale replica of the unique and more complex early second-century wrought iron bucket chain from Gresham Street. The building of the replica would provide historians of technology with the opportunity of exploring and learning from its design and operation. The Museum wanted the replica to be a public demonstration of Roman technology and to allow visitors, including families and children, to power the machine (see front cover picture).

At the commencement of the project two alternative methods of powering the machine were considered: first a tread-wheel mounted on the wheel-shaft, and secondly, a capstan using animal or human power driving through two gears (as in the saqqiyah, saqqiya, used on rivers in the Middle East). However, as the theoretical design developed, it was realised that the power needed to drive the machine was probably approaching the limit that one man could provide comfortably on a tread-wheel. In the final design the gear drive was adopted because, having regard to the desire to have the public driving the machine, this was also much safer and allowed several adults or children to take part. It also gave the advantage that gearing could be seen in operation.

The machine was completed and assembled in the Rotunda gardens outside the Museum of London in November 2002 where it has been demonstrated daily since that date. The reconstruction project was filmed by Time Team in Hadrian’s Well as a follow up to an earlier Time Team Special Londinium, Edge of Empire which followed the excavations at Gresham Street throughout 2001.

Acknowledgements

MoLAS would like to thank Land Securities plc for their financial support of the excavations at 20-30 Gresham Street, and Sheldpoint Ltd for funding the work at 12 Arthur Street. The reconstruction project was made possible through the sponsorship of Swiss Re. Theoretical analysis and design of the water-lifting machine was developed by engineers Dr. Bob Spain and Tony Taylor of Fogg & Associates.

Photography is by Maggie Cox and Andy Chopping of MoLAS. The archaeological projects were managed by Nick Bateman of MoLAS, with post-excavation management by Peter Rowsome.

The Association for Roman Archaeology is a financial contributor to the production of a forthcoming article to be published in Britannia.
This year it was the turn of Leicester University to host this prestigious biennial conference from 3rd to 6th April, incorporating TRAC.2003, the Theoretical Roman Archaeology Conference. It was organised at the University’s School of Archaeology and Ancient History by Neil Christie, Hella Eckardt, Simon James, Caroline Mackey, David Mattingly, Judy Mead and Jeremy Taylor (Fig. 1) and on behalf of the Society for the Promotion of Roman Studies (Roman Society). Sessions were held at the University Conference Centre and Halls of Residence in the leafy Victorian suburb of Oadby. A rich variety of just over 100 papers were given in parallel sessions to nearly 250 delegates from all over the world (including ARA members) and received sponsorship, not only from the university, but also Leicester City Council, Barbican Associates, the British Academy, English Heritage, the Jewry Wall Museum, the Journal of Roman Archaeology and Oxbow Books. The last two of these also staged a book fair with the Roman Society.

The plenary lecture was given by Professor Dr. Siegmund von Schnurbein, Director of the Römisch-Germanische Kommission des Deutschen Archäologischen Instituts, on the discovery and excavation of an abandoned Augustan town near Waldgirmes, 20 km beyond the Limes. The sessions were devoted to specific themes. One of the most popular proved to be Pax Romana? Violence and conflict in the Roman world, led by Simon James, Andrew Gardner and Greg Woolf. There were interesting discussions of violent behaviour in military and civilian contexts, some with rather bloody imagery and with parallels drawn from the current war in Iraq. There was also an interim reporting session on five years’ work on the British School at Rome’s Tiber Valley Project, led by Helen Patterson and Rob Witcher. This is a collaborative field survey, mapping the impact of the city of Rome on southern Etruria and the Sabina Tiberina from 1000 BC to AD 1300. Concentrating on the Roman period, it was evident that there was much reworking of earlier research such as John Ward Perkins’ South Etruria survey.

Another session on Early Roman towns in Hispania Tarraconensis led by Simon Keay, Sarah Scott and Martin Millett (Fig. 2) gave the opportunity for several Spanish contributors and delegates to highlight the new evidence of developing urban centres from the late Iron Age into one of Rome’s most culturally heterogeneous provinces.

A very popular afternoon was taken up by Roman Pottery Studies, Present and Future: A Session in Memory of Graham Webster. In her introduction entitled His open attitude and endless search for new ideas, Maggie Darling reminded everyone that our late ARA President was instrumental in the modern development of the contribution pottery studies make to Romano-British archaeology, particularly through the founding of the Study Group for Roman Pottery. New corpus-works like the National Roman Fabric Reference Collection can now help research considerably. A major theme was pottery supply to towns, countryside and military bases. There was also an up-to-date re-assessment by Steven Willis of Geoff Marsh’s important study (in Graham Webster’s pottery Festschrift) of samian supply and consumption in Britain. Following this, several sessions concentrated on British themes, such as What’s new in Roman Britain both generally and more specifically in Kent, led by Tony Wilmott and Pete Wilson (English Heritage). A wide variety of field survey and excavation projects from PPG16 archaeology, public funding and the voluntary sector was discussed. Stephen Young outlined a Heritage Lottery funded scheme to field-survey the upper River Nene area of Northamptonshire. Jeremy Evans gave an excellent lecture on pottery, wine and olive oil supplies along the King Street Roman road to...
Lancaster. This was followed by some startling results from geophysical surveys of Roman forts and their environs in North Wales, by David Hopewell on the Gwynedd Roman Fort Environs Project. These have added significantly to our knowledge of the area. An almost complete plan of the pre-or very early Flavian fort at Llanfor has been produced, demonstrating a short-lived, single-phase construction. The small auxiliary fort of Caer Llugwy was shown to be a contraction of a larger plan. ref. garrison reduction in c. 100. Surveys at Pennal, Caer Gai and Canovium revealed a wide range of extra-mural development including ribbon-like vicus along roads into the forts. Peter Halkon gave a fascinating description of recent research and fieldwork on the probable temple complex near Millington, East Yorkshire (see pages 8 and 9 in this issue). Andy Russel reviewed the recent discovery of a causeway of huge timber posts crossing tidal mudflats at Roman Bitterne (Southampton) and discussed this in relation to the first-century timber warehouse, comparable to supply-base buildings at Fishbourne and Richmond. The bath-house and the stone-walled defended peninsula, probably a Saxon Shore Fort. Another recent discovery was highlighted by Jeremy Taylor in his description of the Leicestershire Treasure. The site, in the east of the county, was field-surveyed in a local community project, and, following the discovery of a coin hoard by a metal-detectorist, was scientifically excavated in 2001 and 2003. The hoard comprised in excess of 3,000 silver and gold coins, mostly of the Corieltauvi, in 18 bags, with a unique Roman gilded silver cavalry parade helmet, probably deposited before the Claudian conquest. These were associated with animal bones suggesting feasting activity.

The session on Kent reviewed some of the largest rescue area excavations ever carried out in Britain, in advance of the Channel Tunnel Rail Link. These have been undertaken by Rail Link Engineering, Oxford Archaeology (OA) and Wessex Archaeology (WA), and include a large proportion of the river valley of the Ebbsfleet. Phil Andrews (WA) recounted the extensive excavation of Springhead Roman town (Vagniacae) showing its Iron Age origins, its remarkable temple complex, grouped around the springs, together with agricultural and commercial structures. This site seems to have been associated in the later period with the extensively excavated Northfleet villa described in detail by Richard Brown (OA). Paul Booth (OA) described his excavation of the early roadside settlement, possible shrine, cemetery and iron production centre at Westhawk Farm, Ashford (1998-9). Two sites visited by the ARA on the 2002 Roman Kent tour were also reviewed. Mark Houlston (Canterbury Archaeological Trust) described the 'Big Dig' at Canterbury's Whitefriars, and Tony Wilmott reviewed the new research at Richborough's newly recognised Roman town and summarised the results of geophysical work, aerial photograph interpretation (see ARA 14, p. 20, fig. 10), coring and excavation. The session ended with an overview by county archaeologist John Williams.

Christianity in Roman Britain, another popular session, was organised by David Petts. This was the title of Charles Thomas’s seminal book published over 20 years ago but how have we advanced since in our understanding of the Romano-British Christian population and Church? Kenneth Dark showed that against a background of a sparse written record, we were still having to rely on archaeology to generate a wide range of interpretations. David Petts outlined the increased evidence for Christianity in the late Roman army, particularly in the north, and Associate Professor Dorothy Watts from Australia, did the same for the influence of women, pointing out that only those from the upper classes could be named. A learned and informative paper on church buildings in Roman Britain and their Gallic origins was given by Michael Jones (City of Lincoln Archaeologist) and a characteristically intuitive reinterpretation of the Chester amphitheatre by Keith Matthews aimed to sweep away the cobwebs of previous assumptions and suggest that the monument served as a focus for church construction and continuity into the period of Mercian transition. A fascinating tangent was afforded by Christopher Sayers-Green’s new study of the context and comparanda for the painted figurative scenes in the Fountby cemetery mausoleum and Alex Smith discussed continued religious activity at pagan temples in the south-east of Britain long after their buildings went into decline. Other RAC sessions dealt with epigraphy and social archaeology, mining and quarrying landscapes (including Professor Valerie Maxfield’s contribution on Roman Egypt heard at the ARA 2002 Dinner at Exeter), and rural production.

Among the TRAC sessions one of the most interesting was on Writing and using histories of Roman Archaeology led by Colin Wallace, who encouraged Romanists to engage with their antiquarian predecessors. Leslie Heppe’s paper on Camden and the origins of Romano-British archaeology and historiography was an important...
contribution, as was Oliver Gilkes's, which examined the remaking of the Romans in interwar Italy and how Mussolini's regime carried out archaeological excavation and presentation in Italy, Albania and Libya, in the process of making a modern Italian nation. The session *Memory and Past* included important contributions on the re-use of ancient objects and monuments within Roman society, from prehistoric sites to the House of Venus at *Volubilis*, which Susan Walker (Fig. 3) showed was in AD 200 decorated with busts of Juba II, Augustan client-king of Mauretania, and Cato of Utica. In *Body and Soul: Health, Treatment and Well-Being in the Roman World*, delegates were treated to tontive body parts, by Patricia Baker and the conversion of curse tablets into psychosomatic illnesses, by Philip Kiernan. The session ended with Ralph Jackson's remarkable discussion of the Roman doctor's house at Rimini, given at the ARA symposium last year.

The conference was embellished with three receptions. The first was given by the University Vice-Chancellor, the second was hosted by the Lord Mayor of Leicester at the Jewry Wall Museum. Delegates were shocked to learn from city councillors of current difficulties in keeping this magnificent Roman museum open to the public. The third reception included the presentation of the *Festschrift: The Archaeology of Roman Towns, studies in honour of John S. Wacher* edited by Pete Wilson and published by Oxbow (2003). Unfortunately, Professor Wacher (Leicester University, retired) was not well enough to travel to Leicester from his home in Cornwall to receive the book in person, but rather like an American Oscar presentation, it was accepted by his colleague Alan McWhirr, who read John's address of thanks. The hardback, A4-size book, contains no less than 26 illustrated chapters, each a paper by a friend or colleague on some aspect of a Roman town or group of towns in Britain or the wider empire. The general subject matter was influenced by John's professional career working on towns and inspired by his standard textbook *Towns of Roman Britain* (1974, 1995), the first source of reference for anyone interested in the subject. For Britain there are important contributions on water supply in Lincoln (Michael Jones), first-century Silchester (Michael Fulford), the walls of Colchester (Philip Crummy), Chichester (John Magilton) and Caerwent (Bill Manning), Leicester (Nicholas Cooper and Richard Buckley), *Venta Icenorum* (David Wilson), *Verulamium* (David Neal), Wroxeter (Roger White and V. L. Gaffney), Richborough (Tony Wilmott and Martin Millett) and Carlisle (Mike McCarthy). Smaller towns include Denuiucithi-Puinsaint (Barry Burnam) and Shetton Mallet (Peter Leach), Catterick, Brough and Malton in Yorkshire (Pete Wilson). In other provinces contributors range from Dalmatia (John Wilkes, Fig. 3), Anycr in Galatia, Nicopolis in Thrace, Pompeii, Nijmegen, and the towns of the Lower Rhine. Other aspects include tabularia (urban record offices) by Mark Hassall, a possible early fort at Caerwent by Peter Webster, more civil defences by Simon Esmond Cleary (Fig. 2) and water (Tim Williams) and samian pottery (Geoffrey Dannell) in London. The book also includes a bibliography and appreciation of John Wacher (Fig. 4).

Fig. 4. Professor John Wacher at Barnsley Park, Gloucestershire, in 1976. Photo: © Diane Bonakis Webster.

Oxbow are making *The Archaeology of Roman Towns* (priced at £60) available to ARA Bulletin readers for a special price of £48 until 30 September 2003. See Oxbow leaflet enclosed with this Bulletin or order via website: www.oxbowbooks.com.

**ARA AWARD FOR BRADFORD-ON-AVON ROMAN VILLA**

by Grahame Soffe

In the current year we are pleased to confirm that the ARA has been able to grant financial assistance to the following five projects: to MoLAS for post-excavation and publication of the London Roman Wells (see pages 16-18 in this issue); to Exeter Museums for publication of Neil Holbrook's Roman maritime article in *Proc. Devon Arch. Soc.*; excavations at Alchester Roman fort directed by Eberhard Sauer; Luigi Thompson's work on recording the North Leigh Roman villa mosaic for the National Mosaics Corpus. Most recently we have made a special grant to the Bradford Research Fund towards excavations of the remarkable Roman villa at Bradford-on-Avon, Wiltshire. Mark Corney held his second season there this year. The site has revealed a large complex of buildings centred on two south-facing winged corridor houses, each of almost identical plan but differing in function. We anticipate having a detailed article from Mark in our next Bulletin.

Board members were able to hand the grant cheque to Mark Corney on the occasion of the ARA's visit in August (Fig. 1 on page 7 and Fig. 2, below).

Fig. 2. Mark Corney receiving the grant cheque from the ARA Board, represented by Grahame Soffe on the right, Byn Waiters and Anthony Beeson to left and far left. Photo: © Don Flear.
Two reproductions of Roman mould-blown glass vessels (a pyxis and a beaker) from the first century AD are this year’s offer to members of the ARA from Mark Taylor and David Hill.

VESSEL 1 – Pyxis with Acanthus Leaf Decoration.

Height (including lid): c. 7.70 cm.

Found throughout the Roman Empire, the decoration on this beaker features twelve victors’ wreaths and two victors’ palms. The Greek inscription ΔΑΒΕ ΤΗΝ ΝΕΙΚΗΝ (on the beaker the first ‘N’ is reversed) means ‘Seize the Victory’ (which is likely to have been intended in the sense of wishing good luck to the drinker rather than implying that the vessel is a type of sporting trophy). The quantity of recorded finds suggests that Nike beakers were a popular vessel, with at least four variant types known.

Available in colourless, yellow green and amber glass.

Our reproduction is based on examples from the Toledo Museum of Art, Ohio, Corning Museum of Glass, New York, The Hermitage, St. Petersburg, the Israel Museum, Jerusalem, and several others. Height: c. 6.70 cm.

VESSEL 2 – Nike (‘Victory’) Beaker

For drawings of these vessels and their friezes, together with more photographs, please visit our website: www.romanglassmakers.co.uk

ORDER FORM (a photocopy is acceptable)

We are offering these vessels to ARA members at the Special Price of £15.00 for Vessel 1 (Pyxis) and £14.00 for Vessel 2 (Nike), inclusive of postage and packing. Normal price is £16.00 and £15.00 each respectively with postage and packing extra. As with previous offers, we will donate to the ARA £2.00 for each item sold.

<table>
<thead>
<tr>
<th>Colour</th>
<th>Quantity Vessel ONE Pyxis</th>
<th>Quantity Vessel TWO Nike Beaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colourless</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue Green</td>
<td></td>
<td>not available</td>
</tr>
<tr>
<td>Yellow Green</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amber</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep Amber</td>
<td></td>
<td>not available</td>
</tr>
<tr>
<td>Emerald Green</td>
<td></td>
<td>not available</td>
</tr>
<tr>
<td>Cobalt Blue</td>
<td></td>
<td>not available</td>
</tr>
<tr>
<td>TOTAL Quantity</td>
<td>at £15.00 each</td>
<td>at £14.00 each</td>
</tr>
</tbody>
</table>

From:
NAME: ________________________________
ADDRESS: ____________________________________________________________

TELEPHONE (in case of query): _______________________
MEMBERSHIP NUMBER(S): ________________________________
AMOUNT ENCLOSED: ________________________

Please send your order and cheque, payable to: The Association for Roman Archaeology, stating vessel and colour choices, together with your name and address, to:
Mark Taylor and David Hill: Roman Glassmakers, Unit 11, Project Workshops, Lains Farm, Quarley, ANDOVER, Hampshire, SP11 8PX.