

BASINGSTOKE ARCHAEOLOGICAL & HISTORICAL SOCIETY



NEWSLETTER 184

August 2008

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Photo Debbie Collins
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Annual subscriptions due 1st September Rates unchanged:
£11 individuals, £15 family; £7 students and over 60s; over 60 family rate £12.

ANNUAL GENERAL MEETING, 12 June 2008

Warm thanks were given to Margaret Porter, who resigned from her role as Secretary after many year's hard work, but remains on the committee as a co-opted member. Ginny Pringle has become Secretary and the rest of the committee remains unchanged:

Mark Peryer (Chairman)
Ginny Pringle (Hon. Secretary)
Marjolein Mussellwhite (Hon. Treasurer)
Barbara Applin, Deborah Charlton, Garth George (Membership Secretary), Marten Harris,
Graham Hayward, Alan Turton, Mary Oliver (co-opted), Margaret Porter (co-opted) and Ian
Waite (co-opted).

After the AGM presentations were given by Barbara Applin on the Basingstoke Talking History Project, Debs Charlton on procedures and problems associated with excavation documentation and Mark Peryer on this year's excavations at Basing House.

FIELDWORK REPORT

*Mark Peryer – 01256 780502
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We held our first fieldwork seminar on April 26th, which consisted of a retrospective overview by Dave Allen of the archaeology carried out in the Basingstoke area; a summary by Marjolein of the excavations at the Grange; and reports on the findings from the training excavations at Worting and the Woodland archaeology, and an overview summary of the fieldwalking results, by myself. We were also able to put on some displays of finds, plans and photographs. My thanks to everyone who helped organise the seminar – I hope that it will become a regular feature of our calendar.

If you pay a visit to Basing House sometime soon you will be able to see the newly excavated moat segment in its full glory before the grass grows over it again. About twenty volunteers from the society helped in various ways over three weeks to investigate the contents of the moat and to create sections that revealed the sequence of events leading up to it being filled in with rubble. Although the excavation was heavy going and was mainly about shifting large quantities of rubble, we did find some interesting things, including a barber surgeon's syringe and a quantity of fine stone, including a carved head.

We shall be holding a training dig at Worting on the weekend of the 20th/21st September. The plans for this year involve the investigation of the inside of the rectangular Iron Age enclosure.

We also hope to hold a fieldwalk some time in August, an alert will be sent out via the fieldwork email list if/when we get the go-ahead.

If you are interested in any of these activities or would like to be put on the fieldwork email list please contact me by phone or email.

Society Outings

Stonehenge Excavations

***Wednesday
3rd September***

**Gather at the main
Stonehenge Car Park by
2pm (be prepared to pay
a small charge to English
Heritage for parking).**



Our guided walk around this year's university led Stonehenge excavations will begin at the Heel Stone, with Professor Mike Parker Pearson introducing us to the research project and giving an update on the latest developments. The sites under excavation are the Stonehenge Avenue, the Cursus and the Stonehenge palisade with work commencing in August and running through to September.

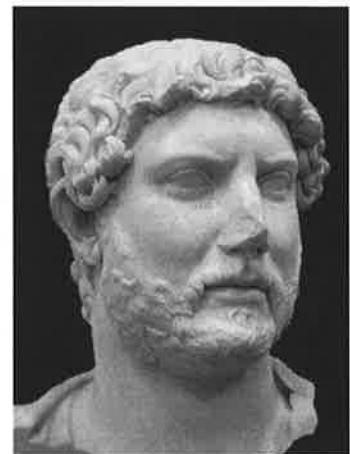
(If you can't make the Wednesday afternoon, then there is an open weekend on the 6th and 7th of September, although likely to be extremely busy with access only by shuttle bus from Woodhenge).

If you have any questions, contact me on email ginny@powntleycopse.co.uk or by phone on 01420 550028. It would be useful to know numbers so if you are coming on the Wednesday drop me a line.

Exhibition - Hadrian: Empire and Conflict followed by a guided tour of the ***Enlightenment Gallery***

**at the British Museum,
Saturday 18th October**

**Our timed entrance starts at 11.30am,
so meet just before this
at the entrance to the exhibition.**



This special exhibition explores the life, loves and legacy of Rome's most enigmatic emperor, Hadrian (reigned 117-138). Ruling an empire that comprised much of Europe, northern Africa and the Middle East, Hadrian was a capable and, at times, ruthless military leader. He re-aligned borders and quashed revolt, stabilising a territory critically overstretched by his predecessor, Trajan. Hadrian had a great passion for architecture and Greek culture. His extensive building programme included the Pantheon in Rome, his villa in Tivoli and the city of Antinopolis, which he founded and named after his male lover Antinous. Objects from 31 museums worldwide and finds from recent excavations are shown together for the first time to reassess his legacy.

After the exhibition time is free for lunch and a wander around the Museum before being guided around the Enlightenment Gallery at 2.15 pm by Dr Jill Cook (who is also giving a talk to the Society in January 2009).

The Enlightenment Gallery, formerly the King's Library, is home to thousands of objects arranged to show how people understood their world in the Age of Enlightenment. It provides an introduction to the Museum and its collections through the permanent exhibition *Enlightenment: Discovering the World in the 18th Century*.

We have **only 20 places pre-booked** on a first come first served basis and payment has to be made four weeks before our visit. Ticket price is £9.50 per person.

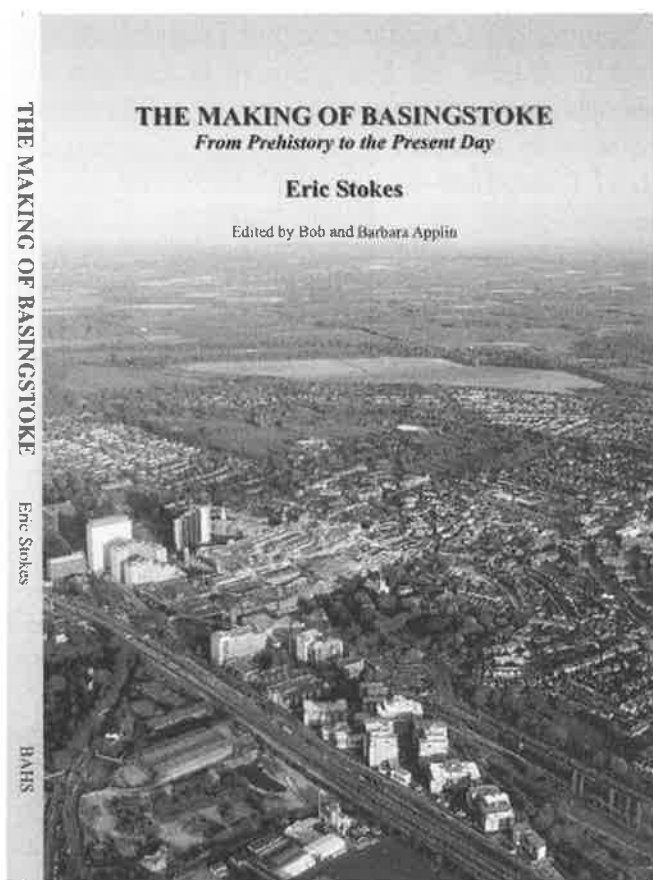
Meet at the British Museum, - everyone is responsible for their own travel arrangements. If you are intending to travel by train from Basingstoke then check well in advance whether any weekend engineering works affect your chosen train time.

If you wish to join this outing please complete the enclosed slip and send with your payment to Wildwoods, Powntley Copse, near Alton, GU34 4DL. If you have any questions contact me on email ginny@powntleycopse.co.uk or by phone on 01420 550028. **Ginny**

THE MAKING OF BASINGSTOKE

On sale now!!

Tell all your friends!!!



Our new book, "published" at the AGM, is already selling well, mainly through the Willis Museum. and soon at Waterstones, price £14. Don't forget, if you buy it at a BAHS meeting you can claim the members' discount so you will only have to pay £12. (if necessary, postage/packing = £3.20).

A copy was formally presented to the Mayor, who said, *'It is essential that we keep a record of the development of Basingstoke so that future generations can understand the processes and concepts of progressing the town and its future. I feel indebted to the author and the Archaeological & Historical Society for providing this excellent record of events.'*

Sarah Lewin of Hampshire Record Office said, *'It's a huge and valuable piece of work, and I'm sure will be much used by researchers here.'*

Richard Garfield reviewed the book in his *Memories on Monday* page in the Gazette on 16th June.

LECTURE PROGRAMME 2008-9

Notes by Mary Oliver

11 September The Late Roman Cemetery at Lankhills, Winchester; Paul Booth, Oxford Archaeology *Many members will remember visiting the excavations which took place prior to development, and seeing a great number of burials. The post-excavation work has now been done and the results, seen alongside the results of the earlier Lankhills work can now give some fascinating information about the population of the late Roman town, - such as the status, religion and possible military connections of some of the inhabitants buried there.*

9 October Watermills on the River Loddon, Brian Eigheten, Berks Local History Association *This lecture will be chiefly illustrated from old postcards, which give a good idea of the mills in their heyday. Brian is a retired miller from Berkshire, and should be able to answer any technical questions. Although he knows the Berkshire mills best, I hope he will begin with those in our patch.*

13 November Early Christian Churches and Mosaics at Aquileia, Ravenna and Venice Prof. Tony King, University of Winchester *Tony King is known to most of us as a Roman specialist who has worked on temples, villas, mosaics etc., but he has recently been working on this subject and offered to give us a lecture on it. Quite a few of us will have visited Venice, maybe rather fewer the other two sites, but I'm sure this lecture may well make us determined to remedy that!*

11 December Christmas Party

8 January 2009 Soft Curves and Full Figures: Images of Women in the Old Stone Age Dr Jill Cook, British Museum *I just could not resist this title! Come and learn about the 'Venus' figurines, (who said the Palaeolithic is just handaxes?) Jill is the Palaeolithic specialist at the BM, and I hope many of us will have the chance to meet her first when we visit the 'Hadrian' exhibition in October, to be followed by her leading a tour of the 'Enlightenment' gallery. (See pages 3-4)*

12 February Drawing on the Future to Map the Past Simon Crutchley, English Heritage *Here is a title which perhaps needs a little explanation; Simon will be talking about the latest survey techniques as used by EH, and the wonderful results which can be obtained from 'lidar' and APs. A special request from Mark, and a must for all those actively involved in the Society's fieldwork.*

12 March Roman Neatham - Silchester's Southern Neighbour David Graham, Surrey Archaeological Society *David is an old friend of the Society, but it is a while since his last visit. He has been associated with Neatham for many years and lives quite close to the site. It will be good to hear news of the latest work there, and, as his title suggests, to see how this Roman settlement compares with Silchester, which most of us know much better.*

9 April Jane Austen, her Life and Family in Hampshire Elizabeth Proudman, Jane Austen Society *As a Society, we have a special interest in Jane Austen, in particular the site of the Rectory at Steventon where she was born, so it will be a great pleasure to welcome Elizabeth from the Jane Austen Society to give us some historical background to her life and family.*

14 May Modelling Mesolithic Settlement and Subsistence in Southern Britain Dr Richard Carter, University of Sussex *Some years ago, Peter Heath worked with Richard on a project in the Weald which involved, if I remember correctly, counting Mesolithic red deer antlers! I feel sure those results will be incorporated into this lecture, which will be a new synthesis of material and hot off the press. Archaeology students please note!*

11 June AGM



Our Mercy Ships evening (see last Newsletter) was a great success and to our amazement we raised over £1,000 for Mercy Ships. It was good to see that our original interview with Dr Thomson led to such a positive result. Thanks to all who helped; we were congratulated on our team work!

George & Anita Plummer manned a display of our BTH book, **TAKING THE PULSE OF BASINGSTOKE**, at the North Hants Hospital's open day on 5th July to celebrate the 60th anniversary of the National Health Service.

We'd still welcome more help with interviewing, transcribing, research etc. Have we any computer buffs interested in working with sound?

Barbara Applin 01256 465439

barbara.applin@btinternet.com

SOCIETY VISIT TO CHAWTON HOUSE LIBRARY

Barbara Applin

It must be about 40 years since I first visited Jane Austen's House in Chawton and discovered that teas were being served in the Great Hall of Chawton House - which was looking quite dilapidated, though the teas were good! Later, again in the Great Hall, I heard a talk by Chris Currie, about the proposed restoration of the gardens and parkland, and heard about plans for the Chawton House Library, 'Home to early English women's writing'. We could only peep into a few of the rooms as much of the structure was unsafe. What a wonderful transformation now!

The archivist gave us a fascinating tour of the house, which has been sensitively restored to give a real feeling of the centuries of its use, and we saw many portraits of the Knight family and the relatives and adopted children like Edward Austen who changed their name to Knight in order to inherit. It is a working library, not a museum, so all the seats could be sat on - and were! And the Reading Rooms positively invite you to think up a topic to study.

Look all this up on the website: www.chawtonhouse.org.

One of the books that had been laid out for us to see was *Passages from the Diaries of Mrs Philip Lybbe Powys*, open at her description of a visit to Stonehenge, where her friends had chipped off souvenir pieces of the stones - which brought to mind a reference in *Current Archaeology* 219 to recent excavations revealing the 'a layer containing the rubbish of past visitors, which includes a high number of sarsen and bluestone chippings' and adds that 'in the 18th and 19th centuries it was possible to hire a hammer in Amesbury to chip off a bit of the stones to take home as a souvenir.'

I bought a DVD **Editing Jane Austen's Letters**, Joan Ray of the American Jane Austen Society interviewing Deirdre Le Faye. Well worth watching!

THE NEW ANTIQUARIANS

50 years of archaeological innovation in Wessex

This conference to celebrate the 50th birthday of the Council for British Archaeology (CBA Wessex) will be held on **Saturday and Sunday 1st and 2nd November 2008 at the Ordnance Survey Business Centre, Romsey Rd, Southampton**. The cost is £50 for CBA Wessex members and £55 non-CBA Wessex members - places are limited and early booking is recommended.

Speakers include Barry Cunliffe, Geoff Wainwright, Tim Darvill, Mike Fulford, Mike Parker Pearson, Peter Fowler, Josh Pollard, Phil Harding, Martin Green, Mark Corney, David Hinton, Carenza Lewis, Bill Putnam, Dr Colin Shell and many others.

Session 8 on the Sunday afternoon - Archaeology and the Public - involves a Panel Discussion. And one of the Panel members is our own Marjolein Mussellwhite.

Details and a booking form available from our Secretary, Ginny, or from Andy Manning, CBA Wessex Meetings Secretary, c/o Wessex Archaeology, Portway House, Old Sarum Park, Salisbury, Wilts SP4 6EB (01722 343406 a.manning@wessexarch.co.uk) or website <http://blogs.wessexarch.co.uk/newantiquarians/>



JOAN MERRYWEATHER

Barbara Applin

We are very sad to tell you of the death of Joan Merryweather who, with her husband Len, had been among our staunchest members until they moved away from Basingstoke - and even then they have come back for Annual Dinners and other events whenever they could. Joan and Len have been good friends to us, and given us much support and practical help.

This photograph was taken when Joan launched a ship! Len was Chairman of Sealink, and a Chairman's wife has unexpected duties.

When 8 intrepid members of the Society had an archaeological trip to Brittany, it was Len who kindly made the travel arrangements. To our surprise, as our minibus joined the queue for the ferry we were swept to the front of the queue and

met by the Purser, who treated Joan with the deference due to the Queen Mother and, once the minibus was on board, escorted us to a private cabin with an invitation to join the Captain on the bridge! What a start to an unforgettable trip, and what good company Joan proved to be!

SOCIETY VISIT TO WHITCHURCH

Peter Stone

On Saturday 10th May Society members met at Whitchurch for a tour of this historic North Hampshire town, where our principal guide was local historian Dr Alison Deveson. Meeting at the Methodist Hall at 10.30 am, we went first to the Town Hall, where our guide told us its interesting history. It was apparently built for the town in the late 18th century by a local land-owning magnate who, for some now unknown reason, retained freehold and so controlled access to it. Consequently no meetings were held there for many years but they were held instead at the White Hart Inn opposite, which presumably provided all necessary refreshment and so probably gave the Councillors good reason not to seek access to the Town Hall more vigorously. We were then given a brief introduction to the history of the town.

Evidence of human occupation within its present boundaries has been dated from the Iron Age, with traces into the Roman period. Situated in the centre of southern England it is not surprising that there is evidence here of settlement in the Roman period and of a Roman road along the line of the Harroway running north of the present town, linking the area with *Londinium* (London), *Calleva* (Silchester), *Venta Belgarum* (Winchester) and *Sarum* (Salisbury).

During the period of the late Anglo-Saxon Kingdom in the early 9th century it was mentioned as a manor granted to the monks of Winchester by Edward the Elder.

Domesday records that the Bishop of Winchester held 'Witcerce' and that the town had three mills and was worth about £35 and it seems probable that early settlement of the town developed from around an original church and a ford crossing of the River Test.

By 1241 it had obtained a Royal grant for a weekly market through the agency of Winchester Priory, which issued a charter around 1248 for a borough governed by a Court Leet which was required to meet annually. The charter was confirmed in 1284 and again in 1285, from which time the little town acquired the same status and privileges as Portsmouth with established trades of brewing and baking.

So why did it not develop further? The answer, our guide informed us, seems to lie with the foundation of Overton only four miles away - not enough distance therefore for a strong local market to develop in either place, hence a long history continued into the present day of see-sawing prosperity.

The economy of the town therefore lacked dynamism evidenced - as our guide pointed out - by town maps on display dating from 18th and 19th centuries which showed how little the vicinity of old town centre had changed in layout over the centuries, with present-day buildings lines shadowing boundaries of former burgage plots.

We then left the Town Hall and went to the ancient Parish Church of All Hallows. It seems that not much is known of the early Saxon building that was replaced by a post-conquest Norman structure around 1190, of which parts are visible today. The present-day church has the typical mix of architectural styles found in ancient English parish churches, with surviving Norman bays on the south side, a 15th century north aisle and a re-built tower dating from 1716, although all these features are largely overshadowed by the effects of a substantial re-build of much of the structure in 1866. The most interesting survival of the more remote past is a 9th century memorial to an unknown Anglo-Saxon lady Frithburga, on which is carved a figure of Christ.

From the Church the tour continued past 'The Lawns', the former residence of the late Lord Denning, a well-known mid 20th century High Court judge, to return to the Newbury Road, where a number of structures dating back to the 16th century are still to be found, mostly on its west side, along with an unusual 20th century fake.

We then made our way back to The Square and its environs and the buildings associated with famous people who stayed or lived thereabouts. Charles Kingsley, the author of 'The Water Babies', once stayed at the White Hart Hotel in The Square; the late actor James Robertson Justice briefly lived in a house there, while during the Civil War the Brooke family were hosts to Charles I in 1644 at a house opposite All Hallows Church named 'King's Lodge'. Close to The Square a further reminder of Lord Denning's lifelong connection with the town is provided by the shop premises where the family drapery once traded.

The Square itself was the location of a 19th century dispute which had profound consequences to English civil liberties and the right of assembly. During the 1880s the Salvation Army stood firm in claiming its right to hold open-air services there and as a result were prosecuted for obstructing the highways and causing a disturbance. An 1889 conviction of one of their members and the perceived harsh treatment handed out by the local authorities led to further demonstrations culminating in October of that year, in which month some 800 Salvationists (plus bands) arrived in The Square. 80 persons were arrested and charged under provisions of the Riot Act. Subsequently they refused justice at Winchester, which they believed would be biased in favour of the prosecution, and insisted on a High Court trial in London, where in July 1890 the court found in their favour. In so doing it established a legal framework for holding public demonstrations which survived until the security crises of the early 21st century.

The tour of the ancient structures of the town ended here in The Square with members having the option to visit the Silk Mill. In the 18th and 19th centuries town industry included flour milling, silk manufacture and the production of woollen cloth. Only the Silk Mill now remains. For many years until as late as 1955 this industry somehow kept going but only ever achieved any real degree of viability in the 19th century, undoubtedly helped by intermarriage between its then owners, the Hide family, with the Burberrys of Basingstoke, who were buyers of silk linings for their raincoat products. After extensive restoration dating from the mid 1980s, specialist cloth was again produced at the mill and members who took the option were given a thorough tour that provided many fascinating insights into silk cloth production techniques and their history. In summary, this visit to a small and perhaps all too easily overlooked nearby town demonstrated yet again how close we live to a past whose detail can be revealed from their buildings.

The Aggregate Landscape of Hampshire Project

or

how over 2000 new archaeological sites have recently been found in Hampshire . . .

Ginny Pringle



. . . from the Neolithic to the Second World War, these previously unrecognised sites and features were recently discovered through the 'Aggregate Landscape of Hampshire' project. Two years of painstaking work involved mapping archaeological sites from 24522 aerial photographs of the aggregate (sand and gravel) producing areas of Hampshire.

Nine geological areas were targeted for mapping; based on the lower Avon Valley, Test Valley, Blackwater Valley, Silchester, South Hampshire and part of East Hampshire. Photographic collections consulted included the Crawford collection of aerial photographs dating from 1925 to 1930 but, although this was of considerable historic interest, it failed to produce any new sites; the main contributors being the NMR collection at Swindon, the CUCAP collection from the Air Photo Library at Cambridge University and Hampshire County Council's own collection of photographs. In addition, archival sources such as the Hampshire AHBR, the NMR and 1st edition OS map of 1870-80, as well as previous survey and research work were consulted.

Space doesn't permit a detailed description of all the features, but in general new crop mark sites were found to be plentiful - notably in the Silchester area and the Avon and Blackwater Valleys. On the south coast near New Milton one crop mark was interpreted as a possible long barrow, whereas near Silchester and in the Avon Valley a couple of oval barrows were identified. Many new Bronze Age barrows were also identified, particularly in the lower Avon Valley and Blackwater areas. Although most of these have been ploughed out, the project highlights the proximity of barrows and barrow cemeteries to water, such as those near Hurstbourne Priors and Fordingbridge, giving the opportunity for more research into this association (although it was reported that some features may have been outlines of roundhouses rather than barrows). Two open settlements were also interpreted as being possibly of Bronze Age origin, one at Kingsley in East Hampshire and the other in the Avon Valley. Various Iron Age/Romano British settlement patterns were identified in the Avon and Test Valleys, near Silchester and also in the Blackwater area.

But more than half the sites identified were Medieval or Late Medieval. In particular, mapping highlighted the extent of water meadows, their various types, complexity and development, demonstrating great potential for further study. Another 400 sites were identified as being 20th century; a substantial number originating from the Second World War, such as the military training grounds at Longmoor Camp and anti-aircraft obstructions on Yateley Common. Substantial numbers of previously unrecorded sites were mapped from aerial photographs only taken over the last decade. However, the amount of restricted airspace, particularly around Bournemouth and Southampton airports and in the Odiham/Blackbushe/Farnborough area - just where sand and gravel deposits form a major part of the geological landscape - has led to gaps, a situation unlikely to improve, and echoed where densely wooded and urban areas are concerned.

A total of 2297 new sites/features were found and data from 279 existing records was updated, representing a massive 84% increase in the record for the archaeology of the aggregate landscape, fulfilling the principal aim of the project - to improve the quantity and quality of archaeological information relating to these areas. More informed advice regarding the archaeological impact of aggregate extraction will now be possible at various planning stages in the County through an enhanced AHBR.

The project was carried out through a partnership between Hampshire County Council and Cornwall County Council (CCC offering valuable previous experience due to mineral extraction within Cornwall) as part of the English Heritage National Mapping Programme, being funded through the Aggregates Levy Sustainability Fund.

AQUA BRITANNICA

Peter Stone

'Aqua Britannica' was the title given to the conference organised by the Roman Studies Group of the Surrey Archaeological Society held at The Chertsey Hall, Chertsey on Saturday 31st May 2008. It was chaired by Professor Michael Fulford of Reading University, whose name will be familiar to members as Director of Field Excavations at Silchester, and it consisted of six presentations on the importance of water in Roman Britain.

The first of these, by Miranda Aldhouse-Green of Cardiff University, dealt with the role played by water in Romano-British religion. She explained that there was no reason to suppose that the religious beliefs of the people changed much following Roman occupation and cited as examples the continuance of Iron Age practices such as votive offerings to propitiate the water god and the bog-body phenomenon. Flowing fresh water, necessary for survival, was very likely perceived as provided by a benevolent water god to sustain living things and offerings therefore represented an individual donor's hopes for continued good fortune in life. On the other hand the foul and stagnant waters of a bog were associated with malevolent forces. Therefore those deemed evil in spirit, either by their deeds or from physical appearance, were consigned to such waters following ritual execution. This interpretation of the bog-body phenomenon, she suggested, is supported from the writings of Tacitus and from the remains of bog-bodies themselves which sometimes exhibit physical abnormalities.

Water was also believed to have healing powers, which may have extended to psychological as well as bodily healing evidenced by surviving 'curse tablets' from Bath, a place famous for the curative powers of its waters and presided over by the goddess Sulis, but where those who felt wronged could also seek the help of sacred water to punish the wrongdoer.

The healing powers that the Romans associated with dogs are suggested by the recovery of dog figurines at Lydney close by the River Severn, where the presiding god is Nodens. Here the dual nature of water and the power of this 'Celtic' god to harm as well as heal are evidenced by the recovery of a curse tablet along with many votive offerings, usually in the form of coin. To sum up, Dr. Aldhouse-Green clearly showed that the old Iron Age beliefs continued well into the Roman Age - the Celtic goddess Sulis of Bath is the Roman goddess Minerva while Nodens seems to have been a Celtic god associated with the healing properties of water and dogs but curiously with similar powers to Mars, with whom his cult may have been conflated.

The second and third presentations dealt respectively with the use and supply of water for domestic needs. Anne Jones described the important role played by water in private dwellings and in particular in the kitchen, where the post-conquest introduction of fruits, vegetables and other foods of Mediterranean origin hitherto unknown in Britain necessitated more sophisticated use of water in cooking alongside the use of water in baths and latrines.

Bill Putnam - formerly of Bournemouth University - then described excavations over a period of ten years to 2002 on the early Roman aqueduct which supplied water to Dorchester in Dorset (Roman *Durnovaria*). Unlike arcaded continental aqueducts, it follows hillside contours and was first identified in 1900. The presentation included an amusing account of the discovery of the water source which, after some three years of work, was found not to be the River Frome but a small stream whose upper reaches had been dammed at a place suggested in 1901 by a local antiquary whose opinion had thereafter been ignored by successive archaeologists for almost a century!

The builders were identified from pottery found on the site of a small camp as most probably the engineers of II Augusta Legion and the supply originally intended for the post-conquest fort which ante-dated the town. The channel also posed some problems. It was eventually discovered that there were three channels - the first apparently abandoned when it was discovered that it did not follow a falling gradient, while the second appeared to have markedly different dimensions at its Frampton beginning from those found at its termination in Dorchester. In due course a cross section near the town revealed that the narrower width had originally extended along the entire length but close to Dorchester had been dug out about a century later to form a wide trench apparently intended as the start of a complete replacement third channel. The discovery of an associated workshop nearby indicated that this work was abandoned c.150 AD, very probably because the dam had collapsed. Thereafter water was sourced from wells within the town.

The afternoon session consisted of presentations on the use of water in mining, the Londinium water-lifting machines and Roman water mills.

Dr. David Bird focused his lecture on gold mining at Dolaucothi near Carmarthen in south-west Wales but also drew on his researches at Roman mines in northwest Spain and the contemporary writings of Pliny the Elder. From the latter he was able to explain the process of mining 'free gold' at Las Medulas by the process of *arrugia* which began with the transport of water through very long aqueducts to the top of a mine into huge tanks from which it was released to break up collapsed material and wash it into sluices where residual gold was collected. However, Las Medulas was a hard-rock mine where operations necessitated preliminary under-mining of the deposit. Nevertheless, Dr Bird believed that there was evidence pointing to the use of a similar process to *arrugia* at Dolaucothi where an alluvial deposit was perhaps worked directly by 'ground-sluicing' without the need for preliminary under-mining. The site has complex features which suggest the supply of water by way of a large wooden bridge to a second hill where two 'adits' (passages into a mine) could have served as drains for opencast workings. Late Roman mining at the site involved drainage by raising water mechanically from deep workings and delivering it to the foot of the mine, where it was used to process crushed ore, possibly by a water-powered stamp mill. The overall conclusion is that Dolaucothi illustrates all three aspects of water in Roman mine engineering namely its provision, usage and the problem of drainage.

The Londinium water-lifting machines presentation was given by Ian Blair, who had worked on the City of London excavation at Gresham Street in 2001, where the remains of four bucket chains at the bottom of massive wells provided evidence of the use of two types of water-lifting machines or bucket chains in the supply of fresh water to Londinium. This remarkable and internationally important discovery led to a decision by the Museum of London to build a full-scale replica of the second century wrought-iron bucket chain. Theoretical analysis by professional engineers determined a method that could be applied to raise water by up to ten metres and then discharge it into a delivery trough, and concluded that the machine may have been powered either by a tread-wheel mounted on a wheel shaft or alternatively by a capstan using human or animal power driving through two gears. After due consideration, it was decided to adopt the latter method for the replica and a simple cog form was developed for the gears, while the bearing design was influenced by limited evidence available from other Roman water-mills. Such a machine, they calculated, could have supplied the daily needs of as many as 8000 people or about one third of the estimated population of Londinium in the 2nd century AD. The reconstruction project was filmed for a Channel 4 TV 'Time Team Special' and the replica has been displayed in the Rotunda Garden at the Museum of London since 2002.

The final presentation was given by Dr Robert Spain, who described how knowledge of Roman water-mills had progressed rapidly over the past two decades, following the discovery of new sites in former north-west European provinces of the Empire such as Britannia. Findings have allowed researchers to partially or substantially reconstruct the original machinery and assess its performance by hydro-mechanical analysis and thus provide confirmation of the ability of Romans engineers to generate water power. It seemed that Roman engineers were pragmatic in their approach to water-mill design. Where conditions allowed, or the needs justified the effort, they built accordingly. In modern France at Barbegal an aqueduct was constructed in the early 4th century to bring water into a catch basin at the top of a small hill, from which it flowed through eight pairs of water wheels in succession, grinding enough grain to feed up to 12000 people or roughly the entire population of the nearby city of Arles.

Such giants, however, were not typical and the water-mills of Britannia were of fairly simple design, although that on the Test at Fullerton has provided evidence which indicates that two mechanisms for grinding corn may have been installed in the same building. The present state of knowledge seems to point to a Roman water-mill technology that was dominated by use of 'overshot vertical impulse' wheels with diameters becoming smaller, and revolution rates consequently faster, as designs evolved to incorporate accelerated head-races, although on the Continent a small number of horizontal-wheeled mills have been discovered.

Dr Spain concluded his lecture by pointing out that very probably many water-mills have yet to be discovered and he cited Domesday Book, which records almost 6000 such mills, as implying that as many could well have been in use in the Roman period.

Professor Fulford then closed the conference, remarking on the high standard of the presentations given and thanking the organisers and the caterers who had provided for some eighty people attending – sentiments with which no-one present could disagree.



BOOKSHELF

The Archimedes Codex

Reviel Netz and William Noel
(Pbk Phoenix 2007)]

Review by Richard Dexter

This is a strange book; it is written by two authors and contains three stories which are quite separate, yet they run concurrently and are inextricably intertwined. And it is for this reason that the book is somewhat unsatisfactory – as a work of literature – but what it has to say is absolutely riveting.

The two authors are the Curator of Manuscripts and Rare Books at the Walters Art Museum in Baltimore and the Professor of Ancient Science at Stanford University. One suspects that Reviel Netz (the former) is not accustomed to writing for the English reading general public, or rather in his efforts to be accessible his style tends to veer towards having a high “Wow” factor coupled with an air of self congratulation which, considering the subject matter, could well be forgiven.

The book concerns an old battered late Byzantine prayer book which happens to be a palimpsest of a hitherto completely unknown manuscript of Archimedes who died in BCE 212. The three stories concern first the history and chance survival of the manuscript itself, then there is an account and full description of the newly-found mathematical works of Archimedes and finally the efforts being made now to decipher and preserve the fragile document.

The prayer book was written in 1215 and contains various prayers of the Orthodox Church. It is missing its first and last pages, is singed and has been impregnated with candle grease and is badly stained by water. However, in 1906 a bibliophile recognised it as being a palimpsest in which the parchment sheets had been taken from an earlier ninth century manuscript whose pages had been wiped clean with lemon juice and scrubbed with pumice and then cut in half. At that time, though, much of the original writing was opaque and lay hidden in the binding of the 1215 prayer book and could only be partly read - many of the important sections being completely inaccessible. After its importance had been recognised the prayer book remained in private ownership and survived two world wars by being stolen, smuggled then hidden until it re-emerged in a Christies’ auction rooms in 1998, when it was sold for over \$2 million to an anonymous purchaser who was competing against various national institutions. But, much to the surprise and delight of the academic community, the new owner offered the manuscript to the Walters Art Museum for conservation and decipherment. That is story number one.

The second story concerns the palimpsest itself, which turns out to be the earliest surviving manuscript in the original Greek of the works of the mathematician Archimedes, who is better known for his work on “Floating Bodies” where he describes how an object appears to lose weight when

immersed in water – thus giving rise to the legendary “Eureka” myth. The prayer book’s hidden text includes part of that work, already known to us today via Arabic translations, and a previously unknown work “Method” which gives a detailed way of calculating the area under a parabolic curve by using Euclidian Geometry and introducing the mathematical concept of infinity. Its great importance is that it predates the work of Newton and Leibniz on calculus in the eighteenth century by nearly 2000 years. Neither Newton nor Leibniz had knowledge of Archimedes’ work. It also shows how Archimedes was able to apply a theoretical mathematical concept to a physical problem, such as when he explains how to calculate the centre of gravity of a triangle. This is all part of his parabolic curve proof. The text includes as well an erstwhile unknown work “Stomachion” (literally “tummy ache” because of its frustration) which explains how to calculate the finite number of ways that a collection of varying shapes can be made into a set overall design like a child’s mosaic brick puzzle.

The third story is of the efforts being made to read the frail manuscript and to conserve it. It first had to be taken completely apart; that involved undoing the Byzantine glue and binding, removing years of dirt and grease as well as removing modern bluetac. It also involved having to read what lay underneath a forged twentieth-century gold-leaf illuminated front piece, which could only be done with experimental and as yet untried electronic scanning technology. Much to the relief of the research team, the anonymous donor agreed to finance an open-ended budget to perform these tasks. The work is still far from complete and the current position can be seen on their web site www.archimedespalimpsest.org.

What the book lacks in literary form is more than compensated for by its readability and the sense of sheer excitement as each page of the prayer book reveals more of its secrets.

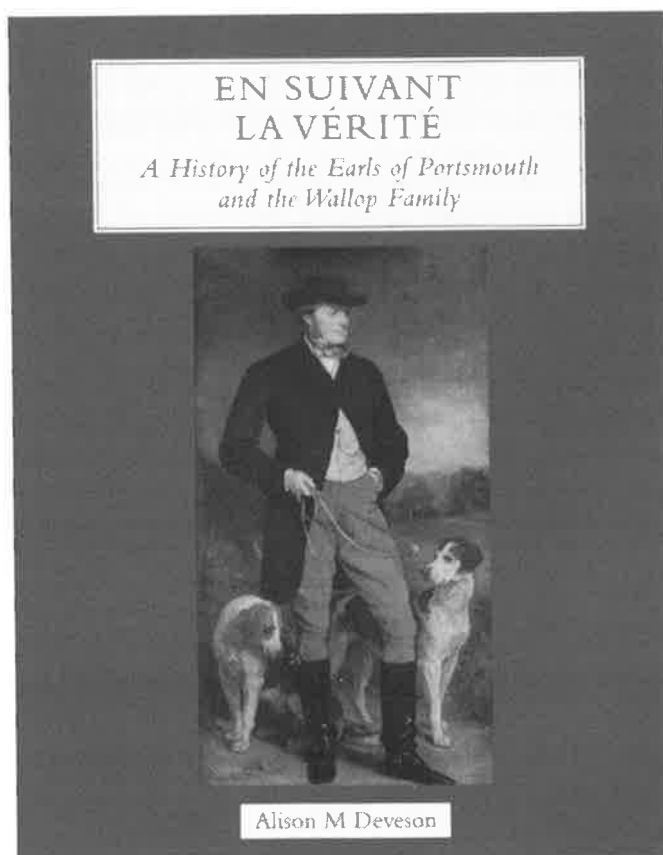
En Suivant La Vérité *A History of the Earls of Portsmouth & the Wallop Family*

Alison M Deveson (Portsmouth Estates
2008)
£7.00
55 pages

Review by Bob Applin

Dr Deveson and the Portsmouth Estate have produced a very readable and beautifully illustrated (full colour) modern history of the Wallop family. Dr Deveson has based this work on the 1928 family history by Vernon Watney (a Wallop family member by marriage) and also on her own extensive archive research, which has resulted in several publications on Hurstbourne Priors, a Wallop property until the early 20th century.

The book includes lively biographies of the 18th and 19th century Countesses, and a chapter on the family’s properties.



Iron Age Celts in Wessex

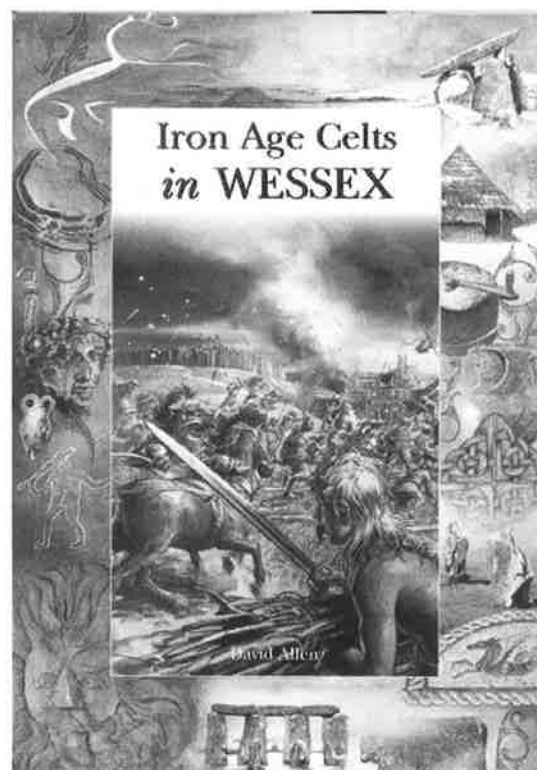
David Allen (Wessex Books 2008)

£4.99 32 pages

Review by Bob Applin

This book is one of a series published by Wessex Books that aim to give a brief but authoritative overview of archaeological and historical topics relevant to Wessex. This volume has twelve chapters. Each is a 2-page spread that is lavishly illustrated with relevant photographs, reconstruction drawings and maps. Despite this format, the amount of information that David has managed to include is impressive and written in an easy style.

David and his editor are to be congratulated.



The Painted Glass of William, Lord Sandys (1470-1540)

J M Jenkins and N W Simpson (published by the authors, 2008, 46 pages)

Review by Bob Applin

This is a detective story with a difference. What has become of the painted glass that the first Lord Sandys had installed in the refurbished and extended Chapel of the Holy Ghost and Chapel of the Holy Trinity? It was considered to be amongst the most exceptional glass produced in 16th century England.

Dr Jenkins and Mr Simpson postulate that, because the 1635/6 Aldermen and Wardens' Accounts for the Holy Ghost chapel refer to a major refurbishment, Henry Sandys, the owner of The Vyne at the time, had the glass removed and renovated, but because of the impending Civil War it was never replaced. The authors have traced the remaining glass to The Vyne chapel, Mottisfont Abbey, St Michael's at Basingstoke, St Andrew's at Sherborne St John, and All Hallows Church at Woolbeding. This quest has been fully documented and illustrated in colour by the authors, who are clearly totally on top of their subject.



CALENDAR

August t.b .a	FIELDWALKING (<i>see page 2.</i>)	BAHS
Wed 3 Sept	STONEHENGE EXCAVATIONS Visit (<i>see page 3</i>)	BAHS
Thurs 6 Sept	Oliver Cromwell talk, 3 pm in the Bothy, Basing House	
Thurs 11 Sept	THE LATE ROMAN CEMETERY AT LANKHILLS, WINCHESTER Paul Booth	BAHS*
Thurs 18 Sept	EVACUEES AT THE VYNE Nigel Beazley	FWM
Sat/Sun 20/21 Sept	TRAINING DIG, WORTING (<i>see page. 2</i>)	BAHS
Sat 27 Sept	THE CIVIL WAR & THE HAMPSHIRE LANDSCAPE Conference & AGM Landscape Section, 10 – 5 pm	HFC
Sat 4 Oct	Local History Section AGM, Hook & Warsash	HFC
Thurs 9 Oct	WATERMILLS ON THE RIVER LODDON Brian Eigheten	BAHS*
Thurs 16 Oct	AGM	FWM
Sat 18 Oct	Exhibition HADRIAN: EMPIRE AND CONFLICT & guided tour of the Enlightenment Gallery, British Museum (<i>see page 3</i>)	BAHS
Sat/Sun 1/2 Nov	THE NEW ANTIQUARIANS Conference (<i>see page 7</i>)	
Thurs 13 Nov	EARLY CHRISTIAN CHURCHES AND MOSAICS AT AQULEIA, RAVENNA AND VENICE Prof. Tony King	BAHS*
Thurs 11 Dec	CHRISTMAS PARTY	BAHS*

BAHS	Our Society * 7.30 pm at Church Cottage
FBH	Friends of Basing House, unless otherwise stated, 7.30 pm, at the new Tea Room ('Bothy')
FWM	Friends of the Willis Museum, 7.30 pm at the Museum but check with the Museum as some lectures will be at Milestones when the Museum is closed for refurbishment.
HFC	Hampshire Field Club at Science Lecture Theatre, Peter Symonds College, Owens Rd, Winchester

BAHS Secretary: Ginny Pringle ginny@powntleycopse.co.uk 01420 550028.
Website: <http://www.bahsoc.org.uk> **Registered Charity No. 1000263**
Items for the Newsletter to Barbara Applin barbara.applin@btinternet.com

Our Secretary, Ginny, has details of excavation opportunities at Pompeii next year and late summer digs and visits www.mafs.co.uk; a course on Archaeological Drawing www.swataarchaeology.com; and GCSE and IGCSE and A-Level History qualifications exams@3at.co.uk or call 0117 9564637