

SAXON

No. 64

Published by The Sutton Hoo Society

July 2017

Martin tells *The Sutton Hoo Story* – again

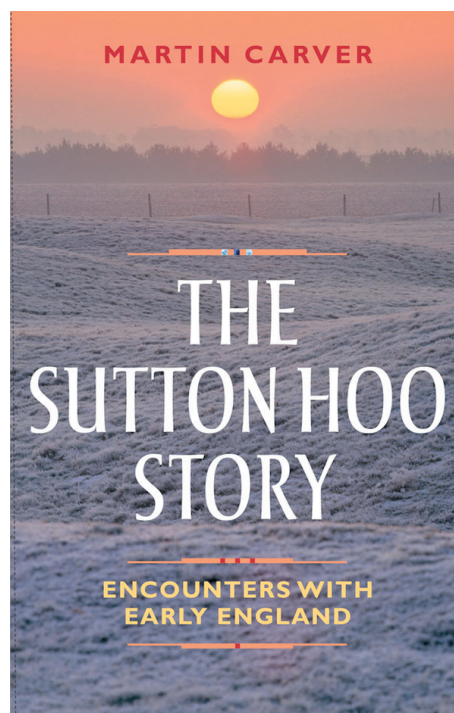
“I wish they hadn’t done that, I haven’t written it yet” said Martin Carver, at last year’s Rendlesham conference when I told him I had seen his new book announced. Truth to tell, not much has been rewritten, but it has just been published and replaces his earlier effort, *Sutton Hoo, Burial Ground of Kings?* (British Museum Press, 1998). This also appeared in paperback two years later, with subsequent revisions and reprints.

This writer is pleased to see that photograph 2.10 has survived on p.45, in which he records measurements called out by Paul Sieveking (in the Planter’s hat). The photo (by Mrs Gay Keiller) originally appeared full-page (p.244) in Bruce-Mitford (1975) and then on p.40 of *Burial Ground*.

There are many familiar photos, plans, chapter headings and Victor Ambrus drawings throughout this book, but the material is presented much more clearly here, where we have seven straight chapters. Slightly taller and narrower, the new format is better set than the old. Gone is the division between two parts, ‘Investigations’ and ‘Interpretations’. Here we begin as before with ‘Mrs Pretty digs up a ship’, which again includes the Basil Brown story, while chapter two again embraces the Bruce-Mitford story of conservation, interpretation and publication (‘The British Museum’s Treasure’).

A quarter of the new book is given over to ‘A new campaign’, what many of us think of as the Carver years from 1983 to 1992 plus Chris Fern’s excavation of the cafeteria and exhibition hall footprint in 2000 as National Trust took over. The 2000 excavation gets more coverage in the following chapter, since the relationship between the two cemeteries is one of the site’s \$64,000 questions.

Guides will want Martin’s latest reflections, that the ship burial ‘almost certainly’ dates from between 550-650 (p.38), which you may think is a retrograde step. More helpful is his acceptance (p.161) that the famous ‘deviant’ burials date from 680-990; this on the basis of



The Sutton Hoo Story: encounters with early England – Prof. Martin Carver (Woodbridge: Boydell Press 2017) pb. original, 241pp. illustrated, ISBN 978 1 78327 204 4)

recalibrations by Jane Sidell and verdicts by Andrew Reynolds (ch.6 n.8). Also his observation that this covers the entire time that execution burial was used by the Anglo-Saxons, discernible elsewhere only at Staines and Walkington Wold.

Martin has always been keen on emphasising the prehistoric story of Sutton Hoo and here the Beaker Folk, the

Romans and the rest get their own chapter (4: Before Sutton Hoo, c. 3000 BC to AD 600). This contains proper consideration of the Byzantine ‘Bromeswell Bucket’ (pp.117-9) while the following chapter (5 Burial Ground of Kings AD 590 to 650) has been almost completely recast. It has a model for the order of construction of the mounds (cremations 5, 6 and 7, followed by the horse and rider in Mound 17, then the two ship burials, the juvenile burials of unexcavated Mounds 12, 15 and 16, and the later sole female burial under Mound 14) and they are well examined in that order.

Martin largely dodges the question of the identity of these new arrivals by calling them ‘the early English’, as he did in his original account. Since then, the publication of Spong Hill (2013), the Tranmer House cemetery (2015), and Rendlesham (2016) have called for the updating of the original work, and although ‘the big book’, *Sutton Hoo, A seventh-century princely burial ground and its context* (British Museum Press / Society of Antiquaries 2005) remains supreme, guides now have an up-to-date interpretive handbook to cite. – NM.

Boydell discount

Boydell Press is pleased to offer SHS members a 25% discount on all their books. Quote BB374 (or enter online). ‘How to order’ details remain unchanged except that cheques should now be made payable to John Wiley & Sons Ltd.

Marking the 950th anniversary



Battle Abbey Gatehouse. Photo English Heritage.

PAULINE MOORE joined the Society expedition to Battle Abbey last 5 September to mark a very significant anniversary.

After a rather tiresome journey on a drizzly day with traffic delays, we arrived at Battle in time for lunch. The entry at the imposing Gatehouse at the Abbey suggests what this place definitely has to offer. You can now climb up to the top of the Gatehouse and see the views across the town and towards Pevensey Bay, where the Normans landed in 1066.

We were fortunate to be led on a guided tour by **Dr. Kathryn Bedford** and **Rowena Willard-Wright**. They were a knowledgeable and entertaining double-act, as they took us along the walk overlooking first the area now belonging to Battle Abbey School, and moving on to where our guides made clear the landscape of the battleground.

The battle took place on 14 October 1066. King Harold, after racing down from the battle at Stamford Bridge, placed his Anglo-Saxon army on top of the bare, flat-topped hill where the abbey estate now lies, so holding the advantageous high ground. He may possibly not have expected William to arrive so fast; he was expecting more reinforcements from London; he was apparently fighting against the advice of his mother! It is thought that there may have been 5,000-7,000 men in each army, but numbers have not been recorded. Below them, William deployed his whole army: Bretons, Normans in the centre, and French.

The Anglo-Saxons held their shield-wall, and even made several attacks. At one point they nearly gained victory when a rumour spread that William had fallen. The battle raged all day, till dusk – then Harold fell in the outcome we all know.

After massive bloodshed and the killing of a king, William, as was customary, had to do penance. His foundation of a Benedictine Abbey was certainly an act of contrition; it also commemorated his victory and taking of the throne of England. It became one of the richest abbeys in the land and prospered until Henry VIII's dissolution of the monasteries.

In 1538 Henry gave the place to his friend, Sir Anthony Browne, who turned it into a private, secular estate. It was sold to Sir Thomas Webster in 1721. He repaired the former abbot's house, rented out land and bought agricultural implements from Jethro Tull. It remained in that family for 250 years, with various twists of fortune, dependent on gambling, licentious living and divorce, until the 5th Baronet Webster restored the abbot's house, built a dairy and icehouse and excavated the east end of the church, before dying in debt.

In the hands of the Duke and Duchess of Cleveland, in 1857 money was spent on modernising, refurbishing, transforming of gardens and parkland; they received notable guests (H.M. Stanley and Lord Kitchener among them). The new railway later brought many visitors. Then a later Webster bought it. When he died it was held in trust for his daughters, and the abbey was leased to the school. The place experienced a great fire in 1931, restored by Sir Harold Breakspear (good name!). It was used by the army after June 1940, when France fell, and it sustained a small amount of damage by a ricocheting German bomb. Troops from Battle invaded Normandy on D-Day. Ultimately the estate was put up for sale in 1976, when the government bought it, then passed it to English Heritage. Over thirty years, a great deal of conservation, revelation and display has been done to

make this a spectacular place to visit.

Rowena and Kathryn showed us the Guest range, with store rooms below and guest-rooms above. Upper windows reveal Pevensey Bay. On the east range there is a wonderful, large, Novices' Chamber, well-lit and with a fireplace. The Common Room has five lancet windows and Sussex marble columns. Upstairs was a huge dormitory for the monks, fireplace at each end, and stairs leading to the adjoining three-storey latrine block. These stand over the main drain. They were conscious of the need for plentiful clean water (though there is no river nearby). Fish ponds were built on the low site of the battlefield.

There are finds to show the musical culture of the abbey and Abbot Rolph's primer to educate young novice monks through a series of questions and answers reminiscent of Plato's methods.

What brought another focus and sharp interest to our walk was to stand amid the outline of the ruined monastic church. Here William I commanded the High Altar to be placed in the apse, to mark the spot where Harold had fallen. Very recently before our visit, the sandstone plaque to mark this spot was moved from an inappropriate place further down the nave, to the rightful place for the High Altar in the curve of the apse – a significant re-interpretation of the position.

Harold is said to be buried at Waltham Abbey.

A few of our party moved outside the precinct wall to visit the town church. The town of Battle grew up with the building of the abbey, and with the growing recognition of the national importance of this place and its history.

We thank Megan Milan for arranging this visit - well worth the journey, as all agreed.

Surveying Garden Field

In 2016 Suffolk Archaeology Community Interest Company (SACIC) were commissioned by Angus Wainwright, the Regional Archaeologist of the National Trust to undertake multi-instrument geophysical surveys within the six-hectare enclosure of Garden Field. The eastern side of the site is located on a plateau overlooking the River Deben at a height of c. 30m AOD which then slopes down to c. 20m AOD on the western boundary, it lies just to the northwest of Sutton Hoo visitor's centre and exhibition hall and is currently grazed by rare breed sheep. Here, TIM SCHOFIELD, the Project Leader, gives a technical account of what has been achieved.



SACIC survey areas, earth resistance meter in red, fluxgate gradiometer in blue, magnetic susceptibility meter undertaken across the whole field.

Survey aims

Garden Field was chosen because it has a very high archaeological potential, in 2001 a geophysical survey undertaken by Historic England recorded anomalies indicative of archaeological pits and enclosure ditches. Metal detector surveys and fieldwalking exercises covering a thirty-year span have recovered artefacts dating from the prehistoric, Roman, and Anglo-Saxon periods, finds that include the rare 6th century 'Bromeswell Bucket' imported from the eastern Mediterranean region. The field was also large enough to allow the geophysical surveys to be undertaken without hindrance and is located within close-proximity to the main car park.

The aims of the project were two-fold, firstly to identify the most accessible geophysical survey techniques that could be employed by participants drawn from National Trust volunteers and visitors to Sutton Hoo, with a wide range of abilities and age groups. Secondly to define and quantify anomalies indicative of archaeological features to enhance the rich archaeological record already collected.

Fluxgate Gradiometer

The fluxgate gradiometer (magnetometer) is a passive instrument that records variations within the local magnetic field. Iron particles are relatively common within soil matrices and these weakly magnetic compounds can be transformed into highly magnetic oxides by firing processes, particularly during periods of human habitation. This magnetic material accumulates within archaeological features such as pits or ditches causing them to have an enhanced magnetic signature compared with the average magnetic background.

The instrument works by comparing the readings taken from the upper sensor that records the earth's magnetic background, with those taken by the lower sensor which records the localised magnetic field. Readings are either recorded as positive or negative relative to the earth's magnetic background. The instrument is particularly suited for



Geophysical surveyor from Suffolk Archaeology teaching fluxgate gradiometer setup to a National Trust volunteer and Sutton Hoo visitor.

prospecting anomalies associated with settlement activity like rubbish pits or enclosure ditches, strong magnetic signals from fired features like kilns, furnaces, hearths and fires appear with good clarity and have particularly high magnetic readings because they derive from localised intensely fired deposits. Ferrous objects like nails and fired objects like bricks can also be prospected and have relatively very high magnetic readings. This class of instrument can commonly prospect to a depth of 1m below the ground surface.

Magnetic Susceptibility Meter

The magnetic susceptibility meter is used as a tool to define areas of human habitation within a wider landscape. It is an active instrument in that it induces a current into the soil, in a similar way to a metal detector, then recording the signal that is returned as a value in SI units. The field coil attachment will commonly detect to around 0.06m below the ground surface. Readings are taken at stations of 5, 10 or 20m across a wide area, the strongest readings are recorded in the darker black tones and the weaker readings

are recorded in the paler white tones. Areas of magnetic enhancement commonly accumulate where human habitation was at its peak within a settlement, with fires being the main cause of this increased soil magnetism.

Earth Resistance Meter survey

The earth resistance meter works by recording the difference in soil moisture content within the soil matrix. Features like pits and ditches that contain loose soil deposits are more likely to retain groundwater compared with the natural geology surrounding them, therefore they will allow a current to pass through them with relative ease recording low resistance (white tone) readings. Conversely, compacted features like walls, foundations, or rubble accumulations that have little moisture content, will push the current flow around them causing a high resistance anomaly (black tones) to be recorded.

Four probes were utilised during the Garden Field survey, two fixed remote probes provided the baseline resistance data from which readings taken by the two mobile probes attached to the frame, were measured against.

Fluxgate Gradiometer Survey Results

The magnetometer survey was deployed in two areas to the northwest and southwest of the field, that were not prospected by Historic England in 2001, revealing a plethora of anomalies with high archaeological potential. Positive linear trends (red hatching) indicative of a former trackway and field sub-divisions from at least three separate phases were recorded on a northeast to southwest and perpendicular arrangement, similar alignments to those recorded during the excavations beneath the car park to the east. Two thermoremanent responses (magenta hatching) indicative of discrete fired earth anomalies were recorded in the northwestern corner of the field. Kiln fragments and a high percentage of Roman pottery sherds have been collected during fieldwalking exercises here that together infer the anomaly is likely to be a kiln with associated stoking pit. Numerous positive discrete anomalies (orange hatching) were recorded throughout the dataset, identified as potential rubbish pit features. Two areas of magnetic disturbance (yellow hatching) are of unknown derivation, their



Suffolk Archaeology geophysicist undertaking Magnetic Susceptibility Meter survey close to the entrance to Garden Field.



Geophysical surveyor from Suffolk Archaeology teaching earth resistance meter survey to National Trust volunteers and Sutton Hoo visitors.

proximity to the rectilinear enclosures suggests a strong archaeological potential. One broad positive linear anomaly (green hatching) is likely to record the location of a former tributary of the River Deben that was also recorded in the 2001 geophysical survey, a deposit that is likely to consist of an increased magnetic alluvial silt. Sparse isolated dipolar responses (yellow spots) record the presence of ferrous objects located within the topsoil horizon that could prove to have an archaeological derivation. A single dipolar linear trend (dark blue line) delineates the location of a modern service pipe. The negative

linear trends (cyan lines) recorded within the dataset are likely to be of modern agricultural origin.

One hundred visitors and volunteers undertook fluxgate gradiometer survey at Garden Field, despite their data being too 'noisy' to allow anomalies of archaeological derivation to be recorded (mainly due to magnetic clothing), they enjoyed comparing their datasets with those collected by the SACIC geophysics team. This technique would be best suited to a team of specialist volunteers who have been trained to undertake detailed magnetometer survey work.

Magnetic Susceptibility

Magnetic susceptibility meter survey was carried out across the entire area of Garden Field, within a 10m grid. National Trust Volunteers and Sutton Hoo visitors were trained to operate the instrument, under close supervision of SACIC surveyors ensuring that high quality readings were recorded. A military grade RTK GPS (+/- 0.03m) was used to accurately locate each survey station within the grid.

Readings ranged from 3 to 37 SI units across the entire field, with high magnetic susceptibility values (black tones) predominantly recorded on the plateau situated along the 30m contour in the eastern half of the field. This increased magnetic enhancement of the topsoil indicates that human habitation is more likely to have taken place on top of the plateau, this may be related to settlement or perhaps funerary (cremation) activity. Lower magnetic readings (white tones) were recorded on the side of the slope to the west where agriculture activity may have been undertaken, it could be the case that overlying hillwash deposits are masking deeper lying magnetic readings from the sensor coil.

This instrument was well suited to the 100 visitors and volunteers that took part in the exercise under close supervision with a qualified operator, magnetic clothing does not affect the instruments operation and the readings were used in the final dataset.

Earth Resistance Meter

In November, the focus for the second visitor participation survey shifted to the southeast of Garden Field. An area of 0.64 hectares was surveyed over two days by 105 visitors, 10 National Trust Volunteers, 2 SACIC staff members and 1 work experience student. Suffolk Archaeology surveyors trained volunteers and visitors in recording points with the instrument, traversing the grid and setting out the survey guide tapes which allowed the survey to smoothly progress. Individuals swapped roles after a few traverses to allow everyone to participate under the watchful eye of the SACIC surveyors. Any points that were deemed inaccurate were retaken to keep the data quality high.

Low resistance anomalies (cyan hatching) were recorded throughout the survey and can be broadly classed as either linear or discrete. A very straight linear anomaly bisects the survey on a northwest to southeast alignment delineating the route of a modern service trench, this anomaly was also recorded during the magnetometer surveys undertaken in 2001 and 2016. A further four linear anomalies,



Interpretation plot of earth resistance meter anomalies.

measuring a maximum of 20m and a minimum of 7m in length, are potentially archaeological. Three were orientated northwest to southeast and perpendicular, with the shortest aligned approximately east to west. Nine discrete low resistance anomalies present in the southern half of the dataset have been interpreted as archaeological pits, or sandy patches of geological derivation. One low resistance curvilinear anomaly surrounds an associated high resistance curvilinear anomaly (red hatching) in the southwestern corner that may comprise a large pit.

Two narrow high resistance parallel linear anomalies (red hatching) orientated north to south are likely to be agricultural, potentially compacted furrows. To the east of these parallel linear anomalies is a curving broad high resistance linear response, possibly associated with a pathway located on the Ordnance Survey mapping. Two broad high resistance linear trends recorded in the southwestern corner are potentially gravel deposits on the edge of the former

river valley to the south of Garden Field, alternatively they may prove to be wide banks of potential archaeological origin. One further high resistance curvilinear response located to the north of the two broad linear trends, may prove to be the bank of a ditch, or a seam of naturally occurring gravel. Eight discrete high resistance anomalies recorded in the dataset are most likely to be caused by naturally occurring patches of gravel within the geological horizon; however, an archaeological origin cannot be discounted.

This technique is particularly suited for undertaking visitor participation geophysical surveys. It is relatively simple to operate despite its weight and cable attachments, under close SACIC survey team supervision good quality data suitable for analytical interpretation was recorded.

Conclusion

The geophysical surveys undertaken in Garden Field have succeeded in fulfilling the aims set out at the start of the

project. Magnetic susceptibility and earth resistance meter surveys were found to be particularly suited to visitor and volunteer participation. Under close SACIC survey team supervision, good quality earth resistance meter and magnetic susceptibility meter data was recorded by the visitors and volunteers that could be used for analytical interpretation. The results reveal that there is a very high archaeological potential in Garden Field. Fluxgate gradiometer survey data recorded by the visitors and volunteers was not usable due to the magnetic clothing worn, however all enjoyed undertaking the survey and comparing results with the professional survey. Completion of the magnetometer survey with modern instrumentation and survey equipment will also remove the discontinuities that exist between the two sets of data that are recorded 16 years apart. Further detailed earth resistance meter survey will also to the evidence recorded thus far and enhance the interpretation of the anomalies previously recorded.



SACIC and Historic England magnetometer data interpretation and find spots by phase, overlying magnetic susceptibility greyscale data.



An Evening with Helen Geake Behind the Scenes at Time Team Saturday 16 September, 7pm - 9pm

This is a fundraising event in support of 'Releasing the Sutton Hoo Story' taking place at Deben Yacht Club, Woodbridge. Advanced ticket sales only, available from Sutton Hoo Visitor Reception. Price per ticket is £20. Tickets will include entry to event, a glass of prosecco and canapés.

Call 01394 389714 for details
nationaltrust.org.uk/sutton-hoo



When you visit, donate, volunteer or join the National Trust, your support helps us to look after special places for ever, for everyone.

© National Trust 2017. The National Trust is an independent registered charity, number 203816. Photography © National Trust Images.

#nationaltrust   

Textiles for Basil Brown

Dr CARYL DANE reports on the Sutton Hoo Society's annual Basil Brown Lecture, held on 27 May at the Riverside Theatre, Woodbridge. It was presented by GALE OWEN-CROCKER, Professor Emerita at the University of Manchester. She was formerly Professor of Anglo-Saxon Culture and Director of the Manchester Centre for Anglo-Saxon Studies. Her main research interests are Anglo-Saxon literature and culture, and also dress/textiles throughout the medieval period, on all of which she has published extensively. She was Chief Editor of the *Brill Encyclopaedia of Medieval Dress and Textiles of the British Isles c. 450-1450* (2012) and is co-founder and editor of the international journal *Medieval Clothing and Textiles*, Director of the Manchester Centre for Anglo-Saxon Studies, and directs a 5-year Arts and Humanities Research Council funded project 'The Lexis of Cloth and Clothing', which has produced the online database <http://lexisproject.arts.manchester.ac.uk>

Professor Owen-Crocker's lecture was entitled *Anglo-Saxon Dress and Textiles*. Covering the period between 5th-11th centuries AD, she gave a synopsis of current knowledge concerning this narrow field of research. Drawing on evidence from archaeology and the decorative arts of the times (manuscript illustrations and marginalia, ivories, metalwork, and stone sculpture), as well as literary insights, she discussed the varied sources of information about Anglo-Saxon dress. She explained what they reveal about how garment styles evolved through the centuries, and what could be interpreted about their significance in Anglo-Saxon society, such as expressions of status, social roles and gender. Moreover, she demonstrated this with a lot of helpful visual examples; contemporaneous iconographic depictions of formal wear, and occasionally ecclesiastical and military wear, along with pictures of archaeological discoveries.

Having published a work concerning the poetic imagery of *Beowulf*, Professor Owen-Crocker began her lecture by referring to this Early Medieval poem's recounting of a ship funeral. There are unique descriptions in Old English of male military dress, which resonate significantly with the assemblage found in the Mound One Sutton Hoo ship burial. References to mail-shirts in *Beowulf* especially, can be related to the rare example of the coat of ring-mail from Sutton Hoo. Helmets are mentioned several times in *Beowulf*, again drawing parallels to the Sutton Hoo helmet in the burial. The protagonist, *Beowulf*, is described as having a boar decorated helmet - 'besette swin-licum'. Professor Owen-Crocker suggests that examples from Sutton Hoo such as the helmet's boar-head eyebrow terminals and the garnet cloisonné, interlinked boar images of the shoulder clasps, as well as other examples from elsewhere, for instance the seventh-century boar-crested helmet of Benty Grange, Derbyshire, indicate that



Anglo-Saxon dress reproduced in Augustine Abbey Museum, Canterbury. Photo Augustine Museum.

boars on military regalia had a special symbology for fighting men.

From her *Lexis of Cloth* study, a compilation of terminology for medieval dress and textiles, Professor Owen-Crocker could demonstrate an array of text sources that refer to Anglo-Saxon dress. Even negative remarks in Anglo-Latin moralising treatises provide information. Glosses giving garment names in Latin sometimes giving the Old English equivalent term have proved particularly useful.

Much has been deduced by examining metal accessories. Whereas only fragments of textile survive from pagan Anglo-Saxon burials, most often details of weave can be preserved on corroded metalwork. As Professor Owen-Crocker stated, in answer to a later audience question, the use of buttons with buttonholes were not

in widespread use until the thirteenth century, and brooches and buckles were the main means by which Anglo-Saxon garments were fastened. In the context of pagan burial, variations of dress and how it might have been worn, can be inferred by the type and position of this functional jewellery in the grave and in relation to the body. For example, the 5th-7th century 'peplos' style women's dress was fastened at the shoulders by a pair of brooches. Surviving fasteners have also been examined with regard to type and to regional/chronological distribution. Metal wrist-clasps, for instance, are a particularly Anglian method of fastening sleeves.

Professor Owen-Crocker spoke of techniques of localised textile manufacture and the series of craft skills, such as spinning, weaving and dyeing, involved. Braid, usually tablet-woven, was frequently made to decorate clothing, and for headbands, belts, etc. She also attested to there being references in texts to imported, luxury, specialist textiles, such as silks, which points to international trade, and also high quality materials of probable local manufacture, including embroideries. Often the embroidery was made more spectacular with gold and silver threads. Anglo-Saxon embroidery was often given as gifts on ambassadorial missions. Nevertheless, there are only a few rare survivals, such as the stole and maniple offered, in honour of St Cuthbert, by King Athelstan in 934. The unique embroidery known as The Bayeux Tapestry, besides imparting a narrative of the Norman Conquest of 1066, is itself a contemporaneous source, providing evidence of textile crafts and depictions of dress.

With a diverse audience consisting of students, craftspeople and textile specialists, historians and archaeologists, together with those with a limited knowledge of the topic, but a keen interest in history, Professor Owen-Crocker's lecture was intelligible to a wide audience. There was something for everyone, be it historic manuscripts, art history, textile making, history, or archaeology.

Constructing the Sutton Hoo replica ship

PAUL CONSTANTINE, of the Woodbridge Riverside Trust, here reviews the latest technical data for rebuilding Raedwald's great ship, in the newly finished ship-shed on the riverfront in Woodbridge, as revealed by naval architect PAUL HANDLEY.



The ship seen full size for the first time. Photo Woodbridge Riverside Trust.

Researching information about the ship has been a priority for Woodbridge Riverside Trust's, Ship's Company for about 3 years now, both in this country and overseas where we have been holding discussions with Vibeke Bischoff, & Søren Nielsen in Roskilde. The method chosen for Research Stage 1 involved the 3D reconstruction of the ship on computer followed by hydrostatic and stability tests of the vessel in a light-ship state, crewed, and also in a loaded state. The testing by computer reconstruction will provide confidence in the projected qualities of the reconstructed craft when it eventually goes afloat. Detailed computer testing provided accurate drawings of the faired form of the craft described in modern computer files, but also in traditional offsets. It is intended that the offsets will be used to loft the craft for the benefit and involvement of everyone, enabling an appreciation of the ship-building process from its earliest steps. Also we already have the half-length *Sae Wylfing* and quarter-length models made by Jeff Bird, Edwin & Joyce Gifford with their total list of offsets for comparison.

Undertaking research like this involved finding a highly-skilled naval architect who commands the deepest respect within

his field. That person was Paul Handley MRINA, BSc Hons., who is a consultant naval architect and boat designer. He studied naval architecture at Southampton University and worked at the University's Wolfson Research Unit where he was involved in yacht stability and tank testing boats. He moved to work as a Technical Reporter and designed the Mustang 30 before taking a full-time position as a Technical Officer with the International Yacht Racing Union (ISAF).

Later he accepted a position as the CEN Consultant for the European Commission responsible for assisting development of the ISO standards supporting the EU Recreational Boat Directive. He designed a high-performance keelboat which won the Boat of the Year award in 2000. This was followed by a series of successful dinghy designs for RS, including the *Feva* and *Tera* which both became ISAF International classes as well as RYA Junior classes and more recently the RS100 performance dinghy and K1 single-handed keelboat. Paul now works on developing new designs, such as the recent K2 keel dinghy and recreational rowing sculls as well as providing technical consultancy services for boat

builders and organisations including the BMIF and ICOMIA.

Mr Handley looked thoroughly at every aspect of the ship information beginning by reviewing the different drawings and information available in *The Sutton Hoo Ship-Burial* v.1, ch. 5, by Rupert Bruce-Mitford, Valery Fenwick, and Angela Care-Evans (1975), and at the photographic record. He was able to see Commander Hutchison's signed off, hand-coloured, drawing copy, reported missing for many years, but discovered by SHS member Joe Startin in the Ipswich Museum. He also had Edwin Gifford's notes and drawings and the various blueprint versions produced by Colin Moody's design office for Rupert Bruce -Mitford.

Mr Handley considered the burying of the hull, the trench, the backfilling at the time of the burial, the effects of the possibly projecting stem and stern, oxygen, moisture content, and minerals in the soils as possible distortions, as well as the calculated weight of the mound, soil compaction, compression of the timber, speed of change, and duration.

The hull form was developed taking into account these distortions and the discrepancies between different drawings;

by understanding the difficulties in interpretation found with the Nydam ship reconstruction and by the effects of hull rocker. Computer markers were attached to frames at selected points on section drawings from all sources superimposed for comparison. Small adjustments could be made and checked for any linked effects on adjacent part of the craft using several of the latest software systems. Rib positions and plank attachment, hull length, plank thickness and overlaps, construction materials, the specific gravity of oak and load carrying capacity were some of the values taken into account, as well as the likely measurement system used at the time of the original construction. Following this it was possible to check stability, centre of gravity, righting moments, wetted surface area, prismatic coefficients, displacement and speed potential for various sets of different loadings as mentioned in our opening paragraph.

The hull was animated in wave conditions of 1 and 2 metres and it is fascinating to watch the action of the craft in such conditions. A great deal was learned about the performance limits under many different circumstances. We have a much greater understanding of what the ship could and could not do. It was refreshing to receive such a detailed report from an experienced expert that, without revealing all, contained some very interesting revelations not previously appreciated, even though the evidence has been in clear view from the very earliest days to the expert and experienced eye. Paul Handley delivered a paper, *The Sutton Hoo Anglo-Saxon ship Development & Analysis of a computer hull model prior to full-scale reconstruction*, to the Royal Institute of Naval Architects, 7- 8 December 2016.

The building development on

Woodbridge Waterfront is close to completion and a community theatrical event to celebrate it, **The King's River** at the beginning of July sold out one month before the performances. To illustrate the ship a full-size banner of its side elevation was constructed and attached to site scaffolding earlier in the year. We continue to give talks to many different organisations about the evolution and construction of the ship. We take *Sae Wylfing* to many events around the county where thousands of people have admired its lovely sweeping lines. Recently we took it afloat again for a filming assignment and Edwin & Joyce would have been proud of how little water leaked aboard. It and its trailer have recently been refurbished.

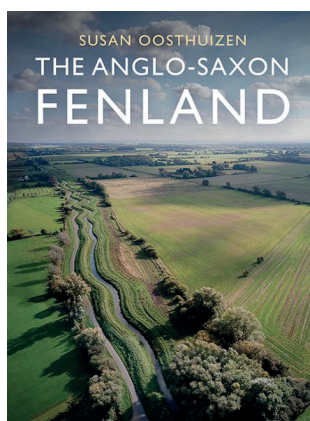
More information can be found on the website: www.WoodbridgeWaterfront.co.uk



Edwin Gifford's *Sae Wylfing* rides at anchor on the Deben. Photo Woodbridge Riverside Trust.

Botolph

Thirty years of note-taking by Dr Sam Newton have finally been published as 'The Forgotten History of St Botwulf (Botolph)' in the latest *Proceedings of the Suffolk Institute of Archaeology & History*, vol.43, part 4, 2016, pp.521-50. With notes and a full bibliography, the article considers the claims of places apart from Iken to have been the site of Botolph's monastery of Icanho (Appendix 2) and the first appendix has a coloured version of Sam's now familiar 'Genealogy of the Kings of the Eastern Angles'. A standard reference for decades to come.



The Fenland

Dr Susan Oosthuizen of the University of Cambridge, Institute of Continuing Education, has already lectured on the Fenland to the SIAH and Wuffing Education, but if you missed these events you can now read her conclusions in *The Anglo-Saxon Fenland*, just published by Oxbow Books and Windgather Press (ISBN 978-1-911188-08-7).

On the Editor's desk

This has been a difficult year for the Society, with the Treasurer about to stand down, and the Chairman, the Guiding Secretary and your Editor all hospitalised at one time or another. From Minutes Secretary, PAULINE MOORE has stepped up to Acting Chairman and this is the only edition of **Saxon** this year.

Bede's world re-opens

Bede's world, the early Saxon exhibition in Jarrow that DAME ROSEMARY CRAMP wrote about so movingly in the last issue (**Saxon** 63), was about to re-open, the *CBA Newsletter* announced last October, eight months after its closure.

It will have the new name of *Jarrow Hall, Anglo-Saxon Farm, Village and Bede Museum*, although the focus remains the life and times of the 7th-century cleric and scholar, the Venerable Bede.

Originally run by Bede's World Charitable Trust, which leased the site from South Tyneside Council, the

attraction is now managed by communities' charity Groundwork South Tyneside and Newcastle (Groundwork STAN).

On show will be a replica of the *Codex Amiatinus*, the Bible produced by the monks of the twin monastery of Wearmouth-Jarrow for presentation to the Pope. There are also plans to add commercial attractions to make Jarrow Hall financially viable in the long-term. In the meantime we encourage all of our members to visit the site to demonstrate that there is a demand for this kind of attraction and to show their support.

RLSB-M.

Our last front page (**Saxon** 63) featured Charles Phillips's rivets, an account of which – in the Antiquaries' online bulletin *SALon* 369 – prompted MARTIN BIDDLE, the excavator of Winchester, to reveal that he has completed his online biography of the publisher of the Sutton Hoo ship burial and Keeper of British & Medieval Antiquities at the British Museum, RUPERT LEO SCOTT BRUCE-MITFORD (1914-94). From Indian origins to wrestling with the 'black dog' of Sutton Hoo, you can find it under *British Academy Memoirs* on the B.A. website at www.britac.ac.uk/publications

Falconry

Thank you to David Sherlock FSA for alerting us that his latest issue of the *Archaeological Journal* (v. 174, no.2, 409-436) contains an article by Robert J. Wallis entitled "As the Falcon Her Bells" at Sutton Hoo? Falconry in Early Anglo-Saxon England'. Wallis considers the iconographic and funerary evidence from across Europe and concludes that falconry may have been introduced into eastern England from Scandinavia in the late 6th to early 7th centuries, and may have had an important social role to play in the emerging kingdom of East Anglia.

Rendlesham

We will really only have missed our own account of the Rendlesham Conference last autumn, and the account of the site in *Antiquity* will suffice (Christopher Scull, Faye Minter and Jude Plouviez, 2016, 'Social and economic complexity in early medieval England: a central place complex of the East Anglian kingdom at Rendlesham, Suffolk', *Antiquity*, 90, 1594-1612).

Bitumen

Working with Stephen Bowden, of the University of Aberdeen, and analyst Pauline Burger, Dr Rebecca Stacey, one of the scientists in the Conservation and Scientific Research Department at the British Museum, has established that the lumps of bitumen (asphalt) in Raedwald's great burial ship came originally from Syria, and is rare and valuable, and not just part of the caulking, according to *The Times* on 1 Dec 2016. You can read her full paper on *Plos One* at <https://doi.org/10.1371/journal.pone.0166276> (Identification, *Geochemical Characterisation and Significance of Bitumen among the Grave Goods of the 7th Century Mound 1 Ship-Burial at Sutton Hoo (Suffolk, UK)* Burger P., Stacey, R.J., Bowden, S.A. et al.)



The latest reconstructions commissioned by the Society from Dave Roper are the Mound 1 spoons, in silver. Photo David Roper.



Dr Sue Brunning with the Sutton Hoo helmet. Photo Trustees of the British Museum.

Board games in burial ships

Each single item, every single aspect, of the Mound 1 ship is subject to specialist scrutiny, and it is through comparative studies that our understanding of the material culture of the Anglo-Saxons will grow. Mark A. Hall of Perth Museum & Art Gallery, has tabulated 36 known examples of 'Viking Age' boat burials with board games, including Vendel, Valsgärde and Sutton Hoo, emphasising the strategic use of board games to (usually) élite warrior males in life, citing Frans Herschend's Uppsala notion that the burial chamber (specifically Valsgärde 8) can be seen as a representation of the hall the warrior occupied in life, and borrowing Martin Carver's speculations about the poetic role of burial. (See Mark A. Hall (2016), 'Board Games in Boat Burials: Play in the Performance of Migration and Viking Age Mortuary Practice', *European Journal of Archaeology*, 19:3, 439-455).

AGM 2017

SUE BRUNNING is the curator of the European Early Medieval and Sutton Hoo collections at the British Museum. She was our guest lecturer at the AGM on 17 March, when she brought some big new close-ups of the scabbard mount and the shoulder clasps to show us the intricacy of design and the ambiguity of the iconology, which impressed everyone.

Events Diary

Saturday 16 September, 09.00-17.00
4th Wheeler Conference, Suffolk Institute of Archaeology & History (SIAH)
 Suffolk Textiles Through Time (Lavenham)
 A day conference based in Lavenham Village Hall, £25 for SIAH members inc. buffet lunch, £7.50 less without lunch, £2.50 surcharge for non-members.
 SAE + cheque (to SIAH) to Dr Deirdre Heavens, 5 Cotswold Avenue, Ipswich IP1 4LL
 wheelerconference.siah@gmail.com

09.00 Registration, tea/coffee
 09.40 Conf. Chmn.'s opening remarks (Prof. Richard Smith)
 09.40-10.30 **Jude Plouviez & Jo Caruth**
 Evidence for textiles before 1066
 10.30-11.20 **Nick Amor (SIAH Chmn.)**
 Medieval Woollen Cloth Industry
 11.20-11.50 tea/coffee
 11.50-12.40 **Richard Humphries**
 Silk Production
 12.40-15.00 Lunch/visits to Lavenham Guildhall & Little Hall
 13.00-14.00 **Jane Gosling**
 & 14.00-15.00 **Tours of Lavenham Buildings**
 15.15-15.45 tea/coffee
 15.35-15.45 Conf. Chmn.'s Closing remarks
 16.00-17.00 **Clive Paine** Lavenham Church

Saturday 16 & 23 September, 09.30-17.00
SHS members' trips to Roman Colchester
 Howard Brooks BA FSA MCIfA of Colchester Archaeological Trust will lead TWO groups of 16 around the recent Roman finds at Colchester, inc. the Balkeke Gate the Interval Tower, the Roman Church, the Roman Theatre, the Roman Circus (the only known example in Britain) and the newly revealed Temple facade (if open).
 Details of how to apply have been posted to members.

Institute of Archaeology/British Museum
Early Medieval Seminar
 convened by **Stuart Brookes (IoA)** and **Dr Sue Brunning (BM)**

Wednesday 18 October, 18.15, IoA, London
9th annual Sir David Wilson Lecture
 Prof. James Graham-Campbell (UCL)
 The Galloway (2014) Hoard: Vikings (and Anglo-Saxons) in South-West Scotland
 Lecture Theatre G6,
 UCL Institute of Archaeology (IoA)
 (followed by a launch party for the 2017-18 Medieval Seminar series in Room 609)

Tuesday 14 November, 18.00, IoA, London
Gender, jewellery and the making of early medieval Europe
 Dr Toby Martin (Oxford Archaeology)

Tuesday 12 December, 18.00, IoA, London
Kings, Vikings, distant monks or local peasants: who was who in the early medieval trading site and ringforts in the Domburg area, island of Walcheren (Netherlands)?
 Dr Letty ten Harkel (Oxford University)

Tuesday 23 January, 18.00, IoA, London
Norwich Castle Keep Reinterpreted
 Dr Tim Pestell (Curator, Norwich Castle Museum)

Tuesday 20 February, 18.00, IoA, London
Current work on the Anglo-Saxon monastery of Lindisfarne
 Dr David Petts (University of Durham)



WUFFING EDUCATION STUDY DAYS

The Court, NT Sutton Hoo, £38
 See website for full programme
www.wuffingeducation.co.uk

Saturday 30 September, 10.30-16.30

Viking Warfare and Military Organisation

Dr Gareth Williams (British Museum)
 This study day explores the reality behind the popular myth, and the place of warfare within wider Viking society.

Saturday 14 October, 10.30-16.30

William the Conqueror

David Bates (University of East Anglia)
 A study day by the author of a newly published biography of William the Conqueror (in the Yale University Press English Monarchs series).

Saturday 21 October, 10.30-16.30

Anglo-Saxon Barrows in the Landscape

Steve Pollington & Dr Sam Newton (Independent Scholars)
 A study day looking at barrow burial in its wider European context, the distribution of barrows in England, the methods used in their construction, and the social meaning of barrow burial.

Saturday 4 November, 10.30-16.30
'Soggy Saints': Landscape and Sanctity in Medieval East Anglia
 Dr Rebecca Pinner (University of East Anglia)
 In this study day we shall explore the significance of water and wetlands in the legends and histories of East Anglian saints and their cults.

Saturday 18 November, 10.30-16.30

The Forgotten History of King Edmund and the Danish Kingdom of East Anglia (c.855-917)

Dr Sam Newton (Wuffing Education)
 We shall attempt to chart the history of the last days of the kingdom of the Wuffings and of the subsequent rule of the Danish king Guthrum and his successors.

Saturday 25 November, 09.30-16.30

Prehistoric Pompeii? An exploration of sites with exceptional preservation

Edward Martin (Independent Scholar)
 An exploration of sites, both Continental and British, where volcanic activity, water-logging, dryness or an unusual chemical environment has led to the exceptional preservation of ancient artefacts and structures.

Saturday 9 December, 10.30-16.30

The Old English Yuletide Feast

Dr Sam Newton (Wuffing Education)
 Rediscover the magic of Christmas with an exploration of the significance and celebration of the great midwinter festival in early England.

Bookings

Booking essential as many days are over-subscribed. Contact Cliff on 01394 386498 or email cliff@wuffingeducation.co.uk

The Sutton Hoo Society



www.suttonhoo.org

President

The Earl of Cranbrook

Research Director

Professor Martin Carver

Secretary and Acting Chairman

Pauline Moore

Treasurer

Jonathan Abson

Membership Secretary

Marc Brewster
 22 Deben Road
 Colchester
 Essex
 CO4 3UZ
membership.shs@btopenworld.com

Guides Training and Guiding Co-ordinator

Lindsay Lee
 01728 746104

Event Co-ordinator

Dr Megan Milan

Committee member

Dr Caryl Dane

National Trust

Regional Archaeologist
Angus Wainwright

Saxon Editor

Nigel Maslin
nigel.maslin@suttonhoo.org

Design & Layout

Elsey Adcock Design
 01473 852040
www.elseyadcock.co.uk

Printing

Henry Ling Ltd, The Dorset Press
 23 High East Street, Dorchester
 Dorset DT1 1HB

Registered Charity no. 293097