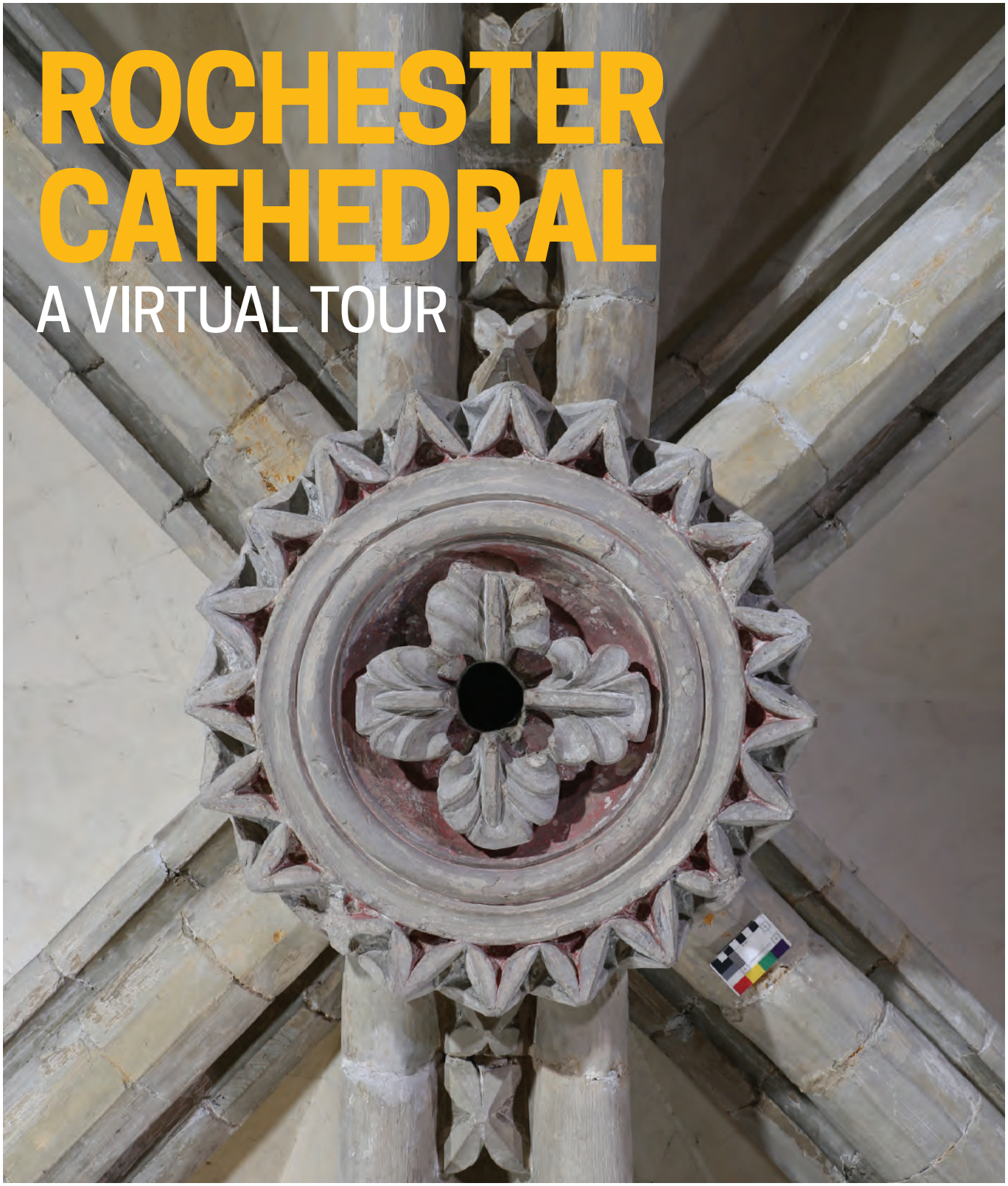
KAS
KENT ARCHAEOLOGICAL SOCIETY

№ 114
Winter 2020

THE OLDEST AND LARGEST SOCIETY DEVOTED TO THE HISTORY AND ARCHAEOLOGY OF THE ANCIENT COUNTY OF KENT



ROCHESTER CATHEDRAL

A VIRTUAL TOUR

KAS KENT ARCHAEOLOGICAL SOCIETY

WELCOME FROM THE EDITOR

It's been a bizarre, unfamiliar and ever-changing period since the last issue of the KAS Newsletter. Firstly, we say goodbye to the label 'Newsletter'. Given the ever-changing content, an increasing number of articles, and aims to enhance the quality of production, the label 'Magazine' seems better suited to this publication.

Speaking of goodbyes, we have lost two of the most significant figures in Kentish archaeology: Nigel Macpherson Grant and Albert Daniels. Tributes befitting both men are included in this issue. We welcome the results of the membership survey carried out by Stats People in March and April this year, and we also have the first Column from our President-Elect, Kerry Brown. As I am sure you are aware, Kerry is taking a proactive approach to his Presidency, and we can all look forward to new and exciting initiatives that steer the KAS into a sustainable and positive future. One such initiative is the appointment of KAS Student Ambassadors from University Kent Canterbury and Canterbury Christ Church University, both of whom are introduced in this issue. Finally, as of next year, members will be offered the option of receiving the KAS Magazine in either printed or electronic format (e-Magazine), thus helping to cut the KAS paper consumption.

The Magazine is an outlet not only for the fantastic heritage and the tremendous work going on out there but also as a method of communicating important information. Moreover, it exists so that you, the membership, may convey a broad range of topics devoted to the history and archaeology of Kent. During these unprecedented times, if you can't get out and about, I encourage many of you to pen that article you had meant to but didn't have spare time.

Enjoy this issue, stay safe and Merry Christmas to you all.

Best wishes for 2021,
Richard

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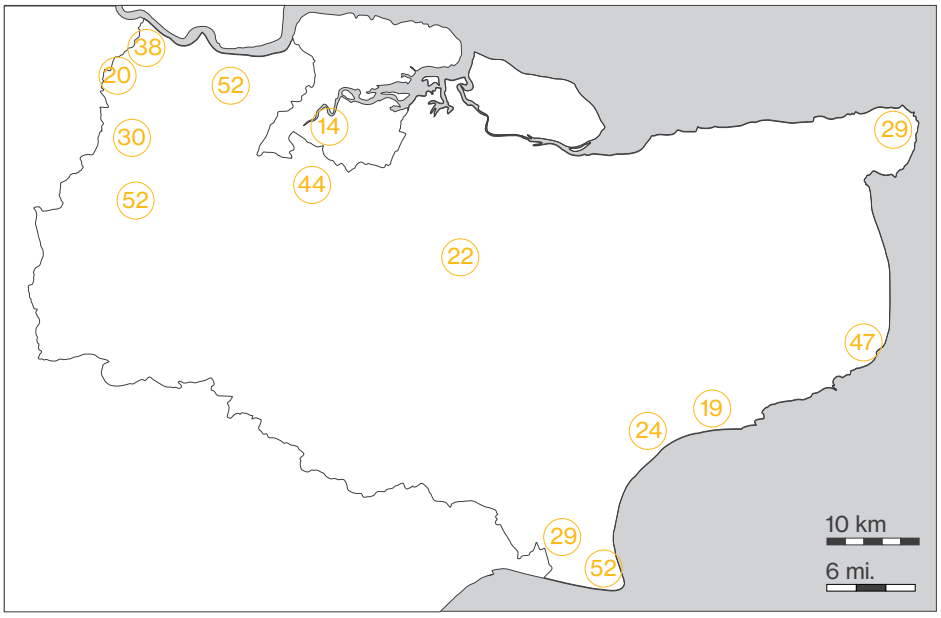


REGULAR

PRESIDENT'S COLUMN

Welcome to the Winter KAS magazine. Despite the enormous challenges of the pandemic and the two lockdowns in 2020, the Society managed to continue most of its functions. Meetings were held online; there were some digs, particularly over the summer and into the early Autumn; and we continued to think about our future direction. Some of that is reflected in this edition.

Throughout this challenging period, I have had a chance to speak to people about their views of where the Society should be heading, and get to know our work far better. Being based more at home has meant I had the time to talk to some of our key partners and members, and to get a better understanding from them of what they think the Society does, and where it needs to be heading.

The good news from this consultation is that none of those people I spoke with doubted we have an essential function. The more difficult news was that there was significant variance over what the KAS does, and what it should be doing in the future. Some liked the idea of the Society being more of a supporter of education; others felt we needed to be more involved in exhibiting and running events. The KAS Strategy Group has been contemplating these ideas and, in 2021, will be able to report back with plans on how we navigate the next few years.

Despite the lockdown, like many others, I was also able to concentrate more on the immediate environment around me. From summer into late Autumn, in manageable chunks, I decided to walk the Kent coast. So far, I have done from Faversham along the creek, and then by the Swale through Whitstable, Herne Bay, Reculver, round by Birchington, Margate, Ramsgate and then down past Pegwell Bay, Sandwich and finally to the castle in Walmer. I have lived in Kent, on and off, all my life. But I'm sad to say I've never appreciated how important its coast was, or how varied, dramatic and atmospheric it is. My walks made me appreciate how remarkable and laden with memory traces our county is. It was pleasing to know a good deal of this landscape has, over the years, been researched and explored by the KAS, and I was able to learn about it by looking at articles over the years in *Archaeologica Cantiana*. Despite the enormous challenges of 2020, I have grown ever more grateful for the work of the KAS.

With best wishes for 2021,

Kerry Brown
President-Elect

President-Elect, Kerry Brown

Annual General Meeting 2021

I believe that COVID will remain a significant threat well into 2021 with this in mind Council are considering how best to hold an Annual General Meeting of the Society in 2021.

During the past year Council has been working on a future strategic direction of our Society. The results of these deliberations must be shared and decided upon by you at a formal meeting. Since the pandemic struck, Council, Strategy Group, Committees and Special Interest Groups have conducted work by Microsoft Teams. Albeit not perfect, it has allowed a lot of the work of the Society to continue.

If circumstances continue to prevent face-to-face meetings, I am exploring the possibility of holding our next Annual General Meeting using Microsoft Teams in conjunction with postal voting.
The deciding factor on how we hold the next AGM will be Government guidelines and the prevailing advice/legislation in March 2021.

The Society's website will be kept up to date with the latest information regarding this matter and nearer the time Council will in contact with you all directly.

Clive Drew
General Secretary
secretary@kentarchaeology.org.uk

MESSAGE FROM KERRY BROWN, PRESIDENT-ELECT

Dear Member,

Despite the huge impact of COVID-19 since March, the Society has been moving forward, making some critical decisions about its future, and plotting out a sustainable, positive vision once we have hopefully put the current challenging times behind us.

One of the most significant achievements was a membership survey, conducted online over April to March, to which over 350 of our 650 members responded (see pages 33 to 38). This was a remarkable response rate, and we are very grateful for those that took the time to give us their feedback.

The message from the survey was very clear. The KAS has a committed membership, one predominantly interested in the Roman and Saxon eras, with a strong interest in digs, field walks, study days, and educational activities. They are also supportive of more online resources, and many of them have been involved in archaeological works. The more concerning finding was that of the respondents, two-thirds were over retirement age, men significantly outnumbered women, and in the last 1 to 2 years, only 13 per cent of new members were under the age of 55.

The issue of doing all we can to recruit younger members is a key part of the task of ensuring we are sustainable. Closely linked to this is the issue of finance. The excellent work of our treasurer Barry Beeching has ensured that even during the turbulence of the last few months we have managed to limit our losses. We have reserves invested, which continue to give a return each year. The problem is, however, that the income from this, from membership fees and other sources, has not covered our outgoings for most of the last decade. We have only managed to balance our budget twice since 2010. The stark fact is that, in the long term, if this situation continues, we will eventually run out of money.

To address these two issues, over the last three years, the Trustees have discussed in detail a number of plans about what the KAS should do to ensure that it has a sustainable future. No one doubts the passionate interest in the historical heritage of the county we live in. What we need to do is find ways to connect with this and to ensure that as wide a group of people as possible are involved in our work. The Membership survey showed strong support for one key idea: a physical centre of some sort for Society which can showcase the history of Kent, promote education, be a resource for members, and contain some of our significant, but at the moment widely dispersed, assets.

A physical centre could take many shapes and forms. While we currently have a members room at Maidstone Museum, there are a number of other options. We are currently exploring the possibility of an external consultant to work through some of these and propose those that might be most feasible. This will likely involve a significant fundraising campaign. On this too, we are also working with a group of professional fundraisers to see what options we might have.

Those objectives of having an enhanced physical presence for the Society, and engaging on a proper fundraising campaign to support this, will also involve considering full time, paid members of staff, and a dramatic increase in our online work. All of this will take time and hard work. As a charity, however, the KAS has to ensure that its future is sustainable and that it continues to speak to a public need. Thanks to the feedback on the membership survey this year, we now have important answers to what that need is, and how we can answer to it.

I look forward to working with the Trustees, and the Members, as we proceed through this process. Together we can ensure the KAS remains an extraordinary and relevant organisation that understands and contributes to the extraordinary archaeology and history of Kent.

OBITUARIES

ALBERT DANIELS

For over 50 years there have been very few archaeological sites around Maidstone at which the avuncular face of Albert Daniels was not to be seen.

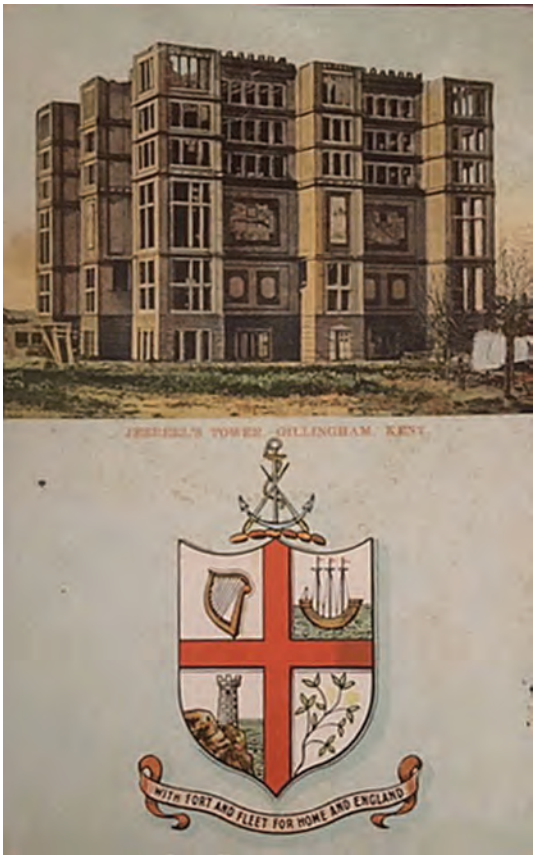
His interest in archaeology went back to the late 60s when he was part of the Medway archaeological scene, remembered by John Cruse, a fellow member of the Lower Medway Archaeological Research Group. “We dug together on Arthur Harrison’s investigations of Roman Rochester, the early Bronze Age site at Wouldham and at Cuxton.” Albert was also an early member of the Maidstone Area Archaeological Group, (MAAG), which was formed in 1969. “Our main project was to help Arthur Harrison excavate the Roman barn at Snodland,” recalls John. Throughout his 50-year association with MAAG, Albert held the position of archaeological director, chairman and secretary at various times, and was its charismatic champion.

Albert was also a member of the Kent Archaeological Society, (KAS), which he joined in 1973, and he became the KAS Local Secretary for Maidstone in 1984. He was a member of the KAS Fieldwork Committee for many years and hardly missed a meeting, serving as Vice Chair in recent times. A highlight of these, often lengthy, meetings, recalls Dr Steve Willis, was both his sage and well-informed advice on matters before the Committee and his humour, which was served up in a dry straight manner, the delivery adding something unique to the mirth it generated. The ‘members reports’ element of these meetings saw him invariably list numerous activities he and MAAG had undertaken, and thankfully these details were minuted (but sadly, not the jokes). He also served on the KAS council for over ten years from 1987 and as one of the KAS scrutineers for many years.

Albert’s list of site credits is extensive, including assisting on the Peter Tester excavations at Boxley Abbey in 1970, the Mount Roman site in Maidstone, Snodland and Leeds Abbey. He also undertook numerous watching briefs, for which he received a small fee that he passed on to the MAAG treasurer. He also participated in digs around the county, especially in East Kent with the Dover Archaeological Group, (DAG), where he famously split a gold stater in half with his mattock whilst at the Folkstone Roman Villa site. Of course, in recent years he is probably best known for his work with MAAG at the site in East Farleigh, begun in 2005, which was billed as a quick re-excavation of a 19th-century discovery, but which led to the uncovering of at least six Roman buildings over the ensuing twelve years, none of which turned out to be the one uncovered in the 1830s. He also enjoyed post-excavation work, and spent much time working on the Lullingstone finds processing, as well as at Shorne and Randall Manor providing analysis of animal bone.

Albert did not confine himself to digging in Kent, however. He was a member of the archaeological society in Derbyshire, where he had a holiday home. He became very knowledgeable on the history and archaeology of the area and would frequently take part in local excavations and conferences. He was also a member of the Hastings Area Archaeological Research Group, (HAARG), where he participated in many of their excavations and events especially the port and roadside settlement of the Classis Britannica at Kitchenham Farm, Ashburnham and the associated tile production site at Castle Croft, Ninfield. He was also a member of the Hunter Society in Sheffield.

Born in 1947 at home in Milton Street in Maidstone, Albert was a lifelong advocate of Maidstone, often writing to the newspapers on various issues of concern. He was always interested in his family history, which contains an extensive list of ancestors, including owners of 'doss houses' in Stone Street and publicans of several public houses throughout the town. He was well known for his public talks about Stone Street, its surrounding area and the antics of the residents. He attended St Philip's Primary school, then South Borough Boys School, coming away with 12 O levels. From the age of fourteen, he had a keen interest in the theatre and would have liked a profession in theatre stage design and production. He went for an audition at the National Youth Theatre where he was pipped to the post by Simon Ward, or so he claimed. He left school at sixteen and took a job with Cox Brothers, a local builder where his Dad worked. He later got a job on the North Sea oil rigs and from there secured a job in oil exploration in Africa. He said, "You landed in Lagos and lasted two weeks before you could get a flight back – or you lasted the three years!" Albert lasted the three years and returned home where he worked as a freelance surveyor for various companies travelling across Kent and beyond and frequently brought him into contact with archaeology.



Jezreel's Tower in Gillingham

It was at this time that he met his wife Diane, and they adopted three children, and he eventually studied part-time for a BSc in Archaeological Sciences, which was awarded in 1989. During the 1980s, he was confirmed into the Church of England, worshipping at St Philip's and latterly, at St Paul's, Boxley Road. When his children were younger, he was always involved in their work and could be seen preparing woodwork and painting scenery for Noah's Ark, the annual nativity and other stories. He also played major roles in the end of the week performance, as Noah in his Ark with rearranged choir stalls and obligatory tea-towel on the head! He will be sorely missed for his church maintenance skills in both churches.

Albert loved life, and he loved people. He adored his grandchildren, of which he has twelve, and a great-grandchild. He enjoyed travelling around the UK, visiting new towns and cities. He liked to wander through the streets and usually ended up exploring a church, museum, or art gallery with the occasional, but essential stops for coffee, lunch and afternoon tea. He didn't believe in driving on a direct route if a diversion could be made. He had the habit of suddenly veering off down an unknown country lane. "You can't get lost. This is England," he would exclaim.

He did enjoy a beer, preferably with convivial company. Often, in The Rifle Volunteers, he would swear by the benefits of "Mrs Goacher's Patent Medicine" (real ale). He was a keen member of the quiz team and was team captain of the Rifle Volunteers B team in the Maidstone League for many years. He was president of the Maidstone Historical Society and also a member of the Maidstone Postcard Society, where he collected numerous postcards, especially of his pet subject, Jezreel's Tower in Gillingham.

Albert has been described as a legend, a man of immense character, wit, humour and intelligence with an enormous heart, and a mischievous glint in his eye. His knowledge of the history and archaeology of Maidstone, Kent and beyond was vast. We are all the poorer for his passing. In recent years, particularly as his poor health made active digging more difficult, Albert made strenuous efforts to make sure all post-excavation work from his long career was complete, and that his archive was in safe hands for the future. All who care for Kent's archaeology are beneficiaries of his legacy.

As Albert would say, "clear up your loose!"

Stephen Clifton (MAAG)

NIGEL MACPHERSON-GRANT

In early June this year, we were notified of the untimely passing of Nigel Macpherson-Grant. For those of us who knew Nigel, he was a fine man and an outstanding contributor to Kent's archaeology, its ceramics in particular; the county was lucky to have him, and we were lucky to have known him. The following are just a few recollections from members:

My first encounter with the Nigel was when I was volunteering on my first archaeological excavation, at the site of the Asda superstore in Broadstairs in 1999 (having helped out a little on the evaluation the previous year). I well remember this tall, striking, Gandalf-like figure, who one day suddenly appeared alongside the Trust for Thanet Archaeology's Director Dave Perkins, wandered easily around the site, Dave handing him pottery fresh from the ground, which the mysterious stranger must have communed with, for somehow, magically, he would tell us its date. His work done, he disappeared, probably with a puff of smoke. I was thoroughly inspired, and though having had no interest or appreciation of pottery up to that point, it spurred a great desire to know more and to learn how this magical skill was achieved. In the following years, I was fortunate to have the opportunity to get to know Nigel, someone who I considered to be one of the living legends of Thanet and Kent archaeology (though he certainly wouldn't have liked me saying so!)

Paul Hart (IOTAS)

Nigel and I had many archaeological sit-downs and discussions over the years about various sites and pots, debates that went on for months, even years... but the memories that will endure are the numerous trips to Cliftonville... the many happy hours shared, talking archaeology, philosophy, politics, sorting life's problems, often in the cafe, usually over sausage and chips, and always with good humour. Nigel was much more than the go-to guy for pottery; he was one of those rare individuals who, through his values and attitudes, served as an example. He was an inspiration who influenced my thinking, both personally and professionally, far more than he probably realised and, most importantly, he was my friend.

Richard Taylor (KAS Magazine Editor)

I had known Nigel for over twenty years, and in our early years of the Kent Archaeological Field School, his mentoring and presence on-site was invaluable to both students and staff. His knowledge of Prehistoric pottery was second to none, and Nigel was delighted to share that knowledge with staff and students. His death is a great loss to the profession, and on a personal note I will miss him as he was a good friend.

Paul Wilkinson (SWAT)

Three of us, Committee members of Studying History and Archaeology in Lympne (SHAL), attended Nigel's 1-day ceramics workshop at Thanet Archaeology in September 2017. We had little previous knowledge of pottery through the ages but found his course fascinating. He had set out examples of pottery in chronological order on a line of tables and talked us through the different styles, material compositions and production methods, whilst allowing us to handle and inspect the pottery pieces. His knowledge, enthusiasm and willingness to involve us provided such valuable information for us in how to handle and identify pottery finds in our archaeological activities. From this brief contact with him, we came away inspired by an expert in his specialist archaeological work.

Mike Pearson (SHAL)

Almost ten years ago, I was looking for a pottery specialist to examine the pottery from our medieval manor dig. Nigel came highly recommended, and I got in touch (when he still had email!) He agreed to come and have a look at the assemblage, and so began our friendship. Nigel was not your typical specialist. He wasn't just going to give me a report on the pottery; we were going to go on a journey. This involved visits to the site, training days held at Shorne

Woods Country Park and a dialogue that continued across the years. He always refused to charge a reasonable rate for his time, despite my pleadings. I cherished the days when he would come up to the Park. We would book a room out for a few days and fuelled by coffee, biscuits and cigarettes; the cogitation would begin. Others have remarked on his unique ability to pick up a sherd and commune with it. Occasionally he would pass them across and quiz me for my thoughts, as part of the learning process. He would often turn up with patisserie to aid our studies.

On our meets, we became quite attuned to one another, frequently descending into accents and mirth. I always enjoyed my trips to see him at his flat, often with Richard. We would cram into his study room and tip sherds onto the table by the window. Once lunchtime arrived, we would head down to his local greasy spoon and put the world to rights over sausage and chips. Topics ranged from archaeology to philosophy. We had kept in touch through the Spring of this year, but I was so sad and shocked to learn of his passing. He had a profound effect on my life, and I miss him very much.

Andrew Mayfield (KCC)

I met Nigel in 2003, in the Trust's old headquarters at Crampton Tower. I observed his ways. His table top games of lay out the 'sherd'. His tippy tap on the sherd with specially extended fingernail and occasionally taking a pair of pliers to some unfortunate sherd. Pacing. Incantation. Pronouncement of personal knowledge of a sherd, or that a sherd or assemblage had the quality of being 'gutty'.

I came to realise the Nigel was a full-body archaeologist. He grew with his material; he lived with his material over extended periods. His habits were habits formed by his material. His material directed his sense of time and place. His mysterious mutterings and greetings to unknown sherds were memory methods that helped him sift that body of experiential evidence to find the rightful place for each item. Each sherd embodied a living world of material, producer, consumer, exchange, loss and decomposition.

Nigel was desperate to share his knowledge, as well as his reason for being, trying to understand this material as fully as a human could. He recognised the finite nature of his capacities and was happy to do what he could to share his knowledge, although this was not a straightforward thing to do. He tried to pass on his method to others and took on many followers and a long-standing apprentice to learn many of his ways.

Nigel initiated the Ceramic Thanet project. He helped create experimental tools, like simple bags of dated pottery which could be laid out and handled, for the beginner to gain the experience of the pioneer under secure guidance. He organised a ceramic collection into sets that demonstrated his methods and extracted items that demonstrated principles that were part of his assumed knowledge. Even material he marked as having little value for storage have been repurposed into experimental learning materials. For the grand layouts for Ceramic Thanet workshops, Nigel bought red velvet table covers, colour coded papers for laying out the sherds and labels in his distinctive cursive script. Palm trees and plants were requested for the rooms to create just the right atmosphere to learn from the master – formal ritualised presentation of knowledge, which we can repeat in his absence. With Nigel's organised collection, we have the building blocks to enable us to verify that what we create from archaeological material is good, sound, solid, reliable, scientific fact. Here are the material facts; this is true. But, like someone whose whole life was dedicated to building a great organ, it has to put to use, we must now learn how to play his music on it.

Ges Moody (Trust for Thanet)

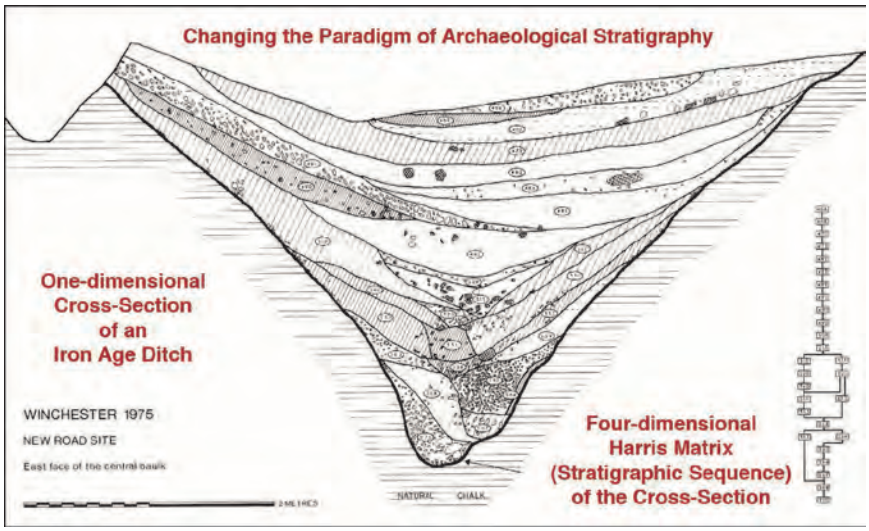
THE HARRIS MATRIX AT FIFTY (ALMOST)

By Edward Harris

A background note

The Harris Matrix was an artistic accident that happened on the evening of 28 February 1973, as a result of attempting to understand the tangled web that was the record of an excavation of the 1960s. It was called a "matrix" as it was seen as a format in which stratigraphic data could be visualized and thus assist in comprehending such mazes. The Matrix brought into focus significant issues with the recording of stratification in archaeology, which were mostly resolved in a small book on the subject.

You might say that the County of Kent is responsible for the 1979 publication of *Principles of Archaeological Stratigraphy*, perhaps the seminal book for archaeological methods, at least in matters of excavation, which are of course our unique contribution to history. This is part of the unwritten background of *Principles*: three years after the invention of the Harris Matrix in 1973, I was engaged by the government on a project at Sandgate Castle, a Henrician fort on the coast of Kent, later modified into a Martello Tower. Perhaps the best-recorded standing structure of its type, a case in the High Court of Chancery was necessary to clear the deck for its publication, along with some 20 drawings I did of much of its stonework and other salient features. That imbroglio was connected to the denial of access to the records of another archaeological site, upon which my doctorate was to have been based. Fortunately, the thesis topic was shifted to the concept of stratigraphy in archaeology. The gist of the dissertation was published as *Principles...*, the volume defining archaeology as a science of stratigraphy in its own right.



Top
Fig 1: The 9000-plus units of this stratigraphic sequence took several months to compile in 1974, whereas today the sequence would be completed the day excavation ceases. Such sequences can also reflect the waxing and waning of activity on sites through time.

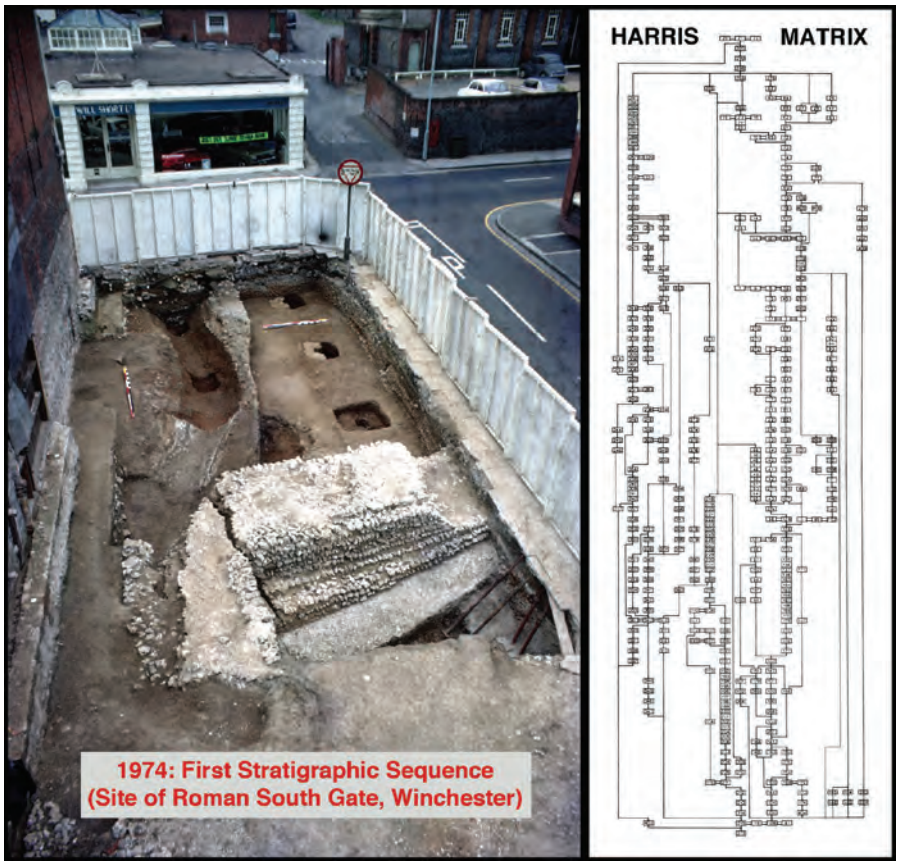
Bottom
Fig 2: The Harris Matrix changed the stratigraphic paradigm in archaeology from the one-dimensional section drawing to the four-dimensions of the stratigraphic sequence.

The archaeological article on Sandgate Castle appeared in 1980 and, by the by, the Master at the High Court had been delighted that his set of *Archaeologia Cantiana* had sold previously for a good price.

Principles and the Matrix

The book of principles for the observation, record and interpretation of stratification on archaeological sites was an outcome of the advent of the Harris Matrix, which made it possible for the first time to see the stratigraphic sequences of sites, no matter the size, location or cultural context of such. Prior to the Matrix, archaeology was in the stranglehold of the "section", which only shows the stratigraphic record on one vertical plane of a site and not its totality in area, the geology versus the geography, if you will. Combined with excavation in several holes separated by baulks, the two balked the creation of unified stratigraphic sequences. However, at the time, few used that phrase to indicate such standalone entities, like Matrix drawings, as we now know them. Some realized that the geography was being overlooked and thus "open-area excavation" came into vogue. Still, the necessary evolution in recording methods did not so evolve, as the nature of the vital ingredient in the layer-cake of archaeology, the "surface" aspect of stratification, was not understood until the mid-1970s.

It was not immediately apparent what the Matrix was, and the original drawing was described as a "Layer Chart". It took some years, thanks in part to advice from colleagues, such as Frances Lynch-LLewellyn and Laurence Keen, before it was understood that Matrix diagrams represented the four dimensions of the stratigraphic sequences of sites. The major missing component of that archaeological time machine was the "surface". Most pre-1973 sites are perhaps under-recorded by up to 51 per cent of the stratigraphic units, as there are always more surfaces than layers on any archaeological site. It then transpired that surfaces, not deposits, are the key to unlocking the stratigraphic sequence and that every surface must be recorded, as they do not exist (unlike deposits) unless recorded.

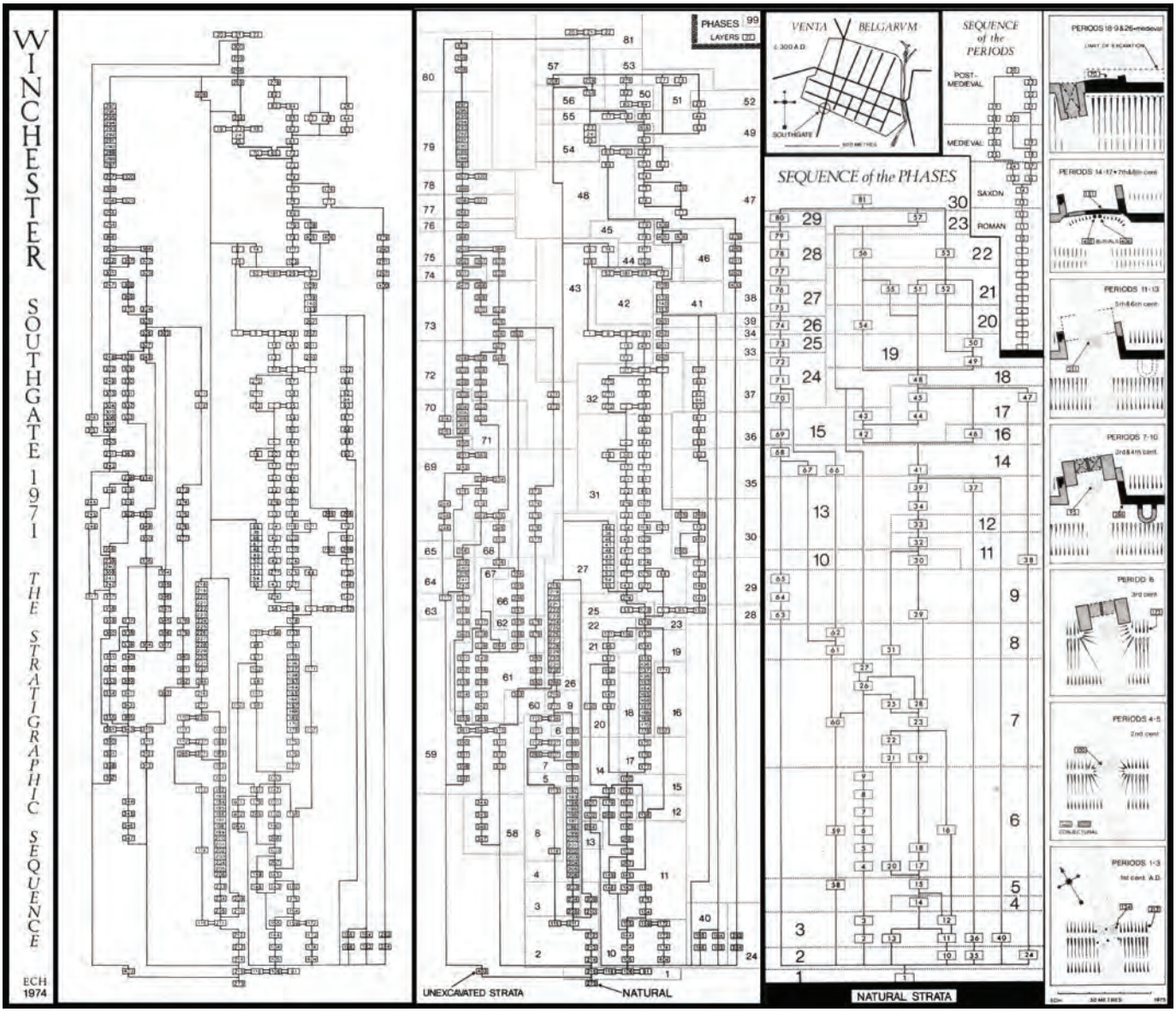


Above
Fig 3: The Roman South Gate at Winchester was one of the first sites for which a true stratigraphic sequence was made, now commonly called a 'matrix'.

With a record of surfaces, the topography of a site can be reconstructed, which surely must be a primary archaeological task, for people live on surfaces, not in the muck that are deposits. The conflation of surfaces with deposits impeded the creation of true stratigraphic sequences in a Matrix diagram.

Contrary views and acceptance

With the coming of the Matrix, the archaeological world split into for and against camps, with considerable resistance coming from geological-minded souls. Since archaeology had been bumbling along with principles borrowed from geology, some critics were affronted that independence was declared in the form of *archaeological* standards for stratigraphic methods, while others did not like the departure from Kenyon-Wheeler systems, failing to see that the Matrix was a logical evolution from those methods.



Others, like the Italians, for example, published a foreign language edition of *Principles* in 1983, which is still in print and includes a fifty-page introduction by Professor Daniele Manacorda. Almost fifty years on, with the passing of a generation, acceptance of the Matrix and ***Principles of an Archaeological Stratigraphy*** seems complete, with several foreign language editions now in print or digital formats, the most recent being Korean, French and Arabic, with a Chinese edition imminent.

In 2005, with the assistance of the National Museum of Bermuda and Wolfgang Neubauer and Klaus Loecker of the University of Vienna, Principles went airborne as a free download on www.harrismatrix.com. That support has continued under Dr Neubauer via the *Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology*, perhaps the leading research body into stratigraphic methods in Europe, with the latest rendition of the web site being sponsored by Santiago and Michelle Pujadas, Bob Minkus, and their team at the Pennsylvania media firm, *0to5*.

Above
Fig 4: A stratigraphic sequence (left) can be grouped into 'phases' (centre), which can be represented as sequence diagram then separated into the larger 'periods' (right).

The Harris Matrix has been able to merge almost seamlessly into the internet and digital world, especially with the development of Geographical Information Systems for recording and manipulating mapping data of surfaces. Here again, the LBI has come to the fore with its freely accessible programme, the *Harris Matrix Composer*, which can generate matrices as well as much other data. Looking back on almost 50 years of development, it is perhaps fair to state that the Harris Matrix and accompanying principles of our science of archaeological stratigraphy have been two of the most significant occurrences in our unique field for the explanation of human history through the stratigraphic record of sites and monuments, the physical nature of which is "undesigned commemorative of the Past", as Sir Charles Lyell once wrote of the geological record of the Earth.

The archaeological record now covers countless square miles of that natural record, and its interpretation is our primary goal based upon principles of archaeological stratigraphy, now a maturing and vibrant science in its own right. The contribution of the Harris Matrix and *Principles* cannot be gainsaid if considered as now commonplace by the institutions and many of our unique profession.

Edward Cecil Harris, MBE, PhD, FSA
Bermuda

Top left
Fig 5: The cover of Manfred Eggert's 2001 publication on methods in Prehistoric Archaeology indicating that the Harris Matrix has passed into common knowledge.
Top right
Fig 6: The cover of the French edition of *Principles of Archaeological Stratigraphy*, translated by Anne-Sophie Murray and available for free at www.harrismatrix.com
Bottom
Fig 7: Archaeologists David Bibby and Wolfgang Neubauer with the "layer cake" celebrating the 31st anniversary of the Harris Matrix in 2004 in Austria.

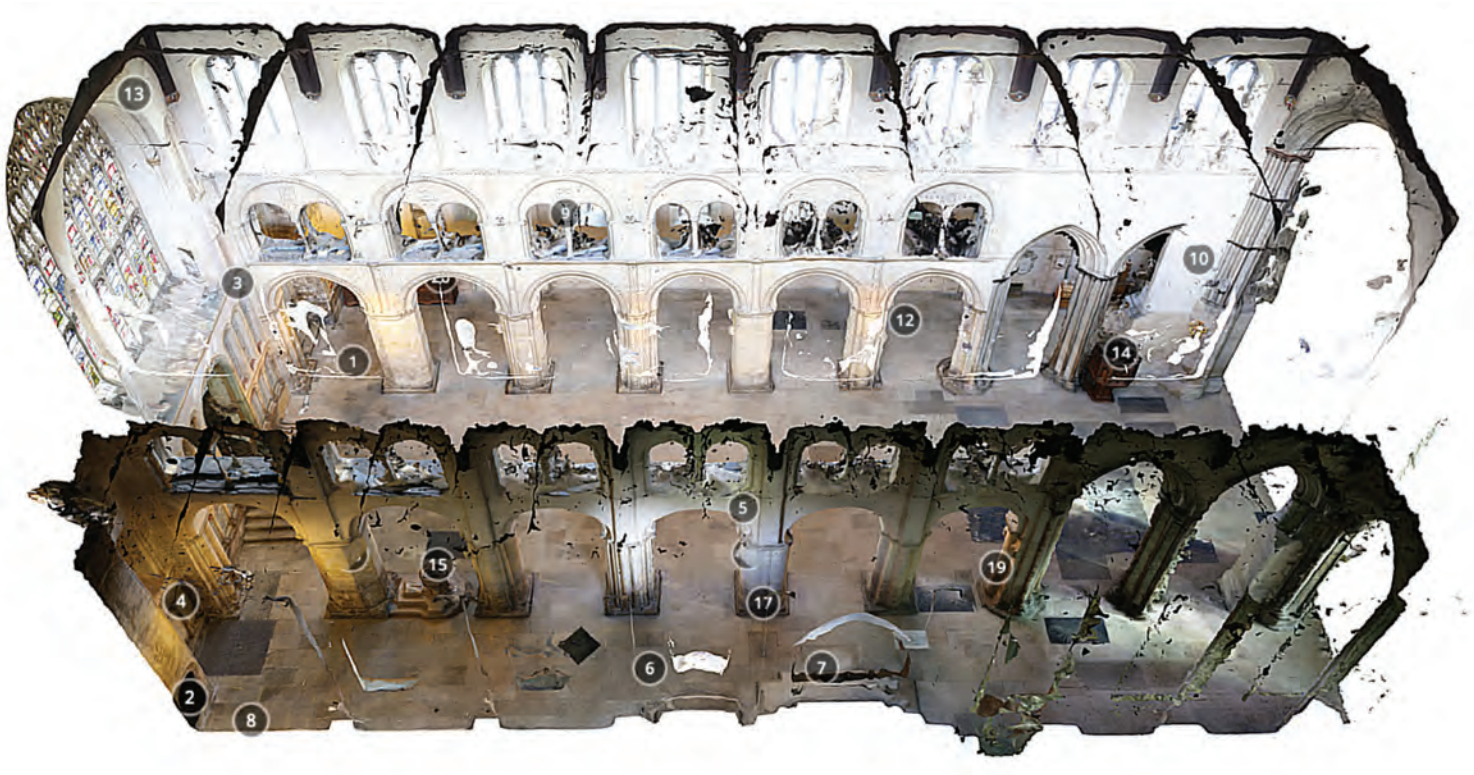
ROCHESTER CATHEDRAL – A VIRTUAL TOUR

By Jacob Scott

What has become the Virtual Cathedral Project has been gathering pace for several years. I've been producing models of the Cathedral and its features to supplement our public interpretation programme since 2015. The project was given a new impetus with the onset of the COVID-19 lockdown, resulting in the new Rochester Cathedral Virtual Tour.

In March 2020, for the first time in living memory, the Cathedral was closed for public access. The furnishings and public interpretation were stowed and the doors locked for two months. Staff, volunteers and contractors were unable to access any of the site. As Operations Assistant, I was still accessing the Cathedral day to day to 'mothball' the building and its systems and stop the dust piling up too high. As Exhibition Assistant, I was aware that the 3D model collection was suddenly one of the few ways to 'see' the interior of the Cathedral and its features, and one of the only public interpretation elements that could continue during lockdown.

Above
Fig 1: Explore the cathedral in a growing collection of high-resolution 3D models



A crash course production of hundreds of models, together with the model collection that had been growing for some time, resulted in the launch of the Virtual Tour in May.

After the rush of production, there has been some time to consider what has been produced, and how we could use this new resource moving forward into the strange “new normal”. The primary aim is the culmination of a database cataloguing 3D models and collections of the Cathedral. All components are recorded and available for free viewing in high-resolution, from any angle, anywhere in the world. Many of the architectural elements and sculptural features are inaccessible or difficult to inspect from the cathedral floor.

Public interpretation aside, these models serve as a valuable record of irreplaceable medieval art at risk of further weathering, damage or deterioration.

In 2013, two laser scan models were produced of artefacts during the planning phase of the Heritage Lottery funded *Hidden Treasures, Fresh Expressions* project to redevelop the cathedral crypt, and other operational areas. One outcome being the high-resolution laser scan models of the fifteenth-century tomb of Lord and Lady Arundel, now covered by the construction of a large two-storey storage unit, and an eleventh-century door (the second oldest in the country). Due to its fragility, it has not been possible to place on public display.

Top
Fig 2: Head corbel model
Bottom
Fig 3: SfM modelling provides an inexpensive method of building recording with stunning detail

These high-resolution models have set the benchmark for the later modelling work during the Virtual Cathedral Project, utilising the alternative technique of Structure-from-Motion (SfM) photography. SfM produces models from a series of photographs taken from many angles. Software (in our case, Agisoft Metashape) produces models from the automatic identification and estimated relative 'movement' of identified common features within the photographs. SfM allows archaeologists to record complex objects and contexts quickly and accurately, allowing items and collections to be viewed side-by-side, aiding comparative and typological analysis. A comprehensive database will provide a valuable conservation record. Damage and wear of stonework can be recorded and compared with conditions in the future to identify at-risk collections and features.

Excavations for archaeological investigation, maintenance and works can be a routine occurrence at Rochester Cathedral, as they are at many urban heritage sites. Trenches and pits are excavated for services, repaving, conservation and investigatory works. SfM modelling can quickly and cost-effectively record trenches and holes for public interpretation, archaeological research or future maintenance and planning. It is not always possible for a professional archaeologist to be on site for the entire duration of utilities excavations. Still, the basic process of photography for SfM modelling can be described to contractors, on-site staff and volunteers.

An essential objective of the project is to develop a practical workflow for a volunteer group with low to medium technical ability and funding. Photographs have been taken with a consumer-end DSLR camera. However, the software is versatile enough to work with photographs from a modern smartphone, video footage, or drone photography. Objects and features are typically photographed from 20 to 40 camera locations, although this varies greatly depending on the size and shape of the object. The large models in the Virtual Tour covering whole portions of the building, often requiring several hundred photos, a process made much easier by the temporarily empty building. Photographs have been processed to produce 3D models of widely variable scales and resolutions, and image files are retained for any future re-processing at higher resolutions.

Photography was carried out using ladders, cherry pickers, booms and scaffolding, reflecting the numerous challenges posed by these sites. Works occasionally provide once-in-a-lifetime opportunities for close-up inspections. SfM produces a cost-effective, accessible record. Repairs to the quire vaulting this summer have seen the east end of the Cathedral filled with two enormous scaffold towers providing access for close-up inspection and photography of the vaulting ribs.

Top
Fig 4: Quire boss reconstruction model
Middle
Fig 5: Quire boss

Bottom
Fig 6: Quire scaffolding

Two bosses over the quire stalls were found to feature extensive fragmentary remains of their original c.1200 AD decoration.

All content is made freely available on the cathedral website, with donations encouraged. Visitors to the Virtual Tour webpage can also follow along with the Audio Tour narrated by Jools Holland, also with French, German, Spanish and Mandarin translations. We also offer a Family Tour suitable for all ages and a Reflective Tour with music and time for a thoughtful exploration, narrated by Dean Phillip Hesketh. A blog is available on the cathedral website with updates on the progress of the project and highlights from the growing collection of 3D models. You can also find out more about the project on the Rochester Cathedral Research Guild website.

Enormous thanks are extended to all the staff and volunteers for many months and years of expertise. Especial thanks are reserved for Lesley Olley of Olley Design for the web, graphic design and getting the Virtual Tour online over lockdown.

Find out more about the techniques behind the project:
rochestercathedralresearchguild.org/virtual-cathedral-project

Blog with highlights and updates on the project:
rochestercathedral.org/virtual-cathedral-project

Feedback and enquiries very welcome:
jacob.scott@rochestercathedral.org

VIRTUAL CATHEDRAL project

Comprising over five hundred 3D models, the **Virtual Tour** is an incredible record of the architecture, history and collections of Rochester Cathedral.

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Audio tours available in:

English, French (Français), German (Deutsch), Spanish (Español) and Mandarin (普通话)

Rochester CATHEDRAL
Growing in Christ since AD604

ANNE GLYD – HER BOOK 1656

By Giles Drake

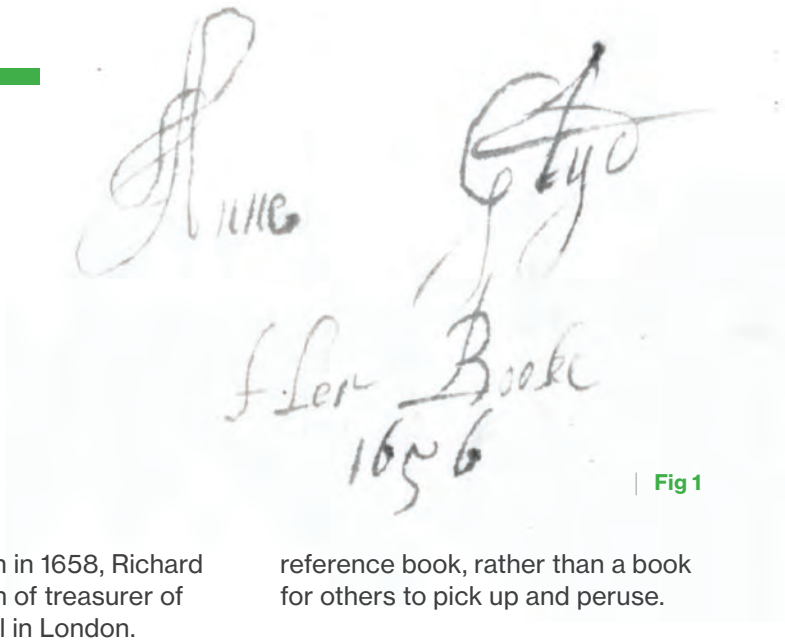


Fig 1

On a day sometime in the seventeenth century, a young housewife sat down at a table in her home with a hardback book of blank pages. She opened the front cover and turned over the first page and on the following page with a confident artful pen strokes, wrote 'Anne Glyd, Her Book, 1656' (Fig 1).

This book became Anne's record of recipes for cooking, medical remedies and even veterinary treatments. Her first recipe was 'To Make a Paste of Genoa ye True Way'; credited to Mrs Berry. This recipe for making a fruit jelly that was then used to create decorative shapes that could be used to adorn other foods, or be eaten separately as a sweet treat.

By this time Anne was about 25 years old, had been married to Richard Glyd of Bletchingley for six years and was already mother to six children. However, sadly two of these had died in infancy. Anne was born on 8th January 1631 in Worplesdon, near Guildford in Surrey. Daughter of Anthony and Agnes Stoughton, she grew up in a prominent county family as her grandfather was Lawrence Stoughton, a Member of Parliament. Anne benefited from an education which taught her the essential skill of reading and writing that would allow her record to be created. Aged 19 (circa 1650), she married Richard Glyd of Pendhill, Bletchingley and set up home with him there. Richard was well established within the merchant classes. He, therefore, was able to provide a good house and financial stability for his wife. By the time of his death in 1658, Richard held the position of treasurer of Christ's Hospital in London.

Households such as theirs were busy places, and the wives were likely the principal managers, which allowed their husbands to pursue their business interests. This became even more true for Anne after her husband Richard, died in November 1658. From this point, Anne remained single and continued to live in the family home until 1696 when, aged 65, she moved to Newington by Hythe in Kent, to live with her daughter Anne and her husband William Brockman at Beachborough House.

It is widely accepted that these house books were probably quite common. They became the housewife's bible of information needed to run their small communities. Ultimately, Anne's collection amounted to 490 recipes; 28 for veterinary treatments, 5 for household use (pomanders and moth repellents), 99 for food and 352 medical remedies. The latter category points to just how conscious people were about their health, especially in a time where life was all to often, cut short.

There is no visible order to how the recipes were recorded in the book. Anne appears to document recipes as she collects them. Hence, within the first few pages, records switch between pastes for tender plumbs and berries to a cure to stop rot disease in sheep or stop the runs in a calf. This simply underlines that this was a personal collection; Anne's reference book, rather than a book for others to pick up and peruse.

When I began transcribing the book, as a forester and woodland ecologist, I imagined that I would be unlocking the secrets of how our native plants were used to cure our ills. Sitting in the British Library reading the original book, I read references to making decoctions of up to 26 different plants, sweetened with honey, to make water that would cure sores, quell an aching breast or stomach, stem the flow of blood and cause bullets to fall out of the body or induce a still-birth.

Even the calves were given a mixture of sloe berries (*Prunus spinosa*) boiled in beer to bind their runny tummies. The sheep were being fed a liquor of broom (*Cytisus scoparius*) boiled in brine. Still, it had to be dosed at Michaelmas time (late September).

This collection will tell you how to pickle cucumbers (No 75, 78 & 79) and oysters (No 77), bake cakes in the New England style (No 76) and make candied flowers.

But a darker side lurks within the remedies that indicates good intentions were as likely to make a condition worse, if not immediately then certainly over the long term.

One might brush their teeth with a mixture of powdered ivory and an alum of lead (No 59); lead is also used in treatments for worms and salves for various skin treatments (No 198, 285, 407, 482); a mother in difficult labour should drink her husband's water (No 288);

treatment for a sore throat includes powdered dog dung (No 201); to treat shingles it was recommended to bleed a cat and mix the blood with cream, although the reader is left in the dark as to whether the mixture was then drunk or applied to the affected area (No 454); a pound of sheep suet and dung was added to an ointment for application to burns (No 385), as approved by surgeon Mr Johnson.

Even the horse got a pint of urine from the chamber pot boiled and mixed with lard or grease to treat a cold, whilst the pig was treated to a water of dragon lilly root, sage, balm, yarrow, wild daisies, rosemary, hyssop, rue and southernwood boiled in strong beer to treat it for a bite from a mad dog. Perhaps it made the hog ultimately taste better.

Significantly, so many of the recipes are credited to named people. Cousin Berry was a significant contributor. Others included Goodman Killik, Dr Theobals, Mrs Wigers, Joan Wickers, Cousin Nat Sto Irland, Goodwife Butt, Bishop Winchester (currant wine), Mrs Hollands, Mrs Steats (1686) the mysteriously abbreviated R Ot, even her husband Richard, and herself, Anne Glyd. There was a healthy trade in recipes and remedies within Anne's social network. The Brockman collection in the British Library includes a collection of individually written recipes and remedies that demonstrates this.

Anne also used this book to record the important times in her family. The births and deaths of her children, grandchildren and husband are carefully documented, often with a prayer that shows the emotion behind the event. Anne writes a special note that tells of her attempt to take custody of 6 of her grandchildren after their mother and father died of smallpox, an attempt frustrated by trustees. It is thought she was ultimately successful in this action and subsequently she moved to Beachbourgh with them to live with her daughter Anne. Hidden amongst these notes, a single line records "The 4th November the prince of orang began to land his army", reminding us the book was recorded during a time of much turmoil.

This book is part of the Brockman manuscript collection held by the British Library. It is an open resource of family, household and business papers that opens a window on to life. Copies of the completed transcript of Anne Glyd's remedies are available through the Kent Archaeological Society.

RAID BY ZEPPELIN L32 ON CROCKENHILL, KENT

By Susan Pittman

Reference is made to the raid by Zeppelin L32 on Crockenhill in Peter Titley's intriguing article, A First World War Bomb at Penhurst (KAS Newsletter 113)[1]. The incendiary device found in Penshurst may have come from this vessel. Still, perhaps more certain is a piece of shrapnel from bomb casing which was picked up by Aleck Clements on the morning after the raid in Crockenhill which remains with the family. The account of the raid by the Clements family adds perspective to this historic event.

Crockenhill was selected in 1916 to form one station in an outer ring of extra air defences around London. On 20 February 1916, an anti-aircraft gun was installed at Wested on the North Downs plateau above Crockenhill. Also, a searchlight was set up on allotment land on the edge of the village[2].

These two installations were to work in conjunction with an aeroplane operating from an airfield near Farningham Road Station. It was an attempt to penetrate this defensive line that L32 tried to put out the searchlight[3].

The air raid of 23/24 September was a significant event in the village. Elsie Clements, who lived at Tilecroft, Stones Cross Road, her husband, Aleck, and young family, kept a diary from 1909, and in the war years recorded thirty-six Zeppelin and aeroplane raids passing overhead, including the occasions when the gun at Wested fired[4]. However, by far the closest encounter with a Zeppelin came in late September 1916. Elsie's diary entry for Tuesday 24 September reads as follows:

"Heard a funny noise at quarter to 2 a.m. asked Aleck who was awake what it was, but could tell it was a Zepp travelling near, it dropped 5 bombs and a torpedo it appeared to be after the searchlight, which was near High Croft Hall, where a quantity of glass was broken. The torpedo fell in one of Lee's orchard Deepshades, where about two hundred fruit (trees) were destroyed & an immense hole made. One bomb dropped in Aleck field just above Gosen Hill. Grace & her mother who were alone in the house, thought the roof was coming in. Lil who was sleeping here was very frightened, had a fit of shaking & had to have a dose of brandy. Aleck looked out back and front, but could see nothing but searchlights. Soon after we heard clapping & cheering & heard that the Zepp that passed over us had been brought down in flames at Billericay, the crew being dead.

Mab took Beryl to the chapel in the morning, she was very good. Grace came up just before 11.00 to tell Aleck about the hole in his field, until then he had no idea. Lil took Joyce out for a walk up Gosen Hill before dinner. We all went out about 3.30 & paid a visit to the hole in Lee's field, thousands went during the day & a collection was made for the Cray Cottage Hospital & Red Cross fund. Syd Everest found a propeller off the torpedo. Lil brought the children home & got tea made while Aleck & Elsie went on to Gosen Hill. Aleck stayed at home, Elsie went with Grace to evening service, Harvest Festival, and sat in Baker's pew."

The raid was also reported in *Orpington & St. Mary Cray District Times* of 29 September 1916 under the head-lines 'A Wakeful Night - How the Zeppelin fell in flames in Essex – A Thrilling Spectacle (by an onlooker)'. Most of the article described the end of the Zeppelin. Still, the tailpiece headed 'Some Bombs which fell Harmlessly' mentioned that a reporter had cycled over to the fruit fields in the neighbourhood of a particular village, where bombs had been dropped. He inspected the hole at Deepshades, which had been cordoned off and was large enough to bury a horse and cart in[5].

He said the visitors paid cheerfully to see what damage a Zeppelin might do. In the village itself, he saw many windows blown out by the blasts.

There are queries which arise from Elsie Clements' account. First, there is a discrepancy over the time she heard the Zeppelin – 1.45 a.m. Since L32 was shot down over Essex at 1.10 a.m., this must be inaccurate. Perhaps she forgot the newly introduced Summertime, making it 12.45 a.m. which would tie in with official accounts of the raid as being 12.50 a.m. Second, official records also mention seven bombs, but no torpedo[6]. The propeller found may have come from the tail end of a large carbonite bomb. In 1916 a new type of high explosive carbonite 'torpedo bomb', designated PuW, was introduced. It was larger, long, and cylindrical, and with the propeller-like tail, may have looked like a naval torpedo.

The air raid of 23/24 September has proved a fascinating and, in some parts, terrifying, account of wartime bombing in Kent during the First World War. The same searchlight and anti-aircraft sites were used in the Second World War, so the strategic importance of Crockenhill in defence of London continued.

Above
Fig 1: Bomb casing shrapnel found by Aleck Clements after the attack by Zeppelin L32 on the searchlight at Crockenhill, September 1916, wrapped in the original newspaper of the period.

References

[1] Titley, P. 2020 *A First World War Bomb at Penhurst*, Kent Archaeological Society Newsletter 113: 8–10

[2] Bernard Clements, Elsie's son, made extracts from the 1909–1923 diaries, and Susan Pittman photocopied the diary from 1914–1916 (both in the Pittman collection)

[3] *Miscellany 2* paper by Dr Wilf Duncombe *A First World War Airfield at Farningham* (Farningham & Eynsford Local History Society no.20, 1997

[4] For more about the raid and the sightings reported by Elsie Clements see **www.felhs.org.uk** (Home Page click WW1)

[5] Dr Susan Pittman *The Lee Family – Farmers at Crockenhill, Kent* (Darenth Print 2019) for more about the various locations and the Lee family

[6] *The War in the Air* Professor Sir Walter Raleigh (6 volumes OUP 1922–1939)

BOUGHTON MALHERBE CONSERVATION

NEW WORK ON OLD FINDS

By Sophia Adams

2020: a time when we have had to adapt to new ways of working and connecting with family, friends and colleagues. In March, Maidstone Museum, Dana Goodburn Brown and I were about to embark on a new project on some old finds: a detailed study of the Boughton Malherbe hoard. The study would end with a public exhibition of the hoard at Maidstone Museum. The project was made possible by a generous grant from The William and Edith Oldham Trust. A grant that enables us to clean, conserve and analyse the objects ready for display. A grant that supports sharing this work with a wide audience engaging both the academic hive mind and public imagination; connecting us with the people who made, used and buried these objects almost 3000 years ago. Seven months later, thanks to the perseverance of Pernille Richards at Maidstone Museum and a willingness by all of us to alter how we work together and adapt to collaborating online, we have been able to start the project.

The Boughton Malherbe hoard is the largest Late Bronze Age hoard found in Kent. It weighs approximately 64 kg and contains complete objects and fragments; from whole axes to pieces of swords. In 2017 information on the contents and context of this find were published in *Archaeologia Cantiana* (Volume 64, 2017; see also KAS newsletter Issue 104, Winter 2016). This find, buried at some point between 850 and 750 BC and discovered in 2011, is of international importance. It has already been referenced in many publications and conference presentations, particularly by researchers in the UK and France. It has even been proposed as the name for a type of hoard: Boughton-Vénat; referencing the inclusion of objects typical to hoards from southeastern England and Northern France (D. Brandherm and M. Moskal-del Hoyo 2014, *The Antiquaries Journal*, Volume 94, 1-47). Yet, these discussions are based on a limited record of the hoard rather than an in-depth analysis of each item.

So far the objects from the Boughton Malherbe hoard have been studied in their 'as found' condition: some are coated in soil, others filled with soil. When two or more prehistoric metal artefacts are discovered together during a metal detecting survey they

Above
Fig 1: A selection of objects from the Boughton Malherbe Late Bronze Age hoard, Festival of Archaeology presentation at Maidstone Museum 2019. Image by Sophia Adams

must be reported to the Portable Antiquities Scheme and kept in the condition in which they were found. A record of the finds is made and presented to the coroner. If the coroner designates these items as Treasure, they will be submitted to the Treasure Valuation Committee, still in the same condition. Once a museum acquires the hoard, that museum takes on responsibility for the condition and maintenance of the finds. The soil coating the finds can protect them to an extent, but it hinders full examination of the objects. Without cleaning, we are missing so much of the detail of these objects: decorative features, manufacturing evidence, use wear and signs of manipulation. Unfortunately, nowadays, museums rarely have the facilities and resources for cleaning and conserving the items; at best they can store them in a non-humid environment to keep them stable. We are very grateful that this grant has made it possible for the museum to collaborate with local, highly esteemed, conservator Dana Goodburn Brown (KAS Newsletter Issue 108, Spring 2018) to examine, clean, conserve and stabilise the objects in the hoard. The project is led by Sophia Adams, acting both as the project manager and researcher.

Batches of objects from the Boughton Malherbe hoard are now being worked on by Dana and her assistant Marie Le Saux. We are organising socially distanced finds handovers, holding meetings online and sharing images and ideas through several different digital formats. Digital recording is paramount; it provides us with a great set of images, notes and videos that can be worked into the exhibition at the museum in 2022. We will keep followers updated with our progress with web posts, social media, via this newsletter and through public talks and presentations.

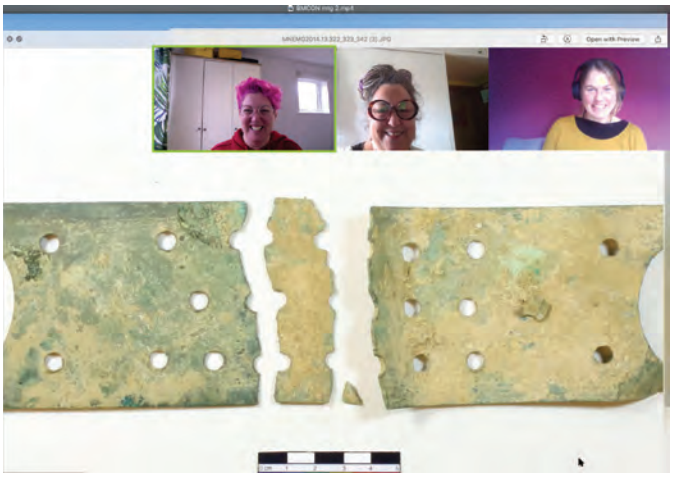
On 28th January 2021 Sophia will be giving a talk online, hosted by Maidstone Museum, to tell you about the work so far; how the finds are conserved and cleaned; what we can learn about them and how there is so much more to a Bronze Age axe than first meets the eye.

A small selection of the objects from the hoard are on display at Maidstone Museum in the prehistory gallery on the first floor. For more information on the online talk visit the museum's website: https://museum.maidstone.gov.uk/whats-on/events/

For more information on what is classed as Treasure, the Treasure process and the Portable Antiquities Scheme visit: https://finds.org.uk/treasure

Sophia Adams is an archaeological researcher based in Kent. She has recently researched another large hoard from the other side of the Thames at Havering, London. This is on display at the Museum of London Docklands. Admission is free, but an entry time must be booked in advance owing to COVID safety procedures.

https://www.museumoflondon.org.uk/museum-london-docklands/whats-on/exhibitions/havering-hoard-bronze-age-mystery



Top
Fig 2: Before and after: end-winged axe from the hoard before and after conservation cleaning by Dana Goodburn Brown. ©Marie Le Saux and Sophia Adams
Middle
Fig 3: At work in the conservation lab, 2020. ©Marie Le Saux and Sophia Adams
Bottom
Fig 4: Online project meetings in the time of Covid, 2020. Image by Sophia Adams

THE LYMPNE ROMAN SETTLEMENT
GEOPHYSICS RESULTS

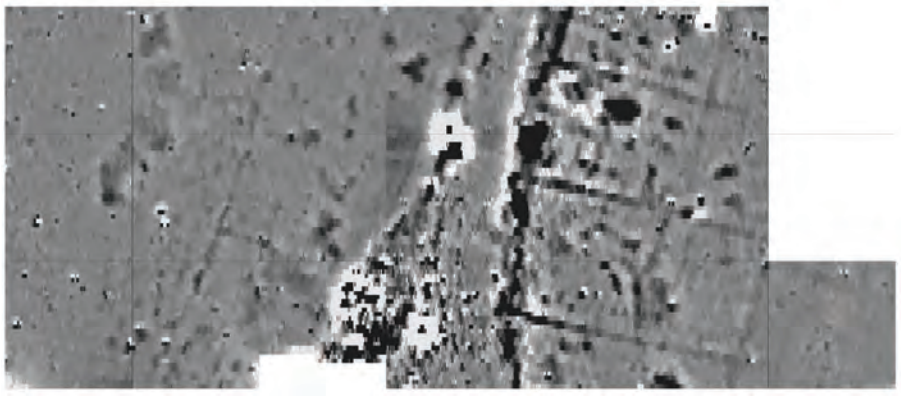
By Guy Topham, Fiona Jarvest, Mike Pearson & Richard Taylor

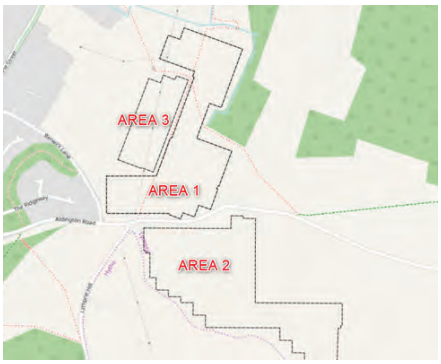
Background

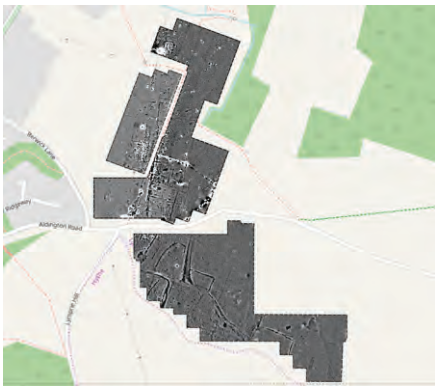
Lympne's Roman history, as we know it, originated with the construction of a port, known as *Portus Lemanis*, beside a lagoon with an entrance to the sea near what is now West Hythe. From the documentary evidence, it is reasonable to assume that the port was associated with a naval base in the 2nd century AD. Towards the end of the 3rd century, around 275AD, the Romans constructed a fort as one of the 13 Saxon Shore Forts built along the east and south coasts of England. The ruins of substantial walls are visible down the escarpment on a site known as Stutfall.

Prof. Sir Barry Cunliffe excavated the Roman fort between 1976-78. He stated in his report that Lympne was a 'location of some significance' both early in the Roman period and later in the 4th century. Reasons for the importance lay in the port's access to the Continent, and a Roman road network: a direct link to Canterbury along Stone Street; the Clifftop road along the northern edge of the Weald via Ashford to Maidstone and onwards to London; and a route to Dover. Further academic research by the University of Kent's Archaeology team (public lecture 2015) identified the importance of Lympne in an international context in the late Roman period.

Evidence for Roman occupation at Lympne almost wholly relates to the fort, and archaeological activity centred on the Stutfall site with excavations by Roach-Smith in 1850 and Cunliffe in the 1970s. Cunliffe confirmed the layout of the fort, Roach-Smith's discovered a bathhouse, but importantly, no indication of a civilian settlement nearby.







In 2014 Malcolm Davies approached SHAL (Studying History and Archaeology in Lympne) for support carrying out resistivity surveys in and around the fort at Stutfall. The aim was to find evidence for an earlier phase of the fort, and its harbour, implied by the discovery of an earlier Roman altar dedicated to Neptune (now in the British Museum), together with several tiles marked CLBR located in the foundations of the fort's east gate. Lloyd Bosworth from the University of Kent undertook a complimentary magnetometry survey in 2015. Both survey results led to a trial trench excavation over a specific

Top
Fig 1: Initial Mag Data carried out in Area 1
Bottom, left
Fig 2: Areas of Geophysical Survey
Bottom, right
Fig 3: 3 Areas of Geophysical Mag Data

geophysical anomaly within the fort (KAS Newsletter 109: 30-31) in May 2018, under the supervision of archaeologist, Richard Taylor. The outcome of the excavation was inconclusive and found no additional evidence for an earlier fort. After that, and again using resistivity, Malcolm turned attention to search for a road which would have led to the earlier fort. Still, no evidence for such a route has so far been found.

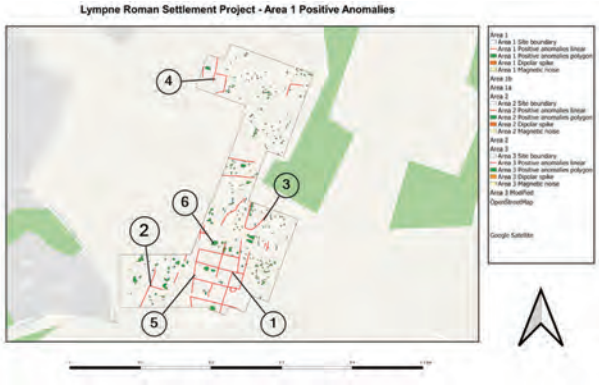
Results

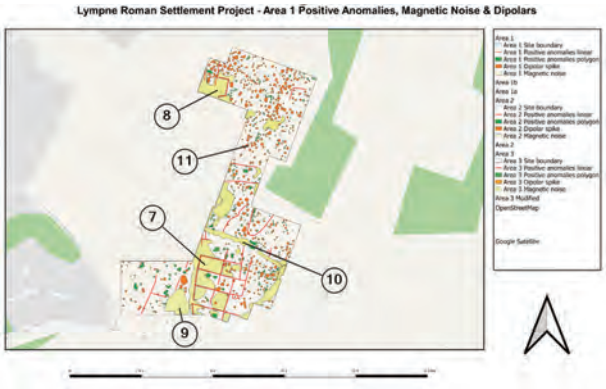
Malcolm's next focus was on fields to the north and east of Shepway Cross, approximately 1km northeast of Stutfall. SHAL had previously expressed interest in the visible landscape with a possible road running along the field boundary, and where brick, tile and pottery were visible on the ploughed field. Malcolm had also discovered that in previous years many Roman coins had been found in one of the fields. With the landowner's permission, he undertook further resistivity surveys. The results indicated additional work was needed, and the services of Richard Taylor were sought to conduct an initial magnetometry survey measuring 90m x 270m, the results of which were very significant (Fig 1). A fieldwalking exercise on the same day by SHAL members revealed a considerable number of pieces of brick, tile and pottery.

Following these results, landowner permission was sought to continue investigations in the surrounding area, culminating in seven days of the survey over twelve months, covering three separate fields producing sixteen hectares of geophysical data for processing. The survey was carried out using the KAS Magnetometer by Richard Taylor and Fred Birkbeck, supported by SHAL.

Area 1

At the southern side of survey Area 1 is (1), a group of positive rectangular linear anomalies that are suggestive of boundary ditches, foundation or robber trenches associated with structures or buildings characteristic of the distinctive form of late Iron Age/ Romano-British Ladder Settlements based around a trackway. One possible extent of a trackway is a positive linear (enclosure boundary) anomaly heading north (5), with (1) displaying parcels to the east side of the trackway. Additional parcels (2) are found to the west of the possible trackway (5). Toward the eastern side of survey Area 1 is (3), a positive curvilinear anomaly which continues into the adjacent woodland, characteristic of an enclosure. At the northern end of survey Area 1 is (4), which appears to be a series of positive rectangular linear anomalies or parcels, suggesting the 'Ladder Settlement' continues for approximately 400m further north. Scattered throughout survey Area 1 are several positive curvilinear anomalies of varying sizes. Depending on both size and shape, these anomalies can range from postholes, pits or other soil-filled hollows. There are several positive curvilinear anomalies (6) within the 'Ladder Settlement', suggesting the likelihood of pits associated with habitation or industry. At the southern



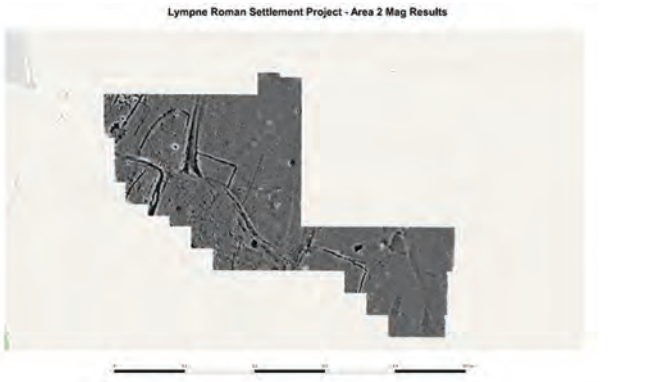


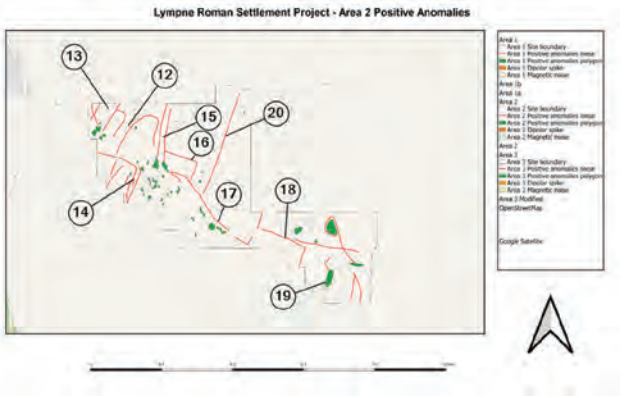
Top to bottom
Fig 4: Area 1 looking northeast
Fig 5: Area 1 Mag Data
Fig 6: Area 1 Interpretation
Fig 7: Area 1 Interpretation

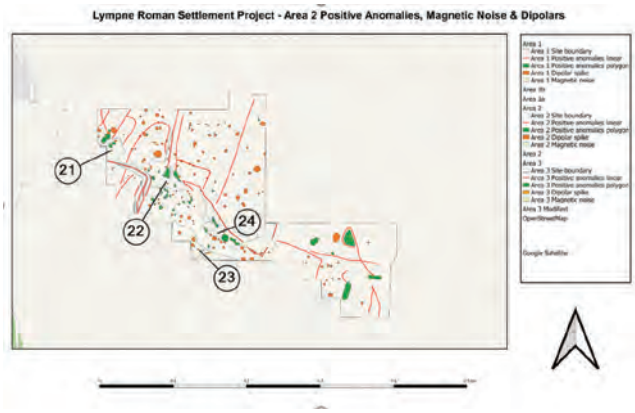
edge of survey Area 1 is (9), a large area of magnetic noise. These are likely to relate to ferrous waste, areas of burning and other detritus accumulating around an area of a known demolition site of Beacon House, which was present on the 1929-1952 OS Map. Toward the centre of survey Area 1 is a field drain or service pipe (10), which extends east-west across the site and likely turns south towards the Aldington Road. Areas of magnetic noise are present in the northern and southern extents of the site, especially in and around the 'Ladder Settlement' area. These are likely to relate to a combination of ferrous waste, thermoremanent material and other detritus accumulating around the margins of a probable settlement or industrial location. Scattered randomly throughout survey Area 1 are several strong and weak dipolar responses, examples of which are highlighted as (11). The characteristic dipolar responses of pairs of positive and negative 'spikes' suggest near-surface ferrous metal or other highly fired material in the plough soil.

Area 2

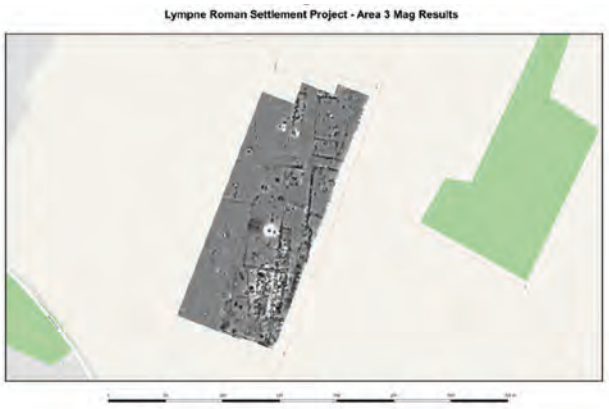
Toward the northwestern of survey Area 2 is (12), two positive curvilinear anomalies that are suggestive of an entranceway up to 12metres wide, leading into what may have been a large enclosure. To the west of (12) appears a group of positive rectangular linear anomalies (13) that are probably associated with the southern extent of the 'Ladder Settlement'. The results seem to show that (13) truncates (12), implying the possible entranceway is earlier than the 'Ladder Settlement'. Extending from the southwestern corner of survey Area 2 is a right-angled and strong positive rectilinear anomaly (14) suggestive of a large enclosure, at least 50 meters across. The results seem to show that (14) also truncates (12), again implying a later date than the possible entranceway to an earlier enclosure. At the northern side of survey Area 2 is (15), two positive linear anomalies that are suggestive of a trackway up to 8 meters wide, heading south into what appears to be a large enclosure area to the east of (14). (15) does to truncate other anomalies. However, (16), a right-angled positive linear anomaly appears to respect (15) on its eastern flank, creating an enclosure, bounded by (17), a further strong positive curvilinear anomaly to the south. At the east side of survey Area 2 is (18), a discrete right-angled positive linear anomaly that appears to form a different enclosure. To the east of (18) are several large positive anomalies which may represent pits or quarrying and have since become soil-filled. These anomalies have positive curvilinear anomalies either surrounding or adjacent to the pits. To the east of (16) is a faint positive straight linear anomaly (20), which may be a modern pathway. (21), (22), (23) and (24) are separate areas of magnetic noise and likely relate to a combination of ferrous waste, thermoremanent material and other detritus accumulating around the margins of a probable settlement. Scattered randomly throughout survey Area 2 are several strong and weak dipolar responses (annotated in orange). The characteristic dipolar responses of pairs of positive and negative 'spikes' suggest near-surface ferrous metal or other highly fired material in the plough soil.

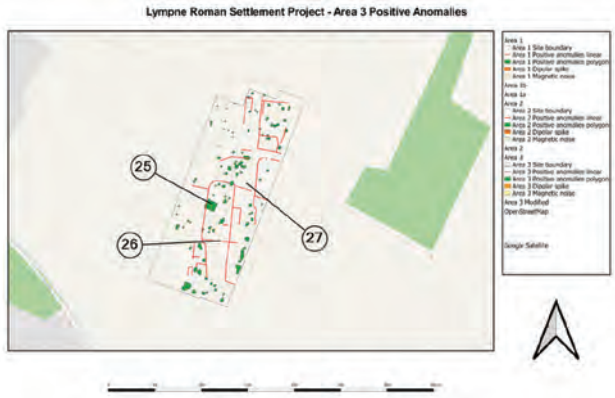






Above (top to bottom)
Fig 8: Area 2 looking south toward escarpment
Fig 9: Area 2 Mag Data
Fig 11: Area 2 Interpretation
Fig 12: Area 2 Interpretation





Area 3

Towards the west of survey Area 3 is (25) a large rectangular positive anomaly which sits within (26), a further series of positive rectangular linear anomalies suggestive of parcels, similar to (2) and found to the west of the possible trackway (5). To the east of (26) there is further evidence for the central trackway (27) around which the 'Ladder Settlement' is based. At the centre of survey Area 3 is (31), a large dipolar reading within an enclosed area of (26), that suggests an area of highly fired or thermoremanent material, such as a furnace or oven. There are similar dipolar readings (28) and (29) toward the north of survey Area 3, which exhibit similar properties to (31). Toward the southeastern corner of survey Area 3 is (30), a large area of magnetic noise and likely relate to a combination of ferrous waste, thermoremanent material and other detritus accumulating around the margins of (26).

Above (top to bottom)
Fig 10: Looking south towards English Channel from escarpment Area 2
Fig 13: Area 3 Mag Data
Fig 14: Area 3 Interpretation
Fig 15: Area 3 Interpretation

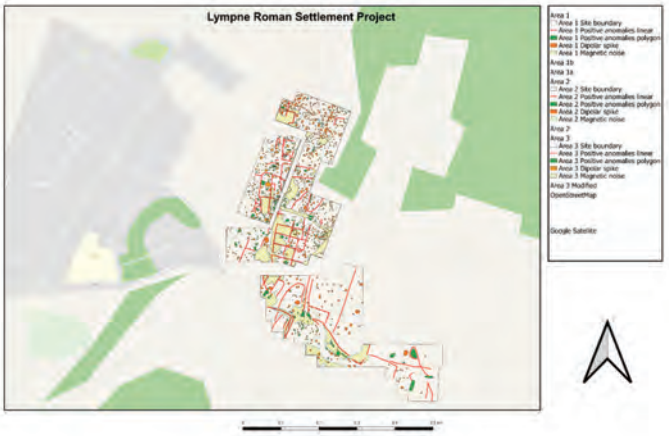
Discussion

The results are startling and suggestive of a late Iron Age/Romano-British 'Ladder Settlement' based around a central trackway, visible in parts in all three survey Areas. In addition to the visible enclosures or parcels attached either side of the central trackway, several detached linear and curvilinear features are visible in survey Areas 1 and 3, which may indicate farming or agricultural activity. Also, the investigation in survey Area 2 revealed potential Iron Age earthworks in the form of an entranceway, which is truncated to the north by the 'Ladder Settlement', and what appears to be a part of a separate sizeable rectangular enclosure to the south. Within survey Area 2 there are other large additional enclosures, and a large trackway, none of which can yet be identified as contemporary with the likely Iron Age or Romano/British features, but certainly add to a potential picture of a continually-extended settlement east over some time, perhaps post-Romano/British.

Given Area 1 amassed over 600 Roman coins in the 1980s dated AD 330 to AD 380, it is known that similar grouping of coins found in similar settlements relates to the presence of Roman authorities working to extract agricultural produce for the *Annona militaris*. Still, without further investigation, this is a theoretical viewpoint about the possible role and function of the site. What relationship this settlement has with Stutfall is not clear; being approximately 1km to the northeast, it may be located on a previously unknown route toward Stutfall, but this is conjecture. Alternatively, Area 2 may have revealed an earlier fortification for which the settlement served as a vicus. Either way, the investigation has identified a complex site containing an intricate series of anomalies with considerable potential for future research.

With grateful thanks to Michael Owen and William Hurley for allowing the surveys to be undertaken on their land.

Members of SHAL: Guy Topham, Mike Pearson, Fiona Jarvest, Pamela Clark, Georgina Donaldson, Dave Earnshaw, John East, Judith East, and Alison Jackson plus Simon Read and Andy Fifield for the metal detecting.



Above (top to bottom)
Fig 16: Combined Area Interpretation
Fig 17: SHAL members and Richard Taylor discussing survey strategy

THE LITERARY HISTORY OF KENT

By Kerry Brown

In Issue 110 I wrote about the remarkable literary history of the county. The article covers the earliest writing in English, going back to the sixth century and the laws produced by the Kentish Saxon kings, some of which still exist, right up to the present. It embraces important figures such as Chaucer, Shakespeare, Dickens, Austen, and Conrad, but also involves the creator of James Bond, Ian Fleming, the wonderful novelist and short story writer Elizabeth Bowen, E. Nesbit and her anarchic children's stories, and the elusive work of figures unjustly forgotten like Christopher Smart and Jocelyn Brooke.

Partly as a result of some free time because of the lockdown, I have managed to put up a hundred entries on the website, https://kentliterature.com/. These are in no particular order, but they refer to a wide range of people, with details about why they are connected to Kent, and how it figures in their work. For some, the connection is obvious. For others, it might be more specific (Daphne du Maurier's brief but significant wartime stay in Hythe, for instance). Where possible, I have tried to give detailed and precise information about where precisely writers stayed, and where in their works this might be referred to. There were a few surprises. Samuel Beckett's fortnight enduring the poor cooking in the hotel he was staying by the seafront in early 1960s Folkestone while waiting for legal reasons to get married at the Registry Office to his French partner was one. Another was to discover the incredible work of Christopher Smart, an 18th-century poet. His experience of mental breakdown and time in an asylum resulted in some of the most modern-sounding, unique poetry. His wonderful poem to his cat, Jeoffry, in 'Jubilate Agno' could not be recommended more highly – https://www.poetryfoundation.org/poems/45173/jubilate-agno.

I would much welcome any corrections, or suggestions, to the list I have put up. The idea is to publish in some form over the next year or so. I hope that putting in one place this information will help those, like me, who often travel to places in the county and are intrigued by the association of a place with a writer, and then want to find out more about it. Overall, too, this work helps to answer just why it is that Kent, and its unique and varied natural and human landscape, has been so inspirational for such a broad and influential group of writers.

Top and middle
Wellington Crescent in Ramsgate where Coleridge and Wilkie Collins both stayed
Bottom
Grave of Mary Nesbit at Church of St Mary in the Marsh

DARENT VALLEY
COMMUNITY ARCHAEOLGY UPDATE

By Anne Sassin

Although much of the past year has been spent in fieldwork and post-excavation, like many other heritage projects, the lockdown resulting from COVID-19 halted activities for a time in the spring. Focus on making available activities as the LiDAR Portal which could be engaged with from the safety of homes became a top priority, and after careful risk assessment small-scale fieldwork was also able to take place by the summer. The following is a brief recap of some of the community archaeology work undertaken by the Darent Valley Landscape Partnership since last winter. Though the new restrictions have not allowed us to be as inclusive or reach as many audiences as we would like, we hope to be able to resume full-force in the coming months!

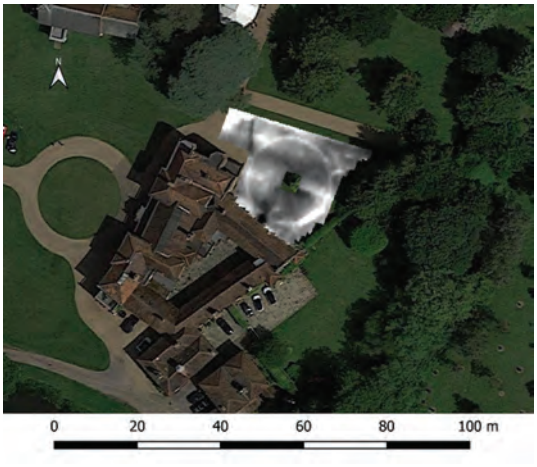
Lullingstone Castle

In March, immediately before COVID lockdown restrictions began, a small team of volunteers was able to undertake a geophysical survey at Lullingstone Castle, in advance of what was intended to be a community dig on the house's north lawn in May.

First built by Sir Percival Hart, some of the original Tudor fabric still survives at the castle, both at the outer gatehouse and east and north faces of the house. However, the house was substantially altered in the 18th century, with the inner gatehouse reportedly pulled down, and bomb damage in the Second World War which effectively destroyed its archives have left little evidence for the site's early history.

A resistivity survey of the castle lawn was first undertaken in 2011 by the West Kent Archaeological Society which identified features of interest, including a possible sunken garden on the north lawn, immediately adjacent to the original Tudor wing. This was re-surveyed in March by a small team of Darent Valley volunteers at a higher (0.5m by 0.5m) resolution, helping to clarify the pathways and later service drains identified.

The team also carried out a magnetometry survey on the main lawn and areas of the north lawns to supplement the earlier resistivity survey, possibly identifying the area of debris associated with the demolished inner gatehouse and other linear features. The survey coverage will be extended to other areas within the grounds, and the intended dig of the north wing lawn will be rescheduled for a later season, as time and restrictions allow.



Top
Fig 1: 2020 electrical resistance survey of north wing lawn at Lullingstone Castle, which may show part of the pathways associated with a former (Tudor or later?) sunken garden
Bottom
Fig 2: Volunteer team surveying the north wing lawn

Kent LiDAR Portal

In May, the project was delighted to be able to launch the online LiDAR Portal, an interactive citizen science tool which allows registered users to freely view LiDAR datasets and record potential features identified, ideal at the height of lockdown when so many were restricted to working from home.

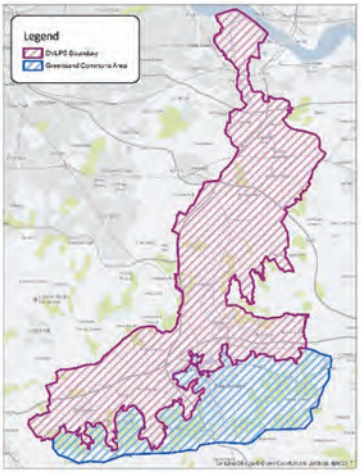
The design of the Portal (kentlidar.org.uk) is adapted from the Chilterns AONB's Beacons of the Past LiDAR Portal and owes significantly to the work and input of Dr Rebecca Bennett, who worked on the South Downs Secrets of the High Woods project. Although the Portal currently only displays the 191 km2 coverage of high resolution 0.25m data for the Darent Valley LPS area and extension to incorporate the Sevenoaks Commons, it is intended that other datasets will be uploaded as well, including the Medway Valley Valley of Visions data from 2011.

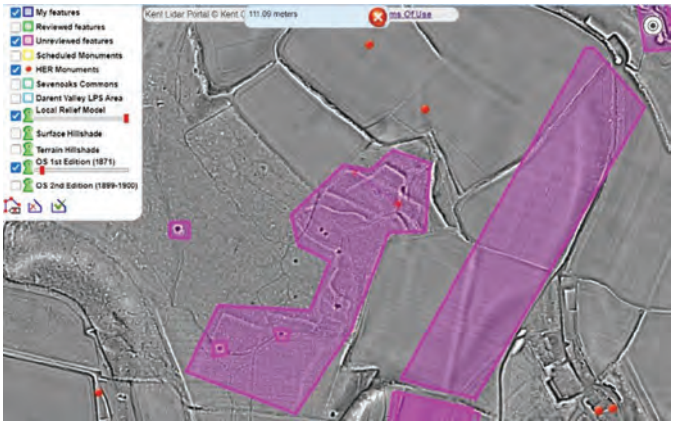
With multiple layers which can be viewed at once, from HER data points to First and Second Edition OS maps and various mapping tools, the Portal is an excellent device for viewing and interpreting the processed LiDAR images. Users are also encouraged to digitise potential features which they identify, with over 250 citizen records to date (many awaiting reviews). As soon as restrictions allow, small teams will be taking the new field recorder app out to verify and groundtruth some of the features, an activity currently planned for the winter months.

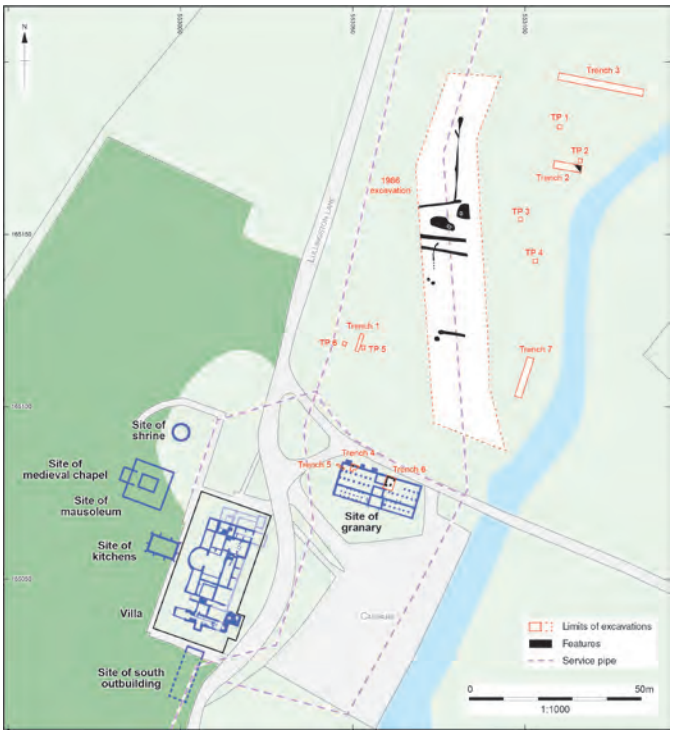
Excavations and fieldwork at Lullingstone Roman Villa

Following the 2019 summer fieldwork at Lullingstone Roman Villa, the team has been working hard to complete the post-excavation work, including processing of the environmental samples and marking of the finds for specialist analysis. Although this work also had to cease amongst the main team of volunteers in March, some post-ex was able to take place at home, helping to bring the 2019 material to a more completed state.

While analysis of the archaeobotanical material is still underway, some interesting findings have already resulted from the assessment, undertaken by Wendy Carruthers. The 2019 dig involved a series of test pits and trial trenches in the meadow immediately north of the villa, as well as a small 2x3m trench within the scheduled areas of the site, in a previously unexcavated area of the granary adjacent to the northern box compartment. Despite much of the meadow having been disturbed from various service works, including the valley sewer pipe, evidence for crop processing is apparent, coinciding with the early-middle Roman dates for activity in this area suggested by KARU's excavations in 1986. More thorough sampling in the granary resulted in a large quantity of well-preserved, semi-cleaned grain – indicative of a stored product – which supports its purported function. However, radiocarbon dates may indicate a slightly later construction than the later 3rd-century date suggested by Meates, as well as possible continued use into the 5th century.







Top
Fig 3: 0.25m LiDAR coverage for Darent Valley data
Middle
Fig 4: Possible features, including deneholes and earlier field systems, north of Preston Hill on the Kent LiDAR Portal
Bottom
Fig 5: Site plan of 2019 excavations at Lullingstone

Left
Fig 6: 2019 recording of the granary trench (looking northeast)
Below
Fig 7: The volunteer team processing residue at the Darent Valley offices in Shoreham

A second fieldwork season – in this case, small-scale and socially-distanced – was able to take place in July, focusing on the wider landscape and entailing two trial trenches to investigate features identified through magnetometry in the field overlooking the villa, immediately to its north-west. Interventions revealed a chalk-cut ditch, possibly part of an early enclosure relating to the villa site, and large (8m diameter) pit which was not able to be bottomed due to its depth. Both features appear to be early Roman in date, and a structured deposit of a storage jar upturned over the body of a lapdog in the pit suggests a probable ritual function. Further work in part of this field is planned for 2021, by which time more conclusions will be able to be drawn.

Other work

In late spring we were also able to commission Darnley Archaeological Services for a magnetometer survey at Preston Farm, Shoreham – site of a Roman bath-house excavated in 1982 by KARU – in advance of a proposed wetland enhancement scheme. The survey confirmed the bathhouse's location as well as revealing probable related features within the meadow, illustrating the site's potential and helping to inform the proposed work.

As always, the hard work and efforts of volunteers have driven these projects. Many thanks must be made to them, as well as the communities along the valley who give their support and of course, the National Lottery Heritage Fund and its players. If you wish to get involved with any of the Darent Valley work, please email anne.sassin@kentdowns.org.uk, follow us on Facebook @DVLPS and Twitter @Darent_Valley, or have a look at the website (https://darent-valley.org.uk/). In the meantime, please stay safe over the coming months!

Left
Fig 8: Excavation of the chalk pit in the field above the villa in July 2020
Above
Fig 9: Surveying the site of the Roman bath-house at Preston Farm

SUMMARY OF THE KAS MEMBERSHIP SURVEY 2020

By Gary Bennett (Founder, The Stats People)

Membership organisations need to have a good understanding of the profile, needs and expectations members. With that in mind, KAS commissioned my company, the Stats People, to design, host and analyse a membership survey with input from Trustees. The survey was live throughout June 2020. A total of 350 complete surveys were obtained, a response rate of 47%, which is excellent for this type of survey.

The profile of membership (Figure 1) is skewed towards males, in the older age groups with 90% of members over the age of 55, the most common band being 65-74 and two-thirds either retired or semi-retired. Even new recruits in the past two years consisted of only 13% of under 55s.

Members' activisms and interests

Just over half of the members have participated in pro-active heritage projects in the last three years. Research and general volunteering dominated (around a third frequently undertaking each) with only 16% involved frequently in practical archaeology. The most significant barriers to volunteering are personal, family and social commitments, followed by work commitments. Health conditions and disabilities dominated as barriers for the over 75s. Interest in practical archaeology is high among the under 55s (around half very interested) and 55-64s (just under four in ten), with over 65s less interested.

We asked members to rank their interests. These are shown in Figure 2 in descending order of top-three choice, along with first and second rank.

Specific periods in history is rated top, followed by specific topics and building types. There are differences in opinion underlying this: topics and building types are slightly more preferred by males, with archives slightly more preferred by females. The archives also have higher appeal among those with travel difficulties and those lacking confidence in their ability. Although 'artefacts' is rated lowest, it is the second-highest ranked topic for those frequently involved in archaeology.

Figure 1
Membership Profile Base (All 350)

- 90% are aged 55+; Two-thirds retired / semi-retired (50%/17%)
- Only 13% of members recruited in last 1-2 years are aged under 55
- 65-74 is largest age group, even for members joining as long ago as 30+ years (so must have been better at recruiting younger members in 30s and 40s in past)

Length of membership

Total	350
1-2 years	15%
3-5 years	12%
6-10 years	15%
11-20 years	21%
21-30 years	13%
30+ years	25%

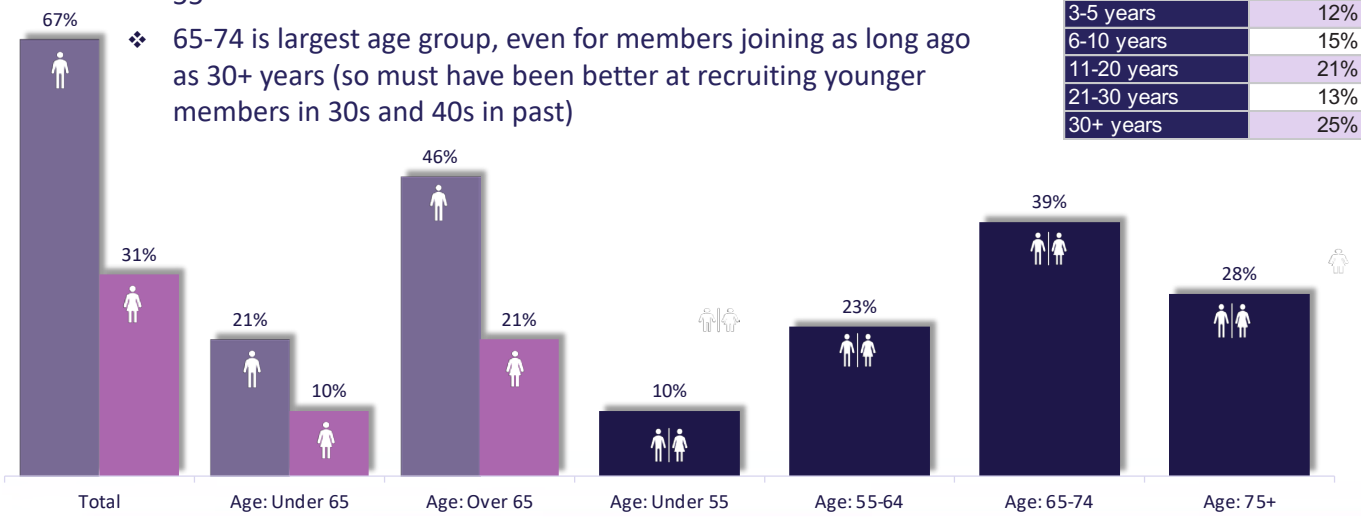
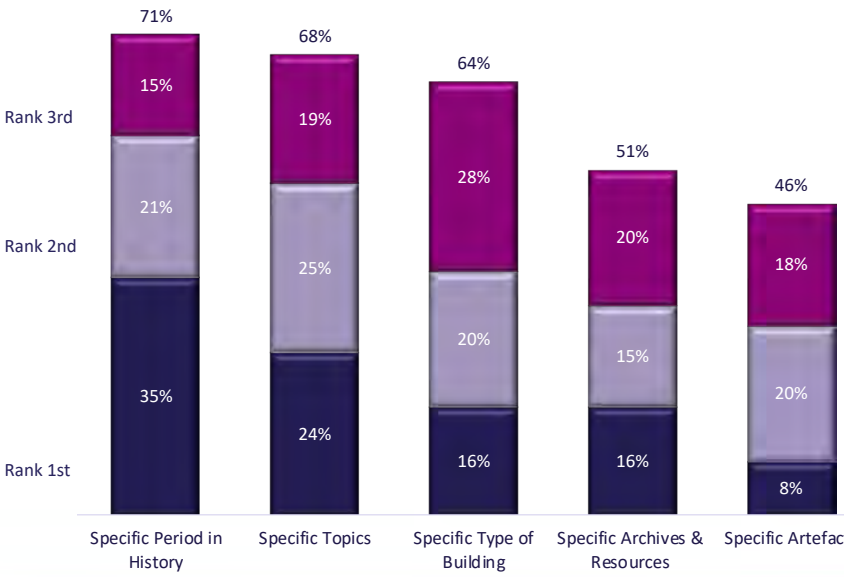


Figure 2
What are members' primary interests? Base (All 350)

- **Period of History** is biggest motivator; overall Roman, Saxon and Medieval Period have similar popularity, but big differences by age group; this category is dominant motivator of <55s and those involved in practical archaeology (87% in top 3 for both)
- **Specific topics**: Military, social, agricultural, industrial etc. a close second (male 70% female 61%); **specific building types** third (male 66%, female 58%)
- **Archives** such as monumental inscriptions, Tythe & land ownership less motivating overall but of greater interest to females (58% vs 49% male), those with travel barriers (65%) & lacking confidence in their abilities/experience (66%)
- **Artefacts** have lowest interest, but is second highest rated (73% vs 46% total) for those frequently involved in archaeology



The Top 3 periods in history are dominated at overall level jointly by the Roman, Anglo-Saxon and Medieval periods, although there are differences by age which underly this (Figure 3).

The most noticeable difference is that younger members tend to be interested in the earlier periods, from Palaeolithic through to Anglo Saxon. Interest in the Medieval period is widespread, but more dominant among the older age groups. The Victorian period is mainly of interest to the very oldest members.

Future of the KAS

Archaeologia Cantiana print edition is the dominant KAS resource used by eight in ten members in the last three years, followed by the website (six in ten) with around four in ten each using other online resources, online *Archaeologia Cantiana* or attending KAS Conferences. Only around two in ten were involved in a KAS managed dig or excavation (Figure 4).

The resources with highest satisfaction among users (90% or more) are *Archaeologia Cantiana* print edition, KAS Conferences and KAS managed digs/excavations, though satisfaction across nearly all resources was high. Nearly six in ten agreed that online access to the archives would encourage their greater use of KAS resources, rising to eight in ten for the under 55s and seven in 10 for those actively engaged in research.

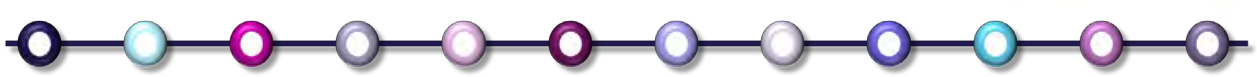
Members had strong views about how KAS should prioritise its resources. The two top priorities are Practical study days around hands-on archaeology, closely followed by conferences, with guest speakers, exhibitors and papers. Once again opinion is split, with younger members and those involved in hands-on archaeology prioritising practical study days, and older members and those engaged in research prioritising conferences.

We investigated interest in potential training events, looking at "practical" training separately from more "research-based" training.

The top three practical events are desk research, pottery and ceramic identification and flint and stone tool identification. Access to KAS archives and attendance of lectures/conferences are the most popular research-based events.

Favourability for some specific KAS initiatives were also tested. See Figures 5 and 6. Three-quarters or more of members support the setting up of a museum of Kent archaeology and history and KAS certified training days.
On balance, a majority support moving *Archaeologia Cantiana* to an online-only publication, saving £17k per annum, but opinion is polarised, with support highest among the under 55s, those who joined KAS in recent years, those who completed their survey on a Smartphone and those frequently involved in archaeology.

Figure 3
Periods of History Base (All 350)



	Palaeolithic, Mesolithic & Neolithic	Bronze Age	Iron Age	Roman	Anglo-Saxon	Norman	Medieval Period	Tudor	Stuart	Victorian	Edwardian	Modern 1&2
Under 55	26%	26%	35%	65%	61%	6%	35%	10%	6%	6%	0%	23%
55-64	30%	22%	36%	46%	49%	16%	44%	14%	7%	15%	9%	12%
65-74	20%	23%	25%	48%	42%	17%	45%	19%	12%	25%	9%	15%
75+	15%	9%	11%	31%	38%	27%	59%	33%	12%	36%	11%	16%

- Younger members have greater interest in early history (up to Anglo-Saxon); Post-Norman period preferred by oldest member
- Only exception is Modern, which has greater interest from under 55s
- Those who are motivated by "specific period in history" also more motivated by pre-Norman period

Membership Segments – hot off the press!

Finally, to get a more holistic picture, members can be split simultaneously into two dimensions.

Dimension 1: General Activism: there general level of activism and volunteering in last three years across the board (53% in the 'low' group, and 47% in the 'high' group)

Dimension 2: Practical vs Research Orientation: their Preference for practical archaeology over desk-based research: (54% in the 'low' group, and 46% in the 'high' group)

We can form four groups or 'typologies' from these to summarise different attitudes and behaviour within the membership:

Type 1 (low activism, low practical orientation): 27% of members

Compared with average:

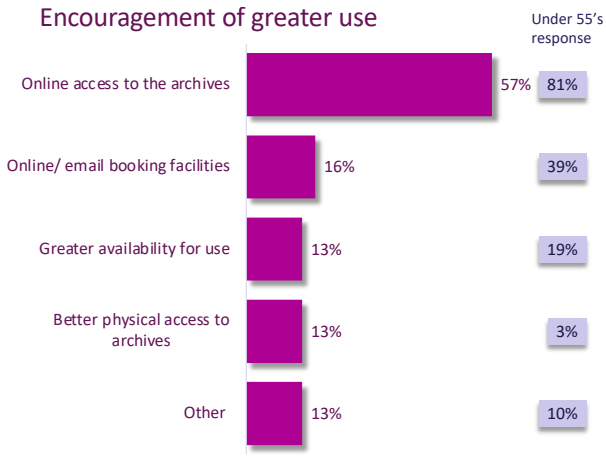
- 75+, retired and member for 20+ years
- Lowest activism any activities last three years
- Highest interest in Archives and resources (monumental inscriptions etc.), lowest interest in historical periods and artefacts
- Most interested in the Victorian period
- Think KAS should focus on exclusive tours of historic buildings and sites
- Least likely to attend courses
- Least in favour of moving *Archaeologia Cantiana* to an online-only publication

Type 2 (low activism, high practical orientation): 26% of members

Compared with average:

- Least likely to be male
- Personal / family / social commitment being barriers
- Above-average interest in becoming involved in practical archaeology as a volunteer
- Have a strong interest in pre-Roman occupation Kent (Paleolithic to Iron Age)
- Least likely to have used any KAS resources; lacking confidence in their ability
- Interest in artefacts: and interest in metal finds, flint/stone tool identification and pottery/ceramic identification courses; little interest in research-based courses
- Supportive of moving *Archaeologia Cantiana* to an online-only publication

Figure 4
KAS Resources Base (All 350)



❖ As well as the <55s, Online access to archives more encouraging to members frequently engaged in research (68%) and practical archaeology (66%) and those interested in archives (68%)

Type 3 (high activism, low practical orientation): 27%

Compared with average:

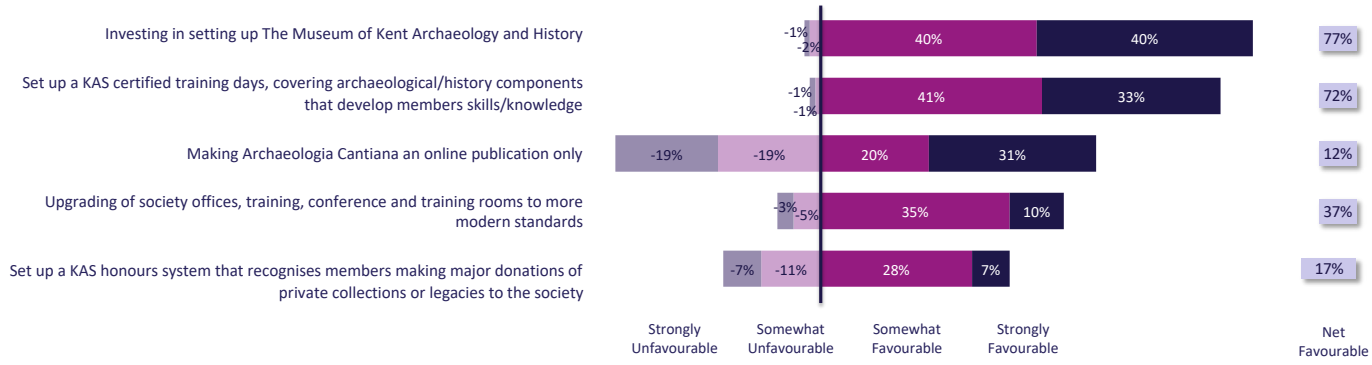
- Highest level of involvement in own Research (historical, heritage, cultural)
- Most likely to have previously given presentations on topics they have expertise in
- Higher than average general (but not practical archaeology) volunteering
- Highest interest in specific topics (military, social, agricultural, industrial etc.)
- Interest in medieval and Tudor periods
- Highest (current) use of *Archaeologia Cantiana* online, though slightly against moving it to an online-only publication
- Strongly feel KAS should prioritise academic seminars and presentations
- High interest in attending a course on access to KAS archives, document interpretation and translation, lectures and conferences and family history

Type 4 (high activism, high practical orientation): 20%

Compared with average:

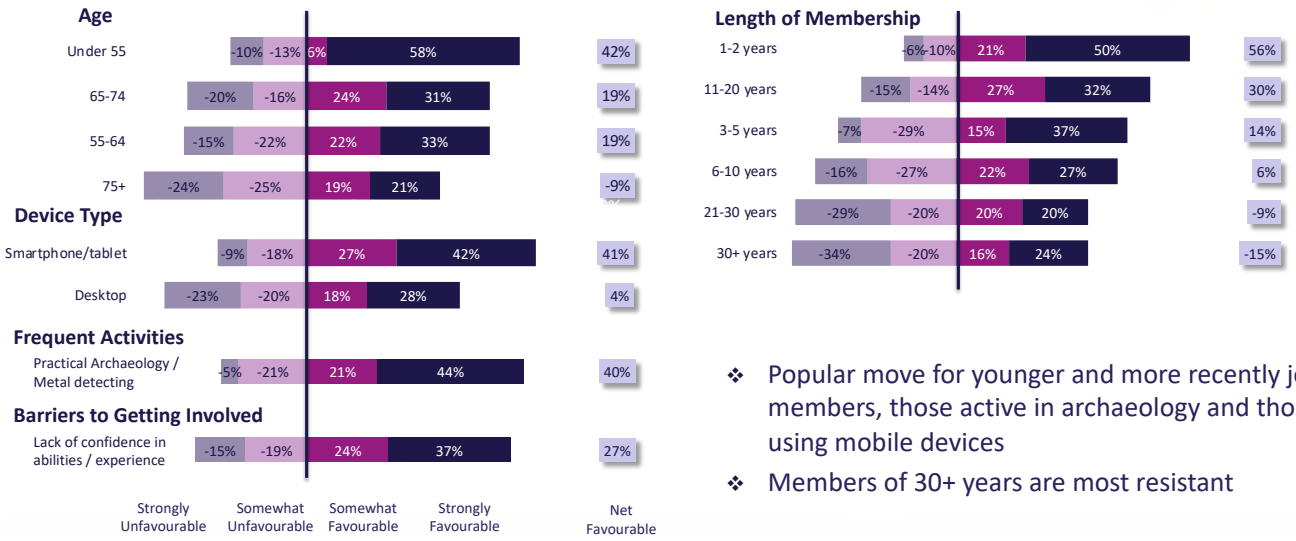
- Aged 55 to 64, working full-time, joined KAS in last 5 years
- Joined KAS because of past amateur involvement in archaeology and wanted to meet and network with like-minded people
- Highest level of volunteering across the board with a focus on practical archaeology and material/finds recording (e.g. for KAS/PAS)
- Most likely to cite "work commitments" as barriers to even more volunteering
- Artefacts and Periods of history as dominant interests; strong interest in Palaeolithic through to Roman period; lower interest post-Anglo-Saxon
- Made greatest use of KAS resources in the past, particularly conference, website, Facebook page and managed digs
- Nearly all think KAS should focus on practical study days around archaeology
- Very interested in all practical courses and lectures/conferences, desk-based archaeological research and themed historical research (e.g. Lees Court).
- Strong support for all KAS initiatives, particularly moving *Archaeologia Cantiana* online only and KAS certified training days

Figure 5
Support for KAS initiatives Base (All 350)



- A large majority support Investing in the Museum of Kent and KAS certified training
- Making Archaeologia Cantiana an online only publication polarises membership though net favourability overall is +12 points and over half of members positively support this move
- Upgrading of offices and setting up KAS honours system are seen as lower priorities

Figure 6
Support for *Archaeologia Cantiana* online only Base (All 350)



- Popular move for younger and more recently joining members, those active in archaeology and those using mobile devices
- Members of 30+ years are most resistant

So, in summary, among the very active segments, the research-based group is currently slightly larger (Type 3 – 27%) than the practical group (Type 4 - 20%), though there is a significant group of practical though less active members (Type 2 – 26%) who also express interest in being involved in practical archaeology and receiving more practical training, particularly around materials and finds identification, which with the right encouragement could become more active.

The research provides a fascinating snapshot of current views and demonstrates that there are different types of member with different expectations and needs. We hope the insight it provides is a useful input into the KAS planning process.

the STATS PEOPLE

A FURTHER REFITTING REDUCTION SEQUENCE OF EARLY MIDDLE PALAEOLITHIC LAMINAR FLAKES FROM STONEHAM'S PIT, CRAYFORD, KENT

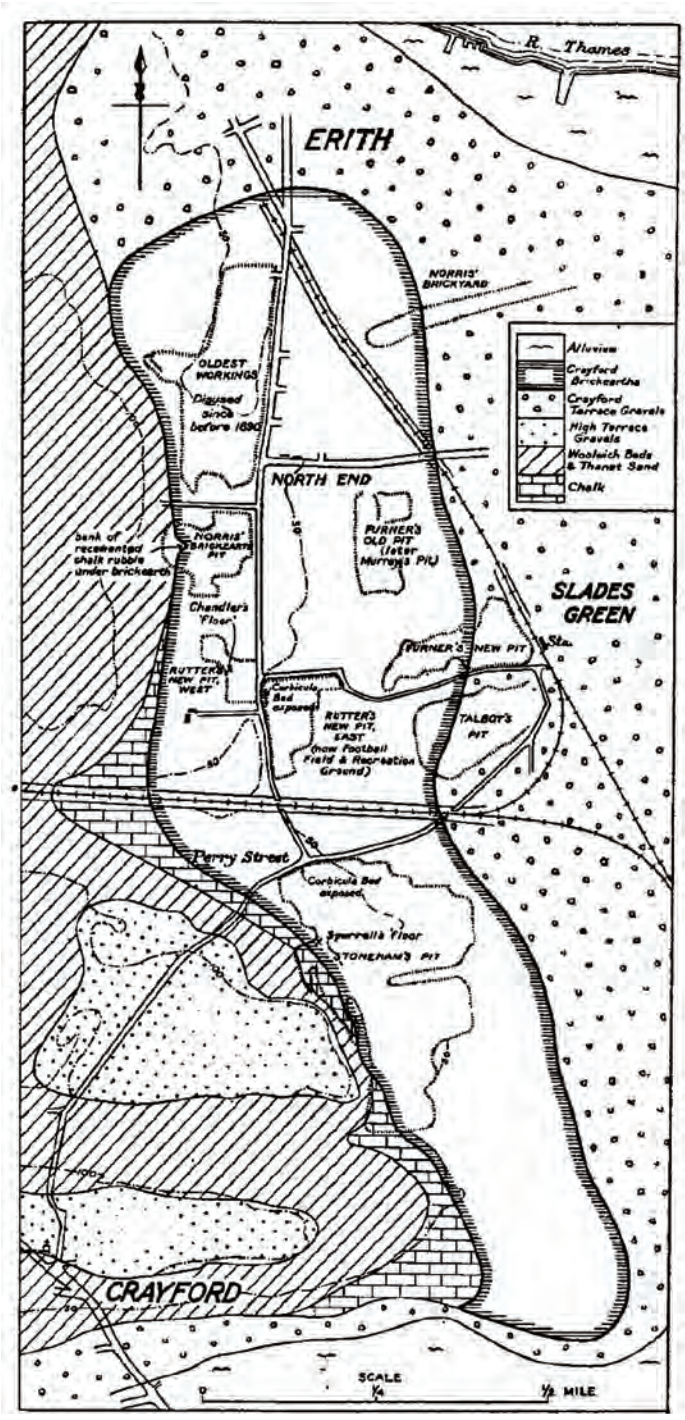
By Frank Beresford

In the 1880s, Flaxman C.J. Spurrell discovered two of the most important British Early Middle Palaeolithic sites: the chipping floor at Stoneham's Pit, Crayford; and the Levallois sites of the Ebbsfleet Valley, later to be known as Baker's Hole. Both sites are in Kent. Most of the refitting reduction sequences of flakes that he found at Crayford are now curated at the National History Museum. However, at least one refitting reduction sequence remains in Kent and is curated by the Bromley Historical Collections. This paper presents this sequence and its story.

Flaxman C.J. Spurrell's collection of refitting laminar flakes from Stoneham's Pit Crayford is the most complete and only definite *in situ*, British Middle Palaeolithic flint assemblage known (Scott 2011, 132.) Using Spurrell's and later information, Craig Williams has reconstructed the original scene in the Early Middle Palaeolithic when the knapping took place (Fig 1).

Aston (2017, 175) has described the original setting in which the early humans worked as a broad flat

Above
Fig 1: A reconstruction, circa 330 000 years, ago of the knapping scene at Crayford in front of the chalk face in which a line of flint was the source of cylindrical flint nodules (© Craig Williams.)



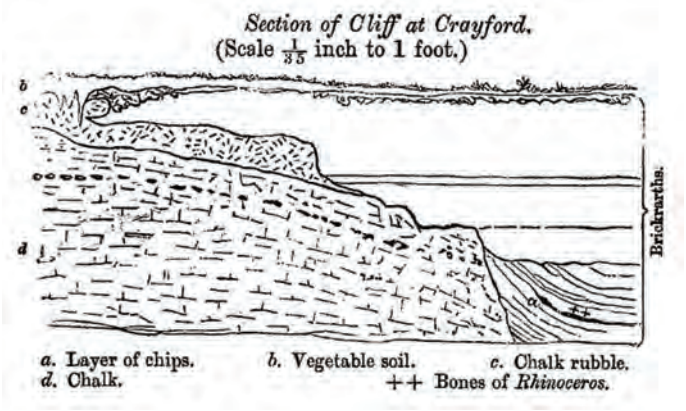
Right
Fig 2: The Location of Stoneham's Pit, Crayford (from Kennard 1944, 123)

floodplain in a backwater of the slow-flowing proto-Thames. Both the floodplain and the higher ground behind were open steppe with a few stands of woodland grazed by rhinoceros, elephant and horse. Early Neanderthal people occasionally visited to remove elongated flint nodules from a low cliff cut through the chalk by a river. They skillfully worked on these nodules leaving much flint waste which was gently covered in silt by the next flood and left in situ until their discovery in 1880. This gives us an insight into a brief period of human life around 330, 000 years ago in what would later become Kent.

In March 1880, Flaxman C.J. Spurrell discovered '*a dense layer of chips*' within the brickearths in Stoneham's Pit which was on the south bank of the Thames at Crayford (Spurrell 1880b, 544; 1884, 112; Fig 2).

He found them where fine-grained deposits were banked up against an eroded chalk cliff covered by chalk rubble (Figs 3 and 4). A band of flint flakes, several inches thick in places, was exposed between 36 and 42 feet from the surface, near the steeper base of the cliff. Their spatial distribution indicated knapping had been undertaken in a sitting or squatting position with legs slightly apart. Fossil mammals were also recovered from the same level, including a juvenile woolly rhino jaw. The Crayford deposits rest upon chalk of Thanet Sand to well below 0m OD and are banked against a Chalk and Thanet Sand cliff along their western margin (Bridgland 1994, 250.) Three marked divisions of these deposits have been recognised – an Upper and Lower Brickearth and an underlying Crayford Gravel (Kennard 1947.) Most of the artefacts came from the Lower Brickearth. Spurrell's main 'floor' was a sandy horizon within the Lower Brickearth, which he illustrated as occurring well above the base (Fig 4.) Currently, it is considered that the Crayford Deposits accumulated between MIS 8 and 6 as part of the Taplow/Mucking formation of the Lower Thames. Shreve (1997) suggested that the deposits date to terminal OIS 7 using mammalian biostratigraphy and comparisons with the site at Averly, Essex although the abrupt warming during MIS 6.5 is another possibility (Scott 2011, 138; Pettitt and White 2012, 235.)

Spurrell found that many of these flakes could be refitted. He also noted that they were free from abrasion and that they must have been found *in situ* at the place that they were made. Spurrell was a keen early photographer and took his photographs of the site (Fig 3) and the refitting sequences (Fig 5.) Spurrell does not say how many flakes and cores he found, but he gave most of his collection to the Natural History Museum. In 1895 some examples, including refitting sequences, were dispersed to three other museum collections, so the museum now curate over 500 flakes and 10 cores. 120 artefacts form part of 19 refitting sequences. At



Top
Fig 3: Spurrell's photograph of the flaking floor at the Stoneham's Pit Site (courtesy of the British Museum.)
Middle
Fig 4: Spurrell's section of the find site. (Spurrell 1880b, 544.)
Bottom left and right
Fig 5: Spurrell's photographs of two of his refitting reduction sequences copied from his scrapbook. The left-hand sequence is not currently identified, but the right-hand sequence is now numbered 5 and is the largest sequence of 33 pieces in the Natural History Museum. (from Spurrell, various, c1860-c1886: Bromley Local History Library.)

least 7 cores and 113 flakes can be identified within these refitting sets (Cook 1986, 16: Scott 2011, 139.)

Spurrell was keen to share his discovery and immediately wrote to his close friend Flinders Petrie who, before he departed for Egypt in November 1880, lived in Bromley Kent. Both men spoke at the Kent Archaeological Society Meeting in Bromley in 1878. Spurrell wrote '*if you care to see a very early flint chipping site, come to Crayford, for there it is, – suppose a cliff of chalk – above a flint mine – below a beach of hard sand, on the sand a layer of beautiful flakes. As this lies now, the river has covered up the flakes with sand and bones of extinct animals and the whole is like a picture – no time to be lost for the men of the pit are desirous of carrying off the bones and sand is falling over the flakes .. I must keep watch on my remarkable finds as I have written to John Evans to come and see them*' (Scott, B. & Shaw, A. 2009; ms. PMA/WFPI/16/5/1)

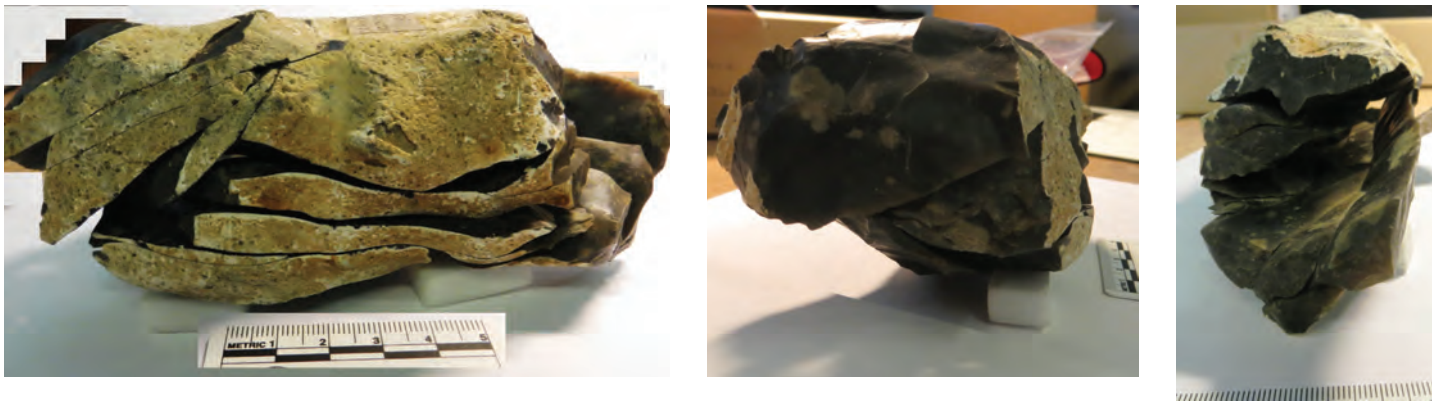
By late 1880, numerous geologist friends had visited the site with Spurrell including John Lubbock – later Lord Avebury. During this visit, Lubbock found an additional flake that fitted one of the refitted reduction sequences that Spurrell had found earlier. Spurrell used this sequence to illustrate one of his papers on the finds (Spurrell 1880b, 549) and the flake that Lubbock had found was marked JL in this figure (Fig 6).

During his lifetime, John Lubbock built an extensive collection of archaeological and anthropological artefacts many of which he used to illustrate his book '*Prehistoric Times as illustrated by ancient remains and the manners and customs of modern savages*', first published in 1865, in which he introduced the terms *Palaeolithic* and ***Neolithic***. He started collecting around 1864 when his close friend and neighbour, Charles Darwin gave him a bone harpoon from the South American island of Tierra del Fuego. This fuelled his interest in science and in particular in evolution and prompted him to collect additional items to help him understand this controversial new theory. He collected archaeological items that had been found around the world and made comparisons with more recent anthropological items from many countries and cultures. Some items he found himself but most were bought from or given by scientists, antiquaries or other collectors and kept at his home, High Elms in Farnborough, Kent. He kept a catalogue of his collection for forty years until 1903 by which time he had listed 1264 items in it although his numbering became confused after item 1199. Item 1263, he recorded as a 'Palaeolithic Implement from Ightham Plateau, Ash Place, 497 OD presented by Mr Harrison of Ightham.' The catalogue lists gifts from other well-known figures in British Palaeolithic Archaeology at the time such as Worthington Smith.

By 1880, Lubbock had produced four editions of '*Prehistoric Times*'. It was a book that would have been well known to Spurrell. Consequently, he gave one of his refitting sequences of flint flakes from Crayford to Lubbock for his collection. Lubbock recorded two items from Crayford in his catalogue in 1880. On the

Top
Fig 6: One of the refitted reduction sequences, parts of which are now in the Natural History Museum. The flake found by John Lubbock is marked JL. (A.S. Foord del. et lith. in Spurrell 1880b. 549)
Bottom
Fig 7: John Lubbock in his study at High Elms

17th July 1880, he listed item 1173 – '*Flint chips from Crayford Pit at the foot of a chalk cliff.*' In November 1880, item 1185 is described as '*a reconstructed flint. Crayford. Presented by F.C.S.Spurrell.*' This second number 1185 is marked on the refitted sequence of flakes in his collection (Lubbock Catalogue, 30-31 Fig 8.) A small collection of flakes and a hammerstone, some of which are marked Crayford, is kept with the refitted sequence and presumably represent item 1173. In the sixth (1912, 322) and the seventh (1913, 345) editions of his book, Lubbock, by then Lord Avebury, wrote '*Mr Spurrell actually found near Crayford in Kent the spot where some of these ancient men had been making their implements. It was on the bank of the Thames and, probably by some flood, had been covered over with loam, which had then accumulated to some depth without disturbing the flakes and chips.... By great patience he found some that fitted and he was even able to reconstruct the original flint.*'



Above
Fig 8: The refitted Lubbock Reduction Sequence – side view (left); end views (right, far right.)

Writing about his refitting sequences, Spurrell noted that 'in some cases, the whole stone was split up into long parallel regular flakes such as one I gave to Sir John Lubbock (Spurrell 1884, 110.) He describes a laminar assemblage of blade-like flakes which were at least twice as long as they were wide. The Lubbock reduction sequence now contains at least 22 flakes that were detached by bipolar hard hammer flaking, but it lacks the final central core. Its original blank form was an elongated cylindrical burrow flint nodule (Figs 8 & 9.) It was approximately 87 mm in greatest width and longer than 203 mm. The material as a whole is in mint condition and unpatinated which suggests that the hominins were removing fresh flint nodules from the adjoining flint band that would have been exposed in the chalk cliff.

Originally, Spurrell stuck the Lubbock reduction sequence fully together, but it is now broken into four sets (A, B, C & D) and three loose flakes (Fig 9)

Examination of these sets and loose flakes suggests that the Early Neanderthal knapper initially removed cortical flakes from one end of the nodule to form a striking-platform surface and then removed a relatively broad short cortical flake. The flaking was controlled around a plane of intersection that defined the striking-platform surface and the flaking surface. At least four further refitting flakes were then removed in sequence approximately at right angles to the striking platform plane which was rejuvenated when necessary giving the refitted cluster of top set A a "stepped" profile. Decortication on the other face followed included the removal of set D using the first platform. A second striking platform was then formed at the other end and used for the removal of set B & most of set C. A series of laminar flakes were produced, some of which have cortical edges. Each set and the loose flakes are briefly described in Table 1 (over the page).

The refitted laminar flake sequence indicates that the original cylindrical nodule surface already partially provided the volumetric convexities necessary to match some of the criteria that define Levallois exploitation (Boëda 1995). However, as the subsequent core is missing, it is impossible to describe this sequence

Above
Fig 9: Set D (top left); Set C on Set D (top right); Set B on Sets C&D (bottom left); Set A on Sets B,C & D (bottom right.)

Flake set	Number of flakes	Description
Top set A	5	This is the biggest group in size and represents approximately 40% of the volume of the refitted sequence. All flakes are cortical and they were removed from the first platform.
Upper middle set B	3	A small group with shorter flakes - the longest is 89mm in length. The group together only represent about half of the width of the original nodule. Only one is cortical and they were all removed from the second platform.
Lower middle set C	5	The longest flake in this group is 142mm in length and mostly cortical on its dorsal face representing the decortification of one side of the nodule. Another has cortex on the dorsal face and a third has cortex on the edge. All but one were removed from the second platform
Bottom set D	6	These flakes were all removed from the first platform although they do not have large amounts of cortex on the dorsal face implying that some cortical flakes are missing.
Loose Flakes	3	Two flakes are laminar and 107mm and 55 mm in length respectively. The first has cortex on one edge and the second has a cortical platform. The other flake is a short distal portion of a blade (Fig 10.) They are marked 68.31.x in the Bromley Museum sequence also noted on one of the refitted flakes above.
Total Flakes	22	

Table 1: Brief descriptions of the flake sets that form sections of the Lubbock refitting sequence

as the result of Levallois prepared core technology. Beccy Scott (Scott 2011, 141) decided that seven of the nineteen sequences curated at the National History Museum do reflect the use of Levallois prepared core reduction to produce predetermined elongated products. Nick Ashton (Ashton, 2017, 174) describes them as an excellent example of Levallois Technology on elongated nodules and suggested that the desired endpoint was not the flakes but Levallois points – all of which have been removed from the site. However, the Lubbock sequence could be considered the outcome of simple prepared core reduction on a cylindrical nodule with laminar flakes. The Early Neanderthal knapper prepared the striking-platform surface before making use of the natural convexities of the blank nodule (Fontana et al. 2013). Simple prepared core technology using larger nodules as blanks to produce broader flakes was used at Frindsbury, Kent (White and Ashton, 2003; Beresford 2016.) If laminar flakes were the objective, few seem to have been utilised.

Scott suggested that, of the nineteen refitted sequences (numbered 1 to 19 in her analysis) curated by the National History Museum, seven were the product of Levallois reduction, four more were probably Levallois. At the same time, it was not possible to determine the reduction method used for the rest. Only one sequence (5) of 33 pieces contains more components than the Lubbock sequence (Fig 5) while another (1) contains 16 pieces – both represent Levallois reduction. All the other refitted sequences contain less than ten components. By comparison with Spurrell's illustration of a refitted sequence (Spurrell 1880b, 549; Plate XXII; Fig 6) she established that three of the museum's refitted sequences (sequence 15 comprised of 2 flakes, sequence 18 comprised of 6 flakes and sequence 19 of 7 flakes) originally formed parts of this refitting sequence and that they were probably Levallois. Four other sequences are considered Levallois reduction products but have only a small number of components (sequences 7 has 2, sequence 9 has 1, sequence 10 has 6, and sequence 16 has 9.) Ten further small non–Levallois sequences reflect only the initial decortication of flint nodules. So, the nineteen refitted sequences include many small sets similar to the four sets that are components of the Lubbock sequence. These were initially parts of more extensive reduction sequences, and only three fairly complete reduction sequences have been identified at the National History Museum.

Spurrell's collection from Stoneham's Pit, Crayford was found in a primary context and its stratigraphic position and location is well established. The refitted Lubbock reduction sequence (Fig 10) of at least 22 laminar flakes adds a fourth fairly complete sequence to the known number of sequences from this important Early Middle Palaeolithic site, and it is consequently a significant example and deserves further study. The third Lord Avebury presented it to the Orpington Historical Society in December 1947, and its seven parts (4 sets and three flakes) are now curated as Items LDBMP: 68.31: 1 to 7 by the Bromley Historic Collections at the Bromley Central Library, Local Studies Section.

Acknowledgements: The author would like to thank the staff at the former Bromley Museum, the Bromley Local Studies Library and Bromley Historic Collections for their help with this research. He would also like to thank the Geological Society for the use of Figs 4 & 6; the Geologists' Association for the use of Fig 2 and the British Museum for the use of Fig 3. Finally, he would like to thank Craig Williams (www.craigwilliamsillustration.com) for readily permitting the use of his reconstruction in Fig 1.

Above
Fig 10: The refitted Lubbock reduction sequence with one loose flake (left.)

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IN THE FOOTSTEPS OF THE CARMELITE FRIARS

By Brendan Chester-Kadwell

There has been a burgeoning interest within the last few years for scholarly research by secular academics into medieval friaries and the archaeology of the religious houses from which they operated. This complements a long tradition of scholarship by members of the various religious orders themselves. The new research has benefited from redevelopment within the urban cores of historic cities and towns. It has provided opportunities for thorough archaeological investigation and encouraged supporting research by scholars from other disciplines. Friaries, which were mostly built on medieval urban sites, were usually quite quickly redeveloped for other uses following their suppression in the 1530s.

The Early Years

Although an urban setting was generally the case for Carmelite foundations, there is a group of four early Carmelite houses in England that were founded on rural sites. These were established between 1242 and 1247 under the patronage of local knights. The first house was at Hulne in Northumberland (1242), the second at Aylesford, Kent (also 1242, but later), a third at Lossenham, Kent and a fourth at Burnham Norton in Norfolk, both before 1247 (the exact foundation dates of these two houses is uncertain). The significance of these four establishments is that they predated the change in the Carmelite Rule, which enabled the hermits of Mount Carmel (dedicated to a life of prayer and meditation away from populated areas) henceforth to embrace service to local communities in or near urban settlements.

Of the two situated in Kent, the one at Aylesford was re-founded as a Carmelite house in 1949. Aylesford still boasts a magnificent collection of medieval buildings from the original Carmelite foundation, but it has also been adapted to the needs of the present community of friars. Kent had a strong connection to the Order in medieval times with the second house at Lossenham and a third house being established at Sandwich by 1268. In the early days of the Order, Aylesford was of particular importance and it was here that the first General Chapter of the Order was held in 1247. It was at Aylesford that a change to the Rule was proposed and accepted, and the journey began for the Carmelites to become one of the great mendicant Orders of the Middle Ages.

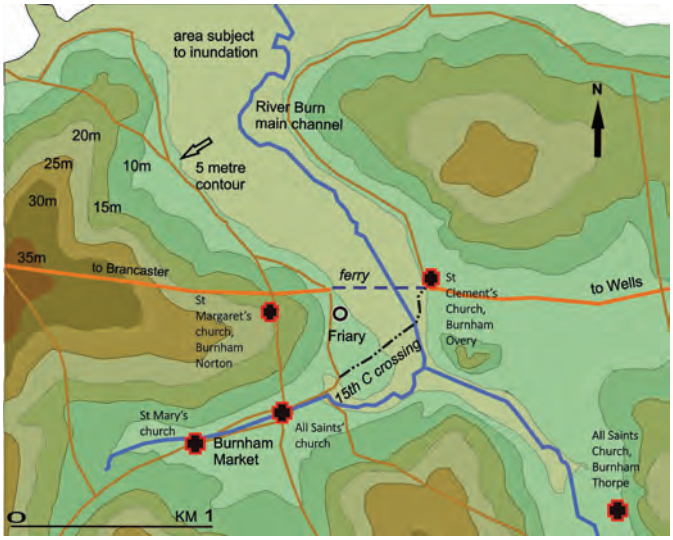
The Carmelites, also later known as the Whitefriars, originated as a group of hermits established at Mount Carmel in the Holy Land. A group of these hermits accompanied a Crusader army commanded by Richard Earl of Cornwall (the brother of Henry III) when it returned to England in 1241. The Franciscan and Dominican friars are better known in the public mind, not least because they were the first. Founded in the early years of the thirteenth century they pioneered the idea of an active and mobile religious fraternity supported by the begging of alms from the lay community (thus they became known as mendicants from the Latin *mendicus*, a beggar). The Carmelites and Augustinians came later but were also highly successful following a similar lifestyle. These bands of brothers were dedicated to preaching and other forms of spiritual and material support for the faithful. Friars, therefore, differed from monks who lived in enclosed communities supported mainly by the land granted to them by benefactors.

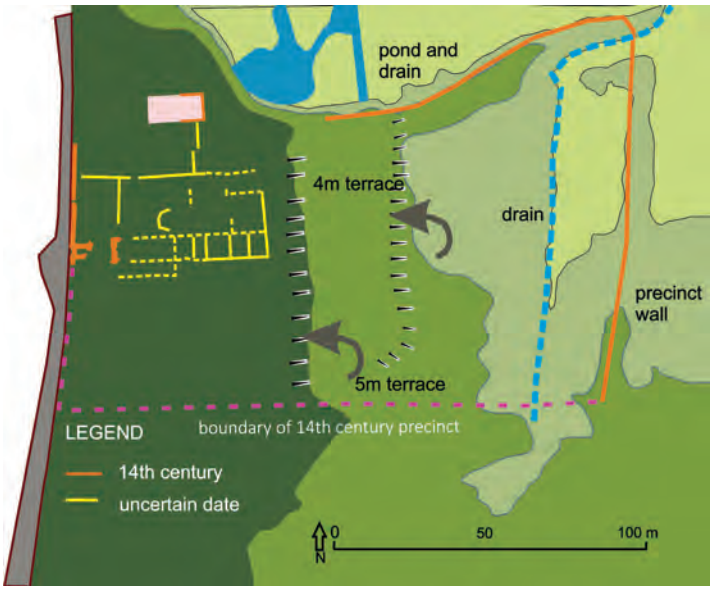
Above
Fig 1: Map showing the locations of the first four Carmelite houses in England. Map: ©Pat Kadwell (after O'Sullivan)

Research shows that the layout of individual Carmelite sites is less predictable than that of monastic sites. The challenge is often to accommodate the variations whilst identifying the similarities. Thus, there needs to be a greater emphasis on sharing the results between sites. A recent study of the Carmelite friary at Burnham Norton in Norfolk has raised several issues that might help in the study of Carmelite houses elsewhere. This is particularly so for Lossenham friary which is the subject of a new research project launched under the direction of the Canterbury Archaeological Trust last September. Lossenham and Burnham Norton are foundations of a similar date but, although they are in different parts of the country, they share many similarities in terms of their landscape and socio-economic contexts.

Burnham Norton Friary was initially located on an as yet unidentified site in the parish of Burnham Norton sometime before 1247. However, by 1253 it had been relocated to a new site in the same parish where its remains can still be observed. Like Lossenham, Burnham Norton friary was close to a coastal and riverine landscape of marshes and land prone to inundation and tidal streams. Both of these areas were part of important trading centres focussed on significant aspects of foreign trade. What are now experienced as sleepy rural locations were in their day busy and significant.

The friary at Burnham Norton was built near to the estuary of the River Burn, opposite a small trading port located at Burnham Overy. The Burnhams are a group of small parishes on the North Norfolk coast and were part of a trading network between Lynn and Yarmouth focussed on the North Sea trade with Germany and the Baltic states. The original precinct containing the church and other friary buildings was probably about an acre in extent. However, in the fourteenth century, this was expanded to somewhat over five acres. Although this made room for more friary buildings, much of the area of the expanded precinct was low lying and potentially vulnerable to periodic inundation.

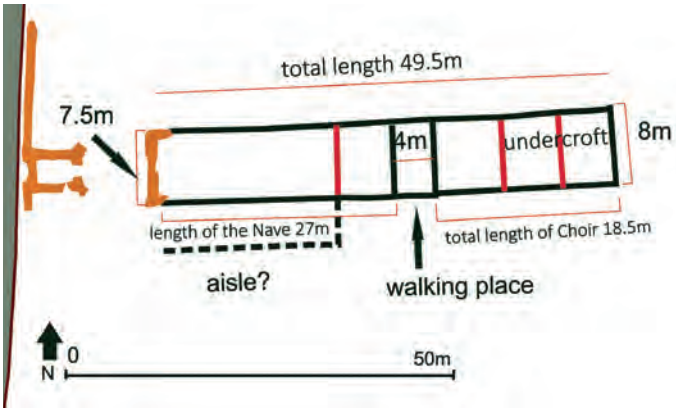




Top
Fig 2: Aylesford Priory, the outer court or 'curia', showing part of the stone-built guest house (right) and much restored western range. Photo: © H. Clarke

Middle
Fig 3: Plan of Burnham Norton Friary site in the fourteenth century. Plan: © Pat Kadwell

Bottom
Fig 4: Plan of Burnham Norton Friary site in the fourteenth century. Plan: © Pat Kadwell



Little now remains of the friary buildings above ground apart from a pilgrim gate, which has been likened to a detached porch to the friary church. It was restored in 1848 by the 3rd Earl of Orford to a design by the architect William Butterfield. The remains of the west front of the fourteenth-century nave has survived close to the gatehouse, and the foundation walls of the church to the east can be made out. A present-day cottage to the north was almost certainly part of the original friary and in its oldest part contains fourteenth-century features. Fortunately, large parts of the fourteenth-century precinct walls survive and gives some idea of the extent of the original friary.

The full description of the friary site, its landscape context and archaeology can be found in a recently published book *Burnham Norton Friary: perspectives on the Carmelites in Norfolk* (Oldakre Press, 2019). The book is a multi-disciplinary collection of papers by several subject experts who explore a range of topics. These are relevant to an understanding not just to this particular friary and Norfolk but to Carmelite friaries in general. Thus, the book explores, for example, the origin of the Carmelites in the Holy Land, their relationship to other events in the contemporary Western Church, and lay engagement through the evidence from wills and testaments.

Full details of the book on Burnham Norton Friary can be found below. Information about the Lossenham Project can be obtained from Annie Partridge at Annie.Partridge@canterburytrust.co.uk

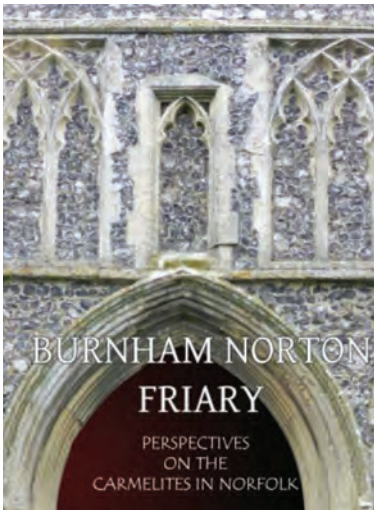
Above, left
Fig 5: View of the standing remains of Burnham Norton friary from the north – showing the pilgrims gate and the west front of the fourteenth-century friary church.
Photo: © B. Chester-Kadwell

Above, right
Fig 6: Plan of the Burnham Norton fourteenth-century friary Church. Plan: ©Pat Kadwell

Burnham Norton Friary: Perspectives on the Carmelites in Norfolk

The book is written for all those interested in the history and archaeology of Norfolk, regardless of their level of knowledge of county sites. However, it also has a wider appeal for the growing scholarly interest in friaries in general, and for the links that can be made between the different regions of the British Isles to which the friars themselves reached out during the Middle Ages. The inter-disciplinary nature of the book should also broaden its interest. The production of the volume has engendered an infectious enthusiasm amongst those who have taken part and it is hoped that something of that will also infect the reader!

A number of experts have contributed to the book: the specialisms include archaeology, landscape history, geography, architectural history, and medieval history. There is still, however, room for further scholarship. It is hoped that in time more information and analysis can be added.



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SILVER GHOSTS AND FLYING EAGLES

HENRY ROYCE'S KENT CONNECTION

By Paul Tritton

In KAS Newsletter No. 119 (Spring 2020), Janet Hearn-Gillham marked the centenary of John Alcock and Arthur Whitten Brown's non-stop transatlantic flight in a modified Vimy biplane bomber designed at the Vickers aircraft company in Crayford, north Kent. Here, Paul Tritton of our Historic Defences Group tells the story of another of the celebrated aeroplane's Kentish roots – and a fantastic memento that came to light nearly 100 years after the flight.

First Rolls-Royce aero engine was designed in 'eyrie' on White Cliffs of Dover

While Vickers was developing their series of warplanes that culminated in the Vimy heavy bomber, F H (Henry) Royce, Rolls-Royce's Engineer-in-Chief, was working in voluntary 'exile' on the cliffs above St Margaret's Bay. Royce was busy designing the aero-engine that would help the Royal Flying Corps and Royal Naval Air Service match German air capability during the First World War and, in 1919, keep Alcock and Brown airborne for 15 hours 57 minutes as they headed eastwards from St John's, Newfoundland, to County Galway.

After Royce and the Hon. Charles Stuart Rolls became business partners in 1904, Royce almost worked himself to death while designing a succession of luxury cars; he was also developing a serious bowel condition. A workaholic, reluctant to delegate, and indifferent to the toll on his health, Royce insisted on becoming involved in the minutiae of factory management. He was liable to dismiss an employee for a minor transgression summarily. An unhappy marriage worsened his unstable temperament.

In 1908 Rolls-Royce's managing director, Claude Johnson, told the firm's chairman, Ernest Claremont: "One cannot help wishing that a portion of Royce's time should be spent right away from the works. So long as he insists on being worried with all the small, petty-fogging, irritating details which must inevitably surround him so long as he superintends the works, his time and the value of his brains to our shareholders must to some extent be lost... his brain is undoubtedly valuable at the works but its most valuable property, namely invention, has not sufficient chance to be exercised."

Top
Fig 1: Royce at his drawing board with colleague Bill Hardy. (Courtesy of Rolls-Royce Heritage Trust)

Bottom
Fig 2: Royce's 'elite designers' Albert Elliott (left) and Maurice Olley at Buena Vista, Sea Street, St Margaret's. (Rolls-Royce Heritage Trust)

Above, left
Fig 3: Afternoon tea at Seaton, c. 1915, with Royce, his nurse Ethel Aubin (centre) and Claude Johnson's secretary, Florence Caswell

Above, right
Fig 4: Seaton, Henry Royce's home at St Margaret's Bay, is prominent at the top of the hill, left, in this undated view of St Margaret's Bay during the early years of housing development in Granville Road. (Courtesy of St Margaret's History Society)

In July 1910 Royce was devastated by Rolls's death in a flying accident, and in 1911 his condition became critical when an emergency bowel operation followed a nervous breakdown. While he recovered, Johnson and Claremont decided that under no circumstances should he be allowed to return to Derby and its many distractions. There followed a hiatus during which Royce lived and worked in the south of England during summer and the French Riviera during winter. He underwent a colostomy and separated from his wife, Minnie. She had a morbid fear of all things medical (especially pregnancy). A nurse, Ethel Aubin, was engaged as Royce's live-in carer and companion. She and elite members of his design staff accompanied him everywhere – to Crowborough, Sussex, in 1912 while he was recovering from his recent trauma and in the following years to the Côte d'Azur (where houses for him and his staff, and a drawing office, were built at Le Canadel) and to St Margaret's Bay.

Royce lived at Eastward Ho! in Granville Road, St Margaret's, during the summer of 1913, spent another winter at Le Canadel, and when he returned moved into Rothiemay, also in Granville Road. He renamed the house Seaton, after the village in Rutlandshire where his forebears had been farmers and millers. The outbreak of the First World War thwarted his intention to spend further winters at Le Canadel until after the Armistice.

He and Ethel Aubin lived at Seaton for the next three years, with only one interruption, while his designers, Albert Elliott and Maurice Olley, had lodgings at Buena Vista (now Tigh-Na-Mara) in Sea Street.

"Royce had rented the house high up on the cliff," Olley recalled many years later. 'One of the front rooms was being prepared as a drawing office, with petrol lamps, which gave an excellent light, but I'm sure must have been a fire risk. The view across to the French shore was magnificent. The bay window in the drawing office was a regular stage box for the war we didn't know was coming.

Silver Ghosts on the Deal road

The team's first tasks were to design improvements to Royce's highly successful 40/50hp motor car, launched prosaically in 1907 as the Rolls-Royce 40/50 and later commonly known as the Silver Ghost, the name first bestowed on a special silver-plated version that completed a 15,000-mile reliability trial. One of Olley's assignments was to test-drive Silver Ghosts along the road to Deal.

Britain's declaration of the war on Germany on Tuesday 4 August caused consternation at Rolls-Royce. The workforce was taking its annual holiday and was ordered, through an advertisement in the *Daily Mail*, to return home immediately and "observe the most rigid economy." The directors were momentarily in a state of panic.

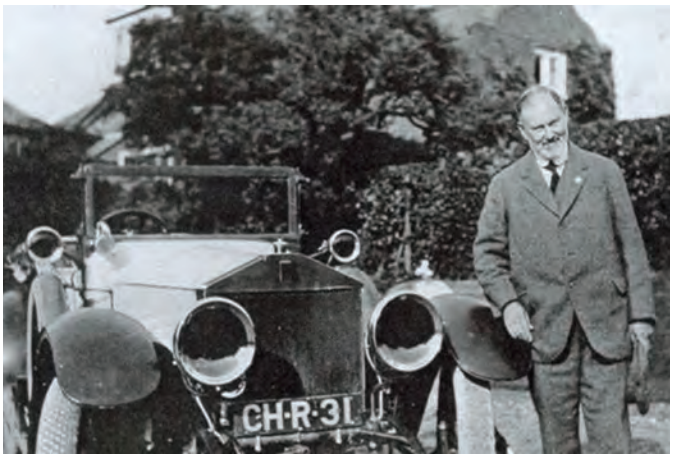
The company's only income came from sales of Silver Ghost chassis and engines (specialist coachbuilders made the cars' bodies). Rolls-Royce faced bankruptcy because who, in such uncertain times, would spend the equivalent of up to £200,000 in today's money on a new car?

Johnson prepared to lay-off about fifty percent of the workers at Derby and halved the working hours of those who remained. He told his staff: "A week ago the Rolls-Royce business and its property were worth a very large sum of money. I cannot say whether when the bank opens again on Friday [7 August] the bankers may not take the view that the Rolls-Royce business is worth nothing at all and therefore they may refuse to let us draw another penny from the bank. Anyone with their eyes open can see that the sale of Rolls-Royce cars must be absolutely stopped."

Eventually, the company was saved by government contracts for munitions, and for chassis and engines for military vehicles. Nevertheless, it is astonishing that at first, Rolls-Royce's directors seemed oblivious to the possibility of converting their factory to make military materiel, which would be required in incalculable quantities for the battles to come.

At the outbreak of the First World War, there was a critical shortage of aero engines for the RFC and the RNAS, which between them could muster only 179 aeroplanes with which to patrol the Western Front and Britain's shipping lanes. The nation's aircraft constructors were being urged to build more aeroplanes – and quickly – but were dependent on engines built in France, clearly now an unreliable source.

Despite having one of the country's most modern internal combustion engine production lines, and a workforce fully capable of adapting them to build aero engines, the company decided in the first few days of the war that it "would not avail itself of the opportunity, now possibly arising, of making or assembling aero engines for the British government." The decision was short-lived. Royce and Johnson were soon persuaded to build Renault air-cooled engines under licence and a similar type designed by the Royal Aircraft Factory. Royce disliked them, having for the past 10 years designed a succession of highly-reliable water-cooled engines for the Silver Ghost and its predecessors. Royce sketched out his ideas, and on 9 September 1914 Maurice Olley completed the first drawing, headed '200 HP Aero Engine Crankshaft Detail,'



Above, left
Fig 5: Seaton, built in 1947 on the site of the front garden of Royce's house of that name. (Courtesy of St Margaret's History Society)

Above, right
Fig 6: Henry Royce with an experimental Silver Ghost at Claude Johnson's house, Villa Vita, Kingsdown. (Courtesy of Rolls-Royce Heritage Trust)

for what became the water-cooled Eagle aero engine; soon, other components took shape on the drawing boards at Seaton.

By now, Royce and his team were working in a war zone. Gunfire on the Western Front could be heard on the White Cliffs. St Margaret's Bay was vulnerable to German raiding parties that could quickly have embarked unseen from submarines surfacing close to the shore at night. The only telegraph cable between England and France ran from St Margaret's Bay along the seabed to Calais, carrying vital military communications. There were observation posts, and gun batteries on the cliffs, Army checkpoints on the coast roads and the Dover Patrol was on active service in the Channel. Two miles away, at Swingate Aviation Camp, the RFC was dispatching fighters to the battlefields.

St Margaret's was not an ideal place in which to design a top-secret engine for Britain's warplanes. Had the Germans known this was happening under the noses of their bomber pilots, they would indeed have considered capturing Royce or stealing his designs. From November until Spring the weather on the east Kent coast can be harsh so, unable to travel to Le Canadel, Royce spent the winter of 1914/15 at Bognor Regis and Bournemouth, whose milder climate at that time of the year was ideal for those with delicate constitutions. He returned to Seaton in early 1915 and remained there for the next two years, becoming a familiar sight as he relaxed after work taking walks along the cliffs. Everyone in the village knew who he was, but no one could have been aware of what was keeping him so busy.

In January 1915 the first contract for Eagle aero engines, worth £23,750 (about £2.3million at today's values) was placed by the Admiralty on behalf of the Royal Navy Air Service. The first airworthy version powered the prototype Handley Page 0/100 twin-engined bomber on its maiden flight from Hendon Aerodrome in north London on 17 December. In June 1916 the Eagle went into active service with RFC FE2d fighters. Royce went on to improve the Eagle. It remained in production until 1924, by when more than 4,600 had been built for fighters, bombers, flying boats, troop transporters, airliners and many other British aircraft.

By the end of 1917, Royce and his retinue had seen and heard enough of the war. The searchlights, bombing, gunfire and depth charges were making life extremely uncomfortable. Royce may have wanted to stay to the bitter end but Ethel Aubin, responsible for keeping him fit and in good spirits, had other ideas. Together they went house-hunting along the Sussex coast to find somewhere quieter and safer. Eventually, they viewed Elm Tree Farm, West Wittering, which became their English summer home.

The Eagle begat a series of increasingly powerful and reliable engines and, after Royce died, the immortal Merlin. His ultimate design was specially engineered for the international Schneider Trophy flying contests in 1929 and 1931. Having won the event in 1914 and 1922, and lost it in 1923, 1925 and 1926, Britain regained the trophy in 1927, the winner being the Supermarine aircraft company's S5 seaplane, designed by Reginald Mitchell. A Napier Lion engine powered the S5, but Mitchell doubted whether this would provide enough power for the S6 he was designing for the 1929 race.

Royce solved with the problem with his R (for Racing) engine. Flown by Richard Waghorn, the S6 won the trophy at an average speed of 328.64 mph (nearly 50 mph faster than the S5 in 1927). The next race, in 1931, was won by John Boothman piloting Mitchell's S6B seaplane, which achieved an average of 340.08 mph thanks to a 2,350hp version of the R engine. This third successive victory secured the trophy for Britain in perpetuity. An R-engined Supermarine later set a world airspeed record of 407.5 mph.

In 1930 Royce was created 'Sir Frederick Henry Royce, 1st Baronet of Seaton' for services to British aviation. In 1918 he had been appointed OBE in recognition of his wartime achievements. He died on 22 April 1933, shortly after his 70th birthday.

Above
Fig 7: The suitcase in which the letter was found is examined at Claude Johnson's former home at Kingsdown during a visit hosted by the house's owners Richard and Rogy Nelson. From the left: Richard Nelson, Hugh Riddle (Claude Johnson's grandson), Maurice Richardson (Rolls-Royce Enthusiasts' Club), Rogy Nelson, Christine Waterman (St Margaret's History Society) and Rolls-Royce historian and author Tom Clarke. (St Margaret's History Society)

Left
Fig 8: The historic 'Alcock & Brown' letter, courtesy of the Henry Royce Archives

Thanks to Ethel Aubin's '24/7 t.l.c.' he had lived for more than 20 years after the onset of what was feared would be his fatal illness. During the last weeks of his life, a drawing table was fitted to his bed, and he started to design what was to be his last aero engine, the PV12. From this evolved the Merlin, first tested five months after he died, and subsequently to power the Spitfire and Hurricane fighters, the Avro Lancaster bomber, the US Army Air Force's Mustang P-51B/C and about 40 other warplanes and civil aircraft. Of the four Eagle engines that survive, two are on Alcock and Brown's Vimy biplane at the London Science Museum.

Surprise in a suitcase

More than 100 years after Alcock and Brown's flight, and the published books and articles on their triumph, a forgotten memento came to light in a battered suitcase. Letters and photographs that had belonged to Claude Johnson, who lived at Villa Vita (now South Foreland House) at Kingsdown, a stroll along the cliffs from Seaton, were contained within. The collection, now in possession of Johnson's grandson, Hugh Riddle, was first appraised by Dover Museum while preparing an exhibition to commemorate the 100th anniversary of C S Rolls's non-stop cross-Channel return flight on 2 June 1910.

To the surprise of the museum staff, the suitcase contained a letter addressed to Claude Johnson and carried by Alcock and Brown in a consignment of letters and parcels that comprised the first-ever transatlantic airmail. It was written on 11 June 1919 (three days before take-off) by Eric Platford, head of a team of Rolls-Royce engineers sent to Newfoundland to prepare the Vimy's two Eagle engines for the flight. The letter is now in the Henry Royce Archives. The KAS Magazine is privileged to be the first to publish it.

Platford wrote: "[the] Vickers machine is now practically ready and if weather fit should be off tomorrow or the following day. I am anxious that you should receive a letter on the first Transatlantic aerial mail especially using R.R. engines, so trust this letter will arrive safely which I feel you will appreciate as a souvenir ...I should be glad if you would convey my congratulations to Mr Royce and the Works for the excellent engines. If the flight is not a success I feel sure it will not be the engines themselves but the installation work. The engines on all machines have always run like clocks and have everyone's full confidence. The installation work requires much more serious thought and experience. Did you receive my letter to you in the Sopwith Aerial Mail which I understand was saved? "

Harry Hawker and Kenneth Mackenzie Grieve had attempted the non-stop crossing a month before Alcock and Brown in a Sopwith biplane, optimistically called The Atlantic. However, its Eagle engine overheated and they had to ditch in the ocean. They were rescued 750 miles of the Irish coast. The fate of Platford's letter to Johnson is not known.

The British aircraft industry made such rapid progress post-WW1 that in June 1961, only 42 years after Alcock & Brown's triumph, an RAF Avro Vulcan V-bomber made the first non-stop flight from England to Australia in 20 hours and three minutes. It too carried historic airmail – including photographs of the Kent v. Australia cricket match then in progress at Canterbury.

SHORNE WOODS
AND COMMUNITY ARCHAEOLOGY FURTHER AFIELD... FROM THE MARSH TO THE COMMONS

By Andrew Mayfield

Welcome to the Kent County Council community archaeology roundup of 2020! Within days of setting pen to paper in issue 112, the world changed profoundly. By the middle of March, we had shut down all community archaeology activities, be they at the Park, on the Marsh or across Sevenoaks Commons.

Projects were rejigged and programmes re-written as we came to terms with how to run outreach and engagement work during a pandemic. For those first few difficult months, work took place online, through email rings and social media, digital engagement ruled! After a thorough risk assessment review, we were able to restart on the ground activities in late July and have been busy ever since. As I write this, we have entered a second lockdown, but have hope to be back outdoors again before Christmas. Before I update you on the work that has taken place this year, I would like to thank everyone who has engaged with, supported, followed, liked, walked, excavated and surveyed sites during 2020. Your support for all things community archaeology in the County is hugely appreciated. Without you, there would be little to say!

Shorne Woods Country Park

Work continues to understand both the RAF dispersed camp in the Park and the remains of the twentieth-century clay works. Up until the first lockdown we had focused on walkover surveys of the sites, plotting where features of interest could be seen and research. We were lucky to have access to a wide variety of maps of the clay works and oral history testimonies. For the RAF camp, we had a war department map. During the lockdown, we continued our research on the site and made plans for a return to outdoor work. A volunteers WhatsApp group proved invaluable for people's morale. With all activities risk assessed, a new COVID protocol in place and extra hygiene measures, work recommenced. Sites investigated include the clay works' narrow gauge railway engine shed, work on the wider rail infrastructure and main wash plant and the large concrete reservoir and pipe network. Closer to the A2 we have

Top
Fig 1: Shorne Woods volunteer working on the valve pit for the clayworks reservoir
Bottom
Fig 2: Long lost large brick conduit found at Cobham Hall

re-excavated three of the RAF camp hut bases and photographed the remains. Our next target will be the main railway embankment, closest to the A2. All this work is unfunded but supported by both the Country Parks service and KCC's Heritage Conservation Team. The volunteers have also self-funded the purchase of a cabin at the Park, which will be our base for future project work.

Cobham Hall

We returned briefly to Cobham Hall at the end of July, to complete work on the Repton pond site. When we left the site at the end of 2019, we thought we had uncovered evidence of a lost reservoir, behind the pond. With the benefit of an excavator, we were able to cut a series of deeper trenches this year, which revealed that the reservoir was instead a long-lost brick conduit. This appeared to be part of a post-medieval water system for the gardens. The Cobham Hall Heritage Trust once again funded the work. In the future, we hope to put together a bid to investigate the more expansive water management systems at the Hall, with a focus from the Roman period onwards!

The Fifth Continent project on Romney Marsh

A full year of lottery-funded community archaeology activities had to be redesigned this Spring. For the first few months, we focused on research from home and remote finds processing from one of our digs last Autumn. From August onwards we have tried to play catch up with a year's worth of activities. With COVID protocols in place, we have run a series of surveys with small teams of volunteers. We were starting with a site at the edge of New Romney, before moving to a vast field at Old Romney. At both sites, we were looking for evidence of the lost Saxon port. At Old Romney, in the field next to a moated enclosure, we puzzled over a whole host of features from our magnetometry survey. Some are old drainage channels, but others could indicate areas of settlement. We hope to return to the field in 2021.

Top, L–R
Fig 3: Fifth Continent Volunteer working on a geophys survey
Fig 4: Sevenoaks Greensand Commons volunteers measuring a feature at Crockham Hill
Bottom, L–R
Fig 5: Fifth Continent volunteers surveying Snave graveyard
Fig 6: Cobham Landscape Detectives booklet cover

At a third site on the edge of the Warren, east of New Romney, our geophys revealed two large buried circular enclosures. These have resulted in much head-scratching. The marsh drains seem to respect them, which could make them of some age? We hope that a small trench might provide some answers in 2021. At the end of October, we completed a graveyard survey of Snave Church. This work builds on the transcriptions that can be found on the KAS website! Three Marsh graveyards have now been resurveyed as part of the project.

Sevenoaks Greensand Commons

Our planned work on the Commons also had to be adapted this Spring. We did have a secret weapon in the shape of the Darent Valley Landscape Partnership Scheme LiDAR portal! This enabled the Commons heritage volunteers to view the LiDAR data for the Commons from home and start to identify and flag up features of interest. We hope that in 2021 we will also have the Medway Valley LiDAR data on the portal, so that you will be able to search through the LiDAR data for both river valleys. By early Autumn we could finally get out and about on the Commons to start ground-truthing the LiDAR data. We have spent three days at Crockham Hill so far and identified quarries, boundary banks, building platforms, slit trenches and just possibly two pillow mounds for rabbits! Work continues on this Lottery funded project through 2021, with some of the identified sites subject to trial excavations.

To get involved with our projects, from Cobham and Shorne, to Romney Marsh or Sevenoaks Commons do contact me directly at andrew.mayfield@kent.gov.uk, phone 07920 548906, have a look at our website www.shornewoodsarchaeology.co.uk, our Facebook page ArchaeologyinKent or on Twitter at @ArchaeologyKent. Our booklet on the Cobham Landscape Detectives project is also now available as both a PDF and a paper copy.

FREE KAS MEMBERSHIP
FOR ANY STUDENT AGED 18+ IN 2021

Students are invited to complete their applications online and join the Society for free to receive all the benefits of full membership: digital copies of the Kent archaeological journal *Archaeologia Cantiana* and the KAS Magazine, joining in with activities and digs, access to the library, vote in elections and attend the AGM.

After a difficult 2020 for all of us, the KAS is preparing to make up for lost time as soon as we are able in 2021 and an influx of new members will be just the tonic for creating a vibrant and exciting programme of activities and events, volunteering opportunities and workshops.

So come along and help us support local groups, research local history and explore the archaeology of the County of Kent for more information on what membership means and to access the online form **https://www.kentarchaeology.org.uk/join-kas**

KAS APPOINTS CCCU AMBASSADOR – GRACE CONIUM

My name is Grace, and I am in my first year of studying for a PhD in Archaeology at Canterbury Christchurch University (CCCU). This is funded by the AHRC and is in collaboration with the Museum of London Archaeology. My project aims to evaluate the short- and longer-term impacts of community archaeology/ heritage and citizen science initiatives on individuals, groups, and communities across Kent's east coast. The overarching aim is to maximise benefit, sustainability, and legacy of future projects. While I am a new member to KAS, I have lived in Kent for most of my life, and am passionate about the region's diverse history, as well as communicating this to its local residents. I am excited about becoming a student ambassador between KAS and CCCU to help maximise benefits for both groups and hopefully engage a new, younger audience with the history and archaeology of Kent.

All the best,
Grace

KAS APPOINTS STUDENT AMBASSADOR – TOM MARSHALL

Hello, my name is Tom Marshall. I am a mature student in my third year studying Classics and Archaeology at the University of Kent. Currently, I am a committee member for the university's society, Kent Classics & Archaeology Society or KCAS for short. My role and title within this Society is Archaeological Liaison, meaning I love anything to do with archaeology! I have recently become a member of my local group (MAAG). Currently, I am looking to publish my own work under the guidance of KAS' long-standing member Dr Steve Willis. Naturally, I was very excited when Fred Birkbeck reached out to offer me the new and exciting role of Student Ambassador. I have been a member of KAS for a short period. Still, already I have experienced the great benefits of joining the Society. My aim for this role is to promote the Society within my university and offer students the fantastic new membership exclusive for them. I hope to be able to bridge the gap for students and be an access point for them to become an active and contributory part of our Society and encourage it to grow. Like myself, I am sure many aspiring archaeologists at the university are looking to have a more active experience outside of their studies.

All the best,
Tom

NOTICES

Harry Margary reproduction of the 1769 Kent map

Michael Leach, a long-standing member of KAS, now permanently exiled from Kent, would like to donate his Harry Margary reproduction of the 1769 Kent map to a new home.

There are thirty map sections, printed on thick paper, each one approximately 75cm x 50cm, and covering a specific area of Kent. If any member wishes to give these maps a new home, use them for study/research, etc., please contact the Editor at Richard.taylor@kentarchaeology.org.uk

LETTERS TO THE EDITOR

Dear Editor,

I enjoyed Peter Tann's thoroughly documented research on The Brickmaking Industry in Kent (*Archaeologia Cantiana* 2020) having researched the history of bricks in an attempt to enable archaeologists to date them on site. But as Sittingbourne is 30 miles west of the East Kent coast, I'm surprised Peter refers to them more than once as the brickmakers of East Kent whereas the brickmakers of East Kent are not mentioned although I appreciate that the report is up to 1900. But mention should be made of Hammill brick manufacturers from the Eastry Woodnesborough area (really East) - they started brick production in 1926 and at the peak were making 180,000 a week, only finishing in 2008.

I would call Sittingbourne and Faversham North Kent as did the solicitor quoted in the report, but that may be because I live in Broadstairs! Where does east Kent start? To me, it is Canterbury and Ashford. Opinions invited!

Yours faithfully,
Gordon Taylor

P.S. An interesting website for brick enthusiasts (many coloured photos of them) is http://www.brocross.com/Bricks/Penmorfa/index.htm (not secure).

MEMBERSHIP MATTERS

I am pleased to welcome the new members to KAS since the last newsletter although of course this year has been so strange with the many COVID-19 constraints meaning that all conferences and meetings have had to be cancelled. Hopefully, next year will prove to be a much better year with opportunities to meet up with like minded members and friends. It has been very strange for all of us, so I hope that you have coped and have enjoyed receiving the 2020 copy of *Archaeologia Cantiana* which was full of so many articles pertaining to Kentish history and archaeology. I am also sure that you will welcome receiving this copy of the Magazine.

I recently sent letters to you who renewal by cheque so please pay either this way or by paying by bank transfer as soon as possible – If you do opt to pay by bank transfer please do this after the beginning of January using your membership number and surname as the reference and let me know that you have done so. The Constitution states that all subscriptions must be fully paid by the end of March each year so If I do not receive your payment by then I must remove you from the membership list which I do not enjoy doing!

I am so grateful for your support of KAS and myself and wish you all good health and as good a Christmas as you can under the present circumstance plus all the very best for 2021.

Remember that without you as members KAS could not exist!!

Shiela Broomfield

If undelivered, please return to S. Broomfield, 8 Woodview Crescent, Hildenborough, Tonbridge, Kent TN11 9HD