



Established 1983

East Dorset Antiquarian Society

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NEWSLETTER – JANUARY 2017

SPECIAL GENERAL MEETING

7.30pm on Monday 23rd January 2017

Learning Centre, the Priest House Museum

Application for Charitable Status

This is the second time that the East Dorset Antiquarian Society has considered achieving charitable status. A few years ago the committee, whilst recognising the benefits, considered the regulations set by the charity commission too onerous and decided not to continue. This time the committee are unanimous in their determination to proceed.

There are two primary and interrelated reasons for becoming a charity, the first is financial and the second is with regard to status:

1. Many potential funding bodies will only provide grants to registered charities. As a charity we can also apply for Gift Aid, which offers an additional 25% value for all financial donations made to the society including subscriptions, when accompanied by a Gift Aid request.
2. Organisations that have become charities are perceived to have a certain status, not least because they will be monitored and supported by the Charity Commission. This in turn makes the society focus on the objectives listed in the constitution.

The East Dorset Antiquarian Society is at the forefront of amateur archaeology in Dorset and since inception members have been involved in many archaeological projects. Over the last ten years the society has managed two large excavations that have a regional significance and are of national interest. Both projects require substantial external funding to achieve the professional standards demanded for final publication. Whilst funding for the Worth Matravers Project is nearly complete, fund raising for the Druce Roman Villa Project will continue for the next two or three years. We can look forward to many other projects in the future.

At a time when we are faced with growing pressures on our archaeological heritage attaining charitable status will demonstrate that we recognise our responsibilities with regard our heritage, and the need to effectively engage with the local community to raise awareness and generate interest.

Please attend the meeting and support your society.

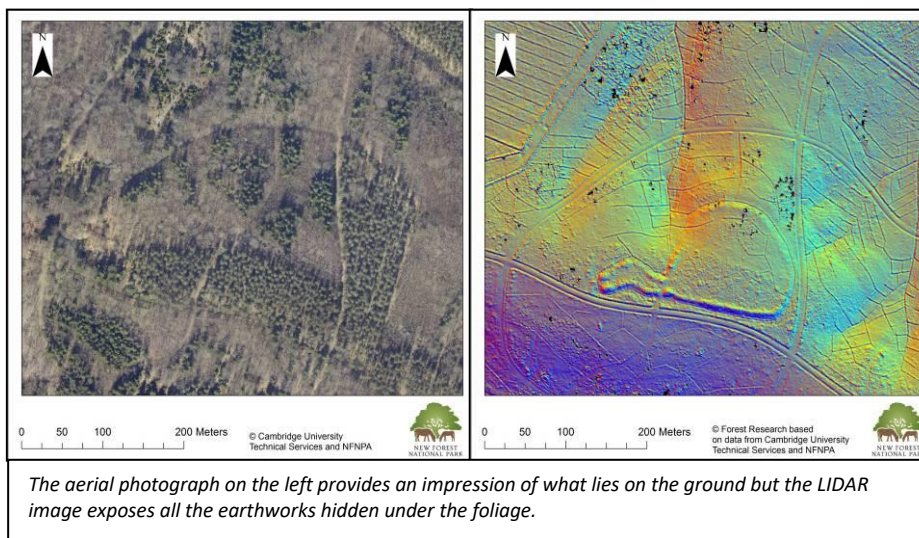
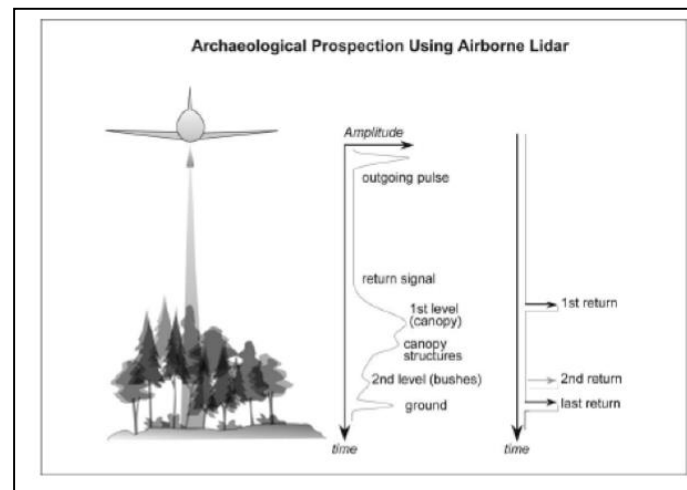
Andrew Morgan (EDAS Chairman)

EDAS Lecture: Shedding light on the New Forest's history: the results of LIDAR and other surveys, by Lawrence Shaw of the New Forest National Park Authority

The final talk of the year was by Lawrence Shaw an archaeologist working for the New Forest National Park Authority on a project funded by the HLF. Lawrence was determined to encourage us to go east and explore this fascinating area in Hampshire. He explained that the area was designated a Royal Hunting Forest in 1079 and contains a diverse landscape of heathland, grassland, forested enclosures, ancient woodlands and coastal flats with many Sites of Special Scientific Interest (SSSI). There are more than 600 listed buildings, and eight Historic Parks and Gardens. It was accorded National Park Status in 2006.

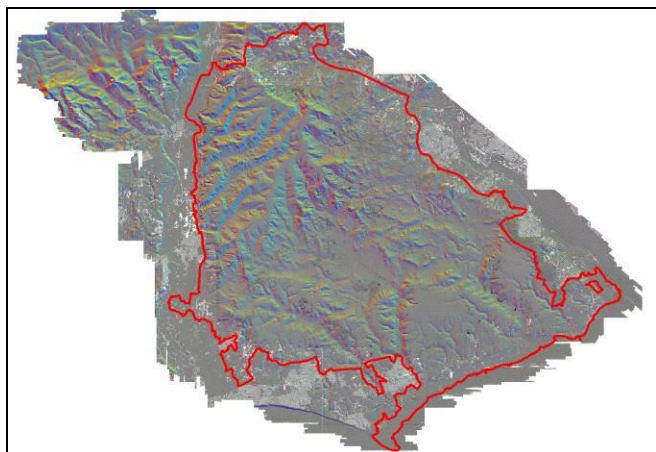
Lawrence explained that the New Forest landscape has been aggressively managed in the past especially in the 19th century with the canalisation of waterways to drain the natural wetlands. It was decided to address the loss of this precious habitat and in 2010 they launched a programme under the High Level Stewardship Scheme. Funding of £19million was put in place with the project to complete by 2020. Reclamation of the natural wetlands is a large engineering programme with heavy vehicles and their associated transport network, and it was recognised this could threaten any undiscovered archaeology located within the park. So a team was assembled to undertake a new large scale survey of the whole park using remote sensing techniques. Before the project commenced there were about 1000 sites of archaeological sites recorded for the park. The programme was backed up by teams of volunteers who undertook ground surveys on the new sites.

The sheer scale of the area demanded that the surveying was undertaken by airplane using three main techniques; LIDAR (Light Detecting and Ranging), Aerial Photography and Infrared Imagery. Lawrence explained the LIDAR survey was undertaken at a density of 50 cm. This means that the technology creates a record of the three dimensional location of a point on the land surface at every 50 cms. One of the impressive features of LIDAR is that it can penetrate vegetative covering and will reveal ground features that are not apparent through photographs, and may even be difficult to see on the ground. The transmitted laser beam penetrates though gaps in the foliage to be reflected back off the ground beneath.



LIDAR records the three dimensional location of countless points on the landscape, and this provides opportunities when viewing the imagery. We know how the appearance of a landscape changes according to the time of day we visit, for instance how a low sun creates shadows that clearly define shapes not obvious at midday. The LIDAR software can create this effect on demand; enhancing the appearance of ground features with shadows from a simulated light source that can be moved at will.

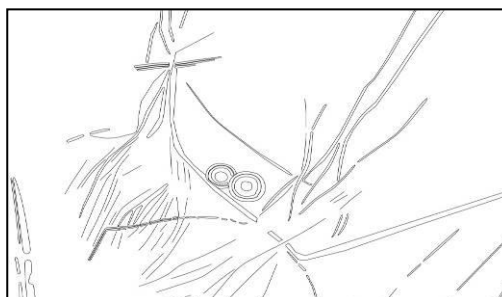
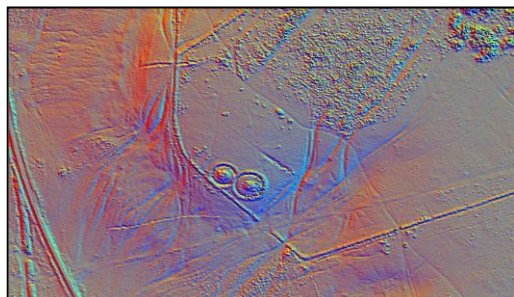
Alongside the LIDAR survey the team also used an infrared camera that records a band of light not visible with the human eye. This technology is sensitive to different moisture levels, ground density and varying vegetation coverage that absorb this frequency in different ways; this can be used to identify archaeological and environmental features. The results can be incorporated with LIDAR to achieve even more informative imagery. Other resources include historical aerial photography and historical maps, which still record features that may since been degraded leaving little above ground level.



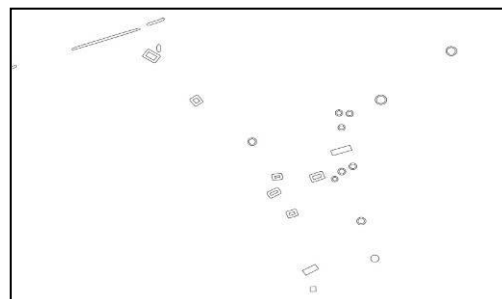
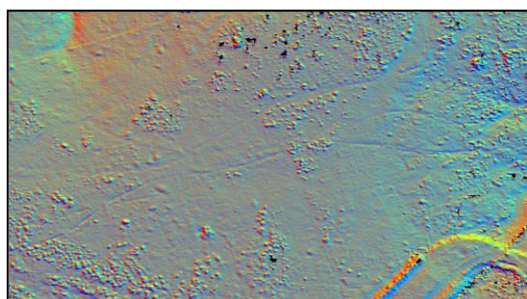
New Forest National Park

The Lidar image has been enhanced by shading to show the main water systems in the park.

An impressive array of new features were found which has increased the number of archaeological sites recorded on the Historical Environment Record from 1000 to over 3000. These new features include: Bronze Age barrows, Bronze Age pit and mound features of unknown use; banjo enclosures; ridge and furrow field systems; mediaeval bee gardens; and more recent military structures. Other benefits include being able to recognise potential veteran trees and the ability to monitor rates of erosion on sensitive sites, whether through pedestrian traffic or water erosion. From the LIDAR data three dimension scale models of a selection of important areas have been made and are on display at the National Park Centre at Lyndhurst.



Setley: The Lidar utilising shading to enhance the imagery of the Bronze Age barrows surrounded by complex field systems and tracks.



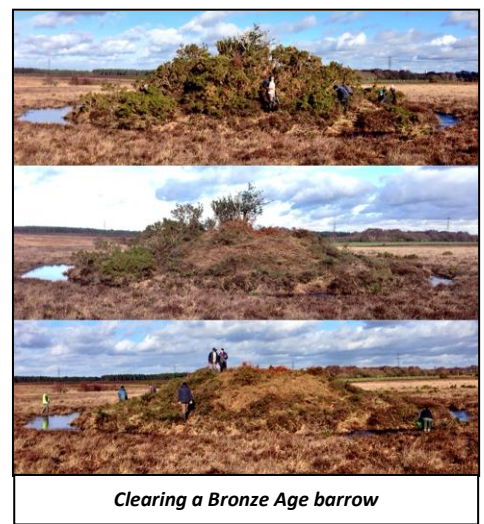
Holmsley: Here a diffuse pattern of round shapes have been exposed, they are post-medieval bee gardens

The project is dependent on a number of volunteers who are involved in ground proofing what has been found from the aerial surveys and undertaking the recording of the sites using the latest equipment and when necessary any conservation work. Over 150 mandays were spent in 2016.

The impact of the project has already introduced changes in the way the land is managed and used, it was made a massive increase in the understanding of the archaeological features that lie within the park with over 3000 sites now recorded after completing just 60% of the survey. Over 40 monuments have been improved or restored in the first five years.

We thanked Lawrence for this very informative talk and for permission to use the material from his presentation. I'm sure many of us will venture east to enjoy the New Forest and the new archaeological features.

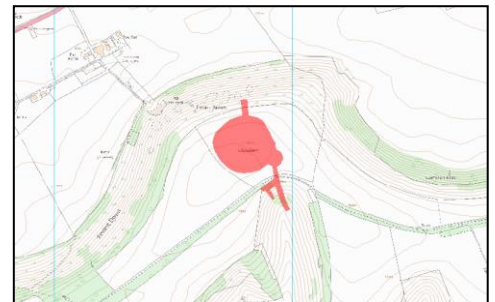
Andrew Morgan



Clearing a Bronze Age barrow

CCAONB Foundations of Archaeology Project: Chiselbury Hiffort, Fovant

On 6th December several EDAS members joined archaeologists Philip Planel and Emma Rouse plus others for a short walk to the site of the Chiselbury Iron Age univallate hillfort, on the northern edge of the chalklands. It sits on the Fovant Down ridge where it protrudes towards the north over the Nadder valley with the Ebbel valley lying to the south. It was first described by Colt Hoare in the early 19th century and later recorded by Heywood Sumner.



The hillfort is sub-circular in plan, and encloses an area of approximately 10.5 acres and is defined by an earthen rampart up to 12 ft in height with an external ditch, up to a maximum of 5.2 ft in depth. A gap in the south-eastern side of the rampart, and a corresponding causeway across the ditch, is thought to be the original entrance and is associated with a small 'D' shaped embanked enclosure, which is visible on aerial photographs. The enclosure has subsequently been degraded by ploughing but a series of low earthworks can still be detected.

Limited archaeological investigation of the interior of the hillfort in the early 20th century failed to find any direct traces of occupation. However, outside of the fort some Iron Age pottery and a lead spindle whorl were found. Also two Roman coins were recovered, one of which dated to the reign of Constantine I and was found within the central area. An Iron Age sword and scabbard were also found on the nearby trackway which runs along the ridge top. The most impressive feature of the earthworks is its prime location: on the ridge commanding extensive views to the north, south and along the ridge. Like many comparable univallate hillforts the simple bank and ditch features offered limited defence and no signs of habitation have yet to be recorded; so the question remains what was its purpose?

The hillfort is abutted on both its northern and southern sides by cross dykes. Their precise function is unknown but the manner in which they cut the ridge suggests that they were intended to prevent movement along it. The Northern Cross dyke 300 ft in length ran from the ditch of the hillfort across the top of the ridge before continuing part way down its northern slopes but again has been much affected by ploughing. The Southern Cross dyke, which survives as a discontinuous series of banks and ditches is a total of 590 ft in length. It travels roughly south-southeast from the 'D' shaped enclosure, down the southern slope of the ridge, and into the base of a valley. Along the ridgeway runs a track that was probably in use from prehistoric times and in time provided the main route from Wilton to Shaftesbury. By the 18th century it had become a turnpike road, and a map dated to 1773 depicts a toll house immediately to the south of it. The remains of the former toll house structure were not visible under the shrub.

Today the site is best known for the Fovant Badges which are a number of WWI regimental badges cut into the chalk of the hill on its northern flank.

Andrew



Experimental Archaeology – Investigating Iron Smelting in Kingdom of Kush c.500BC – 500 AD

Since 2012 there has been a project led by UCL London to investigate the iron making capability of the powerful Kingdom of Kush in Sudan. Jake Keen from Dorset has long been investigating traditional methods of iron making and was invited to bring his expertise to the project. From basic archaeological evidence Jake and the team have worked in the Sudan in an attempt to replicate the iron and slag production at Meroe, the royal city of Kush.



Jake and Mike demonstrate bellow blowing bellows.

As part of his ongoing research back home, Jake has built a near half size replica of a furnace from the Royal City of Moroe. The Dorset example is built to provide half the internal capacity of an original furnace. To achieve the required high temperatures there are four apertures into which hand operated bellows are inserted. In the Sudan these are made of open clay bowls to which are attached tubes made of goat skins, which are pulled up open, then closed and depressed forcing the entrapped air into the furnace. In Dorset, unable to replicate the originals Jake has ingeniously made scooped out sections of tree trunks and pieces of pond liner to act as

For the experimental firing that took place on 19th December Jake was using roasted iron ore from Exmoor provided by Exeter University. The precise source and quality of the ore was not known. For this firing he only had 17 kilograms of crushed iron ore available. This was in carefully weighed 1 kilogram containers alongside 1 kilogram bags of charcoal. These form the charge which is carefully poured into the top of furnace. The burning charcoal draws out the impurities within the iron ore, which then collects as slag that can be removed leaving a concentration of near pure iron, called a bloom. The starting point is a ratio of 1:1 but more charcoal can be added dependent on the demands of the firing. Jake carefully documents each firing and analyses the results; over the years he has created a catalogue of information about his work.

Earlier he had fired a quantity of charcoal in the furnace to bring it up to a suitable temperature, which is judged by the colour of the flame. Four members of the team then set to work on the bellows. These worked quite successfully with one or two teething problems that were soon resolved. When the required temperature had been achieved the ore was gradually added along with the additional charcoal. Over a period of three hours the bellow pushers were regularly replaced and the furnace roared. Jake carefully monitored the blaze applying additional charges as required. Eventually he removed some bricks from the front of the chamber and created a



channel that had been prepared with a sacrificial switch of reeds buried under the floor of the furnace. Soon a small ribbon of brilliantly orange/red molten slag poured down the channel. This continued for a while until Jake was sure that all the ore had been smelted. He then fully opened the front of the furnace and dragged out the material within. Several glowing metallic lumps were retrieved and gently hammered with a solid length of wood. This dislodges any slag from the iron bloom.

Several similar pieces were retrieved and treated but unfortunately none contained solid iron.

Although Jake was disappointed he will take a few days to fully analyse the results and reach his conclusions. Such is the world of experimental archaeology where there are so many variables, not least the quality of the iron ore.

All of those present found the experience very interesting and it was a privilege to participate. This was truly an insight into what can only be called the intrinsic art of iron smelting.

Jake later explained that the process is quite expensive, not just in time but also the charcoal and iron ore are quite costly. He has promised to give a talk to EDAS about the work he is doing at Moroe in the Sudan, subject to his extremely busy schedule, and maybe we can encourage him to offer another opportunity for smelting to EDAS members if there is sufficient interest.

For further information about the work in Moroe see: <https://www.youtube.com/watch?v=SPU8Uwa-jBQ>

Andrew

EDAS PROGRAMME 2016-2017

| Date | Speaker/Leader | Title |
|--|---|---|
| Wed 11 Jan 2017 | Prof. Peter Andrews, Natural History Museum & Blandford Museum | An ape's view of human evolution: our fossil ape relatives and how they lived |
| Mon 23 Jan 2017 | Special General Meeting 7.30pm Priest House Museum, Wimborne | To discuss and vote on the proposal that EDAS applies for Charitable Status |
| Wed 8 Feb 2017 at the University | Prof. Tim Darvill, Bournemouth University | A tomb with a view: new investigations on Cotswold-Severn long barrows |
| Wed 8 Mar 2017 | AGM | Members' Evening |
| Wed 5 Apr 2017 - NOT 2nd Wednesday | Martin Papworth, National Trust | The late great Medieval manor house of Kingston Lacy |
| Wed 10 May 2017 | Kris Strutt, University of Southampton | Atomic magnetism, current & dielectric permittivity: how Physics has the potential to transform Archaeology: new discoveries from geophysics at Old Sarum and other sites |

Note: unless otherwise stated all lectures are from 7.30 – 9.30 pm and are held at **St Catherine's Church Hall, Lewens Lane, Wimborne, BH21 1LE.**

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