



Established 1983

## East Dorset Antiquarian Society

[www.dorset-archaeology.org.uk](http://www.dorset-archaeology.org.uk)

[mail@dorset-archaeology.org.uk](mailto:mail@dorset-archaeology.org.uk)

Edited by: Andrew Morgan, email: [andrewmorgz@aol.com](mailto:andrewmorgz@aol.com), tel: 01202 731162

 <https://www.facebook.com/dorset.archaeology>

### NEWSLETTER – FEBRUARY 2017

#### SPECIAL GENERAL MEETING - 23<sup>rd</sup> January 2017

On a bitterly cold evening shrouded in a heavy fog we held the Special General Meeting, at the Priest House Museum in Wimborne, to consider whether EDAS should proceed with an application for charitable status. The proposed Constitution and an accompanying set of Rules had been circulated to the membership in advance. The meeting considered all the comments received previously and on the night; some of which resulted in small changes which were formally accepted. It was agreed that the committee should progress with the application to the Charity Commission. A new committee was appointed, comprising all the existing members plus Alan Dedden who was a co-opted member.

We thank all members for supporting this initiative, especially those who turned up on such a night, and special thanks to Geoff Taylor, Peter Walker and Jane Randall, who have led us through the process.

**Andrew Morgan (EDAS Chairman)**

#### **The February Lecture will be held at Bournemouth University**

**WEDNESDAY 8<sup>th</sup> February 2017 at 7.30 pm**

**ALLESBROOK LECTURE THEATRE, TALBOT CAMPUS,**

**BOURNEMOUTH UNIVERSITY, FERN BARROW, BH12 5BB**

**A Tomb with a View:** New investigations on Cotswold Severn long barrows by Professor Tim Darvill.

Scattered across the Cotswold Hills are more than a hundred great stone long barrows dating to the period 3800 to 3300 BC. They were built by early farming groups to contain the remains of their dead and perhaps as territorial markers. We will explore how these sites have been investigated over the last two centuries, what we know about their origins and use, and the location and relationships of these sites.

This EDAS talk is hosted by the Bournemouth University Archaeology, History and Anthropology Society.

#### **Make your way to reception**

**People will be available to guide you to the theatre.**

**Contact us if you need further information**

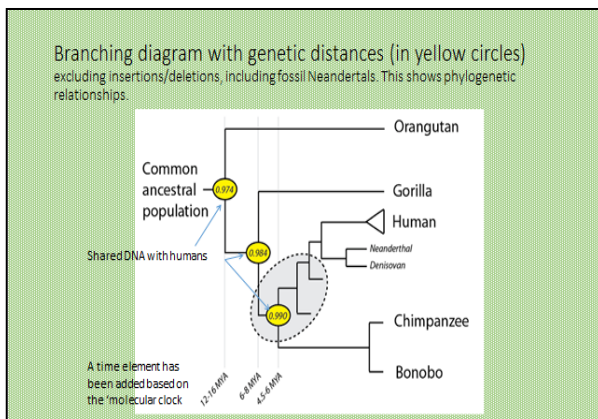
**If you need any assistance on the night please call Andrew on: 07748961941.**

## EDAS Lecture: An Ape's View of Human Evolution: our fossil ape relatives and how they lived" by Dr Peter Andrews

In January we were privileged to welcome Dr Peter Andrews to give our monthly lecture. Peter is a distinguished academic with many areas of expertise including human and primate evolution, and the palaeoecology of the Neogene environments, 23 million years ago (Ma) to the Quaternary 2.5 Ma: this is the period when mammals and birds evolved into roughly modern forms, and when the ancestors of humans appeared. Previously he was head of Human Origins at the Natural History Museum, London, and since 2000 he has been the curator of Blandford Museum, although he declared that he was recently sacked (a joke of course) whilst retaining emeritus positions at the Natural History Museum and the Universities of London and York. He has written and edited at least ten books and more than 200 articles in the scientific and popular press.

He explained that most research on the evolution of apes is done from the perspective of hominins. This is perpetuated because funding is biased towards research in human evolution. One consequence is that very early species may be misrepresented into the hominin lineage rather than be associated with the evolutionary story of the apes. Peter and his colleagues have focused on evolution from the apes' perspective to identify the **Last Common Ancestor (LCA)** between chimpanzee and human.

It has long been accepted that bipedalism is one of the key features of the human lineage, with the suggestion that humans dropped down from the trees freeing their hands for carrying and for using and making tools. Peter showed us the famous footprints from Laetoli in Tanzania, 45kms south of Olduvai Gorge, an area of flat pavement covered in powdery volcanic ash, on which the foot prints of many creatures are preserved. They contain the earliest evidence of hominin bipedalism - *Australopithecus afarensis* – with footprints of three hominins dated to 3.7 Ma. The foot prints were very like humans and their walk was similar with the heel landing first. This as evidence that bipedalism preceded growth in brain size.



Peter explained the close genetic similarities between humans and the great apes. By comparing the genetic make up of the species, using the molecular clock, a technique using the mutation rate of biomolecules to estimate the time species diverged. There is a 99% genetic match between hominins and chimpanzees and bonobos, suggesting these species split between 4.5–6 Ma. There is a 98.4% match with gorillas so the split with this group took place about 6-8 Ma. Orangutans have a 97.4% match suggesting the split took place 12-16 Ma.

Our closest relatives, the chimpanzees, are very

sophisticated creatures who can make simple tools by shaping twigs for extracting food from holes and they can make spears to pierce a food item. They also exhibit an ability to bring together several components, such as a stone and hard place to release a nut from its kernel. They are sociable animals who build nests and engage in grooming. They can develop plans to co-operate, in planned expeditions to hunt and kill monkeys and small antelopes, and they can form marauding bands to invade the territory of other groups. It is possible that if the human story had failed these creatures may eventually have developed in our place.



To find commonality with ancient ancestors it is necessary to look at the behavioural characteristics shared by chimpanzees and humans: frugivorous and carnivorous (hunters?); a tool user and maker, with regional variation in tool cultures; they are quadrupedal but semi-upright; they are arboreal and terrestrial, can live in a forest or savanna environment; with complex pattern of nesting; and have complex social systems

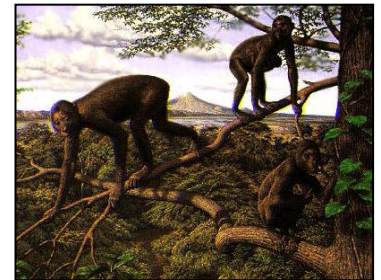
There are a number of physical characteristics which can be used to distinguish the human from the ape lineages. :

	BC	SE	K	S	B	M	A	T	C	U	H
Chimpanzees	Y	Y	Y	Y	N	Y	Y	Y	48	Y	N
Gorillas	Y	Y	Y	Y	N	Y	Y	Y	48	Y	N
Humans	Y	Y	Bi	Y	N	Y	Y	Y	48	Y	Y
Orangutans	Y	Y	N	Y	Y	Y	Y	Y	46	Y	N
Gibbons	Y	Y	Bi	Y	Y	Y	Y	Y	48	Y	N
Monkeys	N	N	N	N	N	N	N	N	V	N	N

BC: broad chest, : SE: stable elbow, K: knuckle walking (Bi: bipedal), S: short stiff back, B: brachiating, M: 5-cusp molar, A: appendix, T: tail loss, C: chromosome number, U: uricase mutation, H: hand with long opposable thumb,

The fossil record from the Miocene epoch (23–5 Ma) included fossils of species that exhibit characteristics that suggested that they stood and moved with an orthograde (upright) posture. Meaning that orthograde body postures had been evolving for more than 15 million years from the early Miocene. It pushed the context of bipedal origins back into the forest canopy rather than from the ground and not as a development from knuckle-walking phase, as used by gorillas and chimpanzees.

The earliest recognised creature exhibiting ape like characteristics is *Proconsul hesoloni* from East Africa c. 22 – 18 Ma. It had a long flexible back but the key feature was its lack of a tail, it also had a stable elbow and enhanced grasping capabilities. It was not suspensory like modern apes.



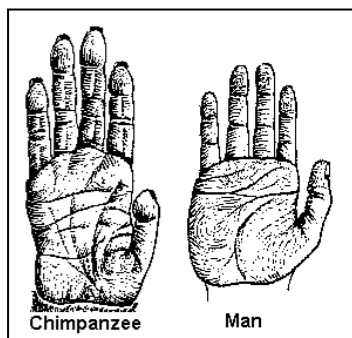
Peter discussed a key site at Palsar Turkey where he had worked early in his career. There they found fossils dating back to 15 Ma when the environment was exposed to a monsoonal climate, with prolonged wet and dry periods. At the site they found evidence of two fossil ape species: *Griphopithecus alpani* and *Kenyapithecus*. The first species was very common, with 1500 specimens the second far less numerous with less than 70 specimens from a group comprising 5 males and 2 females all young adults. It became clear that the latter had all died at the same time. Examination of their teeth showed they all exhibited identical hypoplasias: indicating that they had probably suffered two periods of starvation. It was apparent that they were born at the same time, same place and had suffered the same early life histories. Were these a marauding band of siblings who out of desperation had unsuccessfully challenged a larger local group and suffered the fatal consequences? This behavior is found with modern day young chimpanzees who when approaching adulthood are forced to leave their family group and fend for themselves. They are strong, determined and desperate, forcing them to be opportunistic and willing to take risks. Is it possible that the Palsar group was similar? *Kenyapithecines* exhibit features common with modern apes such as a more upright posture, mobile shoulders and a stable elbow. They were broad chested and had a reduced lower back and no tail and they had large teeth with thick enamel.

Up to the end of the early Miocene, apes and anthropoids are only known in Africa. But the Alpine orogeny caused by the collision of the African tectonic plate into the Euroasian tectonic plate created a landbridge c. 16.5 Ma enabling the apes to migrate into Europe and then to Asia on at least two episodes.

Early apes had few ape characters although they had no tail and a stable elbow. But by 12 Ma, *Pierolapithecus*, an early dryopithecine from Spain found in Middle Miocene deposits, shared many characteristics with great apes and humans. They were mainly terrestrial; lived in open woodland environments, exhibited a broad chest and short back, had short fingers and a precision grip, their teeth had thicker enamel and they were capable of walking upright over short lengths. They had come down from the trees.

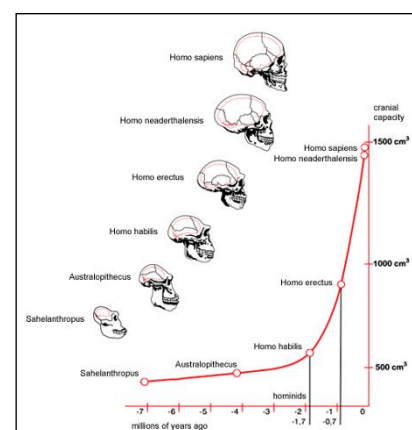
Most of the evidence of early hominin ancestry comes from eastern Africa. The one exception is *Sahelanthropus c. 7 Ma* from Chad. But, is this really a human ancestor or a fossil ape?

Found in the Aramis region in Ethiopia, *Ardipithecus ramidus* dated to 4.4 Ma is a likely contender as the Last Common Ancestor. This creature has features very similar to chimpanzees, indicating that the early human ancestors were very chimpanzee-like in behaviour. It had primitive teeth with thick molar enamel and as with early Australopithecines they retained primitive premolar honing. It had a small brain similar in size to living apes, the hand has precision grip, and long thumbs as in fossil apes. It had an enlarged and divergent big toe, with some lateral strengthening of the foot and some expansion of the pelvis indicating likely bipedalism. Like their ape ancestors, *Ardipithecus* was partly arboreal, partly terrestrial, and occupied woodland environments. They were largely frugivorous, with some meat-eating and probably hunted other mammals. They made and used tools of wood and made use of unmodified stones; there was a regional variation in tool cultures. They had complex nesting patterns and social systems. They had primitive premolars and thick enamel molars, with a broad chest, stable elbow, short legs and arms, gracile skulls, small brains and small body size.



The shape of the hand is critical especially the length and dexterity of the thumb. Hominoids gained a significant advantage with a longer thumb able to rotate and grip providing a more sophisticated grip eventually leading to the making of complex tools. This is a likely cause for the expansion in brain size.

There was little increase in the brain size from *Ardipithecus ramidus* to *Australopithecus afarensis* over several million years, as with the great apes.



In response to a perceptive question from the floor, Peter explained that our large brains came at the expense of our guts, which shrank as our brains grew; he concluded that we evolved because we ate meat. Meat eating made us human.

We thanked Peter for a very informative and challenging lecture and we enthusiastically promote his book entitled ***An Ape's View of Human Evolution***, which has recently been published by Cambridge University Press.

**Andrew Morgan**

## Update on The Leaze project

Whilst hardy EDAS members trudge round The Leaze in Wimborne assisting with the detailed topographical and geophysics survey of this area, the finds from Norman Field's excavation in 1973 have been sitting in the Collections at the Priest's House Museum for many years. Now, thanks to the Heritage Lottery Grant, awarded to Dorset Castles Research Group (DCRG) for The Leaze project, there is an opportunity to reassess these finds.

An initial evaluation will be conducted by Lorraine Mepham of Wessex Archaeology. Lorraine is a nationally recognised leading specialist in pottery of the later prehistoric and post-Roman periods.

Roger Hill of DCRG is keen to share geophysics results to date with EDAS members who are supporting the project. A presentation will be arranged in the Spring. A talk on The Leaze project is also planned as part of the 2017-18 EDAS programme which is currently being finalised.



**Roger, Gill Broadbent and Lorraine examine some of the pottery finds**

**Vanessa Joseph**



## Sketches from the Peloponnese – Franchthi Cave

When you read about the archaeology of ancient Greece and before you reach the familiar splendours of Mycenae, Olympia and Corinth, there will be reference to an intriguing site that precedes them all – the Franchthi Cave. Last summer on a month long tour of the Peloponnese this was the first site we had to explore.

The Franchthi Cave is located on the southern coast of the Argolid peninsular; it is one of the most important archaeological sites in Greece and is a key site for European prehistoric studies. Located within this large cave and the immediate vicinity is an unbroken series of deposits over 11 metres in depth, that span the period from the Upper Palaeolithic c. 35,000 BC to the end of the Neolithic c. 3000 BC. This is the longest recorded continuous occupation sequence (there were short gaps) from any site in Greece. There is nothing of comparison in Britain and northern Europe because the Ice Age only allowed intermittent human occupation until 11,700 years ago when the Mesolithic period commenced.



The excavations were directed by Dr Thomas Jacobsen from the University of Indiana, in the late 1960s and 1970s. The team used modern techniques; they recorded stratigraphy and developed a rigorous system of water-sieving. Most importantly they kept much of the faunal and floral materials that would have been ignored or thrown away in earlier times. Subsequent ground breaking research has been based on the millions of artefacts carefully recovered and recorded.



Throughout this long period of occupation the sea level was lower and the cave was set back from the sea, overlooking a coastal plain with a river flowing nearby providing a source of water. Through the Upper Palaeolithic the inhabitants were seasonal hunter gatherers, with a meat based diet; initially of wild ass, red deer, plus pig, hare and some birds, but over time they increased the amount of red deer, cattle and fish. There was little evidence of plant gathering until about 11,000 BC when material was gathered possibly for bedding, along with some evidence of lentils, vetch, various nuts and a few rare seeds of wild barley and wild oats. The inhabitants made stone tools from chert and flint. There is no evidence that the cave was used during the winter throughout this period.

By the start of the Lower Mesolithic period c. 9,700BC there was a marked change and the inhabitants started to make use of a much wider range of resources. Changes in the diet are detected with an increase in red deer and pig but no equine or bovine species; remains of small mammals and birds became abundant. There is a large increase of botanical remains including wild pears and pulses, wild oats and wild barley become more common. Throughout the Mesolithic period there is a significant increase in shellfish and the percentage of fish bones eventually achieved nearly 40% of the bone assemblage; including deep water tuna weighing up to 200 kgs. They had gained access to obsidian from the island of Melos, over 150 kms away, and used millstones made of andesite, probably brought in by sea from the north. This suggests that the inhabitants of Franchthi Cave were capable sailors able to cover long distances by sea and they were able to catch deep water fish. The earliest evidence of mortuary ritual in Greece is found at Franchthi Cave and is dated from the Lower Mesolithic. A young male adult buried in a shallow pit and covered with fist-sized stones; he died from blows to the forehead, but he seems to have already been suffering severely from malaria. Beneath this grave cut seven earlier burials were found, representing all age groups (adults, adolescents, infants, neonates) which imply that the group lived in the cave on a permanent basis. Fragments of bone from possibly another 30 individuals were found scattered within the cave. It is suggested that these Mesolithic people migrated to the area from the east, travelling by sea.



There are marked changes with the beginning of the Neolithic period c. 6000BC. People started to inhabit the large terraced area outside the cave to develop fields for arable farming and built stone structures as dwellings and work areas. Much of this area has since been submerged. From the scale of the development it is estimated that it supported a population of about 100 making it one of the earliest village settlements as yet discovered in Greece. They managed domesticated forms of sheep and goat, whilst wild species

become increasingly less important in the diet. Emmer wheat and cultivated forms of barley and lentil replace the wild varieties of oats, barley, lentils, pears and peas which all disappear, in time einkorn wheat and grapes are introduced. There was a change in tool technology with new forms of stone tools; especially polished stone axes and grinding stones. There is a gradual increase in the use of obsidian, which by the end of the Neolithic accounts for 95% of all recovered stone tools, including obsidian sickles used to harvest their crops. Initially they made transverse style arrow heads but in time these were replaced first by the shouldered form and eventually by the tang and barbed arrowhead. Fishhooks made from worked bone have also been found. The first forms of pottery were aperture jars and deep hemispherical bowls fired at relatively low temperatures. Some were painted with patterns in red or red-brown slip and it has been suggested that these early examples were not used for storage or cooking



but may have been decorative objects of prestige. The quality of the pottery improved through the Neolithic period as the potters acquired greater skill in the preparation of the clay and control over the firing process; it became lighter, smoother and harder. The kilns increased in size and enabled more pottery to be made. The variety of pottery became more varied and the coloured-slip decorations became more complex. Towards the end of the Neolithic period the pottery had become quite sophisticated with black- burnished ware decorated with shapes outlined in white slip.

The mortuary practises are more elaborate, most being in shallow pits without any grave goods, but one neonate was buried with a small vessel made of marble and a clay vase cut in half. Another was an adult female with an estimated age of 39yrs. She was buried with a whole pot, some bone tools, and some obsidian blades which may indicate that she had a special status, possibly a craftswoman. By the end of the Neolithic period the burials consist both of adults and children. The adult burials appear to be secondary whereas the child burials are primary.

By the end of the Neolithic c. 3000BC the occupational sequence comes to an end, enforced by the steady rise in sea level that eventually buried the broad terrace on which both the settlement and the fields were located. A few pieces of Bronze Age material suggest that the cave was visited sporadically over the ensuing two millennia, and votive finds at the back of the cave show that it served a religious purpose in Classical times, but never again as a significant permanent residence.

**Note:** We reached the cave by clambering along the rugged coastline following a series of intermittent painted dots. As we approached I was totally dismayed to find two steel gates with a closed lock, an unhelpful notice said to contact a local fisherman. Luckily Barbara noticed that the lock did not actually connect the two gates, so with much relief we pushed the gates apart and entered. The large cave opens onto the coast and in more recent times the rear has collapsed creating a tunnel effect. The trenches excavated during the last excavation are still open and walk ways have been installed to protect sensitive areas. I was struck by the presence of at least a dozen birds flying in and out from nests hidden in the roof of the cave, they had scimitar shaped wings like swifts, but they seemed far too large and then I noticed a white belly and I was delighted to realise they were Alpine Swifts.



**Andrew Morgan**

Now that's what I'd call a happy coincidence. Last year when we were putting together our 2017-2018 EDAS programme somebody mentioned Alice Roberts as a possible speaker. I remember that some of us reacted with a beaming smile, before the suggestion was dismissed as totally ridiculous. But Alice must have heard us and independently arranged to visit Wimborne next November.

Now I wonder what's she doing for lunch??



**Wednesday 22 November 2017**

**at 7:30 pm**

**Tame: with Professor Alice Roberts.**



How do you tame wildness? For hundreds of thousands of years our ancestors existed in a world where they depended on wild plants and animals. They were hunter-gatherers – consummate survival experts, but taking the world as they found it.

Then a revolution happened: we started to domesticate wild species and they became crucial to our own survival and success. Join Alice Roberts as she delves into archaeology, history and genetics to reveal the amazing stories of the species that became our allies. From dogs, cattle and horses to wheat, potatoes and apples, find out how taming all these species has left its mark on them – and us.

Alice is an anatomist, anthropologist and Professor of Public Engagement in Science at the University of Birmingham. She is also a broadcaster and has presented several landmark BBC series including *The Incredible Human Journey*, *Origins of Us*, *Ice Age Giants* and *The Celts*. She has also presented several Horizon programmes, and occasionally presents *Costing The Earth* on Radio 4. She has written seven popular science and archaeology books. Her book about embryology and evolution, *The Incredible Unlikelihood of Being*, was shortlisted for the Wellcome Trust Book Prize in 2015.

**Online tickets £19.25 (includes £1.75 online booking fee)**

**Box Office ticket £17.50 cash / £18.50 if paying by card\***

\* The £1 card fee for phone or personal bookings is per transaction and not per ticket

## EDAS PROGRAMME 2016-2017

Date	Speaker/Leader	Title
<b>Wed 8 Feb 2017</b> <b>at the University</b>	Prof. Tim Darvill, Bournemouth University Allesbrooke Theatre	A tomb with a view: new investigations on Cotswold-Severn long barrows
<b>Wed 8 Mar 2017</b>	AGM	Members' Evening
<b>Wed 5 Apr 2017 - NOT 2nd Wednesday</b>	Martin Papworth, National Trust	The late great Medieval manor house of Kingston Lacy
<b>Wed 10 May 2017</b>	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.**

**<http://www.dorset-archaeology.org.uk/>**