

# The Post Hole

## Issue 13

2010-10-25

### **A Message from the Editor**

It is a new year for The Post Hole with a new team and fresh ideas. We would like to thank all of our readers and writers for their continued support over the past few years and hope they continue to show the same enthusiasm for the coming years.

I would also like to welcome on board our new team, Lana Abrahams (Submissions Editor), Christina Cartaciano(Press and Publicity) and Phil Showell (Editorial Assistant).

To start off this issue here is a quote from O.G.S. Crawford's first Antiquity editorial:

Our field is the earth, our stage in time a million years or so, our subject the human race.

David N. Farnell  
Editor

### **Contents**

<b>1</b>	<b>Grahame Clark – A Prehistoric Pioneer</b>	<b>2</b>
<b>2</b>	<b>North Duffield Conservation and Local History Society</b>	<b>4</b>
<b>3</b>	<b>Sk-Helen-ton: The Osteology of Myself</b>	<b>8</b>
<b>4</b>	<b>Illumina and new techniques in DNA analysis: An overview</b>	<b>11</b>
<b>5</b>	<b>Post-Holier Than Thou: Archaeological Theory and Me</b>	<b>14</b>
<b>6</b>	<b>A Conference in Review: the Palaeopathology Association's Meeting in Vienna</b>	<b>18</b>
<b>7</b>	<b>A Review of Archaeological Investigation</b>	<b>21</b>

# 1 Grahame Clark – A Prehistoric Pioneer

David N. Farnell (<mailto:dnf500@york.ac.uk>)

Perhaps one of the most influential prehistorians of the 20th century, Grahame Clark was a renaissance archaeologist and brought around a much needed change in archaeology. This paper briefly outlines a biography of the great man that is Grahame Clark.

Born July 28th 1907, John Grahame Douglas Clark was born into a prosperous upper middle class family in Kent. Grahame Clark was brought up by his mother and uncle, as his father passed away from an influenza outbreak while returning from military service in 1919 (Fagan 2001). After the death of his father the family moved to Sussex where Clark spent the rest of his childhood collecting flints from sites all over the Sussex Downs on his pony (Fagan 2001). From an early age he became a ‘passionate connoisseur’ of flints so much so that at his school of Marlborough College he acquired the nickname “Stones and Bones” (Clark 1993). As a schoolboy, Clark published his first set of papers based on his assessment of the artefacts which he had collected from the Sussex Downs. In his paper Clark stated that only three percent of his collections were weapons and the remainder was domestic instruments; this was his first break away from the view at the time of prehistoric savages (Fagan 2001; Tylor 1871).

Few universities studied prehistoric archaeology in the 1920’s, let alone viewed it as a serious independent discipline. Clark joined the University of Cambridge’s Anthropology department in 1927 as it was one of the few to study elements of the subject he was so passionate about. However he spent two years studying history instead after been unable to achieve a scholarship (Fagan 2001). By this point, Clark was an expert in stone tools with almost a decade of experience in the subject and had written several papers while studying history at Cambridge. Clark then took an honours degree in Archaeology and Anthropology, studying ethnography and attempting to form links between it and archaeology (Fagan 2001). Clark was the first student to be registered for a doctorate in Archaeology in Britain and undertook a broad study into Mesolithic Britain (Fagan 2001). Before Clark, the Mesolithic was almost ignored in Britain, a vast enigma waiting to be solved. With his passion for flints Clark was the ideal person to begin to define the Mesolithic in Britain. In 1934, Clark published his first book *The Mesolithic Age in Britain* based upon his doctoral dissertation, and although not widely read, it was regarded as remarkable by those in the field (Fagan 2001).

In 1939 World War II broke out, and by this point he had become a respected academic with three books under his belt and a variety of archaeological excavations undertaken. In 1940, the academic was drafted into the RAF reserves as a pilot, serving as an aerial photograph interpreter like many archaeologists did (Fagan 2001). He was able to remain in Britain due to a ‘low health status’, most likely due to dysentery as a child (Fagan 2001). During this time, Clark helped to maintain the publications of the Prehistoric Society, publishing a very thin issue throughout the war years. One of his greatest achievements was keeping the Prehistoric Society going strong throughout the war with over six hundred members at the end of the war (Fagan 2001).

Perhaps Clark’s most famous endeavor is his excavation of the Mesolithic site Star Carr. Star Carr was discovered by John Moore in a rather plain looking

field in Flixton, North Yorkshire in 1948, when Moore saw flint blades sticking out of a ditch by the Hartford cut (Clark 1954). Upon being called to visit the site Clark immediately knew that it was going to be important for the British Mesolithic (Fagan 2001). The peat ensured that a pollen record would be likely to reveal as much as similar sites in Scandinavia (Clark 1954). Three seasons of excavation followed, and little did Clark know how many excavations he was sparking in the Flixton area. The excavations were muddy and conditions were likely to have been difficult, but for its day, it was one of the most multi-disciplinary excavations, enlisting botanists and pollen experts from all over the world (Clark 1954). Though the excavations were made very difficult by the waterlogged conditions, Clark was nonetheless persistent and exposed a brushwood platform, a recumbent birch tree (likely felled by beavers) as well as thousands of pieces of flint, bone and antler (Clark 1954). The most famous artefacts recovered from Star Carr are the antler frontlets for which the site became known.

Even before Clark published his findings in his final report, he was elected to the position of Disney Professor in 1952 at the University of Cambridge. The Disney Professorship is one of the most respected academic archaeology positions in the world. In 1959, Clark was elected as president of the Prehistoric Society, another well deserved position which he dedicated a great deal of time to and propelled forward (Fagan 2001). Clark spent most of his years at Cambridge publishing books and papers on a number of topics, helping to push forward our perspectives of prehistory, especially the British Mesolithic. In 1973, he retired from the Disney Chair. He immediately began a new academic career as the master of Peterhouse College, where he was very happy for many years and continued to write several books and papers (Fagan 2001). In 1990, Clark received the Erasmus Prize for his contributions to prehistory.

On September 12th 1995 Clark suffered from a stroke off the coast of Cyprus and died in his home with his wife Mollie holding his hand (Fagan 2001).

Grahame “Stones and Bones” Clark was one of the greatest prehistorians of all time. He was a true prehistoric pioneer.

## Bibliography

- Clark, J. G. D. (1954) *Excavations at Star Carr*. Cambridge.
- Clark, J. G. D. (1993) *A path to prehistory*. Unpublished manuscript.
- Fagan, B. (2001) *Grahame Clark an intellectual biography of an archaeologist*. Cambridge: Westview Press.
- Tylor, E. (1871) *Primitive Culture*. Cambridge: Cambridge University Press.

## 2 North Duffield Conservation and Local History Society

Brian Elsey (mailto:ndchs@talktalk.net.)

North Duffield is an agricultural village in the south of the Vale of York and on the edge of the Lower Derwent Valley. It is 6 miles from Selby and 12 miles from York.

The village name derives from an Anglian settlement of the 10th century according to the British Placenames Society and is mentioned in the Domesday Book as having a castle. It is my belief that the castle was built to protect the ferry crossing of the River Derwent much as Malton Castle does. The ferry is mentioned as early as 12th century and it is likely to have existed before that. The Derwent is the County boundary between North and East Yorkshire, although, North Duffield has been in the East Riding for most of its existence prior to the boundary changes of 1974.



*Figure 1. Field-walking team 2009. (Photo credit: Author)*

Little was known of the history of the village until the early 1980's when the Society was formed and the then members set about researching and recording the history. They prepared a history pamphlet which sold several re-prints and proved to be very popular locally.

More recently, much documentary research has been conducted by members of the Society and, following requests for people to scour their lofts and cupboards, the Society has come into possession of a huge amount of previously unseen photographs and documents.

We now have an expanding archive that is proving something of a headache in terms of storage and indexing. Nevertheless, with the huge advances in our knowledge we set about the task of writing a new, more complete and, dare I say it, more professional village history.

The Society had not hitherto ventured outside the field of documentary research until a set of happy coincidences conspired to broaden our horizons.

Due to my involvement with another local group I found that I was able to access archaeologically based training courses to feed my long-held passion for archaeology and, in particular, a free course run by Dr Jon Kenny of York Archaeological Trust at Hungate. I became a volunteer at Hungate and began organising archaeology based events such as aerial photography interpretation with Yvonne Boutwood of English Heritage in York.

I had previously obtained crop-mark maps from North Yorkshire County Archaeologist, Linda Smith, mainly for the Skipwith area, but also, as an after thought for North Duffield too. When they arrived, I was astonished to find a complex of crop-marks including Iron Age hut circles, north of the village and a further complex to the west. To the best of my knowledge this was the first inking anyone in the village had of a history stretching back to before 900AD.

About this time I left the Skipwith group to concentrate on North Duffield and Dr Jon Kenny saw this as an opportunity to proposition me and ultimately the Society, with a task that was to prove both exciting and important both for the village and, perhaps the greater archaeological community.

Questions about the visibility of crop marks in certain conditions, seasons, weather conditions and soil types have been raised from time to time and some work has been done, particularly in North Lincolnshire. Dr Mark Whyman of York Archaeological Trust made a presentation to the Society in which he raised the question of why crop marks appear predominantly on the sands and gravels and rarely on the clays and silts and alluvium of the '25 foot drift'. The drift was laid down at the end of the last Ice Age some 12,000 years ago and covers the Vale of York. Was it that there were features there but that they did not show up on the latter two soil-types or, indeed, were there no features to show up.

And so the final happy coincidence is that North Duffield can boast all three soil-types, all in close proximity to each other and all in a relatively close proximity to known crop marks on the sands and gravels.

So we set about a programme of fieldwork. Permission to walk many of the local fields on the sands and gravels and clays and silts was obtained from most, but not all farmers. Notably, two flatly refused us access to their land. The alluvium poses more of a problem. Firstly it is an SSSI and a National Nature Reserve and, being a flood-plain is under pasture and therefore field-walking is out of the question. Interestingly, the very fact that it is a flood-plain, means that over the millennia, a considerable thickness of silt has been deposited which both protects and conceals Palaeolithic and later landscapes. Research in other lowland areas has revealed that early humans frequented these areas presumably living in temporary camps since no caves were available for them.

We also commenced a programme of Resistivity surveys, initially of the village green to investigate a strange hump in an essentially flat landscape. The results have indicated a number of anomalies that will be investigated by test excavation.

The field-walking has resulted in Roman and Medieval pottery sherds being recovered confirming the presence of the Romans in North Duffield although formal identification of the 'finds' has yet to take place.

We have recovered many items of interest to the village without them having much archaeological significance. We have currently walked two and a half fields,

one of mainly sands and gravels and the rest of clays and silts. None of these fields show any crop-marks other than ridge-and-furrow, now ploughed out.



*Figure 2. Field-walking 2009. (Photo credit: Author)*

The field-walking is both crop and weather dependant and the latter has been rather unkind to us this season so we have not completed as much field-work as we would have liked.

We are currently formulating a Heritage Lottery Bid to carry the project forward. Funds to allow the employment of professionals for advice and support, to purchase equipment and to run three events, one in each of the next three years,

The first involves a 1m test pit in gardens in the village and many local people have already committed to this. It will give us a snapshot of the village and we hope add to our knowledge of the archaeology. The second event will be a re-enactment of Iron Age and perhaps Roman life and will also involve the building of an Iron Age round-house from locally sourced materials.

The third event will conclude the three year plan and involve a weekend of events, lectures and presentations by both the Society and professional experts on the work we have done, the conclusions we have reached and the success or otherwise of the project.

During the course of the field-work we have utilised North Duffield Community Primary School staff and pupils whose, knowledge, enthusiasm and commitment has been outstanding. Not only have they walked the fields but they have washed the 'finds' they have uncovered. Dr Jon Kenny of York Archaeological Trust has been involved with the school from the start and his visits always result in lively participation by children and staff. Indeed, the new Head Teacher is keen to become involved on a personal level with his own family.

We have a good body of volunteers of all ages from 6 years of age to senior citizens and include amongst our number, retired archaeologists, trainee archaeologists and others bringing a range of skills from their life and employment.

Archaeology and the thirst for knowledge is thriving in North Duffield. The Parish Council is on board and hungry for information and so are local landowners. Attempts to involve local disability groups have so far proven unfruitful although I have high hopes that we can involve some of them and thereby increase their self-esteem and self-worth.

We successfully applied for a small grant from a local funder which allowed us to purchase tape measures and we have access to surveying equipment from YAT and other local groups. We have conducted training sessions for people from other local history and archaeology groups and York University has sent students to assist with field-work. We offer the opportunity to anyone to come along and gain experience in field-work and some local societies have sent representatives from time to time.

Anyone wishing to get involved is invited to contact me on 01757 288939, 07971 220737 or [ndchs@talktalk.net](mailto:ndchs@talktalk.net) (<mailto:ndchs@talktalk.net>).

### 3 Sk-Helen-ton: The Osteology of Myself

Helen Mackie (<mailto:hm554@york.ac.uk>)

Over the past two years studying archaeology at university, I have found a love that may sound weird to many people and be considered slightly morbid. I have a fascination with skeletons. The human bioarchaeology module in the second year was an amazing opportunity to sit down with a box of bones and put together the jigsaw that is the human skeleton. Every week I would learn more about the human skeleton and the information osteologists could gain from analysing them. The story of an individual can be constructed from the age at death, sex, stature, health, trauma, pathology, metric traits etc. It got me thinking what I would find on my own skeleton if I were to osteologically analyse myself. . .

Like a good archaeologist, I was down the pub and I mentioned this idea to a lovely member of The Post hole editing team. Ever since then she's been (kindly) hounding me for an article – I'm sorry it took me so long to finally get round to writing. And before I start and get into the bones and the science I should say one thing, this is in no way attempts to be egotistical and shout 'look at me, look at me!' (although by definition, it is all about me). Instead it's merely an application of all I learnt about bones last year.

So let us start, imagine me as one of those Bonekickers only not 'mind numbingly dreadful'.

Assuming the skeleton is complete and preservation is very good, the first step is to search for sex indicators. There are a number of indicators around the skeleton, which would suggest the sex to be female. No single trait of the human skeleton enables a reliable sex determination, the most reliable estimates are those based on the whole skeleton.

The skull presents several sex differences, most of the dimorphic features of the skull are because of greater robusticity in men (Mays 1998, 36). Being female, my muscular ridges such as the temporal lines and nuchal crests will be smaller and the supraorbital ridge will be less prominent with a less pronounced mastoid process on the skull (Brothwell 1981, 61). The mandible of my skeleton will also be smaller and narrower.

The pelvis is the single most reliable area, as unlike the skull and bone measurements the dimorphism is related to the functional differences between the sexes (Mays 1998, 33; Bruzek and Murail 2006, 228). The pubic bone is one of the best diagnostic features when determining sex. The sciatic notch would be wide, indicating female, and other determining factors include the examination of the ventral arc, which would have a ridge on the ventral surface, again diagnostic of females. The ischiopubic ramus also would appear to be narrow, which again is a diagnostic feature of females. The subpubic angle over 90 degrees (Brothwell 1981, 62) could also be used to improve the accuracy of the sex determination.

It must be noted that an osteologist faces many limitations when trying to determine the sex of a skeleton. The general robusticity and size of post-cranial bones are subject to environmental aspects such as nutrition and activity patterns as well as genetics. This greatly limits the reliability of measurements when determining sex. As previously stated the pubic bone is one of the best diagnostic features when determining sex. Unfortunately, the fragile nature



of the bone means that in the common supine burial form it is the uppermost bone and most vulnerable to taphonomic damage and breakage (Mays 1998, 33). Damage and poor preservation is a further limitation concerning the estimation of sex in skeletal remains. Reliability and accuracy of sex assessment depends on the condition of the anatomical regions available and the use of the whole skeleton is ideal. However, this is not always possible in the archaeological record as preservation and completeness is a major limitation.

Once determining that my skeleton is female, as an osteologist I would begin to establish the age of the skeleton.

Using Brothwell's molar dental wear classification I could estimate the age of my skeleton to be towards the older end of the 17-25 age period. This was based on the judgement of attrition on the first, second and third molars which is based on the idea that there would be a continual increase of wear as one gets older. However, as a young adult who looks after my dental hygiene my teeth would present very little wear so could be estimated as in this age category.

Skeletal fusion is another technique used to estimate age. Examination of epiphyseal fusion would show that all bones had successfully fused excluding possibly the clavicle and the anterior part of the iliac crest (Mays 1998, 49). This is expected to occur before the age of 23 in women and 25 in males if consulting Mays (1998, 48) or between 18-30 years of age if consulting Brothwell (1981, 66). Therefore it would be fair to assume that my skeleton is yet to undergo this fusion.

Using Suchey and Brooks' method of age determination using the pubic symphysis based on the age related changes, I would estimate the age of my skeleton to be phase 1 for a female which means between the ages of 15-24 (Mays 1998, 53). The ridges and furrows pattern would still be very visible. The auricular surface would also show limited wear indicating a young individual.

No two skeletons are the same; metric and non-metric variations can be measured to show individual variation between each skeleton. I have to stop here as I have an overwhelming desire to keep flesh on my bones. This makes covering these variations rather difficult, so please forgive me if I move swiftly onto the pathology of my skeleton.

Growing up I had stages in my life when I was told I was 'slightly anaemic'. For me this simply meant I was fed more spinach and everything was fine. If this had not been the case and I had grown up suffering from more severe and continuous anaemia, my osteological report would describe pitting on the orbital roofs and on the cranial vault. This is called porotic hyperostosis and if present on the orbital roof it would be recorded in the report as *cribra orbitalia*.

Moving onto dental pathology, which I hope would show me to be an individual who took care of my dental hygiene, I have never had any fillings. My osteological report however would show up some interesting evidence of 21st century dentistry. Like many kids growing up, I was plagued with train tracks. Totally worth the pain and agony but on the happy day I got them removed Mr Dentist replaced the braces with a small wire glued behind top incisor teeth. From this, the osteologist will gain valuable information about dentistry.

Through the complete assessment of a skeleton you can also determine if an individual has ever experienced any skeletal trauma. From examining my left tibia, it may be possible to note a well-healed transverse fracture. This will be demonstrated by a bulbous collar of bone surrounding the fracture site and the lamellar bone would have been laid down in order to bridge the fracture. I can

tell you the story of me breaking my leg; it is very uneventful and paints me in a rather clumsy light. I was simply running down my garden when I was little and just fell over. My mum was quick to tell me to stand up and 'get on with it'. Standing up was not so successful and my efforts were accompanied by a cracking noise. Needless to say Mrs Mackie apologised by buying me a Twix, and I was happy again.

Fortunately for me I have not broken any other bone in my body or inflicted any other serious damage on myself. My pathology therefore would be fairly limited and hopefully present me as a healthy individual.

The article ends here really. From this short assessment of my skeleton I have applied several of the osteological techniques used in the analysis of skeletons. Hopefully it has been fairly informative, if not limited as the information you can gain from a skeleton is far more vast than I have covered. The most positive thing here is that in my short life I have not experienced any skeleton changing bouts of tuberculosis, no one has ever attempted to practice trepanation on me and I'm still young enough not to experience osteoarthritis. I hope you join me in celebrating my youthful skeletal health and excuse me for the indulgence of this article.

## Bibliography

- Brothwell, D. (1981) *Digging up Bones*. Oxford: Oxford University Press.
- Bruzek, J. and Murail, P. (2006) 'Methodology and Reliability of Sex Determination from the Skeleton'. In A. Schmitt, E. Cunhan and J. Pinheiro (eds) *Forensic Anthropology and Medicine*. 225-245 New York: Humana Press.
- Mays, S. (1998) *The Archaeology of Human Bones*. London: Routledge.

## 4 Illumina and new techniques in DNA analysis: An overview

Lana Abrahams (mailto:lane@theposthole.org)

Mankind is always on the search for who, how and why we are human. Rather uniquely as humans, we always strive for the unreachable and try to understand the impossible. Once upon a time deoxyribonucleic acid (DNA) was exactly that. As one of the most common and important structures in existence, DNA was masked in obscurity, therefore launching a fight among talented scientists to find the answers. Answers were indeed found, and in the past fifty years the level of knowledge has grown beyond expectation. In this paper I wish to deal with recently developed technologies and improvements in DNA manipulation and what this means for archaeologists. I specifically will focus on Illumina, ‘a global company that develops innovative array-based solutions for DNA, RNA, and protein analysis’ (Illumina 2010), as an example of the machinery and methods being employed, as well as an illustration of how commercial DNA manipulation has become.

### Illumina

Upon first setting eyes on the Illumina website, I felt like I was buying a new laptop or iPod. The design and layout of the website suggests anything but analytical services and thousands of dollars worth of DNA-manipulating machines and software. The information is indeed advertising like any other technology company, and upon clicking on the systems tab, a range of shiny-looking products appear, seeming more like multimedia stations than the next step in genetic engineering. Yet that is exactly what Illumina is, a leading company in genetic engineering solutions, offering sequencing, genotyping and CNV analysis, gene regulation and epigenetic analysis, as well as PCR and genome analysing systems (Illumina 2010). Founded in 1998 by a team of highly qualified scientists and with the aid of CW Group, a venture capital firm, it now offers a total of eight systems and multiple services (Illumina 2010). Its vision is quoted as ‘to be the leading provider of integrated solutions that advance the understanding of genetics and health’ and its purpose ‘to improve human health by enabling our customers to accelerate the collection, analysis and application of biological information’ (Illumina 2010). These aims and objectives are admirable, and luckily for the archaeological world they are not limited to the healthcare service or present day biotechnology. A lack of cost efficiency may prevent utilisation of this type of software and systems for now, but if and when money is no longer an issue, archaeologists can apply this information to the past and onto ancient DNA as easily as scientists can find out information on human health and disease today via access to the human genome. This is a slow process and the systems are still far from fully accessible, yet it has potential. In this way, DNA becoming as commercial as physically possible is actually an advantage for us; the easier the techniques become and the cheaper they can be utilised, the more possibility there is for us to use such techniques in more and more archaeological questions.

## PCR

Created in 1983, PCR, or polymerase chain reaction, is a commonly employed technique (McPherson and Moller 2006). Although still extremely useful, traditional PCR has received less and less focus as other techniques have overshadowed its uses. This being said it still remains one of the most important gene manipulation techniques of our time. Figure 1 shows my own annotated picture of the PCR sequence, specifically for those unfamiliar with the idea. From its initial discovery in the 1980s, PCR has improved and changed rapidly, along the way dealing with contamination issues and technological problems. Today, as demonstrated by Illumina, standard PCR is no longer as valuable and worthwhile an application as it once was, instead the machine offered is *The Eco*, a real-time PCR system. Claiming to make real-time PCR available to all researchers and offering extreme sensitivity, Illumina (2010) identify that its main difference from standard PCR is that samples are measured as they are amplified rather than afterwards. What this really means is more accuracy in the whole PCR process, something that any genetic engineering company or genetic researchers have been and will continue to be searching for. This automatically launches the system into the commercial world, opens it up to a range of possible benefactors and most importantly makes it available to other disciplines such as archaeology. Although archaeology may be happy to settle for standard PCR techniques to amplify short DNA sequences, a system to make it easier, more accurate and thus potentially more cost efficient cannot be taken for granted. PCR is probably the most important development in archaeological genetics as it has allowed previously unavailable DNA to be studied. This has been most revealing in terms of ancient hominids, such as Neanderthals, where little archaeological remains are available. The process of PCR is also destructive and therefore the ability to succeed in creating the most accurate and sensitive amplification is important to ensure valuable archaeological evidence is not destroyed in vain.

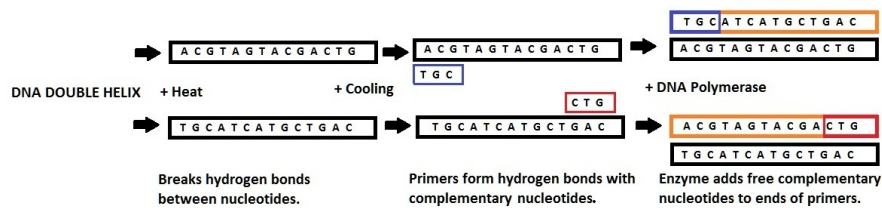


Figure 1. Cycle One of the PCR process (Image credit: D. N. Farnell).

## DNA sequencing

The name *Genome Analyzer* speaks for itself. Through the use of such a machine, a genome (the complete volume of an organism's hereditary information) can be sequenced. This more often than not involves some sort of PCR to amplify the library present, again emphasising PCR's revolutionary presence in biotechnology, genetic engineering and archaeology. The use of analysing complete genomes in archaeology can be fully shown with the recent Neanderthal genome that has been draft sequenced to 40 billion nucleotides

from three individuals (Affourtit et al 2010). If the availability of this service could increase, then it may be possible to progress this further, enabling us to really trace the heritage of Neanderthals and consequently modern humans more accurately than has ever been done before. It is important to note that all these techniques are surrounded by limitations, especially in terms of contamination, and although the progressions can make the DNA manipulation simpler and in principle more accurate, this will not render them error free. The *Genome Analyzer Iie* and *Genome Analyzer Iix* have a simple workflow following three steps; all based on ready to use and automated kits (Illumina 2010). The main point of these kits is to reduce hands-on time needed, an important characteristic as it reduces contamination and labour costs as well as freeing up time to focus on other things. For example, any of the sequencing systems only take approximately ten minutes to set up.

Through this paper I have given a comprehensive and insightful look into the new techniques and equipment in DNA. The extremely scientific details of the methods and techniques used in DNA manipulation have been omitted, yet these are the true wonders behind the progression in genetic engineering that has been possible. It is these principles that we should aim to utilise in archaeology where possible, and hopefully with time they will become more accessible to the archaeological field. Illumina is already a hugely successful and world renowned company pushing for developments in genetic engineering, something it is certainly achieving. The fiercely commercial world that Illumina operates in is clear whilst navigating their website pages, there is even a shopping cart for the products we may choose. Yet unlike purchasing our iPods, stereos or even cars, the scientific jargon that fills some pages highlights what commercialism sometimes detracts from, although genetic engineering may be getting cheaper and cheaper by the year it is still a hugely scientific, expensive and very customer-specific field; a field, whose incorporation into archaeological science I can only hope will continue to grow as mankind tries to find out all those who, hows and whys.

## Bibliography

- Affourtit, J. Alkan, C. Aximu-Petri, A. Birney, E. Brajkovic, D. Briggs, A. Burbano, M. Butthof, A. de la Rasilla, M. Doronichev, B. Durand, E. Egholm, E. Eichler, E. Falush, D. Fortea, J. Fritz, M. Golovanova, L. Good, J. Green, R. Guic, I. Hansen, N. Hber, B. Hffner, B. Jensen, J. Johnson, P. Kelso, J. Kircher M. Krause, J. Kucan, Z. Lachmann, M. Lalueza-Fox, C. Lander, E. Li, H. Malaspinas, A. Maricic, T. Marques-Bonet, T. Meyer, M. Mullikin, J. Nielsen, R. Novod, N. Nusbaum, C. Pbo, S. Patterson, N. Prfer, K. Reich, D. Rosas, A. Rudan, P. Russ, C. Schmitz, R. Schultz, R. Siegemund, M. Slatkin, M. Stenzel, U. Verna, C. Weihmann, A. Zhai, W. (2010) 'A Draft Sequence of the Neanderthal Genome' *Science* 328: 710-722.
- Illumina Inc. (2010) 'illumina' website. <http://www.illumina.com>. Page Consulted: 17/10/10.
- McPherson, M. J. and Mller, S. G. (2006) *PCR*. New York: Taylor and Francis Group.

## 5 Post-Holier Than Thou: Archaeological Theory and Me

James Preece (mailto:jp565@york.ac.uk)

The problem with archaeological theory is that it can appear to be irrelevant. It is difficult when discussing terms such as ‘processualism’ and ‘post-processualism’ to keep in sight the actual material culture, or the practicalities of life -in any case, a student archaeologist needs to be equipped with far less than an awareness of the impact of relativism in the discipline in order to be able to answer their taxi driver’s question about Hungate. Constructivist epistemology goes little towards your 2000 word assessment of an Iron Age settlement, especially in the first two years of an undergraduate degree at York. I am also aware of the marginal status of theory in our own community here at King’s Manor. My dissertation, on theory in Roman archaeology, invited curiously few comments from anyone except the faculty, and in fact I myself was worried for a great deal of the time that there was nothing *for* me to say. In the end, after trawling nearly 1000 papers for discernible trends towards post-processual theories in leading journals, I offered some conclusions and submitted it to the department. My research ended up changing the way I perceive theory, and I want to explore that in this article.

### Post-processualism and Roman Archaeology

Post-modern theories in archaeology are really popular: they are called post-processual theories, and have been on the rise in archaeology since the early 1980s. While there is a mass of literature, it can be summed up as a critique of processualist method. Put simply, it is *anti-positivist* in that it condemns purely scientific explanations and motives to archaeological work, *pluralistic* in that it encourages input from non-academic and public groups, *relativistic* in that it dismisses inherent superiorities in cultures or races, and constructivist in that it argues that all work, even scientifically-based work, is ultimately ‘constructed’, derived or influenced by our deep-rooted prejudices. This collection of thought is perceived to have marked a huge step forward in the purpose and operation of archaeology, as well as its interpretation.

In Roman archaeology, the area I specifically looked at in this study, post-processualism uses the post-colonial experience of the post-war era (undergone by powers like Britain, France and Portugal) to re-evaluate culture interaction in the past. You can see this perspective in the approaches of de Souza, Mattingly, and Bowles (1996, 1997 and 2007 respectively) as well as a number of active explorations of the affect of imperialism on history (e.g. Vance 1997; Struck 2001; Freeman 1997). Even more popular are the semiotic studies which seek to avoid the hole in history left by illiterate groups such as the Britons and Gauls by asking what their material culture *signifies*, a popular subject for discussion in the volumes of the Theoretical Roman Archaeology Conference (TRAC) proceedings.

So it was incredibly hard for me to argue that all of this is *rubbish*. More than that, I set out to claim that post-processualism is actually damaging interpretation, at least in the field of Roman archaeology. To do this, I had to argue two very ambitious claims:

- That post-processualism does not exist
- That post-processualists have warped research agendas

These arguments were not necessarily contradictory – I maintain that even if post-modernism *does not* exist, the influence of those who believe in it *does*. With this double aim in mind I set out to restore processualism, in whatever way I could with the resources at my disposal.

### Post-modernism as Smoke and Mirrors

The first task – to establish that the theory does not exist- was straightforward enough, and there have been several critiques already in circulation from which I could base my own assessment. Foremost among them, in my opinion, has been Alex Callinicos' (Callinicos 1989) Marxist interpretation, which not only attempts a deconstruction of the theory but also insists that there is no real difference between the 'modern' world and the 'post-modern' one – quite a sharp crack in the theoretical foundations. I used this as a starting point from which to attack the originality of post-processualism, arguing that relativism, deconstruction, political intrinsicity, et cetera, were already hallmarks of processualism and even before (see Carr 1961; Betts 1971; Huxley & Haddon 1935 respectively for examples), long before scholars started citing certain French philosophers whom shall remain nameless- in their works. In this I believe I am doing something new. Critics (e.g. Kohl 1996) and even opponents (e.g. Faulkner 2007) of post-processualism all seem to agree that the theory at some level *exists*, but to accept this and then to argue on the general lines of argument seems too pedantic and conditional.

This leads to the question, then, of 'why does this matter?' Processual or post-processual, surely the field is advancing in great strides as far as interpretation is concerned. Well, maybe not. The problem as far as I can see is that by pigeonholing post-processualism as something separate and distinct from what supposedly went before, post-modernists have been hoisted by their own petard. The post-processualists created an *identity* for themselves by defining themselves as against something as vague and ill-defined as processualism; they characterise processualist work as mechanical, uninspired and inhumane, and their own as somehow more vigorous, imaginative and applicable to present day political concerns. I can tell you with the authority of one who has read every single paper in a decades' worth of the Theoretical Roman Archaeology Conference that the pages ooze with uninspired research based on vague spatial analyses handed to them by ArcGIS, introduced to the reader with a token prescribed argument for semiotic study, or against metanarratives, or for constructivism, or against objectivity, *ad nauseum*.

### Conclusion

In the end, the weakest part of my argument was that in all of this archaeologists have lost sight of the core questions in Roman archaeology, urbanism and the economy. This was hampered in part by a lack of resources in the library vital to my illustration of the neglect this area is enduring, and also because the latest editions of the Oxford Journal of Archaeology have been almost utterly inspired by the recent economic downturn\*, prompting something of a revival. Yet the

way these subjects are tackled cannot be tackled with semiotics, or buzzwords dreamt up by the leading philosophers of the day, but with processual rigour in the practice and technology of data-collection, and processual interest in debate and differing interpretations. I believe I have demonstrated here that the most useful tools of our interpretative trade had already been developed by the Hodder-dominated 1980s, and have persuasively suggested some negative aspects to post-processualism through its hostile, holier-than-thou attitude. One might very well argue that perhaps a useful side effect of the world going down the drain is that scholars might think a little more about what *really* makes the world turn. But I digress.

*\*Ironically, the cumulative-frequency charts I assembled for the economy-related articles in the OJA are perhaps the only charts in existence related to the current economic climate that displays a positive correlation.*

## Bibliography

- Betts, R. F. (1971) 'The Allusions to Rome in British Imperial Thought of the Late Nineteenth and Early Twentieth Centuries' *Victorian Studies* 15: 149-159.
- Bowles, C. R. (2007) *Rebuilding the Britons: the postcolonial archaeology of culture and identity in the late antique Bristol Channel region*. Oxford: John and Erica Hedges Ltd.
- Callinicos, A (1989) *Against Postmodernism: a Marxist critique*. Cambridge: Polity Press.
- Carr, E. H. (1961) *What Is History?* London: Penguin Books.
- De Souza, P. (1996) 'They Are The Enemies of Mankind': justifying Roman imperialism in the Late Republic' in J. Webster and N. Cooper (eds) *Roman Imperialism: post-colonial perspectives*, 125-133. Leicester: School of Archaeological Studies.
- Faulkner, N. (2007) 'Roman Archaeology in an Epoch of Neoliberalism and Imperialist War' *TRAC* 2007: 63-73
- Freeman, P. (1997) 'Mommson to Haverfield: the origins of studies of Romanization in the late 19th-c. Britain' in DJ Mattingly (ed) *Dialogues in Roman Imperialism: power, discourse, and discrepant experiences in the Roman Empire*, 27-50. Portsmouth, R.I.: Journal of Roman Archaeology.
- Huxley, J. and Haddon, A.C. (1935) 'The Racial Question theory and fact' *Antiquity* 9: 261-276
- Kohl, P. L. (1993) 'Limits to a Post-processual Archaeology (or, the dangers of a new scholasticism)' in N. Yoffee and A. Sherratt (eds) *Archaeological Theory: who sets the agenda?* Cambridge: Cambridge University Press.
- Mattingly, D. J. (1997) 'Africa: a landscape of opportunity?' in DJ Mattingly (ed) *Dialogues in Roman Imperialism: power, discourse, and discrepant experiences in the Roman Empire*, 117-139. Portsmouth, R.I.: Journal of Roman Archaeology.



- Struck, M. (2001) 'The Heilige Romische Reich Deutscher Nation and Hermann the German' in R Hingley (ed) *Images of Rome: perceptions of ancient Rome in Europe and the United States in the modern age*, 91-112. Portsmouth, R.I.: Journal of Roman Archaeology.
- Vance, N. (1997) *The Victorians and Ancient Rome*. Oxford: Blackwell

## 6 A Conference in Review: the Palaeopathology Association's Meeting in Vienna

Christina Cartaciano (<mailto:christina.cartaciano@gmail.com>)



*Figure 1. Author with conference participants. (Photo credit: Author)*

The Naturhistorisches Museum of Vienna, Austria, hosted the 18th annual European meeting of the Palaeopathology Association. The conference opened early on the morning of the 23rd of August 2010, and closed shortly after midday on the 27th of August 2010. This meeting, according to the organisers from the Naturhistorisches Museum Wien, was the largest yet to be conducted by the association in Europe, with over 300 enrolled participants, 45 posters on display and over 80 communicated papers.

The case studies presented varied tremendously, with most coming from European and Middle Eastern sites but papers on Southeast Asian and Pacific Island populations were also present. Disease pathologies and their manifestations was a mainstay of the papers with a few delving into the bioarchaeological side of osteology. The four days were a whirlwind of networking, presenting, sitting and discussing the problems facing palaeopathology today. For example, the need for better understanding of the pathologies so eagerly presented and their mechanisms, as well as reminders by long established physical anthropologists to the next generation to keep up with the current medical research into bone studies and pathologies affecting the nature of bones. Unexpectedly, I discovered something of myself along the way of mind-numbing paper presentations, learning that academia is not so cut and dry as I hoped it would be. In fact, the research side of it is quite terrifying with presentations of more-or-less speculative interpretations.

Palaeopathology is rife with such subjectivity. I know it does not mean to be, and is trying harder to lose the reputation of being a 'pseudoscience', but as Hershkovitz and Dar (2010 unpublished) implied, palaeopathologists make diagnoses of skeletons without truly understanding the disease itself and how it works, only learning how to recognise the lesions and create while simultaneously discredit differential diagnoses. What I found disturbing about this conference, especially as I come from the viewpoint of an archaeology student, was the lack of context placed with the remains. Certainly most papers briefly mentioned the site's dates and provided a short story of the group of people involved, but they did not delve further than this. They did not connect the diagnoses with the people and society. What were the social implications of having individuals with these lesions? What could be the factors that lead to the presence of these specific pathologies?

One paper discussed a late Roman horse-breeding community in Austria and presented the signs of trauma in women as victims of abuse (Bernier 2010, unpublished). Now, do not get me wrong- I am one of the world's most ardent feminists and am all about highlighting such sensitive issues, but I was irked by the lack of questioning of such gendered roles- why could not the scenario involve women helping raise the horses and gaining trauma from subsequent accidents? Why do the women have to be beaten? (Perhaps this is the feminist streak coming out boldly.) I was lucky enough to air these comments to a friend present at the conference who is experienced with raising horses and she was kind enough to explain the typical injuries associated with breeding. Still, I am sure that there were members of the audience present who had no experience with horses and would have been led to believe that the men of this community were wife-beaters without explicitly knowing how the presenter had reached this conclusion.

After talking to a few palaeopathologists, I found that I was not alone in my opinion, but they mentioned that these meetings began as a way for physical anthropologists to sit down and analyse unusual lesions on human remains. The anthropologists face a danger that is ever present when we separate archaeological context from palaeopathology: forgetting the experiences of the individuals and the people who buried them, and creating specimens rather than persons. In the same breath, there was a great criticism for a paper that did try to incorporate both historical narrative with skeletal data, claiming that it was too speculative and pulling interpretations of the grave goods to fit the author's aims. Michael Schultz (2010 unpublished) presented the paper proving the existence of the fabled Amazonians, stating that female burials from an area in the Near East held grave goods that established them as warriors.

Perhaps it is worth mentioning here my previous attendance at another conference- the Institute for the Public Understanding of the Past's "Packaging the Past for the Media: Communicating across Museums, Television, Radio and the Internet in a Multi-Platform Era in May 2010 (see Issue 12's article by the author). I discussed with many of the bioarchaeologists present about the danger of losing sight of the data in creating a story to present to the public. Here I worry about losing sight of why we are studying these individuals in the first place. This is most likely to come across as the naive view of an undergraduate student, but I always considered the study of human remains to be deeply linked to archaeology, but across the world, in many places, there is a fine line between the two subjects and thus a great need seems to arise

from this divide. Nick Thorpe of the University of Winchester presented a paper entitled *Being Disabled in Later European Prehistory* (2010 unpublished) and that while it is important to not skew the data to fit a story, the story behind the remains is nonetheless essential. In fact, so odd was his presence as an archaeologist at this conference, he opened with a joke saying that, upon meeting other conference attendees and telling them what he does, he was asked, Oh, what are you doing here then? Divorcing the archaeological context from the bones takes away from developing a complete understanding of the past. Yes, disability may have been present in the individual, but what will that tell us about the society who buried that individual?

As my first international conference, I was quite nervous about meeting new people and presenting my ideas, wary of being the overeager undergraduate (although I am certain that at times I was this person). Yet I gained so much more from sitting through the 9-hour days than I would have in a lecture hall or seminar room. I began to understand the warning of lecturers as they talk about our understanding of the past as not being set in stone and denying the existence of our personal biases within our work. I felt that a lot of people were nervous as I was, worrying about misinterpreting lesions and being called out on it and so forth. The four days in Vienna were a learning experience I am not likely to forget any time soon, and mainly driving home a point I have encountered before- balance the story with the facts.

## Bibliography

- Dar, G. and Hershkovitz, I. (2010) 'What Palaeopathologists Can Do With Schmorl's Nodes?', paper given at Naturhistorisches Museum of Vienna, Austria, *The European Meeting of Palaeopathology Association*, 25 August 2010.
- Schultz, M. (2010) 'Amazons- Did They Really Exist?- Anthropological-Palaeopathological Evidence of An Ancient Greek Myth', paper given at Naturhistorisches Museum of Vienna, Austria, *The European Meeting of Palaeopathology Association*, 25 August 2010.
- Thorpe, N. (2010) 'Being Disabled in Later European Prehistory', paper given at Naturhistorisches Museum of Vienna, Austria, *The European Meeting of Palaeopathology Association*, 24 August 2010.

## 7 A Review of Archaeological Investigation

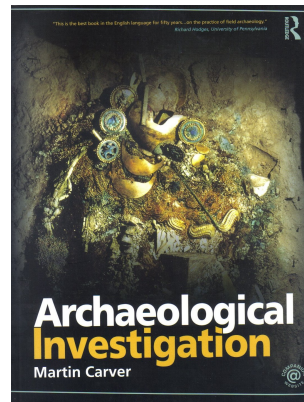
Phillip Showell (mailto:ps610@york.ac.uk)

Archaeological Investigation, published in 2009, is the most recent publication of Martin Carver, the much loved Antiquity editor and Sutton Hoo excavator. This paper is a review of this exciting new read.

After initially opening the book the first place I found was the Chapter listing and this seems to be one of the best places to start my review of this book. The navigation structure is simple and intuitive. Each chapter has a name that is self-explanatory in its function and role within the book that allows for easy navigation and selection of relevant chapters. Throughout the book there is a consistent use of figures, illustrations, graphs and photographs of a consistent high quality and relevance to the text that they support.

This inclusion of figures and visual references is not however without some problems and teething issues; whilst they do not detract from the text, it could still be an area for improvement from the reader's point of view. This is especially true if the reader is unfamiliar with some aspects of archaeology as some figures have only a subheading but no concrete explanation. Some rogue photos do appear to be labelled as, for example, "showing medieval and prehistoric features" yet no definition or clues are given as to what period each distinguishable feature pertains to. These are only minor issues and with reference to the body text are quite easily be deciphered, but with something that really draws the eye, such as a photograph, sometimes a more in-depth caption would be appreciated. There are a generous amount of photographs provided in the middle section of the book, all of which are in colour. Unfortunately the inclusion of this section does truncate a sentence forcing the reader to flip past several pages to finish what they were reading. Whilst this is an irritation, it can hardly be placed at Carver's feet and does not affect the enjoyment I got from this book.

Enjoyment is very much the operative word. Whilst this book is highly informative and full of a careers worth of knowledge, it is also to be highly commended on the enjoyment that it offers its reader. Each chapter is framed in its context by a wide discussion of all pertinent points; excavation delves into discussions of health and safety, and as well as being enjoyable provides much practical knowledge for the archaeologists' tool-belt. Martin Carver is a highly charismatic writer with a style that is both welcoming and friendly. His writing is very relaxed, and at no point does he ever seem condescending. The reader is instead pleasantly informed by Carver the explanation of any jargon and complex issues being broken down. There is an infectious charm and honest approach to the nature of this book. The honesty is appreciated: Carver himself is the first to highlight that this book has been written from his own experiences



*Martin Carver's new book  
Archaeological Investigation  
(Reproduced by kind  
permission of Martin  
Carver).*

and view points, and that inevitably this is the way that Martin Carver does things, with an awareness and openness about other schools of thought.

Throughout his colourful, entertaining and informative narration, Martin Carver offers further reading at many opportunities; both at the ends of chapters and in the text itself where he offers comments on their use and usefulness to a reader from his own opinion. To a new archaeology student, these are very welcome and obviously helpful if a topic particularly catches the attention and imagination.

This is not to say that the writing style is perfect or that it could not conceivably be improved if we were picky. Carver always has a point; however, some aspects of his writing can seem a little bit verbose in style and initially an effort to read through. This is mitigated when the informative point is reached but it is tempting to ponder if this point could be made in a more succinct way. Upon reflection, to change the writing style in such a dramatic way would damage something that the book has heavily in its favour: character. Whilst reading, it does feel as if Martin Carver is there with you and the whole book is a charming conversation with him personally. This is one of the few books I have read where it feels as if the book itself lavishes you with personal attention.

Admittedly, some paragraphs could be broken up more. In one or two places there are some sentences that do not seem to flow from one to the next as smoothly as perhaps would be liked, yet given the scope and the context of this book these are easily forgiven and forgotten.

Considering the entirety of the book, its scope and content, its character and goal it is a very good read and is not only very informative but very entertaining. I really cannot give the book's character enough credit, even in the chapters where the subject would otherwise feel tedious, the charisma loaded into these pages easily carries the book and makes the reader continue reading. It is loaded with individual flavour, charm, honesty and a career's worth of accumulated knowledge and anecdotes. Every chapter read feels rewarding in itself and it is a joy to read, not only academically, but also because it is a good book on a subject that we all love.

This book is a great tool; it is a must-have for any archaeology reader's bookshelf, both for reference and general interest. I would say more, but the part on artefacts in the *Assemblage* chapter is calling me, and that is really the highest recommendation that I can give.

## About The Post Hole

The Post Hole is a student run journal for all those interested in archaeology. It aims to promote discussion and the flow of ideas in the department of Archaeology for the University of York and the wider archaeological community. If you would like to get involved with the editorial process, writing articles or photography then please get in touch via email – (<mailto:editor@theposthole.org>).