

Don Brothwell 1933-2016: A tribute to a polymath



Don Brothwell, Professor and then Emeritus Professor of Human Palaeoecology at York, with members of the BioArCh team in the Department of Archaeology, University of York (courtesy of Malin Holst)

As a person and as a scholar, Don Brothwell had an incredible influence on so many people around the world for so many years, and his legacy continues to do so. However, it is a very daunting task to write a short celebration of his life in archaeological science, and particularly in bioarchaeology, because he did so much for us! He himself had just written and published his memoirs (2016), the Archaeopress website describing it as ‘the first memoir by an internationally known archaeological scientist, and one who has been particularly research active for over fifty years in the broad field of bioarchaeology’. Beyond the references I have cited for this piece, I would highly recommend this as a fascinating read for all (see contents list below); just look at what he has done and where he has travelled as a starting point! What a role model for being an academic.

Some of what I will say here is already on York University’s website for Don as a personal tribute to him (<http://www.york.ac.uk/archaeology/staff/academic-staff/in-memoriam-don-brothwell/>), but here I am describing some of his remarkable achievements through what he published. First, though, we should celebrate his contributions, in general, to archaeological science. How did that all start? Well, he did “science” A levels in biology, chemistry and geology and then studied for a BSc in Archaeology and Anthropology from 1952 at the Institute of Archaeology,

University College, London. His science degree clearly shaped the rest of his life in science; he actually considered most of archaeology as science, but emphasised that our discipline needed to incorporate scientific approaches much more, and that archaeology had ‘just about reached middle childhood’ (Ecklund et al 2003; interview). Lots more to do then!

Even by the age of 12 years old Don had become interested in archaeology (and human remains), stimulated by local excavations, but in his 2003 interview when asked what he would have been interested in if he was starting out now, he said that it would have been the human brain and its evolution, more generally the ‘neuro-sciences in relation to archaeology together with social psychology and social pathology’, and animal diseases in the past as seen through their remains – it would not be ‘old human bones’! Very soon after graduating, in 1958 Don was employed by the University of Cambridge as a “demonstrator” in the Faculty of Archaeology and Anthropology. In 1961 he moved to employment in the British Museum (Natural History) as Principal Scientific Officer and Head of Anthropology, went on to teach and research at the Institute of Archaeology, UCL from 1974, and then moved to the University of York in 1993 as Professor in Human Palaeoecology. More specifically with regard to “science”, Don founded and became joint editor of the *Journal of Archaeological Science* between 1974 and 1993, but even at the tender age of 30 years old he had edited with Eric Higgs the huge volume *Science in Archaeology* (1963), which went into a 2nd edition in 1969, and re-emerged in 2001 as *A handbook of archaeological science* (this time co-edited with Mark Pollard).

In 2003, he described his interests to ‘lie mostly in the broad field of archaeological science, but particularly in human palaeoecology.the archaeology of food, the disease ecology of past populations (humans and domestic livestock), the micro-evolution of humans and associated domesticates and the potential application of DNA studies to the resolution of bioarchaeological problems. These research interests range across a very broad temporal span, from Pleistocene to mediaeval times’. At this time he reminded us that his interests were indeed broad and global, covering a long time span, saying that he was currently conducting experimental work on the vitrification of fortification walls in Scotland! Beyond vitrification, he mentioned writing a book on archaeological birds, more on veterinary palaeopathology, and on preserved bodies. Don also had a strong interest in art, and admits that he was an ‘art school dropout’!

Let’s now see more of what he has written about, much of which still influences many scholars around the world. I should add that I doubt that he bothered much about journal impact factors and citations and downloads! He was already writing on leprosy in Britain in 1958 at 25 years of age, and in 1959 on trepanation, metrical and non-metrical data, teeth in earlier human populations and “mongolism” in the Anglo-Saxon period. The following year saw works on Bronze Age people in Yorkshire alongside Upper Pleistocene human remains from Borneo. In the 1960s he also considered cannibalism in Britain, tuberculosis in Egypt, and human remains from Borneo, Israel, Palestine, Dunbar in Scotland, Swanscombe in Kent, the Upper Palaeolithic skull from Whaley rock shelter in Derbyshire, West Overton and Fussell’s Lodge in Wiltshire, England, and County Cavan in Ireland. During the 1960s, he further authored and edited a range of books: *Science in archaeology* (1st and 2nd editions), *Food in antiquity*, *Skeletal biology of earlier human populations*,

Diseases in antiquity, Digging up bones, and Dental anthropology. A pretty impressive lineup, and dating to 1963-9!

By the 1970s we were seeing reports on the human biology of Neolithic British populations, craniometric analysis of British populations, and on human remains from Amesbury in Wiltshire, Maiden Castle in Dorset, West Africa, and on the Singa skull from Sudan. He further discussed head growth in late Pleistocene East Asian and Australian populations, and did some writing on Neanderthals. He also gave us his thoughts about trepanation, osteogenesis imperfecta present in Egypt, palaeodemography, Scottish vitrified forts, domestic fowl, Amerindian dogs, bone chewing by ungulates, the relevance of small mammals to archaeology, urban health, and the impacts of pollution on well-being. Some papers focused on Orkney at this time showed his interest and love of the Orkney Islands in Scotland – demography and genetics, and souterrains. In the 1970s he also was showing his interest in treponemal disease, with a paper in *Science*, and writings on the disease in Oceania and Mexico, alongside some dating evidence. He continued to edit and author books: a 2nd edition of *Digging up bones*, *Biosocial man*, the *Population biology of ancient Egypt*, and a book on *Visual art*. What is impressive about Don's publications is the variety of subjects he wrote about, but also his ability to contribute to fields beyond "archaeological human remains", for example his co-edited contribution on 'Research problems in zooarchaeology' in 1978.

In the 1980s Don continued with the publication of several books: *Animal diseases in archaeology*, *Environmental aspects of coasts and islands*, *Lindow man. The body in the bog* and the *Bog man and the archaeology of people*, showing his increasing interest in preserved bodies; this all went with the appearance of a 3rd edition of *Digging up bones* in 1981. He was also writing about house mice, guinea pigs, petrology and archaeology, dental wear and ageing, child mortality in the past, taphonomy and the Jewbury burial ground in York, human remains from Alton in Hampshire, and treponemal disease. It was in the latter part of this decade that he published his first works on dental calculus and its potential for understanding, amongst many things, diet in the past (1987, 1988). How right he was!

The 1990s saw Don extend his work on preserved bodies, but also his strong interests in non-human pathology (syntheses, but he also considered perforations in cattle skulls, chicken bones, and animal bones from Colchester). He also again showed his eclectic interests in his publications: cribra orbitalia, stress, preserved hair, trepanation, malocclusion, drugs in the past, and ancient conflict and warfare. The important co-edited publication of the analysis of the skeletal remains of Jewish people buried in York came out in 1994, along with his report on the human remains from the chambered tomb of Wayland's Smithy in Oxfordshire.

In the last 15 or so years, Don continued to published widely, with two books in 2001 (*Handbook of archaeological science* – to follow on from *Science in archaeology* - and a co-edited book on radiology: *Paleoradiology: Imaging Mummies and Fossils*). He widened his publication themes to include tumours in the past (extending from his chapter in his edited book from 1967 *Diseases in antiquity*), normal variation in human skeletons – the chapter in Cox and Mays (2000) and for the BABAO *Guidance to the standards for recording human remains*, dental attrition, oral pathology in inland and island populations, calculi, treponemal disease (a recurrent

theme!), microbiological ecosystems, iodine in bones and teeth, taphonomy of bog bodies, analysis of hair from the Neolithic Iceman and in a South African fossil hyaena coprolite, the analysis of salt preserved bodies in Iran, endocranial variation, and the causes of skeletal atrophy, and. His work on non-human remains also continued, including New World dogs again, avian osteopetrosis, and abnormal sheep metatarsals. From 2010, apart from his autobiography, Don has published on differential diagnosis in palaeopathology, another book chapter on tumours, dyschondrosteosis, organic residues in grave soils and soil micromorphology and chemistry (the result of his European grant at the age of 77 – see below), the biology of early British populations, and went back to dental calculus. I am sure that there are many more publications to come as I am certain that he had papers in press/in review and in prep; we have not seen the last of them, thankfully.

I should at this point highlight his many books listed above that have shaped so much in “archaeological science” (beyond the “*Handbook of archaeological science*”). While his 1969 book on *Food in antiquity* appealed to a very broad readership, not many have taken on board the huge potential of studying animal diseases in archaeology that was outlined in his wonderful 1980 book on the subject with vet, John Baker. Hopefully that will change and new research will add to papers Don also wrote on animal disease (e.g. the value of zoonoses in understanding the past 1991 in Ortner and Aufderheide eds. *Human paleopathology*). The year 1986 saw the first of his work (book) on preserved bodies, and in 2002 a contribution on the subject to *Advances in forensic taphonomy* (W & M Sorg eds). As an aside on the word “forensic”, in his 2003 interview he had strong feelings about the “forensic” side of biological anthropology. He said: ‘I’ve taken an interest in the development of these courses, but I do feel that in Britain..... we have now reached saturation point. I think there are probably too many universities offering these courses..... I think there are far too many students attracted to the courses’. Has there been an increase since 2003 one wonders? Don also published on the famous Tyrolean Iceman in 2003 and 2005.

Perhaps one of the most important of his works for me personally at the start of my career was his 1963 *Digging up bones* (see below), but equally for many was his 1963 *Dental anthropology* book and his 1968 edited book on the *Skeletal biology of earlier human populations*. I should also note his 1961 his paper on the “Palaeopathology of early British man” in the *Journal of the Royal Archaeological Institute*, which was an important reference point for Margaret Cox and I when we were writing *Health and Disease in Britain* (2003); his was the first synthetic study of the subject. Not long after these influential publications he came up with another milestone contribution, co-edited with Andrew Sandison (*Diseases in antiquity. A Survey of the Diseases, Injuries, and Surgery of Early Populations*). This book is still of immense value in palaeopathology even though it is nearly 50 years old (and is still selling on Amazon!). Don’s most recent book of course is of course his autobiography (2016) but in 2007 he co-edited a book on paleoradiology with a radiologist, the first of its kind.

I consider that one of the more important studies he did with regard to skeletal reporting concerned the monograph he was part of which concerned the human remains from Jewbury in York, a Jewish community and a rarely excavated archaeological context. In that report by Lilley et al in 1994, there was a section on

the identification and analysis of dental calculus, something that Don (and Keith Dobney) had published on in the late 1980s. This Jewbury report also raised issues related to ethics and human remains, perhaps the first “ethics occasion” for me in my early years as a bioarchaeologist. In the 1980s and early 1990s ethics was not a subject that was discussed much at all in the UK context. In relation to ethics and archaeological contexts containing human remains, in his 2003 interview Don was adamant that long-term conservation of samples of various kinds (hair, bone) with access for further studies, alongside a ‘good database’, were essential as more and more human remains are being repatriated and/or reburied. This is something that needs more debate. I also feel that Don and Keith’s initial work on inclusions in dental calculus is often forgotten as more papers are published on the subject; this is in an age when calculus is now considered a good preserver of organic materials, such as ancient DNA. However, it was so pleasing to see his co-authorship of a 2012 *Science* paper on *Neanderthal medics? Evidence for food, cooking, and medicinal plants entrapped in dental calculus*. It was to me also of particular interest to see Don’s research on the treponemal diseases develop, again initially as a *Science* paper in 1970. Just over 10 years ago, he again contributed to the “syphilis debate” (2005) where he re-considered the Old World theories and evidence for treponemal disease (Powell and Cook eds. *The Myth of Syphilis, The Natural History of Treponematosis in North America*). However, he did not particularly enter the often bitter “Columbian” debates about the history of this infection, but has continued to “plough his own furrow” using available scientific evidence. Overall, Don’s publication record is astounding; there are very few people in archaeological science who have published on such a diverse subject matter in so many outlets over so many years. Taking just bioarchaeology, a lot of the things he initiated interests in via his early publications remain areas for development today.

I first “came across” Don when I was an undergraduate at the University of Leicester. While I had not really thought about any particular “specialism” of archaeology that I might be interested in (fully expecting to return to nursing after my degree), I did a dissertation on human bones from the crypt of Rothwell Church, Northamptonshire. The only book that I found to guide me was an early edition of “*Digging up Bones*”, a book that I feel must be on the shelves of anybody studying archaeological human bones. I do not recall really having much supervision for my dissertation at Leicester and just “muddled through”, although being a nurse helped (as did contacts with Keith Manchester at Bradford). Don’s book was therefore my “Bible” as I did my analyses. I even wrote to him about platymeric and platycnemic indices, trying to find out more about how these indices could be interpreted for populations in the past. As was the norm for him, he handwrote a letter back to me with further information (nearly as quickly as email!). As an aside, I admired him for shying away from email – ‘why bother with email when you have letters, fax, and telephone for communications’, he often said – indeed why bother! Don was also my PhD examiner, as he was for some of my PhD students, and I had a thoroughly pleasant time being “grilled” in my viva! Who wouldn’t if it was Don?

Following my undergraduate days, I intermittently kept in touch with Don over the years I was an academic at the University of Bradford before coming to work at Durham University in 2000. Developing and instigating the MSc in Palaeopathology in 2000, and because Don was relatively close at hand in York, I quickly decided that having him talk to our students about some of his favourite topics would be such a

bonus for the students (even though he had officially retired in 1999!). I was not disappointed, and nor were the students. Until a couple of years ago he came up every year and provided them with thought provoking lectures (animal palaeopathology and syphilis – of course!); they really valued this input to their knowledge base. Of course, we had to provide a slide projector for his lectures because we had moved to the “working in the power point presentation mode”. Again, I commend him for “sticking to his guns” on presentation modes! Don was made an Honorary Research Professor in 2006 at Durham University.

Don was an inspiration to us all. A genuinely lovely man, he constantly had new research ideas, gave people time – something we are all short of (and hand wrote personalized letters!), and was open to discussions and debates; established scholars and students alike loved him. He was awarded his last grant at the age of 77 years and has been publishing since the 1950s right up to 2016! It just goes to show that the older academic generation can continue to offer considerable insights and inspiration to the younger generation. They also have a sense of the historical development of their discipline, and know about those dim and distant papers published years ago that may not be accessed by students today. Having that sense of history, older academics that are officially “retired” contribute so much to so many. I last saw Don in Hovingham in the Yorkshire Wolds where he lived last September. I am so glad I did. With my better half (Stewart), I was on a cycling holiday around that area and we stayed at the Worsley Arms in his village overnight. We took him to dinner that night and had a wonderful time; his eyes sparkled as he talked about what research he was currently doing. He told me about the book he was writing on syphilis - I hope it is published because I think he had nearly finished it – I would hazard a guess that it will be the most sensibly written “ode” to the history of syphilis we will have ever seen.

Even though he was such a modest man, his immense intellect constantly shone through; he indeed was a polymath, something that many of us will never be, including me. As Keith Dobney said (2012) ‘Many of us have been lucky to count Don as a generous colleague and friend, one who never sought the academic heights or limelight. He is without doubt, and in the truest sense, both a “gentleman and a scholar”’.

Here’s to Don – he will be terribly missed by us all but he has left a huge legacy to archaeological science.

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(January 6th 2017)*

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My paltry attempt at a “biography” cake to celebrate Don’s life on the 15th December 2016 at the University of York – not easy to fit all that he has done on a cake!

The following are the contents page of Don's 2016 autobiography; as would be expected, an eclectic mix of things of importance in his life:

Childhood, Family and Education

Widening Horizons in Education, Teaching and Research

The Natural History Museum

The Institute of Archaeology in London

The University of York

Writing and Editing, the Final Education

War, Peace and Prison

The Prison Episode

Suez, politics and people

On the Science of Art

Controversies with Fossils

Forensic Interludes

Kosovo

Bog People and Other Friends

Bog Bodies

The Neolithic Iceman

Ancient Yemenis

Salted People

Egyptian mummies and dried bodies

From Rocks to Protons

Grave soils

Harnessing X-rays, Electrons and Protons

A Hair of the Dog

Bones, Teeth and People

Glue and Data: the Value of Bones

Teeth and Time: Reflections on Dental Archaeology

Population Studies : Beyond the Individual

Of Mice and Mammoths

The Nature and Antiquity of Diseases

In search of syphilis

Epidemiology and our past

Food and Health in the Past

Animal Health and Husbandry

Peoples and Places

The Viking Experience

The Siege of Avebury

Fromelles, France

Entering the Islamic World

Greenland

Mongolia

The Americas

Character Parts in a History

Theory, Language and Culture

My doubtful place in human culture

Language

Aspects of the Emotions

Evolving Beyond Religions

Love, the Ultimate Chimera

The Identification of Humour

Traversing the mindfield which is life

Imprinting, the ultimate deterrent to independent thought

Crowd Behaviour

Mind and Malfunction

Evolution, mind and reality

Psychological archaeology emerges

Pondering mind and reality

Socio-economic changes and mental stability

Mind and conflict

Psychopathology and archaeology

Conclusions on a Life

On the Possible Scenario for my Descendents Long in the Future

Don Brothwell's research publications (in bold are books authored/edited)

Note: There does not seem to be a complete list of Don's publications anywhere. Therefore, I have consulted many sources to create this list, including bibliographies in his books. I cannot guarantee I have included absolutely everything, but if anybody out there knows of missing publications, I would be grateful to hear about them!

2010-date

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