

## **“72<sup>nd</sup> Annual Meeting of the American Association of Physical Anthropologists”, Tempe, Arizona 23<sup>rd</sup>-26<sup>th</sup> April 2003**

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The University of Arizona hosted the 2003 American Association of Physical Anthropologists (AAPA) conference at the Tempe Mission Palms Hotel, in Tempe, Arizona. According to John H. Relethford, the Program Committee Chair and Editor, this year's meeting was the largest held with 682 podium and poster presentations in 55 sessions, with a total of 1300 authors participating. Speakers were students and members of staff from universities and other related professionals from Austria, Canada, France, Germany, Japan, South America, the United Kingdom and the United States. Some of the main topics for the poster and podium sessions were human, skeletal, and primate biology; hominid and primate evolution; primate behaviour; dental anthropology and morphology; genetics and paleopathology. Over the three-day conference there were 29 poster and 26 podium sessions, which ran four or five at time. This review only refers to the sessions attended, in conjunction with information from the conference programme and abstracts (American Association of Physical Anthropologists 2003).

Several different symposia were held during the conference. However, this year there was special recognition of the Wiley-Liss publishing company, with the establishment of an Annual Wiley-Liss Symposium. The topic of this inaugural event was “The Evolution of the Genus *Homo* in Europe”.

One paper that was useful both for students thinking of teaching physical anthropology and also for established in academics was “Teaching Physical Anthropology: Strategies for Dealing with Controversial Topics”. The study of human remains is increasingly the subject of debate, therefore sessions like this are very constructive. D. L. Cunningham and D. J. Wescott from the University of Missouri-Columbia presented a paper on the misconceptions that many undergraduate students have concerning basic human evolution. This paper proposed that teachers need to present material in a way that “non-science” majors can be fully informed and not confused by the science of human evolution.

A similar paper presented by P. Ashmore of the University of Missouri-St. Louis, entitled “Using Physical Anthropology to Diffuse the Controversy Over the Teaching of Human Origins in Middle School”, stated that many middle school biology teachers are not always comfortable teaching evolutionary biology because they do not want to offend any fundamental Christian students. A training programme, sponsored by the Center for Human Origin and Cultural Diversity, was offered to help teachers with a hands-on approach and experimental learning strategies to address the topic of human evolution. From papers like these and others from this session, the scientific theory of

human evolution can be studied and taught without insulting or belittling the beliefs of others.

In one of the skeletal biology sessions, “Bioarchaeology and Biological Variation”, S. Garst presented a paper that reassessed the auricular surface aging technique to determine its reliability when used as a single aging criterion. A blind study was conducted using the scoring technique of Lovejoy *et al.* (1985), a method of aging individuals that is common and well respected. Garst’s research employed a collection where age at death was known and compared the relationship between the scored auricular surface age to the known age. This study concluded that the Lovejoy method did not produce results consistent with the real skeletal age, and demonstrated the need for using more than one method when aging an individual.

A paper in the same session, presented by M. P. Alfonso *et al.*, “Are Harris Lines an Indicator of Stress? A Comparison Between Harris Lines and Enamel Hypoplasia”, was very informative. Harris lines and enamel hypoplasia are recognised as non-specific indicators of stress (Ortner and Putschar 1985). Alfonso *et al.* stated that there is no correlation between these two indicators at any level, and that the distributions of Harris lines are associated with periods of accelerated growth and not necessarily with stressful conditions. They concluded that if Harris lines are not an indicator of stress as currently thought, then future studies should not use Harris lines as a proxy for health status. It was interesting that the authors chose to compare these two variables, since Harris lines heal over time (Roberts and Manchester 1996) and only indicate a period of stress (whether nutritional or growth) when the lines are present, whereas enamel hypoplasia is permanent (Hillson 1996). Therefore, it may not be possible to test a correlation between these two pathologies unless an individual was suffering from stresses inducing both conditions at the time of death.

In the session “Hominid Evolution IV: Modern Human Origins”, Prof. Simon Hillson and Dr. Charles Fitzgerald from the Institute of Archaeology, UCL, presented, “Tooth Size Variation and Dental Reduction in Europe, the Middle East and North Africa Between 120 000 and 5000 BP”. The authors presented the results of a three-year study of cervical tooth size measurements. Most of the results confirm that there is an overall trend toward reduction in average tooth size through the period studied. However, there are considerable variations within groups, and their range of variation overlaps. There were also found to be differences between teeth, between sites within the regions studied and between regions themselves.

One full session was devoted to “3D Approaches to Physical Anthropology” and was comprised of papers that used new and interesting 3D technology of anatomical data, quantitative 3D modelling and analysis. W. E. H. Harcourt-Smith *et al.* from the Department of Anatomy and Developmental Biology and the Department of Anthropology, UCL presented “3D Morphometrics and the Evolution of Bipedality”. Their study developed an integrated approach to the interpretation of hominid tarsal morphology based on Generalized Procrustes Analysis, using 3D landmark configurations for specific bones in the foot (talus, calcaneus, cuboid, navicular and medial cuneiform bones).

Traditional measurements such as inter-landmark distances and angles of indices to quantify postcranial form can now be taken further and studied in greater depth with 3D landmark configurations. The data from this analysis revealed that there are two distinct morphotypes in fossil pedal morphology, one characterising *A. africanus* and *H. habilis*, and another characterising *A. afarensis*.

This year's AAPA meetings highlighted exciting new methods and theories as well as critically reviewing some old ideas. This year there were more sessions on developing technologies that opened up new areas of research. The poster sessions were well represented in each category, and authors did a very professional job presenting them. Lastly, I was glad to see that the organisation is offering possible new solutions to the political problems that studying human remains and human evolution creates for teachers and students.

### References

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