

ABSTRACTS

The sample included skeletally mature males ($n=89$) and females ($n=53$) from the early Medieval (11th-12th c.) cemetery in Giecz, Poland, site Gz4. Across all variables for both elements, there was significant sexual dimorphism, with males being larger (Kruskal-Wallis test, $p<0.0001$). In the humerus, asymmetry values between males and females were significantly different (Kruskal-Wallis test, $p<0.05$) for maximum length with a right-side bias, but not for midshaft dimensions. The clavicles showed significant asymmetry between sexes for maximum length with a left-side bias ($p=0.019$) and superior-inferior diameter with a right-side bias ($p=0.007$), but not anterior-posterior midshaft diameter ($p=0.075$). These findings suggest a general tendency in the population to be right-handed. Since bone length is likely more influenced by growth and development and less by physical activity in adulthood, values at midshaft should be prioritized for interpretations of workload. Asymmetry was most pronounced in midshaft dimensions despite the general lack of sexes differences, suggesting that physical activity placing differential mechanical demands on each upper limb may have been similar between sexes in Giecz.

The effects of admixture in the pelvis

LAURA T. BUCK^{1,2}, DAVID C. KATZ^{2,3}, REBECCA ROGERS ACKERMANN^{4,5}, LESLEA J. HLUSKO⁶, SREE KANTHASWAMY⁷ and TIMOTHY D. WEAVER²

¹School of Biological and Environmental Sciences, Liverpool John Moores University, ²Department of Anthropology, University of California Davis, ³Cell Biology and Anatomy, University of Calgary Cumming School of Medicine, ⁴Department of Archaeology, University of Cape Town, ⁵Human Evolution Research Institute, University of Cape Town, ⁶Department of Integrative Biology, University of California Berkeley, ⁷School of Mathematical and Natural Sciences, Arizona State University

Recent advances in genetic analyses have uncovered evidence of multiple admixture events during human evolution; yet, the role of admixture in determining gross anatomy is still poorly understood. In this context the pelvis is particularly interesting, due to its complex shape and interactions between the constraints of locomotion and parturition. The pelvis is also amongst the most divergent regions between *Homo sapiens* and Neanderthal skeletons, leading to potential ramifications for hybrid offspring. Here we use a large, multigenerational sample of Chinese and Indian rhesus macaques (*Macaca mulatta*) and their admixed progeny as a proxy to investigate the role of admixture in hominin pelvic evolution. Unlike many non-human hybrid studies, our sample includes animals with a range of admixture proportions, from low percentages of Chinese ancestry to low percentages of Indian. This range of admixture is a good representation of what we expect in natural hybrid zones and in

the fossil record. Our geometric morphometric approach indicates that, while sexual dimorphism is the strongest determinant of morphology as expected, there is a weak admixture signal in pelvic shape. The magnitude of the admixture signal likely reflects a relatively small pelvic shape difference between the macaque subspecies, in contrast to the relatively disparate morphology of *H. sapiens* and Neanderthals. We discuss potential functional constraints on admixture expression in different skeletal regions and the implications of our results for identifying hybrids in the fossil record.

This research was funded by grants #1623366 and #1720128 awarded by the National Science Foundation (USA) and by The Leakey Foundation.

The Aquatic Neolithic: isotope, aDNA, radiocarbon, and osteological data analysis reveal asynchronous behavior in early prehistoric human societies of Ukraine

CHELSEA BUDD¹, INNA POTEKHINA², CHRISTOPHE SNOECK³ and MALCOLM LILLIE¹

¹Department of Historical, Philosophical and Religious Studies, Umea University, ²Institute of Archaeology, National Academy of Sciences of Ukraine, ³Analytical, Environmental & Geo-Chemistry (AMGC), Vrije Universiteit Brussel

In Europe the characterization of the Neolithic period is traditionally dominated by the advent of agro-pastoralism. Neolithic populations in the Dnieper Valley region of south-central Ukraine are notably divergent from this trend. From the Epi-Palaeolithic-Neolithic periods (ca. 10,000 - 6000 cal BC), evidence for the adoption of agro-pastoral technologies is absent from archaeological assemblages. It is not until the Eneolithic period (ca. 4500 cal BC) that we observe the beginnings of a transition to farming in the Dnieper region. One hypothesis suggests that spikes in aridity propagated a hunting crisis in Mesolithic populations, which prompted a delay in the transition and the reshaped of Mesolithic subsistence practices to focus on freshwater aquatic resources to supplement terrestrial herbivores such as boar and deer.

This research presents 300+ human and faunal samples (including 80 unpublished results), using multi-disciplinary techniques such as DNA analysis and various isotope applications, alongside osteological analysis, to provide holistic individual life histories. The results show long-term continuation of fishing practices from the Epi-Palaeolithic to Neolithic periods - no distinct shift from hunting to fishing practices took place. DNA results show the predominance of indigenous hunter-gatherers, with limited genetic inclusions from proximal Anatolian farming populations. Thus, despite the availability of plentiful dietary resources and the westward influence of extra-local farming populations, the prehistoric communities of the Dnieper

region remained resistant to change and resilient in terms of their subsistence strategies, with freshwater resources providing a 'buffer' against any perceived impacts from climate variability.

Enthesal Change within St. Gregory's Priory: An Assessment Based on Age, Sex, and Social Status

JOSHUA BUINICKY and EMMY BOCAEGE

School of Anthropology and Conservation, University of Kent

Changes seen within enthesal attachments—areas where connective tissues attach to the bone—are useful to recreate human activity through scoring bony changes due to habitual movement. The aim of this study is to verify the significance between age, sex, and social status of entheses, as well as, their feasibility to generate a biological profile, found within the skeletal collection of St. Gregory's Priory medieval burial site in Canterbury, England. Using the Coimbra method, nine fibrocartilaginous entheses, from 58 individuals, were assessed. Significance was found factoring for sex, but not for age or social status. Observational trends showed greater expression within male individuals, and along the left side of the body. Using a Mann-Whitney U test, five of the nine attachment sites resulted in significant values ($p < 0.05$) based on sex. Assessing for age and social class no significant results were found. This research concluded that the use of enthesal change in regards to building a biological profile is only feasible for sex determination.

A reassessment of E. A. Hooton's metric analyses of crania from Madisonville, an Ohio Fort Ancient site (1275-1640 C.E.)

M. LORING BURGESS and MICHÈLE E. MORGAN

Osteology Department, Peabody Museum of Archaeology and Ethnology, Harvard University

100 years ago, E. A. Hooton published a monograph with craniometric and nonmetric data on individuals from Madisonville. Hooton used these data to make numerous observations about cranial shape variation based on very little comparative data; for example, noting that Madisonville individuals had relatively short, broad palates for their facial proportions compared to other populations. Our study aims to verify the comparability of Hooton's craniometric data to other commonly-used archival craniometric datasets and to reevaluate Hooton's conclusions about the morphology of Madisonville individuals through comparisons to archival data from other populations.

We independently remeasured 50 individuals from Hooton's original study following his described protocol, with repeated measures ANOVA used to compare each measurement between the three observers. Results were largely similar across