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## ABSTRACTS

ancestry in Levantine and southern Arabian populations may originate from the same pulse(s) of Neanderthal introgression.

*Yemeni samples used in the study were collected with support of NSF grant BCS-0518530 and genotyped with support of NSF grant BCS-1258965*

### Unidentified, multifocal joint disease from the Slovenian Kranj skeletal series

VLASTA VYROUBAL<sup>1</sup>, MARIO ŠLAUS<sup>1</sup>, ŽELJKA BEDIĆ<sup>1</sup>, ANDREJ PLETESKI<sup>2</sup> and BENJAMIN ŠTULAR<sup>2</sup>

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The Župna cerkev cemetery in Kranj contains more than 2100 archaeologically investigated burials dated from the 7<sup>th</sup> to the 18<sup>th</sup> century AD. From these a total of 1169 skeletons were available for detailed anthropological analysis. A large number of skeletons (n=55; 18 males, 34 females, and 3 subadults) exhibit irregular shaped lytic lesions of various sizes (approx. 5-20 mm) on the joint surfaces. The lesions are polyarticular, generally bilateral, and lytic with no new bone formation. Most commonly affected are the knees, ankles, shoulders, elbows and phalanges of the hand. The vertebrae are usually not affected. The lesions were significantly more frequent in females than males (34/406 or 8.4% compared to 18/478 or 3.7%;  $\chi^2 = 7.611$ ,  $P = 0.005$ ). In terms of the age distribution of the disease the affected individuals cover all age groups, the youngest being a subadult of 7-8 years at time of death, while the oldest is a female older than 60 years of age. At this moment the aetiology of the disease is unclear. The lack of osteophytes, peri-articular erosions, osteoporosis, sclerosis of the affected part of the joint and bony ankylosis rules out more recognizable joint diseases such as rheumatoid arthritis, juvenile rheumatoid arthritis, ankylosing spondylitis, systemic lupus erythematosus, psoriatic arthritis, sarcoidosis, osteochondritis dissecans, and gout. The grouping of individuals with the disease in the cemetery does not appear to be random and may reflect a genetic component to the disease.

*Grant sponsor: Croatian Science Foundation project number 8100*

### Limb Joint Degenerative Joint Disease Prevalence in German Populations from the Little Ice Age (AD 1300-1850)

ELEANOR J. WADDLE, KENDRA WEINRICH and LESLIE L. WILLIAMS  
Anthropology, Beloit College

The Little Ice Age (LIA) was characterized by changing environmental stresses, impacting populations across northern Europe. To understand the effect of these stresses on human activity patterns, we investigated differences in

prevalence of Degenerative Joint Disease (DJD) in limb joints between pre-peak LIA (AD 800-1500) and peak LIA (AD 1500-1850). We hypothesized that limb DJD prevalence was higher during the peak of the LIA compared to the pre-peak period. Global History of Health (GHHP) Standards were used to score DJD in individuals with at least one observable bone in a joint system. We then calculated DJD prevalence in upper and lower limbs, prevalence of moderate/severe DJD (GHHP categories 3-4), and age specific prevalence for adults.

DJD prevalence in both the upper limb (pre-peak LIA: 87.5% (28/32); peak LIA: 72.4% (63/87) likelihood ratio,  $p > 0.05$ ) and lower limb (pre-peak LIA: 93.3% (28/30); Peak LIA: 78.4% (76/97); likelihood ratio,  $p = 0.049$ ) decreased between pre-peak and peak LIA. Though not statistically significant, this pattern was reversed for moderate to severe DJD of the upper and lower limbs. When examining prevalence by age, moderate to severe DJD increases from the pre-peak LIA to the peak LIA across all age categories in both the upper (Pre-peak LIA: 0.0% (0/32); Peak LIA: 2.3% (2/87); likelihood ratio,  $p > 0.05$ ) and lower limbs (Pre-peak LIA: 3.3% (1/30); Peak LIA: 7.2% (7/97); likelihood ratio,  $p > 0.05$ ). These results highlight the complex relationships between environmental factors, activity patterns, and DJD prevalence in the Little Ice Age.

*This research was funded by the Beloit College Liberal Arts in Practice Center, the Mouat and Whiteford Endowed Research Fund and the Keefer Fund for Faculty Development at Beloit College.*

### Reflecting at 99: Engaging Ethics in the AJPA

JENNIFER K. WAGNER  
Bioethics, Geisinger Health System

In 2016 the American Association of Physical Anthropology (AAPA) established a standing Ethics Committee to promote ethical literacy among AAPA members. Ethical literacy, as articulated by Dr. Nancy Tuana (2007), involves sensitivity, reasoning, and moral imagination. Sensitivity is an awareness of or an ability to spot ethical issues. Reviewing the ways in which ethics is engaged in print within the AAPA's official journal offers us an opportunity to assess AAPA membership's ethical literacy. An advanced search was performed on the Access AJPA members-only site, which offers access to every AJPA issue since its premiere issue of Jan/Mar 1918, to identify AJPA items explicitly mentioning ethics content somewhere in the full text. Content analysis was performed on items identified. This systematic review of ~99 years of AJPA issues uncovered 329 initial search results, which included 274 verified and unique items engaging ethics explicitly. Items included full articles with varying levels of coverage of ethics issues (144

or 53%); books reviewed or received (61 or 22%); conference materials such as program information and abstracts for annual meetings (39 or 14%); and other items such as letters to the editor, news and views, obituaries, and brief communications (30 or 11%). Qualitative results are also revealing. Despite limitations of the approach, this reflection provides useful information regarding AAPA's ethical literacy, which can inform future AAPA Ethics Committee activities.

### Methodological Considerations for Measuring Female Chimpanzee Social Relationships

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Fission-fusion chimpanzees (*Pan troglodytes*) exhibit considerable interindividual and age/sex variation in gregariousness and association patterns. Females at most sites are less gregarious, form smaller parties, and tend to have fewer frequent associates compared to males. Yet, research at several sites suggests that females regularly associate and form active relationships with other females, but this may vary significantly across sites. Differences in data collection and analyses of association patterns can render direct comparisons difficult. Moreover, the methodology used may influence researcher interpretation of social parameters. We use party data from two Kibale communities, Ngogo and Kanyawara, to examine how observation technique (focal-female follows compared to group/male follows) and different measures of association (normalized by sample average vs. randomized dyadic association indices (DAI)) influence our interpretation of sociality among female chimpanzees. We compare the results from data collected during focal-female follows at Ngogo and Kanyawara, and focal-male follows at Ngogo. Based on focal-female follows, Kanyawara females were much more gregariousness than previously reported (29% of female-female dyads had greater than expected normalized DAI compared to 40% of male-male Dyads). Similarly at Ngogo, female-female normalized DAI were significantly higher in focal-female follows than focal-male follows ( $t=2.174$ ,  $df=275$ ,  $p=0.03$ ,  $n=276$ ). Compared to randomized indices we found that the normalized DAI exaggerated differences between males and females, pushing more females below expected levels relative to males. Our results emphasize the importance of focal following females and suggest that comparing female social patterns directly to males may systematically