geographical, ethnic, language, social, and religious boundaries. Factors such as polygyny (and less commonly polyandry), patrilocality, and sex-biased dispersal, additionally can profoundly affect population gene pools. In acknowledging and honoring the pioneering demographic and genetic studies of Raymond Pearl, the effects of these various influences on human evolution will be examined in autochthonous and migrant communities, and in contemporary populations where traditional marriage patterns and practices have undergone radical change.

B: 10:15 a.m.

Trade-offs in immune function and growth in a rural Amazonian village. AD Blackwell 1,2, JJ Snodgrass 1,5, FC Madi-menos1,2, TJ Cepon1,2, TR Gandolfo 1,2, LS Sugiyama 1,2,3. 1Department of Anthropology, University of Oregon, Eugene, Oregon; 2Institute of Cognitive and Decision Sciences, University of Oregon, Eugene, Oregon; 3Center for Evolutionary Psychology, University of California, Santa Barbara, California.

Shuar of Ecuadorian Amazonia currently live across a wide range of circumstances from traditional forager-horticulturalists to town dwelling wage-laborers and professionals. Our past work has shown that many Shuar shun horticulturalists to town dwelling wage-laborers and professional. According to life history theory, growth and immune function represent competing energetic demands. Pathogenic insults during development are thought to lead to stunt- ing because energy for growth is lost in fighting illness. However, over the long-term, environments with high pathogens and limited resources may also result in stunt ing because they cause strategic reallocation of energy away from growth and toward immune function in general, as well as reallocation between alternate branches of immune function, such as nonspecific, humoral, and cell-mediated immunity. In this study, we investigate growth and immune function in a Shuar village of 60 families. The village is located 40 min by dirt road from a small urban center and has largely made the transition to small-scale subsistence agriculture. Yet the village remains somewhat isolated, since few families have easy access to transportation. We collected anthropometrics, medical histories, dietary and household information, and dried blood spots from 149 children aged 1–18 (87 female, 62 male). Our results indicate high levels of pathogen exposure and a stunting prevalence of nearly 70%. Using biomarkers for C-reactive protein and Epstein–Barr Virus antibodies, we examine the relationship between stunt ing, wasting, inflammation, and cell-mediated immunity.

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Childhood obesity and its sequelae are increasing in many populations, but particularly in disadvantaged and/or minority groups. Native Hawaiians are one such group with an ethnic disparity in symptoms of the metabolic syndrome. Accordingly, a study of childhood body composition and risk factors for the metabolic syndrome is being conducted among Kindergarteners and third graders in East Hawaii. The children undergo an anthropometric battery, air displacement plethysmography, and a graded treadmill exercise test, and provide blood spots for C-reactive protein (CRP), lipid, and glucose analysis. The blood spots are dried and then frozen for bulk analysis. Analyses of 101 participants has been completed, and significant positive correlations between levels of CRP and BMI (r = 0.39, P < 0.001), percentage body fat derived from plethysmography (r = 0.50, P < 0.001), sum of six skinfolds (r = 0.46, P < 0.001), and the ratio between trunk and limb skinfolds (r = 0.34, P < 0.01), and a significant negative correlation with computed VO2max per body weight (r = −0.21, P < 0.05) are observed. There is no significant sex or ethnic difference (Native Hawaiians versus non-Hawaiian children) in CRP levels, but third graders have significantly higher CRP levels (ANOVA: ethnicity F = 1.4, ns; sex F = 0.0, ns, grade F = 4.7, P < 0.05). Much of the variability in CRP levels in these children is explained by differences in body fat.

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Phenotypic variation in the expression of Marfan syndrome and the relationship to age. KK Burnitz 1, EJ Bowers 2, 1Department of Anthropology, SUNY-Albany, New York; 2Department of Anthropology, Ball State University, Muncie, Indiana.

Marfan syndrome is a genetic connective tissue disorder identified by a pattern of symptoms across several body systems that affects roughly 1 in every 10,000 individuals. Few studies have analyzed differences in symptom expression with age. To identify changes in the recognizable phenotypic expression with age, a cross-sectional study of cases published in the medical literature was conducted. Cases (n = 90) ranged in age from 0 to 20 years, and were included only if the report specified the age at diagnosis and the symptoms present at that age. Only cases diagnosed following the Ghent nosology of Marfan syndrome were utilized. The three most common body systems affected were the skeletal, cardiac, and ocular systems. Symptom prevalence proportions were 100, 91, and 66%, respectively, across all ages. Regression analysis of each specific body system by age showed that none of the r² values exceeded 0.1 for any of the body systems, indicating that age is weakly related to reported symptom expression. Informational biases such as the specialization of physician making the diagnosis and the inclusion of cases of fetal death may have affected the low r² value as both may contribute to slight errors in case classification. Overall, the results suggest that the expression of symptoms used in diagnosis is independent of maturation.