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ABSTRACTS

When Cultural Anthropology Met Ebola: A Tale of Resistances

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During the West Africa Ebola epidemic of 2014-2015, epidemic containment measures resulted in a confrontation between Ebola's viral transmission capacity and local West African sociocultural systems. Ebola, by its nature not a particularly robust infectious disease, benefited from the lack of surveillance systems, local political dynamics, and patterns of human settlement and healthcare seeking behaviors to become a full-scale regional crisis over the course of 2014. Anthropologists were drawn into the epidemic by an international system of epidemiologists, medical experts, and health promotion campaigns, socio-cultural anthropologists who needed to rapidly integrate anthropological insights about local conditions into a national, regional, and international epidemic response architecture. Drawing on systematic reviews, qualitative interviews for the Ebola 100 Project, and recent systemic reforms, this presentation considers how [and how well] anthropology engages with emerging infectious diseases, and how emerging infectious diseases map onto the sociocultural domain at the center of anthropology.

Chimpanzees are fatter than you think: Differences in regional body fat deposition between hunter-gatherers and captive chimpanzees

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It has been widely suggested that humans and chimpanzees differ in their pattern of regional body fat distribution. Based on qualitative observations, chimpanzees (both wild and captive) have been characterized as preferentially depositing fat centrally. However, no known quantitative test has been conducted comparing within sex differences between humans and chimpanzees in peripheral and central body fat deposition. To assess differences in regional deposition, this study utilizes suprailliac (central) and triceps (peripheral) skinfold data from a group of captive chimpanzees (Hamada et al., 1996; male, n=40; females, n=45). We compare the chimpanzee data to the Savanna Pumé, a group of South American hunter-gatherers (males, n=39; females, n=34). Mann-Whitney U tests are used to evaluate within sex differences in regional body fat between species. Results show that triceps skinfolds do not differ between human and chimpanzee males (U=1456, Z=0.692, p=0.49). However, suprailliac skinfolds do differ (U=849, Z=3.88, p<0.0001), e.g. male captive

chimpanzees are fatter centrally than Pumé males. Human females have significantly greater triceps skinfolds (U=833, Z=4.88, p<0.0001), but reduced suprailliac skinfolds (U=1044, Z=3.52, p=0.0004) compared to female chimpanzees. The results suggest that 1) well-fed captive chimpanzees of both sexes are fatter centrally than our population of hunter-gatherers, 2) human and chimpanzee males do not differ peripherally, however 3) human females have a significantly greater capacity to deposit peripheral body fat. These results are consistent with hypotheses that human females have adapted regional body fat storage to facilitate increased reproductive demands.

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Endemic warfare and scurvy in Historic period Croatia

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From the 15th to 18th century AD the past inhabitants of Croatia were embroiled in continuous, low-intensity warfare with the Ottoman Empire making Croatian archaeological series from this period a unique resource for studying the effects that endemic warfare has on health. Here we analyze and compare the frequency and distribution of scurvy in three composite skeletal series: a pre-endemic warfare series dated from the 10th to 14th Century, an endemic warfare series from the 14th to 16th Century, and an additional Vlach series dated from the 16th to 18th Century consisting of migrant people originating from the Balkan region that were settled in Croatia by the Ottomans in return for military service. We hypothesize that by causing massive emigration, reduced mobility, closing of markets, and loss of effective labor and resource utilization, long-term endemic warfare increases metabolic stress. Scurvy was assessed separately in subadults and adults and diagnosed into three categories as: definite, probable, or possible with the aid of statistical correlation analyses according to criteria described by Geber and Murphy (2012). The resulting data support the proposed hypothesis by showing a significant increase in total scurvy frequencies (12.8% to 30.1%, P=0.00002) during the endemic warfare period with subadults being more affected than adults. The Vlach series exhibits intermediate values, significantly higher than the pre-endemic warfare series (P=0.016), but lower than the endemic series. Additionally, at the level of the complete adult sample, males were significantly

more susceptible to scurvy than females (24.2% compared to 6.8%, P=0.0006).

This research was funded by Croatian Science Foundation Project number 8100.

Interspecific mobbing and cooperation between Rylands' bald-faced saki monkeys (*Pithecia rylandsi*) and sympatric primate species in Peru

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While some primate species respond to threats by fleeing or hiding, others approach, harass, and occasionally attack predators. This 'mobbing' behavior has been reported in various primates but is notable among Neotropical species. We report on interspecific mobbing by our focal species, saki monkeys (*Pithecia rylandsi*), and sympatric species at Los Amigos Biological Station, Peru. To elicit anti-predator behaviors, we conducted experiments (n = 36) on sakis using ocelot, boa, and harpy eagle models. We documented saki behavior and noted presence and response of nearby primate groups during experiments. In response to eagle and boa models, sakis emitted infrequent, quiet alarm calls and rarely exhibited mobbing behaviors. In contrast, sakis actively mobbed ocelot decoys while emitting prolonged, noisy alarm calls. Heterospecific species responded in only 8% of eagle and 8% of boa experiments by approaching from nearby to briefly inspect decoys. Interestingly, heterospecifics responded in 33% of ocelot experiments by approaching from a distance and mobbing the decoy (avg. 13 mins). Each mobbing event involved up to 40 individuals including two or three heterospecific species: squirrel monkeys (*Saimiri boliviensis*), capuchins (*Cebus apella*), or tamarins (*Saguinus fuscicollis*, *S. imperator*). Interspecific mobbing included vocalizing, surrounding, lunging, and throwing branches at decoys, with heterospecific participants maintaining close proximity to one another. These observations are compelling given that sakis otherwise rarely associate with other primate species and are often displaced by capuchins at feeding sites. Our data suggest mobbing calls may have a greater influence on formation of multi-species mobbing events than previously recognized.

This research was supported by National Science Foundation (BCS-1341174), Animal Behavior Society, Society of Integrative and Comparative Biology, and The Ohio State University (Columbus and Mansfield).

Fuzzy logic as an approach for assessing population relatedness and phenotypic variation

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