disciplines. I investigate a longer history of the beliefs about the plasticity of human biology starting with ancient and early modern medicine, mostly humoralism, and analyse the biopolitical techniques required to govern such permeability. I focus in particular on the way in which notions of corporeal plasticity have been connected with profoundly racialized and gendered discourses in ancient and early modern times. I also highlight how a longer history of plasticity may help problematize contemporary identification of plasticity with openness, unlimited potentialities and change. Finally, I interpret the complex sociological and biopolitical implications of emerging notions of plasticity in contemporary epigenetics in the light of this past and often forgotten history. I present evidence about a longer and more complex history of corporeal plasticity and its implications for contemporary notions of vulnerability, risk and intervention.

Sexual Dimorphism of Cranial Fluctuating Asymmetry in a Historic Hispanic Population

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Physiological stress is affected by numerous biocultural factors and has a high impact on developmental stability, producing biomarkers such as fluctuating asymmetry. Analyzing differences in the pattern and degree of stress markers in a population can yield information about the overall health of a population and differences in exposure among subgroups. Generally, females are expected to have a lower degree of fluctuating asymmetry than males due to genetic buffering during development.

This study analyzed three-dimensional landmark coordinate data collected from ectocranial surface scans of Hispanic adult male and female crania (n=22, n=22) from the mid-19th century Alameda-Stone cemetery in Tucson, Arizona to examine sex-based differences in fluctuating asymmetry in individuals from the same ancestral group. Thirty landmarks were collected in multiple replicates for each specimen to capture shape of the face and neurocranium. Additional landmarks from the cranial base were omitted due to damage on most of the crania. Data collection and analysis of asymmetry were conducted in R statistical software using the Geomorph package.

Surprisingly, the level of fluctuating asymmetry found in females was greater than that found in males. Patterns of directional asymmetry were comparable between the sexes. It is possible that the low sample sizes in this study were unable to fully capture the degree of fluctuating asymmetry in the population. Taphonomic distortion is another likely confounding factor. Geometric morphometric methods using semi-landmarks to define curves may better capture variations in symmetry in these groups, and future work will include these approaches.

10,000 years of mandibular evolution in southern South America: Implications for morphological diversification

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South America (SA) was the last continent to be colonized by modern humans. One of the relevant research questions that still remain to be addressed is how SA populations became differentiated. Previous studies that pointed to tackle this question analyzed molecular, cranial, dental, and postcranial variation. However, there are no studies so far analyzing mandibular variation with a wide temporal-spatial coverage in SA, what might be biasing current interpretations. Mandibular variation in modern humans has been described by a reduction pattern across time, which was interpreted either as a result of evolutionary history and/or the differential impact of diverse subsistence strategies. The aim of this study is to evaluate morphometric changes in southern SA mandibles for discussing which evolutionary processes were involved during human diversification. For this, a total of 28 3D landmarks were registered in a sample that includes 6 early-middle Holocene specimens (EMH) from the Argentinean Pampas and 10 late Holocene populations (LH) from SA (N~200). Results of the PCA and CVA showed that the EMH specimens are primarily differentiated from the LH ones, and secondarily associated to the southern samples. Shape and size variation shows that more robust mandibles with a larger body and ramus characterize EMH. Additionally, the spatial regressions performed show that diet contributes to explain 40% of mandible shape variation. Overall, such patterns could be interpreted either as the result of population diversification driven by selection and/or genetic drift. A discussion considering previous studies in the area and alternative explanations will be presented.

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The Influence of Breeding System and Group Size on the Probability of Extinction in Diurnal Lemurs

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Despite decades of research on the conservation biology and population dynamics of endangered species, there is limited understanding of the socioecological mechanisms that drive some species to have a higher probability of extinction. We address this knowledge gap by modelling how variations in the breeding systems and group sizes of three diurnal lemurs (*Eulemur mongoz*, Critically Endangered; *E. fulvus*, Near Threatened; *Propithecus coquereli*; Endangered) predicted extinction risk. These three species are largely sympatric throughout their geographic range yet differ in their social structure and each suffers from varying extinction probabilities. We hypothesized that the capacity of these lemurs to persist in disturbed environments rests on the reorganizational flexibility of their social structure. We used population viability analysis (PVA) to model how variations of these parameters affect the time in which a population crashes. We modeled a series of mock-populations that simulated variations in the breeding systems and group sizes of the three lemur species. PVA models for both species were developed in Vortex 10 (ver. 10.3.3.0) and analyzed using the *vortexR* package (ver. 1.1.5). Our models show that mock-populations that exhibited a pair-bonded breeding system or small social groups had a higher probability of extinction (Pr. E.= 0.84 and 0.76, T = 100 years) than species living in polygynous groups or large populations (Pr. E.= 0.01and 0.16, T = 100 years). The results of this research provide a theoretical framework to refine and explore the varying causalities associated with differential extinction probabilities in rare lemurs.

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Diet, Grit and Dental Microwear Textures: the facts

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Dental Microwear has long been for used as a dietary proxy to explore differences in feeding behaviors among extinct species of mammals. Modern species stored in museums or wild populations with associated dietary metadata have provided robust baselines to interpret results for extinct taxa. For more than 35 years, researchers