

the Pacific. In spite of that, Rapa Nui was settled by Polynesians recently, around 1500 years before present. The human arrival to Rapa Nui and the human settlement of Polynesia, has been studied by archaeologists, linguists and molecular anthropologists, who proposed different models and hypothesis to explain this particular migratory process, such as the "Express Train to Polynesia" from the linguistic evidence, or the "Slow Boats to Polynesia" from the genetic and demographic evidence.

This study tries to characterize the variation of 18 *Alu* polymorphic elements in a well characterized human population from Rapa Nui and in a mixed lineage of inhabitants. Our data confirm the differentiation between the original Rapa Nui lineages from the island and the mixed ones recently originated by migratory events.

Moreover, our work presents the first data on the genetic *Alu* variation in this particular population. We join these results with the available data of *Alu* variation in other populations, to clarify the possible origin of Polynesian settlers, their relationships with Asiatic human populations and the most reliable process to explain the expansion and human settlement of the Polynesia. Instead of the classical "Express Train" model, our data support the "Slow Boats" model proposed by Oppenheimer, which indicates that the pre-Polynesians are mainly derived from Southeast Asian and Wallacean populations prior to the Neolithic "Mongoloid" expansion.

This work was supported by Departament d'Universitats, Recerca i Societat de la Informació, Generalitat de Catalunya grant 2001FI 00177 to E.G.P.

Epidemic impacts of a changing cultural practice: role segregation among Peruvian men who have sex with men.

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Men who have sex with men (MSM) in Latin America have traditionally practiced role segregation, the adoption of a fixed role (insertive or receptive) rather than a versatile role (both) during sex. However, there is considerable anecdotal evidence that versatility may be on the rise with the diffusion of gay cultural norms from the US and Europe. Here I model the effect of versatility levels on the course of an HIV epidemic among men. The model is structured as a deterministic compartmental model and is parameterized using data from a study of 254 men in Lima, Peru and current estimates for insertive vs. receptive infectivity. 67% of study participants reported segregated roles within their recent male partnerships. A population of MSM with identi-

cal contact rates but complete role versatility would have twice the HIV prevalence throughout the epidemic's first three decades. Across many scenarios, a 10% increase in versatility (with no change in overall partners) is equivalent to six more sexual partners per person per year.

Correlates of versatility in a second sample of 2,655 MSM from multiple Peruvian cities include high education, high-status occupation, residence in Lima, and sex work. Since sex work is strongly negatively correlated with high education and status, it appears that the pool of versatile men is dominated by two largely distinct groups: highly educated and elite Limeños, and sex workers generally. Age showed no relationship to versatility in any analysis, hinting that versatility may not be rising as much as popularly believed.

This work was supported by National Institutes of Health grants U01-AI47981, R01-DA012831, and T32-AI07140.

Size dimorphism in *Australopithecus afarensis*, modern humans, and the great apes: a non-template multivariate comparison.

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Analyses of size dimorphism in the fossil record have usually been limited to single variables due to missing data. Recently, template methods have been used to include multiple variables, but these methods are flawed because they assume perfect isometry between all variables in an analysis. This study analyzes dimorphism in *A. afarensis* and living hominoids using a multivariate resampling technique that does not assume any particular scaling relationship between variables.

The data set comprises eight variables from the fore- and hind-limb represented in *A. afarensis*, *Homo sapiens*, *Gorilla gorilla*, *Pan troglodytes*, and *Pongo pygmaeus*. A bootstrap procedure is used in which a comparative sample of the same size as the fossil sample (e.g., measurements from three elbows, six femoral shafts, etc.) is randomly resampled with replacement for each species; geometric means are then calculated for both the maximum and minimum values of each variable and then the ratio of the two geometric means is generated. This procedure is repeated 10,000 times and the resulting distributions of ratios are compared to the fossil value. A second bootstrap procedure is used in which the fossil values are also resampled.

Results of the first analysis are consistent with published results for similar

univariate analyses: dimorphism is significantly greater in *A. afarensis* than in all comparative taxa except gorillas (alpha=0.05). When fossil data are resampled, *A. afarensis* does not differ significantly from *Gorilla* or *Pongo* (P>0.442), is significantly greater than *Pan* (P=0.028), and borders on significance with respect to *Homo* (P=0.064) (all two-tailed tests).

This research was supported by funds from the NSF IGERT program and the GWU Selective Excellence Initiative.

Frequency and patterns of trauma in the medieval cemetery of St. Helen-on-the-Walls, York, England.

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The presence of trauma in archaeological populations can assist in the reconstruction of past social and economic environments. For populations leaving few written documents and material possessions, these lesions are particularly important in the evaluation of health and disease. The medieval cemetery of St. Helen-on-the-Walls, York (ca. 1100-1550 A.D.), associated with an economically impoverished parish within the city walls, yielded 1014 skeletons. Analysis of the material indicates that 100 individuals (9.86%) display traumatic lesions, with the cranium being most commonly affected (29% of the individuals with trauma display cranial lesions, representing 4.7% of all individuals in the population with recovered cranial material). Additionally, 15% of individuals with traumatic lesions display rib fractures, 14% display injuries to the hands or feet, 11% display fractures of the ulna, 10% display fractures of the radius, 8% display fractures of the tibia, 7% display fractures of the fibula, and 5% display fractures of the femur. For both cranial and post-cranial elements, almost twice the number of males than females displays traumatic lesions. These data are compared to other British medieval skeletal populations to determine the extent to which economic conditions, occupational hazards, and gender played a role in the presence of trauma.

Testosterone and marriage among Ariaal men of northern Kenya.

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Recent studies suggest that differential human male investment in mating (male-male competition and mate seeking behavior) and parenting effort may be associated with variation in testosterone lev-