

size of her family of orientation (SOFO), and the year in which she was born. A century-by-century analysis indicated that the correlation among fertility, longevity, grandmother's longevity and SOFO did not remain stable through the centuries. For example, the correlation between the year in which a mother was born (within each century), and the number of children she produced was low but positive in the 1600's ($r=0.05$) and the 1700's ($r=0.09$), showing that there was a weak increase in the number of children produced throughout both centuries. However, for the 1800's the correlation between both variables became negative and larger (-0.10) and for the 1900's it increased dramatically ($r=-0.64$). This shows that women born in the earlier part of the 1800's and the 1900's produced more children than did those born in the latter part. Our results show that even within this limited region in Costa Rica, the factors that influence a woman's reproductive success change with the century in which she was born. Particularly important is the issue of whether the population was expanding geographically (here associated with high fertility) or if the population had settled to a stable land-tenure system (here associated with the beginning of a fertility decline). Supported by a grant from National Institutes Aging (1-R03-AG022616-01).

The social adaptations of rhesus macaques: the secret of their success?

D. Maestriperieri. Department of Comparative Human Development, The University of Chicago.

Rhesus macaques are one of the most successful primate species in Asia and have thrived on Cayo Santiago for 70 years. In this presentation, I will argue that the evolutionary success of rhesus macaques is due not only to their ecological flexibility and adaptability (an omnivorous diet, adaptability to different physical habitats, ability to reproduce under a wide range of environmental

conditions, and resilience to stress), but also to their social adaptations, and that a similar relationship between social adaptations and evolutionary success applies to humans as well.

Decades of behavioral research on Cayo Santiago have shown that rhesus macaques possess a gregarious and aggressive temperament, high individualism and social opportunism, tendency to form despotic and nepotistic social systems in which individuals do not compete directly for resources but for power, strong xenophobia, and high within-group cohesiveness under conditions of external threat. Rhesus macaques exhibit their social tendencies in any environment in which they find themselves, whereas humans exhibit "rhesus-like" social tendencies mostly in capitalistic societies or when strong cultural influences on their behavior are eliminated. Similar social behavioral tendencies in rhesus macaques and humans probably arose by convergent evolution during long periods of intense within- and between-group competition in the evolutionary history of these species. The social adaptations of rhesus macaques and humans may have given them an edge in the ecological competition with other related species, and also served as a selective engine for the further evolution of larger brains and complex intelligence.

Fractures of the metacarpal bones in a historical population.

B. Mafart¹, L. Debono². ¹Antenne de l'Institut de Paléontologie humaine, Europôle méditerranéenne de l'Arbois, UMR 5198, Aix-en-Provence, France, ²Laboratoire d'Anthropologie Anatomique et de Paléopathologie, Université Claude Bernard Lyon1, France.

Paleoepidemiological data clearly shows that bone fractures involving the head, arms and legs are culturally related. Metacarpal bone (MCB) fractures have rarely been studied. In contemporary western populations, fractures of the fifth

MCB especially those involving the head portion of the bone (a.k.a. boxer's fracture) are due mainly to striking hard objects with the clenched fist. The purpose of this study in a large historical sample from France was to analyze the prevalence of MCB fracture overtime.

We examined all MCBs recovered from the historical burial site at Notre-Dame-du-Bourg that served the city of Digne, France from the 6th to 17th centuries. Sex and age at death were determined by studying pelvic features.

The overall prevalence of MCB fractures was low (13/3721: 0.35%) with a significantly higher prevalence of fifth MCB fractures (8/289: 2.8%) in comparison with other MCB fractures (5/3432, 0.15%) ($p>10^6$). Most fifth MCB fractures were isolated and left-sided without any preferential bone location. These fractures were more common in males over the age of 50. They were more frequent in the medieval period than the pre-modern one. All other MCB fractures were multiple crushing fractures of the shaft. Fracture of the MCB was relatively rare in this historical sample with a predominance of fifth MCB fractures. The diversity of bone locations and the high prevalence of left-sided fifth MCB fractures argue against brawling as the cause of fractures. Other hypotheses are proposed for discussion.

Quantitative histomorphometric evaluation of the Endosteal Lamellar Pocket: Comparing digital and point-count methods for the measurement of modeling drift remnants in the long bones of adults.

C.M. Maggiano¹, I.S. Maggiano², S. Stout¹. ¹Dept. for Anthropology, Ohio State University, ²Dept. for Biology, University of Hildesheim.

Previous research has identified a distinct endosteal pattern in adult lamellar bone resulting from formation during periods of significant modeling drift. The current authors refer to this feature as the endosteal lamellar pocket