Anthropological Science
Vol. 122(2), 53–54, 2014

Recent advances in palaeopathology and the study of past societies in Argentina, southern South America

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In October 2011, the symposium 'Contributions of Palaeopathology to the Study of Past Human Societies' was organized by the authors as part of the Xth Meeting of the Biological Anthropology Society of Argentina, La Plata, Argentina. The aim of the symposium was to present multidisciplinary population studies, which broadly included current theoretical and methodological perspectives. In this issue of *Anthropological Science*, two of the investigations presented at the symposium are included as full articles.

One of these papers (Luna and Aranda, 2014) focuses on the evaluation of the oral health of 40 individuals excavated from the Chenque I site (Lihué Calel National Park, La Pampa province, Central Argentina). This archaeological site is a hunter-gatherer cemetery intensively used during the final Late Holocene, containing a minimum of 216 individuals with very different preservation and anatomical associations. Pathological lesions such as caries, dental calculus, dental wear, abscesses, antemortem tooth loss, and periodontosis are studied. All these variables are related to mechanical stress, buccal hygiene, and infectious disease of the masticatory system. Some of the results are similar to previous findings for hunter-gatherer modes of subsistence (i.e. high prevalences of calculus and dental wear), while others show different patterns from the neighboring bioarchaeological samples of the same period (i.e. absence of caries and significant differences in antemortem tooth loss between sexes).

The other paper (Suby, 2014) presents an investigation of the variability in the expression of porotic hyperostosis and cribra orbitalia in the skulls of hunter-gatherer individuals from southern Patagonia, including paleodietary information. Contrary to previous data based on decontextualized remains, the results show higher frequencies of anemia in individuals from the Beagle Channel region, whose diets include mainly maritime resources, in relation to individuals with terrestrial diet. Infectious and nutritional causes in a biocultural context are proposed as probable explanations for the observed variability between economic strategies.

Although these articles are examples of the advance of palaeopathological studies in Argentina, many other multidisciplinary investigations have focused on the health and illness of past hunter-gatherer and pastoralist populations based on new theoretical and methodological concepts. All these investigations contribute to the great challenge of increasing our knowledge of the health of human populations that inhabited southern South America in the past: for instance, enamel hypoplasia, porotic hyperostosis, cribra orbitalia and Harris lines (L'Heureux, 2000; Novellino and Gil, 2007; Gómez Otero and Novellino, 2011; Fabra and González, 2012), degenerative joint diseases and entheseal changes (Suby and Guichón, 2009; Scabuzzo, 2012), evaluations of oral health, dental size, and hypocalcification (L'Heureux, 2000; Bernal et al., 2007; Luna, 2010; Luna and Aranda, 2010; Menéndez, 2010; Flensborg, 2011; see Bernal and Luna, 2011), analyses of bone mineral density (Suby et al., 2009), paleoparasitological studies (Aranda et al., 2010; Fugassa et al., 2010), research on infectious (Guichón et al., 2009; García Laborde et al., 2010; Flensborg et al., 2013; Arrieta et al., 2014), traumatic (Gordón and Bosio, 2012; Gordón, 2013) and neoplastic diseases (Luna et al., 2008). Some paleoepidemiological and paleodemographical studies were also carried out (García Guraieb, 2006; Luna, 2006, 2012; Berón et al., 2012; Flensborg et al., 2013). Additionally, three identified skeletal collections are now under study in Argentina (Barboza et al., 2005; Bosio et al., 2012; Salceda et al., 2012).

Many of these researches, based on biocultural or bioarchaeological approaches that have developed rapidly in Argentina in the last two decades, discuss paleodietary and archaeological information from paleopathological perspectives using modern theoretical and interpretative techniques (i.e. Ortner, 2011; Grauer, 2012). Despite this recent growth of the discipline in Argentina, it is necessary to deepen the characterization and interpretation of pathological lesions, using the theoretical and methodological techniques that are now the subject of discussion at the international level. Among them, it is of major importance to recognize the complexity of bone biology based on the clinical and experimental literatures. Paleopathological research in Argentina should further enhance the interdisciplinary character of the investigations, in which numerous lines of analysis complementarily provide more robust results and interpretations. Moreover, a stronger interaction with the international scientific community and the publication of papers in high-impact journals such as *Anthropological Science* is needed to increase the visibility of Argentinian research.

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Published online 26 July 2014
in J-STAGE (www.jstage.jst.go.jp) DOI: 10.1537/ase.140704

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