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Bioarchaeology in Oaxaca: A view from Afar

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ABSTRACT

Compared with the Aztec and Maya regions, the bioarchaeology of Oaxaca has been neglected until recently. The 20th century contributors to physical anthropology and paleopathology in Oaxaca were seldom involved in field archaeology, and their work was concentrated on the largest sites. New work presented in this volume of JAS:Reports applies a wider range of methods and attends to a wider range of communities, integrating the study of human remains with the broader issues of understanding the past.

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The word *bioarchaeology* has a curious history. The word was coined twice, independently, in Britain and the United States. [Grahame Clarke \(1972\)](#) used *bioarchaeology* as a cover term for the study of the rich plant and animal remains at Starr Carr, a spectacular Mesolithic habitation site with exceptional preservation in waterlogged deposits. He used the word to refer to the participation of specialists from various sciences in interpreting ancient remains, generally after excavation and in specialized laboratories. In a review of studies of cemetery sites in the American Midwest, [Jane Buikstra \(1977\)](#) used the same word to describe the direct participation of physical anthropologists in field archaeology, including all aspects of excavation, recovery, curation, and interpretation of human remains. A related term, [Henri Duday et al. \(2009\)](#) *archaeoethnologie*, stresses the integration of forensic sciences in interpreting cemeteries, apparently in isolation from a similar German effort ([Berg, Rolle, and Seemann, 1981](#)). All three of these concepts were integrated earlier in the work of the American physical anthropologist William A. Bass and his students, who modestly refrained from neologisms ([Owsley and Jantz, 1994](#)). As a further complication, many archaeologists with considerable training in human osteology but little or none in the broader aspects of physical anthropology now identify themselves as *bioarchaeologists*. Perhaps the 1972 legal requirement that excavations be carried out by professional archaeologists ([Tiesler and Jaén, 2012](#)) has encouraged the use of this label in Mexico.

Mexico enjoys an embarrassment of archaeological riches, and its professional and preservational resources have long been concentrated on the centers of its great civilizations. Mexico's scientific and academic institutions are also highly centralized. Both these strengths have the unintended consequence of limiting the attention given to remote

regions and smaller sites. This is particularly true for the state of Oaxaca, where most early attention focused, appropriately, on Monte Albán. An odd outcome is that for many years an Anglophone reader could discover more about the Zapotec *barrio* of Teotihuacán than about all rest of ancient Oaxaca outside Monte Albán ([Spence, 1976](#); [Sempowski and Spence, 1994](#)). Apart from Monte Albán, there is little attention to Oaxaca bioarchaeology in histories of Americanist archaeology, physical anthropology, and paleopathology. A comprehensive history would begin with the work of Puebla criminologist and physician Francisco Martínez Baca, who introduced Paul Broca's system of anthropology to Mexico. [Martínez Baca's](#) description of crania from a cave near San Agustín Atenanco in Guerrero is perhaps the first description of ancient Zapotec remains from the northwest border of the Oaxacan world (1897; also cited in [Dávalos Hurtado, 1970](#)).

The physical anthropologists of the early twentieth century, anthropologists Daniel Rubín de la Borbolla (1907–1990) and Javier Romero Molina (1910–1986), dentist Samuel Fastlicht (1902–1983), and physician Eusebio Dávalos Hurtado (1909–1968) all worked with remains that archaeologist Alfonso Caso excavated at Monte Albán, but their careers centered elsewhere in Mexico. Apart from [Romero \(1983\)](#), it is difficult to characterize any of them as bioarchaeologists. Their interests centered on cranial deformation, trepanation, and dental modification ([Dávalos Hurtado 1970](#); [Tiesler and Jaén, 2012](#); [Stone and Urcid, 2003](#)), rather than the broader questions of adaptation and life history. The mid-century refugee physical anthropologists who revolutionized the field with new ideas and techniques from Europe largely worked in regions other than Oaxaca. An overlooked exception is Santiago [Genovés Tarazaga's \(1923–2013\)](#) exemplary and exhaustive study of remains from Coixtlahuaca (1958; see [Dávalos Hurtado, 1970](#)).

In the later twentieth century, U.S. archaeologists Kent Flannery and Marcus Winter and their colleagues who worked in Oaxaca largely

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continued these themes (Cristensen and Winter, 1997; Duncan 2007; Duncan et al., 2009; Hodges, 1987; Malina et al., 1983; Wilkinson and Winter, 1975; Wilkinson, 1975, 1997; Winter, 1984; see Higelin Ponce de León and Hepp in this issue for a full review). Among these, the contributions of physical anthropologists Richard Wilkinson and Denise Hodges reflected their interests in processual archaeology and bioarchaeology and their prior training in these specialties developed in the Midwest. Limited citation of this research in the papers at hand perhaps reflects the relatively limited integration of Mexican colleagues in their efforts. Nevertheless, Oaxacan remains have been integrated into larger studies (Haydenblit, 1996; White et al., 1998). A more radical break with the past appears in the lively debate over the reanalysis of one of the richest burials found in Mesoamerica, Monte Albán Tomb 7 (Coggins, 1994; McCafferty and McCafferty 1994). Unfortunately, this keystone of feminist, post-processual archaeology presents a radical re-interpretation of skeletal remains that had been thoroughly described as male by Rubín de la Borbolla (1969), neglecting any new input from physical anthropologists or bioanthropologists. Daniel Rubín de la Borbolla (1907–1990), one of the founders of physical anthropology in Mexico, trained with Aleš Hrdlička at the Smithsonian and was quite experienced with ancient remains. His opinion should not be dismissed lightly. The isolated cranial element from Tomb 7 that was diagnosed as tuberculosis (Dávalos Hurtado 1970) also deserves restudy.

The new papers in this issue represent a profound change. They range from field reports to detailed analyses of dental traits, from piles of commingled remains to osteobiographic case studies. In all, the study of human remains is integrated with archaeological questions. They represent interdisciplinary collaboration in ways not dreamed in the previous century. Bioarchaeology has come into its own in Oaxaca! The remains range from the Formative to Colonial, from the peripheries of Monte Albán to the most remote communities, and across several ethnic groups. The organizers' introduction to this issue, *Talking with the dead southern Mexico*, conveys just how lively the conversation has become. Their enthusiastic account of the many musical instruments made from human bone makes one wonder whether a next project might be something on the order of *Jammin' with the dead*. I am delighted to have been invited to the party.

Five of these papers concern Formative sites. They illustrate the emerging complexity of this period in Oaxaca. The Early Formative burials from La Consentida raise difficult issues about sorting out marine food versus maize in stable isotope data from coastal sites. The two burials with both enamel (mostly apatite) and dentin/bone collagen $\delta^{13}\text{C}$ values have quite wide spacing, and collagen values for marine fauna overlap the human samples. The authors suggest consumption of CAM plants such as agave in the form of pulque as another complication. Ethnobotanical evidence for charred maize or starch grains in calculus could clarify these issues. Prone burial as a usual practice, a fossil shark tooth as part of a cache, and grater bowls for weaning foods in the graves of children are fascinating details. It would be fascinating to study the grater bowls for starch and phytoliths.

The Early Formative cemetery at San Sebastian Etla illustrates the complexity of mortuary practices in Oaxaca as a whole (compare Blomster 2011). Cervantes Pérez and colleagues note the presence of auditory exostoses, usually interpreted as evidence for diving in cold water. It would be interesting to look at frequencies of this marker in all the crania reported in this issue and to relate frequencies to freshwater and saltwater resources.

The Middle Formative domestic burials at Etlatongo are similarly complex. Mandibles as grave furnishings are particularly laden with meaning far beyond the tantalizing hint that these people were Mixtec. Were these ancestors oracles as well as—or instead of—sleepers? Inferences about 'conjugal' pairs are not testable with skeletal evidence, even if the pairs are of different sexes, and the word is applied to remains that cannot be sexed here. Attention to iconography supporting this speculation would be useful, given that members of a lineage may be viewed as more permanently related than are spouses.

Mayes and Joyce point out a remarkable finding: at coastal, Late Formative Cerro de la Cruz, as well as at the other Formative sites included in these papers, there is little evidence for interpersonal violence. The images of conquest and subjugation that have inspired archaeological accounts of this region may be more iconography than substance. The femur lesions that they diagnose as osteomyelitis might well be disuse atrophy in an elderly female.

At Late and Terminal Formative Cerro Jazmín, Pérez Rodríguez and colleagues make a rigorous search for health compromises in a sample that is rather small if one wants to contrast status groups or chronological components or age groups. Their report of *no* evidence for cribra orbitalia or linear enamel hypoplasia is remarkable. This small community "thrived" indeed in comparison to the inhabitants of the larger communities reported by Hodges (1987), whatever reservations one may have about the comparability of data collected by different observers.

Higelin Ponce de León and colleagues focus on Classic period Zapotec children from five sites peripheral to Monte Albán. In a rigorous comparison of body position and grave furnishing, they show that children are differentiated from adults in being flexed rather than extended and that infants are only occasionally buried in jars. They are refreshingly skeptical about the claims for child sacrifice that abound in archaeological writing from Mesoamerica and beyond. Before the last century death in infancy or childhood was common. Many societies differentiate infants and children from older people because their social ties are within the family. Distinctive mortuary treatment should not be equated with sacrifice unless there is evidence of injury to the remains, or unless there is strong iconographic support. A cautionary note is appropriate here: despite the strange definition of the word *fetus* that has developed in our field, a tiny infant is not a fetus unless it is still *in situ*. Separated from its mother, it becomes a stillbirth or a low-birth-weight infant. The metaphorical reading of infants buried in jars as being kept warm as if in the womb is particularly touching and sympathetic when contrasted with scenarios of infant sacrifice.

King and Higelin Ponce de León briefly describe three such jar burials from Postclassic and Colonial Nejapa. Again the variety of mortuary treatments in a small area is striking, pointing in their view to ethnic diversity, here Zapotec and Mixe, and to a very gradual acculturation to Catholic practices at the colonial site of Mahaltepec. They compare their findings in detail with localities as remote as Spanish Florida. That Mahaltepec differs in many regards from contemporary Mixtec Teposcolula Yucundaa (Warinner et al., 2012) speaks to the rich ethnic diversity of ancient and modern Oaxaca.

The term *osteobiography* was coined by physician and anthropologist Frank Saul in 1961 (Saul and Saul, 1989), but it first appears in print in his 1971 dissertation on Altar de Sacrificios in Guatemala. It describes collective, detailed osteological analysis: "skeletons record the life histories of their occupants in various ways and that we should be extracting these life histories from their bones instead of making lists of often uninterpreted measurements" (1985:288). The word has since come to mean an individual case history that includes rich cultural and biological data. Alfaro Castro and colleagues' paper describing an adolescent Chontal girl is an example of the latter meaning, joining another Oaxacan case study that they mention (Mayes and Barber, 2008), a Late Formative adolescent male buried with an elaborate deer bone flute. Together, these two osteobiographies provide some counter-balance to the odd emphasis on—or perhaps notoriety of—the gender-bending occupant of Monte Albán Tomb 7. They add to a recent surge in writing the lives of ordinary people in the past (Stodder and Palkovich, 2012).

The Chontal girl is exceptional in many ways. A tightly flexed burial despite the colonial date of the site (compare Warinner et al., 2012, on extended Mixtec burials), she is the first documented burial representing her ethnic group, as Alfaro Castro and colleagues point out. They make three interesting claims about her. First, a healed foot fracture, post-mortem fragility of her bones, numerous entheses (or

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