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Editorial

As research questions become increasingly complex and as the evidence we work with expands in scale and diversity, archaeological inquiry continues to evolve into a profoundly interdisciplinary enterprise. The fifteenth volume of our journal seeks to capture that movement, bringing together contributions that illuminate how climate, health and inequality can be examined through the expanding toolkit of bioarchaeology, paleogenetics and environmental archaeology.

The Research section, coedited by *Bianca Casa – Environment, Health and Inequality. Bioarchaeological Approaches* – brings into dialogue papers arising from two distinct but complementary projects. The first is the PRIN 2022 project, coordinated by the Universities of Pisa (Valentina Giuffra) and Padova (Alexandra Chavarría Arnau), dedicated to assessing the effects of the Late Antique Little Ice Age (LALIA) on populations from Northern and Central Italy across Lombardy, Veneto, and Tuscany. Its results, presented in a meeting held in Pisa in spring of 2025, are directly reflected in the paper by *Bianca Casa et al.*, “Physiological stress, growth disruptions, and chronic respiratory disease during climatic downturn”, which provides insights of how climatic deterioration impacted biological well-being in Late Antiquity. The second research strand (the GEMS project), described in detail in the Project section, integrates different methodologies to explore inequality among early medieval populations in Northern Italy and particularly to identify who were the people at the lowest social level in rural and urban contexts. This multidisciplinary design – where genomics, isotopes, skeletal stress markers, and archaeological context are defined in advance and interpreted together – marks an important methodological shift: inequality is not simply observed but reconstructed through the convergence of independent lines of evidence.

Departing from these two frameworks, the papers included in the section adopt a wide geographical approach, ranging from the Roman world to the early Middle Ages, and from the Balkans to the Canary Islands. In doing so, they test the extent to which climate, diet, labor, status and vulnerability can be compared across very different historical and environmental contexts. The opening contribution, *R. Nicoletti et al.*, reconstructs social inequality within a rural servile community at Cuticchi (Assoro, Enna) between the 1st and 3rd centuries AD. Using a dataset of 127 individuals, the authors demonstrate how funerary practice and biological evidence converge: cremation rites, extremely rare at the site, become

markers of elevated status, while the majority of the population – servants, freed-persons, field laborers – exhibits osteological indicators of repetitive labor and modest grave goods, often linked to women's textile production. The paper highlights an aspect crucial for this volume: inequality was materially expressed not only in architecture and burial wealth but also “embodied” in health, diet, and patterns of physical strain, revealing a community resilient yet deeply stratified. Dietary reconstruction forms the focus of I. Gentile et al., a review that synthesizes stable isotope data ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$) and dental calculus results in Roman Italy. A paper on San Genesio (by B. Casa et al.) further develops this methodology based on dental calculus and stress evidence from teeth. The study of C. Lécuyer illustrates how pre-Hispanic populations of Gran Canaria adapted to aridification and resource pressure, providing a methodological counterpoint to Italian studies and reminding us that climatic stress is always mediated through local ecological and cultural choices. The question of vulnerability is central to K. Đukić and V. Mikasinović paper on the Čik necropolis of Northern Serbia dated to the 6th-7th centuries CE. The analysis shows that early life stress indicators affected nearly half of non-adults, with metabolic disorders, osteoarthritis (more frequent in women), and trauma offering a complex view of risk and resilience during a period marked by instability, pandemics, and climatic perturbations. Status and inequality continue with R. Durand, who explores how burial goods, spatial organization, and anthropological indicators in Avar necropolises (Bourges, France) interact in defining social roles from the 3rd to 5th centuries.

The Beyond the Theme section broadens the perspective. D. Urbina Martínez et al. revisit mobility and identity through new archaeological and historical interpretations of an ethnic group (Alan-Sarmatians) which hasn't been particularly explored in Spain. Transformations of space and function in Roman baths emerge in the paper by S. Zocco and A. Potenza, while M. Moderato and D. Nincheri introduce network analysis as a methodological tool within medieval archaeology. G.P. Brogiolo proposes a revised reconstruction of the original architectural layout and access system of Santa Maria in Stelle (Verona) demonstrating – through careful stratigraphic observation – that this mausoleum was likely only partially underground in its original 4th-5th-century configuration, rather than entirely hypogeal as traditionally believed. With the last paper of this section environmental constraints appear again as R. D'Andrea et al. explore timber procurement in medieval Occitania, showing how environmental, economic and logistical constraints shaped building practices.

Across the volume, a clear trajectory emerges: multidisciplinary approaches are no longer merely the aggregation of different methods but the shared construction of research questions, datasets, and interpretive frameworks. Collaboration now begins not at the moment of data interpretation but at the inception of research design, allowing us to reconstruct past lives with increasing nuance, precision, and humanity.



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