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NEW DIRECTIONS IN
THE SKELETAL BIOLOGY
OF GREECE



*edited by Lynne A. Schepartz, Sherry C. Fox,
and Chryssi Bourbou*

*American School of
Classical Studies at Athens
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SKELETAL BIOLOGY OF GREECE



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LYNNE A. SCHEPARTZ, SHERRY C. FOX,
AND CHRYSI BOURBOU

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INTRODUCTION: NEW DIRECTIONS IN THE SKELETAL BIOLOGY OF GREECE

by Lynne A. Schepartz, Sherry C. Fox, and Chryssi Bourbou

Come, tell me how you live. This is more than the title of Agatha Christie's mesmerizing account of life with her archaeologist husband Max Mallowan and her curiosity about other cultures and past times.¹ It is also the question skeletal biologists ask of every individual and population they study. Such inquiries invariably lead to investigations of health and diet, stress and violence, physical activity, social status, and how we cared for and venerated people in the past. These are things that most often only a skeletal biologist can determine, although they must work closely with archaeological data to render a complete answer. Like Agatha Christie, skeletal biologists are mistakenly thought to be focused on death, yet it is clearly life and behavior that is the driving motivation behind our work.

WHY GREECE?

Greece is the home of pioneering efforts in skeletal biology and archaeology that still constitute the "backbone" of research today. It has an outstanding array of national scholars and international institutes that continue these traditions and expand the boundaries of skeletal biology research. Greece played a key role in the development of significant initiatives in skeletal biology through J. Lawrence Angel's attention to paleodemography and populational health, and it remains a forerunner in skeletal biology via the integrative directions of the Wiener Laboratory of the American School of Classical Studies at Athens, as discussed further in Chapter 1.²

There are numerous reasons why the academic climate in Greece is so conducive to innovative skeletal biology research: There is an extensive archaeological record, with a well-known chronology spanning early prehistory to the near present. Protection of cultural heritage is a high priority, and part of a national ethic that values the past and its lessons for the present. There is a well-developed research infrastructure that includes national, district, and local museums; governmental research groups; analytical laboratories; and a large cohort of well-trained professionals from the region and beyond. Important collections are available for comparative study and reanalysis using newer methods and techniques, and the region is a leader in archaeological science.

1. Christie Mallowan 1946.

2. For an excellent discussion of the historical development of skeletal biology in Greece, readers should consult Roberts et al. 2005.

But resources alone do not really explain why Greece became, and continues to be, a leading area for skeletal biology. The subject has also developed because Greece is a region where there are challenging questions of population affinities and interactions across space and time, where the range of natural environments led populations to selectively exploit local and nonlocal resources, and where the development of social complexity involved many polities and had far-reaching effects throughout the Mediterranean and even more distant regions.

In short, while one can argue that conditions for skeletal biology research are never perfect—the bone preservation is not ideal, the time and resources many archaeological projects allot to skeletal research is still less than desired, the number of positions for skeletal biologists is considerably less than the number of highly qualified scholars—a multitude of historical and institutional factors ensure that the potential for inventive skeletal biology research in Greece far exceeds that of almost any other world region. Proof of this is the exciting scholarship by a new and burgeoning generation of researchers in this volume.

SCOPE OF THE VOLUME

The impetus for *New Directions in the Skeletal Biology of Greece* was a colloquium organized by Lynne A. Schepartz and Sherry C. Fox for the 104th Annual Meeting of the Archaeological Institute of America in 2003. The following year, Chryssi Bourbou organized a session at the 15th European Meetings of the Paleopathology Association on “Bioarchaeology in Greece.” Both sessions highlighted the flourishing of skeletal biology research in Greece and worked toward building a community of scholars interested in similar questions. The result is this volume, the first in a new supplement series of *Hesperia* under the rubric *OWLS (Occasional Wiener Laboratory Series)* and dedicated to archaeological science in Greece and the Greek world.

The contributors to this volume have backgrounds in many disciplines, including anthropology, archaeology, bioarchaeology, medicine, dentistry, genetics, chemistry, and paleoanthropology. They truly represent the perspective that our knowledge of the human skeleton and human health and behavior is dependent upon collaboration among these diverse fields.

Each paper makes a unique contribution to our understanding of Greek populations. At the same time, there are areas of overlap so that the reader can appreciate both the differences and commonalities that constitute our current understanding of ancient Greece. Table 1 provides a summary of the regions and themes covered in this book, arranged in order of the relative age of the samples under discussion.

TEMPORAL RANGE

The skeletal biology of Greece begins with its first known inhabitants, represented by Middle Pleistocene populations. Harvati’s detailed study of the Petralona cranium in Chapter 2, using a three-dimensional geometric

TABLE 1. CONTRIBUTED PAPERS ARRANGED BY RELATIVE AGE OF STUDY SAMPLES

<i>Author</i>	<i>Region</i>	<i>Sample</i>	<i>Theme</i>
Harvati (Ch. 2)	Macedonia	Middle Paleolithic	Population origins, paleoanthropology
Stravopodi, Manolis, Kousoulakos, Aleporou, and Schultz (Ch. 16)	Various	Mesolithic–Bronze Age	Paleopathology
Lorentz (Ch. 5)	Euboa (Central)	Neolithic	Cranial variability, bioarchaeology
Papathanasiou, Zachou, and Richards (Ch. 13)	Lokris (Central)	Neolithic–Bronze Age	Dietary reconstruction, bioarchaeology
Kirkpatrick Smith (Ch. 6)	Attica	Bronze Age	Paleopathology, bioarchaeology
Schepartz, Miller-Antonio, and Murphy (Ch. 10)	Peloponnese	Bronze Age	Women's health, dentition
Iezzi (Ch. 11)	Lokris (Central)	Bronze Age	Population variability, mobility
Petroutsas, Richards, Kolonas, and Manolis (Ch. 14)	Peloponnese	Bronze Age	Dietary reconstruction
Liston and Preston Day (Ch. 4)	Crete	Geometric	Paleopathology, bioarchaeology
Charlier, Poupon, Goubard, and Descamps (Ch. 3)	Attica	Classical	Cremation, mortuary behavior
Hillson (Ch. 9)	Dodecanese	Classical	Infant osteology, population variation, mortuary behavior
Bourbou and Tsilipakou (Ch. 8)	Macedonia	Byzantine	Health, paleopathology
Papageorgopoulou and Xirotiris (Ch. 12)	Epirus	Byzantine	Population variation, dietary reconstruction, health
Bourbou (Ch. 7)	Crete	Byzantine	Paleopathology
Garvie-Lok (Ch. 15)	Peloponnese	Frankish and Ottoman	Population mobility, dietary reconstruction
Georgiou, Zouganelis, Spiliopoulou, and Koutselinis (Ch. 17)	Crete	Historical	mt-DNA, genetic identity

morphometric technique, illustrates its morphological distance from later Neanderthals as well as its affinities with the early European Sima de los Huesos 5 and the African Kabwe specimens. Thus, we see that the early peopling of Greece took place during a time of significant European population expansions and complex biological changes. From the founding populations we move forward in time to the next periods with somewhat larger skeletal samples from the Mesolithic and the Neolithic cultures. Although many papers deal with prehistoric populations, with particular emphasis on the Bronze Age, fully half of the contributions examine later societies. Several time periods that were until recently largely neglected, such as the Byzantine and post-Byzantine, are also represented.

GEOGRAPHIC RANGE

In addition to assembling papers covering most of Greece's long temporal history, we also chose contributions that reflect the diversity of Greece's landscape and the impact this has on human health and subsistence. There are papers on better-known areas, such as the Peloponnese and Crete, and studies of less investigated regions (e.g., Epirus and Macedonia). Map 1 shows the major sites discussed in this volume.



Map 1. Greece, showing locations of main sites discussed in the volume.
Mapping Specialists, Ltd.

RESEARCH QUESTIONS

It is impossible to easily categorize each of these papers by its major theme or research question, although we provide some keywords in Table 1. Almost every contribution touches upon several themes that we feel are seminal to an appreciation of the new directions in the skeletal biology of Greece.

Discussions on the synergy of biology, social context, and mortuary practices are found in Chapters 3, 4, 5, and 10. The violence of the past is examined in Chapter 6 by Kirkpatrick Smith (for the militaristic Mycenaeans of Athens) and in Chapter 7 by Bourbou (in the lives of medieval urban dwellers in Crete). The dynamic of changing society and health is the focus of the studies presented in Chapters 8, 9, and 10.

Many of the papers exemplify the value of advances in archaeological science for addressing new or persistent skeletal biology questions. Dietary reconstruction through isotopic analyses is the objective of Chapters 12, 13, and 14. The development of this research area in Greece surpasses efforts in any other region³ and it continues to provide us with exciting insights about dietary diversity. Issues of population mobility are examined in Chapter 11 by Iezzi (using limb morphology) and in Chapter 15 by Garvie-Lok (using chemical analyses). In Chapter 16, the authors take the study of porotic hyperostosis and malarial interactions to a fundamentally new level with their histological and comparative investigations. The potential identification of an important historical religious leader is resolved by the mt-DNA analysis of skeletal samples from Crete, presented in Chapter 17.

Together, these papers exemplify the compelling and challenging questions of skeletal biology in Greece today and in the future. Whether it is placing population relationships into the context of mobility, migration, and economy rather than merely populational affinities; or shifting studies of behavior toward understanding human impacts on the landscape and the consequences for human health; or redefining our knowledge of diet and dietary signatures within archaeological and ecological frameworks; or examining the construction of social and gender identity through the lens of human health, the future of skeletal biology research in Greece appears brighter than ever.

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3. M. Richards (pers. comm.).

REFERENCES

Christie Mallowan, A. 1946. *Come, Tell Me How You Live*, New York.

Roberts, C., C. Bourbou, S. Triantaphyllou, A. Lagia, and A. Tsaliki.

2005. "Health and Disease in Greece: Past, Present, and Future," in *Health in Antiquity*, ed. H. King, London, pp. 32–58.