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## Between Biology and Culture

Humans adapt to their environment through a unique amalgamation of culture and biology. Both are intrinsic to our existence and constitute the dual aspect of human nature. This book addresses topics and themes exploring this close interrelationship by presenting principles and applications of scientific approaches to human remains. Their appreciation within a human ecological context, incorporating conditions of the natural environment as well as cultural, social and political circumstances of the past, provides the framework for the detection and interpretation of our biocultural identity. Written for academic researchers and students alike, *Between Biology and Culture* assembles chapters that encompass topics from taphonomy to individual life histories, from seasonality to food, from well-being to disease, from genetics to mobility, and from body theory to forensic individualization. In doing so, the contributions probe the potential of skeletal analysis to look beyond the face value of observations and to detect the biological outcomes of cultural strategies encoded in human remains.

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Edited by  
Holger Schutkowski  
*University of Bradford*



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## *Foreword*

*Between Biology and Culture* arose out of the inaugural symposium of the Biological Anthropology Research Centre (BARC) at the University of Bradford. The Research Centre was established in 2003 and the symposium, entitled ‘Biological Anthropology at the Interface of Science and Humanities’, was held on 24 May of the same year.

The University of Bradford has a long tradition of international-level, science-based research in the analysis of human skeletal remains, both ancient and modern. The BARC was formerly the Calvin Wells Laboratory and houses the largest collection of human skeletal remains in an archaeology department in the UK, including material that dates from the Neolithic to the nineteenth century. Consistent with the legacy and the current strengths of the new centre, this volume emphasizes how human skeletal remains can be used to both infer human lifestyle and living conditions in the past and investigate aspects of human identity in the context of the cultural and natural environment. The theme running throughout the volume is that humans, unlike other animals, adapt to their environment through both biology and culture. It is the task of modern biological anthropologists to disentangle the effects of these two variables on human adaptation in the past.

*Between Biology and Culture* showcases modern, largely British, research that meets this challenge and also points the way towards promising avenues for future research. The papers in the volume can be divided roughly into two general areas. The first stressing fundamental aspects of skeletal analysis and the second focusing on the application of cutting edge techniques to analyse the interface between biology and culture. Examples in the first category include papers on determining identity of human remains in forensic anthropology, assessing human well-being from skeletal material, analysing disease ecology, relating seasonality and climate change to the hominin fossil record, and reconstructing past human diets. In the second category, contributions demonstrate how different approaches to isotope analysis can be used to gather dietary information from calcified tissues and determine the age of weaning of individuals, as well as human migration and mobility patterns. DNA analysis has heralded a revolution in our understanding of humans in the past and contributions presented here both review the use of genetics in the understanding of phylogenetic,

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kinship and individual genetic relationships, and highlight taphonomic considerations that must be taken into consideration in the application of modern genetic approaches.

What makes this volume all the more impressive is the relatively difficult funding environment in which UK-based biological anthropologists work today. It is down to the strong motivation and ambitious vision of Holger Schutkowski and his colleagues at Bradford that the BARC both exists and is a vibrant centre for research into human skeletal biology. It is also down to the creativity of UK-based biological anthropologists that quality research continues to be carried out on what scientists in other fields and in other countries might consider a shoe-string.

Leslie C. Aiello

## *Acknowledgements*

The idea for this collection of essays arose from a symposium, funded by the Wellcome Trust, and held to mark the inauguration of the Biological Anthropology Research Centre (BARC) at Bradford in 2003, in which most of the authors assembled here participated. It has been an interesting journey since, not always straightforward, but nonetheless highly rewarding and pleasurable. I am most grateful to all authors who, despite busy schedules and a multitude of commitments, agreed to contribute, and I would like to extend my special thanks for their co-operation and intellectual company during the gestation and growth of this book. I am also indebted to those colleagues who most thankfully gave their time for peer-review and thus greatly helped improve the final product. My great appreciation goes to Cambridge University Press, first Tracy Sanderson and then Dominic Lewis and Alison Evans, who have been most supportive and forthcoming throughout. Thanks are due to Clare Lendrem for excellent copy-editing and to Eleanor Collins for smooth production of the volume. Finally, I would like to express my gratitude to present and former members of the BARC: Anthea Boylston, Jo Buckberry, Christopher Knüsel, Alan Ogden, Robert Pastor and Darlene Weston, without whom there would have been little to inaugurate.