

Conversations in Human Evolution

Volume 2

Edited by
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Access Archaeology





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Conversations in Human Evolution

Lucy Timbrell¹

Introduction:

Conversations in Human Evolution is a science communication initiative exploring the breadth and interdisciplinarity of human evolution research at a global scale. Through informal but informative interviews (henceforth referred to as ‘conversations’), this project delves deeply into topics concerning the study of our species’ evolutionary lineage, covering the current advances in research, theory and methods as well as the socio-political issues rife within academia. This project also provides important insights into the history of human evolutionary studies, and how methods and ideas have changed over time. Conversations in Human Evolution Volume 1 (Timbrell, 2020) was published last year and reported the first twenty conversations from the project. This volume is the result of the second twenty conversations from the project, published online between June and December 2020. When this volume went to press in March 2021, this subset of conversations had been collectively viewed 6846 times since they were made available on the website. Overall, the website has had 19477 views from 119 countries, with the majority of viewers from the United States of America, the United Kingdom and India.

The idea for Conversations in Human Evolution (CHE) arose in March 2020 during the escalation of the COVID-19 global pandemic. Following the cancellation and postponement of in-person events, CHE became a creative project to encourage engagement with human evolutionary research during this time of isolation and confinement. It was noticed that, whilst there is great public interest in this area of research, there are few freely accessible online resources about human evolutionary studies itself (though see <https://humanorigins.si.edu/> for a good example of a publicly available resource). What’s more, science engagement initiatives are almost always concerned with communicating exciting results and discoveries, and whilst this is obviously the most important aspect of science communication, it often leads to the neglect of the personal experiences of the scholars behind the science. Broader socio-political issues within subject-specific academic circles are also rarely discussed through publicly accessible communicative forums, somewhat depersonalising the science and perhaps even romanticising academia in certain ways. CHE fills this void by asking: What does it actually mean to study and research human evolution in the 21st century?

Human evolution studies, by definition, is a discipline concerned with the deep past. We explore the most pertinent questions about the evolution of humanity, such as those concerning the emergence of complex language and culture. The exploration of such issues allows researchers to look back into our lineage’s evolutionary history to better understand our present and our future. Yet, we rarely consider the role of history and personal experience in the shaping of human evolution research. Acknowledging that the history of our discipline and its historical figures deserve focus in their own right is a fundamental premise of CHE as, in the same way that human evolutionary research drives our understanding of our past, present and future selves, historical and personal contexts have driven modern approaches to the deep past. CHE bridges the gap between the research and the researcher, contextualising modern science with personal experience and historical reflection.

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Themes:

The twenty conversations featured in this volume can be organised into five non-mutually-exclusive categories based broadly on research area: (1) Palaeolithic archaeology, (2) palaeoanthropology and biological anthropology, (3) earth science and paleoclimatic change (4) evolutionary anthropology and primatology, and (5) human-disease co-evolution. CHE features scholars at various different stages in their careers and from all over the world; in this volume alone, researchers are based at institutions in eleven different countries (namely Iran, India, the United Kingdom, Greece, Australia, South Africa, the United States of America, the Netherlands, Germany, France and Israel), covering five continents.

Section 1 features five conversations with Palaeolithic archaeologists from around the globe, highlighting just some of the research that is furthering our understanding of prehistoric human behaviour at a huge geographic scale. First, Dr Sonia Shidrang discusses her research aiming to understand patterns of human behaviour in Late Pleistocene settlements of the Zagros Mountains. She also reflects on some of the cross-cultural differences she experienced working within the different worlds of the East and the West. Next, Professor Ravi Korisettar outlines some of his research into the Palaeolithic of India, while also recounting his somewhat rocky path through academia. Moving into European prehistory, Dr Jennifer French describes her latest project exploring the demography and social lives of early hominins, which has resulted in a monograph comprising the first comprehensive synthesis of the population history of Palaeolithic Europe. Next, archaeologist Dr Rebecca Wragg-Sykes promotes her popular science book 'Kindred: Neanderthal Life Love Death and Art', talking us through her writing process. She also describes other initiatives directed at endorsing women in archaeology. Lastly, Professor Nena Galanidou describes her research into the Palaeolithic of southeast Europe, as well as what inspired her passion for human evolution.

'Human evolution is a book that is continuously being re-written. New finds and new readings of old finds shed new, often unexpected, direct or oblique light on the old threefold question: who are we - where do we come from - how did we get here' - Professor Nena Galanidou

In the second section, there are five conversations with palaeoanthropologists and biological anthropologists devoted to understanding human evolution and diversity through fossil and skeletal remains. Professor Rainer Grün, a world-renowned geochronologist, starts off this section with an overview of his life's work; this has been dedicated to understanding the chronology of human evolution, and has involved dating some of the most famous hominin fossils. Then, Dr Briana Pobiner describes her research into the evolution of the human diet, concluding with a discussion on her desire to travel back in a time machine and see what was on the palaeo-menu. She also outlines her role as Education and Outreach lead for the Smithsonian Human Origins Program. Next Dr Mirriam Tawane, the first black female South African to obtain a PhD in palaeoanthropology, describes her curatorial role at the DITSONG: National Museum of Natural History, as well as some of her ongoing paleoanthropological and outreach projects in South Africa. After this, Dr Trish Biers also talks us through her work as a curator of human remains, giving some interesting insights into the ethical issues surrounding curating the dead. Human evolutionary biologist, Professor Tanya Smith, next reviews her research into primate teeth. She also describes her book 'Tales Teeth Tell' and some of the initiatives she's involved with to promote women in biological anthropology. Advocating equality is also a strong theme in the final conversation with Professor Rebecca Ackermann. She explains why we need to denounce colonialist attitudes in human evolution research and discusses some of her research into the evolutionary processes that have shaped human phenotypic variation.

'The story of human evolution has classically been told by men nearing the end of their careers. Yet biological anthropology is so much more than just a boy's club!' - Professor Tanya Smith

Three conversations with scientists focussed on understanding human evolution in relation to climate change are outlined in Section 3. First, Professor Rick Potts discusses his role in understanding the eastern African archaeological record, particularly via his field site at Olorgesailie in Kenya. Rick describes the development of his Variability Selection Hypothesis – a theory for understanding how humans became more tolerant to environmental change over time. A conversation with Professor Mark Maslin, who devised a similar hypothesis deemed the Pulsed Climatic Variability hypothesis, follows. Mark reflects on his experience as a PhD student and how these have encouraged him to direct and empower students of the London NERC Doctoral Training Partnership. Finally, Dr Yoshi Maezumi describes her ongoing palaeoecological research into understanding how humans interacted with fire in the deep past, and how she advises students to network in order to open as many doors as possible.

‘In a time-machine, I’d prefer to head at least 100 years into the future and be amazed by what the students and colleagues I’ll never meet will have discovered and learned about our species’ ancestry’ – Professor Rick Potts.

Section 4 includes conversations with researchers working within the fields of evolutionary anthropology and primatology. First, evolutionary anthropologist Dr Duncan Stibbard-Hawkes discusses his work with the Hadza, which is aimed at understanding food-sharing behaviours in hunter-gatherers. He asks why evolutionary anthropology isn’t on the national curriculum despite its applicability to everyday life. Moving over to primatology, Dr Ammie Kalan describes her research on great ape behavioural ecology. She also discusses some of the remote methods she is helping to improve, such as passive acoustic monitoring and camera-trapping. Finally, primatologist Professor Lynne Isbell outlines her work on understanding animal behaviour, as well as her Snake Detection theory for explaining the evolution of primate orbital convergence, visual specialization, and brain expansion.

‘Although we like to see ourselves as exceptional, humans are as much the products of evolution as any other species. And while there are many valid frameworks with which to view ourselves, no account of our actions, our minds and our forms is wholly complete without recourse to evolutionary logic’ – Dr Duncan Stibbard Hawkes

The final section focuses on human-disease co-evolution, a topical focus given the current global situation with the COVID19 pandemic. Dr Hila May starts Section 5 by describing some of her work that attempts to understand pathologies in human remains. She outlines how investigating the evolutionary causes of diseases helps us find new ways of preventing them. Similarly, Dr Simon Underdown is interested in understanding how patterns of human-disease interaction in the past can be used to reconstruct human evolutionary patterns and processes. In the penultimate conversation, Simon also discusses some of the most revolutionary technological advancements in the study of human evolution, such as the analysis of ancient biomolecules and 3D models of human remains. Lastly, population geneticist Professor Lluís Quintana-Murci describes some of his current research in understanding how pathogens and infectious diseases have shaped human evolution. He also discusses some of his work on the Out of Africa dispersal and the demographic and adaptive history of the South Pacific.

‘Understanding how natural selection imposed by pathogens has affected the diversity of our genomes is an alternative way to identify genes and biological functions that have played a key role in human survival against deadly infectious diseases, which highlights the value of dissecting the most natural experiment ever done: that of Nature’ – Professor Lluís Quintana-Murci

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Timbrell, L. (2020). Conversations in Human Evolution: Volume 1. Oxford: Archaeopress. Printed ISBN 9781789695854. Epublication ISBN 9781789695861.